

**BILL OF QUANTITY CUM PRICE SCHEDULE**

Name of Project:

**765/400/220 KV PGCIL SUB-STATION (NEW) AT  
BHUI IN GUJRAT  
CIVIL WORKS FOR 400KV YARD AND CRB, FFPH  
& WT AND SPR**

Name of Work:

PART-A: 400KV YARD					
S. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
1	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and disposal of excavated earth upto 100m and lift upto 3.5m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil.	12400	cum	129.35	1603940.00
(b)	Ordinary rock	200	cum	197.75	39550.00
(c)	Hard rock (blasting required)	50	cum	347.80	17390.00
2	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains (not exceeding 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and dressing of sides and ramming of bottoms, lift upto 3.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil.	12400	cum	130.80	1621920.00
(b)	Ordinary rock	300	cum	212.00	63600.00
(c)	Hard rock (blasting required)	50	cum	378.80	18940.00
3	Filling available excavated earth (including rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 3.5m.	14250	cum	83.80	1194150.00
4	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 3.0 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth including consolidating each deposited layer by ramming,watering etc.and disposing of surplus excavated soil as directed within a lead of 100m.				
(a)	All kinds of soil				
4.1	Pipes, cables etc, not exceeding 80mm dia.	10	meter	101.40	1014.00
4.2	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	10	meter	165.60	1656.00
4.3	Pipes, cables etc. exceeding 300mm dia but not exceeding 600mm	10	meter	258.55	2585.50
5	Carriage & disposal of surplus excavated earth/rock beyond initial lead by mechanical means not necessarily all the times on pucca roads, including loading, unloading, dressing of excavated material, etc., complete as per specifications -				
(a)	Lead upto 1 km.	11250	cum	82.78	931275.00
(b)	Lead upto 2 km.	50	cum	93.94	4697.00
(c)	Lead upto 3 km.	10	cum	104.98	1049.80
(d)	Lead upto 5 km.	10	cum	125.92	1259.20
6	Supplying, filling and compacting CNS materials as per IS: 9451 at the site under floors, foundations, roads, cable trenches, drains, etc. including royalty, carriage etc. all complete, for all leads and lift with all labour, material, tools, tackles, equipments, safeguards & incidentals as necessary as per specification and direction - of - Engineer -in- charge.	6947	Cum	260.70	1811082.90
7	Supplying, filling and compacting stone boulders mixed with sand at the site under floors, foundations, roads, cable trenches, drains, etc. in layers not exceeding 250mm thickness including royalty, carriage etc. all complete, for all leads and lift with all labour, material, tools, tackles, equipments, safeguards & incidentals as necessary as per specification and direction - of - Engineer -in- charge.	1050	Cum	1340.00	1407000.00

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PART-A: 400KV YARD					
S. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	150	cum	4514.05	677107.50
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	10	cum	3888.20	38882.00
(c)	1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	2950	cum	3593.30	10600235.00
9	Providing and laying in position machine batched, machine mixed and machine vibrated design mix <b>M25</b> grade cement concrete for reinforced cement concrete work, using cement as per approved design mix, including plumbing of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS 9103 to accelerate, retrard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. ( <b>Note:-</b> cement content considered in this item is 330kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).				
(a)	All works upto plinth level	2450	cum	5242.15	12843267.50
(b)	All works above plinth level upto floor V level	300	cum	5781.50	1734450.00
10	Providing and laying reinforced CC road/ pavement of design mix M-25 grade with readymixed concrete from batching plant. The readymixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per customer's technical specifications and directions of Engineer-in-charge excluding the cost of panel shuttering and reinforcement steel but including the cost of admixtures in recommended proportions (as per IS 9103) to accelerate, retrard setting of concrete, improve workability without impairing strength and durability. (Note:- cement content considered in this item is 330kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).	1500	Cum	6067.10	9100650.00
11	Add for using extra cement in the items of design mix over and above the specified cement content therein.	128	MT	5077.87	649967.36
12	Providing & fixing in position precast cement concrete trench covers or perforated covers wherever necessary at various elevations in all kinds of work including moulding, formwork, mixing, laying out, compacting and curing, storing, transportation, erection without damage, setting in position with cement and sand mortar, grouting etc all as per specs, drawings and directions of Engr-in-Charge but excluding the cost of reinforcement, inserts, edge angles, etc.				
	Grade of concrete shall be M25	75.0	Cum	6002.50	450187.50
13	Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work in the proportion recommended by the manufacturer.	250	per 50 kg cement	35.35	8837.50
14	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	4800	sqm	166.90	801120.00
(b)	RCC walls at all levels (any thickness).	4400	sqm	285.15	1254660.00
(c)	Suspended floors, roofs, landings, balconies, chajjas and access platforms at all levels.	50	sqm	311.20	15560.00
(d)	Lintels, beams, plinth beams and cantilevers.	50	sqm	262.25	13112.50
(e)	Columns, Pillars, Piers, Posts and Struts .	2900	sqm	365.60	1060240.00

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<b>PART-A: 400KV YARD</b>					
<b>S. No.</b>	<b>Description of Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Rate (Rs)</b>	<b>Amount (Rs)</b>
<b>15</b>	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL,TISCO, IISCO and RINL only)				
<b>(a)</b>	Excluding supply but including straightening, cutting, bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete. (Reinforcement steel shall be issued by BHEL free of cost. Unloading, storage and watch & ward is in the scope of the contractor).	413500	kg	9.34	3860658.65
<b>(b)</b>	Including supply, straightening, cutting, bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	15000	kg	62.25	933750.00
<b>16</b>	Brickwork with F.P.S.bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	7100	cum	3316.55	23547505.00
<b>17</b>	Brickwork with F.P.S.bricks of class designation 75 in superstructure above plinth level to floor V level in all shapes and sizes in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	2100	cum	3876.15	8139915.00
<b>18</b>	Structural steelwork welded in built up sections like edge protection angles, pipes, insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer all complete.	58000	kg	59.90	3474200.00
<b>19</b>	Steelwork welded in built up sections/framed work including providing, cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc., as required.				
<b>(a)</b>	In covering of floors/trenches of control room building with chequered plates, stringers, treads, landings, etc., of staircases involving use of chequered plates, wherever required, all complete.	100	kg	67.20	6720.00
<b>(b)</b>	In gratings, frames, ladders, stair railings (including pipes), rails, ISMB, ISMC and similar works.	20500	kg	77.90	1596950.00
<b>20</b>	Applying priming coat				
<b>(a)</b>	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	1500	sqm	20.70	31050.00
<b>(b)</b>	With water thinable cement primer of approved brand and manufacture on plastered wall/ concrete surfaces.	150	sqm	27.55	4132.50
<b>21</b>	Painting with approved required shade				
<b>a)</b>	Finishing walls with water proofing cement paint - new work ( 02 or more coats applied @3.84kg/10sqm)	150	Sqm	44.95	6742.50
<b>b)</b>	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade ( 02 or more coats on new work).	550	Sqm	53.85	29617.50
<b>c)</b>	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade ( 02 or more coats on new work).	150	Sqm	44.55	6682.50
<b>d)</b>	Painting of all steel works used for grating and supports in transformer/ reactor foundations with epoxy based zinc phosphate primer (two packs) confirming to IS: 13238- 1991 as per manufacturer's specifications including preparation of surface..	1000	Sqm	105.50	105500.00
<b>22</b>	Providing and laying Non Pressure NP-3 (Medium duty) R.C.C. hume pipe including collars/spigot jointed with stiff mixture of cement mortar of mix 1:2 (1 cement : 2 fine sand) including testing of joints etc all complete as per drawing and specification excluding the cost of concrete, shuttering, reinforcement, brickwork, plaster on brickwork and painting.				
<b>a)</b>	100mm dia	240	RM	554.42	133061.54
<b>b)</b>	250mm dia	30	RM	815.77	24473.08
<b>c)</b>	300mm dia	45	RM	881.44	39664.90
<b>d)</b>	450mm dia	45	RM	1569.62	70632.69
<b>e)</b>	600mm dia	12	RM	2047.02	24564.23

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<b>S. No.</b>	<b>Description of Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Rate (Rs)</b>	<b>Amount (Rs)</b>
<b>23</b>	Providing and fixing in position in culvert/road crossing/building PVC pipes conforming to IS : 12818 including jointing with seal all complete as per drawing and specification. 150mm diameter	100	RM	206.90	20690.00
<b>24</b>	Supplying and erection of dewatering pumps at desired location including all cable and pipe connections alongwith auto starter and necessary shed all complete as per customer's specification and instruction of engineer in charge.				
<b>(a)</b>	5 HP	2	Nos	35584.62	71169.23
<b>(b)</b>	0.5 HP	1	Nos	14411.77	14411.77
<b>25</b>	Supplying & fixing (all dia & length) foundation bolts in position with help of proper templates (template to be supplied by contractor) including nuts, washers and template all complete as per drawings & directions of Engr-in-Charge. Weight of the template shall not be measured for payment purpose.	35	Kg	86.55	3029.25
<b>26</b>	Extra over Item above for providing galvanised bolts (Mass of zinc coating = 610gms/sqm), nuts & washer.	35	kg	9.15	320.25
<b>27</b>	Fixing (all dia & length) foundation bolts in position with help of proper templates including nuts, washers and template (template to be supplied by contractor) all complete as per drawings & directions of Engr-in-Charge. Weight of the template shall not be measured for payment purpose.	28750	Kg	11.45	329187.50
<b>28</b>	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 32.5 cm depth,dressing to camber and consolidating with road roller including making good the undulations etc and re-rolling the sub grade and disposal of surplus earth lead upto 50 metres. Rate shall be inclusive of all activities.	21000	sqm	61.25	1286250.00
<b>29</b>	Extra for compaction of earthwork in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (Proctor density)	21000	sqm	7.75	162750.00
<b>30</b>	Suppling and stacking at site				
<b>(a)</b>	90 mm to 45 mm size stone aggregate	2400	cum	1010.75	2425800.00
<b>(b)</b>	63 mm to 45 mm size stone aggregate	1800	cum	1100.80	1981440.00
<b>(c)</b>	53 mm to 22.5 mm size stone aggregate	1800	cum	1190.80	2143440.00
<b>(d)</b>	Stone screening 13.2 mm nominal size (type A)	750	cum	1338.75	1004062.50
<b>(e)</b>	Stone screening 11.2 mm nominal size (type B)	300	cum	1425.85	427755.00
<b>(f)</b>	moorum	500	cum	624.45	312225.00
<b>31</b>	Laying, spreading and compacting stone aggregates of specified sizes to WBM specifications in uniform thickness, hand picking, rolling with 3-wheeled road / vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening/ binding materials to fill up interstices of coarse aggregate, watering and compacting to the required density etc., all complete. (Payment will be made for compacted layers only. Stone aggregates, screenings & moorum to be paid separately.).				
<b>(a)</b>	Subbase with stone aggregate 90mm to 45mm including stone screening 13.2mm size and moorum/blinding material.	1800	cum	330.15	594270.00
<b>(b)</b>	Base course with stone aggregate 63mm to 45mm including stone screening 13.2mm sizeand moorum/blinding material.	1800	cum	330.15	594270.00
<b>(c)</b>	Base course with stone aggregate 53mm to 22.4 mm including stone screening 11.2mm size and moorum/blinding material.	1800	cum	330.15	594270.00

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PART-A: 400KV YARD					
S. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
32	Providing and laying 75mm thick PCC 1:4:8 (1 cement : 4 coarse sand : 8) graded stone aggregate 40mm nominal size) <b>shoulder</b> over well compacted earth on both sides of the road including smooth finished top surface all complete as per drawing, customer's Technical Specifications and directions of Engineer-in-charge. (Rate shall be inclusive of all labours, materials, well compacted earth, T&P, etc.)	5800	Sqm	239.75	1390550.00
33	Providing and fixing in position 12mm thick bitumen impregnated fibre board conforming to IS: 1838, including the cost of primer, sealing compound in expansion joints.	2100	per cm depth per 100 m	430.30	903630.00
34	Providing and laying polythene sheet of 125 microns between the PCC and RCC slab in road/ pavement works all complete as per direction of Engineer-in-Charge)	19000	sqm	15.00	285000.00
35	Providing and fixing in position pre moulded joint filler in expansion joints	100	per cm depth per cm width per m length	2.40	240.00
36	Providing and laying in position bitumen hot sealing compound for expansion joints etc. Using grade A ceiling compound	100	per cm depth per cm width per m length	1.65	165.00
37	Providing and fixing at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1 : 3 (1 Cement : 3 coarse sand) including making joints with or without grooves ( thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete tec. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for calculation of qty. for payment).	50	Cum	5046.80	252340.00
38	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	514	Sqm	536.65	275838.10
39	Providing and placing in position suitable PVC water stops conforming to IS 12200 or equivalent for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete. Serrated with central bulb (230mm wide, 8-11mm thick)	140	RM	459.15	64281.00
40	12mm cement plaster on even side of the walls in the mix: 1:6 (1cement :6 fine sand)	200	sqm	112.50	22500.00
41	15mm cement plaster on rough side of the walls in the mix: 1:6 (1cement :6 fine sand)	3100	sqm	130.20	403620.00
42	12mm cement plaster on the wall/ concrete surface in the mix: 1:6 (1cement :6 coarse sand)	100	Sqm	121.05	12105.00
43	12mm cement plaster finished with a floating coat of neat cement in the mix: 1:4 (1cement :4 fine sand)	15800	Sqm	153.45	2424510.00

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<b>PART-A: 400KV YARD</b>					
<b>S. No.</b>	<b>Description of Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Rate (Rs)</b>	<b>Amount (Rs)</b>
44	Providing & fixing <b>galvanised chain link fencing</b> including all allied activities, all complete as per POWERGRID Technical Specifications Clause No. 9.0, Drawing (C/ENGG/CVL/SYD/FENCE/101) and directions of Engr-in-Charge. (The rate shall be inclusive of all the labour, materials, earthwork, brickwork, plaster, cement painting, CC, PCC & shuttering and erection all complete)	750	RM	3509.61	2632207.50
45	Providing & fixing <b>gate</b> made of medium duty MS pipes, ISMC, Plates, Cleat Angle, Gate Stopper, Drop Bolt, Roller, etc including all allied activities, all complete as per POWERGRID Technical Specifications Clause No. 9.0, Drawing (C/ENGG/CVL/SYD/GATE/002) and directions of Engr-in-Charge. (The rate shall be inclusive of all the labour, materials, earthwork, CC, PCC, shuttering, fabrication, welding, steel primer, painting and erection all complete.) (Only weight of structural steels used shall be measured for payment purpose).	1200	Kg	69.30	83157.69
46	Grouting of block outs, pockets, foundations, bolts holes and underside of base plates with cement, sand aggregate ( of size 6 mm and down) grout 1:1:2 with non-shrink additive and shall be of strength not less than M30 including placing, curing, cleaning, surface preparation, testing, etc. complete with labour, materials, equipment, handling, testing, etc. all complete as per specifications, drawings and instructions of the Engineer.	12	cum	15790.67	189488.08
47	Construction of Rain Water Harvesting as per Technical Specification and Drawings including all labour, material, tools, tackles, equipments, safeguards & incidentals as necessary as per specification and direction - of Engineer -in- charge.	1	Nos	218700.00	218700.00
48	Dismantling of RCC Foundations including necessary excavation, stacking of steel bars and disposal of unservicable material within the substation boundary as per direction of site-in-charge.	5	cum	1075.90	5379.50
49	Supplying and filling stone aggregate (40mm to 60mm size) over grating for transformer/reactor foundation as per specification.	14	cum	995.22	13933.08

**TOTAL FOR PART-A (Rs)**

**111148192**

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<b>PART- B: CONTROL ROOM BUILDING, FIRE FIGHTING PUMP HOUSE &amp; WATER TANKS, SWITCHYARD PANEL ROOMS</b>					
S. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
1	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and disposal of excavated earth upto 100m and lift upto 3.5m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil.	775	cum	129.35	100246.25
(b)	Ordinary rock	50	cum	197.75	9887.50
2	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains (not exceeding 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and dressing of sides and ramming of bottoms, lift upto 3.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil.	665	cum	130.80	86982.00
(b)	Ordinary rock	50	cum	212.00	10600.00
3	Filling available excavated earth (including rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 3.5m.	650	cum	83.80	54470.00
4	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 3.0 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth including consolidating each deposited layer by ramming, watering etc. and disposing of surplus excavated soil as directed within a lead of 100m.				
(a)	All kinds of soil				
4.1	Pipes, cables etc, not exceeding 80mm dia.	15	meter	101.40	1521.00
4.2	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	15	meter	165.60	2484.00
4.3	Pipes, cables etc. exceeding 300mm dia but not exceeding 600mm	15	meter	258.55	3878.25
5	Carriage & disposal of surplus excavated earth/rock beyond initial lead by mechanical means not necessarily all the times on pucca roads, including loading, unloading, dressing of excavated material, etc., complete as per specifications -.				
(a)	Lead upto 1 km.	800	cum	82.78	66224.00
(b)	Lead upto 2 km.	50	cum	93.94	4697.00
(c)	Lead upto 3 km.	30	cum	104.98	3149.40
(d)	Lead upto 5 km.	10	cum	125.92	1259.20
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	10	cum	4514.05	45140.50
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	20	cum	3888.20	77764.00
(c)	1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	130	cum	3593.30	467129.00

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7	Supplying, filling and compacting CNS materials as per IS: 9451 at the site under floors, foundations, roads, cable trenches, drains, etc. including royalty, carriage etc. all complete, for all leads and lift with all labour, material, tools, tackles, equipments, safeguards & incidentals as necessary as per specification and direction - of - Engineer -in- charge.	4632	Cum	260.70	1207562.40
8	Supplying, filling and compacting stone boulders mixed with sand at the site under floors, foundations, roads, cable trenches, drains, etc. in layers not exceeding 250mm thickness including royalty, carriage etc. all complete, for all leads and lift with all labour, material, tools, tackles, equipments, safeguards & incidentals as necessary as per specification and direction - of - Engineer -in- charge.	700	Cum	1340.00	938000.00
9	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete.	55	cum	749.30	41211.50
10	Supplying chemical emulsion in sealed containers including delivery as specified.				
	Chloropyriphos emulsifiable concentrate of 20%	200	litre	185.95	37190.00
11	Diluting & injecting chemical emulsion for PRE-CONSTRUCTIONAL ANTI-TERMITE treatment and creating a continuous chemical barrier under and all around the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall & floor, along the external perimeter of building, expansion joints, over the top surface of consolidated earth on which apron is to be laid, surroundings of pipes and conduits, etc complete as per specifications (Plinth area of the building at ground floor only shall be measured for payment).	800	sqm	88.25	70600.00
12	Providing and laying damp proof course 50mm thick cement concrete 1:1.5:3 (1 Cement:1.5 coarse sand : 3 graded stone aggregate 12.5 mm nominal size) .	80	sqm	254.70	20376.00
13	Applying a coat of residual petroleum bitumen of penetration 80/100 of approved quality using 1.7 kg per sqm on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	80	sqm	96.65	7732.00
14	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for RCC structural elements including roads excluding the cost of centering, shuttering, finishing and reinforcement including admixtures in recommended proportions (as per IS 9103) to accelerate, retrard setting of concrete, improve workability without impairing strength and durability. - <b>M25 grade</b> reinforced cement concrete by using minimum 330kg of cement per cum of concrete.				
(a)	All works upto plinth level	350	cum	5242.15	1834752.50
(b)	All works above plinth level upto floor V level	630	cum	5781.50	3642345.00
15	Add for using extra cement in the items of design mix over and above the specified cement content therein.	30.00	MT	5077.87	152336.10
16	Extra for providing and mixing water proofing material in Cement Concrete work in doses by weight of cement as per manufacturer's specification.	7055	1 kg per 50 kg of cement	35.35	249394.25
17	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	440	sqm	166.90	73436.00
(b)	RCC walls at all levels (any thickness).	1250	sqm	285.15	356437.50
(c)	Suspended floors, roofs, landings, balconies, chajjas and access platforms at all levels.	1265	sqm	311.20	393668.00

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(d)	Lintels, beams, plinth beams and cantilevers.	1375	sqm	262.25	360593.75
(e)	Columns, Pillars, Piers, Posts and Struts .	825	sqm	365.60	301620.00
18	Extra for additional height in centring, shuttering wherever required with adequate bracing ,propping etc. including cost of deshuttering and decentring at all levels over a height of 3.5 meter for every additional height of 1 meter or part thereof (Plan area to be measured).				
	Suspended floors, roofs, landing, beams and balconies.	300	Sqm	121.65	36495.00
19	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL, TISCO, IISCO and RINL only)				
(a)	Excluding supply and straightening, cutting,bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	93000	kg	9.34	868298.08
(b)	Including supply and straightening, cutting,bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	5000	kg	62.25	311250.00
20	Brickwork with F.P.S.bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	20	cum	3316.55	66331.00
21	Brickwork with F.P.S.bricks of class designation 75 in superstructure above plinth level to floor V level in all shapes and sizes in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	350	cum	3876.15	1356652.50
22	Half brick masonry with bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	20	sqm	416.95	8339.00
23	Half brick masonry with bricks of class designation 75 in superstructure above plinth level to floor V level.				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	100	sqm	476.85	47685.00
24	Extra for providing and placing in position 2 Nos 8mm dia bars at every third course of half brick masonry (with FPS bricks)	120	sqm	63.30	7596.00
25	Structural steelwork welded in built up sections like edge protection angles, pipes, insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer all complete.	2850	kg	59.90	170715.00
26	Steelwork welded in built up sections/framed work including providing, cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc., as required.				
(a)	In covering of floors/trenches of control room building with chequered plates, stringers, treads, landings, etc., of staircases involving use of chequered plates, wherever required, all complete.	950	kg	67.20	63840.00
(b)	In gratings, frames, ladders, stair railings, gates (including pipes), rails, ISMB, ISMC and similar works.	550	kg	77.90	42845.00
27	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	3550	kg	66.50	236075.00
28	Providing and fixing circular / hexagonal cast iron or M.S. sheet box for ceiling fan clamp of internal dia 140 mm, 73 mm height, 3 mm thick rim, top and bottom lid of 1.5 mm M.S. sheet. Top surface of top lid hacked for proper bonding, top lid shall be screwed in to cast iron or M.S. box by means of 3.3 mm round headed screws, one lock at the corners. Clamps shall be made of 12 mm dia M.S. bar bend to shape as per standard drawing with overall length as 80 cm.	10	each	117.45	1174.50

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<b>PART- B: CONTROL ROOM BUILDING, FIRE FIGHTING PUMP HOUSE &amp; WATER TANKS, SWITCHYARD PANEL ROOMS</b>				
29	Supplying and fixing rolling shutters of approved make, made of required size MS 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 mechanical arrangement for operation complete including the cost of providing and fixing necessary 27.5cm long wire springs grade no. 2 and MS top cover of required thickness for rolling shutters. (In case, area of rolling shutters exceeds 10 sqm, mechanical device chain and crank operation for operating shutters shall be provided and its cost shall be deemed to be included in the quoted price).			
	80 X 1.25mm MS laths with 1.25mm thick top cover.	25	sqm	1840.85 46021.25
30	Providing and fixing ball bearing for rolling shutters.	6	each	429.85 2579.10
31	Extra for providing mechanical device chain and crank operation for operating shutters.			
	Exceeding 10.00 sqm and upto 16.80 sqm in area.	1	sqm	627.35 627.35
32	Providing and fixing pressed steel door frames manufactured from commercial mild steel sheet of 1.25mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50X25mm, or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with spit end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards, lock strike plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-Charge:			
	Profile C	15	RM	370.00 5550.00
33	Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (whenever required) and fitting with the same with necessary accessories and stainless steel nuts & bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts, etc., of required size, on the top of floor or side of the waist slab with suitable arrangement as per approval of Engineer-in-charge. (For payment purpose, only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners, etc.)	300	Kg	558.00 167400.00
34	Providing and fixing 2 mm thick M.S. sheet door with frame of 45x45x5 mm angle iron and 3 mm M.S. gussets plates at the junction and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.			
	Using M.S. Angle 45x45x5 mm for diagonal braces	6	sqm	2,551.45 15308.70
35	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including applying a priming coat of approved steel primer all complete.			
	Fixed to openings/ wooden frames with rawl plugs screws etc.	200	kg	98.20 19640.00
36	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side/top/centre hung, with beading and all members such as F7D, F4B, K11B and K12B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment).			
	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block block 15x10x10 cm of C.C.	200	kg	96.30 19260.00

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<b>PART- B: CONTROL ROOM BUILDING, FIRE FIGHTING PUMP HOUSE &amp; WATER TANKS, SWITCHYARD PANEL ROOMS</b>					
37	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	3	sqm	5192.31	15576.93
38	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.	10	sqm	8589.74	85897.40
39	Providing and fixing 1st quality ceramic glazed tiles conforming to IS:15622 (thickness to be specified by manufacture) of approved make in all colours (shades as approved by Engineer-in-Charge) in skirting, risers of steps and dados upto ceiling on wall over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand ) and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete.	400	sqm	724.25	289700.00
40	Providing and laying 1st quality ceramic glazed floor tiles 300X300 mm (thickness to be specified by manufacturer ) conforming to IS:15622 of approved make in colours as approved by Engineer in Charge laid on 20mm mm thick bed of cement mortar 1:4 ( 1 cement : 4 coarse sand) including pointing the joints with white cement mixed with pigment of matching shade complete.	20	sqm	764.55	15291.00
41	Providing and laying polished vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS: 15622 of approved make in all colours and shades laid over 20mm thick cement mortar 1:4 (1 Cement:4 coarse sand) including grouting the joints with white cement and matching pigments etc. complete as per direction of Engineer-in charge.				
	Size of tile 60 x 60 cm	400	sqm	1337.10	534840.00
42	Providing and fixing approved quality polished vitrified tiles (thickness to be specified by the manufacturer) of approved make and colours in skirting, risers of steps and dados over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand ) and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete.				
	Size of tile 60 x 60 cm	350	sqm	1339.20	468720.00
43	Providing and laying pressed clay tile (Mangalore tile), as per approved pattern, of 20mm nominal thickness of approved size on roofs jointed with cement mortar 1:4 (1 cement : 4 coarse sand) mixed with 2% integral water proofing compound, laid over a bed of 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand) and finished neat, all complete as per direction of Engineer-in-Charge.	300	sqm	431.90	129570.00
44	Providing and fixing in position in culvert/road crossing/building PVC pipes conforming to IS : 12818 including jointing with seal all complete as per drawing and specification.				
	150mm diameter	150	RM	206.9	31035.00

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<b>45</b>	12mm cement plaster on even side of the walls in the mix: 1:6 (1cement :6 fine sand)	1870	sqm	112.50	210375.00
<b>46</b>	15mm cement plaster on rough side of the walls in the mix: 1:6 (1cement :6 fine sand)	400	sqm	130.20	52080.00
<b>47</b>	6mm cement plaster to ceiling of mix 1:3 (1 cement : 3 fine sand)	1150	sqm	101.00	116150.00
<b>48</b>	Neat cement punning	605	sqm	31.10	18815.50
<b>49</b>	18mm cement plaster on external face of walls in two coats with under layer 12mm thick cement plaster 1:5 (1 cement :5 coarse sand ) finished with a top layer of 6mm thick 1:6 cement plaster (1cement : 6 fine sand)	1200	sqm	182.90	219480.00
<b>50</b>	Providing an fixing chiken wire mesh on wall, floor & ceiling surface all complete as per drawing/specification and direction of Engineer-in charge.	1500	sqm	51.75	77625.00
<b>51</b>	Applying priming coat				
<b>(a)</b>	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	250	sqm	20.70	5175.00
<b>(b)</b>	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface:	3150	sqm	27.55	86782.50
<b>52</b>	Painting with approved required shade				
<b>a)</b>	Finishing walls with water proofing cement paint - new work ( 02 or more coats applied @3.84kg/10sqm)	100	Sqm	44.95	4495.00
<b>b)</b>	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade ( 02 or more coats on new work).	270	sqm	53.85	14539.50
<b>c)</b>	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade ( 02 or more coats on new work).	50	sqm	44.55	2227.50
<b>53</b>	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade New work (two or more coats) over and including priming coat with cement primer.(Work to be carried as per relevant IS codes.)	2000	sqm	66.70	133400.00
<b>54</b>	Distempering with first quality acrylic washable distemper (ready mixed) of approved manufacturer and of required shade and colour complete as per manufacturer's specification New work (two or more coats)	250	sqm	37.35	9337.50
<b>55</b>	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufactuere, over the plaster wall surface to prepare the surface even and smooth complete.	2700.00	sqm	76.05	205335.00
<b>56</b>	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams per litre of approved brand and manufacturer, including applying additional coats whenever required to achieve even shade and colour. New work : (Two or more coat).	750	sqm	61.45	46087.50
<b>57</b>	Finishing walls with Premium Acrylic Smooth exterior flat paint with Silicone additives of required shade over an under caot of suitable primer on new cement plaster surface: New work : (Two or more coat).	1500	sqm	80.45	120675.00

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58	Making plinth protection of 50mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) laid over 75mm thick bed of dry brick balast 40mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth.	250.00	sqm	338.75	84687.50
59	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded builtup standard tubular and other sections of approved make conforming to IS: 733 and IS:1285, fixed with rawl plugs and screws or with fixing clips or with expansion hold fasteners including necessary filling up of gaps at junctions at top, bottom and sides with required PVC/neoprene felt, etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, aluminium snap beading for glazing/panelling, CP brass/stainless steel screws, all complete as per architectural drawings and direction of Engineer-in-charge. (Glazing and panelling to be paid for separately).				
(a)	For fixed portion				
	Powder coated aluminium (minimum thickness of powder coating 50 micron)	3000	kg	387.60	1162800.00
(b)	For shutters of doors, windows & ventilators including providing and fixing hinges/pivots and fittings wherever required including the cost of PVC/neoprene gasket required.				
	Powder coated aluminium (minimum thickness of powder coating 50 micron)	600	kg	436.35	261810.00
60	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions, etc., with PVC/neoprene gasket, etc., complete as per the architectural drawings and directions of Engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item).				
a)	With float glass panes of 5.5mm (minimum) thickness (weight not less than 13.75kg/sqm)	300	sqm	905.75	271725.00
b)	With 5.5mm (minimum) thick toughened glass with reflective film	250	sqm	1630.35	407587.50
c)	With 10mm thick laminated float glass conforming to IS: 2553 (Part-1)	35	sqm	1227.80	42973.00
61	Providing and fixing 12mm thick toughened glass (approx. size: 4.7m x 2.7m) with reflective film with help of aluminium frame at periphery but without intermediate members, with PVC/neoprene gasket, etc., complete as per the architectural drawings and directions of Engineer-in-charge. (Cost of aluminium, aluminium snap beading shall be paid in basic item).	30	sqm	4444.75	133342.50
62	Providing and fixing Aluminum grills of required pattern in frames of windows etc. with Aluminium flats, square or round bars etc. all complete. (Only weight of grills to be measured for payment).	250	kg	388.40	97100.00
63	Providing and fixing chromium plated brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles with necessary screws etc. complete (best make of approved quality).	35	each	646.50	22627.50
64	Providing and fixing aluminium sliding door bolts anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc., complete.				
	300 X 16mm	30	each	203.80	6114.00
65	Providing and fixing aluminium tower bolts anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete.				
a)	300 X 10mm	15	each	100.40	1506.00
b)	150 X 10mm	15	each	59.00	885.00

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<b>PART- B: CONTROL ROOM BUILDING, FIRE FIGHTING PUMP HOUSE &amp; WATER TANKS, SWITCHYARD PANEL ROOMS</b>				
<b>66</b>	Providing and fixing aluminium handles anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete.			
a)	125mm	15	each	62.50 937.50
b)	100mm	15	each	49.55 743.25
<b>67</b>	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS 6315 marked "hardwyn" make (Model 3000) or equivalent for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M. S. sheet outer box with slide plate etc. complete as per direction of Engineer-in-charge.			
	With Stainless steel cover plate	30	each	1953.10 58593.00
<b>68</b>	Providing and fixing double action hydraulic floor spring of DORMA BTS 80 for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M. S. sheet outer box with slide plate etc. complete as per direction of Engineer-in-charge.			
	With Stainless steel cover plate	2	each	1953.10 3906.20
<b>69</b>	Providing and fixing 20mm thick mirror polished, machine cut for column facia, kitchen platforms, vanity counters and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement: 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing etc. complete at all levels. (over 1sqm but upto 2sqm)			
	Granite black.	10	sqm	3083.40 30834.00
<b>70</b>	Providing and fixing ISI marked flush door shutters decorative type, core of block board construction with frame of 1st class hard wood and well matched reak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.			
	35 mm thick including ISI marked Stainless Steel butt hinges with nessary screws.	5	sqm	2159.05 10795.25
<b>71</b>	Providing and fixing IS:3564 marked aluminium die cast body tubular type universal door closer of approved quality and make with accessories and screws complete.	5	each	662.80 3314.00
<b>72</b>	Cement concrete flooring 1:2:4 (1cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps, etc., complete.			
	50mm thick with 12.5mm nominal size stone aggregate.	50	sqm	280.05 14002.50
<b>73</b>	52 mm thick CC flooring with "Hardcrete" concrete hardner topping under layer 40 mm thick CC 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) and top layer 12 mm thick Hardcrete cement hardner consisting of mix 1:2 (1 cement hardner mix: 2 stone aggregate 6mm nominal size) by volume with which Hardcrete hardening compound of approved quality is mixed @ 2 liter Hardcrete hardener per 50 Kg of cement including cement slurry or as per manufacturer's specifications. This includes the cost of cement slurry, but excluding the cost of nosing of steps etc., complete.	100	sqm	420.50 42050.00

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74	62 mm thick CC flooring with "Hardcrete" concrete hardner topping under layer 50 mm thick CC 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) and top layer 12 mm thick Hardcrete cement hardner consisting of mix 1:2 (1 cement hardner mix: 2 stone aggregate 6mm nominal size) by volume with which Hardcrete hardening compound of approved quality is mixed @ 2 liter Hardcrete hardener per 50 Kg of cement including cement slurry or as per manufacturer's specifications. This includes the cost of cement slurry, but excluding the cost of nosing of steps etc., complete.	200	sqm	464.80	92960.00
75	Providing and fixing glass strips in joints of terrazo/ cement concrete floors 40 mm wide and 4 mm thick	525	meter	29.40	15435.00
76	Cement plaster skirting (upto 30cm height) with cement mortar 1:3 (1cement: 3 coarse sand) mixed with hardcrete (metallic) concrete hardener finished with a floating coat of neat cement. Hardcrete hardening compound of approved quality is mixed @ 2 liter Hardcrete hardener per 50 Kg of cement including cement slurry or as per manufacturer's specifications. 18mm thick	40	sqm	258.20	10328.00
77	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade. Two or more coats on new work.	200	sqm	39.30	7860.00
78	Painting with acid proof paint of approved brand and manufacture of required colour to give an even shade. Two or more coats on new work.	70	sqm	33.15	2320.50
79	Providing and fixing water closet squatting pan (Indian type WC pan) with 100mm sand cast Iron P or S trap ,10 liter low level white PVC flushing cistern with manually controlled device (handle lever) conforming to IS 7231 with all fittings and fixtures complete including cutting and making good the walls and floors wherever required: White vitreous china orissa pattern WC pan of size 580 X 480mm with integral type foot rests.	3	each	2964.10	8892.30
80	Providing and fixing white vitreous china pedestal type water closet (European type W.C. Pan) with seat and lid, C.P. Brass hinges and rubber buffers, 10 litre low level flushing cistern with fittings & CI/MS brackets 40mm dia flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design compete including painting of fittings and brackets, cutting and making good the walls and floors wherever required: W.C. pan with black solid plastic seat and lid with white vitreous china flushing cistern and CP flush bend.	4	each	4220.80	16883.20
81	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430 x 260 x 350 mm and 340 x 410 x 265 mm sizes respectively with automatic flushing cistern with C.I./ M.S brackets standard flush pipe and C.P. brass spreaders with brass unions and G.I. clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required: One urinal basin with 5 litre P.V.C automatic flushing cistern of approved make. With Built in Sensors	2	each	2844.40	5688.80

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<b>82</b>	Providing and fixing wash basin of approved colour and size with CI bracket , 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings etc. cutting and making good the walls wherever required:				
a)	Vitreous China wash basin size 630 x 450mm with a pair of 15mm C. P. brass pillars taps <b>(With built in sensors)</b>	2	each	1848.35	3696.70
b)	Vitreous China wash basin size 550 x 400mm with a pair of 15mm C. P. brass pillars taps <b>(With built in sensors)</b>	2	each	1679.95	3359.90
<b>83</b>	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	10	each	24.60	246.00
<b>84</b>	Providing and fixing 600 x 450 x 6 mm bevelled edge mirror of float glass (of approved quality ) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. Brass screws and washers complete.	1	each	674.05	674.05
<b>85</b>	Providing and fixing 1000 x 600 x 6 mm bevelled edge mirror of float glass (of approved quality ) complete mounted on 12mm thick water proof plywood backing and hardwood beading all-round and mirror fixed to backing with 4 nos of CP cap screws & washers, including fixing the mirror to the wall with necessary screws & washers etc.	3	each	674.05	2022.15
<b>86</b>	Providing and fixing 600 x 120 x5 mm glass shelf with edges rounded off supported on anodised aluminium angle frame with CP. Brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete.	2	each	341.25	682.50
<b>87</b>	Providing and placing on terrace (at all floor levels) polyethylene water storage tank of approved brand and manufacture with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank. The tank should be ISI marked.	3000	per litre capacity	6.10	18300.00
<b>88</b>	Providing and placing near control room but not near toilet block <b>water cooler</b> for drinking water of Blue Star Make (Model Number SDLX 480) or equivalent Make with suitable arrangement and making necessary inlet, outlet and overflow pipe connections including fittings, electrical connections and the base support, if required, for water cooler. Minimum Storage capacity 80 litre, minimum cooling capacity 40 litre / hour and with 02 nos faucet.	1	Each	35500.00	35500.00
<b>89</b>	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 ( 1 cement : 1 fine sand) including testiing of joints etc. complete.				
(a)	100 mm diameter.	50	RM	150.10	7505.00
(b)	150 mm diameter.	100	RM	219.05	21905.00
(c)	200 mm diameter.	20	RM	323.05	6461.00
(d)	250 mm diameter.	100	RM	446.15	44615.00
<b>90</b>	Providing precast cement concrete Jali 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 6 mm nominal size), reinforced with 1.6 mm dia mild steel wire, including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete, excluding plastering of jambs, sills and soffits.				
	50 mm thick	130	sqm	598.15	77759.50

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<b>PART- B: CONTROL ROOM BUILDING, FIRE FIGHTING PUMP HOUSE &amp; WATER TANKS, SWITCHYARD PANEL ROOMS</b>					
<b>91</b>	Providing and fixing on wall face unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion, (i) Single socketed pipes including all fittings like bends, bat clamps gratings etc.				
	110 mm diameter	100	meter	206.90	20690.00
<b>92</b>	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion Single socketed pipes.				
a)	110 mm bend 87.5 degree	12	each	156.95	1883.40
b)	110 shoe plain	12	each	287.05	3444.60
<b>93</b>	Providing and fixing on wall face unplasticised - PVC clips of approved design to unplasticised - Rigid PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with MS screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement: 4 coarse sand) and making good the wall etc complete.				
	110 mm	20	each	144.60	2892.00
<b>94</b>	Add or deduct plaster drip course /groove in plastered surface or moulding to RCC projections:	170	meter	22.25	3782.50
<b>95</b>	Providing & fixing 15mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture spintone/ cosmos/ Hexa or equivalent of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanising @ 120 grams per sqm. including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet, spaced 1200 mm centre to centre, and cross 'T' of size 24x28 mm made out of 0.33 mm (minimum) sheet, 1200 mm long spaced between main 'T' at 600 mm centre to centre to form a grid of 1200x600 mmand secondary cross 'T' of length 600 mm and of size of 24x28 mm made of 0.33 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grid of size 600x600 mm, resting on periphery walls/ partitions on a perimeter wall angle pre-coated steel of size (24x24x300 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450 mm centre to centre with 25 mm long drywall screws @230 mm interval and laying 15 mm thick densified edges calcium silicate ceiling tiles of approved texture (Spintone/ Cosmos/ Hexa) in the grid, including, cutting/ making openings for services like diffusers, grills, light fittings, fixtures, smoke detectors, etc., whenever required. Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85x30x0.8 mm, spaced at 1200 mm centre to centre along main 'T', bottom exposed with 24 mm of all T-sections shall be pre-painted with polyster baked paint, for all heights, as per specifications, drawings and as directed by engineer-in-charge. Qouted rate shall include the cost of all labours, materials & accessories.				
	Note: Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made from exposed frames/ opening (cutouts) having area less than 0.30 sqm. The calcium silicate ceiling tile shall have NRC value of 0.50 (minimum), light reflection > 85%, non-comustible as per B.S. 476 Part IV, 100% humidity resistance and also having thermal conductivity < 0.043 w/m 0 KC.	650	sqm	1566.00	1017900.00

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96	Providing and fixing thermal insulation of ceiling (under deck insulation) with Resin Bonded Fibre glass wool conforming to IS : 8193 (Twiga Insul 1500/50mm or equivalent) density 24 kg/m <sup>3</sup> , 50 mm thick, wrapped in 200 G Virgin polythene bags fixed to Ceiling with metallic cleats ( 50x50x3 mm) @ 60cm and wire mesh of 12.5 mm x 24g wire and mesh, for top most ceiling of building .	375	sqm	431.70	161887.50
97	Providing and placing in position suitable PVC water stops conforming to IS 12200 or equivalent for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete. Serrated with central bulb(225mm wide,8-11mm thick)	350	meter	459.15	160702.50
98	Providing and laying integral cement based water proofing treatment including preparation of surface (vertical & horizontal) as required for treatment of roofs, balconies, terraces and depressed portion of WC, Kitchen, etc consisting of following operations:-				
(i)	Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS: 2645 in recommended proportions and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment including rounding off junction of vertical and horizontal surface.				
(ii)	Laying plain cement concrete 1:5:10 (1 cement: 5 fine sand: 10 burnt brick aggregate of 40mm nominal size) admixed with water proofing compound conforming to IS: 2645 in recommended proportions and approved by Engineer-in-charge over 20mm thick layer of cement mortar of min 1:5 (1 cement: 5 coarse sand) admixed with water proofing compound conforming to IS: 2645 in recommended proportions and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300mm height including rounding of junctions of walls and slabs.				
(iii)	After two days of proper curing, applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS: 2645 in recommended proportions and approved by Engineer-in-charge.				
(iv)	Finishing the surface with 20mm thick jointless cement mortar of mix 1:4 (1 cement: 4 coarse sand) admixed with water proofing compound conforming to IS: 2645 in recommended proportions and approved by Engineer-in-charge including laying of glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300 x 300 mm square 3 mm deep.				
(v)	The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and final test. All above operations to be done in order and as directed and specified by the Engineer-in-charge.				
	With average thickness of 120 mm and minimum thickness at khurra as 65mm (All complete as per Customer TS Cl. 11.0 - 20)	570	sqm	786.70	448419.00
99	Making khurras 45X45cm with average minimum thickness of 5cm cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate of 20mm nominal size) over PVC sheet 1mX1mX400micron, finished with 12mm cement plaster 1:3 (1 cement: 3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete.	12	Each	148.75	1785.00

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100	Wall lining butch work upto 10m height with DHOLPUR stone 40 mm thick rough facing on the exposed surface with stone strips of minimum length 300 mm and required width, including embedding every tenth layer and bottom most layer in masonry or concrete after making necessary chases of size 75x75 mm and by providing layer of 75 mm thick strips i/c 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand) i/c ruled pointing in cement mortar 1:2 (1 white cement: 2 stone dust) with an admixture of pigment to match the shade of stone complete as per direction of Engineer-in-charge.	70	sqm	1,192.45	83471.50
101	Providing and laying polished Granite stone 18-20mm thk in skirting and dado with 6mm thick projection from adjacent plaster including mortar ,cement slurry ,pigments, curing, grinding,moulding, granite polishing etc. all complete.	100	sqm	3,041.15	304115.00
102	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & postflushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	1	each	14,961.65	14961.65
103	Providing and fixing stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.				
	Granite Stone of approved shade	5	sqm	2,942.05	14710.25
104	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP. Brass screws with concealed fitting arrangement of approved quality and make.				
	600 mm long towel rail with total length of 645mm,width 78mm and effective height 88mm,weighing not less than 190gms.	5	each	415.20	2076.00
105	Providing and fixing PTMT liquid soap container 109mm wide,125mm high and 112mm distance from wall of standard shape with bracket of same materials with snap fittings of approved quality ,colour and make .weighing not less than 105 gm (Prayag or equivalent).	5	each	180.10	900.50
106	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10 x 10 cm of 1:2:4 mix (1 cement: 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including cost of cutting holes and making good the walls etc.				
	For 100mmdia pipe	20	each	112.50	2250.00
107	Providing lead caulked joints to SCl pipes and fittings of diameter 100mm	20	each	207.85	4157.00
108	Providing and fixing SCl trap of self cleansing design with SCl screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors:				
	100mm inlet and 100mm outlet.	10	each	801.70	8017.00

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<b>109</b>	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink with drain board as per IS: 13983 with C.I. brackets and stainless steel plug 40mm, including painting of fittings and brackets, cutting and making good the walls wherever required				
	510x1040 mm bowl depth 178 mm	1	each	4,130.15	4130.15
<b>110</b>	Providing and fixing toilet paper holder :				
	C.P Brass	5	each	250.95	1254.75
<b>111</b>	Providing and fixing G.I. Pipes (medium grade) complete with G.I.Fitting and clamps, including cutting and making good the walls etc. (internal work).				
a)	15mmdia nominal bore.	20.00	meter	161.60	3232.00
b)	20 mm dia nominal bore.	20.00	meter	188.05	3761.00
c)	25 mm dia nominal bore.	20.00	meter	243.15	4863.00
<b>112</b>	Providing and fixing G.I. Pipes (medium grade) complete with G.I. Fitting and clamps, including trenching and refilling, etc. (external work).				
a)	25 mm dia nominal bore.	25.00	meter	209.40	5235.00
b)	40 mm dia nominal bore.	25.00	meter	294.20	7355.00
c)	50 mm dia nominal bore.	100.00	meter	355.95	35595.00
d)	80mm dia nominal bore	200.00	meter	573.4	114680.00
<b>113</b>	Making connection of GI distribution branch with GI main of following sizes by providing and fixing tee, including cutting and threading the pipe etc., complete.				
a)	25 to 40mm nominal bore.	10.00	each	277.35	2773.50
b)	50 to 80mm nominal bore.	10.00	each	630.15	6301.50
<b>114</b>	Providing and fixing brass bib cock of approved quality				
	15mm nominal bore	10.00	each	205.60	2056.00
<b>115</b>	Providing and fixing brass stop cock of approved quality				
	15mm nominal bore	5.00	each	205.60	1028.00
<b>116</b>	Providing and fixing brass gate valve with CI wheel of approved quality (screwed end)				
a)	25mm nominal bore	5.00	each	372.95	1864.75
b)	40mm nominal bore	5.00	each	546.05	2730.25
c)	50mm nominal bore	5.00	each	780.60	3903.00
d)	80mm nominal bore	5.00	each	1,832.95	9164.75
<b>117</b>	Providing and fixing ball valve (brass) of approved quality, high or low pressure with plastic floats complete.				
	25mm nominal bore	5.00	each	421.65	2108.25
<b>118</b>	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.				
	15mm nominal bore	5.00	each	430.60	2153.00

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<b>119</b>	Providing and fixing square-mouth S.W. Gully trap grade 'A' complete with C.I. Grating brick masonry chamber with bricks of class designation 75 and water tight C.I. Cover with frame of 300 x 300 mm size ( inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as standard design.:				
	100 x 100 mm size P type				
	With F.P.S bricks	5.00	each	1,256.35	6281.75
<b>120</b>	Constructing brick masonry manhole with 75 class designation bricks in cement mortar 1:4 (1 cement: 4 coarse sand) RCC top slab with 1:2:4 mix(1 cement:2 coarse sand: 4 graded stone aggregate 20mm nominal size) foundation concrete 1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement: 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 mix(1 cement:2 coarse sand: 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design.				
	Inside size 90X80cm and 45cm deep including CI cover with frame (light duty) 455X610mm internal dimensions total weight of cover and frame to be not less than 38kg (weight of cover 23kg and weight of frame 15kg)				
	With FPS bricks	10.00	each	7,132.00	71320.00
<b>121</b>	Extra for depth for manholes				
	Size 90X80cm	5.00	meter	4,061.70	20308.50
	With FPS bricks				
<b>122</b>	Providing MS foot rests including fixing in manholes with 20x20x10cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 nominal size) as per standard design				
	With 20x20mm square bar	4	each	227.95	911.80
<b>123</b>	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Gradel Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge				
	Pre-laminated particle board with decorative lamination on oneside and balancing lamination on other side	10.00	sqm	933.40	9334.00
<b>124</b>	Providing and fixing aluminium handles, ISI marked, anodised (anodiccoating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade, with necessary screws etc. complete :				
	a) 125mm	10.00	each	62.50	625.00
	b) 100mm	10.00	each	49.55	495.50
<b>125</b>	Providing and Fixing Health faucet of approved make including all fittings of make jaguar, cera etc	5.00	each	1,000.00	5000.00
<b>126</b>	Providing and Fixing Bottle trap fittings for Wash basis, Kitchen Sink etc.	4.00	each	435.30	1741.20
<b>127</b>	Making soak pit 2.5 m diameter 3.0 m deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.				
	With common burnt clay F.P.S. (non-modular) bricks of class designation 7.5	1	each	15,228.15	15228.15

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<b>128</b>	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	50	Sqm	536.65	26832.50
<b>129</b>	Providing non-asbestos high impact Polypropylene reinforced cement 6 mm thick corrugated sheets (As per IS: 14871) roofing upto any pitch and fixing with polymer coated J, or L hooks, bolts and nuts 8mm dia. G.I. plain and bitumen washers or with self drilling fastener and EPDM washers etc. complete excluding the cost of purlins, rafters and trusses corrugated sheets and including cutting to size and shape wherever required.	200	Sqm	375.75	75150.00
<b>130</b>	Providing and laying glass bricks / blocks using using suitable glass mortar including expansion strips in spaces between end blocks and the wall, jamb or window frame & spacers between the blocks whenever required and suitable anchors and reinforcing rod to be installed at every 2 feet (0.61m) including cleaning of any stray mortar off the block with a damp cloth and sealing of the perimeter and joints using silicon or equivalent sealent. Average thickness of the wall shall be 100mm. It shall include cost of all materials and all activities such as labour, transportation, laying etc.	4.5	Sqm	7,942.60	35741.68

**TOTAL FOR PART-B (Rs)**

**22792213**