



भारत हेवी इलेक्ट्रिकल्स लिमिटेड

(भारत सरकार का उपक्रम)

BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

TCN - 05

Ref: PSER:SCT:VIZ:C1128:TCN-05

Page 1 of 2
Date: 18-11-2010

Sub	Tender Change Notice (TCN- 05).	
Job	Civil, Structural & Architectural Works for Levelling & Grading, Sweet Water Reservoir, Sweet Water Pump House, Boundary Wall, Ash Pond with Ash Water Recovery Water pump House (on EPC Basis), Watch Towers, Gate Complex, Plant Roads, Plant Storm Water Drains and Culverts, other Civil and Electrical Enabling Works for Covered /Semi Covered Stores, Office, Accommodation, Temporary Roads and Drains etc. for 2 X 520 MW HNPCL/ VIZAG TPP, Vishakhapatnam, AP.	
Ref	1.0	Tender no PSER:SCT:VIZ:C1128:10
	2.0	BHEL's NIT, vide reference no PSER:SCT:VIZ-C1128 Date: 28-09-2010
	3.0	BHEL's TCN-01, vide reference no PSER: SCT:VIZ:C1128:TCN-01 Date: 06-10-2010
	4.0	BHEL's TCN-02, vide reference no PSER: VIZ:C1128:TCN-02 Date:19-10-2010
	5.0	BHEL's TCN-03, vide reference no PSER: VIZ:C1128:TCN-03 Date:22-10-2010
	6.0	BHEL's TCN-04, vide reference no PSER: VIZ:C1128:TCN-04 Date:03-11-2010.
	6.0	Other References,if any.

With reference to above, following points, relevant to tender, may please be noted and complied with while submitting the offer.

- 1) Revised BOQ cum price schedule format VOL-III- PRICE SCHEDULE, REV-03 superseding VOL-III PRICE SCHEDULE, REV-02 issued earlier.

Bidders are requested to submit their offer as per revised BOQ (Rev-03) only. Offer from bidders in superseded price schedule (Vol-III, REV-02) shall not be considered. Bidders are also requested to submit a declaration in techno-commercial offer that they have submitted their price bid in sealed envelope as per **REVISED price schedule format (VOL-III- PRICE SCHEDULE, REV-03).** (FILE-2).

- 2) Introduction of the following drawing/specification for general guidance & Tender purpose only which may undergo changes during execution.
 - Geotechnical Investigation Layout Drg. No: PE-DG-361-602-C501(File-3).
 - Soil Report(File-4)
- 3) Revised 'No deviation certificate' is attached. Bidder to submit 'No deviation certificate' as per attached format only. (File-5)
- 4) Due Date of Submission of Offer is extended upto **25-11-2010 (14=00 hrs)**. Bidders are requested to submit their offer by extended due date positively.
- 5) All other terms & conditions shall remain unchanged.

Thanking you,

Yours faithfully,
for BHARAT HEAVY ELECTRICALS LTD

DGM (SCT)

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)
POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091
फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211798/ 1691



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BHARAT HEAVY ELECTRICALS LIMITED

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Encl:

- 1.0 Revised BOQ cum price schedule format (VOL-III- PRICE SCHEDULE, REV-03)
- 2.0 Drawing/Specification - i) Geotechnical Investigation Layout Drg No: PE-DG-361-602-C501
ii) Soil Report
- 3.0 Revised format of 'No deviation certificate'.

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION, DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211798/ 1691

**VOLUME-III REV-03
PRICE SCHEDULE: (PART A AND PART B)**

SCOPE OF WORK :

PART A - Construction of Ash Pond with recovery water pump house etc. on EPC basis

PART B - Civil, structural & architectural works for leveling & grading , Sweet water reservoir, Sweet water Pump house, Boundary wall, watch towers, gate complex, plant roads, plant storm water drains and culverts, other civil and electrical enabling works for covered/semi covered storage shed, office, temporary roads and drains etc.

for 2 X 520 MW HNPCL/ VIZAG TPP, Vishakhapatnam, AP.

TENDER NO - PSER:SCT:VIZ:C1128:10

PREAMBLE

01	This preamble forms part of tender document and schedule of items. The tenderer should read this preamble carefully in filling rates for various items. Clauses under this preamble shall be read in conjunction with various volumes of tender as per NIT together with subsequent changes/ modifications etc thereto as applicable as on date of submission of price offer.
02	The work shall be carried out strictly as per specifications, description of the items in these schedule and / or engineer's instructions.
03	Items of work provided in this schedule but not covered in this specification shall be executed strictly as per instruction of the engineer.
04	Unless specifically mentioned otherwise in the tender document, the tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, constructional plants, temporary works, labour, dismantling of all temporary piping, structures, valves, pumps, tanks & other misc equipment, strengthening of roads/culverts/bridges etc including arranging all clearances etc required for carrying out different activities & tests, materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the tender document and this schedule.
05	The rates quoted for PART- A shall be inclusive of cleaning of site of any vegetation, dressing and leveling etc including fixing of grid pillars, benchmarks etc required for commencement of site activities. No separate payment will be made towards the same for PART-A.
06	Rates shall be quoted in figures and in words in clear legible writing. No overwriting is allowed. All scoring and cancellations should be countersigned and in case of illegibility the interpretation of engineer shall be final. All entries shall be in English.
07	The tender shall be deemed to have visited site and made himself aware of all the site conditions, studied the specifications and details of work to be done within the time schedule attached and to have acquainted himself of the conditions prevailing at site.
08	Engineer's decision shall be final and binding on the contractor regarding clarification of items in the schedule with respect to the other sections/volumes of the contract.
09	The quantities of the various items mentioned in this schedule of items (for Part B) are approximate, based on very preliminary information and may vary to any extent or be deleted altogether. The quoted/ accepted rates shall remain firm and valid as long as variation in total value of work executed under this contract (for part B of the Price Schedule) including extra items, but excluding any price escalation, remains within +/- 30% (thirty percent) of the contract price (for Part B of the price schedule) given in the LOI/WO.
10	All works item wise shall be measured upon completion and paid for at the rates quoted and accepted. Note: Bidder may note that Dimensions indicated against ST No. 3400 (SI. No. 319) are tentative in nature.
11	EVALUATION SHALL BE DONE BASED ON OVERALL QUOTED PRICE FOR BOTH PART - A AND PART - B COMBINED TOGETHER.

VOLUME-III , REV 03

PRICE SCHEDULE: (PART A AND PART B)

SUMMARY OF PRICES FOR PART A + PART B .

SCOPE OF WORK :

PART A - Construction of Ash Pond with recovery water pump house etc. on EPC basis

PART B - Civil, structural & architectural works for leveling & grading , Sweet water reservoir, Sweet water Pump house, Boundary wall, watch towers, gate complex, plant roads, plant storm water drains and culverts, other civil and electrical enabling works for covered/semi covered storage shed, office, temporary roads and drains etc.

for 2 X 520 MW HNPCL/ VIZAG TPP. Vishakhapatnam. AP.

TENDER NO - PSER:SCT:VIZ:C1128:10

SL. NO.	PACKAGE	TOTAL PRICE (IN RS.)
1.0	LUMPSUM PRICE AS PER RATE SCHEDULE OF PART A (Construction of Ash Pond with recovery water pump house etc. on EPC basis).	
2.0	TOTAL PRICE AS PER RATE SCHEDULE OF PART B (Civil, structural & architectural works for leveling & grading , Sweet water reservoir, Sweet water Pump house, Boundary wall, watch towers, gate complex, plant roads, plant storm water drains and culverts, other civil and electrical enabling works for covered/semi covered storage shed, office, temporary roads and drains etc.)	
3.0	GRAND TOTAL PRICE (SL. NO. 1.0 + SL NO. 2.0) (IN RS.)	

Notes:

1	Bidder to note that total price indicated above at Sl. No. 3.0, shall be considered for evaluation and hence should be complete in all respect for the full scope defined and considering all terms and conditions.
2	In case, price indicated above does not match with the total of item wise break-up given at Price Schedule Part-A and Part-B respectively, the highest price so calculated shall be considered for evaluation but in case of order, the same shall be placed at the lowest price.

VOLUME-III REV-03

PRICE SCHEDULE: (PART A)

PART A - Construction of Ash Pond with recovery water pump house on EPC basis.

TENDER NO :- PSER:SCT:VIZ:C1128:10

Bidders are requested to submit their price only as sought under price schedule below :-

SL. NO	DESCRIPTION OF ITEM	QUANTITY a	UNIT	UNIT RATE (in Rs) b	TOTAL AMOUNT (in Rs) (In figures & In Words) a x b
1.0	LUMPSUM PRICE FOR Construction of Ash Pond with recovery water pump house etc. on EPC basis.	1	LOT		

**VOLUME-III REV-03
PRICE SCHEDULE: (PART B)**

PART B - Civil, structural & architectural works for leveling & grading , Sweet water reservoir, Sweet water Pump house, Boundary wall, watch towers, gate complex, plant roads, plant storm water drains and culverts, other civil and electrical enabling works for covered/semi covered storage shed, office, temporary roads and drains etc.

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
	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.				
1.0	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.				
1.1	a	Depth from ground level but not exceeding 2 m	CUM	101839		
1.2	b	Depth exceeding 2 m but not exceeding 4 m	CUM	12122		
1.3	c	Depth exceeding 4 m but not exceeding 6 m	CUM	3930		
1.4	d	Depth exceeding 6 m but not exceeding 8 m	CUM	1315		
1.5	e	Depth exceeding 8 m but not exceeding 10 m	CUM	250		
1.6	f	Depth exceeding 10 m but not exceeding 15 m	CUM	120		
2.0	102	Extra over ST No. 101 for dewatering of ground water by well point method as per IS 9759.	CUM	22932		
3.0	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.				
3.1	a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	3369		
3.2	b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	2246		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
3.3	e	Each layer compacted so as to achieve at least 85% relative density as per IS-2720 part XIV in case of sandy soils.	CUM	16845		
4.0	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. (Backfilling is from selected materials directly from excavation i.e. without any intermediate stacking. Hence no lead is considered in this item).				
4.1	a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	7860		
4.2	b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	5240		
4.3	e	Each layer compacted so as to achieve at least 85% relative density as per IS-2720 part XIV in case of sandy soils.	CUM	39302		
5.0	109 a	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	37012		
6.0	110	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 approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty (if any), watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.				
6.1	a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	1125		
6.2	b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	750		
6.3	e	Each layer compacted so as to achieve at least 85% relative density as per IS-2720 part XIV in case of sandy soils.	CUM	8289		
7.0	111	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 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	65		
	200	CONCRETE WORKS				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
		Providing and placing concrete work including cost of labour, materials and equipment for handling, transportation, batching, mixing, placing, vibrating and curing, (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following. (Cement will be supplied by BHEL as per TCC free of cost):				
8.0	201	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as filling course at any depth below finished floor level, under and around foundations/floors, mass fill etc.	CUM	245		
9.0	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	1044		
9.1	A202	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors, pipe encasement, anchoring of HDPE liner etc at any depth below finished floor level etc.all inclusive	CUM	5349		
10.0	203	Concrete of grade M15 (1 part cement, 2 part sand, 4 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	217		
11.0	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.				
11.1	b	M20 Grade	CUM	14		
12.0	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.				
12.1	a	M25 Grade	CUM	12640		
12.2	b	M30 Grade	CUM	18310		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
12.3	A205	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 ,concrete bands on slope 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.				
12.3.1	a	M20 Grade	CUM	750		
13.0	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.				
13.1	a	M25 Grade	CUM	1620		
13.2	b	M30 Grade	CUM	410		
14.0	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)				
14.1	b	M25 grade	CUM	50		
14.2	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.				
14.2.1	a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	12		
15.0	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, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.				
15.1	a	M 25 grade	CUM	30		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
15.2	b	M 30 grade	CUM	30		
16.0	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.				
16.1	b	M 30 grade for below and above FGL	CUM	350		
17.0	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.				
17.1	a	Plain cement concrete of all grades	CUM	15		
17.2	b	Reinforced cement concrete of all grades	CUM	48		
18.0	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	100		
19.0	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	120		
20.0	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	100		
21.0	219	Providing and applying curing compound of approved make where ever required as per manufacturer's specification.	SQM	200		
	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.				
22.0	301	Fairface form work with good quality water proof ply wood of required thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	11445		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
23.0	A301	Formwork using approved quality BWP type, densified plywood with suitable overlay (film faced) and conforming to IS: 35139 (Part-III) and IS: 4990 to produce a perfectly levelled, uniform and smooth surface below finished ground floor level . Film face shall have minimum 250 gm/sqm coating. Form work shall conform to IS: 456 and IS: 14687.	SQM	92362		
24.0	302	Fairface form work with good quality water proof ply wood of required 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.	SQM	9845		
25.0	A302	Formwork using approved quality BWP type, densified plywood with suitable overlay (film faced) and conforming to IS: 35139 (Part-III) and IS: 4990 to produce a perfectly levelled, uniform and smooth surface above finished ground floor level . Film face shall have minimum 250 gm/sqm coating. Form work shall conform to IS: 456 and IS: 14687.	SQM	42520		
26.0	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.				
26.1	a	Upto 150 mm depth	Each	30		
26.2	b	Pockets of depths more than 150mm and upto 300 mm depth	Each	20		
26.3	c	Pockets of depths more than 300mm and upto 600 mm depth	Each	10		
26.4	d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	5		
26.5	e	Pockets of depths more than 1000mm and upto 1500 mm depth	Each	5		
	400	REINFORCEMENT				
27.0	401	Providing, straightening, cutting, bending, placing in position at any level, binding of mild steel reinforcements conforming to grade 1 of IS:432 part 1 in concrete including cost of reinforcement and binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings. (ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR FROM SAIL/RINL/TISCO ETC) Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.	MT	30		
28.0	402 A	Providing, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 confirming to IS:1786 including cost of reinforcement and binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR FROM SAIL/RINL/TISCO ETC) Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.	MT	20		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
29.0	402 B	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 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 will be supplied by BHEL as per SCC free of cost)	MT	155		
30.0	403	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500D or 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 will be supplied by BHEL as per SCC free of cost)	MT	1723		
31.0	405	Transportation, straightening, cutting, bending, placing in position at any level, binding in position of corrosion resistant steel -HCRM re-bars of approved make with steel of grade Fe-500 confirming to IS:1786 norms including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (Reinforcement will be supplied by BHEL as per SCC free of cost)	MT	196		
32.0	406	Providing, straightening cutting, bending, placing in position at any level, binding of mild steel reinforcements in brickwork including cost of reinforcement and binding wire, labour, scaffolding etc. complete all as per specifications & drawings. (ALL MATERIALS TO BE SUPPLIED BY CONTRACTOR FROM SAIL/RINL/TISCO ETC) Payment terms - a) On receipt of materials at site - 65%; b) On completion of erection & fixing - 35%.	MT	10		
33.0	407	Transportation, straightening, cutting, bending, placing in position at any level, binding in position high yield strength steel reinforcements in brickwork including cost of binding wire, labour, scaffolding etc. complete all as per specifications & drawings. (Reinforcement will be supplied by BHEL as per SCC free of cost)	MT	15		
	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. (Contractor has to furnish a guarantee for material and workmanship for a minimum period of 10 years). (Cement will be supplied by BHEL as per SCC free of cost).				
34.0	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.	SQM	230		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
35.0	506	Providing and applying PU based 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 urethane 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	230		
36.0	A507	Providing and laying wearing course consisting of 25mm thick plain cement concrete of grade M20 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.5mx1.5m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	230		
37.0	508	Providing and laying cement concrete chequered flooring tiles of 22 mm thickness and size 250x250 mm / 300x300 mm conforming to IS 13801 with 8 mm thick 1:4 cement mortar over the top most layer of roofing treatment in pathway and entire equipment area with fine joints including sealing of joints (silicon/elastomeric sealant) etc all complete. (Water proofing paid elsewhere)	SQM	53		
38.0	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	350		
39.0	511	Providing and mixing water proofing compound conforming to IS:2645 in concrete or cement mortar all complete.	KG	610		
40.0	512	Anti termite chemical treatment of soil with Chloropyrifos emulsifiable concentrates (1%) conforming to IS :8944 all complete.	SQM	50		
41.0	513	Providing and applying concrete structures two coats of ERPB (Epoxy rasin based anticorrosive and chemical resistant paint) over a coat of CPCI (concrete penetrating bipolar corrosion inhibitor) with 300 to 325 micron DFT for protection of concrete against carbonation and chloride penetration in saline/marine environment all complete of approved make and as per manufacturer's recommendation	SQM	150		
	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.				
42.0	601	Supplying & installation of bitumen impregnated fibre board conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.				
42.1	a	12 mm wide joints.	SQM	40		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
42.2	b	20 mm wide joints.	SQM	25		
42.3	c	25 mm wide joints	SQM	25		
42.4	d	50 mm wide joints	SQM	15		
43.0	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:				
43.1	a	12mm X 25mm	RM	120		
43.2	b	20mmX25mm	RM	170		
43.3	c	25mmX25mm	RM	20		
44.0	604	Supplying and filling in position hot applied bitumen sealing compound (Grade B) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.				
44.1	a	10mm X 40mm	RM	100		
44.2	b	12mm X 25mm	RM	160		
44.3	c	20mmX25mm	RM	20		
45.0	606	Providing and fixing PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following:				
45.1	c	150 mm wide and 6 mm thick	RM	350		
45.2	d	230 mm wide and 6 mm thick	RM	300		
		700 MS EMBEDMENTS				
		Embedments including all labour, material, equipment, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.				
46.0	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. (Contractor to supply all materials) Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	18		
47.0	703	Supply,fabrication & fixing of embedments, inserts, pipe sleeves, angle pieces, anchor bolts of various diameters, plates of dimensions as required etc. including scaffolding, setting in position, etc. all complete. (Contractor to supply all materials) Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	2		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
48.0	704	Supply, Fabrication, transportation, 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, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete. Contractor to supply all materials. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	1		
49.0	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. (Contractor to supply all materials) Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.				
49.1	a	MS pipes of all diameters	Quintal	15		
49.2	b	PVC pipes / conduits of all diameters	Quintal	2		
49.3	c	UPVC pipes / conduits of all diameters	Quintal	2		
49.4	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:				
49.4.1	i	Upto 250 kg	Each	10		
49.4.2	ii	Beyond 250 Kg and upto 500 kg	Each	25		
49.4.3	iii	Beyond 500 Kg and upto 750 kg	Each	10		
49.5	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:				
49.5.1	i	Upto 250 kg	Each	10		
49.5.2	ii	Beyond 250 Kg and upto 500 kg	Each	25		
49.5.3	iii	Beyond 500 Kg and upto 750 kg	Each	10		
49.6	A705e	Expansion fasteners (chemical adhesive type , galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:				
49.6.1	i	Upto 250 kg	Each	10		
49.6.2	ii	Beyond 250 Kg and upto 500 kg	Each	25		
49.6.3	iii	Beyond 500 Kg and upto 750 kg	Each	10		
	800	GROUTING				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
		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.				
50.0	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 as per TCC free of cost).	SQM	628		
51.0	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 as per TCC free of cost).	CUM	5		
52.0	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 as per TCC free of cost).	CUM	5		
53.0	804	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with ConbextraGP-1 or equivalent . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	4		
54.0	805	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing, etc. all complete with Conbextra GP-2 or equivalent . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	2		
	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. (all steel doors, windows and rolling shutters etc.shall be blast cleaned to near white metal surface (Sa 2 1/2), painted with two coat of red oxide zinc primer and finished with two coats of synthetic enamel paint confirming to IS2074)				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
55.0	A904	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, factory galvanised, primed and field painted, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	SQM	15		
56.0	905	Providing and fixing single or double steel door shutters with 18 gauge M.S. sheets shutter presenting a flush surface on the outside and inside stiffened with semitubular edge and central stiffening rail which shall convey the lock including fixtures, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	SQM	10		
57.0	A906	Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 3mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 (minimum anodized coating of grade AC15). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear float glass of 5.5mm thickness including snap fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately).	SQM	36		
58.0	907	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	SQM	3		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
59.0	A909	Providing and fixing anodised aluminium work including bimetallic corrosion protection of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-mettalic protection etc.including preperation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately).Weight of aluminium section only shall be measure.	Kg	2700		
60.0	911	Providing and fixing of door closers as per IS 3564, of approved make & quality all complete of following type :				
60.1	a	Over head hydraulic door closures	Each	4		
60.2	b	Floor mounted Hydraulic door closers	Each	4		
61.0	A912	Providing and fixing factory galvanised, primed and field painted pressed steel frames , fabricated from min 1.6mm M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications.	Kg	135		
62.0	913	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.				
62.1	a	Hand Operated	SQM	3		
62.2	b	Mechanically Operated	SQM	9		
62.3	c	Electrically operated	SQM	9		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
63.0	915	Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.				
63.1	b	4 mm thick clear float glass	SQM	130		
63.2	c	5.5 mm thick clear float glass	SQM	50		
63.3	d	6 mm thick wired glass	SQM	160		
63.4	k	One outer 6mm thick tinted heat-reflecting type float glass and one inner 6mm thick plain float glass hermetically sealed and seperated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	40		
64.0	916	Supplying and fixing weather stripping of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	20		
65.0	917	Providing and fixing 12 mm thick BWP particle board , decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading etc. all complete (excluding aluminium works).	SQM	12		
	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 as per TCC free of cost).				
66.0	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.				
66.1	d	Using burnt clay bricks of class designation 5.0 of nominal dimension	CUM	79		
66.2	Aa	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	CUM	201		
66.3	Ab	Using clay ash bricks as per IS 13757 with crushing strength of 50 kg/cm ² and minimum percentage of fly ash 25%	CUM	53		
66.4	Ac	Using fly ash cement bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	CUM	201		
67.0	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.				
67.1	d	Using burnt clay bricks of class designation 5.0 of nominal dimension	CUM	703		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
67.2	Aa	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	CUM	1758		
67.3	Ab	Using clay ash bricks as per IS 13757 with crushing strength of 50 kg/cm ² and minimum percentage of fly ash 25%	CUM	469		
67.4	Ac	Using fly ash cement bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	CUM	1758		
68.0	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.				
68.1	d	Using burnt clay bricks of class designation 5.0 of nominal dimension	SQM	6		
68.2	Aa	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	SQM	16		
68.3	Ab	Using clay ash bricks as per IS 13757 with crushing strength of 50 kg/cm ² and minimum percentage of fly ash 25%	SQM	4		
68.4	Ac	Using fly ash cement bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²		16		
69.0	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.				
69.1	d	Using burnt clay bricks of class designation 5.0 of nominal dimension	SQM	15		
69.2	Aa	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	SQM	38		
69.3	Ab	Using clay ash bricks as per IS 13757 with crushing strength of 50 kg/cm ² and minimum percentage of fly ash 25%	SQM	10		
69.4	Ac	Using fly ash cement bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	SQM	38		
70.0	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.				
70.1	d	Using burnt clay bricks of class designation 5.0 of nominal dimension	SQM	10		
70.2	Aa	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	SQM	38		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
70.3	Ab	Using clay ash bricks as per IS 13757 with crushing strength of 50 kg/cm ² and minimum percentage of fly ash 25%	SQM	10		
70.4	Ac	Using fly ash cement bricks confirming to IS 12894 with crushing strength of 50 kg/cm ²	SQM	38		
71.0	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	40		
72.0	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. (Chicken wire mesh to paid separately).	CUM	5		
73.0	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	10		
74.0	1009	Making openings in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	2		
75.0	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	10		
76.0	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	50		
77.0	1012	Providing and filling brick bats in soak pits all complete.	CUM	25		
	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.				
78.0	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	1058		
	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. (Cement will be supplied by BHEL as per TCC free of cost).				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
79.0	1201	Providing 18mm thick plaster in two layers outside the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	19268		
80.0	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	19394		
81.0	1204	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.	SQM	822		
82.0	1205	Providing 12mm thick plaster in walls, drains/culverts with a paste of neat cement @ 1kg/sqm and rubbed smooth with trowel etc. all complete.	SQM	131375		
83.0	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	20		
	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. (PAINTS OF REPUTED BRAND OF REPUTED MANUFACTURER LIKE ICI/BURGER/ASIAN PAINTS OR EQUIVALENT)				
84.0	1303	Providing and applying two or more coats of oil bound destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	1550		
85.0	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	110		
86.0	A1306	Providing and applying 2 or more coats of Chlorinated Rubber acid/alkali resistant paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying chlorinated rubber zinc phosphate primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, inclusive of intermediate coat of Titanium dioxide / micaceous iron oxide complete as per specifications.	SQM	20		
87.0	A1310	Providing and applying 2 coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	36085		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
88.0	A1311	Providing and applying 2.5mm thick resin and polymer bonded granular textured finish, for external applications shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	1180		
89.0	1312	Providing and applying 2 mm thick plaster of paris 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	110		
	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. (Under bed concrete will be paid seperately under relevant item). (Cement will be supplied by BHEL as per TCC free of cost).				
90.0	1401	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron paricles 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	279		
91.0	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	20		
92.0	1404	Providing and laying interlocking M30 Grade concrete blocks in paving with approved colour and pattern and should be laid on the subbase and bedding as per specifications and recommendations of manufacturer.				
92.1	a	60mm	SQM	450		
92.2	b	75mm	SQM	325		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
93.0	1406	Providing and laying polished Kota stone 18mm to 20mm thk in flooring . Under bed shall average 30mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level. The kota stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.	SQM	45		
94.0	1408	Providing polished Kota stone 18mm to 20mm thk in skirting projecting 6mm from adjacent plaster including cutting brickwall upto the required depth, edging, finishing etc. all complete.	SQM	11		
95.0	1410	Marble stone Flooring laid in 50mm overall thickness with 18-20mm thick marble slabs (grade -1) with minium 30mm thick underbed of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level.The marbel slabs/tiles laid over underbed with mortar 1:3, 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	45		
96.0	1412	Providing and laying 18-20mm thick polished Granite stone of approved color and texture in flooring 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	51		
97.0	1414	Providing and laying 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	11		
98.0	A1416	Providing and laying vitrified ceramic tiles of polished variety of size 750x750 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 with neat cement slurry etc. such that total floor thickness including underbed is 50mm all complete for following				
98.1	b	10mm thick tiles In flooring	SQM	70		
98.2	d	10mm thick tiles In skirting and dado upto specific height	SQM	13		
99.0	A1417	Providing and laying vitrified ceramic tiles of matt finish of size 600x600mm from reputed / approved manufacturer including underbed of cement mortar 1:3 with neat cement slurry etc. such that total floor thickness including underbed is 50mm all complete for following.				
99.1	a	7mm thick tiles In flooring	SQM	20		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
99.2	b	10mm thick tiles In flooring	SQM	70		
99.3	c	7mm thick tiles In skirting and dado upto specific height	SQM	9		
99.4	d	10mm thick tiles In skirting and dado upto specific height	SQM	13		
100.0	1422	Providing & fixing Acid / Alkali resistant (Chemical resistant) tiles confirming 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 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.				
100.1	a	20mm thick	SQM	15		
101.0	1425	Providing and laying polished Marble slabs (Aranga white or equivalent approved shade/color /design) 20 mm thk in staircase landing/skirting and corridors over minimum 20 mm thick underbed of 1 cement : 2 sand : 4 stone aggregates by volume mixed with sufficient water to form a stiff workable mass. The marble slabs shall be laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including moulded marbel nosing, pigments, curing, grinding, making corners, granite polishing etc. complete.	SQM	85		
102.0	1426	Providing and laying marble skirting /dado (Aranga white or approved shade/color /design) equivalent of minimum 20mm thickness projecting 6mm from adjacent plaster all complete including underbed cement mortar 1:3, scaffolding etc. all complete.	SQM	18		
103.0	1429	Providing and fixing removable type flooring system consisting of fire resistant particle board of size 600X600X35 mm with 0.05 mm thick aluminium foil lining at bottom and with 2 mm thick anti static PVC topping including proprietary floor supporting system complete as per specification.	SQM	25		
104.0	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.				
104.1	a	Glass strips 40 mm wide and minimum 6 mm thick.	RM	350		
104.2	b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	400		
104.3	c	Brass strips 20 mm wide and minimum 4 mm thick.	RM	90		
	1500	ROOFING / SIDE CLADDING				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
		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.				
105.0	1501	Designing, providing and fixing permanently color coated galvanised MS troughed metal sheet decking plate of approved colour and conforming to class3 of IS 14246 over roof purlins for cast-in-situ roof slab as per relevant IS code and specification. Bare metal thickness of deck plate shall be minimum 0.7mm 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 polyester paint of minimum 20 micron DFT on exposed surface (facing operating floor) and minimum 7 micron on other face over epoxy primer applied over hot dipped galvanising @ 275 gm/sqm including fixing of sheet to purlin with self drilling white zinc plated heat treated carbon steel screws of minimum 5.6 mm dia @ 260mm c/c in the trough and stich screws between two adjacent sheets and sealing with epoxy sealant. Measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.				
105.1	a	Span Upto 1800mm	SQM	700		
106.0	1502	Providing and fixing 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.	QUINTAL	40		
107.0	1504	Designing, providing and fixing External sheet of Permanent colour coated metal cladding with high strength tensile steel sheet 0.5mm bare metal thickness having minimum yield strength 350 MPa and zinc-aluminium alloy coating not less than 275 gm/sqm total on both sides including fixing to supports / rails by concealed fixing system, corrosion resistant self tapping / self drilling type fasteners with suitable cap, flashing etc. all complete. The exposed face of the sheet shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of minimum dry film thickness (DFT) 20 microns over suitable primer. Inner face of the sheet shall be provided with suitable pre-coating of minimum DFT 7 microns over suitable primer. The permanent colour coated sheet shall meet the general requirements of IS : 14246 and shall conform to class 3 for the durability. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	SQM	2000		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
108.0	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	50		
	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.				
109.0	A1604	Providing, fixing and laying permanently colour coated aluminium false ceiling of approved colour with stove enamel finish of approved make in LINEAR and SQUARE type with corrosion resistance aluminium alloys panels of minimum thickness 0.6mm including 50mm thick mineral wool insulation (as per IS:8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixtures. A.C. ducts etc. suitable M.S. channel (minimum MC 75) grid 1200 c/c maximum shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixtures, AC ducts etc.The work to be complete as per specifications, drawings and direction of engineer.(Materials for structural platform grid for movement made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301) Payment terms - a) On receipt of aluminium false ceiling at site - 50%; b) On completion of erection & fixing - 50%.	SQM	40		
	1700	RAIN WATER DOWN TAKE PIPES				
		Rain water down take pipes including all labour, material, transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc at any level as per specification, drawings and as directed by engineer - in - charge.				
110.0	1702	Providing and fixing galvanised MS down take pipes of 100 mm dia- Medium quality as per IS:1239(part-I) / IS:3589 all complete.	RM	47		
111.0	1704	Providing and fixing galvanised MS down take pipes of 150 mm dia- Medium quality as per IS:1239(part-I) all complete.	RM	27		
112.0	A1708	Providing and fixing ERW steel down take pipes conforming to IS:4984 as per specification of following diameters.				
112.1	a	200 mm Dia	RM	10		
112.2	b	250 mm Dia	RM	15		
	1800	MISCELLANEOUS WORKS				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
		Miscellaneous works including all labour, material, equipment etc. at any level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.				
113.0	1801	Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 230 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	55		
114.0	1802	Providing and mixing approved Bipolar Concrete penetrating Corrosion inhibiting admixture in concrete as per detail specification of manufacturer etc. all complete.	Kg	56500		
114.1	A1802	Providing and mixing approved sodium nitrate based Concrete penetrating Corrosion inhibiting admixture in concrete as per detail specification of manufacturer etc. all complete.	Kg	113000		
115.0	1808	Providing and fixing 300 mm wide Stainless steel strips over expansion joints with minimum lap of 50mm length including stainless steel screws, rawl plugs etc. all complete.	Kg	20		
116.0	1809	Providing Chemical injection grouting with pressure pump for water retaining concrete structures conforming to IS:6494, including fixing nozzles, cost of approved cement, admixture, curing etc. all complete . Payment shall be made as per the consumption of chemical grout.	Kg	150		
117.0	1811	Providing and fixing weep holes in Drains consisting of 100 mm dia HDPE pipe sleeves with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening covered with 40 mm downgraded aggregates in 300 X 300 mm sq. and 300 mm deep size all complete.	EACH	2000		
118.0	1815	Providing and fixing GI rungs in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	400		
119.0	1819	Design, supply, fabrication, erection of stoplog gates in CW Pumps 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 bearings, branch bushings, greasing, bolts, nuts, lugs, threaded fastners etc., cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc 750 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	4		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
120.0	1820	SS component mentioned under ST No. 1819.	MT	1		
121.0	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	14		
122.0	1831	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust suppression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	1000		
	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.				
123.0	2006	Supplying and fixing 600mm high concertina on top of boundary wall including GI tension wires, clips, anchors, accessories etc. all complete. Concertinal shall be from tensile serrated galvanised wire (HTSW) made with wire diameter of 2.5 mm which will be stretched to 6m and attached on two strands of galvanised HTSSW (high tensile spring steel wire) of 2.5mm dia by means of clips at 1m interval. These two HTSSW strands will be attached to the fence posts/ angles with 12 mm security fasteners. (Structural post shall be separately under ST No. 2007)	RM	7500		
124.0	2010	Supply, fabrication and installing in position and testing MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, painting as per specification etc. all complete.	MT	5		
124.1	A2010	Supply, fabrication and installing in position and testing motorised sliding MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including electrical fittings, sliding mechanism, stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, painting as per specification etc. in complete working conditions all complete.	MT	5		
	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.				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
125.0	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	4		
126.0	2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete - 15mm nominal bore.	EACH	10		
127.0	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:				
127.1	a	25mm nominal bore.	EACH	10		
128.0	2104	Providing and fixing GI pipes class B medium 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:				
128.1	a	15 mm nominal bore.	RM	80		
128.2	b	20 mm nominal bore.	RM	24		
128.3	c	25 mm nominal bore.	RM	16		
129.0	2105	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:				
129.1	a	15 mm nominal bore.	RM	16		
129.2	b	20 mm nominal bore.	RM	190		
129.3	c	25 mm nominal bore.	RM	60		
129.4	d	50 mm nominal bore.	RM	8		
130.0	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	4		
131.0	2107	Providing and fixing 610mmx127mmx6mm thk clear glass with C.P Guard rails and mounted on C.P. brackets etc all complete.	EACH	2		
132.0	2108	Providing and fixing 25 mm diameter stainless steel towel rails (600mm X 25mm) all complete.	EACH	2		
133.0	2109	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod with C.P. Brackets etc all complete.	EACH	2		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
134.0	2110	Providing and fixing C.P. soap holder mounted with C.P. screws etc all complete.	EACH	2		
135.0	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	2		
136.0	2112	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. sll complete.	EACH	2		
137.0	2113	Providing and fixing chromium plated brass shower rose with 15 or 20 mm inlet all complete.	EACH	2		
138.0	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.				
138.1	a	1000 litres capacity	EACH	2		
138.2	b	2000 litres capacity	EACH	2		
138.3	c	5000 litres capacity	EACH	2		
138.4	Ad	500 litres capacity	EACH	2		
139.0	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	2		
	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.				
140.0	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.				
140.1	a	White	EACH	2		
140.2	b	Colored	EACH	2		
141.0	2203	Providing and fixing stainless steel kitchen sink of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	1		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
142.0	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.				
142.1	a	Floor mounted	EACH	1		
142.2	b	Wall mounted	EACH	1		
143.0	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	1		
144.0	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	2		
145.0	2207	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.				
145.1	a	75mm dia pipes	RM	25		
145.2	b	110mm dia pipes	RM	15		
145.3	c	160mm dia pipes	RM	10		
146.0	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.				
146.1	a	200mm dia	RM	15		
146.2	b	300mm dia	RM	15		
146.3	c	450mm dia	RM	10		
147.0	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.				
147.1	a	150mm dia	RM	15		
147.2	b	250mm dia	RM	15		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
147.3	c	300mm dia	RM	10		
148.0	2210	Providing, laying light duty non pressure NP4 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following:				
148.1	a	450mm dia	RM	10		
148.2	b	600mm dia	RM	5		
149.0	2211	Providing and fixing C.I Manhole heavy duty cover of size 600mmx450mm including frame from reputed manufacture etc. all complete.	EACH	4		
150.0	2212	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	EACH	3		
151.0	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:				
151.1	a	100x100mm P or S Type.	EACH	4		
151.2	b	150x100mm P or S Type.	EACH	4		
151.3	c	150x150mm P or S Type.	EACH	4		
152.0	2214	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:				
152.1	a	100x100mm P or S Type.	EACH	4		
152.2	b	150x100mm P or S Type.	EACH	6		
152.3	c	150x150mm P or S Type.	EACH	4		
153.0	2215	Providing and fixing C.I. floor traps with C.P jalli all complete.	EACH	10		
154.0	2216	Providing and fixing heavy duty UPVC floor traps with C.P jalli all complete.	EACH	4		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
155.0	2217	Providing and installing approved brand single tap water cooler of 80 L cooling capacity all complete.	EACH	2		
156.0	2218	Providing and installing approved brand single tap water cooler of 150 L cooling capacity all complete.	EACH	2		
157.0	2219	Providing and fixing white vitreous urinal partitions of size 675x325x85mm all complete.	EACH	6		
158.0	2220	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	2		
	2300	STRUCTURAL STEEL				
		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.				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
159.0	A2301	<p>Supply, 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 2 coats of organic zinc-silicate primer of min 75micron DFT(one coat at shop and one coat after erection), connection design & preparation of fabrication drgs, collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20° C for welding over 20 mm and upto 40 mm & 66° C for welding over 40 mm and upto 63 mm & 110° C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete. Including appointment of a seperate agency, approved by BHEL, for review and approval of fabrication drgs, in consultation with BHEL.and all other activities required for completion of the work including return of surplus/ waste steel materials to store etc. as per specification, drawings and instructions of the Engineer.</p> <p>Approval of fabrication drawings does not relieve the bidder from the responsibility of its correctness and accuracy. Payments terms - a). Fabrication - 65%; b) Erection - 25%; c) Alignment - 10%.</p>	MT	175		
160.0	A2302	Extra over ST NO. A2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2) before applying the primer all complete.	MT	175		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
161.0	A2305	Providing and applying intermediate coat of epoxy based Titanium dioxide(TiO2) or Micaceous iron oxide (MIO)of minimum 75micron DFT on steel surfaces already having primer coats, topped with two coats of epoxy based colour finish paint with minimum 70 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade including further finishing with top coat of UV resistant (minimum 30 micron DFT) polyurethane of approved shade including protection and cleaning, scaffolding etc. all complete.	MT	175		
162.0	2307	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel (having minimum galvanisation of 610 g/sqm) 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 fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	2		
163.0	A2307	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel (having minimum galvanisation of 900 g/sqm) 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 fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	2		
164.0	A2309	Extra over above ST NO. 2301/2307 for finishing the grating units/bolts/inserts with Cold galvanisation @ 610 gm/sqm over blast cleaned steel surfaces instead of painting with two coats of primer all complete.	MT	3		
165.0	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		
166.0	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	3		
167.0	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	4		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
168.0	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	3		
169.0	2320	Supply, fabrication and fixing of GI pipe hand railing (900 mm high) of 32 mm/40 mm dia (Medium Grade) including transportation, loading/unloading, painting etc. all complete. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%..	MT	5		
170.0	2321	Conducting radiography test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	25		
171.0	2322	Conducting ultasonic test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	20		
172.0	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	50		
173.0	2324	Conducting magnetic particle test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	20		
174.0	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	10		
	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.				
175.0	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	82280		
176.0	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 as per IS-2720 (Part-VII) 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	7501		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
177.0	2403	Providing, stacking & laying granular morrum for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	8085		
178.0	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.	CUM	21450		
179.0	2405	Providing & laying water bound macadam base course in layers of required thickness with stone aggregate 63mm to 40mm size, stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc all complete.	CUM	14300		
180.0	2406	Laying water bound macadam base course with stone aggregate 50mm to 20mm size stone screening & binding material including screening, sorting, spreading to template & consolidation with road roller including carriage spreading & consolidation of blinding material moorum etc all complete.	CUM	14300		
181.0	2407	Providing & applying tack coat of low viscosity liquid bitumen of grade 80/100 confirming to IS 73, 217 or 454 as applicable @10 kg/ 10 sqm for untreated WBM surface including scraping, cleaning with compressed air etc all complete.	SQM	71500		
182.0	2409	Providing, mixing & laying of bituminous macadam course of specified thickness using bitumen of grade 60/70 conforming to IS 73, aggregates and binder material including hot mixing, hot laying, rolling etc all complete for the following.				
182.1	2409.b	50mm compacted thickness	SQM	71500		
183.0	2410	Providing, mixing & laying 20 mm compacted thick premix carpet in a single course composed of suitable small size aggregate premixed with bituminous binder using medium setting grade bitumen on a prepared base including mixing, applying, rolling etc all complete.	SQM	71500		
184.0	2411	Providing and applying liquid seal coat comprising of an application of a layer of bituminous binder using medium setting grade bitumen at the rate of 9.8kg/10sqm followed by a cover of stone chips at the rate of 0.09 cum/10sqm including rolling etc all complete.	SQM	71500		
185.0	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. (Cement will be supplied by BHEL as per TCC free of cost).	RM	23600		
186.0	2413	Providing & laying edge protection on both edges of black topping using brick on edge (bricks with crushing strength of 75 kg/cm ²) with full brick width (230 mm) etc all complete.	RM	5000		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
187.0	2414	Supply and laying 150mm 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. (Cement will be supplied by BHEL as per TCC free of cost).	RM	3300		
188.0	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	197		
189.0	2416	Providing 20mm compacted thick premix carpet on existing/damaged road surfaces in a single course composed of suitable small size aggregate premixed with a bituminous binder using medium setting grade bitumen on the existing base including tack coat, cleaning of existing surface, mixing, applying, rolling etc all complete.	SQM	987		
2600 LEVELING & GRADING						
190.0	2601 A	Clearing jungle including uprooting of rank vegetation, grass, brushwood, trees & sapling of girth upto 30 cm measured at a height of 1 m above ground level and Stripping of top soil average 200mm depth and removal of rubbish upto a distance of 50 m outside the working area cleared.designated area of disposal will be shown by BHEL.	SQM	150000		
191.0	2601B	DELETED				
192.0	2601 C	Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks & branches, removing the roots and stacking of seviceable material and disposal of material at a maximum distance 900 meter. All measurment to be recorded in the register.				
192.1	a	Beyond 30 cm girth upto and including 60 cm girth	EACH	1000		
192.2	b	Beyond 60 cm girth upto and including 120 cm girth	EACH	1000		
192.3	c	Beyond 120 cm girth upto and including 240 cm girth	EACH	10000		
192.4	d	Beyond 240 cm girth	EACH	8000		
193.0	2601 D	Removing scrap, debris, trees etc. From project/ work site to a designated place within 5 KM range with all manpowe, T & P etc. including loading & unloading as directed by BHEL engineer.				
193.1	a	Disposal through truck of 5 Cum capacity	EACH	2000		
194.0	2602	Earth work in stripping of top soil upto a maximum depth of 0.30m below ground level so as to exclude all debris, grass, vegetation, bushes, trees having girth upto 300mm including roots and organic materials etc for leveling and grading including dressing to specified levels & grades and compacting the graded/stripped surface by manual/mechanical means, disposal of stripped materials within a lead upto 1km etc all complete as per specification, drawing and as directed by the engineer-in-charge.	Sq.m	631750		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
195.0	2603	Earth work in excavation upto any depth below ground level in all types of soil including moorum, ash which can be excavated by any means for grading including setting out, levelling, dewatering (wherever required), dressing the sides & bottom, levelling to grade, all lifts, ramming/compacting the excavated bottom/graded surface, stacking/disposal of surplus excavated materials within a lead upto 1km , spreading/levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	1853500		
196.0	2608	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 300mm loose thickness with selected approved soil directly from excavation and compacted as specified including dewatering if required, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete as per specification, drawing and as directed by the engineer for the following. (Backfilling is from selected materials directly from excavation i.e. without any intermediate stacking. Hence no lead is considered in this item).				
196.1	a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	52120		
196.2	Ac	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	52120		
196.3	Ad	Each layer compacted so as to achieve at least 85% relative density as per IS-2720 part XIV in case of sandy soils.	CUM	828160		
197.0	2609	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 300mm loose thickness with selected approved soil from compulsorily excavated soil available within a lead upto 1km and compacted as specified including re-excavation of stacked earth, all lifts, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete as per specification, drawing and as directed by the engineer for the following.				
197.1	a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	22230		
197.2	Ac	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	22230		
197.3	Ad	Each layer compacted so as to achieve at least 85% relative density as per IS-2720 part XIV in case of sandy soils.	CUM	300140		
198.0	2610	Extra over ST No. 2602, 2603 & 2609 for carriage of unserviceable material/earth for every 1 KM or part thereof beyond an initial lead of 1KM	CUM	826500		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
A198	A2611	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 300 mm loose thickness with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer for the following.				
A198.1	a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII) (other than sandy soil)	CUM	110000		
B198	B2611	Earth work in filling for levelling and grading using fly ash or ash from ash pond including excavation/ collection, loading, transportation from a lead of 7-10 km on prepared surface obtained by compacting by vibratory roller/ heavy compacting equipment including setting out, filling in horizontal layers 250mm, spreading, sorting, watering, compaction with proper moisture content, to achieve a 90% maximum dry density (as per IS2720 Part-VII), dewatering (if required), testing, approaches, finishing to required lines, grades and slopes, levelling etc complete as per specification, drawing and as directed by engineer.	CUM	200000		
199.0	A2612	Providing and laying 300mm thick stone pitching on the slopes of earth fill/cut with approved quality of rock fragments conforming to IS 8237 including materials, testing, necessary excavations if any, compaction etc all complete as per specification, drawing and as directed by the engineer.	SQM	68550		
2700 EARTHEN RAW WATER RESERVOIR						
200.0	2701	Earth work in stripping of top soil upto a maximum depth of 300 mm below ground level so as to exclude all debris, grass, vegetation, bushes, trees having girth upto 300mm including roots and organic materials etc including dressing to specified levels & grades and compacting the graded/stripped surface by manual/mechanical means, disposal of stripped materials within a lead upto 1km etc all complete as per specification, drawing and as directed by the engineer-in-charge.	SQM	0		
201.0	2702	Earth work in excavation upto any depth below ground level in all types of soil including moorum, ash which can be excavated by any means inside reservoir/ash pond area and for foundation of reservoir/ash pond embankment and cut-off trench including site clearance, setting out, levelling, dewatering (wherever required), shoring & strutting (wherever required), dressing the sides & bottom, levelling to grade, all lifts, ramming/compacting the excavated bottom, stacking/disposal of surplus excavated materials within a lead upto 1km , spreading/levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	723900		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
202.0	2703	Earth work in embankment filling/bed filling upto any level below/above ground level in layers not exceeding 300 mm loose thickness with selected approved soil directly from excavation and compacted so as to achieve atleast 95% of maximum dry density (Standard Proctor Test) as per IS:2720, Part-7 including setting out, sorting, handling, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing, dewatering if required, all lifts etc all complete as per specification, drawing and as directed by the engineer-in-charge. (Backfilling is from selected materials directly from excavation i.e. without any intermediate stacking. Hence no lead is considered in this item).	CUM	4530		
203.0	2704	Earth work in embankment filling/bed filling upto any level below/above ground level in layers not exceeding 300 mm loose thickness with selected approved soil from compulsorily excavated soil available within a lead upto 1km and compacted so as to achieve atleast 95% of maximum dry density (Standard Proctor Test) as per IS:2720, Part-7 including setting out, re-excavation of stacked earth, sorting, handling, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing, dewatering if required, all lifts etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	4530		
204.0	2705	Extra over ST No. 2701, 2702 and 2704 for carriage of soil/excavated materials for every 1 km or part thereof beyond an initial lead of 1km.	CUM	692000		
205.0	2707	Earth work in bed filling upto any level in layers not exceeding 300 mm loose thickness with selected approved borrowed soil (borrowed soil shall be CL/CI type and shall be arranged by the bidder) and compacted so as to achieve atleast 95% of maximum dry density (Standard Proctor Test) as per IS:2720, Part-7, including setting out, supplying borrowed soil, royalty/seignorage fee (if any), sorting, handling, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing, dewatering if required, all leads and lifts etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	38465		
206.0	A2707	Earth work in embankment/bed filling up to any level in layers not exceeding 300 mm loose thickness with selected approved borrowed soil (borrowed soil shall be CL/CI/ML-CL type and shall be arranged by the bidder) and compacted so as to achieve at least 95% of maximum dry density (Standard Proctor Test) as per IS:2720, Part-7, including setting out, supplying borrowed soil, royalty/seignorage fee (if any), sorting, handling, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, testing, dewatering if required, all leads and lifts etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	15000		
207.0	2708	Supplying, stacking and laying sand of approved quality as sand blanket/cushion over base/bed and on slopes of embankment including screening, washing (wherever required), watering, compaction, dressing, necessary trimming if any including all leads and lifts etc all complete as per specification and as directed by the engineer-in-charge.	CUM	24275		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
208.0	2709	Supplying, stacking and laying sand filter of approved quality inside the body/ slope of embankment including screening, washing (wherever required), watering, compaction, dressing, necessary trimming if any including all leads and lifts etc all complete as per specification and as directed by the engineer-in-charge.	CUM	8650		
209.0	2710	Supplying, stacking and laying 150mm thick graded gravel filter of approved quality below/above rock-toe in slopes, on the embankment including screening, washing (wherever required), watering, compaction, dressing, necessary trimming if any including all leads and lifts etc all complete as per specification and as directed by the engineer-in-charge.	CUM	440		
210.0	A2711	Providing and placing approved quality of 750 Micron thick heavy duty high density polyethylene liner (HDPE) films manufactured from polyethylene resin in the base/bed of reservoir as well as on side slopes of embankment to prevent seepage including joining with approved method including testing, fixing at the edges in plain cement concrete by providing 400mm wide and 300mm thick plain cement concrete 1:2:4 on the top of embankment (the cost of plain cement concrete 1:2:4 shall be excluded and shall be payable separately) as shown in the drawing etc all complete as per specification and as directed by the engineer-in-charge. Minimum width of HDPE liner shall be 6m.	SQM	147105		
211.0	2712	Providing and placing 300mmx300mm size and 50mm thick precast concrete tiles of grade M-20 over 15mm thick 1cement:4sand mortar on HDPE liner at the bed of reservoir and on side slopes of embankment, filling joints with 1cement : 3sand mortar etc all complete as per specification and as directed by the engineer-in-charge. The rate shall be inclusive of cement sand mortar as well.	SQM	147105		
212.0	2713	Supplying, stacking and laying hand placed rock toe at the down stream side of embankment with approved quality of rock fragments including materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	2850		
213.0	2714	Supplying, stacking and laying 300mm thick rip rap on the slopes of embankment with approved quality of rock fragments including materials etc all complete as per drawing, specification and as directed by the engineer-in-charge.	CUM	2740		
214.0	2715	Providing and placing turfing with approved quality of grass on the outer slopes of embankment including materials, transportation, watering etc all complete as per drawing, specification and as directed by the engineer-in-charge.	SQM	2430		
215.0	2716	Providing and laying of 450 mm diameter R.C.C hume pipes of class NP3 conforming to IS:458 with collars, jointing the pipes with 1cement : 1sand mortar and testing of joints etc all complete as per specification and as directed by the engineer-in-charge.	RM	450		
216.0	2717	Providing and fixing of 150mm square and 900mm long guard stones over the top of embankment (cost of PCC grade M10 for encasement will be paid seperately) etc all complete as per drawing, specification and as directed by the engineer-in-charge.	EACH	520		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
217.0	2718	Providing and laying Water Bound Macadam (WBM) as per IRC 19 using crushed or broken stone aggregates of size 63mm to 40mm including packing with screenings, binding materials, watering and consolidation/compaction with road roller to make required line, slope and level etc all complete as per drawing, specification and as directed by the engineer-in-charge.	CUM	2200		
218.0	2719	Providing and laying compacted 50mm thick moorum over WBM base course including watering and compaction with road roller to make required line, slope and levels etc all complete as per drawing, specification and as directed by the engineer-in-charge.	CUM	350		
		MISCELLANEOUS				
219.0	A2731	Supply and laying 900 mm diameter MS pipe with 10mm wall thickness including necessary excavation, welding, testing, backfilling etc all complete as per specification and as directed by Engineer-in-charge.	RM	150		
	2800	MISCELLANEOUS 2				
220.0	2801	Construction of below ground earthing system test pits as per drawing / sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing and specification (excavation & backfilling only will be paid under applicable BOQ items).	NO	100		
221.0	2802	Construction of below ground earthing system test links as per drawing/ sketches including concreting, reinforcement, formwork, providing & fixing GI strip etc as per drawing & specification (excavation & backfilling only will be paid under applicable BOQ items).	NO	24		
222.0	2803	Construction of below ground earthing system earth electrodes as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items.)	NO	350		
223.0	2804	Construction of below ground earthing system - Earth connection and riser pig tails as per drawing and specification. (Excavation and backfilling only will be paid under applicable BOQ items.)	NO	1300		
224.0	2806	Sprinkling of water by water tanker fitted with perforated GI Pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust suppression and reduction of suspended material at site for day to day work, as directed by BHEL Site Engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling.	Tank-HR	7440		
	3000	ENABLING WORKS FOR STORES, OFFICE, FIELD HOSTEL, ROADS, RCC SLEEPER, HARD SURFACING, DRAIN AND MISC WORKS. (PROVISION HAS BEEN KEPT FOR CONSTRUCTION OF 5 NOS COVERED STORES WITH ATTACH 10 NOS SEMI COVERED STORE, 3M HIGHT MAIN OFFICE SHED (15Mx 60M), MESS BUILDING (8Mx8M), 20 NOS ROOM FIELD HOSTEL, 5000 NOS RCC SLEEPERS, 4 NOS BORE WELL, 1,10,000 SqM HARD SURFACING, 48,000 SqM TEMPORARY ROADS, DRAINS & CULVERTS, FENCING ETC AND MISCELLENOUS ENABLING CIVIL)				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
225.1	EC 1 A	Earthwork in excavation in all kinds of ordinary and hard soil (including slushy soil) up to a depth of 1.5m below ground level and stacking within a lead of 100 M,with necessary shoring, strutting, ramming, trimming and dressing of sides etc., including bailing / pumping out of surface water/rain water/sub soil water, cutting minor vegetation, if any, complete.	CUM	4185		
225.2	EC1 B	Earthwork in excavation in all kinds of ordinary and hard soil (including slushy soil) up to a depth of 1.5m to 3.0m below ground level and stacking within a lead of 100 M,with necessary shoring, strutting, ramming, trimming and dressing of sides etc., including bailing / pumping out of surface water/rain water/sub soil water, cutting minor vegetation, if any, complete.	CUM	780		
226.0	EC 2	Filling using selected excavated materials in trenches, plinths, sides of foundations and other underground structures, pipes, area levelling etc. in layers not exceeding 250 mm thickness including lead of 100m and all lifts and including loading from stock pile, carting, unloading, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer to achieve the following densities with 90% proctor density.	CUM	2080		
227.0	EC 3	Sand filling (river sand) in plinth in layers not exceeding 15cm as directed by BHEL and consolidating same by thorough saturation with water and ramming complete including the cost of supply of sand (payment to be made on measurement of finished qty).	CUM	1571		
228.0	EC 4	Single brick flat soling of picked jhama bricks including ramming and dressing bed to the proper level and filling the joints with powder earth or local sand including all materials, labour etc. complete.	SQM	11207		
229.0	EC 5	Plain cement Concrete 1 : 3 : 6 (1 cement : 3 sand : 6 graded stone aggregate of 20 mm nominal size) as filling course or lean concrete at any level below foundations, drain, septic tank, floors, hume pipes, materials, labour etc complete. (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) /BARRACK VALLEY/ ACC/ BIRLA or equivalent).	CUM	1121		
230.0	EC 6	Reinforced / plain cement concrete 1 : 1.5 : 3 (1 cement : 1.5 sand : 3 graded stone aggregate of 20 mm nominal size) for foundation, columns, beams, chajjas, RCC sleepers, RCC shelf, over head tanks slab, super structure slabs etc excluding cost of shuttering and reinforcement if any but including all materials, labour, curing etc complete all the levels. (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) /BARRACK VALLEY/ ACC/ BIRLA or equivalent).	CUM	866		
231.0	EC 7	Reinforced/ plain cement concrete 1:2:4 for RCC floor etc. with approved stone chips 20mm down for floor, drain etc excluding cost of shuttering and reinforcement if any but including all materials, labour, curing etc complete all the levels. (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) /BARRACK VALLEY/ ACC/ BIRLA or equivalent).	CUM	890		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
232.0	EC 8	Damp Proof Course 40mm thk. 1:1.5:3 concrete (10mm down aggregate) with 2% of approved admixture of water proofing compound. Hot bitumen @ 1.7Kg./sqm shall be applied before & after the DPC as per specification. (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) /BARRACK VALLEY/ ACC/ BIRLA or equivalent).	SQM	374		
233.0	EC 9	Supply, transporting, straightening, cutting, bending, placing at any level, binding in position mild steel reinforcements in concrete including cost of reinforcement and binding wire, labour etc complete all as per specifications & drawings (Contractor will provide MS round from SAIL/ TISCO/ IISCO/ SRMB/ SHRICON/ SHYAM STEEL/ ELEGANT/CONCAST etc). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	3		
234.0	EC10	Supply, transporting, straightening, cutting, bending, placing at any level, binding in position high yield strength steel reinforcements in concrete including cost of reinforcement and binding wire, labour etc complete all as per specifications & drawings (Contractor will provide TMT bar Fe-415/500 quality from SAIL/ TISCO/ IISCO/ SRMB/ SHRICON/ SHYAM STEEL /CONCAST etc). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	170		
235.0	EC11	Hire and labour charges for 25 mm thick plank /12mm thick Plywood shuttering for bldg. works for concrete foundations, floor/ roof slabs, beams, lintels, columns, chajja, fins etc including fitting, fixing and striking out carefully after completion of work for below ground and upto 6m height from finished floor level.				
235.1	EC11a	Without vertical props.	SQM	3065		
235.2	EC11b	With vertical props up to (+)6M height.	SQM	307		
236.0	EC12	Brick work in cement mortar (1:6) in foundation, plinth, pier, abutment, wing wlls, water tank, septic tank, drains, culvert etc including all materials, labours, scaffolding and other incidental etc. complete.(cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) /BARRACK VALLEY/ ACC/ BIRLA or equivalent).				
236.1	EC12a	Ordinary bricks / fly ash bricks, Class designation 75 below plinth lvl.	CUM	447		
236.2	EC12b	Ordinary bricks / fly ash bricks, Class designation 75, above plinth lvl upto 7.0M height.	CUM	665		
237.0	EC13	Half brick work in cement mortar (1 cement :4 sand) in foundation, plinth, pier, abutment, walls, water tank, septic tank, drains, culvert, super structure etc including cost of scaffolding and other incidental work etc. completed. (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) /BARRACK VALLEY/ ACC/ BIRLA or equivalent).				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
237.1	EC13a	Ordinary bricks / fly ash bricks, Class designation 75, below plinth level.	SQM	850		
237.2	EC13b	Ordinary bricks / fly ash bricks, Class designation 75, above plinth level upto 7 M height.	SQM	1356		
238.0	EC14	Plaster to existing masonry concrete wall, floor, slab soffits, fins, sills etc with sand cement mortar including rounding off or chenefering corners as directed and racking out joints or roughening of concrete surface including chipping & application of cement slurry where necessary etc complete as per drawing and direction of engineer. (cement - PPC/OPC/PSC to be supplied by contractor with test certificate from direct manufacturer of CCI / TOPCHEM/ CEMENT MANUFACTURING CO(STAR) /BARRACK VALLEY/ ACC/ BIRLA or equivalent).				
238.1	EC14a	With 1:6 cement mortar average 12 mm thick plaster below GL.	SQM	325		
238.2	EC14b	With 1:6 cement mortar average 12 mm thick plaster above GL.	SQM	6693		
238.3	EC14c	Outside plaster with 1:4 cement mortar average 15 mm thick above GL at all levels.	SQM	4659		
239.0	EC19	Supply, fabrication, erection and painting of structural steel work in columns, beams, wind ties, etc with simple rolled structural members connected to one with another with brackets gusset cleats, bolts & nuts or welding etc as per design & direction complete including fabrication, hoisting & erection including all materials, labour etc complete with one coat of primer & two coats of synthetic enamel painting (Contractor will provide structural steel from JINDAL/ SAIL/ TISCO/ IISCO/ SRMB/ SHRICON/ SHYAM STEEL/ RINL etc with test certificate). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	50		
240.0	EC20	Supply, fabrication, erection and painting of steel work with tubular sections as per IS 1161& 1239 for roof truss, purlin etc including all materials conforming to relevant IS codes, labour etc as per drawing, specification and direction of engineer with one coat of primer and two coats of synthetic enamel painting (Contractor will provide structural steel from JINDAL /BANSAL/ TATA/ SHYAM STEEL/ RINL etc). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	MT	175		
241.0	EC21	Providing & fixing corrugated galvanised iron sheet (CGI) 0.5mm thick for roofing of TATA/SAIL/ZINDAL/BANSAL make including galvanised J or L hook, bolts and nuts 8mm dia with bitumen washer 25mmdiax 3mm thick and 1.6 mm thick limpet washer complete with all labour, tools and plants. Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	SQM	12000		
242.0	EC22	Providing and fixing galvanised iron ridge 0.5 mm thick and 230 mm lappings on both sides of TATA /SAIL /ZINDAL /BANSAL make including fixing necessary screws, washers etc complete with all labour and tools and plants.	RM	480		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
243.0	EC23	Providing, transporting, fixing of MS foundation/ anchor bolt (Grade-1 of IS:432 & IS:2062) assembly in concrete along with nuts, lock nuts, 25mm dia, 950mm long including furnishing of labour, materials, welding, etc all complete as per specification, drawing and instruction of engineer (Contractor will supply all material). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	KG	3000		
244.0	EC24	Supplying, fitting & fixing openable steel window conforming to us IS:1036-1975 & IS:7452-1974 with non-friction projecting type of hinges fitted with revetts or nut bolt system as directed, glazing cleats, lugs, 2 nos MS anodised peg stays & fastner for each window of size 900x1200mm, 4mm thick clear glass pane (each glass max size 450x450mm), including fixing in position, fixing lug in cement concrete 1:2:4 with stone chips 12.5mm down cutting holes & mending good damage, 10mm dia MS round guard bar welded horizontally 125 c/c with each window etc complete with 1 coat of primer and 2 coats of synthetic enamel finish in all respect.	SQM	139		
245.0	EC25	Supplying, fitting and fixing fixed steel windows for store conforming to us IS:1036-1975 and IS:7452-1974 with glazing, cleats, lugs, 4mm thick clear glass pane (each glass max size 450mmx450mm), etc including fixing in position, fixing lugs in cement concrete 1:2:4 with stone chips 19mm down cutting holes & mending goods damages, with 10mm dia MS round guard bar fixed horizontally 125 c/c etc complete with one coat of primer and two coats of synthetic enamel finish in all respect.	SQM	70		
246.0	EC26	Priming one coat to timber or steel or plastered surface or other metal surface with ready mix paint of approved quantity including smoothening of surface by sand papering etc complete.	SQM	195		
247.0	EC27	Painting two coats with best quantity synthetic enamel paint ready mix oil bound paint of approved make and brand including smoothening surface by sand pepering etc including using approved putty etc on the surface if necessary.				
247.1	EC27a	On steel or other metal or wooden surface with super gloss.	SQM	154		
248.0	EC28	3 coats white washing with lime including cleaning and smoothening masonry surface thoroughly to give an even shade.	SQM	325		
249.0	EC29	Providing plaster of paris 2 mm thick punning over finished plaster surface and finished with one coat of acrylic emulsion primer followed by two coats of acrylic emulsion paint inside wall to give smooth and even surface as per specification at all levels.	SQM	7200		
250.0	EC30	Two coats of water proofing cement paint of Seacem or equivalent make & shade applied on external wall including scraping the surface thoroughly on plastered or concrete surface (manufacturers specification to be followed) at all levels including all materials, labours, scaffolding etc complete as per direction of engineer.	SQM	4659		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
251.0	EC31	Supply and providing ms/cgl gate sizes 4 M. wide x 5 M height (2 leaves) or 900mm wide x 2400mm height gate made of 0.5 mm C.G.I. sheet framed with 50x50x6mm angle, one diagonal with two posts ISMB 100 & all fittings and fixtures like hinges, hatch bolts, locking arrangements etc. complete as per Drawing, specification and finished with one coats of red oxide primer followed by two coats (Berger) synthetic enamel as directed by Site In-charge.	MT	3		
252.1	EC32a	Providing Public toilet (GENTS) with following facilities as directed by BHEL: (a) Inside size of toilet 8.0Mx3.6M , (b) 5mm thick white colour ceramic floor tile and inside walls tile upto 1.35 M height from finish floor, (c) four white vitreous wash basin 550x400 mm (Hindustan make or equivalent) with CI bracket, 15 mm cp brass pillar taps, 32 mm PVC waste water pipe, 32mm CP brass waste, two CP towel rail 550mm long, two best quality 550x400mm mirror etc complete, (d) ten WC chamber with Indian type WC Pan with high level 10 lts capacity CI flushing cistern, etc. (e) all inside pipe line shall be 15mm /20mm PVC and concealed pipes, (f) main supply external supply water pipe line shall be 32mm dia PVC of 12 M, (g) one bathroom with one 15 CP tap, one CP shower, complete in all respect. (h) ten nos. Flat back urinal with automatic high level CI flushing system, 5nosX 5 litre capacity each with CP connector, (i) Soil/ drain pipe shall be min 75mm dia CI for below floor inside if any and outside shall be 100mm dia PVC of supreme or equivalent. Masonry, concreting, plastering, CGI roofing with runner etc. will be paid seperately as per respective items.	set	1		
252.2	EC32b	Providing public toilet (LADIES) with following facilities as directed by BHEL: (a) Inside size of toilet 3.6Mx2.5M , (b) 5mm thick white colour ceramic floor tile and inside walls tile upto 1.35 M height from finish floor, (c) two white vitreous wash basin 550x400 mm (Hindustan make or equivalent) with CI bracket, 15 mm cp brass pillar taps, 32 mm PVC waste water pipe, 32mm CP brass waste, two CP towel rail 550mm long, two best quality 550x400mm mirror etc complete, (d) four WC chamber with indian type WC Pan with seat and lid black colour, low level 10 lts capacity white PVC flushing cistern, etc. (e) all inside pipe line shall be 15mm /20mm PVC and concealed pipes, (f) main supply external supply water pipe line shall be 25mm dia PVC of 12 M, (g) one bathroom with one 15 CP tap, one CP shower, complete in all respect.(i) Soil/ drain pipe shall be min 75mm dia CI for below floor inside if any and outside shall be 100mm dia PVC of supreme or equivalent, (j) four nos Squating pan. Masonry, concreting, plastering, CGI roofing with runner etc. will be paid seperately as per respective items.	set	1		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
252.3	EC32c	Providing attach toilet for field hostel with following facilities as directed by BHEL: (a) Inside size of toilet 2.0 x 2.5m, (b) 5mm thick white colour ceramic floor tile & inside walls tile upto 1.35m height from finish floor, (c) 1 white vitreous wash basin 450x300mm (Hindustan make or equivalent) with CI bracket, one 15mm CP brass pillar taps, 32mm PVC waste water pipe, 32mm CP brass waste, 1 CP towel rail 550mm long, 1 best quality 550x400mm mirror , 2 nos CP bib cock, one CP shower etc complete, (d) 1 European type WC pan with seat and lid black colour, low level 10 ltr capacity white PVC flushing cistern with connector, etc (e) all inside pipe lines shall be 15mm/ 20mm PVC & concealed pipes, (f) main external supply water pipe line shall be 25mmdia PVC of 6m, complete in all respect including testing, (g) Soil pipe shall be min 75mm dia CI for below floor if any & outside shall be 100mm PVC of supreme or equivalent. Masonry, plastering, concreting, roofing, etc. will be paid as per respective items.	SET	23		
252.4	EC32d	Providing attach toilet for Office with following facilities as directed by BHEL: (a) Inside size of toilet 2.0m x 2.0m, (b) 5mm thick white colour ceramic floor tile & inside walls tile upto 1.2m height from finish floor, (c) 1 white vitreous wash basin 450x300mm (Hindustan make or equivalent) with CI bracket, 15mm CP brass pillar taps, 32mm PVC waste water pipe, 32mm CP brass waste, 1 CP towel rail 550mm long, 1 best quality 550x400mm mirror etc complete, (d) 1 European type WC pan with seat and lid black colour, low level 10 ltr capacity white PVC flushing cistern, etc (e) all inside pipe lines shall be 15mm/ 20mm PVC & concealed pipes, (f) main external supply water pipe line shall be 25mmdia PVC of 6m, complete in all respect including testing, (g) Soil pipe shall be min 75mm dia CI for below floor if any & outside shall be 100mm PVC of supreme or equivalent. Masonry, concreting, plastering, CGI roofing with runner etc. will be paid seperately as per respective items.	SET	8		
252.5	EC32e	Providing common toilet for Office with following facilities as directed by BHEL: (a) Inside size of toilet 8.0Mx4.0M, (b) 5mm thick white colour ceramic floor tile and inside walls tile upto 1.35 M height from finish floor, (c) three nos. white vitreous wash basin 550x400 mm (Hindustan make or equivalent) with CI bracket, 15 mm cp brass pillar taps, 32 mm PVC waste water pipe, 32mm CP brass waste, two CP towel rail 550mm long, three nos. best quality 550x400mm mirror etc complete, (d) two WC chamber with European type WC Pan with seat and lid black colour, low level 10 ltr capacity white PVC flushing cistern, etc (e) all inside pipe line shall be 15mm /20mm PVC and concealed pipes, (f) main supply external supply water pipe line shall be 25mm dia PVC of 12 M, (g) one bathroom with one 15 CP tap, one CP shower, complete in all respect. (h) four nos. Flat back urinal with ceramic partition, with automatic high level CI flushing system , 5 litre capacity with CP connector,(i) Soil/ drain pipe shall be min 75mm dia CI for below floor inside if any and outside shall be 100mm dia PVC of supreme or equivalent. Masonry, concreting, plastering, CGI roofing with runner etc. will be paid seperately as per respective items.	SET	1		
253.0	EC34	Consolidation of subgrade/ existing surface with 12 T power roller or vibromax including making good the undulations with earth and rerolling the subgrade for road, hard surfacing of equipment store,fabrication yard, assembly yard etc as directed by BHEL.	SQM	102700		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
254.0	EC35	Providing and laying stone for making erection roads, hard surfacing etc. with specified sizes of approved quality hard rock rubble or hand broken hard metal of sizes ranging from 100mm to 150mm, etc in one layers approximately 200mm total thickness including moorum after compaction, hand packing, filling in interstices with quarry spalls/ moorum and providing a layer of 25mm thickness (consolidated) including watering, thoroughly compacting layer with 12 tonne power roller or vibromax with minimum 8 passes etc all as per the direction of the engineer and as per specification.	CUM	20450		
255.0	EC36	Providing & laying water bound macadam base for erection roads, hard surfacing of open equipment store, preassembly yard etc in layers of required thickness with stone aggregate 90mm to 45mm size stone screening and binding material including screening, sorting, spreading and consolidation with power road roller 12T including carriage spreading and consolidation of blinding material moorum etc Including cost of material, labour, all complete.	CUM	6600		
256.0	EC37	12 mm thick cement plaster (1:6) with 1mm neat cement punning for drain/septic tank etc complete with all materials (excluding cement), labour etc as directed by BHEL.	SQM	4100		
257.0	EC38	1.2M high fencing with MS angle post of size 40X40X5 mm 1.8 M long post placed every 3M centre to centre embeded in concrete blocks(1:2:4), every 15th post, last but one end post corner post shall be strutted on both sides and post on one side only and provided with 8 horizontal lines and two diagonal sinterwoven with horizontal wires, of barbed wire 9.38 kg per 100 metres (min) between two post fitted and fixed with GI staples turn buckles, angle post shall be embeded in plain cement concrete(1:2:4)size 300x300x600mm deep below ground etc complete including excavation, backfilling, concreting, one coat of primer, two coat of synthetic enamel paint finish. Contractor will supply all materials (excluding cement) , structural steel, paint, labour etc complete.				
257.1	EC38a	For structural angle post with two coats of bitumen based protective coating etc complete.	KG	3253		
257.2	EC38b	Supplying, fitting, fixing galvanised chain link fencing of approved quality 50mmx50mmx8 g, by means of galvanised `C` clips, with fixing of galvinised special clips etc. Contractor to supply all materials. Angle post to be paid separately as per item no 2625 (A). Payment terms - a) On receipt of materials at site - 70%; b) On completion of erection & fixing - 30%.	SQM	3120		
257.3	EC38c	For G I barbed with all fixing etc complete. Contractor to supply all materials.	KG	500		
258.1	EC39 a	Providing & laying 200/250 mm wide x 40 mm thick sal wood planks platform over one layer 35 micron thick pvc sheet spreaded over cement floor including all labour,materials,screws, nails, etc. complete.	CUM	36		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
258.2	EC39 b	Providing & fixing false ceiling with wooden frame work with 2nd class wooden batten of 50 x 40 mm on shorter span and or 40 x 25 mm on longer span , making grid panel of 1200 x 1200 mm jaming on brick wall with cement concrete(1:2:4) and 4 mm commercial ply to be fixed on wooden frame work for false ceiling, including all labour,materials,screws, nails, 2 mm GI wire for taking supports from roof etc. complete including finished with 2 coats of synthetic enamel paint and one coat primer on false ceiling. All wooden battens to be painted with one coat of Black bituminous paint.	SQM	618		
259.0	EC40	Providing & laying of 600x600x9/10 mm thick vitrified tile locally available best quality to be laid over 30/35 mm thick 1:4 cement sand mortar and 100mm high skirting with all materials & labour etc complete.	SQM	825		
260.0	EC41	Providing PVC pipe of Supreme or equivalent quality for drinking water system for BHEL office, Field hostel with all fittings and fixtures, labour etc complete for BHEL office.				
260.1	EC41a	For external 32mm dia.	RM	157		
260.2	EC41b	For external 40mm dia.	RM	156		
260.3	EC41c	For external 50mm dia.	RM	163		
261.0	EC43	Providing PVC pipe with fittings and fixtures of Supreme or equivalent make with all materials, labour etc complete for external sewer line/ waste water line connection upto open drain or manhole to manhole/ septic tank/ soak pit for BHEL office, field hostel.				
261.1	EC43a	For external 75mm dia.	RM	118		
261.2	EC43b	For external 100mm dia.	RM	117		
262.0	EC44	Providing & fixing of wooden solid flush door with commercial ply finish, fitted with 3 MS hinges, one 8mm dia 150 mm long aluminium tower bolt, 16x300mm long Al sliding door bolt & 100mm aluminium handle, finished with one coat of primer & two coats of synthetic enamel paint etc complete.				
262.1	EC44a	25 mm thick.	SQM	60		
262.2	EC44b	30 mm thick.	SQM	39		
263.1	EC45a	Providing and fixing of wooden frame work with second class sisoo or equivalent for door frame or partion wall upto ht of 2.7m with wooden batten 65X65mm, 50X25mm, 40X25mm etc. includng fixing on wall/floor with MS cleats/ flats and embeded in concrete, finished with one coat of primer & two coats of synthetic enamel paint on exposed surface and bitumenous coat on masonry contact surface, etc complete with all labour & materials.	CUM	3		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
263.2	EC45b	Supplying and fixing 4mm thick commercial ply on wooden frame work with both side finished with one coat of primer and two coats of synthetic enamel paint for wall partition as well as roofetc complete.	SQM	164		
264.0	EC46	Suppy, fitting & fixing/ laying of GI pipe as per IS 1239/IS 3589 with all necessary accessories ie socket, bend, tee, union, cross, elbow, nipple, long screw, reducing socket, reducing tee, short piece etc complete for making connection from deep well/source to water tank for construction/ drinking water system including cost of all necessry jointing materials labour etc all complete (payment will be made on center line meaurment of total pipeline including all specials).				
264.1	EC46a	50 mm dia nominal bore, medium quality	RM	130		
264.2	EC46b	32 mm nominal bore, meduim quality.	RM	130		
265.0	EC49	Providing and fixing security kiosk size approx 2Mx2M in plan, front height 3M and back side height 2.9M, made of structural angle frame 65x65x6 all verticals and two horizontals with diagonals, 3 vertical sides and roof shall be covered with CGI sheet 0.5 MM thick with one each side opening 300x300MM for viewing, floor shall be made with 40 MM thick wooden planks (second class treated wood) at an height of 400MM above ground level, one wooden planks 2.0mx450mm size to be provided for sitting arrangement inside kiosk, all angles and planks top side shall be painted with one coat of primer and two coats of synthetic enamel paint finish including all labours and materials etc complete..	SET	9		
266.0	EC50	Providing and laying NP3 class RCC with collars joint with stiff mixture of cement mortar 1:3 with all materials and labour. All excavation, backfilling, concreting if required shall be paid separately as per relevent items.				
266.1	EC50a	300mm dia	RM	147		
266.2	EC50b	400mm dia	RM	143		
	3100	BORE WELLS				
267.0	EC51	Labour for boring through any type of soil for sinking tubewell of required dia. With top enlargement by rig boring system (either by reverse circulation or by direct rotary method) including hire charges and labour for Rig Machine tools and plants, staging force pumping set, and making arrangement for water required for boring etc. complete and lowering of casing pipes , strainers blind pipes etc. complete for 200 mm dia upto 50 mtrs, and 100 mm dia from 50 m to 250 mtrs & beyond from G.L.. Depth of boring to be decided at the time of execution.				
267.1	a)	First 50 (Fifty) Mtrs. From Ground Level	Mtrs.	200		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
267.2	b)	Beyond 50 (Fifty) but upto to 100 (Hundred) Mtrs. From Ground Level	Mtrs.	200		
267.3	c)	Beyond 100 (Hundred)but upto to 150 (Hundred fifty) Mtrs. From Ground Level	Mtrs.	200		
267.4	d)	Beyond 150 (Hundred Fifety) From Ground Level (In case good water strata is not available upto 250 M Depth.)	Mtrs.	300		
268.0	EC52	Supplying, fitting, fixing 'ORIPLAST' make or equivalent PVC casing pipes as per IS 12818-1992/ASTM-D-1785 and the following details : (Dia & length of pipe to be decided at site during execution:-				
268.1	a)	150 Nb having wall thickness of 7.5 mm (Min)	Mtrs	200		
268.2	b)	100 Nb having wall thickness of 5.0 mm (Min)	Mtrs.	120		
268.3	c)	80 Nb having wall thickness of 4.0 mm (Min)	Mtrs.	120		
268.4	d)	50 Nb having wall thickness of 4.0 mm (Min)	Mtrs.	120		
269.1	EC53a	Supplying, fitting, fixing of 'ORIPLAST' make or equivalent PVC ribbed screen (strainer) as per IS 12818-1992. 100(Hundred) NB (wall thickness 5.7 mm (Min))	Mtrs	80		
269.2	EC53b	Supplying, fitting, fixing of 'ORIPLAST' make or equivalent PVC ribbed screen (strainer) as per IS 12818-1992. 80 (Eighty). NB (wall thickness 4.0 mm(min))	Mtrs	80		
269.3	EC53c	Supplying, fitting, fixing of 'ORIPLAST' make or equivalent PVC ribbed screen (strainer) as per IS 12818-1992. 50 (Fifty). NB (wall thickness 4.0 mm (min))	Mtrs	40		
270.1	EC54a	Supplying fitting & fixing reducing socket 100mm x 150 mm	No.	4		
270.2	EC54b	Supplying fitting & fixing reducing socket 100mm x 50 mm	No.	4		
271.0	EC55a	Providing & fixing bottom plug as required upto 100 mm (internal) dia fixed with PVC pipes with necessary fittings.	No.	3		
272.0	EC55b	Providing & fixing bottom plug as required upto 50 mm (internal) dia fixed with PVC pipes with necessary fittings.	No.	1		
273.0	EC56	Supplying fitting & fixing 150 mm Dia MS Housing Clamp.	No.	4		
274.0	EC57	Providing 150 mm Centre Guide for positioning casing pipes.	No.	40		
275.0	EC58	Packing the annular space in the blank bore hole at the bottom, between the outside of the tubewell pipe strainers, casing pipes, and the borehole with pea size gravel of sizes varying between 2mm to 5 mm.upto the bottom of the 150 mm dia casing pipes	Mtrs	800		
276.0	EC59	Packing the annular space between the outside of the 150 mm dia casing pipe and the bore hole with puddled clay.	Mtrs	80		
277.0	EC60	Washing and developing tubewell with Air compressor of 150 PSI / 300 CFM for 8 (Eight) hours per day with necesasary arrangement for testing the yield in gallons per hour with V notch, including Bacteria removal treatment as necessary.	Hours	288		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
278.0	EC61	Collecting sample of water for bacteriological and chemical test from any Govt. approved laboratory. Documentary evidence from Govt. approved laboratory regarding the water quality certifying that the water coming out of the borewell is safe for Human consumption.	No.	4		
279.0	EC62	Supplying fitting & fixing MS Cap at top 150 mm dia including 150 mm dia MS pipe of 1 mtr or less to be fixed with PVC pipes above ground level.	No.	4		
280.0	EC63	Geophysical investigation of the aquifer by electrologging system with all Tools anfd plants, specialist manpower, etc. as may be necessary, including submission of reports	No.	4		
281.0	EC64A	Supply & delivery of 5 HP KSB make or equivalent submersible pump motor set having duty point capacity of discharging 5 LPS of clear water at a total head of 40 mtr. Along with 50 mm dia GI heavy duty best quality column pipes of total length 35 mtrs & lockable PVC submersible cable clamps of suitable no. and 10 mm dia steel wire rope of suitable length for protecting device with necessary galvanised nuts, bolts, washers for all complete as directed by BHEL	SET	2		
282.0	EC64B	Supply & delivery of 3 HP KSB make or equivalent submersible pump motor set having duty point capacity of discharging 3LPS of clear water at a total head of 40 mtr. Along with 40 mm dia GI heavy duty best quality column pipes of total length 30 mtrs & lockable PVC submersible cable clamps of suitable no. and 10 mm dia steel wire rope of suitable length for protecting device with necessary galvanised nuts, bolts, washers for all complete as directed by BHEL	Set	2		
283.1	EC65a	Supplying & delivery of 400 volts, 30 Amps, ICTPN switch with MRC fuses of make Havels or equivalent. & Suitable starter L&T or Equivalent, MS Angle Frame for mounting etc. complete.	Set	2		
283.2	EC65b	Supplying & delivery of 400 volts, 15 Amps, ICTPN switch with MRC fuses of make Havels or equivalent. & Suitable starter L&T or Equivalent, MS Angle Frame for mounting etc. complete.	Set	2		
284.0	EC66	Installation of ICTPN switch & Starters of SI No.15a & 15b on MS angle frame on wall.	Set	4		
285.0	EC67	Drawing the double run submersible cable from the tubewell to the starter through suitable dia class - B medium GI protection tubes by supplying & laying the same on underground / under floor / wall, including laying, termination etc. all complete.	Set	4		
286.0	EC68	Supplying & laying 10 Sq. m 1.1 Kv grade 3.5 core PVC armoured ALUMINIUM cable on wall by means of saddles from ICTPN switch to busbars to MCCB, NCCB to starter including all end termination and interconnections etc. complete.	Mtrs	200		
287.1	EC69a	Supplying fitting and fixing GI pipes of TATA medium or equivalent make with all necessary accessories, specials viz. Socket, bend, tee, union, cross, short piece etc.fitted with holder bat clamps, including cutting pipes, making threads, fittings, fixing etc. complete in all respects, including cost of all necessary fittings as required, jointing materials in position above ground. 50 mm dia medium quality	Mtrs	200		
287.2	EC69b	Supplying fitting and fixing GI pipes of TATA medium or equivalent make with all necessary accessories, specials viz. Socket, bend, tee, union, cross, short piece etc.fitted with holder bat clamps, including cutting pipes, making threads, fittings, fixing etc. complete in all respects, including cost of all necessary fittings as required, jointing materials in position above ground. 40 mm dia medium quality	Mtrs	400		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
287.3	EC69c	Supplying fitting and fixing GI pipes of TATA medium or equivalent make with all necessary accessories, specials viz. Socket, bend, tee, union, cross, short piece etc.fitted with holder bat clamps, including cutting pipes, making threads, fittings, fixing etc. complete in all respects, including cost of all necessary fittings as required, jointing materials in position above ground. 32 mm dia medium quality	Mtrs	200		
288.1	EC70A	Supplying, fitting, fixing 50mm dia wheel valve, gun metal of approved brand and make tested to 21 Kg/sq.cm as directed by BHEL.	Nos	2		
288.2	EC70B	Supplying, fitting, fixing 40 mm dia wheel valve, gun metal of approved brand and make tested to 21 Kg/sq.cm as directed by BHEL.	Nos	2		
289.0	EC71	Providing manpower, Consumable, T&P et. For running and maintenace without supply of major equipment for all tubewells with pump set.	Man-Months	36		
290.0	EC72	Providing manpower, materials for constrction of brick masonry pump house (inside area around 5 sqM) with brick foundation of 1 M depth from existing GL and Plinth level of Pump House shall be 600 mm from existing GL with 40 mm thick IPS flooring, 250 thick brick wall 2500mm height from PL with plaster finish in inside & outside (12/15 mm thick) all brick work & plaster 1 cement : 6 sand, with one MS angle (50x50x6) framed door with MS sheet of 3 mm thick with locking arragement,120 mm thick RCC roof concrete grade M-25 with one 150 ISMB fixed on the ceiling of the pump house for maintenance purpose, inside 3 coat of whitewash, out side 3 coats of water proof cement paint finish, the pump house inide to be wired for fixing a CFL lamp of 18W with a switchboard. The necessary supply for this illumination can be tapped from the ICTPN switch supplied for the pump motor set. All cement, steel and other materials, labour etc. required are to be supplied by the bidder	Set	2		
	3200	ELECTRCAL ENABLING ITEMES				
291.0	EA1	Supply & fixing of iron clad main switches TPN/ DP on angle iron frame duly painted/ on wall, with all required materials, hardwares, etc. as per instruction of BHEL Engineer, of Standard make (Havells/crompton/approved make) -				
291.1	EA1a	200 Amps TPN, MSFU(Main switch fuse)	NO.	3		
291.2	EA1b	63 A TPN	NO.	9		
291.3	EA1c	30/ 32A TPN.	NO.	15		
291.4	EA1d	32A DP.	NO.	10		
291.5	EA1e	16A DP.	NO.	30		
291.6	EA2	Supply & fixing of sheet metal (16SWG) iron clad busbar chamber (W=500mm x D=150mm) on angle iron frame duly painted on wall with 4 Al bars (25mm x 5mm x 600mm) 500V, with adequate nos of holes drilled for connection of incoming & outgoing ckts, bars are fixed on porcelain insulators. Including supply of required hardwares for connection, fitted with DANGER board, all complete as per instruction of BHEL Engineer.	NO.	9		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
292.0	EA3	Supply & fixing of metal sheet MCB BOX, as per instruction of BHEL Engineer -				
292.1	EA3a	4 Way	NO.	40		
292.2	EA3b	6 way	NO.	10		
292.3	EA3c	8 way	NO.	10		
293.0	EA4	Supply & fixing of Metal Junction Box with connector Lugs, as per instruction of BHEL Engineer -				
293.1	EA4a	Size (8"X10"X3") to terminate 10 sqmm cable and 4 sqmm cable	NO.	10		
293.2	EA4b	Size (8"X6"X3") to terminate 6 sqmm cable and 2.5 sqmm cable/1sqmm cable	NO.	15		
294.0	EA5	Supply & fixing of composite flush/box mounted type 250 volt 6 Pin 15 Amps Plug socket integral fuse, with single phase motor starter with overload protection, on sheet metal box with bakelite cover and earthing attachment including Switch and Fuse of matching PVC box-make ANCHOR or approved make (Pantry/Kitchen/AC), as per instruction of BHEL Engineer.	NO.	100		
295.0	EA6	Supply & fixing composite flush type 250 volt 5 Pin 5Amps Plug socket integral fuse with 5 Amps piano key type switch on sheet metal box with bakelite cover and earthing attachment including Switch and Fuse of matching PVC box-make ANCHOR /or approved make (for Computers /printers), as per instruction of BHEL Engineer.	NO.	120		
296.0	EA7	Supply and Fixing of Switch Board(10"X14") with flush type 250 volt 6 Pin 15 Amps Plug socket integral fuse with six no.s 15 Amps piano key type switch on sheet metal box with bakelite cover and earthing attachment including Switch and Fuse of matching PVC box-make ANCHOR or approved make, as per instruction of BHEL Engineer.	NO.	60		
297.0	EA8	Supply and installation of switchboard of sheetmetal box with bakelite cover, as per instruction of BHEL Engineer -				
297.1	EA8a	Size 4"X8"	NO.	15		
297.2	EA8b	Size 4"X10"	NO.	40		
297.3	EA8c	Size 4"X4"	NO.	15		
298.0	EA9	Supply and installation of Piano type Switches (5 Amps), as per instruction of BHEL Engineer.	NO.	320		
299.0	EA10	Supply and installation of 5 Amps socket to be fixed in switchboard, as per instruction of BHEL Engineer.	NO.	50		
300.0	EA11	Supply and Installation of SP MCB for lighting / Power purpose-				
300.1	EA11a	16 Amps	NO.	30		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
300.2	EA11b	6 Amps	NO.	35		
301.1	EA12a	Supply of 3.5 core 95 sqmm PVC, armoured Aluminium cable of 1.1 KV grade as per IS-1554.	RM	200		
301.2	EA12b	Laying below ground in excavated trench average depth 800 mm with 8 nos of brick on top of the cable per meter including filling the space between brick & cable and also the trench with shifted soil levelling and restoring the surface duly rammed & compacted, as per instruction of BHEL Engineer.	RM	200		
301.3	EA12c	End termination with double compression gland and lugs.	NO.	20		
302.1	EA13a	Supply of 3.5 core 25 sqmm PVC, armoured Aluminium cable of 1.1 KV grade as per IS-1554.	RM	200		
302.2	EA13b	Laying above ground on wall/ surface with clamps etc, chase cutting on wall/ floor, mending good damages, testing & commissioning of 3.5 core 25 sqmm PVC, Aluminium cable of 1.1 KV grade, as per instruction of BHEL Engineer.	RM	200		
302.3	EA13c	End termination with double compression gland and lugs.	NO.	20		
303.1	EA14a	Supply of 4 core 16 sqmm PVC, armoured Aluminium cable of 1.1 KV grade as per IS-1554.	RM	600		
303.2	EA14b	Laying above ground on wall/ surface with clamps etc, chase cutting on wall/ floor, mending good damages, testing & commissioning of 4 core 16 sqmm PVC, Aluminium cable of 1.1 KV grade, as per instruction of BHEL Engineer.	RM	200		
303.3	EA14c	Laying, below ground in excavated trench average depth 800 mm with 8 nos of brick on top of the cable per meter including filling the space between brick & cable and also the trench with shifted soil levelling and restoring the surface duly rammed & compacted, as per instruction of BHEL Engineer.	RM	400		
303.4	EA14d	End termination with double compression gland and lugs.	NO.	30		
304.0	EA15	Supply, drawing through PVC conduit/casing, termination, testing & commissioning as wiring for lighting, power & earthing of -				
304.1	EA15a	1 core 10 sqmm PVC insulated, stranded Copper wire of 1.1 KV grade	RM	1000		
304.2	EA15b	1 core 6 sqmm PVC insulated, stranded Copper wire of 1.1 KV grade	RM	200		
304.3	EA15c	1 core 4 sqmm PVC insulated, stranded Copper wire of 1.1 KV grade	RM	200		
304.4	EA15d	1 core 2.5 sqmm PVC insulated, stranded Copper wire of 1.1 KV grade	RM	4000		
304.5	EA15e	1 core 1.5/1 sqmm PVC insulated, stranded Copper wire of 1.1 KV grade	RM	6000		
304.6	EA15f	1 core 1 sqmm PVC insulated, Green stranded Copper wire for earthing of inside building	RM	3000		
305.0	EA16	Supply and fixing of PVC conduit with all bends, tees, reducers, rectangular/circular box, clamps, saddles, etc. along with the accessories in surface/ recess in beam/ roof slab/ wall/ false ceiling and making good the same as required, as per instruction of BHEL Engineer.				

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
305.1	EA16a	1" dia rigid	RM	6000		
305.2	EA16b	1" dia flexible	RM	200		
306.0	EA17	Supply and fixing of PVC casing with all bends, tees, reducers, rectangular/circular box, clamps, saddles, etc. along with the accessories in surface/ recess in beam/ roof slab/ wall/ false ceiling and making good the same as required, as per instruction of BHEL Engineer.				
306.1	EA17a	1.5" dia	RM	500		
306.2	EA17b	1" dia	RM	1000		
306.3	EA17c	0.5" dia	RM	200		
307.0	EA18	Supply & fixing of ceiling rose on circular boxes, as per instruction of BHEL Engineer.	NO.	100		
308.1	EA19a	Supply of outdoor luminaires type 1x70 W HPSV lamps in cast aluminium body with acrylic cover along with lamps, control gear, etc including all fixing/ supporting accessories complete. Model: BJMSC-70SV of BAJAJ or equivalent of PHILIPS/ CROMPTON.	NO.	90		
308.2	EA19b	Fixing on wall with 40 mm dia swan neck GI pipe with suitable clamps etc & commissioning of outdoor luminaires suitable for 1x70 W HPSV lamps in cast aluminium body with acrylic cover along with lamps. Including all fixing/ supporting accessories complete and flexible wire for connection between ceiling rose & fitting.	NO.	90		
309.1	EA20a	Supply of Indoor type luminaries 1x150 W medium bay industrial type, model BJMBI-150SV of BAJAJ or equivalent of PHILIPS/ CROMPTON.	NO.	180		
309.2	EA20b	Fixing from roof truss with suitable clamp arrangement, flexible wire for connection between ceiling rose & fitting and commissioning of type HPSV luminaries medium bay industrial type, model BJMBI-150SV of BAJAJ or equivalent of PHILIPS/ CROMPTON.	NO.	180		
310.0	EA21	Supply & Installation of Dual Tube Light (2x36 Watt) Fixture of standard make (Philips or approved make)	NO.	20		
311.0	EA22	Supply and installation of CFL 2x36 W decorative false ceiling type, with box base & mirror type reflectors with fixing/ hanging material/ hardware, of approved make.	NO.	100		
312.0	EA23	Supply and installation of CFL 2x36 watts with box base & vitrious enamelled reflectors with fixing/ hanging material/ hardware, of approved make.	NO.	40		
313.0	EA24	Supply of 230V 12" exhaust fan with external louvre	NO.	10		
314.0	EA25	Supply of local make approved quality Pedestal fan - 16" sweep.	NO.	80		
315.0	EA26	Supply and Installation of earth electrode 40 mm dia 3 metre long GI pipe directly driven into earth including earth excavation if required.	NO.	40		
316.0	EA27	Supplying & installation of 16 SWG GI wire for earthing including supply & termination with lugs as required.	RM	4000		
317.0	EA28	Supplying & installation of 8 SWG GI wire for earthing including supply & termination with lugs as required.	RM	300		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
318.0	3300	For items not covered above (from Sl. No.1 to 290.0), quote % above or below the CPWD schedule (DSR-2007).				
318.1	3300.1	Rate of complete item.				
318.2	3300.2	Rate of supply of materials at site only.				
318.3	3300.3	Rate for execution complete excluding supply of materials.				
319.0	3400	OTHER MISCELLANEOUS				
319.1	1	Supply & Installation of remote controlled 1.5 TON WINDOW AC of reputed make "LG/CARRIER/VOLTAS /equivalent"//complete with remote control Unit, MCB & 15 AMP Switch/Socket & Installation	NO.	10		
319.2	2	Supply & Installation of remote controlled 2 TON WINDOW AC of reputed make "LG/CARRIER/VOLTAS /equivalent"//complete with remote control Unit, MCB & 15 AMP Switch/Socket & Installation	NO.	10		
319.3	3	Supply & Installation of remote controlled 1.5 TON SPLIT AC of reputed make "LG/CARRIER/VOLTAS /equivalent"//complete with remote control Unit, MCB & 15 AMP Switch/Socket & Installation	NO.	10		
319.4	4	Supply & Installation of remote controlled 2 TON SPLIT AC of reputed make "LG/CARRIER/VOLTAS /equivalent"//complete with remote control Unit, MCB & 15 AMP Switch/Socket & Installation	NO.	10		
319.5	5	Supply & Installation of PEDASTAL fan (16 inches Sweep) of reputed make "CROMPTON" or equivalent) complete with required and regulator	NO.	15		
319.6	6	Supply & Installation OF conference table U- shape, each longer side length shall be 9 M and width shall be 600mm (total centre line length of table shall be 20.0 M approximate) made of 19 mm to 20 mm thick wooden block board table top, side and intermediate support @ 1.5 M C/C with 20 numbers of Steel framed wooden cained Chairs. Table top shall be 1 mm thick lamination, longer side of vertical face shall be 150mm above ground floor, all vertical supports (long as well as shorter side) visible side shall be 0.8 mm thick lamination, long side of vertical face(inner portion) which is not visible shall be smooth finish with putty, two coat of primer and two coat of synthetic enamel paint matt finish, 19mmx9mm half round moulded beading of 1st class teak wood for both ends of all vertical supports, fixed by screw, nail, metal angle, adhesive, etc. complete including cost of first class/furniture carpenter, all labours, materials, complete.	LUMPSUM	1		
319.7	7	Supply & Installation of Cushioned Chairs with arms matching with Conference Room Table	NO.	50		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
319.8	8	Supply & Installation of MS Slotted Angle Rack Size:36inches(L)x18inches(D)x86inches(H) No.Of Shelves(including Top & Bottom)-7 No Of Compartments-6 Distance between each Shelf-14inches Distance between lowest Shelf and Door-2inches MS Slotted Angle specification-40mmx40mmx3mm(Thk) Colour-TA Grey	NO.	15		
319.9.1	09.(a)	Supply & Installation of Executive Steel writing table with Wooden Top made of Teak Wood & glass having left hand and Right hand Drawers (2 Drawer in left and 3 in right with lock & key) Size (Table)- 66inches x36inches of standard height	NO.	18		
319.9.2	09(b)	Supply & Installation of Wooden Side Table of standard height suiting to above Table of Size:84inchesx24inches of standard heightHaving racks with sliding door	NO.	18		
319.10.1	10. (a)	Supply & Installation of Executive Steel writing table with Wooden Top made of Teak Wood & glass having left hand or Right hand Drawers (3 Drawers) Size (Table)- 48inchesx24inches of standard height	NO.	62		
319.10.2	10(b)	Supply & Installation of Wooden Side Table of height suiting to above Table of Size:60inchesx24inches Having racks with sliding door	NO.	50		
319.11	11	Supply & Installation of Revolving / Adjustable Executive cushioned chair with Arms	NO.	65		
319.12	12	Supply & Installation of Revolving / Adjustable Executive cushioned chair with Arms and high back	NO.	12		
319.13	13	Supply & Installation of steel Canned Chairs with Arms for Visitors	NO.	68		
319.14	14	Supply & Installation of Cushioned Chairs with Arms for Visitors	NO.	15		
319.15	15	Supply & Installation of Wooden cup board Size-47inches(W)x17.5inches(D)x53inches(H) With Double Shutter &two compartments	NO.	20		
319.16	16	Supply & Installation of Steel book case of reputed make Size:33inches(L)x12inches(D)x78inches(H) Compartment-4	NO.	2		
319.17	17	Supply & Installation of Iron Safe- 24 inches(L)x18inches(D)x24inches (H) Having front door, double lock and handle	NO.	2		
319.18	18	Supply & Installation of steel filing cabinet of reputed make (4 drawers) Size -18.5inches(W)x24.5inches(D)x52inches(H)	NO.	60		

SL.NO.	ST. NO	DESCRIPTION	UNIT	QTY	RATE (in Rs.)	AMOUNT(in Rs.)
319.19	19	Supply & Installation of steel almirah of reputed make Size – 36inches(W)x18inches(D)x78inches(H)	NO.	30		
319.20	20	Supply & Installation of Aqua Guard Water Cooler cum Purifier	NO.	8		
319.21	21	Supply & Installation of wooden cot (single bed Size:6.5 feetx3.5 feet) with mattress, pillow, pillow cover, bed sheet, bed cover, buckets & Mugs	SET	25		
319.22	22	Supply & Installation of double door 240 litre frost free Refriegerator of reputed make LG/Samsung/Godrej or equivalent with voltage stabiliser (3 star)	NO.	10		
319.23	23	Supply & Installation of Wooden Writing table Size-42inchesx 18inches(Left hand or right hand drawer)	SET	20		
319.24	24	Supply & Installation of wooden Chair for above table under sl.no 23	NO.	20		
319.25	25	Supply & Installation of Cushioned sofa Set of good quality (One 3 seater + Two Nos 2 seaters + 1 No One seater +1 wooden Centre table made of teak wood with glass top)	SET	10		
319.26	26	Supply & Installation of wooden dinning table for 6 persons along with 6 Nos dinning chairs.	SET	10		
319.27	27	Supply & Installation of CEILING fan (48 inches Sweep) of reputed make "CROMPTON" or equivalent complete with required and regulator.	NO.	15		
319.28	28	Supply & Installation of top loading Fully Automatic Washing Machine 6 kg (min) of reputed make LG/Samsung/Hier/Godrej/IFB or equivalent.	NO.	10		
319.29	29	Supply & Installation of Vacuum Cleaner 1400 Watt (min) of reputed make LG/Samsung/Ureka Forbs/ or equivalent.	NO.	10		
TOTAL (except ST NO.3300)						



NOTES:

- 1. ALL DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
2. BORE HOLE SHALL BE DRILLED UP TO THE DEPTH INDICATED AGAINST EACH BOREHOLE OR UP TO 5M IN ROCK WITH CONTINUOUS RQD OF 50% OR MORE WHICHEVER IS EARLIER.
3. BACKFILLING OF BORE HOLES AND PITS SHALL BE AS PER SPECIFICATION AND AS DIRECTED BY THE ENGINEER-IN-CHARGE.
4. GROUND WATER SAMPLE SHALL BE COLLECTED FROM BH-10, BH-11, BH-45, BH-46, BH-51 & BH-61.
5. STANDARD PENETRATION TEST (SPT) SHALL BE CONDUCTED AT EVERY 1M INTERVAL ALTERNATE TO COLLECTION OF UNDISTURBED SOIL SAMPLE UP TO 10M DEPTH BELOW GROUND LEVEL AND AT EVERY 1.5M INTERVAL ALTERNATE TO COLLECTION OF UNDISTURBED SOIL SAMPLE BEYOND 10M DEPTH AT DEPTH WHEREVER UNDISTURBED SOIL SAMPLES COULD NOT BE COLLECTED AS PER THE DIRECTION OF ENGINEER-IN-CHARGE. THE UNDISTURBED SOIL SAMPLES SHALL BE COLLECTED AT EVERY 1M INTERVAL ALTERNATE TO CONDUCTING SPT UP TO 10M DEPTH BELOW GROUND LEVEL AND AT EVERY 1.5M INTERVAL ALTERNATE TO CONDUCTING SPT BEYOND 10M DEPTH. THE STARTING DEPTH OF PERFORMING SPT SHALL BE 1M BELOW GROUND LEVEL AND THE STARTING DEPTH OF UDS SHALL BE 2M BELOW GROUND LEVEL.
6. GEOTECHNICAL INVESTIGATION SHALL BE CARRIED OUT AS PER SPEC. NO. PE-TS-361-602-C001.
7. DO NOT SCALE THIS DRAWING.
8. PRESSURE METER TEST SHALL BE CARRIED OUT AT 3M, 5M, 7M, 9M, 11M, 13M, 15M, 18M, 20M, 23M, 26M, 30M & 35M DEPTH BELOW GROUND LEVEL.
9. CROSS HOLE SHEAR WAVE TEST SHALL BE CARRIED OUT AT 2M, 4M, 6M, 8M, 10M, 12M, 15M, 18M, 20M, & 30M DEPTH BELOW GROUND LEVEL.
10. ELECTRICAL RESISTIVITY TEST SHALL BE CARRIED OUT BY WENNER'S METHOD.
FIELD PERMEABILITY TEST SHALL BE CARRIED OUT AT BH-2, BH-12, BH-31, BH-36, BH-45, BH-46, BH-48, BH-51 & BH-52 AT 1M & 3M DEPTH BELOW GROUND LEVEL.

DYNAMIC CONE PENETRATION TEST (DCPT)

Table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

PLATE LOAD TEST (PLT)

Table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

ISG PLATE LOAD TEST (PLT)

Table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

CROSS HOLE SHEAR WAVE TEST (CSH)

Table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

ELECTRICAL RESISTIVITY TEST

Table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

SEISMIC REFRACTION TEST (SRT) PROFILE

Table with columns: S.NO., PROFILE

PRESSURE METER TEST (PMT)

Table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

LEGENDS:

- 1. BORE HOLE (BH/BHH)
2. DYNAMIC CONE PENETRATION TEST (DCPT)
3. PLATE LOAD TEST (PLT/PLTD)
4. TRAIL PIT (TP/TPP)
5. CYCLIC PLATE LOAD TEST (CPLT)
6. PRESSURE METER TEST (PMT)
7. CROSS HOLE SHEAR WAVE TEST (CSH)
8. ELECTRICAL RESISTIVITY TEST (ERT)

REFERENCES:

- 1. DRAWING No. PE-DG-361-100-M001, REV. 0, TITLED "PLOT PLAN"
2. INPUT RECEIVED FROM ISG BANGALORE VIDE EMAIL DATED 15.09.2010

ISG TRAIL PIT (TP) table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

ISG PLATE LOAD TEST (PLT) table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

ELECTRICAL RESISTIVITY TEST table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

PRESSURE METER TEST (PMT) table with columns: MARKING, CO-ORDINATES, DEPTH BELOW BGL(M)

ISG BORE HOLES (BH) table with columns: MARKING, CO-ORDINATES, DEPTH FROM EXISTING GROUND LEVEL (REF. LEVEL) (M)

ISG BORE HOLES (BH) table with columns: MARKING, CO-ORDINATES, DEPTH FROM EXISTING GROUND LEVEL (REF. LEVEL) (M)

ISG BORE HOLES (BH) table with columns: MARKING, CO-ORDINATES, DEPTH FROM EXISTING GROUND LEVEL (REF. LEVEL) (M)

N → 460.0
E → 4508.0

1/2

BH No : 47.

Advance Copy - 2746



DBM GEOTECHNICS AND CONSTRUCTIONS PVT. LTD.

SITE : BHEL - VIZAG
BOREHOLE NO. : 47
GROUND R.L. : 9.354 mt

DATE OF EXECUTION 28.10.2010
CASING : 15.00 mt 29.10.2010
METHOD : Rotary Drilling
W.T. : 0.80 *0.80*

DIA OF BORE HOLE	VISUAL SOIL DESCRIPTION	GRAPHIC LOG	SAMPLES			PENETRATION TEST				PERMEABILITY K _v cm/sec	%CORE RECOVERY & RQD IN RQC		
			DEPTH	TYPE	NO.	20	40	60	80				
0.00	Brown colour, fine to medium grained 'SAND'.		0.00	DS	01								
0.25			0.50										
0.50	150 mm Brownish Grey, Medium dense, silty to fine grained, 'SAND'.		1.00	SPT	01								
0.75			1.60			15	30	45	60	N	8	9	13
1.00			2.00	SPT	02								
1.25			2.60			15	30	45	60	N	9	11	14
1.50			3.00	SPT	3								
1.75			3.60			15	30	45	60	N	9	12	15
2.00			4.00	SPT	04								
2.25			4.60			15	30	45	60	N	10	13	17
2.50			5.00	SPT	05								
2.75			5.60			15	30	45	60	N	11	14	18
3.00	6.00	SPT	06										
3.25	6.60			15	30	45	60	N	11	14	19	27	33
3.50	7.00	SPT	07										
3.75	7.60			15	30	45	60	N	12	17	22	31	39
4.00	8.00	SPT	08										
4.25	8.60			15	30	45	60	N	13	19	24	36	43
4.50	9.00	SPT	09										
4.75	9.60			15	30	45	60	N	14	21	25	38	46
5.00	Light Yellowish Grey, Medium dense to dense, silty to fine grained, 'SANDY CLAY'.												
5.25													
5.50													
5.75													
6.00													
6.25													
6.50													
6.75													
7.00													
7.25													

REMARKS :
SCALE : 1.50
UDS - UNDISTURBED SAMPLE
DS - DISTURBED SAMPLE
SPT - STANDARD PENETRATION TEST
VST - VANE SHEAR TEST



Advance Copy - 2746

DBM GEOTECHNICS AND CONSTRUCTIONS PVT. LTD.

SITE: BHEL - V12A6
 BOREHOLE NO.: 47
 GROUND R.L.: 9.354 mt

DATE OF EXECUTION 28.10.2010
 CASING: 15.00 mt 29.10.2010
 METHOD: Rotary Drilling
 W.T.: 0.80 mt BGL

DIA OF BORE HOLE	VISUAL SOIL DESCRIPTION	GRAPHIC LOG	SAMPLES			PENETRATION TEST				PERMEABILITY K _v cm/sec	%CORE RECOVERY & RCD IN ROC
			DEPTH	TYPE	NO.	20	40	60	80		
10.00	150 mm Light Yellowish Grey, medium dense to dense, silty to fine grained, 'SANDY CLAY'.		<u>10.00</u>	SPT	10						
10.25			<u>10.60</u>								
10.50			<u>11.50</u>	SPT	11						
10.75			<u>12.10</u>								
11.00			<u>13.00</u>	SPT	12						
11.25			<u>13.60</u>								
11.50			<u>14.00</u>	SPT	13						
11.75			<u>14.60</u>								
12.00			<u>15.00</u>	SPT	14						
12.25			<u>15.60</u>								
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20.00											

REMARKS :
 SCALE : 1.50
 UDS - UNDISTURBED SAMPLE
 DS - DISTURBED SAMPLE
 SPT - STANDARD PENETRATION TEST
 VST - VANE SHEAR TEST

[Handwritten signature]

[Handwritten signature]
 A. Anandha Soruban
 Geologist.

NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **No Deviation Certificate**

Ref : 1) Tender no PSER:SCT:VIZ:C1128:10.

2) BHEL's NIT, vide reference no PSER:SCT:VIZ:C1128 Dated:28-09-2010.

3) BHEL's TCN-01, vide reference no PSER: SCT:VIZ:C1128:TCN-01 Dated: 06-10-2010.

4) BHEL's TCN-02, vide reference no PSER:VIZ:C1128:TCN-02 Dated: 19-10-2010.

5) BHEL's TCN-03, vide reference no PSER: VIZ:C1128:TCN-03 Dated: 22-10-2010.

6) BHEL's TCN-04, vide reference no PSER: VIZ:C1128:TCN-04 Dated: 03-11-2010.

7) BHEL's TCN-05, vide reference no PSER: SCT:VIZ:C1128:TCN-05 Dated: 18-11-2010.

8) All other pertinent issues till date.

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, Integrity Pact (if applicable) and acceptance to Reverse Auctioning process.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)

पावर सेक्टर पूर्वी क्षेत्र (मुख्यालय)

POWER SECTOR EASTERN REGION DJ-9/1, SALT LAKE CITY, KOLKATA - 700 091

फैक्स/Fax : (033) 23211960 फोन/Phone : बोर्ड/EPABX : 23211691/ 1798