

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project :

400 KV PGCIL SUB-STATION EXTN AT SANKHARI IN GUJRAT

Name of Work :

CIVIL WORKS OF 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.	3550	cum	129.35	459192.50
(b)	Ordinary rock	30	cum	197.75	5932.50
(c)	Hard rock (blasting required)	5	cum	347.80	1739.00
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.	500	cum	130.80	65400.00
(b)	Ordinary rock	30	cum	212.00	6360.00
(c)	Hard rock (blasting required)	5	cum	378.80	1894.00
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.	2400	cum	83.80	201120.00
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.	5	meter	101.40	507.00
4.2	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	5	meter	165.60	828.00
4.3	Pipes, cables etc. exceeding 300mm dia but not exceeding 600mm	5	meter	258.55	1292.75
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.	1700	cum	82.78	140726.00
(b)	Lead upto 2 km.	10	cum	93.94	939.40
(c)	Lead upto 3 km.	5	cum	104.98	524.90
(d)	Lead upto 5 km.	5	cum	125.92	629.60
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 : 2coarse sand : 4 graded stone aggregate 20mm nominal size)	40	cum	4514.05	180562.00
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	5	cum	3888.20	19441.00
(c)	1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	210	cum	3593.30	754593.00

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7	Providing & laying in position plain cement concrete (PCC) of 1:5:10 (1 cement : 5 coarse sand : 10 brick aggregate) with a layer of cement slurry of mix 1:6 (1 cement : 6 Fine Sand) over PCC layer as per Technical Specification.	690	cum	3084.70	2128443.00
8	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.	840	Cum	260.70	218988.00
9	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.	210	Cum	1336.00	280560.00
10	Supplying chemical emulsion in sealed containers including delivery as specified.				
	Chloropyriphos emulsifiable concentrate of 20%	5	litre	185.95	929.75
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).	50	sqm	88.25	4412.50
12	Providing and laying in position machine batched, machine mixed and machine vibrated design mix M25 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. (Note:- 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	550	cum	5242.15	2883182.50
(b)	All works above plinth level upto floor V level	50	cum	5781.50	289075.00
13	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 finhsed 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).	50	Cum	6067.10	303355.00

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14	Add for using extra cement in the items of design mix over and above the specified cement content therein.	20	MT	5077.87	99018.47
15	Extra for providing and mixing water proofing material in Cement Concrete work in doses by weight of cement as per manufacturer's specification.	50	1 kg per 50 kg of cement	35.35	1767.50
16	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	650	sqm	166.90	108485.00
(b)	RCC walls at all levels (any thickness).	950	sqm	285.15	270892.50
(c)	Suspended floors, roofs, landings, balconies, chajjas and access platforms at all levels.	10	sqm	311.20	3112.00
(d)	Lintels, beams, plinth beams and cantilevers.	10	sqm	262.25	2622.50
(e)	Columns, Pillars, Piers, Posts and Struts .	700	sqm	365.60	255920.00
17	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL, TISCO, IISCO and RINL only)				
(a)	Excluding supply but including straightening, cutting, bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete. (Reinf. Steel shall be issued by BHEL free of cost. Unloading, storing, watch & ward is in the scope of the contractor)	44000	kg	9.71	427240.00
(b)	Including supply, straightening, cutting, bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	1000	kg	62.25	62250.00
18	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
19	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)	20	cum	3876.15	77523.00
20	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.	15000	kg	59.90	898500.00
21	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.	5000	kg	67.20	336000.00
22	12mm cement plaster on the wall/ concrete surface in the mix:				
	1:6 (1cement :6coarse sand)	50	Sqm	121.05	6052.50
23	12mm cement plaster finished with a floating coat of neat cement in the mix:				
	1:4 (1cement :4 fine sand)	50	Sqm	153.45	7672.50
24	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	150	sqm	20.70	3105.00

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(b)	With water thinable cement primer of approved brand and manufacture on plastered wall/ concrete surfaces.	50	sqm	27.55	1377.50
25	Painting with approved required shade				
a)	Finishing walls with water proofing cement paint - new work (02 or more coats applied @3.84kg/10sqm)	50	Sqm	44.95	2247.50
b)	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade (02 or more coats on new work).	50	Sqm	53.85	2692.50
c)	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade (02 or more coats on new work).	100	Sqm	44.55	4455.00
26	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.				
a)	100mm dia	20	RM	299.10	5982.00
b)	250mm dia	24	RM	433.90	10413.60
c)	300mm dia	12	RM	602.40	7228.80
d)	450mm dia	12	RM	877.10	10525.20
27	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	40	RM	206.9	8276.00
28	Providing and fixing in position in RCC/ Earth HDPE pipes conforming to IS : 4984 & ISO 4427 including long radius elbow jointing with seal all complete as per drawing and specification.				
a)	50mm diameter	20	RM	171.4	3428.00
b)	110mm diameter	40	RM	811.4	32456.00
29	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)	30	RM	459.15	13774.50
30	Supplying & fixing (all dia & length) foundation bolts in position with help of proper templates (templates 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.	25	Kg	86.55	2163.75
31	Extra over Item above for providing galvanised bolts (Mass of zinc coating = 610gms/sqm), nuts & washer.	25	kg	5.77	144.25
32	Fixing (all dia & length) foundation bolts in position with help of proper templates including nuts, washers and template (templates 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.	56000	Kg	7.50	420000.00
33	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 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.	600	sqm	61.25	36750.00

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34	Extra for compaction of earthwork in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (Proctor density)	600	sqm	7.75	4650.00
35	Suppling and stacking at site				
(a)	90 mm to 45 mm size stone aggregate	60	cum	1010.75	60645.00
(b)	63 mm to 45 mm size stone aggregate	50	cum	1100.80	55040.00
(c)	53 mm to 22.5 mm size stone aggregate	50	cum	1190.80	59540.00
(d)	Stone screening 13.2 mm nominal size (type A)	20	cum	1338.75	26775.00
(e)	Stone screening 11.2 mm nominal size (type B)	10	cum	1425.85	14258.50
(f)	moorum	15	cum	624.45	9366.75
36	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.).				
(a)	Subbase with stone aggregate 90mm to 45mm including stone screening 13.2mm size and moorum/blinding material.	50	cum	330.15	16507.50
(b)	Base course with stone aggregate 63mm to 45mm including stone screening 13.2mm size and moorum/blinding material.	50	cum	330.15	16507.50
(c)	Base course with stone aggregate 53mm to 22.4 mm including stone screening 11.2mm size and moorum/blinding material.	50	cum	330.15	16507.50
37	Providing and laying 75mm thick PCC 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) shoulder 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.)	120	Sqm	249.30	29916.00
38	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.	55	per cm depth per 100 m	430.30	23666.50
39	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).	500	sqm	15.00	7500.00
40	Providing and fixing in position pre moulded joint filler in expansion joints	50	per cm depth per cm width per m length	2.40	120.00
41	Providing and laying in position bitumen hot sealing compound for expansion joints etc.				
	Using grade A ceiling compound	50	per cm depth per cm width per m length	1.65	82.50
42	Providing & fixing galvanised chain link fencing including all allied activities, all complete as per POWERGRID Technical Specifications Clause No. 9.0, 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)	150	RM	2885.40	432810.00

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43	Antiweed treatment in switchyard area including micro leveling, dressing etc as per Technical Specification.	9000	Sqm	20.20	181800.00
44	Supplying and spreading stone in switchyard as per drawing and specification all complete over PCC excluding the cost of PCC.	9000	Sqm	120.60	1085400.00
45	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	15.0	Cum	6242.60	93639.03
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.	4	cum	11541.60	46166.40
47	Demolishing / Dismantling of RCC Works manually / by mechanical means including necessary excavation, cutting & stacking of steel bars and disposal of unservicable material within the substation boundary as per direction of site-in-charge.	2	cum	978.95	1957.90
48	Demolishing / Dismantling of Cement Concrete manually / by mechanical means including necessary excavation and disposal of unservicable material within the substation boundary as per direction of site-in-charge.				
(a)	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	1	cum	671.05	671.05
(b)	Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	1	cum	413.65	413.65

TOTAL (Rs)**13322975**