



BHEL-ISG 	Coal/Ash Handling Plant Civil & Structural Works	KPCL 1x700 MW BELLARY THERMAL POWER STATION
	ADDENDUM IV	Specification No.: IS-1-10-2009

ADDENDUM IV

BHEL-ISG 	Coal/Ash Handling Plant Civil & Structural Works	KPCL 1x700 MW BELLARY THERMAL POWER STATION
	ADDENDUM IV, Contents	Specification No.: IS-1-10-2009

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Addendum IV, Section 1

The section wise details of structural steel indented by BHEL are as follows:

Section details	Qty (MT)
ISA 50X50X6	125
ISA 65X65X6	240
ISA 75X75X8	40
ISA 90X90X8	25
ISA 90X90X10	30
ISA 100X100X8	135
ISA 100X100X10	40
ISA 110X110X12	95
ISA 130X130X10	220
ISA 130X130X12	65
ISA 150X150X12	185
ISA 150X150X16	40
ISMC 100	240
ISMC 125	90
ISMC 150	265
ISMC 200	50
ISMC 250	20
ISMC 400	65
ISMB 250	145
ISMB 300	30
ISMB 450	20
PL 8 THK	40
PL 10 THK	330
PL 12 THK	160
PL 16 THK	160
PL 18 THK	325
PL 20 THK	175
PL 25 THK	45
PL 28 THK	80
PL 32 THK	60
PL 36 THK	75
PL 40 THK	60
PL 45 THK	365
CHQ PL 8 MM OP	320

NOTE:

This list should be read in place of the list given in "Pg 40, technical specifications, Package A, Volume 1, Section B".


Addendum IV, Section 2

The section wise details of reinforcement steel indented by BHEL are as follows:

Section details	Qty (MT)
8 mm	510
10 mm	330
12 mm	430
16 mm	201
20 mm	410
25 mm	240
28 mm	260
32 mm	350
36 mm	50

NOTE:

This list should be read in place of the list given in "Pg 39, technical specifications, Package A, Volume 1, Section B".

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	ADDENDUM IV, Section 3	Specification No.: IS-1-10-2009

The F.G.L. for the following areas may be adopted as given below:

1. FGL for power block area – RL (+) 476 M
2. FGL for cooling tower area – RL (+) 478 M
3. FGL for coal handling area – RL (+) 478 M

Note: These levels may be read in place of the levels mentioned in KPCL specifications, Volume V, Civil works, Section D 4.1, Cl. 11.0, Pg. 007, provided as a part of the tender document in Package A, Volume 2 Part 3/4.

ADDENDUM IV, SECTION 4

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION	UNIT	Qty	Rate	In Words
100	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION AND DRAWINGS				
101	Excavation in all types of soils, soft rock and weathered rock except hard rock which requires blasting either by manual using crow bars, pick axe, etc., or machineries including trimming of excavation bottom, removal of loose materials to receive concrete bed as per std specifications drawings and instructions of the engineer. The rate shall include disposal of excavated materials within an initial lead upto 2KM and initial lift upto 2M, stacking,levelling, grading, etc., complete.				
i)	In all types of soils, soft rock and wethered rock not requiring chiselling, chemical grouting and blasting.	CUM	35022		
ii)	In hard rock , by means of controlled blasting including provision of sensor to assess the impact of blast on the adjacent structures.	CUM	1050		
iii)	In hard rock (blasting Prohibited) by means of chiselling, wedging etc.	CUM	200		
102	Extra over item 101 above, for all types of soil/rock, for additional lifts beyond the initial lift of 2 meters (included in item 1 above) all complete as per specifications, drawings and instructions of the engineer for the following lift. Rate quoted shall be for the quantity specified for particular lift only		0		
i)	In all types of soils, soft rock and wethered rock		0		
a	beyond 2 m and upto 4 m	CUM	2090		
b	beyond 4 m and upto 7 m	CUM			
c	beyond 7 m and upto 10 m	CUM			
ii)	In hard rock				
a	beyond 2 m and upto 4 m	CUM			
b	beyond 4 m and upto 7 m	CUM			
c	beyond 7 m and upto 10 m	CUM			
104	Extra over item 101 above for Disposal/carriage of all types of excavated materials beyond the initial lead of 2KM as per specifications, drawings and instructions of the engineer for the following leads				
i)	Carriage beyond a lead 2KM (Rate for every ONE KM)	CUM	24358		
105	Filling using selected excavated materials in trenches, plinths, sides of foundations and other underground structures, pipes, are levelling etc. in layers not exceeding 250 mm thickness including lead upto 2KM and all lifts and including loading from stock pile, carting, unloading, filling, watering and compacting/ramming each layer, all complete as per specifications, drawings and as directed by the engineer to achieve the following densities:		0		
i)	Ordinary manual compaction	CUM	0		
ii)	90% Standard Proctor density	CUM	8809		
106	Filling with good river sand including royalties and all other statutoryies and compacting to 85% relative density, etc., for all leads.	CUM	0		
107	Filling in trenches, plinths, area paving and other underground structures with stone (63 mm down graded), in layers including breaking of boulders to required sizes, filling the interstices with good river sand, watering and machanical compactoion for all leads and lifts, etc., complete as per instructions of engineer-in-charge.	CUM	0		
108	Filling in transformer pits etc. , with clean 40 mm nominal size stone aggregate including all labour, materials, royalties, equipments etc. complete as per instructions of engineer in charge.	CUM	108		
109	Bulldozing earth for grading of ground including removal of vegetation complete including disposal of debris upto 5 kms.	CUM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
116	Providing, stacking and laying 250mm thick boulder pitching (single stone) on the slopes of earth fill/cut with approved quality of rock fragments including necessary excavation (if any) compaction etc all complete as per specification, drawing and as directed by the engineer.	CUM	17036		
	ANTI TERMITE TREATMENT		0		
117	Providing anti termite treatment in column pits,wall trenches,foundations, under floors etc. as per specifications.	SQM	1443		
200	PROVIDING AND PLACING CONCRETE WORK INCLUDING COST OF LABOUR, MATERIALS AND EQUIPMENT FOR HANDLING, TRANSPORTATION, BATCHING, MIXING, PLACING, VIBRATING AND CURING INCLUDING COST OF PLASTICIZER CONFORMING TO SPECIFICATIONS FOR STRUCTURAL CONCRETE WHEREVER REQUIRED (EXCLUDING COST OF CENTERING, SHUTTERING AND REINFORCEMENT) COMPLETE AS PER DRAWING AND SPECIFICATIONS UNLESS SPECIFIED OTHERWISE FOR THE FOLLOWING:		0		
201	Concrete of grade 1:4:8 as filling course at any level below finished floor level, under and around foundations/floors, mass dumps etc with 40 mm nominal size graded aggregate.	CUM	0		
202	Concrete of grade M15 as levelling course , under and around foundations/floors etc with 40 mm nominal size graded aggregate.	CUM	6089		
203	Concrete of grade M20 in foundations, under floors, paving, plinth protection, pipe encasing etc. complete with 20 mm nominal size graded aggregate.	CUM	0		
203A	Concrete of grade M15 in foundations, under floors, paving, plinth protection, pipe encasing etc. complete with 20 mm nominal size graded aggregate.	CUM	0		
204	Concrete of grade M-25 in foundations, under floors, pipe encasement etc complete with 20 mm nominal size graded aggregate.	CUM	9524		
205	Concrete of grade M-25 in superstructure above finished floor level complete at all heights with 20 mm nominal size graded aggregate	CUM	0		
205A	Concrete of grade M-30 in Foundations & superstructure above finished floor level complete at all heights with 20 mm nominal size graded aggregate	CUM	0		
206	Concrete of grade M-25 in Machine foundations / Decks at all heights from finished floor level supported over vibration isolation system including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate.	CUM	0		
207	Concrete of grade M-30 in Machine foundations / Decks at all heights from finished floor level supported over vibration isolation system including addition of suitable plasticizer conforming to IS 9103-latest to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate.	CUM	0		
207 A	Extra over item no 206 & 207 above for conducting UPV testing as per IS: 13311 (Part-1). as directed by engineer in charge, including submission of test reports four copies.Rate to includes all labour charges,staging and other miscellaneous charges etc complete as per specification.If any defect found in UPV test, the same shall be grouted with epoxy pressure grout as directed by the Enginner incharge. ,	CUM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
207B	Extra over St. No. 206 & 207 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.	CUM	0		
208	Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof, underbed of flooring at any level or thickness complete.	CUM	48		
209	Concrete of grade M-25 in precast works like drain/trench covers, lintels, beams, roof slabs, etc. at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transporting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc. complete with graded aggregate (20/12.5/10 mm).	CUM	208		
212	Dismantling concrete work for all types of structures at all levels including disposal upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.		0		
i)	Plain cement concrete of all grades	CUM	70		
ii)	Reinforced cement concrete of all grades	CUM	70		
212a	Applying Curing Compound of Approved make & Quality to a fresh concrete surface as per standard specification.	SQM	0		
213	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement	CUDM	0		
214	Extra over and above St No.213 for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store, etc. all complete as per specification, drawings and instructions of engineer in charge.	SQM	0		
300	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATIONS FOR ALL STRUCTURES, AS PER SPECIFICATIONS AND INCLUDING ALL LABOUR MATERIAL, SCAFFOLDINGS AND CENTERING COMPLETE INCLUDING POCKETS ETC. FOR THE FOLLOWING:-		0		
301	Ordinary form work below finished ground floor level for foundations, footings, bases of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	26340		
302	Fairface form work below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc. for exposed concrete works.	SQM	0		
303	Ordinary form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	SQM	0		
304	Fairface form work above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	SQM	11659		
305	Fairface formwork for Machine foundations/Decks at all heights from finished floor level.	SQM	0		
305 A	Staging and destaging required for all spring mounted decks like MDBFP/TDBFB including all labour, staging materials as per std specifications and instructions of Engineer in charge site.	MT	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
305B	Ornamental/curved shuttering using fairface formwork	SQM	0		
306	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm contact surface area with concrete) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.		0		
i)	Upto 300 mm depth	Nos.	0		
ii)	From 301 mm upto 600 mm depth	Nos.	0		
iii)	From 601 mm upto 1000 mm depth	Nos.	0		
400	REINFORCEMENTS		0		
401	Straightening, cutting, bending, placing at any level, binding in position of high yield strength steel reinforcements in concrete including transportation of reinforcement steel from BHEL Stores within the plant boundary to site of work, loading, unloading , cost of binding wire, labour etc. complete all as per specifications & drawings.	MT	990		
402	Uncoiling of TMT bars including cost of all labour,tools,plants,machinery etc. deployed	MT	1000		
500	WATER PROOFING AS PER SPECIFICATIONS. (Contractor has to furnish a guarantee for material and workmanship for a minimum period of 20 years.)		0		
501	Providing and laying roof water treatment with high solid content liquid applied elastomeric water proofing membrane with separate wearing course as per ASTM C-898 . Thickness of membrane shall be min 1.5 mm. Treatment shall include application of polymerized mortar over roof achieving a smooth surface and a primer coat. Wearing course on the top of membrane shall consist of 40 mm thick PCC (1:2:4) cast in panels of maximum size 1.2 X 1.2 m and reinforced with 0.56 mm dia galvanised chicken wire mesh and sealing of joints using sealing compound complete as per specifications and as directed by engineer in charge.	SQM	2376		
502	Providing and laying chequered concrete tiles over water proofing of minimum size 200 X 200 and minimum thickness 20 mm conforming to IS 13801 including 15 mm thick cement mortar (1:4) bedding. (water proofing paid else where)	SQM	0		
503	Providing two coats of bituminous paint on concrete surfaces in contact with soil in water retaining structures, of grade 85/25 conforming to IS: 702 @ 1.7 kg/sqm for two coats..	SQM	0		
504	Providing and mixing approved plasticizre based water proofing compound in concrete or cement mortar for works wherever specified or directed as per specification/manufacturer's instructions, testing of samples for water proofing etc. complete.	LITRES	0		
600	SUPPLYING & INSTALLATION OF JOINT FILLER AND SEALING COMPOUND:		0		
601	Supplying & installation of bitumin impregnated fibre board confirming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin, labour, material, equipments etc all complete at all levels as per specification, drawings and instruction of engineer in charge:		0		
a	12mm thick joints.	SQM	0		
b	20mm thick joints.	SQM	0		
c	25mm thick joints.	SQM	0		
d	50mm thick joints.	SQM	0		
602	Supplying and filling in position hot applied bitumin sealing compund(Grade A) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing copmpound in gaps in joints at all levels including application of primer, labour, material, equipments etc. all complete as per specification/drawing, instruction of engineer in charge.	Kg	0		
700	M.S. EMBEDMENTS		0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
701	Supply, fabricating and fixing of embedments MS inserts, pipe sleeves, guide rails, angle pieces, foundation bolts, anchor bolts, rungs of various diameters, plates of dimensions as required including cost of all labour, materials and equipment, transportation, loading, unloading, handling, welding, bolting, cutting, drilling, scaffolding and setting as per specifications and drawings.	MT	29		
702	Fixing of embedments, MS inserts, pipe sleeves, rails, guide rails angle pieces, anchor bolts of various diameters, plates of dimensions as required including cost of all labour, materials and equipment for fixing in position, scaffolding and setting in position, transportation from BHEL stores within the plant boundary to work spot , loading, unloading etc. complete as per specifications and drawings. (Only embedments will be provided by BHEL at free of cost)	MT	0		
703	Providing, fabricating, transporting, erecting and installing at all elevations miscellaneous steel/PVC pipes, expansion fasteners in concrete/brickwall, for all kind of works, including the cost of labour, material and equipment, setting material in concrete, layout, scaffolding, handling at site, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete as per drawings and specifications and instructions of engineer.		0		
i	MS pipes of all diameters	KG	914		
ii	Expansion fasteners (galvanised) of HILTI make or equivalent of safe tension capacity as specified below:		0		
a	250 kg	Each	0		
b	500 kg	Each	0		
c	750 kg	Each	0		
704	Supply, fabrication, transportation, delivery at site, erection, installation and alignment of MS foundation bolt (Grade-A of IS:432 & IS:2062) assembly in concrete along with nuts, lock nuts (IS:1363, IS:1364 & IS:3138), anchor plates, stiffner plates, protective tape etc. including labour, materials, equipments, welding, cutting, grinding, threading, drilling, pipe sleeves etc. all complete as per specification, drawing and instruction of the engineer.	MT	0		
705	Providing all assistance for pre compressing, placing, locking and releasing of vibration isolation system over foundations at all elevations including transportation from BHEL stores , providing necessary staging, platforms, alignment all complete as per drawing and instructions of engineer in charge.	NOS.	0		
800	GROUTING AS PER SPECIFICATION FOR THE FOLLOWING:		0		
801	Providing & grouting cement slurry mix at any elevation/depth with pressure pump for water retaining concrete structures, including fixing nozzles, cost of approved cement, admixture, curing, etc all complete as per specification and as directed by the Engineer.	SQM	0		
802	Providing and grouting of pocket holes, pipe sleeves of any shape and size under base plates after erection of necessary structural steel work, machinery with mix 1:1:2 (one part Cement : 1part Sand : 2 parts of 6mm down graded stone chips) at any elevation including roughening surface, cleaning, ramming, curing etc complete (non-shrink hand grout using approved admixture) as per specification and as directed by the Engineer.	CUM	0		
803	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plates after erection of necessary structural steel work, machinery with mix 1:1 (1 part cement : 1part sand) at any elevation including roughening surface, cleaning, ramming, curing etc complete (non-shrink flowable grout as per specification using approved admixture) as per specification and as directed by the Engineer.	CUM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
804	Providing & grouting of pocket holes, pipe sleeves of any shape and size under base plate after erection and alignment if necessary, structural steel work, machinery at any elevations including roughening surface, cleaning, ramming, curing, etc with CobextraGP-2/CobextraGP-1/Pidigrout10/Pagel or equivalent all complete as per specifications. (Cost of all material and clearing the pocket by compressed air shall be in the scope of the contractor).	CUM	0		
900	DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTIONS ETC. COMPLETE AT ALL ELEVATION INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION AND DRAWINGS (all steel doors, windows and rolling shutters etc. shall be blast cleaned to near white metal surface (Sa 2 1/2), painted with two coat of red oxide zinc primer and finished with two coats of synthetic enamel paint confirming to IS2074)		0		
901	Providing, fitting and fixing solid core flush door shutter as per IS2202 part II, 35 mm thick homogeneous particle board (decorative veneer prelaminate on both sides) bonded with BWP type phenol formaldehyde synthetic resin, particle board core conforming to IS3087 type I, 35/12 mm thick teak wood beading all around including preparation of working drawings, butt hinges, tower bolt, sliding bolt handles, knobs, door stoppers (all fitting shall be anodised aluminium color dyed), screws etc complete as per drawing, specification and instructions of engineer in charge.	SQM	0		
901A	Providing and fixing 12 mm thick particle board , decorative veneer (prelaminated) on both sides, as panels in aluminium framed door shutter, fixed with necessary snap-on-beading (excluding the cost of aluminium works).	SQM	0		
902	Providing and fixing openable/fixed steel windows and ventilators with steel sections as per IS:1361 including wire mesh, painting with minimum 2 coats of synthetic enamel paint on primer complete.	SQM	443		
903	Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers side, top, bottom edges of shutter shall be of pressed steel channels of 1.2mm thk voids to be filled with mineral wool (48 kg/cum density) including all fittings like tower bolts, handles, stoppers, aldrops etc. and painting with minimum 2 coats of synthetic enamel paint on primer complete.	SQM	45		
904	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	SQM	0		
905	Providing and fixing anodised aluminium work for doors, windows, ventilators and partitions etc with extruded standard tubular and other sections including all fittings & fixtures and accessories, swing type or sliding type of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, screws or with fixing clips, including necessary fillinf of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-mettalic protection etc.	KG	1500		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION	UNIT		Rate	
			Qty	In Numbers	In Words
	including preparation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid separately).				
906	Providing and fixing of over head hydraulic door closers of approved make & quality as directed by Engineer.	Nos	0		
907	Providing and fixing floor mounted Hydraulic door closer of approved make & quality as directed by engineer	Nos	0		
908	Providing and fixing pressed steel frames fabricated from 1.6 mm thk gauge M.S sheet mortised, reinforced strikes, hold fasts, adjustable floor anchors, floor tiles/weather bars etc. complete as per specifications.	KG	0		
909	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 80x1.25mm M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3coats of approved enamel paint etc., all complete as per specification- Mechanically operated.	SQM	0		
911	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 80x1.25mm M.S laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3 coats of approved enamel paint etc., all complete as per specification- Electrically operated.	SQM	63		
912	Providing, fabricating and fixing in position window grills as per approved design pattern at all elevations and of all sizes including with or without openings for operating window handles with all labour, material. Handling, equipment complete etc as per specification, drawing and instructions of engineer in charge.		0		
i)	Made of anodised aluminium sections	Kg	0		
913	Providing, fitting and fixing of glazing including poly carbonate sheet of superior (selected) quality, first grade class, at various elevations, where required, cleaning after fixing, with all labour and material etc. complete as per specification, drawing and instructions of engineer in charge.		0		
i)	4 mm ground/frosted glass	SQM	0		
ii)	5.5 mm flat transparent sheet glass as per IS:2835	SQM	0		
iii)	5.5 mm clear float glass as per IS:2835	SQM	0		
iv)	6 mm wired glass as per IS: 5437	SQM	443		
v)	6 mm thick polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges.	SQM	0		
vi)	5.5 mm tinted glass	SQM	0		
vii)	Two nos. 6 mm thick clear toughened safety glass conforming to IS: 2553 hermetically sealed and seperated by 12 mm thick gap for thermal insulation.	SQM			
914	Providing, fitting and fixing heavy duty minimum six lever mortised lock of godrej or equivalent make with handles or knobs to single and double leaf door (wooden/steel/aluminium) with duplicate set of keys and masterkeyed locks, openable from one side by the key and from the other side by the handle etc. all complete as per drawing, specification and instruction of engineer in charge.	Each	27		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
915	Providing and fixing PVC doors of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	40		
1000	BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR ETC. COMPLETE, AS PER SPECIFICATIONS.		0		
1001	Providing brick work in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting. (Bricks shall be of class designation 50kg/Sq cm of nominal dimensions.)	CUM			
1002	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting. (Bricks shall be of class designation 50kg/Sq cm of nominal dimensions.)	CUM	627		
1004	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls , chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing H.B. wetting at every third layer, raking out joints, curing, scaffolding etc complete, excluding plastering and painting as per specification. (Bricks shall be of class designation 50kg/Sq cm of nominal dimensions.)	SQM	0		
1008	Breaking of existing brick work with plastering at all levels including plastering, removing the rubbish up to a distance of 2KM including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	80		
1009	Breaking of existing brick partition wall with plastering at all levels including plastering, cutting of reinforcement, removing the rubbish up to a distance of 2KM including transportation, loading, unloading etc. all complete as directed by the engineer.	SQM	35		
1010	Providing and encasing of structural steel member with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification.	CUM	0		
1012	Making openings in existing brick wall or partition wall at all heights including making good the broken edges/surface with cement mortar etc. complete.	CUM	0		
1013	Supply and placing in position mild steel wire fabric of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	0		
1014	Providing and filling brick bats in soak pits.	CUM	0		
1100	DAMP PROOF COURSE INCLUDING ALL MATERIALS LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS.		0		
1101	Damp Proof Course 50mm thk. 1:1.5:3 concrete (10mm down aggregate) with 2% of approved admixture of water proofing compound. Hot bitumen @ 1.7Kg./sqm shall be applied before & after the DPC as per specification.	SQM	261		
1200	CEMENT MORTAR PLASTER INCLUDING ALL MATERIALS SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION		0		
1201	Providing 12 mm thick plaster in cement mortar 1:6 on the even side of internal walls, finished to a smooth finish as per specification.	SQM	0		
1202	Providing 18 mm thick plaster in cement mortar 1:6 on the uneven side of internal walls, with a smooth finish as per specification.	SQM	2727		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
1204	Providing 20 mm thick plaster in two layers, under layer 14 mm thick in cement mortar 1:6 and top layer 6 mm thick in cement mortar 1:4 with approved water proofing compound on walls finished to a wooden float/smooth/rough finish as per specification.	SQM	1628		
1205	Providing 6mm thick plaster in cement mortar 1:4 on ceilings finished to a smooth finish as per specification.	SQM	1421		
1206	Providing and making decorative plaster over existing plastered surface of all types and design on walls, ceilings, arcs, columns with various thickness upto 20 mm including finishing all complete.	SQM	0		
1207	Providing Plaster of Paris 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.	SQM	0		
1208	Providing screed/grading plaster of average 20 mm thickness in ratio 1:6 nominal by volume including finishing smooth and even etc. all complete at all levels above or below grade level.	SQM	0		
1209	Providing and making decorative interior plaster of heritage finish over existing plastered surface of all types and design on walls, ceilings, arcs, columns including finishing all complete.	SQM	0		
1210	Forming groove of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battens, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	0		
1212	Providing and laying encasement to box type steel beams at all levels with lath plaster 20 mm nominal thickness with cement plaster (1:4) over galvanised hexagonal chicken wire of 0.9 mm wire diameter and 19 mm mesh size as per IS3150 including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of enginner in charge (rate shall include the cost of GI chicken wire mesh)	SQM	0		
1300	FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE		0		
1302	Providing and applying Two coats of water bound distemper of approved brand and manufacture to give an even shade including a priming coat on ceilings as per specifications.	SQM	1421		
1303	Providing and applying two oil bound distemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline including plaster of paris punning minimum 2 mm.	SQM	150		
1306	Providing and applying two coats of acid/alkali resistant chlorinated rubber paint of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	42		
1307	Providing and applying two coats of fire resistant transparent paint as per IS: 162 over french polish as per IS: 348 on all woodwork as per specifications.	SQM	0		
1308	Providing and applying Two coats of oil resistant paints epoxy based 150 micron over primer of approved grade and manufacture to give an even shade.	SQM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
1309	Providing and applying two coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline including plaster of paris punning minimum 2 mm.	SQM	1808		
1310	Providing and fixing terracota tiles of thickness 6 to 8mm over the wall as per approved and of approved size, colour and make as per specification and drawings.	SQM	0		
1311	Providing and applying resin bonded granular textured finish, for external applications shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	0		
1312	Providing and applying three coats of water proof cement paint of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc complete as per specification.	SQM	2547		
1400	FLOORING AND SKIRTING INCLUDING ALL MATERIALS, LABOUR, CURING, POLISHING, FINISHING, EXPANSION JOINTS, GROOVES, ETC. COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS AND DESCRIBED IN SPECIFICATIONS. (Under bed to be paid seperately under relevant item)		0		
1401	Providing and laying 50 mm thick granolithic flooring (cement concrete flooring in 1:1:2) with non metallic hardener pigmented topping of 12 mm thick in flooring complete as per specification.	SQM	1171		
1402	Providing and laying 25 mm thick granolithic flooring (cement concrete flooring in 1:1:2) with non metallic hardener pigmented topping of 10 mm thick in skirting and dado complete as per specification.	SQM	74		
1403	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum) of size 300X300X25 thick of approved shade as per IS 1237, laid in floors and landings , jointed with neat cement slurry with pigment to match the shade of the tiles including rubbing and polishing complete with laying as per IS 1443.	SQM	0		
1404	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum) of size 300X300X25 thick of approved shade as per IS 1237, laid in skirting and dado , jointed with neat cement slurry with pigment to match the shade of the tiles including rubbing and polishing complete with laying as per IS 1443.	SQM	0		
1405	Providing and laying interlocking M30 concrete blocks of thickness 60 mm as paving of approved colour and pattern and should be laid on the subbase and bedding as per specifications and recommendations of manufacturer.	SQM	0		
1406	Providing and laying removable false flooring with fire resistant particle board panels bonded by phenol formaldehyde of size 600x600x35mm with all panel edges finished to a tolerance of +/- 0.2 mm including 2 mm thick anti static PVC top and lipping, supporting arrangement as per specification, drawings and engineer in charge.	SQM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
1407	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4860 of minimum thickness 38 mm thick in flooring/Dado . The tiles shall be abrasion resistant and durable. The potassium silicate 6 mm thick mortar as per IS 4832 used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12 mm thick bitumastic as per IS 9510 and IS 412 complete as per specification.	SQM	25		
1408	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 25 mm thick in flooring/Dado . The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6 mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12 mm thick bitumastic complete as per IS 9510 and IS 412 and as per specification.	SQM	0		
1409	Providing & fixing chemical resistant (Acid & Alkali) bricks (75 mm thk) as per IS 4860 in the floor of neutralization pit. Surface on which lining has to be applied shall be prepared in accordance with IS 2395. Bitumen primer as per IS 158 followed by 18 mm thk Bituminastic followed by 6 mm thk potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar confirming to IS 4832, Part II. Seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End ceiling shall be done with bitumastic. A.R. bricks shall be laid with 6 mm wide and 20 mm deep pointing (epoxy/furane/CNSL) and acid curing shall be done complete as per specification.	SQM	50		
1410	Providing & fixing chemical resistant (Acid & Alkali) bricks (115 mm thk) as per IS 4860 in the walls of neutralization pit. Surface on which lining has to be applied shall be prepared in accordance with IS 2395. Bitumen primer as per IS 158 followed by 18 mm thk Bituminastic followed by 6 mm thk potassium silicate mortar bedding shall be provided before laying AR bricks. The joints between AR bricks shall be filled with resin type of mortar confirming to IS 4832, Part II. Seal coat of readymade epoxy paint shall be provided on joints to cover up any porosity that may be left in mortar. End ceiling shall be done with bitumastic. A.R. bricks shall be laid with 6 mm wide and 20 mm deep pointing (epoxy/furane/CNSL) and acid curing shall be done complete as per specification.	SQM	0		
1412	Providing and laying polished Kota stone 20 mm thk in flooring . The kota stone slabs/tiles laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete.	SQM	0		
1413	Providing polished Kota stone 20 mm thk in skirting projecting 6mm from adjacent plaster all complete .	SQM	0		
1414	Providing and laying polished Granite stone slab of approved color and texture 20 mm thk in flooring. The granite stone slabs laid over under bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. complete .	SQM	0		
1415	Providing and laying polished Granite stone slab 20 thk in skirting, facia and dado including pigments, curing, grinding, granite polishing etc. complete.	SQM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
1416	Providing and laying 7 mm thk heavy duty ceramic tiles of matt finish of size 300x300mm from reputed manufacturer in approved shade and colour, complete as per specification.	SQM	90		
1416 A	Providing and laying 7 mm thk heavy duty ceramic tiles of matt finish of size 600x600mm from reputed manufacturer in approved shade and colour, complete as per specification.	SQM	0		
1417	Providing and laying min 5 mm thk glazed tiles in dado as per IS: 777 from reputed manufacturer, complete as per specification.	SQM	0		
1420	Providing and laying granite stone slab of 20mm thickness single piece for wash basin slab, wall of black or approved colour with cutting and opening complete.	SQM	0		
1422	Providing and laying decorative colored Ceramic Tiles 5mm thick in dado of reputed manufacturer of approved finish shade and colour.	SQM	0		
1423	Providing and laying 50 mm thick granolithic flooring (cement concrete flooring in 1:1:2) without hardener complete as per specification.	SQM	0		
1425	Providing and laying of PVC floor tiles & skirting of minimum thickness 2 mm anti static flexible tiles as per IS 3462 and IS 5318 including preparation of surface to receive pvc floor tiles.	SQM	0		
1428	Providing and laying terrazzo tiles of size 250x250x20 mm of approved shade with marble chips of sizes upto 6 mm laid in floors, skirtings and landings, jointed with neat cement slurry with pigment to match the shade of tiles including rubbing and polishing complete.	SQM	0		
1429	Providing and laying 25 mm thick cast in situ terrazzo finish consisting of marble chips of size 1 mm to 12 mm nominal size laid in white/grey cement or mixture of both in proportion 1:1.5 (1 part cement, 1.5 parts chips) with marble powder 3:1 (3 parts cement, 1 part marble powder) in proportion mix dry in cement including pigments, rubbing, grinding, polishing etc in floors, skirtings, treads, risers and landings complete.	SQM	0		
1430	Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.		0		
i)	Glass strips 40 mm wide and minimum 6 mm thick.	RM	0		
ii)	Aluminium strips 40 mm wide and min 3 mm thick	RM	0		
iii)	Brass strips 20 mm wide and minimum 4 mm thick.	RM	0		
1500	PROVIDING AND ERECTING ROOFING/SIDE CLADDING INCLUDING LAPS, SCAFFOLDING HOOKS, WASHERS, CORNER PIECES, ETC. COST OF ALL MATERIAL, LABOUR, EQUIPMENT, CLEATS, SHEETING RUNNER, RAILS MILD STEEL WIND TIES (HORIZONTAL/VERTICAL) AND ANY OTHER STEEL WORKS ETC. COMPLETE FOR THE FOLLOWING:		0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
1501	<p>Providing and supplying permanent colour coated sandwiched insulated metal cladding system consisting of Troughed zinc-aluminium alloy coated (both sides) M.S. sheet having 0.6 mm minimum thickness (or high tensile steel sheet of 0.5 mm minimum thickness) shall be used on external face (outer face) of cladding system. Weight of coating shall not be less than 150 gm / sq.m . The outer side (exposed face) shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of Dry Film Thickness (DFT) 20microns (min) over primer. Inner side of external sheet shall be provided with suitable pre-coating of minimum 7 micron. Galvanised M.S. sheets of minimum 0.6 mm thickness shall be used as inner liner (internal face) of cladding system. The exposed face shall be permanently colour coated with silicon modified polyester paint of DFT 20 microns (min) over primer. Inner face of external sheet shall be provided with suitable pre-coating of minimum 7 microns. The rate of galvanisation shall not be less than 150 gm / sq.m. The permanent colour coated sheet shall meet the general requirements of IS:14246 and shall conform to class 3 for the durability. Inner sheet shall fixed directly to side runners and Z spacers made of at least 2 mm thick galvanised steel sheet of grade 375 as per IS:277. Inner sheet shall be fixed at the rate not more than 1.50 m centre to centre to hold the insulation and external sheeting. The insulation shall be of bonded mineral wool of minimum thickness 50 mm conforming to IS:8183, having a density of 32 kg / cu.m for glass wool & 48 kg / cu.m for rock wool.cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm.</p>	SQM	0		
1501a	<p>Providing and supplying permanent colour coated sandwiched insulated metal cladding system consisting of Troughed zinc-aluminium alloy coated (both sides) M.S. sheet having 0.6 mm minimum thickness (or high tensile steel sheet of 0.5 mm minimum thickness) shall be used on external face (outer face) of cladding system. Weight of coating shall not be less than 150 gm / sq.m . The outer side (exposed face) shall be permanently colour coated with Polyfluro Vinyl Coating (PVF2) of Dry Film Thickness (DFT) 20microns (min) over primer. Inner side of external sheet shall be provided with suitable pre-coating of minimum 7 micron. Galvanised M.S. sheets of minimum 0.6 mm thickness shall be used as inner liner (internal face) of cladding system. The exposed face shall be permanently colour coated with silicon modified polyester paint of DFT 20 microns (min) over primer. Inner face of external sheet shall be provided with suitable pre-coating of minimum 7 microns. The rate of galvanisation shall not be less than 150 gm / sq.m. The permanent colour coated sheet shall meet the general requirements of IS:14246 and shall conform to class 3 for the durability. Inner sheet shall fixed directly to side runners and Z spacers made of at least 2 mm thick galvanised steel sheet of grade 375 as per IS:277. Inner sheet shall be fixed at the rate not more than 1.50 m centre to centre to hold the insulation and external sheeting. The insulation shall be of bonded mineral wool of minimum thickness 50 mm conforming to IS:8183, having a density of 32 kg / cu.m for glass wool & 48 kg / cu.m for rock wool.cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm.</p>	SQM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION	UNIT		Rate	
		UNIT	Qty	In Numbers	In Words
1502	Providing and supplying permanent colour coated non-insulated metal cladding system consisting of troughed zinc-zluminium alloy coated(not less than 150 gm/sqm) MS sheets having 0.6 mm minimum thickness.the exposed face should be permanently colour coated with PVF2 paint of minimum DFT 20 microns over primer and the inner side shall be coated with same paint of minimum DFT 10 microns over primer.the sheets shall meet the genel requirements of IS:14246 and shall conform to class 3 for durability.Cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm.	SQM	1290		
1503	Providing & Supplying, transporting to site, erecting and fixing in position permanently colour coated galvanised MS Troughed/ Plane deck sheet conforming to IS: 14246 and class 3 for durability, minimum trough depth of 38mm with minimum base metal thickness of 0.8 mm and permanently colour coated with silicon modified polyester painting(DFT at least 20 micron) over galvanised surface with minimum rate of galvanising of 180gm zinc per sqm,DFT of colour coating at least 20 micron, for supporting RCC floor at all heights and levels etc. as per the scope & specifications in the tender. Quoted rate shall include cost of all materials, bolts, nuts, labour, tools tackles, scaffolding, lead, lift, etc complete as per the direction of engineer in charge.	SQM	0		
1504	Providing and fixing roof of permanently colour coated galvanised M.S. troughed metal sheet of approved profile of minimum base metal thickness of 0.8 mm.The rate of zinc consumption for galvanising is 275 gm/sqm. The external face shall have permanent colour coating of PVF 2 paint of minimum DFT of 20 microns and inner surface shall be coated with silicon modified polyester paint with DFT of 20 microns.gm/sqm , cladding shall be fixed to supports/rails by concealed fixing system with corrosion resistant self tapping/self drilling type fasteners provided with suitable cap. Flashing shall have the same material and minimum overlap of 100 mm.	SQM	990		
1505	Providing and installing under deck insulation comprising of 50 thick resin bonded mineral wool insulation mat conforming to IS: 8183. This mat shall be backed with minimum 0.05 mm thick aluminium foil and 24Gx25 mm wire mesh netting. This shall be fixed to ceiling or wall as the case may be with 100x50x6 slotted mild steel plaie welded to MS plate inserts embedded at the soffit of the slab at 600 mm c/c and 14 G steel wire drawn through slots and fixed to wire nettingas per specification, drawing and instructions of engineer in charge.	SQM	150		
1600	PROVIDING AND FIXING FALSE CEILING INCLUDING SUPPLY OF CEILING MATERIAL, WORKING LAYOUT DRAWINGS AND DETAILS, SUSPENSION SYSTEM AND ALL OTHER MATERIALS REQUIRED FOR THE WORK INCLUDING MAKING RECESS FOR LIGHT FIXTURES, ALUMINIUM DIFUSERS, FIRE ALARMS ETC., POLISHING/PAINTINGS, LABOUR ETC., ALL COMPLETE AS PER SPECIFICATION		0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION	UNIT		Rate	
		UNIT	Qty	In Numbers	In Words
1601	Providing and fixing cement bonded particle board false ceiling system consisting of 600x600x12 mm board with one coat of primer and two coats of acrylic emulsion paint with suspension system consisting of 6 mm dia galvanised steel rods suspended from ceiling supporting aluminium grid of 38x25x1.5 mm and cross tie of 25x25x1.5mm and aluminium angle of 25x25x1.5 mm suspended from RCC slab/structural steel or catwalkway grid above with special height adjustment clips, including preparation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer.	SQM	0		
1601-a	with 12mm thick gypsum board and balance specification as per 1601	SQM	0		
1602	Providing and fixing Aluminium false ceiling system comprising of 84 mm wide and 12.5 mm deep closed type plain panels of approved colour, roll formed out of 0.5 mm thick corrosion resistant aluminium alloy AA5050 fixed on roll formed carriers, suspended from RCC slab/structural steel or catwalkway steel channel grid above with 4mm (minimum) galvanised wires (rods) with special height adjustment clips, including preparation of working drawings, providing openings for AC ducts, return air grills, light fixtures etc but excluding the cost of catwalkway all complete as per drawings, specifications and instructions of engineer	SQM	150		
	Providing and fixing false ceiling with 600 X 600 X 12.5 mm thick Gypsum board with one coat of primer and two or more coats of acrylic emulsion paint. The suspension system shall consist of 6mm dia galvanized steel rods suspended from ceiling supporting aluminum grid of 38 x 25 x 1.5 mm and cross tie of 25 x 25 x1.5 mm and aluminum angle of 25 x 25 x1.5 mm all complete as per specification, approved drgs and direction of Engineer-in-charge. Quoted rate shall include all cost of false ceiling materials including aluminum frame work, hangers, fasteners etc complete.	SQM	0		
1700	PROVIDING AND FIXING RAIN WATER DOWN TAKE PIPES INCLUDING 2 COATS OF APPROVED PAINT OVER A PRIMARY COAT, ALL SPECIALS AND ACCESSORIES ETC. COMPLETE AS PER SPECIFICATION.		0		
1701	GI down take pipes conforming to IS1239/IS3589 as per specification of following dia.		0		
i)	100 mm dia	RM	0		
ii)	150 mm dia	RM	0		
iii)	200 mm dia	RM	0		
1702	HDPE down take pipes conforming to IS4985 as per specification of following dia.		0		
i)	100 mm dia	RM	0		
ii)	150 mm dia	RM	488		
iii)	200 mm dia	RM	0		
1800	MISCELLANEOUS		0		
1801	Providing and fixing PVC water stops 225mm wide, 6 mm thick.	RM	309		
1802	Supplying and installation of 25mm thick vibration damping, resilient pads around foundation of vibrating equipment and other locations as directed by the Engineer-in-charge including cost of all materials labour equipment etc. complete as per drawing and specifications.	SQM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
1803A	Providing 75mm thick anticorrosive layer laid to slope consisting of compacted crushed stone screenings, fine gravel, clean sand or similar material as directed by the Engineer, mixed in hot asphalt 10% by volume and rolled or compacted complete as per drawings and specifications, below fuel oil tanks and at such other places as per specifications and as directed by the Engineer.	CUM	0		
1804	Providing and fixing G.I strips minimum 1.5mm thk and 150mm wide unless specified otherwise in water retaining structure. Galvanising as per relevant I.S. codes and as per specifications.	RM	0		
1805	Providing and fixing aluminium strips minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including aluminium screws, rawl plugs all complete as per specification.	RM	0		
1807	Transporting from BHEL store, laying and fixing transformer rails including guide rails in concrete including joining of rails. Anchoring lugs etc. complete as per specification.(Only Rails will be supplied by BHEL at free of cost)	MT	5		
1808	Laying of earthing mats/rods including transportation from BHEL stores, loading, unloading, cutting to length, welding etc. complete as per specification and as directed by Engineer-in-charge.(only Earth mat rod will be supplied by BHEL at free of cost)	MT	0		
1810	Providing and fixing GI rungs in concrete/brick walls at all elevations including @ zinc coating shall not be less than 900 g/sqm all complete.	KG	0		
1811	Design, supply, fabrication, erection of stoplog gates/Sluice gates in CW/RW and other Pump houses as per specification including SS liner as per drawing with embedments required, lifting beams, special tools & plants, spare parts for three years, machining, casting, all materials such as structural steel, cast steel, stainless steel, brass used for seals, rubber seals, gears, ball and roller bearing, branch bushings, greasing, bolts, nuts, lugs, threaded fastners etc., cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc 750 gms/sqm., following by an application of etching primer and dipping in black bitumen as per B.S. 3416, erection along with a second stage concreting to true plumb and levels, submission of drawings / fabrication drawings for engineers approval etc., all complete as per specifications and approved drawings. The leakage through rubber seal shall not be more than 5 lit/min/metre length of seal under maximum head.(only weight of structural steel including embedments shall be considered for payment purpose) (ERECTION OF STOP LOG/SLUICE GATES ONLY)	MT	0		
1812	Supplying, fabricating, erecting in position including MS liner as per drawing and testing / examining bolted and / or welded structural steel work at all levels for stationary screens made out of rolled sections and / or plates including cutting, straightening if required, edge preparation, bolting / welding of joints, cleaning, sand blasting, hot double dip galvanised with minimum coating of zinc as 750 gms./sqm. followed by application of an etching primer and dipping in black bitumen as per BS 3416, complete as per drawing and directed.	MT	0		
1814	Providing and fixing PVC pressure release valve of minimum dia 90mm in water retaining structure including 160 mm dia housing pipe of minimum length 2 m with perforation as per IS4558, nylon jali, perforated end plug, collar, graded filter, excavation, fixing in concrete slab/wall all complete as per specification, drawing and instruction of engineer in charge.	Nos	0		
1815	Providing and fixing ms vent pipes with cowls as per specifications, drawings and instructions of engineer in charge	KGS	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION	UNIT		Rate	
			Qty	In Numbers	In Words
1816	Providing and fixing HDPE pipes in cable duct banks, openings in RCC work at all elevations of following sizes including cutting, fixing and levelling in position as per drawings, specifications all complete.		0		
	i) 100 mm dia	RM	0		
	ii) 150 mm dia	RM	0		
	iii) 200 mm dia	RM	0		
2000	FENCING AND GATES.		0		
2001	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75 mm and galvanised concertina. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing confirming to IS 298 at top of chain link fencing shall be provided with 4 stands of height of 600 mm including all accesories as per specification all complete.	SQM	225		
2002	Supplying and fixing G.I. barbed wire in fencing including G.I clips etc. complete as per specification	KG	300		
2003	Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes & sheets including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, ball bearing arrangements, castor wheels,etc. all complete as per drawing, specification and as directed by Engineer-in-charge with 600mm high GI barbed wire fencing at top all complete.	MT	6		
2100	WATER SUPPLY		0		
2101	Providing and fixing in position tested heavy duty type chromium plated brass long neck bib cocks including sockets, union, nut etc. complete 15mm nominal bore.	NO.	0		
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc. complete as directed by Engineer 15mm nominal bore.	NO.	0		
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 25mm nominal bore.	NO.	0		
2104	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 50mm nominal bore.	NO.	0		
2105	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc. complete (internal work) 15 mm nominal bore.	RM	0		
2106	Providing and fixing GI pipes complete with GI fittings a clamps including cutting and making good the walls etc. complete (internal work) 20 mm nominal bore.	RM	0		
2107	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc.complete (internal work) 25 mm nominal bore (N.B).	RM	0		
2108	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 15mm nominal bore (N.B).	RM	0		
2109	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 20mm nominal bore (N.B).	RM	0		
2110	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 25mm nominal bore (N.B).	RM	0		
2111	Providing and fixing GI pipes complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 50mm nominal bore (N.B).	RM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION			Rate	
		UNIT	Qty	In Numbers	In Words
2112	Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets etc. complete with CP screws as per specification.	NO.	0		
2113	Providing and fixing 610mmx127mmx6mm thk clear glass with C.P Guard rails and mounted on C.P. brackets etc. complete as per specification.	NO.	0		
2114	Providing and fixing 600x20mm dia stainless steel pipe wall mounted towel rod with stainless steel brackets etc. all complete as per specification.	NO.	0		
2116	Providing and fixing stainless steel liquid soap dispenser . Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on stainless steel brackets etc. complete as per specification.	NO.	0		
2117	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. complete as per specification	NO.	0		
2118	Providing and fixing chromium plated brass shower rose with 15 or 20 mm inlet all complete.	No.	0		
2119	Providing & fixing P.V.C. water tank (Syntex or equivalent) in position of 2000 litres capacity. The work to including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc. all complete as per specification at all heights and levels	NO.	0		
2200	SANITARY WORKS		0		
2201	Supply and fixing vitreous china wash basin size 600x450 with R.S. or C.I. brackets painted white, 15mm chromium plated pillar tap, chromium plated brass chain with rubber plug and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required etc. complete as per specifications	NO.	12		
2202	Providing and fixing approved vitreous china acid/alkali resistant laboratory sink of size 600x450x200mm with R.S. or C.I. brackets, chromium plated brass chain with rubber plug 40mm, CP brass waste with necessary union complete including painting the fittings, cutting and making good the wall where required as per specification.	NO.	0		
2202A	Providing and fixing approved stainless steel kitchen sink as per IS: 13983 of size 915x460x178 mm with C.I. brackets, stainless steel chain with rubber plug 40mm, CP brass waste trap with necessary union complete including painting the fittings, cutting and making good the wall where required as per specification.	NO.	0		
2203	Providing and fixing colour European type water closet with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC water flushing cistern with valveless fittings, necessary C.P connections etc. complete as per specification.	NO.	12		
2204	Providing and fixing glazed vitreous china pan (IWC) with foot rests and high level 12.5 litre PVC flushing cistern with valveless fittings, necessary C.P connections, foot rests shall be made of white glazed vitreous china with chequered surface all complete with C.I brackets etc. as per specification.	NO.	6		
2205	Providing and fixing wall type glazed vitreous china urinals with photovoltaic control flushing system as per IS:2556 (part6, sec1) all complete as per specifications.	NO.	12		
2206	Supply, laying and jointing 75mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead cocking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	0		

Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION	UNIT		Rate	
			Qty	In Numbers	In Words
2207	Supply, laying and jointing 100mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	0		
2208	Supply, laying and jointing 150mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, a coat of bitumenous paint, M.S holder bats/clamp lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	0		
2209	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 150mm dia, as per specifications.	RM	0		
2210	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 200mm dia, as per specifications.	RM	0		
2211	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 250mm dia, as per specifications.	RM	0		
2212	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 300mm dia , as per specifications.	RM	0		
2213	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 500mm dia , as per specifications.	RM	0		
2214	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 600mm dia , as per specifications.	RM	0		

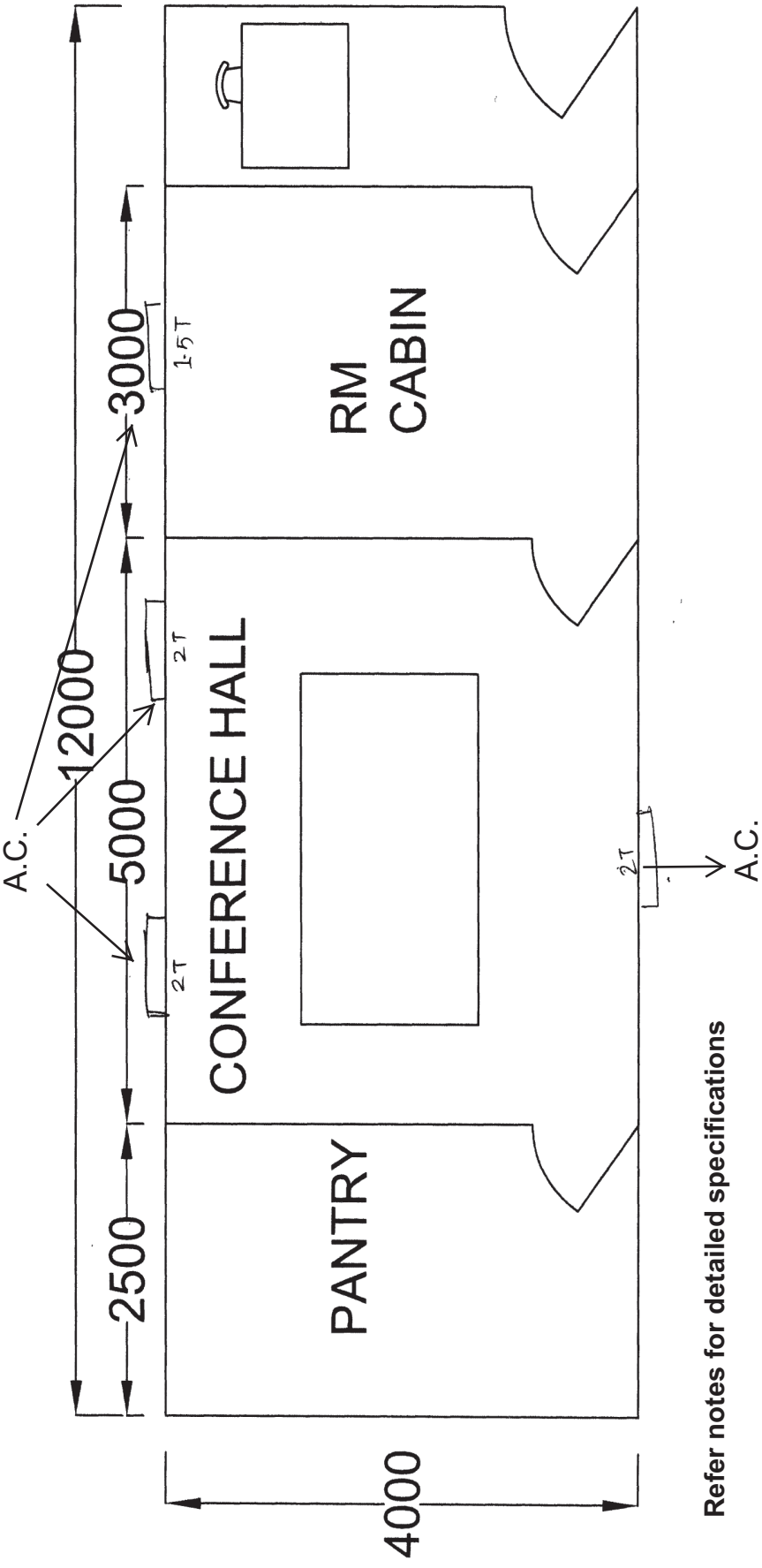
Price Format for Item-Rate part of CHP Package					
ST. NO	DESCRIPTION	UNIT		Rate	
			Qty	In Numbers	In Words
2215	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete 900mm dia , as per specifications.	RM	0		
2216	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:		0		
i)	150mm	RM	0		
ii)	250mm	RM	0		
iii)	300mm	RM	0		
iv)	400mm	RM	0		
v)	500mm	RM	0		
vi)	600mm	RM	0		
vii)	750mm	RM	0		
2218	Providing and fixing C.I Manhole cover of size 600mmx450mm including frame from reputed manufacture all complete as per specifications.	NO.	0		
2219	Providing and fixing circular heavy duty man hole cover of 600mm dia with frame all complete as per specification.	NO.	0		
2220	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 100x100mm P or S Type.	NO.	0		
2221	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 150x100mm P or S Type.	NO.	0		
2222	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 150x150mm P or S Type.	NO.	0		
2223	Providing and fixing C.I. floor traps with C.P jalli complete as per specification.	NO	0		
2224	Providing and installing approved brand single tap water cooler of 80 L cooling capacity complete in all respect.	NO.	0		
2225	Providing and installing approved brand single tap water cooler of 150 L cooling capacity complete in all respect.	NO.	0		
2226	Providing and fixing white vitreous urinal partitions all complete as per specification.	NO.	0		
2227	Providing and fixing eye and face fountain (combined unit with receptacle) conforming to IS:10592 all complete as per specification.	NO.	0		
2300	STRUCTURAL STEEL WORKS		0		
	Transporting from BHEL store, fabrication and erection of miscellaneous steel structural works at various elevations, including welding, gas cutting, painting (2 coats with 1 coat primer) etc complete as per drawing and specification. (Only structural steel will be provided by BHEL at free of cost)	MT	150		
TOTAL AMOUNT (inclusive of WCT but exclusive of Service Tax)					

[illegible]

1. The store shed shall be of RCC structure with brick in fill masonry.
2. 600 mm high RCC jali below roof at peripheral walls for ventilation purpose.
3. Rolling shutters 4m wide and 4.5m high with approach ramps to be provided.

ADDENDUM IV, SECTION 6

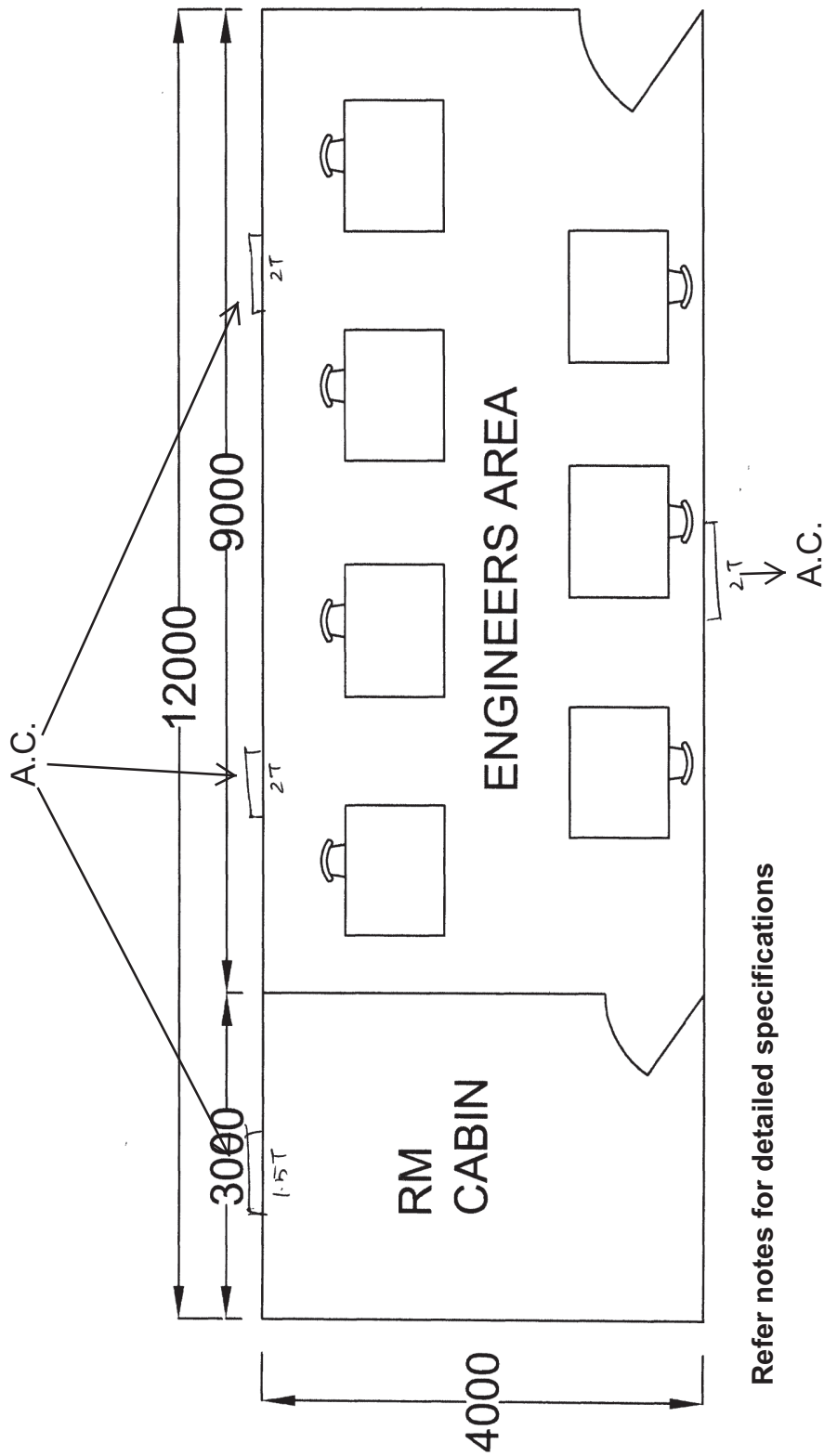
Refer dimensions only



Refer notes for detailed specifications

SITE OFFICE-I

Refer dimensions only



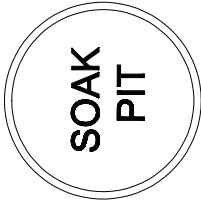
Refer notes for detailed specifications

SITE OFFICE-II

TOILET BLOCK FOR BHEL-ISG SITE OFFICE



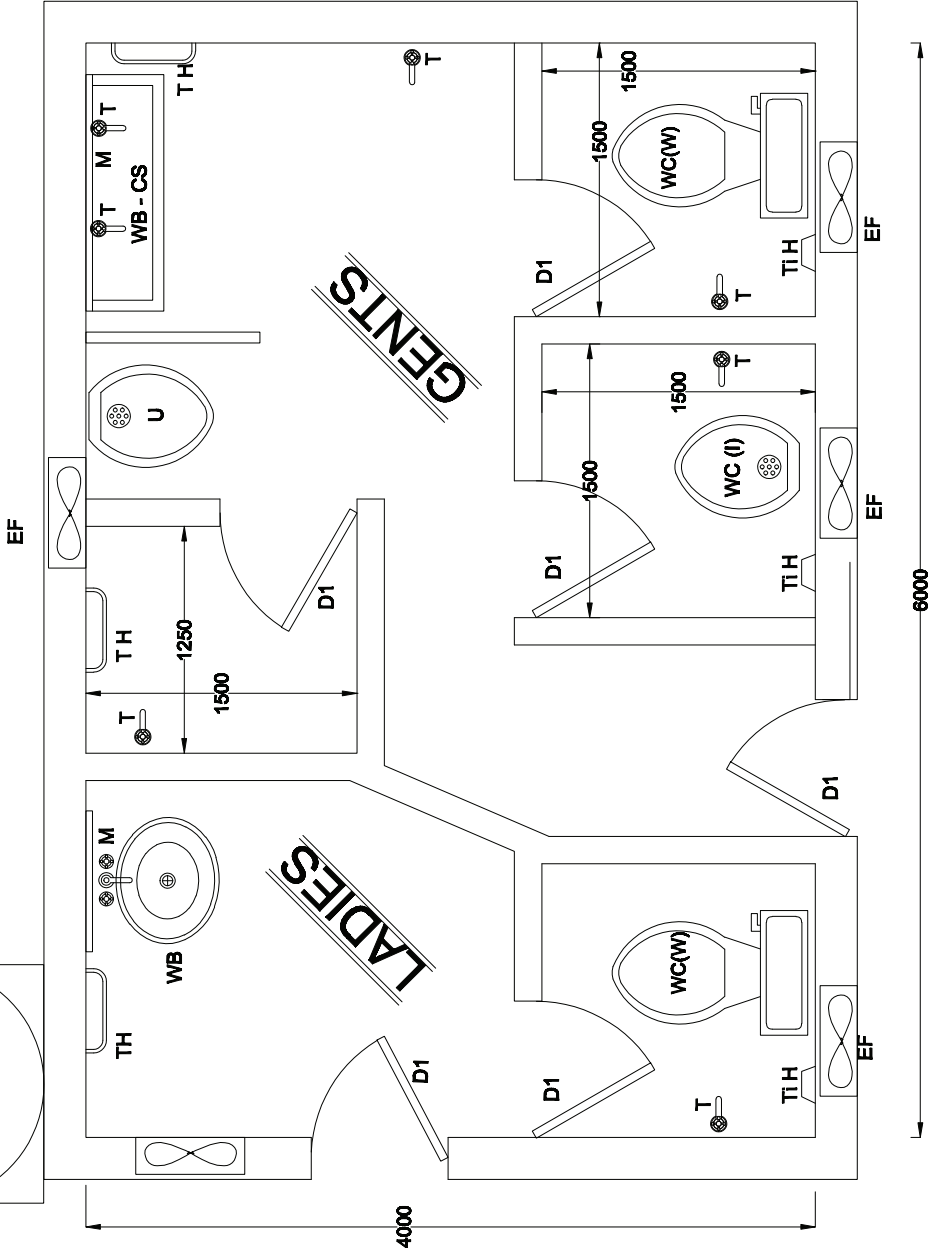
SINTEX TANK 1000 Ltr. Capacity



Label	Description	Qty
D1	Door 750 x 2100	6 no.
WB	Wash Basin	1 nos.
WB-CS	Wash Basin- Trough Type	1 nos.
WC (W)	Water Closet Western	2 no.
WC (I)	Water Closet Indian	1 no.
T	Tap	7 nos.
TH	Towel Holder	3 nos.
EF	Exhaust Fan	5 nos.
Ti H	Tissue Holder	3 nos.
U	Urinal	1 nos.
M	Mirror	2 nos.

NOTE:

- 1) ALL DIMENSIONS ARE IN mm U.O.S.
- 2) THE SUMP, SOAK PIT AND WATER TANK LOCATIONS SHALL BE DECIDED AT SITE BASED ON FEASIBILITY.
- 3) FFL OF TOILET AREA SHALL BE ATLEAST 600mm ABOVE EGL.
- 4) ALL CERAMIC FITTINGS SHALL BE OF APPROVED COLOUR.
- 5) ALL APPROVED ELECTRICAL FITTINGS SHALL BE USED AND EACH ROOM SHALL HAVE SEPARATE FITTING.
- 6) ALL DOOR OPENINGS SHALL HAVE 500MM CHAJJA.



U/G SUMP
1500x2000x
1250 DEEP

Notes:

1	<u>Main Structure & Wall</u> :The Structural walls shall be made out of 25mm thick Sintex Plastocrete, concrete filled. Polymeric section filled with high density cellular concrete. The fixture will joined together by tongue and groove method to ensure 100% leak proof.The Outer framing structure shall be fabricated with ISMC75x40x3mm MS "T" welded for securing plastocrete panel with the span of 1m centre to centre. The above columns will be grouted to the exiting PCC flooring by means of expansion fasteners. Outer Doors shall be of moulded FRP with necessary hinges, handle and pad locks. The aluminium windows with grills shall be of sliding type, covered with float glass of 4mm thick. The entrance will be provided with 2nos -portico should have a aesthetic look of size min 4m X 3m. The outer framing column will be covered with polymeric sleeve for protecting from weather and inner columns end will be covered similar polymeric sleeve matching with the interior complete
2	<u>Roof</u> :Roof truss should be made up of anti corrosive painted 40mm square tubular section designed to suit at roof structure with 0.47mm thick GI colour coated roof sheet fixed with fasteners including gutters, rain water sprouts etc all complete.
3	<u>False Ceiling</u> :Frame works made out of anti corrosive painted GI grid work with 250 x 6mm thick polymeric panels and these panels are joined together by tongue and groove using self tapping screws. Cutouts should be made where ever necessary for Fixing of electrical fittings.
4	<u>Partition</u> : Double side partition made up of anti corrosive painted 25 x 50mm MS and double side paneling with polymeric section of minimum 250x6 mm thick with an air gap of minimum 4 mm these panels are joined together by tongue and groove using self tapping screws
5	<u>Modular Furnishings</u> : Furniture to be provided by BHEL
6	<u>Electrical & works</u> : Electrical works required for modular office like computer & telephone points with required wiring etc all complete as per specification & approved drawing. A.C. as per drawing to be provided.
7	<u>Toilet</u> : Toilet block as per drawing to be provided