

## ANNEXURE-I

**BILL OF QUANTITY AND PRICE SCHEDULE**

Name of Project  
Name of Work

: 66KV GIS SUBSTATION AT ONGC Hazira  
: CIVIL WORKS OF GIS & CRB BUILDING

S.No.	Description of Item	Quantity	Unit	Rate	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 4m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil .	1280	cum	129.35	165568.00
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 4.0m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil .	1100	cum	130.80	143880.00
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 4.0m.	700	cum	83.80	58660.00
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.	1700	cum	82.78	140726.00
(b)	Lead upto 3 km.	100	cum	104.98	10498.00
(c)	Lead upto 5 km.	100	cum	125.92	12592.00
5	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete.	390	cum	749.30	292227.00
6	Supplying chemical emulsion in sealed containers including delivery as specified. Chloropyriphos emulsifiable concentrate of 20%	30	litre	185.95	5578.50
7	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)	540	sqm	88.25	47655.00
8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	10	cum	3888.20	38882.00
(b)	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	120	cum	3593.30	431196.00
(c)	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40mm nominal size)	10	cum	3357.40	33574.00
9	Providing and laying damp proof course 40mm thick cement concrete 1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 6 mm downgraded) .	40	sqm	207.55	8302.00
10	Extra for providing and mixing water proofing material of zydex,sika or similar make in cement concrete work @ 1kg per 50kg of cement.	10	per 50kg cement	35.35	353.50
11	Applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7 kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	40	sqm	96.65	3866.00
12	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping 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, retard 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 @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
(a)	All works upto plinth level	630	cum	5242.15	3302554.50
(b)	All works above plinth level upto floor V level	440	cum	5781.50	2543860.00

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13	Add for using extra cement in the items of design mix over and above the specified cement content therein.	650	quintal	589.80	383370.00
14	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	100	cum	5094.85	509485.00
15	Providing ,laying and compacting stone base under the floors including sand filling in voids, all material, labour & T & P with ramming, watering, compaction complete as per drawing and direction of Engineer-in-Charge.	130	cum	749.30	97409.00
16	Centering and shuttering including strutting, propping, etc., and removal of form at all heights for.				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	580	sqm	166.90	96802.00
(b)	Columns, Pillars, Piers, Abutments, Posts and Struts	910	sqm	365.60	332696.00
(c)	RCC walls at all levels (any thickness).	1890	sqm	285.15	538933.50
(d)	Suspended floors, roofs, landings, balconies and access platform	1230	sqm	311.20	382776.00
(e)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	1290	sqm	262.25	338302.50
(f)	Stairs (excluding landing)	170	sqm	326.30	55471.00
(g)	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof -- Suspended floors, roofs, landing, beams and balconies (Plan area to be measured)	1220	sqm	121.65	148413.00
17	Steel reinforcement -TMT/High Yield Strength Deformed steel bars of grade Fe-500 bars conforming to IS-1786 including FUSION BONDED EPOXY COATING as per IS:13620 and PVC coated binding wire.				
(a)	Including supply, straightning, cutting and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	8300	kg	62.25	516675.00
(b)	Excluding supply but including straightning, cutting, bending, binding (i/c cost of PVC binding wire), placing in position, etc., all labour & material, complete. (Reinforcement steel shall be supplied by BHEL free of cost at site. Unloading, storing, watch & ward shall be in the scope of the bidder)	91500	kg	9.00	823500.00
18	Grouting of block outs, pockets, foundations, bolts holes and underside of base plates 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.				
(a)	Cement, sand, aggregate of size 6mm down grout 1:1:2 with non-shrink additive and shall be of strength not less than M30	2	cum	8010.00	16020.00
19	Brickwork with F.P.S. (Non modular) bricks of class designation 7.5 in foundation and plinth in:				
(a)	Cement mortar 1:6 (1 cement : 6 coarse sand)	20	cum	3316.55	66331.00
20	Brickwork with F.P.S. (Non modular) bricks of class designation 7.5 in superstructure above plinth level upto V level in all shapes and sizes:				
(a)	Cement mortar 1:5 (1 cement : 5 coarse sand)	300	cum	3972.00	1191600.00
21	Half brick masonry with F.P.S. (Non modular) bricks of class designation 7.5 in foundation and plinth in:				
(a)	Cement mortar 1:4 (1 cement : 4 coarse sand)	10	sqm	416.95	4169.50
22	Half brick masonry with F.P.S. (Non modular) bricks of class designation 7.5 in superstructure above plinth upto floor V level.				
(a)	Cement mortar 1:4 (1 cement : 4 coarse sand)	40	sqm	476.85	19074.00
23	20 mm cement external (or rough side) plaster in two coats under layer 12 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished with a top layer 8 mm thick cement plaster 1:2 (1 cement : 2 fine sand).	1320	sqm	198.25	261690.00
24	12mm cement plaster internal (or even side) of the walls in the mix:				
(a)	1:3 (1cement :3coarse sand)	700	sqm	164.50	115150.00
25	6mm cement plaster to ceiling of mix.				

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(a)	1:3 (1 cement : 3 fine sand)	1350	sqm	101.00	136350.00
26	2mm thick plaster of paris putty over the plastered surfaces on wall surfaces as directed by engineer-in-charge.	700	sqm	83.80	58660.00
27	Plaster drip course/groove in plastered surface or moulding to RCC projections:	150	meter	22.25	3337.50
28	Applying priming coat				
(a)	With zinc silicate primer of approved brand and manufacture on steel works.	160	sqm	20.70	3312.00
29	Supplying & fixing (all dia & length) foundation bolts in position with help of proper templates including nuts, washers and template all complete as per drawings & directions of Engr-in-Charge.	600	kg	86.55	51930.00
30	Extra over Item above for providing galvanised bolts (Mass of zinc coating = 710gms/sqm), nuts & washer .	600	kg	9.61	5767.20
31	Fixing (all dia & length) foundation bolts in position with help of proper templates( template to be supplied by contractor) including nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge.(Foundation bolts shall be supplied by BHEL.)	60	kg	12.02	720.90
32	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 M30	60	Cum	7106.76	426405.41
33	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
(a)	Granite of any colour and shade	90	sqm	3041.15	273703.50
34	Structural steelwork welded in built up sections like edge protection angles,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.	34310	kg	59.90	2055169.00
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 inside the buildings with chequered plates, stringers, treads, landings etc of staircases involving use of chequered plates, wherever required, all complete.	1250	kg	67.20	84000.00
(b)	In gratings, rails ,mono rails, frames, ladders, stair railings, gates(including pipe) ,gantry girder(beams,channels etc), and similar works.	2290	kg	77.90	178391.00
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.				
(a)	50mm thick with 12.5mm nominal size stone aggregate.	20	sqm	350.06	7001.25
37	40mm thick CC flooring with concrete hardner topping under layer 40mm thick CC 1:2:4 (1cement:2 coarse sand: 4 stone aggregate 10mm nominal size) and top layer 12 mm thick Hardcrete cement hardner consisting of mix 1:3 (1 cement hardner mix: 3 stone aggregate 6mm nominal size) by volume with which hardening compound of approved quality is mixed @ 2 liter per 50 Kg of cement including cement slurry, but excluding the cost of nosing of steps etc., complete.	600	sqm	323.46	194076.92
38	Cement plaster skirting (upto 30cm height) with cement mortar 1:3 ( 1 cement : 3 coarse sand) finished with floating coat of neat cement.				
(a)	18mm thick	20	sqm	258.20	5164.00

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S.No.	Description of Item	Quantity	Unit	Rate	Amount(Rs)
39	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 25mm thick in flooring/Dado. The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 15mm thick cement mortar underbed complete as per IS 9510 and IS 412 and as per specification.	90	sqm	1619.90	145790.69
40	Providing and laying Ceramic glazed floor tiles of size 300x300 mm(thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4Coarse sand), including pointing the joints with white cement and matching pigment etc., complete.	40	sqm	764.55	30582.00
41	Providing and fixing 1st quality ceramic glazed tiles conforming to IS:15622 of minimum thickness 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.	130	sqm	724.25	94152.50
42	Providing and laying of minimum 10 mm thick pre-polished vitrified tiles conforming to IS 15622 in different sizes of approved make and colours laid over 20 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.				
(a)	Size of Tile 60X60 cm.	240	sqm	1337.10	320904.00
43	Providing and fixing pre polished vitrified tiles minimum thickness 10 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.	30	sqm	1339.20	40176.00
44	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.				
(a)	On steel work	20	sqm	105.50	2110.00
(b)	On concrete work	60	sqm	108.55	6513.00
45	Providing and fixing door shutters 35 mm thick, with Pre-laminated medium density fibre board (MDF exterior grade) having one side decorative lamination and other side balancing lamination, including IInd class teak wood lipping of 35 mm wide x12 mm thick with necessary screws and bright finished stainless steel piano hinges, complete as per direction of the Engineer-in-Charge	10	sqm	2019.92	20199.20
46	Providing and fixing pressed steel door frames conforming to IS: 4351 manufactured from commercial mild steel sheet of 1.60 mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25mm, or base ties of 1.60 mm pressed mild steel welded or rigidly fixed together by mechanical means, including M.S. pressed 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	30	RM	370.00	11100.00
47	Providing & fixing 45mm steel door shutter made of double sheet 18G steel suitably reinforced with 20G vertical and horizontal stiffeners and filled with mineral wool, including frame, etc., all complete as per drawing and instruction of Engineer -in-Charge.	10	sqm	4313.10	43130.97

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S.No.	Description of Item	Quantity	Unit	Rate	Amount(Rs)
48	Providing and fixing aluminium work for doors, windows, ventilators and partitions as per IS:1948 & 1949 with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
(a)	For fixed portion	570	kg	358.30	204231.00
(b)	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)	1330	kg	406.50	540645.00
49	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 6 mm thickness.	30	sqm	988.09	29642.73
(b)	With float glass panes of 4 mm thickness.	50	sqm	725.35	36267.50
(c)	With frosted glass panes of 4 mm thickness.	10	sqm	725.35	7253.50
50	Providing and fixing fire proof door with panic devices as per IS:3614 (part-I & part-II) and manufacturer design with minimum fire rating of 2 hours and double cover plated type with mineral wool insulation all complete as per direction of Engineer-in-Charge.	10	sqm	9391.51	93915.07
51	Providing & fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partitions, etc, with 6mm thick toughened safety glass conforming to IS: 2553 on 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.	20	sqm	3328.40	66568.00
52	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				
(a)	Second class teak wood	1.00	cum	85813.30	85813.30
53	Providing and fixing panelled or panelled and glazed shutters for doors, windows and clerestory windows including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws, all complete as per direction of Engineer-in-charge.				
a)	Second class teak wood - 38 mm thick shutters	10	sqm	2642.68	26426.83
54	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logoembossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot andsingle piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.	20	each	1953.10	39062.00
55	Providing and fixing aluminium sliding door bolts anodised (anodic coating not less than .06mm as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc., complete.				
(a)	300 X 16mm	10	each	203.80	2038.00
(b)	250 X 16 mm	10	each	168.95	1689.50
56	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	10	each	100.40	1004.00
(b)	250 X 10 mm	80	each	86.45	6916.00

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S.No.	Description of Item	Quantity	Unit	Rate	Amount(Rs)
57	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	18	each	62.50	1125.00
58	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
59	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. 80X1.20 mm MS laths with 1.2mm thick top cover.	14	sqm	1583.40	22167.60
60	Providing and fixing ball bearing for rolling shutters.	1	each	429.85	429.85
61	Extra for providing mechanical device chain and crank operating rolling shutters. operation for Exceeding 10.00 sqm in the area	1	sqm	627.35	627.35
62	Providing and fixing M.S. grills of required pattern in frames of windows etc. with MS flats, square or round bars etc. including priming coat with approved steel primer all complete.	40	kg	98.20	3928.00
63	White washing with lime to give an even shade New work (3 or more coats)	260	sqm	11.75	3055.00
64	Distemping with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer	520	sqm	66.70	34684.00
65	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : Two or more coats on new work.	1650	sqm	60.25	99412.50
66	Providing and applying two or more coats of Apex Ultima/ Exterior weather shield from ICI or equivalent paint of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/washing, preparing the surface using coir brush/ wire brush, sand paper, including cost of primer and paint, surface preparation, filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent and extremely durable with color fastness as per specification.	1320	sqm	148.54	196072.80
67	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade: Two or more coats on new work.	70	sqm	53.85	3769.50
68	Painting with Acid resistant resin based Epoxy coating over two coats of DECKURDS-S manufactured by FOSROC or equivalent of required colour to give an even shade. Two or more coats on new work.	40	sqm	50.50	2020.00
69	Providing and applying 2 or more coats of acid/alkali resistant chlorinated rubber based paint of approved brand and colour over a coat of chlorinated rubber based primer, as per manufactures instructions over plastered surfaces. including cost of primer and paint, preparation of surfaces, scaffolding etc., all complete as per per manufacturers guidelines.	60	sqm	392.97	23578.20

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S.No.	Description of Item	Quantity	Unit	Rate	Amount(Rs)
70	Providing and fixing white vitreous china water closet squatting pan ( Indian type W.C. pan) as per IS 2556 with 100 mm sand cast iron P or S trap, 15 litre low level P.V.C. flushing cistern ( of approved make ) with fittings, C.I./M.S. brackets, 32 mm diameter flush pipe with fittings and clamps, overflow arrangement with specials and mosquito proof coupling of approved municipal design including painting of fittings and brackets, cutting and making good the walls and floors wherever required.				
	Orissa pattern W.C. Pan of size 580 x 440 mm with integral type foot rests flush pipe and overflow arrangement.	1	each	2964.10	2964.10
71	Providing and fixing white vitreous china pedestal type water closet ( European type W.C. Pan) as per IS 2556 with seat and lid, C.P. Brass hinges and rubber buffers, 15 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.	1	each	4220.80	4220.80
72	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350 mm with white PVC automatic flushing cistern,with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS :2556, C.I. trap with outlet grating and other couplings in C.P. brass,including painting of fittings and cutting and making good the walls and floors wherever required :				
	Single half stall urinal with 5 litre P.V.C. automatic flushing cistern	3	each	5354.50	16063.50
73	Providing and fixing granite 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.	2	sqm	2942.05	5884.10
74	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require : White Vitreous China Wash basin size 550x400 mm with a pair of 15 mm C.P. brass pillar taps	3	each	1679.95	5039.85
75	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	Kitchen sink with drain board 510x1040 mm bowl depth 250 mm	1	each	6743.55	6743.55
76	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	5	each	24.60	123.00
77	Providing and fixing 600 x 450 x6 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.	2	each	674.05	1348.10
78	Providing and fixing 600 x 127 x 4 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.	2	each	341.25	682.50
79	Providing and fixing 600 X 20 mm Stainless steel towel rail complete with fitting arrangement of approved quality and make.	5	each	658.95	3294.77
80	Providing and fixing Stainless steel liquid soap holder cum dispenser complete with fitting arrangement of approved colour, quality and make.	5	each	769.73	3848.65
81	Providing and fixing toilet paper holder. CP brass.	2	each	250.95	501.90
82	Providing and fixing soil, waste and vent pipes: 100 mm dia. Sand cast iron S & S pipe.	10	RM	734.30	7343.00

**BILL OF QUANTITY AND PRICE SCHEDULE**

Name of Project  
Name of Work

: 66KV GIS SUBSTATION AT ONGC Hazira  
: CIVIL WORKS OF GIS & CRB BUILDING

S.No.	Description of Item	Quantity	Unit	Rate	Amount(Rs)
83	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)	15 mm dia nominal bore.	25	RM	161.60	4040.00
(b)	20 mm dia nominal bore.	25	RM	188.05	4701.25
(c)	25 mm dia nominal bore.	50	RM	243.15	12157.50
(d)	32 mm dia nominal bore.	20	RM	296.50	5930.00
84	Providing and fixing G.I. Pipes (medium grade) complete with G.I. Fitting and clamps , including trenching and refilling, etc. ( external work).				
(a)	15 mm dia nominal bore.	10	RM	142.25	1422.50
(b)	20 mm dia nominal bore.	50	RM	161.25	8062.50
(c)	32 mm dia nominal bore.	50	RM	248.55	12427.50
(d)	40 mm dia nominal bore.	30	RM	294.20	8826.00
85	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	277.35	277.35
86	Providing and fixing C.P. brass bib cock of approved quality				
(a)	15mm nominal bore	4	each	205.60	822.40
(b)	20mm nominal bore	2	each	266.15	532.30
87	Providing and fixing brass stop cock of approved quality				
(a)	15mm nominal bore	4	each	205.60	822.40
(b)	20mm nominal bore	2	each	266.65	533.30
88	Providing and fixing gun metal gate valve with CI wheel of approved quality (screwed end)				
(a)	25mm nominal bore	2	each	372.95	745.90
(b)	40mm nominal bore	1	each	546.05	546.05
89	Providing and fixing ball valve (brass) of approved quality , high or low pressure with plastic floats complete. 25mm nominal bore	1	each	421.65	421.65
90	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 testing of joints etc. complete :				
(a)	100 mm diameter.	15	RM	150.10	2251.50
(b)	150 mm diameter.	10	RM	219.05	2190.50
91	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 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 per standard design : 100 x 100 mm size P type With F.P.S bricks	1	each	1256.35	1256.35
92	Providing and placing on terrace ( at all floor levels ) polyethylene water storage tank of SINTEX brand or approved equivalent make, 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	6.10	6100.00
93	Providing and laying water proofing treatment with Polymeric memberane over roof consisting of first coat of bitumen primer @ 0.40Kg per sqm, 2nd & 4th courses of bonding material @ 1.20 kg/sqm, which shall consist of blown type bitumen of grade 85/25 conforming to IS : 702, 3rd layer of roofing membrane 2.0 mm thick of 3.00 Kg/sqm weight consisting of five layers prefabricated with centre core as 100 micron HMHDPE film sandwiched on both sides with polymeric mix and the polymeric mix is protected on both side with 20 micron HMHDPE film. 5th, the top most layer shall be 20 mm layer of cement mortar 1:4 (1 cement : 4 fine sand) with chicken wire mesh and finished neat including all labour, T&P and material required for all allied activity including all allied activites and as per technical specification and instruction of Engineer in Charge.	475	sqm	300.75	142856.25

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S.No.	Description of Item	Quantity	Unit	Rate	Amount(Rs)
94	Providing and laying in position screed concrete of 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate ) grade at roof in required slope including all labour, T&P, material as per drawing, tech spec and instruction of engineer in charge.	40	cum	4514.05	180562.00
95	Providing and fixing on wall face Cast Iron rain water pipes shall conform to IS:1230 including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.: Single socketed pipes all complete including clamps, bends etc making good the walls etc. wherever required				
(a)	110 mm diameter.	230	meter	206.90	47587.00
96	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	30	each	32.75	982.50
97	Providing and fixing at all heights pre-coated aluminium panelled acoustic false ceiling Luxalon of Hunter Douglas or Interarch having approved colour with stove enamel finish all complete as per Customer's Specification and directions of Engineer-in-charge.(Rate shall be inclusive of all items including laying of 50mm thick rock wool insulation bound in polythene bags over false ceiling panels, making openings for light fittings, grills, diffusers, cutouts etc.)	230	sqm	2932.96	674580.80
98	Providing and fixing thermal insulation of ceiling (under deck insulation) with 50 mm thick bonded mineral wool conforming to Group I of IS: 8183 with aluminium foil facing. wherever required, including supply and fixing of ms angle cleats, GI wire, chicken wire mesh etc. all complete as per customer's specification and instruction of Engineer-In-charge	230	sqm	431.70	99291.00
99	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	4	each	7132.00	28528.00
100	Extra for depth for manholes				
	Size 90X80cm With FPS bricks	4	RM	4061.70	16246.80
101	Making soak pit 2.5m diameter 3m deep with 45X45cm dry brick honeycomb shaft with bricks of class designation 75 and SW drain pipe 100mm diameter, 1.8m long complete as per standard design and specification.				
	With FPS bricks	1	each	15228.15	15228.15
102	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.	288	sqm	61.25	17609.38
103	Suppling and stacking at site				
(a)	90 mm to 45 mm size stone aggregate	65	cum	1010.75	65698.75
(b)	63 mm to 45 mm size stone aggregate	26	cum	1100.80	28620.80
(c)	53mm to 22.4 mm	20	cum	1190.80	23816.00
(d)	Stone screening 13.2 mm nominal size (type A)	11	cum	1338.75	14726.25
(e)	11.2 mm nominal size (Type B)	13	cum	1425.85	18536.05
(f)	Moorum	26	cum	624.45	16235.70
104	Laying WBM with specified size of stone aggregates, screening and moorum/ blinding materials including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc., complete. (Payment will be made for compacted layers only).				
(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.	20	cum	330.15	6603.00

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S.No.	Description of Item	Quantity	Unit	Rate	Amount(Rs)
(c)	Base course with stone aggregate 53mm to 22.4 mm including stone screening 11.2mm size.	15	cum	330.15	4952.25
(d)	Laying and compacting of moorum in shoulder	15	cum	66.80	1002.00
105	Providing and applying tack coat using hot straight run bitumen of grade VG - 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications :				
(a)	On W.B.M. @ 1.0 Kg / sqm.	190	sqm	53.53	10171.33
(b)	On bituminous surface @ 0.50 Kg / sqm.	190	sqm	29.00	5510.00
106	Providing and laying Bitumen Penetration Macadam with hard stone aggregate of quality, size and grading as specified, with bitumen of suitable penetration grade including required key aggregate as specified, spreading coarse aggregate with the help of self propelled/ tipper tail mounted aggregate spreader and applying bitumen by a pressure distributor and then spreading key aggregate with the help of aggregate spreader complete including consolidation with road roller of minimum 8 to 10 tonne capacity to achieve specified values of compaction and surface accuracy:				
(a)	For 115 mm compacted thickness using stone aggregate of size 63-41 mm graded, key aggregate of size 20.0 mm graded With paving asphalt grade VG - 10 @ 104 kg/10 sqm.	15	sqm	775.25	11628.80
107	5 cm thick bitumastic sheet with hot bitumen of approved quality using stone chippings (60% 12.5mm nominal size and 40% 10mm nominal size) @2.70cum per 100 sqm and coarse sand at 2.70cum per 100 sqm of road surface and with bitumen @ 56 kg/cum. of stone chippings and at 128kg/cum of sand over a tack coat with hot straight run bitumen including consolidation with road roller of 8 to 10 tonne etc. complete. (tack coat to be paid separately) :				
(a)	With paving Asphalt grade VG - 10 heated and then mixed with solvent at the rate of 70 grams per kg of asphalt.	190	sqm	433.56	82376.88
108	Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade 80/100 bitumen per cum of fine aggregate and 0.60 cum of fine aggregate per 100 sqm of road surface including rolling and finishing with road roller all complete.	190	sqm	61.30	11647.00
109	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 payment).	3	cum	5046.80	15140.40
110	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)	150mm dia. RCC pipe	10	RM	254.50	2545.00
(b)	250mm dia. RCC pipe	10	RM	342.45	3424.50
(c)	300mm dia. RCC pipe	10	RM	422.90	4229.00
(d)	450mm dia. RCC pipe	10	RM	620.85	6208.50
111	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.				
(a)	250mm dia. RCC pipe	10	RM	353.29	3532.86
(b)	300mm dia. RCC pipe	60	RM	490.47	29428.38
(c)	450mm dia. RCC pipe	10	RM	714.10	7140.96
112	Providing and placing in position suitable PVC water stops conforming to IS 12200 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)	40	meter	459.15	18366.00

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S.No.	Description of Item	Quantity	Unit	Rate	Amount(Rs)
113	Providing and applying two coats of ERPB (Epoxide resin based anticorrosive and chemical resistant paint) over a coat of CPCI (concrete penetrating bipolar corrosion inhibitor) shall be applied with 300 to 325 micron DFT on the side faces of foundations after cleaning the surface with brushes.(For all lifts and leads).	1200	sqm	492.78	591336.00
114	Providing and applying IP net coating system (total DFT of 370 micron) to exposed concrete surfaces of approved make and as per manufacturer's recommendation.	1000	sqm	89.82	89820.00
115	Breaking of pile heads of exiting piles manually/ by mechanical means and preparing it in all respect for casting of the pile caps including disposal of dismantled material up to a lead of 100 meters, as per direction of Engineer-in-charge all complete.	30	cum	978.95	29106.02
116	Providing & fixing chicken wire mesh in plaster all complete as per specification and direction of Engineer - in - charge.	20	sqm	28.20	563.91
117	Demolishing R.C.C. 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.	5	cum	978.95	4894.75
118	Demolishing brick work in cement mortar 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.	5	cum	566.60	2833.00
119	Providing and laying stone aggregate in switch yard areas in 75mm thick layer using 20 mm aggregates size in layer I and 75mm thick layer using 40mm size aggregate in layer II making overall thickness of stone aggregate as 150mm. Before laying the stone aggregates, the yard surface shall be treated with antiweed treatment all complete as per Customer's specification and direction of Engineer in Charge. (The rate shall be inclusive of all materials ,labour,loading,unloading and surface preparation, compaction, micro grading etc. required for aggregate laying and antiweed treatment)	50	Sqm	204.26	10212.75
120	Antiweed treatment in switchyard area including micro leveling, dressing etc as per Technical Specification.	500	Sqm	18.2	9100.00
121	Removal, cleaning & washing of existing stone and relaying of stone in switchyard including supply of extra matching gravel but excluding micro leveling, dressing & antiweed treatment as per Technical Specification.	450	Sqm	72.8	32760.00
122	Providing and fixing 3.0meter high PVC coated GI chain link fencing including all allied activities, all complete as per approved drawing and direction of Engineer -in -charge .(Rates shall be inclusive of all items like angles, flats,pipes, chainlink fence, barbed wire, hardwares, toe wall,plastering ,PCC, etc all complete as per approved drawing) and as per customer's specification.	50	M	2950.00	147500.00
				<b>TOTAL</b>	<b>21553914</b>

**TRANSMISSION BUSINESS GROUP  
(SUB- CONTRACTS MANAGEMENT)  
TBG – NOIDA**

**PRICE SCHEDULE FORMAT**

**(ANNEXURE-A)**

**SUB: EXECUTION AND HANDING OVER OF CIVIL WORKS OF 66KV  
GIS BUILDING AT HAZIRA IN GUJARAT.**

- (a) I/ We hereby agree to execute the above work at ----- % (in figure) ----- (in words) Above/ Below the rates of items given in BOQ for civil works (Annexure-I) of subject tender.

**NOTE:**

1. In case of discrepancy in rates in figure and words, the minimum will be taken into account by BHEL.

Date:

Place

Signature of tenderer  
Name & Designation of authorized person(s) with seal