

BILL OF QUANTITY

Name of Project					
400/110kV Substation Thappagundu					
Name of Work					
CIVIL WORKS FOR CONTROL ROOM BUILDING					
Sl. No.	Qty	unit	Description	Unit Cost (Rs)	Total Amount (Rs)
1 a)	402	m3	Earth work excavation for levelling the site in ordinary soil with initial lead, lift, etc., complete.		
b.	670	m3	Earth work excavation for foundation in hard gravelly soil with initial lead and lift of etc., complete.		
c	268	m3	Earthwork excavation for foundation in soft disintegrated rock not requiring blasting with lead and lift etc complete.		
d.	67	m3	Earthwork excavation for foundation in medium rock and dense medium rock not requiring blasting including all lead and lift etc complete.		
e.	67	m3	Earthwork excavation for foundation in hard rock by drilling with jack hammer using compressor ,all labour lead and lift etc. complete.		
2	1,126	m3	Refilling the foundation and basement with excavated earth including ramming as per specification , cost of all materials lead and lift etc. complete.		
3	608	m3	Filling the foundation and basement with Stone dust including ramming, lead and lift etc. complete.		
4	315	m3	Filling the foundation and basement with river sand including ramming, lead and lift etc. complete.		
5	875	m2	Providing anti termite treatment in 4 stages I) immediate after earth work excavation and before laying foundation concrete II) after refilling for sides of foundation III) Before laying of flooring concrete IV) outside of basement upto 1.0m around the building using termite 250ml for 5 lit of water etc. complete		
6	91	m3	Plain cement concrete M 10 using 12 to 20mm (machine crushed) hard broken stone without form work including cost of all materials, labour, lead lift etc complete		
7 a)	192	m3	RCC M20 mix for foundation using 12 to 20mm size hard broken stone including cost of all materials, form work, centering and all leads, lifts etc., complete but excluding cost of reinforcement.		
b)	42	m3	RCC M20 mix for columns below ground level using 12 to 20mm size hard broken stone including cost of all materials, form work, centering and all leads, lifts etc., complete but excluding cost of reinforcement.		

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8	109	m3	RCC M20 mix for plinth beams / Grade beam etc.using 12 to 20mm size hard broken stone including cost of all materials, form work, centering, curing and all leads, lifts etc., complete as per specification but excluding cost of reinforcement.		
9			RCC M20 mix for columns in floors using 12 mm to 20mm size hard broken granite stone including cost of all materials, form work, centering, curing and all leads, lifts etc., complete as per specification but excluding cost of reinforcement.		
a	81	m3	Ground floor		
b	51	m3	First floor		
10	29	m3	RCC beams (rib portion only) M20 mix in all floors using 12 mm to 20mm size hard broken granite stone including cost of all materials, form work, centering, curing and all leads, lifts etc., complete as per specification but excluding cost of steel reinforcement.		
11			RCC slab M20 mix using 12 mm to 20mm size hard broken granite stone including cost of all materials, form work, centering, curing and all leads, lifts etc., complete as per specification but excluding cost of reinforcement.		
a	113	m3	Slab 150 mm thick over ground floor		
b	4	m3	Slab 100 mm thick over porch		
c	68	m3	Slab 130 mm thick over first floor		
12			RCC lintels (M20 mix) using 12mm to 20mm hard broken granite stone including cost of all materials, form work, centering, curing and all leads, lifts etc., complete but excluding cost of reinforcement.		
a	19	m3	Ground floor		
b	6	m3	First floor		
13	680	m2	Plain cement concrete M 10 100mm thick using 12 to 20mm hard broken granite stone with formwork including cot of all materials ,lead and lift etc complete.		
14	8	m3	Providing sunshade including the front (chajja) in RCC (M20 mix) using 12mm to 20mm hard broken granite stone including cost of all materials, form work, centering, curing etc but excluding cost of reinforcement.		
15	190	m	Supplying and fixing PVC downfall pipes 100/110 mm dia with necessary couplings, grating shoes,bends, clamps etc complete including cost of all materials and making holes in masonry on concrete and restoring affected surface to original condition.		

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16			Fly ash Brick work in CM 1:5 for wall 23cm thick using good quality Standard size of flyash bricks including cost of all materials leads lift and curing etc complete.		
a	140	m3	In super structure, ground floor		
b	156	m3	In super structure First floor		
17			Fly ash Brick work in CM 1:3 using good quality standard size of flyash bricks including reinforced with 6mm MS rods placed at vertical intervals not exceeding 450mm cost of material, scaffolding all labour lead and lift, etc,complete.		
a	145	m3	In Ground Floor		
b	51	m3	In First Floor		
18	265	m2	Granolithic cement concrete M15 mix for floor finish 20 mm thick using stone chippings of 10 mm size and below.including cost of all materials, labour, lead, lift etc complete		
19	10	m2	Supply and Fixing in position of anodised aluminium glazed door using 100x44x2mm box section for frame and 95x44x2mm for shutter bottom style and 65x44x2mm section for other side style with everite/ poineer floor gear glazing clips rubber beedings, hinges, handle, thick with 5 mm thick CGL cooling glass etc complete Double leaf door (size of the door (2000+1000+1000) X 2500 mm Front Main Entrance door Partly fixed as directed by Department Engineer at site.		
20	4	m2	Supply and Fixing of steel door using 50x50x6mm for outer frame 25x25x6mm for shutter frame with MS flat 25x6mm 3 nos and for panels with 12mm thick one side laminated MDF duratuff exterior quality with bolts, washer, hinges 12mm dia tower bolt of 200x38x2.4mm at top and 150x38x2.4mm at bottom 1 No 250x16mm al drop etc complete as per standard drawing and specification as well as per the direction of Engineer at site (Size of the door D1 1500X2500mm single leaf) (sample to be approved by dept Engr at site)		
21	41	m2	Supply and Fixing of anodised aluminium partly glazed door using 100x44x2mm box section for frame and 95x44x2mm for shutter bottom style and 65x44x2mm section for other side style with Everite/Pioneer make floor gear glazing clips rubber beedings, hinges, handle with 12 mm thick prelaminated board with 5 mm thick CGL cooling glass etc complete as per standard drawing and specification as well as per the direction of Engineer at site		

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22	15	m2	Supply and Fixing in position of anodised aluminium partly glazed door using 100x44x2mm box section for frame and 95x44x2mm for shutter bottom style and 65x44x2mm section for other side style with Everite/Pioneer floor gear glazing clips rubber beedings, hinges, handle with 12 mm thick prelaminated board with 5 mm thick CGL cooling glass etc complete Single leaf door (size of the door 1000 x 2100 mm) (sample to be approved by dept Engr at site)		
23	21	m2	Supplying and fixing PVC door with frame, Sintex/Forex or Equivalent make of size not less than 50x47x5mm with all required accessories and PVC shutter made out of 30mm thick[width 75mm for lock rail, bottom rail, top rail on either side] including the cost of all materials, labour, lead, lift, T&P, all fittings etc complete.(sample to be approved by dept Engr at cite)		
24	24	m2	Supplying and fixing of steel window partly openable, partly fixed with grill (Size of the window W2 1475 X 1475 mm as per IS 1038-1958 (1245 IS) using 50x50x2mm and 25x25x2mm section glazing clips rubber beadings hinges handle 5 mm thick sun cool glass pannelling including cost of materials, lead, lift etc complete.		
25	107	m2	Supplying and fixing of Aluminium window sliding type with 5mm thick glass with hook locking arrangements etc complete as per standard drawing and specification well as per the direction of Department Engineer at site (Size of the window W2 1475 X 1475 mm l) including the cost of all materials, labour, lead, lift, T&P, all fittings etc complete.(sample to be approved by dept Engr at site)		
26	21	m2	Supply and fixing of Aluminium ventilator with glazed louvers as per the direction of the department Engineer size 1575 X 975 mm including the cost of all materials, labour, lead, lift, T&P, all fittings etc complete.(sample to be approved by dept Engr at site)		
27	7	m2	Supply and fixing of Aluminium ventilator with glazed louvers as per the direction of the Dept. Engineer size 750 X 450mm.including the cost of all materials, labour, lead, lift, T&P, all fittings etc complete.(sample to be approved by dept Engr at site)		

Sl. No.	Qty	unit	Description	Unit Cost (Rs)	Total Amount (Rs)
28	20	m2	Supplying and fixing rolling shutter mechanically operated with gear box crank handle top cover of 18 gauge thick MS sheet anchoring rod, hasp & shackle to details including labour and materials for providing pockets to guides of rolling shutters making necessary holes in masonry or concrete 1:2:4 and making good, including one shop coat of anti-corrosive primer erected in position (size 2500x2500mm) with high tension coils, type spring arrangements as directed by department Engineer at site		
29	100	RM	Supplying and fixing in position of Chromium coated hand rail of 75mm pipe to height of 1000 mm and support of 25mm above square / round with 3 No. horizontal stiffener including cost of all materials, labour, lead, lift, T&P etc. complete as directed by dept Engr at site.		
30	142	MT	Supplying and fabricating and placing in position of MS/RTS steel reinforcement for RCC works including labour for cutting, bending, tying and fixing in position as per specification including cost of all materials, lead, lift, labour, cost of binding wire, etc., complete.		
31	1,108	m2	Flooring with approved verified of non slippery floor tiles of approved quality and brand over cement mortar 1:3 25mm thick including pointing with white cement finishing the joints flush pointing the surface etc complete		
32	155	m2	Dadoing with glazed tiles of best quality of approved make Johnson/Bell etc over 1:3 12mm thick plastering including cost of all materials labour lead lift etc complete.		
33	47	m2	Flooring with acid proof tiles of approved quality and brand over cement mortar 1:3 25mm average thickness in floor including pointing with white cement finishing the joints flush pointing the surface etc complete.		
34	50	m2	Finishing with acid resistance tiles of thickness 12 mm on the sides of the wall on battery room with CM 1:3 and pointing with CM 1:2 using acid proof cement.		
35	2,500	m2	Plastering with CM 1:5, 12mm thick for interior faces of walls in all floors. including cost of all materials and scaffolding etc. complete.		
36	1,200	m2	Plastering with CM 1:3, 20 mm thick for AC Exhaust Fan supports outside including cost of all materials and scaffolding etc. complete.		

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37	2,819	m2	Plastering with CM 1:3, 12mm thick to the exposed faces of under side of RCC slabs, sides and soffits of beams in all floors. including cost of all materials and scaffolding etc. complete.		
38	1,236	m2	Painting 2 coats using white cement for ceiling in all floors and exposed faces of beams including cost of all materials and scaffolding etc. complete.		
39	1,300	m2	Painting with 2 coats interior emulsion paint of approved colour over a priming coat of white cement including cost of all materials, labour, lead, lift etc complete for interior walls.		
40	83	m2	Painting with 2 coats acid proof paint of approved colour over a priming coat of white cement for battery room including cost of all materials, labour, lead, lift etc complete for interior walls.		
41	1,197	m2	Painting the outside walls with two coats of exterior emulsion over a primer coat of approved colour and quality including cost of all materials, lead and lift etc., complete		
42	663	m2	Weathering course over roof slab with brick jelly 20 mm size and lime mortar in the ratio of 32:12.5 to an average thickness of 80mm and to required slope and providing one course of pressed tiles of size 150x150x20 mm or 200x200x20 mm, set in C.M 1:3 mixed with crude oil 10% by weight of cement and pointing with CM 1:3 mixed with crude oil. (including water proofing treatment over roof to prevent leakage)		
43	25	m2	Water proofing three layers treatment to porch slab		
44	130	RM	Plinth Protection all round the building for one metre width and 100mm thick with M10 concrete using 40 mm HGS and finishing surface with CM 1:3, 12mm thick.as directed by department Engineer at site. including cost of all materials and scaffolding etc. complete.		
45	25	m2	Damp proof course cement concrete 1:1.5:3 with water proofing compound including cost of all materials lead lift etc. complete.		
46	58	m2	Painting with primer one coat and paint two coats of approved synthetic enamel paint to doors, windows and ventilators and rolling shutters. including cost of all materials and scaffolding etc. complete.		
47	1	Set	Providing & fixing one mono-rail of length 3m with 2 Nos. chain pulley block of 5 tonnes capacity each as directed by Department Engineer at site. including cost of all materials and scaffolding etc. complete.		

Sl. No.	Qty	unit	Description	Unit Cost (Rs)	Total Amount (Rs)
48	30	RM	Supply & fixing of 40 mm dia PVC pipes to sunshades, porch, roof slabs etc complete.		
49	50	m2	Supplying and fixing in position aluminium partition partly glazed & partly paneled above 12mm thick both side prelamated boards [Novanpan or Equivalent] and 5mm thick machine frosted float glass 9modi, saint gobine or Equivalent using aluminium box section of not less than 63x38.4x2mm x 1.174kg/m for vertical @ 955mm c/c approx and horizontal [4Nos] including cost of all materials, labour, lead, lift T&P etc. complete as directed by department Engineer at site		
50	4	No	Supplying and fixing musical quartz type wall clock of size 30x30cm of approved quality such as Ajantha/Seiko/Citizen etc including cost of transport fixing charges etc complete.		
51	132	m2	Supplying and fixing in position sun control polyester flim, reflective type 75 microns thick (gareware or equivalent)including the cost of all materials, labour, lead, lift, T&P, etc. Complete.		
52	1	set	Supplying and fixing black granite stone Engraved Design detail and fixing in wall at entrance, , floor coir mat 2000x600 for Entrance 1000x500 - 2 No. for office of approved make and quality including the cost of all materials, leads, lifts etc., complete		
53	706	m2	Providing gypsum board false ceiling including supplying and fixing of Gypsum board 12.5 mm thick using required size of Anodized Aluminium section , perforated gypsum board with all materials , labour, lift, T&Ps etc, including providing opening, out holes for fixing light and fan fittings wherever necssary all including cost of all materials , leads, lift, etc., as directed by the Engineer in charge complete..		
54			Supply steel furniture manufacture by 'TANSI' or any other ISI mark including cost of all materials, labour, lead and lift etc., complete. sample to be approved by department Engineer		
a	6	Nos	S Type chair (Local rate)		
b	4	Nos	Three drawer steel table		
c	3	Nos	Steel side rack open type 4 self		
d	2	Nos	Steel half bench		
e	4	Nos	Revolving Chair		
f	1	Nos	Operator Table 6'x5'		
g	15	Nos	PVC Chair of reputed make		

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55	60	RM	Providing rain water recharge bore holes by drilling of 300 mm dia bore hole 6.00 m depth and filling the holes with hard broken stone of size 40 m as directed by engineer at site including the cost of all materials, lead, lift, labour, T&P etc complete.		
56	4	m2	Fabrication & erection of Name Board of vinyl sticker laminated in alco panel using 18 gauge M.S. sheet with outer in suitable angle and stiffener at the rear side of MS flat		
57	500	kg	Supplying and fixing the chequered plate of 8 mm thick for platform in Mono Rail area in the control room including the cost of all materials, labour charges, leads, lifts, etc., complete		
58	20	Nos	Supply and fixing of name sticker for rooms and Equipments including cost and fixing charges as directed by department Engineer at site.		
59	80	RM	Supplying and fixing of 100 mm dia PVC pipe including all cost of materials lead lift etc complete.		
60	10	RM	Supplying and fixing of 100mm dia. stoneware pipe with open joint and covered with pan tiles including all cost of materials lead lift etc complete.		
61	4	No	Supplying and fixing of 100mm dia. PVC bend including all cost of materials lead lift etc complete.		
62	4	No	Supplying and fixing of 100mm dia. PVC TEE including all cost of materials lead lift etc complete.		
63	2	set	Supplying and fixing of 100mm dia PVC pipe of 3m height with cowl including all cost of materials lead lift etc complete.for septic tank		
64	9	Nos	Supplying and fixing in position of best quality mirror (22" x 16") with aluminium frame over wash basin including cost of all materials labour, lead, lift, etc. complete as directed by the engineer at site		
65	9	set	Supplying and fixing of white glazed wash basin of approved size including mirror of size 24"x18" of approved quality Neycer/ Parry ware including cost of wash basin with pedestal, pillar cock fixing with rug bolt and nuts, 15mm dia PVC connecting hose and outlet using 40mm dia PVC waste pipe , CP valve, tap etc complete. as directed by department Engineer at site		

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66	4	set	Supplying and fixing of European type water closet with flushing cistern of Neycer/Parry ware with "P" or "S" trap etc complete as directed by department Engineer at site		
67	4	set	Supplying and fixing of indian type water closet without flushing cistern as directed by department Engineer at site		
68	10	Nos	Supplying and fixing in position PVC Multi Floor Trap of approved make and quality and size 110X75mm or 63mm fixed over a bed of brick jelly lime concrete and finished with CM 1:3, and fixed stainless steel grating including the cost of all materials, labour, lead, lift, T&P etc. complete.as directed by department Engineer at site		
69	5	Nos	Supplying and fixing of approved quality of aluminium towel rod with powder coating of size (2 ft) and fixing the same over teak wood round block and soap tray (PVC) in bath room including cost of all materials lead lift labour etc complete as directed by department Engineer at site		
70	27	m3	Supplying and filling with 40mm metal as per standard specification including all cost of materials lead lift etc complete for dispersion trench.		
71			Supplying ,laying and fixing in position of PVC pipe of best quality from approved manufacturer confirming to IS 4985-1968, 4984-1970 including cutting threading joining with necessary PVC specials including cost of all materials lead lift labour etc complete. as directed by department Engineer at site		
a)	200	RM	32mm dia pipe.		
b)	250	RM	25mm dia pipe		
72			Supplying and fixing in position of gun metal gate valve leader make of best quality including cost of materials lead lift labour etc complete.as directed by department Engineer at site		
a)	5	No	32mm dia		
b)	2	No	25mm dia		
73	20	No	Supplying and fixing in position of 12mm dia brass screw down bib cock of best quality including cost of materials lead lift labour etc complete.		
74	4	set	Supplying and fixing of PVC shower with chromium plated brass control cock etc., complete		

Sl. No.	Qty	unit	Description	Unit Cost (Rs)	Total Amount (Rs)
75	2	No	Supplying and fixing in position of ready made PVC water tank 1000 litre capacity, Sintex or equivalent make including cost of cover, with opening for inlet, outlet & over flow pipe, Transporting and cost of all materials, labour, lead, lift, etc. complete.		
76	8	RM	Supplying and fixing in position of 40mm GI pipe B class including cost of materials labour lead lift etc complete.		
78	4	Nos	Supplying and fixing in position White glazed Flat back urinal - Size 455 x 350mm of approved make and quality [Parryware -Aquaseal urinal or equivalent] and with PVC pipe connection [Kohinoor], 32mm PVC waste pipe [Kohinoor], 12/15mm GM wheel valve ISI, fixing the urinal to the valve with necessary TW plugs, brass screws etc, connecting to the water main including the cost of all materials labour, lead, lift, T&P etc. complete. as directed by department Engineer at site		
79	2	Nos	Supply & fixing marble partition of 25 mm thick 600 mm wide and 1200 mm high including necessary cement mortar with white cement concrete for urinals as directed by department Engineer at site		
80			Providing inspection chamber with manhole cover including all cost of materials lead lift etc complete.		
a)	12	Nos	Cast Iron 0.45x 0.45		
b)	5	Nos	Concrete (FRC) 0.60 x 0.60 m		
81	3	m3	Supplying and fixing Precast RCC slab in CM 1:1.5:3 mix concrete using 12mm to 20mm HBS metal for cover slab,manhole cover baffle wall etc.,including the cost of all materials,lead,lift etc.,complete		
			Total Value		