



BHEL Hyderabad	RUPPL Dahej, 2xFr 6B GTG	Doc. No.:PESD-E&C/RUPPL-GTG/PRT/002
PE&SD	Tender No.:BHEL/PE&SD/RUPPL-GTG/E&C/ 002	Rev 00

VOLUME- 1E

PROJECT :: RUPPL-2xFr-6B GTG

DATE :

BIDDER ::

PRICE Offer No. & Date ::

RATE SCHEDULE

Name of the Work: Enabling Facilities & Construction of Store Shed for 2XFr.6-B GTG RUPPL, Dahej

Item. Each.	DESCRIPTION OF WORK	UNIT	QTY.	Rate in figure (Rs)	Rate in words(Rs)	AMOUNT IN RS
1	Sub grade preparation: Cutting & disposal of grass, vegetations, bushes, trees (girth less 300mm), levelling, watering and consolidation (90% of proctor density) by means of 10-12 mt capacity power/vibro roller for sub base preparation. this will include average cutting & filling up to \pm 250mm thick, grading the area with proper slope for draining out the rain water with all T&P, labours, materials, dewatering (if required) etc. complete. for development of Open Storage Yard.	SQ M	5000			
2	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.each layer compacted so as to achieve at least 90% maximum dry density as per is-2720 (Part-VII)	CU M	300			



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3	Providing & filling of 200 mm compacted thick granular hard murum in layers (thickness of each layer should not exceed 100mm) for preparing hard surface for storage of materials during monsoon period in the specified area as shown in indecative drawing/sketch "as monsoon yard", watering and compaction with 8-10t power/vibro roller complete. rate shall include transportation, royalty, dewatering (both ground water as well as rain water) and keep the area dry till completion of all the works, labours, materials and required t&ps etc. complete as per standard specification and instructed by BHEL engineer. (2000.00 sqm. area to be developed by 200mm thick murum for construction of monsoon yard)	CU M	400			
4	Earthwork 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.depth from ground level but not exceeding 2 m, all complete as per spec and directions of the Engr.	CU M	800			
5	Providing and laying Stone Soling 230 mm compacted thickness with 150 - 200 mm thick boulder size and filling of voids with hand broken metal of size 40-60 mm, spreading & packing murrum , rolling and compaction including watering, with 8 - 10 MT capacity road roller.	CU M	120			
6	Providing 150 mm compacted thick water bound macadam (WBM) in two layers of each 75 mm, with 40mm to 60mm metal (stone aggregate) including supplying and spreading gravel/murrum over the soling/consolidated base, compacting the same with power roller including necessary labour, watering, materings etc. complete, all as per relevant specifications and directions of BHEL engineer (rate shall be inclusive of all labour, materials etc., complete).	SQ M	52			
7	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.	CU M	12			



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8	Providing & laying reinforced cement concrete of M20 grade under floors, paving, plinth protection, lintels columns, beams, etc. at any depth below floor level and also at any height above floor level as per design, drawing & as per specifications & directions of BHEL engineer.	CU M	14		
9	Providing and fixing of reinforcement including cutting, bending and fabrication of reinforcement using high tensile tor steel (Fe-415) as per drawing and specification and as directed by bhel engineer including cost of all leads, lift and materials, labour and MS binding wire 18/20 gauge etc. complete.	MT	1.8		
10	Providing brick work in cm 1:6 (1 cement & 6 coarse sand) using opc grade 43/53 with locally available burnt clay bricks (Min strength 35 kg/cSQ M) as per drawing and specification for drains, culverts and where required including cost of all materials, labour, scaffolding, curing, at all elevations and levels, raking out joints etc. complete and as directed by BHEL engineer.	CU M	105		
11	Providing and plastering with cement mortar 1:6 (12mm thick) over both internal and external faces of brickwork and concrete surfaces etc. of all heights including preparing the surface, raking joints, scaffolding, curing, cost of all materials, labour etc. complete.	SQ M	1100		
12	Supplying & fixing in position of RCC hume pipe of NP2 wherever drain crosses the roads including aligning, levelling etc. complete as per the direction of engineer. including P.C. & including collar joints, encasement with concrete 1:3:6 of 300 mm dia, encasing shall be paid extra under respective items of concrete..				
12.1	400mm dia	RM	42		



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13	Providing and fixing barbed wire fencing around open storage yard as per BHEL drawing. posts shall be spaced at 3m centres and struts at 30m centres and at all turnings with foundations, supplying and fixing gi barbed wires, 10 horizontal lines, two diagonals between posts by means of GI staples as per standard practice. the barbed wire shall conform to is 278 and be made of two strands of galvanised twisted 2.5mm dia (12.5 gauge) steel wire with four point bars. rate quoted shall be inclusive of excavation, disposal of surplus earth, concrete (1:3:6), form work and all materials, cost of posts, barbed wires, transporting, fixing in position etc. including cost of all labour and two coats of enamel paint of approved shade with a shop coat of primer in all structural members etc complete.	RM	415			
14	Providing & filling in soak pit with brick bats 40-80mm including sand packing etc. complete, as per standard specification and instructed by BHEL engineer.	CU M	9			
15	Providing and laying DPC (damp proof course) 50mm thick in 1:2:4 cement concret layer using opc grade 43/53and with 6mm down aggregate, including formwork, bitumen felt using cement with water proofing compound etc. complete	SQ M	26			
16	Providing and fixing of best quality country wood doors comprising of frame 95 x 70mm and 38/40mm thick flush shutters of solid core type using commercial ply including hold fasts, wind appliances, handles, tower bolts and aldrops, mortise or suitable locks etc. as per the standard practice and applying two coats of synthetic enamel paint of approved shade & color over a coat of primer as directed by BHEL engineer.	SQ M	15			
17	Providing and fixing 24 mm thick best quality PVC doors of sintex make or approved equivalent for toilets including pvc frame of size 48mm x 40mm, all fittings, fixtures, frames, holdfast etc. complete as per specifications and instruction of BHEL engineer.	SQ M	4			



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18	Suppling, manufacturing and fixing in position of steel windows including frames & iron barred (guard bar of square section @ 100 mm c/c) and glazed with 4mm plain glass as per standard specifications & relevant is code and instructions of bhel engineer. the cost shall be inclusive of all accessories fittings, hold fasts, painting two coats of synthetic enamel paint of approved colour and quality over one coat of red oxide primer etc. complete.	SQ M	18			
19	Providing and fixing of IPS flooring 40mm thick using opc grade 43/53 with cement concrete 1:2:4 (using 12 mm down aggregates) as per standard practice in panels of size Each exceeding 2.0 x 2.0 sq.m by providing, fixing glass strips.including curing & cleaning.	SQ M	200			
20	Supplying and fixing of white glazed tiles of required sizes laid over the bed of cm - 1:4 (1 cement & 4 coarse sand) using OPC grade 43/53 for pantry room , toilet and wherever required etc. including pereparation of base laying underbed, finishing and rounding corners and junctions, curing etc. complete as per drawings and specifications.					
20.1	Flooring (5.0mm to 6.0mm thick of size 300mm x 300mm)	SQ M	50			
20.2	Dado (5mm to 6mm thick of size 150mm x 150mm) - 1.5m height from finished floor level in toilet & 450mm on pantry wall over the kitchen counter.	SQ M	66			
21	Providing & applying colour wash -three coats on newly plastered surface by using best shale lime to give an even shade including preparing the surface like cleaning and brushing & brooming of walls and in accordance with standard specification. rate include cost of all materials , colouring agent, base coat of white wash,approved addressive, scaffolding at all level, brush etc.	SQ M	800			
22	Providing and fixing over head hydraulic door closer (heavy duty) of approved brand and size on necessary doors as directed by BHEL engineer.	Each.	2			



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23	Providing and fixing white glazed vitreous china wash hand basin of 55 cm x 40 cm size including cold water piller tap, brackets, stop tap, chromium plated bottle trap and necessary pipe connections including upvc waste pipe and trap upto the out side face of the wall, making good the damaged surface, testing etc. complete. prior approval of sample and brand by BHEL engineer is necessary before use.	Each	2			
24	Providing and fixing european type white glazed vitreous china w.c.pan with uPVC seat and lid with chromium plated brass hinges and rubber buffers including upvc vent pipe (approx. 2m. ht. with cowll) on the outside face of wall, 10 litre pvc low level flushing cistern with all fittings, pipe and stop cock, brackets for fixing cistern, 32 mm dia. uPVC flush pipe with fittings and clamps, 20 mm dia. upvc overflow pipe, float valves, cutting and making good to the walls and floors, testing etc. complete. prior approval of sample and brand by BHEL engineer is necessary before use.	Each	1			
25	Providing and fixing in position of white glazed earthenware flat back/corner type lipped front urinals of 430mm x 260mm x 350mm / 340x460x265 mm of approved make and quality without flushing cistern, gi flush pipe and spreaders with brass unions, gi clamps, cutting of walls and making good of all damages and finishing to match the existing work etc. complete. rate quoted shall include cost of all materials and labour for carrying, laying & fixing and all other incidental charges etc. complete.	Each	2			
26	Providing and fixing in position of high class belgium or superior make bevelled edge mirror of size 450mm x 550mm x 6mm with 16 mm dia & 550mm length nickel plated towel rod mounted on 6 mm thick plywood or plastic folder sheet. rate to include cost of all materials, labour for fixing the wooden plugs with cp brass screws and washers etc. complete.	Each	1			
27	Providing and fixing in position of 15 mm dia concussion push button type brass/ gun matel self closing tap including necessary socket,testing etc complete for urinals as direction of BHEL engineer.	Each	2			



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28	Providing and fixing in position of 15 mm dia Eachminal size screw down type chromium plates brass bib cocks of standard type of approved make and quality (leader make or equivalent) as per standard specification. rate includes jointing materials, sockets, union nut, testing, labours for carrying and fixing etc. complete.	Each	2			
29	Providing and fixing in position of 25 mm dia gate valve including all necessary fitting & fixture etc. complete as per standard specification.	Each	1			
30	Providing and fixing in position of 15 mm dia Eachminal size screw down type chromium plates brass stop cocks of approved make and quality (leader make or equivalent) as per standard specification. rate includes cost of jointing materials, sockets, union nut, testing, labours for carrying and fixing etc. complete	Each	5			
31	Providing and fixing in position of 100mm x 50mm HCl "Nahani" trap with HCl gratings, bends, connecting pieces of CI pipe upto outside face of the wall. making good the damaged surface, testing etc complete as per standard specifications. rate to be all inclusives.	Each	4			
32	Providing and fixing in position of 150mm salt glazed stone ware gully trap with HCl gratings and CI cover of size 300x300 mm of approved make (weight Eacht less than 2 kg) and quality as per standard specifications. rate to be all inclusive.	Each	2			
33	Providing and laying with required grading & leveling in trenches medium grade (type) galvanised iron (GI) pipe having embossed isi mark on it, of required diameter with screwed, sockets, joints, necessary galvanised iron fittings such as sockets, back nuts, elbows, bends, tees, reducers, enlargers, plugs, clamps etc. including all necessary excavation, back filling, fixing with clamps, testing etc. complete. (prior approval of sample and brand by BHEL engineer is necessary before use.)					
33.1	25mm dia	RM	50			



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33.2	15mm dia	RM	20			
34	Providing at working site, carrying and lowering into trenches, laying to proper alignment, level and grade, jointing with cm (1:1) and testing of joints etc. of the following size of salt glazed stoneware pipe inclusive of all necessary specials tarred hemp yarn and all jointing materials complete as per standard specifications including all necessary excavation, backfilling, disposal of surplus earth ,lead and lift as per site conditions. rate shall include cost of all materials, labour charges and incidental charges etc. complete.					
34.1	100mm dia stoneware pipeline including all specials complete.	RM	5			
35	Providing and fixing in position of PVC overhead water tank of syntex or any approved make of following litre capacity with provision for overflow arrangement valves, inlet and outlet etc. complete.					
35.1	1000 litre capacity	Each	1			
35.2	500 litre capacity	Each	1			
36	Construction of 230mm thick burnt clay / fly ash lime brick chamber (using OPC grade 43/53) of the following dimensions (inner dimension) with 20mm thick internal & external cement plaster of mix cm 1:5 (1 cement & 5 coarse sand) , neat cement finish , top CI – cover and connectors for sewer lines. rate shall be inclusive of all necessary excavation & filling, PCC-100 mm thick of 1:3:6 for bedding on 100mm thick oversizer soling with 80 mm metal etc. complete.					
36.1	600x450x450 with C.I cover	Each	2			



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37	Providing and fixing chromium plated towel rod 16 mm dia. and 75cm. in length including all accessories complete. (prior approval of sample and brand by BHEL engineer is necessary before use).	Each.	1			
38	Providing & fixing of liquid soap dispenser at all wash basin location.	Each.	2			
39	Providing & fixing in position of CI vent pipe of dia. 100mm (approx. ht. 3m) in septic tank. rate to include all necessary fitting & fixture, labour etc.	RM	4			
40	Supplying, erecting, assembling, fitting and fixing rolling steel shutters of 18 gauge steel sheets with 16 gauge MS rolled channel frame as per IS:6248 from approved manufacturers including all fixtures, accessories locking arrangements, electrical motor and electrical wiring for mortar driven, shop coat of approved epoxy primer and two coats of epoxy paint of approved brand and shade after erection with all fittings and fixtures etc all complete as per specifications and drawings. (All the rolling shutters irrespective of their size should have mechanical as well as electrical opening arrangements.)	SQM	12			
41	Providing, fixing and removing plyboard formwork at any depth and elevation for all structures(foundations, footings, base of columns, beams, slabs, mass concrete, trenches,walls etc.) as per the 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	SQ M	250			
42	Providing and fixing of 1 Each. 18"x24" size stainless steel sink with all fittings like drain pipe, stop valve etc.rate to include all necessary fitting & fixture, labour etc.as approved & directed by BHEL engineer.	Eachs.	1			
43	Providing and fixing 18mm thick best quality single piece granite slab of required shape and colour for fixing ss sink for kitchen counter of pantry block .cut out for sink shall be made as per the dimension.cost inclusive of making opening, polishing cut peices/drop/facia and required finishing complete.	SQ M	4			



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44	Providing ang making edge moulding and Eachsing to 18mm thick granite stone slab, counters,vanities and wherever required.including polishing to edge to give high gloss finish etc . complete as per design approved by BHEL engineer.	RM	4		



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45	<p>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. 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, moEachrails, stays, safety chains, ladders, ms grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, moEachrails, 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,storage racks, etc including 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), connection design & preparation of fabrication drgs, collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds Eacht payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20o c for welding over 20 mm and upto 40 mm & 66o c for welding over 40 mm and upto 63 mm & 110o c for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per is:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures Eacht 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.</p>	MT	15.0		



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46	Two or more coats of synthetic enamel paint Asian/Berger/ICI/Nerolac or approved make made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to wooden and Steel surfaces complete.(For Measurement of steel works consisting of angle, channel, beams, flats etc., 18 sq. m of surface area will be taken as equivalent to 1 MT)	SQM	270			
47	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.					
47.1	Designing, providing and fixing galvanised MS sheet measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking span upto 1800mm	SQ M	460			
48	Supplying & installing power distribution board complete with: common board for all sheds. 1) Incoming MCB TPH 100 amps. - 1 Each. 2) Outgoing MCB TPH 32 amps. -3Eachs. 3) RCCB DP 25/20 amps. - 2Eachs. 4) outgoing MCB SP 6 amps - 6Eachs. all RCCBS, MCBS shall be MDS/INDO KOPP make. distribution boards shall be SIEMENS / MDS / INDO KOPP make with internal busbars, internal wiring, 2 nos. earthing terminals, earth connections, including glands, lugs.	Set	1			



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49	supplying & fixing wall mounting type lighting panels, each with : (1) Incoming MCB TPN -32 amps - 1Each. (2) RCCB DP 32 amps - 2Eachs (3) MCB SP 6amps - 30 Eachs.. all RCCBS, MCBS shall be MDS/INDO KOPP make. lighting panel shall be SIEMENS / MDS / INDO KOPP make with internal busbars, 2 nos. earthing terminals, earth connections, including glands, lugs & wiring from main DB	Set	1			
50	Providing and installing wiring using 2.5 sq.mm copper conductor through PVC conduit of required size with accessories and fixtures .wiring shall be concealed type for whrerver required as per instructed by BHEL engineer in PVC conduit of required size.the make of the wire shall be only from KEI / POLY CAB/HAVELLS/ FIEachLEX/L & T.	Per point	24			
51	Providing and installing wiring for using 4.0 sq.mm copper conductor through PVC conduit of required size with accessories and fixtures .wiring shall be concealed type for whrerver required as per instructed by bhel engineer in pvc conduit of required size. the make of the wire shall be only from KEI / POLY CAB/HAVELLS/ FIEachLEX/L & T..	Per point	2			
52	Providing and installing wiring for using 6.0 sq.mm copper conductor through PVC conduit of required size with accessories and fixtures .wiring shall be concealed type for whrerver required as per instructed by bhel engineer in PVC conduit of required size. the make of the wire shall be only fromKEI / POLY CAB/HAVELLS/ FIEachLEX/L & T..	Per point	2			
53	Providing and installing wiring for using 16.0 sq.mm copper conductor through pvc conduit of required size with accessories and fixtures .wiring shall be concealed type for whrerver required as per instructed by BHEL engineer in PVC conduit of required size. the make of the wire shall be only from KEI / POLY CAB/HAVELLS/ FIEachLEX/L & T..	Per point	2			



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54	Providing and installation of plug point of 5A socket (ANCHOR or equiv.) outlet including wiring termination.	Each	3			
55	Providing and installation of plug point of 15A socket (ANCHOR or equiv.) outlet including wiring termination. this includes tube light fittings.	Each	2			
56	Providing and fixing ordinary tubelight with frame 1x40 w with electronic choke of standard manufacturer like PHILLIPS/BAJAJ or equivalent as approved by bhel. this includes tube light fittings etc. complete.	Each.	24			
57	Providing and fixing exhaust fans 12" diameter with frame of standard manufacturer like cromptan greeves or equivalent as approved by BHEL.	NO.	3			
58	Providing and fixing ceiling fan 48" diameter of approved company such as Cromptan Greeves or any other standard manufacturer as directed by BHEL. this includes tube light fittings etc. complete.	Each	2			
59	Providing and fixing calling bells (with indicator light)	Each	1			
60	Providing earthing pits with 2 " dia , 2 m long GI pipes with flange & GI wires with charcoal, salt and as per the standard practice for electrical connection.rate shall be inclusive of all materials, labours, etc complete.	Each	1			
61	Supply of cables 3 -1/2 corex 35 sqmm aluminium armoured PVC insulated cable (three and half core) confirming to is 1554 (Part-I) the make of the cable shall be only from KEI / POLY CAB/HAVELLS/ FIEachLEX/L & T.	RM	150			



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62	Installation of cables 3 -1/2 corex 35 sqmm aluminium armoured PVC insulated cable confirming to is 1554 (Part -I) including laying of cable below ground , excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type luggs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc. cables are to be laid from main distribution board to 415 volt ac distribution board of store bldg, porta cabins, street light pillar distribution board and industrial power point	RM	150			
63	Supplying, installation & commissioning of sodium vapour lamp street light fitting 150 watt SSG-2315 IH of crompton or similar philips make, complete with one piece canopy, integral controlgear comprising of copper wound choke , ignitor , hpf capacitor, hpsv lamp and suitable for directly slipping over light mounting bracket made out of 40 mm od pipe and suitable for lamps, control gear box cabling & termination of items supplied (to be mounted on 9 mtr pole - item no. 2).	EachS.	15			



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64	Supply and erecting steel tubular swaged poles, 9 mtr long made of sheet steel having ultimate tensile strength 42 kg f/sq.mm confirming to bis :2713 (Part-II) complete with 300x300x6 mm thick m. s. base plate for welding at site and size as per configuration given in bis for 410 sp-28 (113 kg- pole weight) with 1.5 mtr. deep excavation, concreting in 1:4:8 ratio size 45 cms x 45 cms x 150 cms and pole plinth in 1:3:6 cement concreting having 300 mm height and 300 mm dia .including double earthing of pole with suitable arrangement, duly painted with two coats of red oxide paint and one coat of aluminium paint to be applied after erection; the length of pole below ground to be painted with two coats of black bituminous paint. the pole shall be complete with JB, fuse and minor fabrication as below : i) Drilling 20 mm dia hole at about 2.5 mtr from ground level for wire leads from junction box to light fixture . ii) Drilling 15mm dia holes at about 0.7 and at 2.5 mtr from ground level and welding 12 mm nuts for using a 12 mm G.I bolt for fastening earth conductors. iii) welding required holes for fixing pole cap of street light bracket. iv) welding diametrally 10 mm M.S. round 30 mm below pole top edge for clipping wire leads .	Each set	20		
65	Supply of cables 2 core x 10 sqmm aluminium armoured PVC insulated cable confirming to is 1554 (Part -I). the make of the cable shall be only from KEI / POLY CAB/HAVELLS/ FINOLEX/L & T.	M	300		
66	Installation of cables 2 core x 10 sqmm aluminium armoured pvc insulated cable confirming to is 1554 (Part -I) including laying of cable below ground , excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type luggs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc complete. cables are to be laid from 415 volt ac power feeder pillar board to lighting poles & pole to pole	M	300		



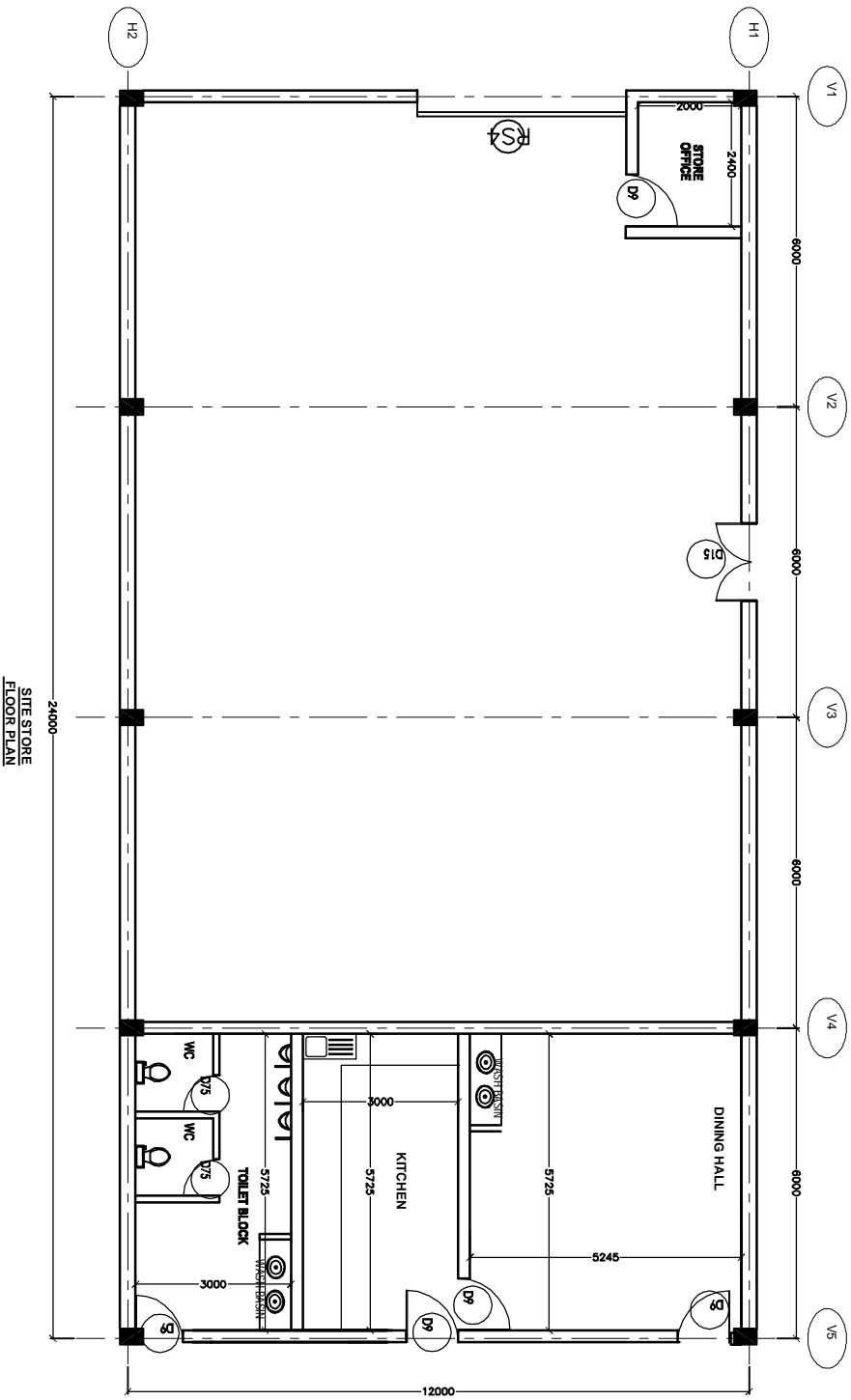
BHEL Hyderabad		RUPPL Dahej, 2xFr 6B GTG			Doc. No.:PESD-E&C/RUPPL-GTG/PRT/002	
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67	Supply of 415 volt ac , 3 phase /four wire power feeder pillar board , board shall be comprises of three number and one number aluminium bus bar for phase & neutral respectively. bus bar rating shall be 200 amps and shall be mounted on epoxy insulator of 1.1 KV grade, each bus bar shall have drilled hole for connecting incoming / out going cables, provision for earthing the panel enclosure. panel enclosure shall be made of sheet metal thichnness Not less than 1.6 mm and suitable for out door installation, hinged door with locking arragement , base frame , should have slopped canopy, duly painted with first coat with primer and two coats of synthetic enamel paint (interior with white paint and exterior with smoke grey as per is), suitable stool made out of ms structure of 1.2 meter high for mounting of panel with anchoring arragement at foundation .	Each	1			
68	Supply & installing 3 phase metering and power distribution board complete with : (1) Incoming SFU TPN 400 amps- 1Each, (2) Outgoing SFU TPN 200 amps -1Eachs. (3) Outgoing SFU TPN 100 amps -3Eachs. (4) Outgoing SFU TPN 32 amps -2Eachs. 3 phase electronic energy meter - BHEL /L & T / GEC make. ammeter, voltmeter and selector switches for both - AE and KAYCEE make. phase indication lamps, HRC fuses for I/C and O/G feeders, cable glands, power terminals for cables termination, cable lugs and provision for doubly earthing the panel enclosure. panel enclosure shall be made of sheet metal thichknness not less than 1.6 mm and suitable for out door installation, modular construction, hinged door with locking arrangement, base frame, should have slopped caEachpy, duly painted with first coat of primer and two coats of synthetic enamel paint (interior with white paint and exterior with light grey as per shade 5, is 630) internal power distribution to devices shall be with al busbars or copper flexible single core pvc cables of 1.1 kv grade, control wiring with 1.5 sqmm, suitable stool made out of ms structure of 1.2 meter high for mounting of panel with anchoring arragement at foundation, suitable for bottom entry of cables.	Each	1			



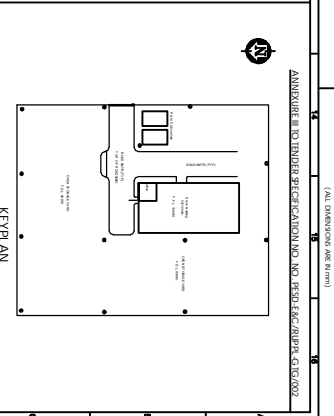
BHEL Hyderabad		RUPPL Dahej, 2xFr 6B GTG			Doc. No.:PESD-E&C/RUPPL-GTG/PRT/002	
PE&SD		Tender No.:BHEL/PE&SD/RUPPL-GTG/E&C/ 002			Rev 00	
69	Supply of cables 3 -1/2 corex 185 sqmm aluminium armoured PVC insulated cable (three and half core) confirming to is 1554 (Part -I) the make of the cable shall be only from KEI / POLY CAB/HAVELLS/ FINOLEX/L & T.	RM	200			
70	Installation of cables 3 -1/2 corex 185 sqmm aluminium armoured PVC insulated cable confirming to is 1554 (Part -I) including laying of cable below ground , excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type lugs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc. cables are to be laid from transformer sub station to 415 volt ac distribution board.	RM	200			
71	Supply and installation suitable electrical pump for minimum head of 10m (but Eacht less than 2 h.p.) of reputed manufacturer like SUGUNA/ CRI/ KIRLOSKAR/ SHAKTI/SHARP/ CROMPTON including all accessories, starter, D.B., etc. and to be connected to over head tank from water storage tank below G.L. guarrantly/warranty card to be submmitted to BHEL. suction, discharge GI pipes shall be paid seperatly under relevant items.	Each	1			
72	Industrial power receptacle 63A IPS 65, tpne socket with on/off interlock with MCB	Each	1			
Total in figures (in Rupees)						
Total in words (in Rupees)						

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GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HYD230281



SITE STORE FLOOR PLAN



KEY PLAN

- NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS.
 2. THE WALLS OF THE STORE BUILDING WILL BE 230 MM THICK.
 3. THE WALLS WILL BE MADE IN BRICK WORK IN 1:6 CEMENT MORTAR.
 4. THE ROOF WILL BE MADE OF G.I. SHEET RESTING OVER STEEL TRUSSES. BOTTOM OF TRUSS WILL BE 104.5M, WHERE 100.0M. CORRESPONDS TO FINISH FLOOR LEVEL.

FOR TENDER PURPOSE ONLY

TYPE OF PROJECT		DRAWING NUMBER		DATE	
RESIDENTIAL		18350-27198-1		00/01	
NAME OF CLIENT/OWNER		DRAWING NO.		REV.	
BHARAT HEAVY ELECTRICALS LTD.		18350-27198-1		00	
PROJECT NO.		SCALE		NO. OF SHEETS	
HYDROBAND		1:100		1	
ARCHITECT		DATE		NO. OF SHEETS	
S. K. GUPTA		10/01/12		1	
DESIGNER		DATE		NO. OF SHEETS	
S. K. GUPTA		10/01/12		1	
CHECKED		DATE		NO. OF SHEETS	
S. K. GUPTA		10/01/12		1	
APPROVED		DATE		NO. OF SHEETS	
S. K. GUPTA		10/01/12		1	

