

TENDER SPECIFICATION

BHEL PSSR SCT 1388

**CONSTRUCTION OF GENERAL CIVIL WORKS IN MAIN
PLANT AND OTHER ALLIED STRUCTURES INCLUDING
ARCHITECTURAL WORKS**

at

**PHASE III REFINERY PROJECT FOR MRPL-CPP,
MANGALORE, KARNATAKA**

VOLUME - III

PRICE BID

BOOK NO



**BHARAT HEAVY ELECTRICALS LIMITED
(A GOVERNMENT OF INDIA UNDERTAKING)
POWER SECTOR – SOUTHERN REGION
690, ANNA SALAI, NANDANAM, CHENNAI – 600 035**

BHARAT HEAVY ELECTRICALS LIMITED
(A Government of India Undertaking)
POWER SECTOR – SOUTHERN REGION,
690, ANNA SALAI, NANDANAM, CHENNAI – 600 035.

TENDER SPECIFICATION No. BHEL PSSR SCT 1388

NAME OF THE WORK

Construction of General civil works in Main Plant and allied Structures including architectural works at Phase III Refinery Project for MRPL-CPP, Mangalore, Karnataka

Volume III
RATE SCHEDULE

DATE:

Issued to
M/s.

For and on behalf of
BHARAT HEAVY ELECTRICALS LTD

AGM / CONTRACTS

The tender documents are not transferable.

Place: Chennai-600035
Date:

PREAMBLE FOR THE SCHEDULE OF QUANTITIES

PREAMBLE TO THE SCHEDULE OF QTS. (SOQ)

- 1) Details of the items in this Schedule shall be read in conjunction with the corresponding MRPL/EIL specifications and other documents and shall have precedence over any contrary statement mentioned any where in this document.
- 2) The work shall be carried out as per construction drawings (which will be issued progressively during the execution), specifications, the description of the items in this schedule and/or Engineer's instructions. The layout, sizes and details of the building, structures and foundations may vary at a large extent during actual construction.
- 3) Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.
- 4) Unless specifically mentioned otherwise in the contract, the bidder shall quote his rates for the finished items and shall provide for the complete cost towards fuel, tools, tackle, equipment, constructional plant, temporary works, labour, materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervision, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the works according to the contract.
- 5) The rate quoted shall be inclusive of cleaning the site of any vegetations, dressing and leveling etc., required for commencement of site activities. No separate payment will be made towards the same.
- 6) The rate shall also be inclusive of carrying out survey of site to establish levels and coordinates at suitable intervals, form existing grid levels and coordinates furnished by the owner, establish bench marks, setting out the location and levels of the proposed structures, constructions and making references, pillars and other identification marks etc. No separate payment will be made towards the same.
- 7) The quantities of the various items mentioned in the schedule are approximate and may vary up to any extent or be deleted altogether. The quoted rates of each item shall remain firm as long as the variation in the total value of the works executed under this contract, including extra items if any, remain within +/- 30% (thirty percent) of the Bid Price of the probable extent of the work to be executed under any particular item in this schedule, before under taking any preliminary work or purchasing bought out component related to the work. The variation clause will be applicable as stipulated in the General conditions of contract, Volume 1 of this tender.
- 8) Rates shall be quoted both in figures and in words in clear legible writing. No over writing is allowed. All scoring and cancellation should be counter signed by the bidder. In case of illegibility, the interpretation of the engineer shall be final. All entries shall be in English language.

- 9) Engineers decision shall be final and binding on the contractors regarding clarification of items in this schedule with respect to the other section of the contract.
- 10) Unless otherwise specified in the schedule of items Reinforcement steel and earth rod/flat will be issued by BHEL as FREE ISSUE for incorporation in the permanent works as specified elsewhere in this tender document.
- 11) In case of any discrepancy between item description, relevant drawing and/or specification clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the bidder has quoted for the more stringent requirement.

HIERARCHY

In case of any conflict/deviations amongst various documents, the order of precedence shall be as follows

- Items in Schedule of quantities
- Statutory Regulations
- MRPL/EIL specification
- IS/BS standards

GENERAL:

NOTE: The bidder to note the following before submission of the offer

Technical requirements in Volume- II should be read in conjunction with BOQ in Volume – III and other sections of the tender / contract. In case of any conflict between the contents of BOQ in Volume – III and Technical Requirements in Volume – II, then BOQ will prevail over Technical requirements.



PROJECT: MRPL MANGALORE (PHASE-III)

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Construction of General Civil works in Main plant and other allied structures including architectural works.

Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
1.0	EXCAVATION				
1.1	Earthwork in excavation in all kinds of ordinary and hard soil (including slushy soil) up to a depth of 2.0 m below ground level and stacking within a lead of 100 m, with necessary shoring, strutting, trimming and dressing of sides etc., including bailing / pumping out of surface water/rain water/sub soil water, cutting minor vegetation, if any, complete as per drawings and specification.				
a)	All kinds of soil (Ordinary and hard soil)	Cu.M.	42056		
b)	Same as item 1.1 above, but for soft rock upto 2.0m below GL requiring chieseling	Cu.M.	601		
c)	Same as item 1.1 above, but for hard rock / sheet rock requiring blasting upto 2.0m below GL	Cu.M.	601		
1.2	Same as Item no-1.1 above but lift beyond 2.0 m depth				
a)	All kinds of soil (Ordinary and hard soil) from 2.0m to 4.0m below GL	Cu.M.	22830		
b)	Same as item 1.1 above, but for soft rock from 2.0m to 4.0m below GL requiring chieseling	Cu.M.	4467		
c)	Same as item no:-1.1 above, but for hard rock / sheet rock requiring blasting upto 2.0m to 6.0m below GL	Cu.M.	4467		
1.3	Extra over item no:- 1.1 for every additional lead of 100 m or part there of (beyond the initial lead of 100m as per item 1.1) and stacking within the compound wall.	Cu.M.	3004		
1.4	Extra over item no:- 1.2 for every additional lift of 1.0 m or part there of	Cu.M.	3004		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
2.0	BACKFILLING				
2.1	Earthwork in backfilling & compacting in layers not exceeding 200 mm around foundations, trenches , below grade slabs and all other locations , as per specs, drawings and as directed by the Engineer.				
a)	With earth obtained from stacks within a lead of 100m	Cu.M.	29244		
b)	Extra over 2.1(a) for every additional lead of 100m or part there of within battery limit	Cu.M.	3148		
c)	With selected earth (cohesive non-swelling / murrum) obtained from borrow pits outside the battery limit within a lead of 5.0 Km inclusive of necessary royalty charges.	Cu.M.	1889		
d)	Extra over 2.1 (c) for every additional lead of 1 Km or part thereof	Cu.M.	630		
2.2	Supplying and filling river sand in layers not exceeding 150mm including compacting by mechanical means, flooding with water etc all complete as per specification and as directed by the Engineer.	Cu.M.	6828		
2.3 a)	Removal of surplus earth & debris beyond battery limit upto 5 Km lead including transportatin, loading and unloading , dumping, stacking, levelling and dressing etc.complete as per specifications and drawings.	Cu.M.	43866		
b)	Extra over 2.2a for every additional lead of 1Km or part thereof	Cu.M.	4817		

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2.4 a)	Site grading and levelling with filling excavated earth obtained from foundations in layers not exceeding 250 mm within the project area using mechanical / manual means breaking clods, cutting heaps, compacting using compaction equipment in non-accessible areas and rolling with road roller in open areas to obtain 95% of proctor density for cohesive soils and 85 % for non-cohesive soils, all complete as drgs and spcns.	Cu.M.	5000		
3.0	CONCRETE				
3.1	Supplying, laying in position, compacting and curing as per specification Plain cement concrete (using OPC/PPC/PSC/SRC) of the following mix with 20mm down size aggregates below GL and upto 1.0M above GL , including consolidation of subgrade wherever required.				
a)	1:5:10	Cu.M.	1168		
b)	1:3:6	Cu.M.	206		
c)	M20 with cement content of 250 kg / m3 of concrete	Cu.M.	228		
d)	M20	Cu.M.	10		
3.2	Supplying, laying in position, curing as per specifications Controlled concrete (using OPC/PPC/PSC/SRC) of the following grades(graded coarse aggregates of 40mm down, 20mm down 12mm down shall be used wherever applicable)				
a)	for all depths below GL and 1.0 m above GL				

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
	ii) Grade M-30 in foundations, slabs, columns, floors, beams.etc.with minimum cement content of 375 kg/m ³	Cu.M.	10281		
b)	for all elevations 1m above G.L.				
i)	Grade M-30 for with minimum cement content of 375 kg/m ³ of concrete for equipment foundations/ top deck/columns above raft etc., at all levels including addition of suitable plastisizers conforming to IS 9103 to achieve required strength in concrete as per manufacturers recommendations,, preparation of scheme for concreting, getting it approved by engineer.	Cu.M.	3723		
3.3	Providing and placing in position RCC of grade M30 (using OPC/PPC/PSC/SRC) of 12mm & down graded chips with min. cement content of 375 kg/m ³ for encasing of steel structures at all elevations as per drawings, specifications , all complete.	Cu.M.	100		
3.4 a)	Providing and placing in position, compating , curing Reinforced concrete for paving of M30 grade with min. cement content of 375 kg/m ³ (using OPC/PPC/PSC/SRC) including laying in approved size panels, leaving grooves for sealing joints, cost of form work, finishing of top surface as required but excluding cost of reinforcement which will be paid under relevant items, etc.all complete for floors and pavement as per EIL drawing No- 7-65-0404 and specifications.	Cu.M.	2000		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
3.4 b)	Providing and placing in position, compacting, curing Reinforced concrete for paving of M25 grade with min. cement content of 350 kg/m ³ (using OPC/PPC/PSC/SRC) including laying in approved size panels, leaving grooves for sealing joints, cost of form work, finishing of top surface as required but excluding cost of reinforcement which will be paid under relevant items, etc.all complete for floors and pavement as per drawing and specifications.	Cu.M.	6247		
3.5a)	Supplying and mixing 'SIKA' or approved equivalent brand of integral water proofing compound in cement concrete / cement mortar etc. all complete as per drawings and specifications, IS:2645.	Kg.	1000		
b)	Providing and Fixing in position 12mm thick 'shalitex' or approved equivalent fibre board in expansion joints etc all complete as per specifications and drawings as per IS:1838.	Sq.M.	118		
3.6	Providing and Fixing in position 25mm thick 'shalitex' or approved equivalent fibre board in expansion joints etc all complete as per specifications and drawings as per IS:1838.	Sq.M.	1000		
3.7a)	Supplying and laying sealing compound with premium grade Silicon sealant (SILPRUF of GE Silicon or approved equivalent) as per specification.				
i)	25mm wide,25mm deep	R.M.	17604		
b)	Supplying and laying polysulphide sealing compound as per IS:12118.				
i)	20mm wide,25mm deep groove	R.M.	27113		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
3.8	Fabricating and placing in position precast reinforced concrete trench covers of grade M30 (using OPC/PPC/PSC/SRC) of varying thickness including reinforcement, shuttering, lifting lugs etc., all complete including edge angles as per drawing and specifications. Reinforcement will be paid under item 5.1 (b) and edge angles will be paid for under item 6.3	Cu.M.	94		
3.9(a)	Supplying and installing ribbed PVC water stops 5mm thick and 150mm wide, as per IS:12200, in cement concrete including laps by fixing / vulcanizing joints and folds as applicable and approved by the Engineer.	R.M.	808		
3.9 (b)	Supplying and installing ribbed PVC water stops 5mm thick and 230mm wide, as per IS:12200, in cement concrete including laps by fixing / vulcanizing joints and folds as applicable and approved by the Engineer.	R.M.	2000		
3.10	Grouting under equipment bases as required, curing and finishing the exposed surfaces including all materials, form work etc. as per drawings and directions of the Engineer.				
a)	With 1:1:2 cement sand and 6mm down stone chips nominal mix by volume	Cu.M.	10		
b)	Using free flow non shrink grout like conbextra GP1 or approved equivalent, including cost of grout mix, form work, finishing , curing etc. , all complete as per drawings and manufacturers' specifications.	Cu.M.	100		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
c)	Using free flow non shrink grout like conbextra GP2 or approved equivalent, including cost of grout mix etc. , all complete as per drawings and manufacturers' specifications.	Cu.M.	46		
3.11	Extra over sl no 3.2 & 3.4 above for conducting UPV testing as directed by the engineer in charge,including submission of test reports (4 copies). Rate to include all labour charges,staging and other misc charges etc complete as per specification. If any defect found in UPV the same shall be grouted with epoxy pressure grout as directed by engineer in-charge.	Cu.M.	1000		
3.12	Extra over Sl. No.3.2 & 3.4 above, for controlling of temperature of freshly laid concrete to less than 23 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc., all complete as per specification, drawing and instruction of engineer in charge.	Cu.M.	1000		
4.0 FORM WORK					
4.1	Supplying, installing, dismantling and removing the following classes 'of formwork as per drawings and specifications at all levels using steel / plywood wood shuttering.				
a)	Straight in plan (including raft of STG/GTG.)	Sq.M.	65618		
b)	Curved in plan	Sq.M.	2292		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
4.2	Providing Pockets in concrete of sectional area less than 0.1 sq.m in plan by fixing and removing formwork for anchor bolts , pipe sleeves etc. as per drgs including. all materials ,labour etc. complete as per drawings and specifications.				
a)	Up to 300 mm deep	Nos.	1000		
b)	301mm to 600mm deep	Nos.	611		
5.0	REINFORCEMENT.(BHEL will supply Reinforcement Steel as a free issue. However transporting from BHEL stores (located at Flare area of the Project which is 8km approx.) is in agency's scope.				
5.1	Bending, binding, transporting and placing in position following types of High Strength Deformed (HSD) TMT bars reinforcement of all diameters and at all elevations using approved quality binding wires as per specifications and drawings.				
a)	MS reinforcement conforming to IS:432	M.T.	45		
b)	TMT reinforcement conforming to IS:1786 of minimum grade Fe 415/Fe 500	M.T.	2917		
5.2	Supplying and fixing steel wire mesh 10 SWG,100X100mm mesh,as reinforcement for encasing steel columns at all elevations as per drawings and specifications.	Sq.M.	100		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
6.0	STRUCTURAL STEEL. (BHEL will supply rolled sections like joists, channels, angles, plates, MS/GI pipes, SS plate confirming to AISI316L only as a free issue. Balance other materials like Gratings, HT/HSFG bolts, Cladding sheets, Nuts, MS/SS specials, Washers, Shims, etc. required for incorporation in the permanent works are in the agency scope). However transporting from BHEL stores (located at Flare area of the Project which is 8km approx.) is in bidders scope.				
6.3	Fabricating and fixing in positions MS inserts like channels, angles, flats, rounds, plates, pipe sleeves and any other structural shape etc. including cost of steel, necessary templates / stagings, cutting to required lengths, bolting revetting welding etc. as required all complete as per drawings and specifications.	M.T.	83		
6.4	Fabricating and fixing in positions Rails section Inserts in concrete excluding cost of rail sections, necessary templates / stagings, cutting to required lengths, bolting revetting welding etc. as required all complete as per drawings and specifications. (Rail Supply by BHEL)	M.T.	30		
6.5	Taking delivery of foundation hardware supplied by BHEL and transporting to site, fixing in position foundation hardware such as anchor bolts, nuts, washers, anchor assembly etc. as per drawing including fixing to proper level and alignment using contractor's own templates, protecting till handover of the foundation, all complete as per drawings and specifications.	M.T.	40		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
6.5a	Supply, Fabricating and fixing in position foundation hardware such as anchor bolts, nuts, washers, anchor assembly etc. as per drawing including fixing to proper level and alignment using contractor's own templates, protecting till handover of the foundation, all complete as per drawings and specifications. (Material Supply Bidder Scope)	M.T.	50		
6.7	Supply, Fabricating, fixing in position by welding 18 gauge MS sheets to steel columns for encasing at various elevations , all complete as per drawings and specifications. (Material Supply Bidder Scope)	M.T.	34		
6.10	Fabricating, fixing in position 32 NB MS pipe handrails at various elevation to concrete and steel buildings/structures as per EIL drawing no:- 7-75-0037 / R03 and 7-68-0501 / R05 including cost of materials, cutting concrete, consumables, labour etc. all complete as per drawing and specifications.	R.M.	1000		
6.11a	Fire proofing of structural steel members with insitu concreting with M20 grade nominal mix concrete mixed and placed as per EIL specification no. 6-68-0033, rev 05.	Sq.M.	4000		
6.11b	Providing and placing in position Fire proofing with Vermiculite for encasing of steel structures including cost of Expended metal sheet, welded wire mesh, tie wire, nuts, cover plates etc. all complete as per EIL specification no. 6-68-0033, rev 05.				
i)	- do - measured in area	Sq.M.	8000		

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ii)	- do - measured in volume	Cu.M.	50		
7.0	MASONRY & ALLIED WORKS,				
7.1	Supplying and laying of coarsed rubble stone massonary in cement mortar 1:6 in foundations and basement as per specifications (Using OPC/PPC/PSC/SRC cement)	Cu.M.	25		
7.2	Supplying and laying in position minimum 75 kg/cm ² brick work in foundation and upto plinth in cement sand mortar (1:6) including mixing mortar, laying bricks,raking of joints, curing etc., all complete as per drawings as spefications. (Using OPC/PPC/PSC/SRC cement)	Cu.M.	100		
7.3	Similar to item 7.2 above in super-structure at all elevations	Cu.M.	3500		
7.4	Supplying and laying position minimum 75 kg/cm ² brickwork in half brick walls at various elevations in 1:4 cement sand mortar with 2 nos 6mm dia MS bars at every fourth layer properly anchored with pillers or cross walls, including mixing mortars, raking joints, curing etc all complete as per drawings and specifications. (Using OPC/PPC/PSC/SRC cement)	Cu.M.	65		
7.5	Supplying and laying damp proof course 40mm thick with plain concrete (1:1 ^{1/2} : 3) nominal mix by volume with 12mm down size aggregates and minimum 3% admixture of water proofing compound with all materials complete as per specifications.	Cu.M.	5		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
7.6	Providing 12mm thick cement-sand (1:6) plastering to the interior faces of the walls & RCC columns coming in line with side of the wall at various elevations including mixing, laying, finishing, curing, rounding corners, cutting grooves, wherever required, etc. with all materials complete as per drawings and specifications. (Using OPC/PPC/PSC/SRC cement)	Sq.M.	14680		
7.7	Providing 18mm thick cement-sand (1:6) plastering (mixed with approved acrylic waterproof compound @ 1kg per 50kg of cement) to the exterior faces of the walls & RCC columns coming in line with side of the wall at various elevations including mixing, laying, finishing, curing, rounding corners, cutting grooves, wherever required, etc. with all materials complete as per drawings and specifications. (using OPC/PSC/PPC/SRC)	Sq.M.	3090		
7.8	Providing 20 mm thk sand face plaster in two layers, first layer of 13mm in cement mortar (1:4) & second layer of 7mm thickness in cement mortar (1:2) using approved quality sand for second layer, on RCC and brickwork including mixing, laying, finishing curing, rounding corners, cutting grooves, wherever required, with all materials complete as per drgs. and specifications. (Using OPC/PPC/PSC/SRC cement)	Sq.M.	10000		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
7.9	Providing minimum 6 mm thick (1:4) cement sand plaster over concrete surfaces of RCC ceiling, beams etc. at various elevations including mixing, laying, finishing, curing, rounding corners, cutting grooves, wherever required, etc. with all materials complete as per drawings and specifications. (Using OPC/PPC/PSC/SRC cement)	Sq.M.	12225		
7.10	Drip course at various elevations to parapet, chajja, windows, door heads etc. with all material complete as per drawings, spcns. And directions of the engineer.	R.M.	450		
7.11	Providing 20mm wide x 12 mm deep rectangular grooves in plaster for architectural purposes, including all materials, etc. all complete. as per drawings.	R.M.	383		
7.12	Extra over plaster for providing neat cement finish	SQ.M.	1000		
7.13	Providing 2mm thick plaster of paris punning to newly plastered surfaces at various elevations with all materials etc., complete as per specifications and directions of engineer.	SQ.M.	10800		
7.14	Supplying and fixing 20 gauge chicken wire mesh stretched tight and fixed with G.I. type nails at junctions of brick work and concrete work before plastering at various elevations locations as shown in drawings and as directed by the Engineer	Sq.M.	500		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
7.15	Providing average 50mm thick M20 cement screed with 6mm down stone chips, to required slope with all materials, hacking the old concrete, finishing, curing etc., as per drgs & specifications.	Cu.M.	200		
8.0	FLOORING				
8.1	Providing 3 mm thick neat cement finish over concrete base for flooring paving etc.	Sq.M.	1000		
8.2	Supplying, laying vetrified ceramic acid resistant tiled floor / DADO as per IS:4457 with 25mm thick tiles from approved manufacturers at various elevations including preparation of base laying underbed of 6mm thick acid proof mortar over 3layers of bitumen grade 85/25(total 3mm thick) as per IS:702 over 12mm thick CM(1:3), pointing of size 6mm x 18 mm deep with CSNL mortar or equivalent including curing of the joints with dilute hydrochloric acid (25 %) as per manufacture's specifications , with all materials complete as per drawing and specifications.	Sq.M.	631		
8.3	Supplying and fixing Ceramic tiles of approved make of sizes 300X300X8mm for flooring and 100x200x6 or 300X200X6 for dado up to 2.5 m elevations laid over a coating of approved neoprene based adhesive including pereparation of base laying underbed, finishing and rounding corners and junctions, curing etc. complete as per drawings and specifications.	Sq.M.	2357		

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8.4	Laying 125mm high, 20 mm thick cement plaster skirting(1:3) including preparation of base , laying underbed, finishing with neat cement @2.75 kg per sq.m, rounding corners and junctions, cutting grooves, if required curing etc., complete as per drawings and specifications.	Sq.M.	160		
8.5	Supplying laying and fixing Vetrified porcelain tile flooring with 125 mm high skirting of approved size, mirror polished and having properties similar to vitrified ceramic acid resistant tiles laid over a coating of approved neoprene based adhesive including preparation of base laying underbed, finishing and rounding corners and junctions, curing etc., as per drawings and specifications.	Sq.M.	813		
8.6	Supplying laying & fixing 40mm thick Kota stone flooring / steps in staircase , skirting and dado in various elevation comprising min. 400X275mm 25mm thick stone slabs for flooring,min 400X275mm 18 mm thick stone slabs for dado and 125mm high 18mm thick stone slabs for skirting including preparation of base, laying underbed finishing, curing, polishing etc. complete as per drawings and EIL specifications.	Sq.M.	70		

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8.7	Providing 50mm thick heavy duty cement flooring comprising 35mm cement concrete base laid over sub base in panels (max. 1 sq m in area) bound by 3X40mm PVC strips followed by 15mm thick wearing top layer of cement, metallic hardner and stone aggregate, finishing, curing etc. all complete as per specifications. (Using OPC/PPC/PSC/SRC cement)	Sq.M.	5252		
8.8	Providing cement concrete flooring comprising of laying neat cement @2.75 Kg. Per Sq. Mtr mixed with water) over the 25mm thick base course of M15 grade cement concrete laid on the sub-base in panels (max. 1 sq. m is area, in desired shape and pattern) bound by 3X20mm PVC strip divider and finishing, curing etc. all complete as per specifications. (Using OPC/PPC/PSC/SRC cement)	Sq.M.	4356		
9.0	FALSE FLOORING				
	Supplying, erecting, fitting & laying false flooring with floor panels of size 610mmx 610mm and of 35 mm thickness, made of unveneered 3 layer flat pressed teakwood particle board conforming to IS: 3087 bonded with BWP type phenol formaldehyde synthetic resin conforming with IS:848 finished on the underneath side with 0.05 mm thick Aluminium foil & top side 2mm thick best quality approved pressure laminate / antistatic PVC tile, and PVC lipping for the edges including all necessary nuts, bolts, washers etc, all complete as per EIL drawings no:- 7-75-0047 and specifications.	Sq.M.	1876		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
10.0	FALSE CEILING				
10.1	Providing and fixing aluminum lineal false ceiling system "LUXALON" by Hunter Douglas comprising of 84 mm wide 16 mm deep panels roll formed out of 0.5mm aluminium alloy 5050 or 3005, chromatised and stove enamelled (coil coated) on both sides in approved shade and factory cut in lengths upto 5m to suite site dimensions, perforated panels for return air as per air conditioning requirements, including 32mm wide & 39mm deep panel carriers roll formed out of coated steel / 0.95mm thick aluminium alloy with cutouts to hold the panels in the module of 90/100mm , including suspending carries from roof by 4mm dia galvanised steel wire rod hangers with height adujstment springs of stainless steel, fixed to roof by "j" hooks & nylon inserts, including providing profiles gap closure strips etc., slit openings for fixing supply / return air grill, lighting fixtres, AC diffusers etc. all complete as per drawings and specifications.	Sq.M.	4167		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
10.3	Providing Phenolic Foam under deck insulation on the ceiling system (at soffit of the slab) consisting of 25 mm and approx. 1000 mm X 500 mm size conforming to IS:13204 (having a density of 32 kg/m ³ and K value of 0.034 w/mk at 53 deg mean temp and classified as 'Non combustible' as per BS 476 part -5 and Class I for surface spread of flame as per BS 476 part-7) prelaminated on both side with kraft paper, including applying bituminous primer or zinc chromate primer on entire soffit of slab and beams fixing the insulation to soffit / sides of beams by means of approved quality adhesive (hot bitumen or CPRX) and providing & fixing 3 mm thick 190 x 25 mm L-shaped M.S. slotted cleats to the soffit of the slab with dash fasteners @ 600 mm c / c, both ways securing the insulation with chicken wire netting stretched tightly over the insulation and held by 14 SWG G.I. wire tied diagonally through the slots of cleats etc., all complete as per drgs. and specifications	Sq.M.	5744		
11.0	PAINTING				
11.1	Providing minimum two coats of acid resistant paint over a coat of primer, if required, as per manufactures instructions to plastered surfaces. including preparation of surfaces, scaffolding etc., all complete as per drawings and specifications	Sq.M.	10		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
11.2	Providing and applying antifungal paint as per manufacturers' instruction over concrete surfaces including cost of paint, preparation of surfaces, scaffolding, curing etc., all complete as per drawings and EIL specification 6782-380-16-48-JS-01-Rev A	Sq.M.	10000		
11.5	Providing and applying two coats of Plastic emulsion paint conforming to IS : 5411 , of approved shade, over a of coat of suitable primer and base prepared with oil based putty as per manufacturer's recommendation , including cost of paint, surface preparation with 3 mm thick plaster of paris punning, scaffolding etc. all complete including scraping / removing of old paints, making the surface good with plaster of paris wherever required, all complete as per EIL specification 6782-380-16-48-JS-01-Rev A, page 63 of 73 and to the satisfaction of engineer / architect incharge.	Sq.M.	14493		
11.6	Providing three or more coats of white wash to give a smooth and even shade including cleaning & preperation of surfaces scaffolding etc., complete as per IS: 6278 and specifications 6782-380-16-48-JS-01-Rev A.	Sq.M.	9962		
11.7	Providing and applying waterproof cement paint as per manufacturers' instruction over concrete surfaces including cost of paint, preparation of surfaces, scaffolding, curing etc., all complete as per drawings and EIL specification 6782-380-16-48-JS-01-Rev A	Sq.M.	14000		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
11.8	Providing and applying two coats of synthetic enamel paint over a coat of primer as per manufacturers instruction over steel doors, windows and ventilators including cost of paint, preparation of surfaces, etc., all complete as per drawings and EIL specification 6782-380-16-48-JS-01-Rev A	Sq.M.	1100		
11.9	Providing two coats of polishing over wood work at various elevations , including all materials, surface preparation, finishing, polishing etc. all complete, as per drawings and EIL specifications 6782-380-16-48-JS-01-Rev A	Sq.M.	150		
12.0	ROOF WATER PROOFING				
12.1	Preparation of grading underbed with M20 mix using 12mm down graded coarse aggregate at various elevations including mixing, laying, curing etc. in varying thickness with all materials complete as per drawings and specifications.	Cu.M.	200		
12.2	Preparation of average 25 mm thick grading underbed with 1:4 cement coarse sand mortar and mixing 2% water proofing chemical admixtures of approved brand at various elevations including mixing laying, curing etc. with all materials complete as per drawings & specifications.	Cu.M.	200		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
12.3	Supplying and laying roof waterproofing membrane with non-woven polyester membrane coated on both sides with Atatic Polypropylene modified bitumen as per EIL specification Clause No- 1.2.5 of Document No-C3.2 of Spec 6782-380-16-48-JS-01-Rev A, Pg-59 of 73, all complete with material, consumables, scaffoldings, labour etc.	Sq.M.	6636		
12.4	Same as Item No-12.3 above but for flashing at junction of slab and parapet wall including preparation of surfaces, cutting grooves, caulking the end of flashing etc. complete as per EIL Drawing No-7-75-0068 and spec.	Sq.M.	50		
12.5	Providing and making 150x150mm size fillets in cement concrete 1:2:4 at junctions of roof slab and parapet wall including cutting grooves, rounding corners, finishing etc. all complete as per drawings and specifications.	Cu.M.	5		
13.0	DOORS, WINDOWS & VENTILATORS				
13.1	Providing and fixing Steel windows conforming to IS: 1038 and IS:7452 including handles, peg stays, stoppers, hinges, and painting with two coats of approved make epoxy paint over a coat of suitable primer etc.all complete as per and EIL specifications and drawings .				
a)	fixed type	Sq.M.	14		
b)	openable type	Sq.M.	16		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
13.2	Supplying and erecting including assembling fitting and fixing best quality Pressed steel doors of 18 gauge MS sheets packed inside with rigid PU foam / phenolic foam or glass wool insulation, with 16 gauge pressed steel frames (packed inside with PCC) at various elevations including frames, shutters, accessories, fittings and fixtures, CP mortice lock cum handle mastic caulking, grouting the frames, painting with 2 coats of approved quality synthetic enamel paint over approved red oxide zinc chromate primer etc. complete as per EIL and specifications and drawing No-7-75-0070 and 7-75-0071.				
a)	Single shutter	Sq.M.	150		
b)	Double shutter	Sq.M.	88		
13.3	Same as item 13.2 but with 150mm X 500mm vision panels with 6 mm thk. Plate glass etc. complete as per EIL specifications and drawing No-7-75-0070 and 7-75-0071..				
a)	Single shutter	Sq.M.	4		
b)	Double shutter	Sq.M.	6		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
13.3 i)	Supplying and erecting including assembling fitting and fixing best quality electrostatic Powder coated Pressed steel Air tight doors of 18 gauge MS sheets, with 16 gauge pressed steel frames at various elevations including frames, shutters, fittings and fixtures, CP mortice lock cum handle mastic caulking, grouting the frames, painting with 2 coats of approved quality epoxy paint over approved primer / min. 30 micron DFT / coat etc. complete as per EIL and specifications and drawing No-7-75-0008 and 7-75-0009.				
a)	Single shutter	Sq.M.	10		
b)	Double shutter	Sq.M.	20		
13.4	Supplying,erecting, assembling best quality PVC panelled doors of Sintex make or approved equivalent for toilets including all fittings and fixtures etc. all complete as per drawings and specifications.	Sq.M.	10		
13.5	Providing and fixing in position composite, insulated type fire proof doors of approved make having 2Hrs fire rating conforming to IS :3614 Part I with all necessary fittings and fixtures including self closing hinges, locking arrangement and painting with two coats of fire proof paint over approved primer etc. complete(contractor to obtain and furnish T.A.C. approval for supplies made)				
a)	Single leaf	Sq.M.	12		
b)	Double leaf	Sq.M.	12		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
13.6	Providing and fixing wooden flush doors as per EIL drawing no:- 7-75-0011 with all fittings and fixtures, approved quality heavy duty hinges, anodised aluminium tower bolts, aldrops, door stoppers, vision panels etc. all complete as per EIL specifications.	Sq.M.	43		
13.7 a)	Providing and fixing approved quality heavy duty overhead hydraulically operated door closer conforming to IS :3564 as directed by the Engineer.	Nos.	19		
b)	Providing and fixing approved quality heavy duty hydraulically operated double action door closer conforming to IS :6315 as directed by the Engineer.	Nos.	10		
13.8	Providing and fixing 2mm thk. approved quality rubber sealing strip around doors and windows for making them air tight including cost of rubber strip adhesive, clips etc. all complete as per specifications and drawings.	R.M.	974		
13.9	Supplying fitting and fixing the following glazing specials at various elevations as per drg. No 7-75-0014 including supplying rubber beading, (cost of putty and glazing clips for fixing to steel windows), all materials etc. complete as per specifications to aluminium windows, doors & partitions / steel windows .				
a)	4mm thick toughened clear glass	Sq.M.	1066		
c)	6.3 mm thick laminated safety glass	Sq.M.	2000		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
13.11	Supplying and erecting including assembling fitting and fixing electrostatically Powder coated aluminum windows of INDAL , Jindal or approved equivalent at various elevations including frames and shutters , transomes, mullions, fittings and fixtures, aluminium beading, but excluding glazing, complete as per specifications and drgs. as per EIL drg. No. 7-75-0014 & 7-75-0015				
a)	Openable type	Sq.M.	459		
b)	Fixed type	Sq.M.	1835		
c)	Fixed Double glass windows at STG operating floor level 2.4 m high	Sq.M.	75		
13.12	Supplying and erecting including assembling fitting and fixing Powder Coated Aluminium partition frames with matching doors etc., as per drawing no. 7-75-0014 with frames, shutters, double acting heavy duty floor springs, fittings, and fixtures, mortice lock, alluminium beading but excluding glazing etc. complete	Sq.M.	548		
13.13	Supplying,fitting and fixing Powder coated Aluminium framed doors as per specifications 6782-380-16-48-JS-01-Rev A . Same as item 13.12 but to be fixed masonry openings.	Sq.M.	305		
13.14	Providing and fixing Powder coated aluminium ventilators all as per specifications 6782-380-16-48-JS-01-Rev A	Sq.M.	679		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
13.15	Supplying, fitting and fixing 12 mm thick twin laminated Medium Density Fibre(MDF) boards (manufactured from agrobased lignocellulosic fibres conforming to IS:12406, exterior grade with synthetic resin conforming to IS:848, BWP type) , categorised as Class-I for Surfaces of very low flame spread as per BS:476 and twin laminated with 1.0 mm thick melamine of approved make and shade at various elevations to aluminium windows, doors & partitions, including supplying rubber gaskets, cost of all materials etc. complete as per drawings and EIL specifications.	Sq.M.	150		
14.0	ROLLING SHUTTERS :				
14.1	Supplying, erecting, assembling, fitting and fixing rolling steel shutters constructed with interlocking lath sections formed out of cold rolled 0.9mm thick, 80mm wide steel strips for shutter width upto 3.5M, or 1.25mm thick, 80mm wide steel strips for shutter width beyond 3.5M, jointless MS channel section of 3.15mm thickness for guide, MS girder and bottom rail, shutter suspension stud with pulley & cage, top rolling springs, locking arrangement etc, as per IS:6248 from approved manufacturers ,including shop coat of approved red oxide zinc chromate primer and two coats of synthetic enamel paint of approved brand and shade after erection with all fittings and fixtures etc all complete as per specifications and drawings.				
a)	Manually operated	Sq.M.	23		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
b)	Mechanically operated, complete with all accessories for mechanical operation as per approved manufacturers design and drawings.	Sq.M.	100		
c)	Electrically operated, complete with all accessories, electrical motor, cabling, etc, as per approved manufacturers design and drawings.	Sq.M.	116		
15.0	SANITATION / PLUMBING				
15.1	Supplying and erecting HDPE cylindrical and vertical water tank with closed top of SINTEX make or approved equivalent of following capacity.				
a)	1500 LTR	Nos.	2		
b)	2500 LTR	Nos.	2		
c)	5000 LTR	Nos.	2		
15.2	Supplying, fitting and fixing heavy cast iron " Roof Drain" pipes at various elevations including shoe bends junctions, sockets, adapters, brackets, hangers, supports etc jointing with spurn yarn and cement mortar 1:2, caulking prime coat of painting with anticorrosive paint including all materials etc complete as per drawings and specifications.				
a)	100 mm dia.	R.M.	305		
b)	150 mm dia.	R.M.	609		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
15.3	Similar to item no:-15.2 above supplying fitting and fixing of PVC drain pipes of approved make at various elevations including shoe bends junctions sockets, adapters, brackets, hanger supports etc., jointing with appropriate adhesives, including all materials complete as per drawings and specifications.				
a)	100 mm dia pipes	R.M.	305		
b)	150 mm dia pipes	R.M.	609		
15.4	Supplying, fitting and fixing Roof drain heads with high domed gratings as per drg. No. 7-75-0068 at various elevations, including connecting to roof drain pipes, caulking with lead supports / fixing with adhesive for PVC pipes, hangers etc, prime coat of painting with anti - corrosive paint with all materials as per drawings and specifications.				
a)	Heavy duty C.I. Heads				
i)	100 mm pipe	Nos.	10		
ii)	150 mm pipe	Nos.	24		
b)	PVC roof drain heads				
i)	100 mm pipe	Nos.	10		
ii)	150 mm pipe	Nos.	24		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
15.5	Supplying, fitting fixing the following best quality sanitary fixtures of " Hindustan Sanitaryware" or approved equivalent make at various elevations including all necessary accessories, cutting and making good of concrete / brickwork for concealing all connecting pipes and bends with all materials etc all complete as per specifications and drawings.				
a)	European type type water closet conforming to IS:2556 with white glazed stone ware basin with plastic seats & cover and low level earthenware cistern (IS:774) of 10 litre discharge capacity including valveless fittings, flush bends, supply connections, syphon , integral 'S' or 'P' trap etc. all complete as per EIL Drg. No-7-75-0062	Nos.	8		
b)	Indian pattern water closet (Orissa pan size 580mm x 440mm conforming to IS:2556) with integral footrest and 10 litre capacity valve less syphonic type high level glazed earthenware flushing cistern (IS:774) fittings, with all necessary fixtures, integral with 'S' or 'P' trap etc. all complete as per EIL drg. No-7-75-0060 and specifications .	Nos.	8		
c)	610 x 410 x 380 mm half stall type urinals of single piece construction with integral flushing box rim with concealed hangers and brackets, CP brass spreader for concealed piping work, CP brass waste fittings, 30 mm dia heavy duty bottle trap etc all complete as per EIL drg No-7-75-0063 and specifications.	Nos.	24		
d)	Automatic high level Glazed earthenware cistern with mosquito proof lid, interior painted with 2 coats of anti corrosive paint complete with loose key CP brass bibcock				

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
i)	Cistern capacity 5 ltrs.	Nos.	10		
ii)	Cistern capacity 10 ltrs	Nos.	4		
iii)	Cistern capacity 15 ltrs	Nos.	2		
iv)	Marble partitions of minimum 19mm thick White Makrana marble slabs of size 1000mmx600mm	Nos.	26		
f)	550 x 400 mm white glazed stone ware flat back wash basin conforming to IS:2556 with anti splash rims on three sides and required tap holes, with supporting brackets,C.P brass 32mm dia waste fittings,heavy duty CP bottle trap,one no. 15mm dia long nose C.P brass pillar cock,one number supply connection with 300.mm long,15 mm dia P.V.C pipe with brass nuts at both ends and C.P brass stop cock etc,complete as per drgs and specifications .	Nos.	14		
g)	150 x 150 mm recessed white glazed porcelain soap tray.	Nos.	14		
h)	Chromium plated shower set with 100/150 mm dia brass shower rose with rim arm,wall flange,hot/ cold water mixing valves including handle and concealed supply pipe including 600mm long C.P grab bar,bibcock etc, as per specifications all complete.	Nos.	3		
i)	550 x 4000 x 5.5 mm thk beveled edge mirror of superior glass with 6mm thick AC sheet backing and necessary fixtures as per specifications.	Nos.	14		
j)	35 litre capacity hot water geyser of approved make.	Nos.	8		
k)	600mmX120mmX4mm thick clear glass shelves with chromium plated brackets, guard rails etc, all complete	Nos.	14		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
l)	600 mm long, 20 mm dia and 1.25 mm thick chromium plated brass towel rail with brackets fittings, etc, complete.	Nos.	14		
m)	All Chromium plated standard liquid soap dispenser of approved make with all fittings etc, complete.	Nos.	14		
n)	12 mm dia CP brass ablution tap with all fittings complete.	Nos.	69		
15.6	Supplying, fitting fixing the following best quality Automatic Urinal flush Control System of approved make at various elevations including all necessary accessories, cutting and making good of concrete / brickwork for concealing all connecting pipes and bends with all materials etc all complete as per specifications and drawings.	Nos.	10		
15.7	Supplying, fitting and fixing 100 mm dia inlet and 80/100 mm dia outlet SS floor drain with trap and with screwed or hinged CP brass gratings.	Nos.	10		
15.8	Providing 300 x 300 x 675 mm chamber in 1:4 brickwork 115 mm thick with plain concrete 1:2:4 foundation cement mortar including supplying and fixing 100 mm. dia square mouth gully trap, gratings, CI frame and cover, all complete as per specifications.	Nos.	10		
15.9	Supplying, laying, fitting, fixing and jointing concealed GI pipes conforming to IS:1239 for water lines at various elevations pipes underground with all fittings bends, teas, reducers etc. including excavation, backfilling, supports, caulking, chases, grooves, hangers, supports, straps etc. painting as specified all complete as per specification and drawings.				

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
a)	12 mm dia	R.M.	150		
b)	19mm dia	R.M.	350		
c)	25 mm dia	R.M.	400		
d)	32 mm dia	R.M.	100		
e)	50 mm dia	R.M.	100		
15.10	Supplying, laying, fitting, fixing and jointing extra heavy cast iron soil and drain pipes underground with all fittings bends, tees, reducers etc. including excavation, backfilling, supports, caulking, chases, grooves, hangers, supports, straps etc. painting as specified with corrosion resistance protection all complete as per specification and drawings.				
a)	100 mm	R.M.	100		
b)	150 mm	R.M.	250		
15.11	Same as 15.10 but over ground, including vent pipes and cowls.				
a)	100 mm	R.M.	100		
b)	150 mm	R.M.	250		
15.12	Supplying fitting and fixing CI heavy duty man hole cover of 50 cm dia of approved brand as per specification	Nos.	50		
16.0	SURFACE AND UNDERGROUND DRAINS				
16.1	Supplying and installing of PVC pipes of following diameter as per specifications and drawing.				

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
a)	100 mm dia	R.M.	50		
b)	150 mm dia	R.M.	50		
c)	250 mm dia	R.M.	50		
16.2	Providing and installing underground RCC Hume pipes of class P-1 as per SI:458 of following diameters with collars,at all depths including bedding, jointing, providing supports etc. all complete as per drawing and EIL specifications . (excavation and backfilling to be measured seperatly under relevant items)				
a)	150 mm	R.M.	400		
b)	200 mm	R.M.	300		
c)	250 mm	R.M.	400		
d)	300 mm	R.M.	200		
16.3	Providing and installing RCC Hume pipes of class NP-3 of following diameters with collars,at all depths including bedding, following diameters. (excavation and backfilling to be measured seperatly under relevant items)				
a)	400 mm	R.M.	50		
b)	450 mm	R.M.	100		
c)	600 mm	R.M.	100		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
16.4	Providing and installing SWG pipes at all depths including jointing and excavation up to 1 m depth and backfilling all complete as per specs and directions of the Engr.				
a)	100 mm dia.	R.M.	100		
b)	150 mm dia.	R.M.	100		
16.5	Supplying, laying, jointing, testing and commissioning of double coated and double wrapped Carbon Steel pipes of the following diameter below GL including all material complete as per drawing and specifications.				
a)	100mm dia as per IS: 1239	R.M.	500		
b)	150mm dia as per IS: 1239	R.M.	1000		
c)	200mm dia as per IS: 1239	R.M.	1000		
16.6	Supplying, fitting, fixing, gun metal valves of following diameters below GL as per specifications				
a)	12 mm dia	Each	2		
b)	19mm dia	Each	2		
c)	25 mm dia	Each	2		
d)	32 mm dia	Each	2		
e)	50 mm dia	Each	2		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
16.7	Supplying, fitting, fixing, CI gate valves of following diameters below GL as per specifications				
a)	100mm dia	Each	2		
b)	150mm dia	Each	2		
c)	200mm dia	Each	2		
d)	250mm dia	Each	2		
16.8	Supplying, fitting, fixing, drain funnels of following diameters below GL				
a)	150mm dia	Each	20		
b)	250mm dia	Each	20		
17.0	ROADS/PAVING				
17.1	Consolidating subbase before providing stone soling/WBM with road roller including watering, if required to obtain 95% proctor density including making good undulation etc. all complete as per drawing and specifications .	Sq.M.	66990		
17.2	Supplying,laying and rolling Stone soling of consolidated thickness 250mm constructed in 2 layers each of 125mm thick including spreading binding material(sand / morrum) watering and rolling with road roller etc. all complete as per drawings and specifications .	Sq.M.	66990		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
17.3 a)	Supplying and laying WBM in 100 mm consolidated thickness with grade-I aggregate in one or more layers with dry and wet rolling etc complete as per drgs and specifications 6-65-0018, rev 05.and drg. No. 6782-000-16-47-3-021 Rev 1	Sq.M.	1400		
b)	Supplying and laying WBM in 75 mm consolidated thickness with grade-II aggregate in one or more layers with dry and wet rolling etc complete as per drgs and specifications 6-65-0018, rev 05. and drg.no. 6782-000-16-47-3-021 Rev 1	Sq.M.	2000		
17.4	Providing and laying 75 mm compacted thickness of premixed bituminous carpet (hot process) finish over WBM surface including provision of a tack coat and a seal coat,using bitumen conforming to IS : 73 , preparation of surfaces, rolling etc.complete as per specs.	Sq.M.	350		
17.5	Supplying,laying and setting precast concrete edging blocks 300 x 150 mm (at base) and a min.length of 450 mm (except at curves) in M 20 grade concrete including cutting of trench and packing exterior face of blocks with stone chips and murrum including pointing the joints with CM 1:4 etc. all complete as per drawings and specifications	R.M.	2000		
17.6	Supplying, Spreading & filling murrum 150 mm thick and consolidation and preparation of sub base including watering and rolling & compaction with power roller 10-12 T capacity to the required density (95% of proctor density) & upto satisfaction of BHEL	Cu.M.	500		
17.7	Providing and placing Precast interlock concrete blocks of grade M20 for footpaths	Cu.M.	100		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
17.8	Providing and placing Stone pitching in Road embankment slope	Sq.M.	100		
18.0	MISCELLANEOUS ITEMS				
18.1	Supplying and spreading 40mm size stone chips / gravels in transformer yards	Cu.M.	350		
18.2	Supply, fabricating and fixing in position transformer gate / fencing as per drg. no:7-75-0051 & 7-75-0052 including painting with aluminium paint two coats over suitable primer etc.complete., excavation,concreting and post etc to be measured separately.	Sq.M.	275		
18.3	Supplying and fixing in positions Anchor Fasteners of HILTI or approved equivalent of following diameters in concrete, including drilling in concrete, driving the anchor fastner, finishing the concrete etc., all complete as per drawings and specifications				
a)	8 mm	Nos.	50		
b)	10 mm	Nos.	40		
c)	12 mm	Nos.	50		
d)	14 mm	Nos.	30		
e)	16 mm	Nos.	30		
f)	20 mm	Nos.	30		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
18.4	Supplying and fixing in positions 100 mm wide Aluminium strips of approved make in expansion joints in building / structures with brass screws including drilling in concrete, all complete as per drawings and specifications	R.M.	150		
18.6	Providing Anti-termite treatment to building columns and floors of Chloropyrifos emulsifiable concentrates (1%) conforming to IS:8499 and IS: 6313 with cost of material, labour, consumables etc, all complete as per drawings and EIL specifications	Sq.M.	4473		
18.7	Providing and laying bitumen sand carpet 50mm thk. in two layers of 30mm & 20mm for tank pads including finishing to correct slopes, light rolling etc. complete as per drg. No. 6782-000-16-47-3-025 Rev B and specification no. 6-65-1022 & directions of the Engr.	Sq.M.	400		
19	Supplying and fixing transformer rails (90 LB)	R.M.	115		
18.9	Supplying, fabricating and fixing in position G.I. MS rungs bent to shape/size as indicated on drgs. and specs.	Kg.	50		
18.10	Supplying and laying 75mm thick Fire Clay Brick (Type-1) 75mm thk. in two layers using high alumina cement @ fireclay grog (less than 1mm size) including cost of all materials etc. all complete as per EIL specification no. 6-79-03 including.	Sq.M.	2800		
18.11	Supplying and laying 25mm thick firecrete special of ACC or equivalent over fireclay layer mentioned in 18.10 above.	Sq.M.	2800		
18.13	Supplying and fixing lock fix (FOSROC make) for extending new reinforcement from existing structures	Nos.	10		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
18.14	Chipping of RCC structural elements like beams ,columns, pedestals,slabs required for facilitating mechanical erection works.	Cu.M.	2		
18.15	Fabrication including modification of already erected steel structures by cutting of members,adding extra members etc to facilitate mechanical erection works	M.T.	10		
18.16	Laying buried pipe (approx dia 56 inch supplied by BHEL) including excavation, backfilling etc. all complete as per EIL specifications.	R.M.	1500		
19.0	FENCING				
19.1	Supplying and fixing chain link mesh conforming to I S : 2721, both ends bent type,mesh size 50 mm, dia.of mesh wire 4 mm , with 2 nos line wire 4 mm dia. including tying to RCC / STEEL posts neatly with GI wires including cost of all materials etc.complete.	Sq.M.	50		
19.2	Supplying and fixing barbed wire fencing of approved quality, including tying to RCC / STEEL posts neatly with GI wires including cost of all materials etc.complete.	R.M.	250		
20.0	DISMANTLING OF STRUCTURE				
20.1	Dismantling and removal before modification of the following items in the existing structures with all labour, tools, necessary scaffolding, transport etc. all complete including delivering as directed by Engineer.				
a)	Concrete (plain)	Cu.M.	20		
b)	Concrete (reinforced)	Cu.M.	50		
c)	Brickwork	Cu.M.	50		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
d)	Doors, windows, ventilators	Sq.M.	50		
e)	75 Tk.premix carpet	Sq.M.	200		
f)	Pipe hand rail	R.M.	50		
g)	GI sheetings	Sq.M.	80		
h)	Structural steel	M.T.	20		
i)	WBM/soling for roads or paving	Sq.M.	200		
j)	Dismantling of false ceiling	Sq.M.	100		
k)	Making openings in brick work and closing subsequently after installation of ducts etc, including necessary scaffolding for approach to higher elevations	Sq.M.	20		
21.0 EARTHING / GROUNDING					
21.1	Drawing earthing strips and electrodes from B H E L stores (earthing strips free supply) , transportation Laying, cutting , jointing , welding, painting the joints with cold galvanising paint after welding and testing ground conductors including cost of excavation up to 1m, backfilling, galvanising paint , labour, material etc. complete as per drawing and specifications. (All ground conductors will be issued by BHEL free of cost)				
a)	Earthing strip 75 X 10 mm	R.M.	20000		
b)	Earth risers of 75X10 mm GI strip	R.M.	7000		

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Item No.	Description of Work	Unit	Quantity	Rate in Rs. (words & figures)	Amount in Rs.
c)	Pipe Electrode as per drg. no.:GT67997 construction of masonry chambers with M.S. covers filling with sand, charcoal and salt etc. all complete as per drawings and specifications.	Nos.	100		
TOTAL VALUE IN Rs.					
Note to Rate schedule:					
i)	The quantities of the various items mentioned in the schedule are approximate and may vary up to any extent or be deleted altogether. The quoted rates of each item shall remain firm as long as the variation in the total value of the works executed under this contract, including extra items if any, remain within +/- 30% (thirty percent) of the Bid Price of the probable extent of the work to be executed under any particular item in this schedule, before under taking any preliminary work or purchasing bought out component related to the work. The variation clause will be applicable as stipulated in the General conditions of contract, Volume 1 of this tender.				
ii)	PAYMENT FOR ADDITIONAL ITEMS				
For working out the rates for supplemental / additional items, the least of the following will be operated.					
a)	Near similar item (or) derived from LOI items				
b)	Direct from CPWD schedule of rates. The cost index (based on formula) for the project site prevailing during the year of reckoning, shall be calculated and applied over the DSR-2007 item rate.				
c)	Derived from CPWD rates (While deriving the rate from CPWD, the above procedure (as given in (b)) shall be followed).				
If any item could not be derived from the above , Rate will be worked out based on market rate for such item with 15% plus towards contractor's overhead and profit.					
iii)	EIL specifications & drawing nos. indicated in respective items are not exclusive. Bidder is expected to go through complete EIL specifications & drawings and item's descriptions given else where are also to be followed.				

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