

ANNEXURE-I (Part-B)

ANNEXURE-1 (Part-B)					
BILL OF QUANTITY CUM PRICE SCHEDULE					
Name of Project		: 400/220 KV Switchyard at North Karanpura			
Name of Work		: Civil Work of 400kV Switchyard Including Building & Fence (Excluding Road, Transformer foundation, Reactor Foundation, gravelling work)			
PART B- CONTROL ROOM BUILDING & FENCE WORK					
S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
1.1	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.	3000	cum	155.60	466800.00
(b)	Ordinary rock	400	cum	244.60	97840.00
1.2	Extra for every additional lift of 1.5 m or part thereof in excavation and banking excavated or stacked materials.				
(a)	All kinds of soil	3000	cum	46.25	138750.00
(b)	Ordinary rock	400	cum	82.95	33180.00
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.	110	cum	157.50	17325.00
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.	875	cum	112.40	98350.00
4	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.	700	cum	99.44	69608.00
(b)	Lead upto 3 km.	50	cum	127.01	6350.50
5	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	M20	185	cum	5970.60	1104561.00
(b)	M15	10	cum	5466.30	54663.00
(c)	M10	10	cum	4672.50	46725.00
(d)	M7.5	155	cum	4301.15	666678.25
6	Providing and laying cement concrete in screed at terrace for water proofing treatment upto floor five level excluding the cost of centring, shuttering and finishing:				
	M15 (using 12.5mm nominal size)	125	cum	5466.30	683287.50
7	Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work in the proportion recommended by the manufacturer.	100	kg	48.15	4815.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
8	Supplying and filling in plinth with Jamuna/local sand under floors, cable trenches including watering, ramming, consolidating and dressing complete.	50	cum	910.25	45512.50
9	Providing, laying and compacting boulder soiling of required thickness in floor, foundations of equipment and under the floors as per direction of Engineer-in-Charge.	300	cum	641.00	192300.00
10	Supplying chemical emulsion in sealed containers including delivery as specified.				
	Chloropyriphos emulsifiable concentrate of 20%	120	litre	185.95	22314.00
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).	1240	sqm	68.00	84320.00
12	Providing and laying damp proof course 50mm thick cement concrete 1:1.5:3 all complete as per direction of Engineer-in-charge.	120	sqm	314.85	37782.00
13	Applying three coats of residual petroleum bitumen of penetration 85/25 grade as per IS:702 of approved quality using 1.7 kg per sqm per coat after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil all complete as per technical specification.	800	sqm	132.00	105600.00
14	Applying two coat of residual petroleum bitumen of penetration 85/25 grade as per IS:702 of approved quality using 1.7 kg per sqm per coat on the surface of foundation after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	100	sqm	120.00	12000.00
15	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.	20	per cm depth per 100 m	224.90	4498.00
16	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. - M25 grade reinforced cement concrete by using minimum 330kg of cement per cum of concrete.				
(a)	All works upto plinth level	610	cum	6296.15	3840651.50
(b)	All works above plinth level upto floor V level	495	cum	7014.55	3472202.25

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17	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	420	sqm	196.45	82509.00
(b)	RCC walls at all levels (any thickness).	485	sqm	360.80	174988.00
(c)	Suspended floors, roofs, landings, balconies,chajjas and access platforms at all levels.	1270	sqm	401.65	510095.50
(d)	Lintels,beams,plinth beams and cantilevers.	770	sqm	332.15	255755.50
(e)	Columns, Pillars, Piers, Posts and Struts .	590	sqm	453.35	267476.50
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 .	1240	sqm	159.05	197222.00
19	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL,TISCO, IISCO,JINDAL STEEL and RINL only)				
(a)	Including supply, straightening, cutting and bending, binding(i/c cost of binding wire), placing in position etc all labour & material, complete.	106000	kg	68.10	7218600.00
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)	25	cum	4677.25	116931.25
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)	365	cum	5426.15	1980544.75
22	Half brick masonry with bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	20.00	sqm	584.75	11695.00
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)	50.00	sqm	665.80	33290.00
24	Extra for providing and placing in position 2 Nos 8mm dia bars at every third course of half brick masonry (with FPS bricks)	50.00	sqm	69.50	3475.00
25	Providing and fixing 20mm thick mirror polished, machine cut for column facia, kitchen platforms, vanity counters, flooring and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement concrete (1 cement, 2 part and and 4 part stone chips) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing etc. complete at all levels.				
	Marble	5.00	sqm	2463.55	12317.75
	Granite	5.00	sqm	3907.40	19537.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
26	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.	100.00	sqm	2606.45	260645.00
27	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	40	each	229.65	9186.00
28	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.				
	300 X 10mm	20	each	112.10	2242.00
29	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.				
	125mm	70	each	69.80	4886.00
30	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	753.75	3768.75
31	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 manufactured from high tensile steel wire of adequate strength conforming to IS: 4454- part 1 and M.S top cover of required thickness for rolling shutters.				
	80 X 1.20mm MS laths with 1.20mm thick top cover.	10	sqm	1921.40	19214.00
32	Providing and fixing ball bearing for rolling shutters.	4	each	438.95	1755.80

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
33	Providing and fixing pressed steel door frames conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50X25mm, or base ties of 1.60mm 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	290	RM	400.95	116275.50
34(a)	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.	1500	kg	67.70	101550.00
34(b)	Extra over item above for providing galvanising of minimum 610gm/sqm	500	kg	9.68	4840.00
35	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, etc., of staircases involving use of chequered plates, wherever required, all complete.	3500	kg	75.30	263550.00
(b)	In frames,ISMB, ISMC and similar works.	500	kg	90.10	45050.00
36	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.				
	40mm thick with 20mm nominal size stone aggregate.	20	sqm	353.35	7067.00
37	52mm thick CC flooring with " Hardcrete" concrete hardner topping under layer 38mm thick CC M25 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 per 50 Kg of cement including cement slurry, but excluding the cost of nosing of steps etc., complete.	315	sqm	535.25	168603.75
38	Cement plaster skirting (upto 30cm height) with cement mortar 1:3 (1cement: 3 coarse sand) finished with a floating coat of neat cement.				
	18mm thick	5	sqm	377.25	1886.25

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39	Providing and fixing Acid/ Alkali resistant (chemical resistant) tiles conforming to IS:4457 in flooring/ Dado and shall be laid over bitumen lining of min 12mm thick (to be laid in layers of 6mm each). The tiles shall be applied with 6mm thick Potassium Silicate bedding mortar as per IS:4441,4443 & 4832 and including preparation of surface, application of bitumen primer, curing etc. all complete for following thicknesses. The tiles should be abrasion resistant and durable.				
	20mm thick	215	sqm	1709.00	367435.00
40	Providing and fixing 1st quality ceramic glazed tiles conforming to IS:15622 (thickness to be specified by 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.	20	sqm	836.65	16733.00
41	Providing and laying heavy duty dust pressed ceramic tiles 300X300 mm (thickness to be specified by manufacturer) of approved make and colours laid over 43 mm thick bed of cement concrete (1 part cement , 2 part sand and 4 part stone chips) to make overall thickness of flooring 50mm including pointing in white cement mixed with pigment of matching shade complete.	100	sqm	785.40	78540.00
42	Providing and laying of 9.5 mm minimum thick pre-polished vitrified tiles 600X600 mm of approved make and colours laid over 40 mm thick bed of Cement mortar 1:4 (1 Cement:4 coarse sand) including pointing in white cement mixed with pigment of matching shade complete as per direction of Engineer-in charge.	470	sqm	1405.95	660796.50
43	Providing and fixing approved quality pre polished vitrified tiles minimum thickness 9.5 mm 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.	45	sqm	1415.40	63693.00
44	Providing and fixing marble stone flooring with 20mm thick marble stone as per sample approved by Engineer-in-charge over 20mm (average) thick base of cement mortar 1:4 (1 cement:4 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with-				
	Raj Nagar marble	50	sqm	1757.60	87880.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
45	Making khurras 45X45cm with average minimum thickness of 3cm 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.	14	Each	186.65	2613.10
46	18mm cement plaster in two coats under layer 12mm thick cement plaster 1:5 (1 cement :5 coarse sand) finished with a top layer of 6mm thick 1:6 (1cement:6 fine sand)	1100	sqm	240.55	264605.00
47	12mm cement plaster on even side of the walls in the mix: 1:6 (1cement :6 coarse sand)	1350	sqm	158.40	213840.00
48	2mm thick plaster of paris punning over the plastered surfaces on wall surfaces as directed by engineer-in-charge.	1100	sqm	110.95	122045.00
49	6mm cement plaster to ceiling of mix 1:4 (1 cement : 4 fine sand)	1400	sqm	134.70	188580.00
50	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	100	sqm	27.00	2700.00
(b)	Applying one coat of cement primer of approved brand and manufacture on wall surface:	1000	sqm	35.85	35850.00
51	Distempering with oil bound washable distemper of approved brand and manufacture two or more coats over and including priming coat with cement primer.(Work to be carried as per relevant IS codes.)	50	sqm	89.70	4485.00
52	Distempering with 1st quality acrylic distemper of approved manufacturer, of required shade and colour complete, as per manufacturer's specification .	600	sqm	50.65	30390.00
53	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade. Two or more coats on new work.	700	sqm	80.50	56350.00
54	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	100	sqm	74.40	7440.00
55	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.	50	sqm	77.05	3852.50

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56	Forming groove of uniform size from 12X12mm and upto 25X15mm in plastered surface and joints of ceiling and wall as per approved pattern using wooden battens, nailed to the underlayer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and directions of the Engineer-in-charge.	525.00	RM	70.75	37143.75
57	Making plinth protection 50 mm thick of cement concrete M-20 with 12mm maximum size aggregate over 200mm thick stone soiling using 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including finishing the top smooth.	106.00	sqm	566.00	59996.00
58	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 photo-voltaic control flushing arrangement 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.	3	each	4761.35	14284.05
59	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430 x260x 350 mm and 340 x 410 x 265 mm sizes respectively with photo voltic 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 photo voltic flushing cistern of approved make.	2	each	3326.10	6652.20
60	Providing and fixing wash basin of approved colour and size with photo-voltaic control system, 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:				
	Vitreous China wash basin size 630 x 450mm with a pair of 15mm C. P. brass pillars taps	3	each	2331.15	6993.45
61	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	10	each	29.50	295.00
62	Providing and fixing 600 x 900 x6 mm bevelled edge mirror of float glass (of approved quality) complete with 12 mm thick hard board ground fixed to wooden cleats with C.P. Brass screws and washers complete.	3	each	793.95	2381.85

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63	Providing and fixing 600 x 120 x 5 mm glass shelf with edges rounded off supported on anodised aluminium angle frame with C.P. Brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete.	1	each	543.80	543.80
64	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with C.P. 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,weing not less than 190gms.	3	each	541.50	1624.50
65	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 .	3	each	228.85	686.55
66	Providing and fixing toilet paper holder.				
	CP brass.	3	each	415.90	1247.70
67	Providing and fixing soil,waste and vent pipes:				
	100 mm dia.				
	Sand cast iron S & S pipe.	20	RM	859.00	17180.00
68	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 100 mm dia pipe	6	each	152.90	917.40
69	Providing lead caulked joints to SCI pipes and fittings of diameter				
	100mm	6	each	243.75	1462.50
70	Providing and fixing SCI trap of self cleansing design with SCI 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.	2	each	982.55	1965.10
71	Providing and fixing G.I. Pipes (medium grade, painted with anti-corrosive bitumen paint) complete with G.I. Fitting and clamps , including cutting and making good the walls etc. (internal work).				
	15 mm dia nominal bore.	10	RM	215.10	2151.00
	20 mm dia nominal bore.	10	RM	249.30	2493.00
	25 mm dia nominal bore.	10	RM	304.15	3041.50
72	Providing and fixing G.I. Pipes (medium grade) complete with G.I. Fitting and clamps , including trenching and refilling, etc. (external work).				
	15 mm dia nominal bore.	10	RM	186.25	1862.50
	20 mm dia nominal bore.	10	RM	209.95	2099.50
	40 mm dia nominal bore.	10	RM	334.15	3341.50

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73	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.				
	25 to 40mm nominal bore.	1	each	367.75	367.75
74	Providing and fixing brass bib cock of approved quality				
	15mm nominal bore	6	each	260.60	1563.60
75	Providing and fixing electric operated hand drier with photo voltaic control all complete.	2	each	5000.00	10000.00
76	Providing and fixing stainless steel sink kitchen sink 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:				
	Kitchen sink with drain board				
	510x1040mm bowl depth 250 mm	1	each	7052.15	7052.15
77	Providing and fixing white viterous china laboratory sink including making all connections and fittings.				
	600x400x200 mm	1	each	1877.20	1877.20
78	Providing and fixing brass stop cock of approved quality				
	15mm nominal bore	6	each	260.60	1563.60
79	Providing and fixing brass gate valve with CI wheel of approved quality (screwed end)				
	25mm nominal bore	1	each	428.85	428.85
	32mm nominal bore	1	each	501.50	501.50
80	Providing and fixing ball valve brass of approved quality complete.				
	High or low pressure with plastic floats	2	each	288.50	577.00
	15mm nominal bore				
81	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 .	1000	per litre	7.25	7250.00
82	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:3 (1 cement : 3 fine sand) including testiing of joints etc. complete.				
	100 mm diameter.	10	RM	206.55	2065.50
	150 mm diameter.	10	RM	314.35	3143.50
83	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	2	each	1571.25	3142.50

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PART B- CONTROL ROOM BUILDING & FENCE WORK					
S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
84	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	2	each	8507.00	17014.00
85	Extra for depth for manholes				

BILL OF QUANTITY CUM PRICE SCHEDULE					
Name of Project		: 400/220 KV Switchyard at North Karanpura			
Name of Work		: Civil Work of 400kV Switchyard Including Building & Fence (Excluding Road, Transformer foundation, Reactor Foundation, gravelling work)			
PART B- CONTROL ROOM BUILDING & FENCE WORK					
S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
	Size 90X80cm				
	With FPS bricks	5	RM	5638.20	28191.00
86	Providing and fixing anodised 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, anodised transparent or dyed to required shade according to IS: 1868. (Minimum anodic coating of grade AC 15), fixed with rawl plugs and screws or with fixing clips or with expansion 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	1300	kg	348.50	453050.00
(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 .	600	kg	405.90	243540.00
87	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions, etc., with EPDM/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 4.0 mm thickness	30	sqm	828.75	24862.50
(b)	With float glass panes of 6 mm thickness	35	sqm	1054.20	36897.00
(c)	With toughened glass of 6.0 mm thickness	5	sqm	1045.00	5225.00
(d)	With toughened glass of 8.0 mm thickness	5	sqm	1393.00	6965.00
(e)	With toughened glass of 10.0 mm thickness	5	sqm	1742.00	8710.00
88	Providing and fixing double action hydraulic floor spring of approved brand and manufacture (conforming to IS:6315) for aluminium door including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece MS sheet outer box with slide plate etc., complete as per the directions of Engineer-in-charge. (SS cover plate.)	4	each	2039.00	8156.00
89	Providing and laying water proofing treatment using high solid content liquid applied elastomeric 1.5mm thick water proofing membrane with wearing coarse, chicken mesh, pressed pre cast concrete tile of 20mm thickness etc. all complete as per customer specification clause 9.06.06 of technical specification section -VI Part B, sub section D-01 Civil works and direction of Engineer-in-charge.	1400	sqm	1030.00	1442000.00

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PART B- CONTROL ROOM BUILDING & FENCE WORK					
S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
90	Providing and fixing on wall face sand cast iron pipes conforming to IS: 1230 for rain water pipe including providing suitable bends at inlet points all complete as per direction of Engineer-in-charge.				
(a)	150mm dia	65	meter	1159.00	75335.00
(b)	100mm dia	30	meter	859.00	25770.00
(c)	75mm dia	10	meter	709.10	7091.00
91	Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter:				
(a)	150 mm	20	each	320.65	6413.00
(b)	100 mm	10	each	243.75	2437.50
(c)	75 mm	2	each	205.30	410.60
92	Providing and fixing anodised Aluminum grill of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P brass/stainless steel screws @ 200mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and operation of handles and fixing approved anodised aluminium standard section around the opening, etc. all complete (only weight of grill to be measured for payment).	5000	kg	403.35	2016750.00
93	Add for plaster drip course /groove in plastered surface or moulding to RCC projections in (1:3) cement mortar	90	meter	30.75	2767.50
94	Providing and fixing at all height false ceiling including providing and fixing of frame work made of special section power pressed from M.S sheet and galnanised in accordance with zinc coating of grade 350as per I.S: 277 and consisting of nagle cleats of size 25mm wide x 1.6mm thick with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with dash fastener 12.5mm diax40mm long with 6mm dia bolts to the angle hanger being fixed with nut and bolts to G.I channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick button wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I channel with connecting clips made out of 2.64mm diax 230mm long G.I wire at every junction including fixing the gypsum board with ceiling section and perimeter channel 0.5mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450mm centre to centre with 25mm long drivw-all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the board with recommended filler, jointing tapes, finisher and two coats of primer suitable for board as per manufactures specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as per drawing and specification and direction of the Engineer in Charge but excluding the cost of painting with:				
	12.5mm thick tapered edge gypsum board conforming to IS:2095-Part-I	640	sqm	907.10	580544.00

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PART B- CONTROL ROOM BUILDING & FENCE WORK					
S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
95	Providing and fixing insulation of resin bonded mineral wool of 50 mm nominal thickness conforming to IS 8183 having a density of 32 kg/cum glass wool or 48 kg/cum for rock wool, for cladding/under deck insulation including application of glue and tying with lacing wire, for glass/rock wool as per manufacturer's recommendations.	640	sqm	319.90	204736.00
96	Providing and laying non-pressure NP2 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	250mm dia. RCC pipe	5	RM	468.60	2343.00
(b)	300mm dia. RCC pipe	5	RM	506.35	2531.75
(c)	450mm dia. RCC pipe	5	RM	705.90	3529.50
97	Providing and laying non-pressure NP3 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
	250mm dia. RCC pipe	5	RM	370.00	1850.00
	300mm dia. RCC pipe	5	RM	465.00	2325.00
	450mm dia. RCC pipe	5	RM	700.00	3500.00
98	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)	10	meter	490.20	4902.00
99	Finishing walls with Premium acrylic smooth exterior paint with silicone additives of required shade:				
	New work (Two or more coats applied @1.43ltr/10 sqm over and including priming coat of exterior primer applied @2.2kg/10 sqm)	1100	sqm	94.95	104445.00
100	Providing & fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partitions, etc, with 6mm thick clear toughened glass on inner face and 6mm thick reflective toughened glass on outer face both sides having 12mm air gap including providing EPDM gasket, perforated aluminium spacers, dessicants, sealants (both primary & secondary sealant) etc. as per specifications, drawings & direction of Engineer-in-charge complete.	30	sqm	3708.00	111240.00
101	Providing and fixing fire proof door with panic devices as per IS :3614 (part-II) and manufacturer design with fire rating of 2 hours and double cover plated type with mineral wool insulation all complete as per direction of Engineer-in-Charge.	5	sqm	4635.00	23175.00
102	Providing & fixing of glass strip 400 mm wide & 4 mm thick in concrete flooring.	50	RM	50.05	2502.50

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PART B- CONTROL ROOM BUILDING & FENCE WORK					
S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
103	Providing & fixing PVC coated galvanised chain link fencing, all as per technical specification section-VI Part-B sub section- D-01 civil works clause 8.04.0 and drawing no TB-1-369-607-618 sh 2 & directions of Engr-in-Charge. (The cost shall include all labour material like PVC coated GI chain link fencing, fence post and angles, flats, concertina,tension wire, bolts etc. excluding Excavation, bachfill, disposal,concrete, reinforcement, brick work, coping, plaster.)	1780	RM	3250.00	5785000.00
104	Providing and fixing gate as per drawing no TB-1-369-607-618 sh1 all complete and as per direction of Engineer-in-charge (The cost shall include all labour, material like pipe, plates, M.S rod, flats, angles, pivot, bolts and nuts, priming, painting etc. except RCC, PCC and reinforcement steel which will be paid in respective item.)	2000	kg	90.10	180200.00
105	Providing and applying polysulphide based sealant conforming to IS:12118 in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves:	20	m	515.00	10300.00
106	Steelwork welded in built up sections/framed work including providing, cutting, hoisting, fixing in position and galvanising of minimum weight 610g/sqm as per IS 4736 etc., as required.				
	In ladders, hand rails, and similar works.	500	kg	72.00	36000.00
107	Providing and supplying G.I grating of 40mm thickness and opening size 30mmx100mm, with thickness of main bearing bar 3mm ,including blast cleaned to Sa 2 1/2 finish of Swedish standard SIS 05-5900 and , priming, finish painting and galvanising of minimum weight 610gms/Sqm all complete as per customer specification and direction of Engineer in charge.	200	kg	72.00	14400.00
108	Demolishing brick work manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in- charge.				
a	In cement mortar	2	cum	754.10	1508.20
109	Demolishing RCC work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	2	cum	1302.30	2604.60
110	Providing and installing soak pit including excavation, filling with brick bat and brick ballast, disposal all complete as per specification and drawing and direction on Engineer-in- charge.	1	Nos	31500.00	31500.00
	Total				37137516.55