

COST ABSTRACT**Construction of Office Campus including Buildings and Services on Plot No. 7 & 8 of Phase 1, Sector-24 at Naya Raipur**

Sl. No	Description	Amount in Figures (In INR)	Amount in Words (In INR)
A	CIVIL WORKS	-	
B	SITE DEVELOPMENT AND ROAD WORKS	-	
C	HVAC WORKS	-	
D	FIRE FIGHTING WORKS	-	
E	PLUMBING WORKS	-	
F	ELECTRICAL WORKS	-	
	TOTAL	-	

BILL OF QUANTITY

Construction of Office Campus including Buildings and Services on Plot No. 7 & 8 of Phase 1, Sector-24 at Naya Raipur

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A CIVIL WORKS						
I	EARTH WORK					
1	Excavation in all types and sizes of foundations, trenches and drains or for any other purpose with all lead and lift including seperation of usefull soil for refilling and stacking & levelling of same, and disposal of surplus excavated stuff and spoils beyond NRDA boundries or as directed by Engineer In-charge including souring, dewatering, surface dressing, etc., complete as per direction of Engineer In-charge.					
a	In all types of soil	cum	57,140.00			-
b	In Soft rock	Cum	8,570.00			-
c	In hard rock	Cum	8,570.00			-
2.00	Surface dressing of the ground including removing vegetation and making up undulations and in-equalities not exceeding 15 cms in depth/ height including disposal of rubbish upto 1.5 m lift and lead upto 50m (at least 5m away from the dressed area).	sqm	22,290.00			-
3.00	Extra for every additional lift of 1.5 m or part thereof.					
a	In all types of soil	cum	1,08,564.40			-
b	Ordinary or hard rock	cum	5,713.92			-

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	BACK FILLING					
4	Filling from available excavated stuff (Excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20cm in depth consolidating each deposited layer by ramming and watering with a lead upto 50 M. and lift upto 1.5 M.	cum	15,174.00			-
5	Providing and filling in plinth with sand/ Crusher dust and hard moorum under floor in layers not exceeding 20cm in depth consolidating each deposited layer by ramming and watering, including dressing etc. complete.	cum	3,830.00			-
6	Supplying chlorpyriphos/ Lindane emulsifiable concentrate of 20% in sealed containers including delivery as specified.	litre	3,000.00			-
7	Diluting chemical emulsion (Chlorpyriphos/ lindane) in water as per manufacturers recommendation and injecting for post - constructional anti-termite treatment:					
a	Along external wall where the apron is not provided using diluted chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete:	metre	700.00			-
b	Along external wall below concrete or masonry apron along the plinth wall using diluted chemical emulsion @ 0.65 litres per hole including drilling 12mmdia holes 300mm apart and plugging the same with cement mortar 1 :2 (1 cement : 2 Coarse sand) to match the existing apron after injecting chemical emulsion.	metre	700.00			-
8	Diluting chemical emulsion (Chlorpyriphos/ lindane) in water as per manufacturers recommendation and injecting for pre-constructional curative cum preventive anti-termite treatment: (Five year service guarantee bond to be signed by contractor)					
a	Surface treatment by spreading emulsion under floor, over the plinth area before laying base concrete @ 5 litres / sqm.	sqm	13,950.00			-
9	Providing and laying 150/ 230 mm thick dry rubble packing below flooring, etc. and in foundations where directed with good quality blue basalt stone of approximately cubical shape of required thickness, hand setting including filling chips, spall sand in interstices ramming with mechanical rammer, watering, etc. as directed by Engineer-In -Charge etc. complete.	cum	3,150.00			-

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II	FORMWORK					
1	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:					
a	Foundations, footings, base of columns and plinth beam in any shape and size.	sqm	3,456.00			-
b	Wall of any thickness including attached pilasters, buttresses etc.	sqm	5,164.00			-
c	Small lintel not exceeding 1.5m clear span.	sqm	98.00			-
d	Edge of slab, breaks in floor and walls upto 200mm.	metre	6,596.00			-
e	Columns, Pillars, Piers and likes- rectangular or square in shape	sqm	14,000.00			-
f	Suspended floors, roofs, access platform, balconies (plain surfaces) and shelves (cast in situ)	sqm	42,224.00			-
g	Beams, lintels, cantilevers & walls	sqm	11,606.00			-
h	Stair cases of all types excluding spiral and folded plate type, including risers and landings	sqm	1,330.00			-
2	Extra for additional height every 1m or part thereof where height of staging for formwork exceeds 4.0 m, with adequate bracing, propping etc at all levels, for suspended floor, roof, landing, beam and balcony. (only plan area is to be measured)	sqm	43,362.00			-
3	Extra for providing fixing and removing of propping from lower floor upwards for the concreting. Propping should be provided two floors below. The props of lower floor must be 50% of the props of the floor above including wedging etc. complete. In case propping is done in one floor below, only half the rate shall be paid.	sqm	42,992.00			-

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4	Providing and fixing double scaffolding system (cup lock type) on the exterior side, upto seven story height made with 40mm dia. M.S. tube 1.5 m centre to centre horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after .The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-in-charge. The elevation area of the scaffolding shall be measured for payment purpose .The payment will be made once irrespective of duration of scaffolding. (To be used for maintenance work judicially necessary deduction for scaffolding in the existing item to be done.)	sqm	19,324.00			-
III	CEMENT CONCRETE (PLAIN AND REINFORCED)					
1	Providing and laying design mix reinforcement cement concrete with crushed graded stone aggregate 20mm nominal size Including plastisizers or retarders if required,using batching plant, transit mixer and concrete pump, in all works upto floor five level excluding cost of reinforcement and form work.					
a	M-20 (using minimum cement 390 kg/cum concrete)	cum	3,000.00			-
b	M-25 (using minimum cement 410 kg/cum concrete)	cum	664.00			-
c	M-30 (using minimum cement 420 kg/cum concrete)	cum	996.00			-
d	M-35 (using minimum cement 428 kg/cum concrete)	cum	14,940.00			-

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2	Providing and fixing tapered/ parallel threaded couplers conforming to IS code on " Reinforcement Couplers for Mechanical Splices of Bars for Concrete Reinforcement - Specification", to reinforcement bars including therading, enlargement at connection by forging, protecting the prepared reinforcement bars and related operations as required to complete the works as per directions of the Engineer-in-Charge. (The length of bars in which coupler is to be provided should not be less than 4 metre, no deduction for labour and binding wire saved for not providing lap length shall be made).					
a	Coupler for 16 mm dia reinforcement bar	Each	20.00			-
b	Coupler for 20 mm dia reinforcement bar	Each	20.00			-
c	Coupler for 25 mm dia reinforcement bar	Each	16.00			-
d	Coupler for 28 mm dia reinforcement bar	Each	16.00			-
e	Coupler for 32 mm dia reinforcement bar	Each	24.00			-
3	Providing and laying 300 micron Polythene sheet over compacted earth/blinded soling to act as vapour barrier including cutting lapping, jointing etc. complete: Rate to include net overlapping of joints by 100mm. Sealing joints with adhesive (Only plan area to be measured for payment).	m ²	13,950.00			-
4	Providing & laying plum concrete using 150mm & down size selected rubble stones placed in concrete 1:2:4 in the proportion of 40% rubble & 60%concrete consolidation, finishing, curing etc. as per item above.	cum	2,000.00			-
5	Providing and placing in position reinforcement for R.C.C. work including straightening, cutting, bending, binding etc. complete as per drawings including cost of binding wire all complete:					
a	Thermo-Mechanically treated bars (HYSD Fe 500) including binding wire 18 SWG GI wires.	kg	23,88,720.0			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
						-
	DAMP-PROOF COURSE (DPC)					-
6	Providing and laying damp proof course (upto 50mm thick) with plain cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded crushed stone aggregate 20mm nominal size) including formwork.	cum	1.24			-
7	<p>EXPANSION JOINTS: HORIZONTAL & VERTICAL</p> <p>Following procedure shall be followed to treating the expansion joints of roof and walls. · The expansion joints shall be thoroughly cleaned including chipping of existing mortar, thermocol / shalitek board etc. up to a depth of 200 mm. · The expansion joint shall be treated upto a depth of 200 mm filled with polysulphide sealant (gun grade) with polysterene board (thermocol sheet) of 50 mm thick and 50 mm wide as a backing material. Polysulphide sealant (gun grade) shall be applied over the thermocol sheet to have a watertight surface.</p> <p>·Place 1 mm thick aluminium sheet over the expansion joint with minimum 75 mm on either side of the expansion joint.</p> <p>·One side of the aluminium sheet shall be screwed to the concrete surface and the other side of the aluminium sheet shall be free to move.</p> <p>· One layer of EPDM membrane shall be fixed on the surface of the aluminium sheet and concrete with minimum 75 mm width of sheet glued to the concrete surface.</p> <p>· A compressible tube (Polyurethane rod) of diameter equal to the width of the expansion joint shall be placed in position. The PU rod is placed to allow for excess length of the membrane across the expansion joint. · The expansion joint is then covered with second layer of EPDM membrane over the PU rod with minimum 75 mm width of sheet glued to the concrete surface.</p>	Rmt	282.00			-
	Enough extra length of membrane is ensured to accommodate building movement. ·Necessary Waterproofing shall be carried out over this treatment. 25 mm thick cement mortar screed shall be provided over the EPDM membrane. To prevent shrinkage cracks in mortar, polyester fibers shall be added in the cement mortar screed with a dosage of 0.25 % of weight of cement used. A geo textile polyester membrane (200 gsm) shall be provided between EPDM membrane and cement mortar screed for the protection of water proofing membrane. The top of the finished surface shall match with the top surface of the slab for easy movement of rainwater / movement of vehicles.					

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8	Cover Plate for Expansion Joint Providing & fixing 4mm thk, 300mm wide S.S. 316 cover plate, with grooves & chamfered at both ends, fixed on the top of the floor finish at the expansion joint with 3mm thk, 250mm wide anodised Aluminium (colour anodised to a thickness of anodic film not less than 20 microns) cover plate or 100mm x 150mm L angle (where applicable) at the bottom of expansion joint, fixed with counter sunk SS screws as per detail drawing. The item is inclusive of the top & bottom plate. Only the top plate shall be measured, no separate payment shall be made for the bottom plate.	RM	200.00			-
IV	WATER PROOFING					
1	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures using rough Kota stone and consisting of: i) 1st layer of 22mm to 25mm thick approved rough Kota stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 over the levelling course (levelling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. ii) 2nd layer of 25mm thick cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound. iii) Finishing top with stone aggregate of 10mm to 12mm nominal size spreading @ 8 cum/sqm thoroughly embedded in the 2nd layer	sqm	15,450.00			-
2	Providing and laying integral cement based treatment for water proofing on the vertical surface at all levels by fixing 22 mm to 25mm thick rough Kota stone slab with cement slurry mixed with water proofing compound conforming to IS:2645 with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with 20mm thick cement mortar 1:3 (1 cement : 3 coarse sand) with neat cement punning mixed with water proofing compound complete.	sqm	5,320.00			-

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3	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 :					-
a	Serrated with central bulb (225mm wide, 8-11mm thick).	metre	300.00			-
b	Dumb bell with central bulb (180mm wide, 8mm thick).	metre	300.00			-
c	Kickers (320mm wide, 5mm thick).	metre	300.00			-
4	<p>Providing and laying integral cement based water proofing treatment on roofs, balconies, terraces etc with average thickness of 120mm and minimum thickness at khurra as 65 mm, consisting of following operations including surface preparation:</p> <p>i) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement mixed with water proofing compound conforming to IS. 2645 over the RCC slab including adjoining walls upto 300mm height.</p> <p>ii) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) mixed with water proofing compound conforming to IS : 2645 over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) mixed with water proofing compound conforming to IS : 2645 to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.</p> <p>iii) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645.</p> <p>iv) Finishing the surface with 20 mm thick joint less cement mortar of mix 1:4 (1 cement :4 coarse sand) mixed with water proofing compound conforming to IS : 2645 including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3mm deep.</p> <p>v) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order:</p>	m2	8,346.00			-

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5	Providing grouting work for treatment of dampness & Seepage in walls of basement, plinth, super structure (occurs due to ground water table rising and absence of damp proof course at plinth level), with ROFF materials (ROFF Hyguard, ROFF Hyinject and ROFF grout mix) including preparing the surface, drilling holes in walls in zigzag manner spacing 150 mm center to center, pressure grouting by injecting the material, plugging holes with ROFF Grout GP and one coat of ROFF Hyguard and finished with 15mm cement plaster in cement mortar 1:4 (1 cement : 4 coarse sand)	m2	2,820.00			-
6	Water proofing IN TOILET / KITCHEN (FLAT SLAB) : Providing and laying waterproofing for toilets/ kitchen (flat slab) with Cementitious Catalytic Providing and laying waterproofing for toilets (flat slab) as per specifications listed below with guarantee of 15 years The first part consisting of grouting the porous slab area (if required) with non-shrink cementitious grout. The second part consisting of treating the cracks and construction joints by routing-out to a minimum ¾" x ¾" groove and treating it with a specialised non-shrink cementitious compound XYPEX Modified Mortar. The third part consisting of making vata (gola) at the interface joint of the toilet slab and masonry wall with a specialised non-shrink cementitious compound XYPEX Modified Mortar. The fourth part consisting of sealing / packing all joints of outlet pipes, etc. with a specialised non-shrink cementitious compound XYPEX Modified Mortar and topping it with liquid-applied APAAR Flexiroof - 60. The fifth part consisting of providing and applying providing and applying Cementitious "Catalytic" In-depth Crystalline Waterproofing System of XYPEX make, as per manufacturers' specification to permanently fix non-soluble crystalline growth throughout the capillary tracts and pores of concrete at a speed of 30 cms per year inside concrete. The Cementitious "Catalytic" In-depth Crystalline Waterproofing System shall be able to withstand atleast 405 ft. of water head pressure supported by at least two International Test reports showing clear Scanning Electron Microscopic (SEM) photographs of densified and mature crystals formation and Permeability test as per IS 2720 conducted by CBRI the concrete Should not absorbed water more than 1.5 gms and not more than 1 mm from the concrete surface. The product to be listed in ICC-ES EVALUATION REPORT INDEX January 2009, 2010 & 2011 and the product should be green Certified under any EcoLable program. The "Catalytic" In-depth Crystalline System of XYPEX make shall be applied at a minimum coverage rate of 0.8 kg./sq.m. as per manufacturer's specifications approved by Consultants over the entire toilet flat slab and Providing and applying two coats of APAAR Flexiroof - 60 on walls upto 1 M height from FFL in case of dry area and upto 2 M height from FFL in case of shower area.	sqm	1,510.00			-

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7	<p>(A) WATERPROOFING: PODIUM LANDSCAPE GARDEN</p> <p>1) Grouting the porous slab area with non-shrink cementitious grout</p> <p>2) Treating the cracks and construction joints by routing-out to a minimum 10mm x 10mm groove and treating it with a XYPEX Modified Mortar, a specialised non-shrink cementitious compound.</p> <p>3) Making vata (gola) at the interface joint of the slab and building wall with XYPEX Modified Mortar, a specialised non-shrink cementitious compound.</p> <p>4) Sealing all joints of outlet drain pipe, etc. with XYPEX Modified Mortar, a specialised non-shrink cementitious compound.</p> <p>5) Providing and applying XYPEX Concentrate "Catalytic" In-depth Crystalline Waterproofing System by brush to permanently fix non-soluble crystalline growth throughout the capillary tracts and pores of concrete.</p> <p>6) Providing & applying two coats APAAR Flexiroof – 60 by brush, High Performance Rubber Modified Liquid Waterproofing Membrane over the entire Podium slab and wall up to 300mm.</p> <p>7) Providing and sprinkling of quartz pieces on the second coat of wet membrane to provide protection of membrane as well as bonding of subsequent screed. Brushing of the excess sand after the membrane is set.</p> <p>(B) PROTECTION, INSULATION & SLOPE MAKING: (These parts shall be carried out by the gardening agency / civil Contractor).</p> <p>8) Providing and laying average 15-20mm thick cement mortar 1:4 with required slopes. (by Civil Contractor)</p> <p>9) Providing and laying 75mm thick (average) M20 grade concrete in proper slope with 12mm and down size aggregates and coarse sand admixed with Integral Waterproofing Compound.</p> <p>10) PIPING NETWORK: Providing and fixing network of perforated pipes as per calculated design. The perforated pipe shall be half embedded in concrete and half popping-out of the protective plaster in the ninth part.</p> <p>11) DRAINAGE: Providing and laying a drainage layer which is minimum 125 mm thick section of aggregate, coarse at the bottom and finer towards the top (this part shall be carried out by the gardening agency).</p> <p>12) SOIL CONTAINMENT: Providing and laying polypropylene filtration geo-membrane.</p> <p>13) Providing and laying earth / growing medium as specified by the landscape architect.</p>	sqm	5,640.00			-

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8	<p>PODIUM (DRIVEWAY / HARDSCAPE) :- Providing and applying waterproofing for Podium (driveway / hardscape) as per the specifications listed below and as approved by the engineer-in-charge with a guarantee of 15 years :- CONCRETE WATERPROOFING:The first part consisting of grouting the porous slab area with non-shrink cementitious grout. The second part consisting of treating the cracks and construction joints by routing-out to a minimum ¾" x ¾" groove and treating it with XYPEX Modified Mortar, a specialised non-shrink cementitious waterproof compound. The third part consisting of making vata (gola) at the interface joint of the slab and building wall with XYPEX Modified Mortar, a specialised non-shrink cementitious waterproof compound. The fourth part consisting of sealing all joints of outlet drain pipe, etc. with XYPEX Modified Mortar, a specialised non-shrink cementitious waterproof compound and topping it with liquid-applied APAAR Flexiroof-60 Flexible Waterproofing Membrane. The fifth part consisting of providing and applying Cementitious "Catalytic" In-depth Crystalline Waterproofing System as per manufacturers' specification to permanently fix non-soluble crystalline growth throughout the capillary tracts and pores of concrete at a speed of 30 cms per year inside concrete. The Cementitious "Catalytic" In-depth Crystalline Material of XYPEX make shall be applied by brushing at the coverage rate of 0.8 kg./sq.m on the entire podium driveway / hardscape slab and wall upto 300 mm height. VIBRATION-WITHSTANDING WATERPROOF MEMBRANE WITH HIGH ELONGATION: The sixth part consisting of providing and applying liquid-applied, high build waterproofing membrane based on PU polymer modified bitumen emulsion with addition of silicone and acrylic having elongation > 900%, (offered system : APAAR Flexiroof-60) at the coverage rate of 1kg/sqm in two coats as per manufacturer's specifications approved by Consultants over the entire podium driveway / hardscape slab and walls upto 300 mm height.</p>	sqm	2,570.00			-
	<p>PROTECTION FOR THE MEMBRANE : The seventh part consisting of providing and sprinkling of protective 8/12 grade quartz pieces on the second coat of the wet membrane, to provide for protection of the membrane as well as bonding of the subsequent screed, as per manufacturer's specifications approved by Consultants. Brushing off the excess sand after the membrane has set. CONCRETE SCREED FOR SLOPE : The eighth part consisting of laying and finishing avg. 50 mm thick, M-20 sloping concrete screed (utilizing 12 - 20 mm baby chips) admixed with XYPEX Admix C-2000 NF an Integral Waterproofing Compound @ 1.2% by weight of cement and 100% virgin polypropylene fibres of fibrillated grade @ 1 packet / bag of cement.</p>					

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9	<p>WATER BODY AREA ON PODIUM :</p> <p>Providing and laying waterproofing for water bodies on podium, as per specifications listed below with a minimum guarantee period of 15 years : -</p> <p>The first part consisting of grouting the porous slab area with non-shrink cementitious grout.</p> <p>The second part consisting of treating the cracks and construction joints by routing-out to a minimum ¾" x ¾" groove and treating it with XYPEX Modified Mortar,a specialised non-shrink cementitious waterproof compound.</p> <p>The third part consisting of making vata (gola) at the interface joint of the slab and wall with XYPEX Modified Mortar, a specialised non-shrink cementitious waterproof compound. .</p> <p>The fourth part consisting of sealing all joints of outlet drain pipe, etc. with XYPEX Modified Mortaror and topping it with liquid-applied APAAR Flexiroof -60 Flexible Waterproofing Membrane..</p> <p>The fifth part consisting of providing and applying Cementitious "Catalytic" In-depth Crystalline Waterproofing System of XYPEX make shall be applied by brushing at the coverage rate of0.8 kg./sq.m on the entire water body area on podium slab and entire walls from inside.</p>	sqm	450.00			-

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10	<p>OH WATER TANK :- Providing and laying waterproofing for OH water tanks as per specifications listed below with a minimum guarantee period of 15 years- Checking the overhead water tank by filling it with water fully and marking the defective porous areas. The first part consisting of grouting the porous concrete with non-shrink cementitious grout. The second part consisting of treating the cracks and construction joints by routing-out to a minimum ¾" x ¾" groove and treating it with a specialised non-shrink cementitious compound XYPEX Modified Mortar. The third part consisting of making vata (gola) at the interface joint of the RCC slab and wall with a specialised non-shrink cementitious compound XYPEX Modified Mortar. The fourth part consisting of sealing / packing all joints of outlet pipes, etc. with a specialised non-shrink cementitious compound XYPEX Modified Mortar. The fifth part consisting of providing and applying "XYPEX Concrete Waterproofing by Crystallization" with coverage rate of 0.8 kg/sqm supported by at least two International Test reports showing clear Scanning Electron Microscopic (SEM) photographs of dandified and mature crystals formation to plug all the capillary tracks and pores of the concrete permanently and Permeability test as per IS 2720 conducted by CBRI the concrete Should not absorbed water more than 1.5 gms and not more than 1 mm from the concrete surface. The product to be listed in ICC-ES EVALUATION REPORT INDEX January 2009, 2010 & 2011 and the product should be green Certified under any EcoLable programover the entire RCC slab and wall. The sixth part consisting of providing and laying 20 - 25 mm thick, CM 1: 3 screed admixed with XYPEX C-2000 NF integral Crystalline Waterproofing Compound @1.2% by weight of cement and 100% virgin polypropylene fibres of fibrillated grade @ 1 packet / bag of cement. (With XYPEX System 20-25 mm thick screed is not required).</p>	sqm	20.00			-
V	STONE WORK					
1	Random rubble masonry with hard stone in foundation and plinth in Cement Mortar 1:6 (1 Cement : 6 Coarse Sand) including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand: 12 stone aggregate 20mm nominal size) at plinth level.	cum	900.00			-
2	Random rubble masonry with hard stone in superstructure above plinth level and upto floor five level in cement mortar (1 cement : 6 coarse sand) including leveling up with cement concrete 1:6:12 (1 Cement : 6 Coarse Sand : 12 stone aggregate 20mm nominal size) at window sills, ceiling level and like.	cum	800.00			-

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3.00	Extra for random rubble masonry with hard stone in square or rectangular pillars.	cum	86.00			-
4	Stone work with DHOLPUR SAND STONE (machine cut edge) exposed face machine cut and table rubbed with rough backing for wall lining etc. (Veneer work) upto 10 metre height, backing filled with a grout of 20 mm thick cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement mortar 1:2 (1 cement : 2 stone dust) with an admixture of pigment matching the stone shade. (To be secured to the backing by means of cramps which shall be paid separately)					-
a	60mm. Thick	sqm	16.00			-
b	100 MM THICK Bilha stone 400 mm x 100 mm	sqm	2,000.00			-
5	Stone tile work (mirror polished, machine cut edge) for wall lining upto 10 metre height, with special adhesive over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including pointing in white cement mortar 1:2 (1 cement : 2 marble dust) with an admixture of pigment matching the stone shade.					
a	Granite Stone of any colour and shade - 8mm thick	sqm	600.00			-
6	Providing and fixing dry cladding upto 10 metre heights with 30mm thick gang saw cut DHOLPUR SAND STONE (machine cut edges) of uniform colour and size upto 1mx1m size, fixed to structural steel frame work and/ or with the help of cramps, pins etc. and sealing the joints with weather sealant. (The steel frame work, stainless steel cramps and pins etc. shall be paid for separately.)	sqm	352.00			-
7.00	Same as above item 7 but in 100 mm thick Bilha stone in 100 mm high bands	sqm	2,200.00			-
8.00	Same as above item 7 but in 30 mm thick polished granite in 100 mm high bands	sqm	106.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
9.00	Extra for stone work for wall lining on exterior wall beyond 10m height from ground level for every additional height of 3 metre or part thereof.	sqm	200.00			-
10	Providing and fixing clamps of required size and shape for anchoring stone wall lining to the backing or securing adjacent stone in stone wall lining in cement mortar 1:2 (1 cement : 2 coarse sand) including making the necessary chases and/or holes in stone/wall.					
a	Stainless steel cramps with stainless steel nuts and bolts and washer (total weight not less than 260 gms).	kg	1,000.00			-
11	Providing and fixing structural steel frame (for dry cladding of sand stone) on walls at all heights using M.S. square/ rectangular tube in the approved pattern including cost of cutting, bending, welding etc. The frame work shall be supported in wall with the help of MS brackets/ lugs of angle iron/ flats etc. which shall be welded to the frame and embedded in brick wall with cement concrete block of grade 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) of size 300x230x300mm and with approved expansion hold fasteners on CC/RCC surface including drilling necessary holes, approved cramps/ pins etc. shall be welded to the frame work to support stone cladding, the steel work will be given a priming coat of "ZINC" primer and painted with two or more coats of epoxy paint. (Stainless steel cramps shall be paid separately)	kg	30,000.00			-
VI	BRICK WORK					
1.00	Brick work with modular fly-ash lime bricks (FALG Bricks) confirming to IS:12894-2002 of class designation 40 in foundation and plinth in:					
a	Cement Mortar 1:5 (1 cement : 5 coarse sand)	cum	6,000.00			-
VII	WOOD WORK					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
1	Providing and fixing exterior grade type & phenoformaldehyde bound flush door shutters decorative type, core of block board construction with frame of first class hard wood and well matched approved veneering with vertical grains or cross bands and face veneers on both faces with grooves of shutters excluding hinges.					
a	35mm. thick (single leaf)	sqm	700.00			-
2.00	Providing and fixing lipping with second class teak wood lipping (25 x 12 mm size) on all edges of shutters.	metre	2,212.00			-
3.00	Extra for providing louvers in flush doors upto 0.20 sqm					-
a	Decorative type doors (50 x 5 mm)	sqm	10.00			-
4	Providing and fixing 1.5 mm thick laminate of approved shade and colour with grooves and lines and in patterns on flush doors as instructed by the Architect/ Client. The Cost of necessary hardwares, adhesives, wastages etc as required to complete the works are included in the rate. The grooves to be finished in matching melamine polish, rate of which to be included in thsi item rate.	sqm	700.00			-
5	Providing 40x5mm iron hold fast 40cm long including fixing to frame with 10mm bolts nuts and wooden plug and embedding in Cement Concrete 1:2:4 in blocks of size 30x10x15cm.	each	2,552.00			-
6	Providing and fixing S.S. finished brass butt hinges with necessary S.S. finished MS screws complete:					-
a	125x85x5.50 mm (Heavy Type)	each	1,816.00			-
7.00	Providing and fixing S.S. finished brass door latch with necessary S.S. finished MS screws complete:					-
a	300x16x5mm	each	180.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8.00	Providing and fixing S.S. finished brass tower bolts (Barrel type) with necessary S.S. finished MS screws complete:					-
a	250 x10 mm	each	324.00			-
9.00	Providing and fixing S.S. finished brass flush bolts with necessary S.S. finished MS screws complete:					-
a	250 mm	each	100.00			-
10.00	Providing and fixing S.S. finished brass indication bolts (vacant/ engaged) with necessary S.S. finished MS screws complete.	each	100.00			-
11.00	Providing and fixing S.S. finished brass handle with necessary S.S. finished MS screws complete:					-
a	125 mm	each	356.00			-
12.00	Providing & fixing S.S. finished brass 100mm mortice latch and lock with six levers and a pair of handle with necessary S.S. finished MS screws complete.	each	244.00			-
13	Providing and fixing 150mm S.S. finished brass floor door stoppers with rubber cushion with necessary S.S. finished MS screws to suit thickness of shutters.	each	244.00			-
14	Providing and fixing Stainless steel "D" shape door handles made of 10mm dia rod with necessary stainless steel screws etc complete.					-
a	200 mm	each	224.00			-
b	150 mm	each	20.00			-
c	125 mm	each	30.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
d	100 mm	each	24.00			-
15	Providing and fixing stainless steel fixed stopper with necessary stainless steel screws complete.					
a	100 mm long	each	216.00			-
b	75 mm long	each	20.00			-
c	60 mm long	each	30.00			-
d	50 mm long	each	16.00			-
16	Providing and fixing expandable fasteners of specified size with necessary plastic sleeves and galvanized M.S screws including drilling holes in masonry work /CC/ R.C.C by drilling machine and making good etc complete.					-
a	50 mm long	each	2,552.00			-
17	Providing and fixing fire resistant door frame of section 143 x 57 mm having built in rebate made out of 16 SWG G.I. sheet (zinc coating not less than 120 gm/sqm) duly filled with vermiculite based concrete mix,suitable for mounting 60 minutes fire rated door shutters. The frame is fitted with intumescent fire seal strip of size 10x4 mm (minimum) around the frame and fixing with dash fastener of approved size and make, including applying a coat of approved brand fire resistant primer etc. complete as per direction of Engineer-in-charge (Dash fastener to be paid for separately). metre	metre	818.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
18	Providing and fixing 50 mm thick glazed fire resistant door shutters of 60 minutes fire rating conforming to IS:3614 (Part-II), tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, lock rail, top rail 100 mm wide, bottom rail 200 mm wide, made out of 16 SWG G.I.sheet (zinc coating not less than 120 gm/m2) duly filled FR insulation material and fixing with necessary stainless steel ball bearing hinges of approved make, including applying a coat of approved fire resistant primer etc. all complete as per direction of Engineer-in-charge (panneling to be paid for separately).	sqm	300.80			-
19	Providing and fixing glazing in fire resistant door shutters, fixed panels, ventilators and partitions etc., with G.I. beading of appropriate size, made out of 20 SWG G.I.sheet (zinc coating not less than 120 gm/m2), fire resistant sealant, including applying a coat of approved fire resistant primer on G.I. beading etc., complete all as per direction of Engineer-in-charge. With clear fire resistant glass panes 6mm thick of approved brand, having minimum 60 minutes fire resistance	sqm	110.80			-
20	Providing and fixing panic bar / latch (Double point) fitted with a single body, Trim Latch & Lock on back side of the Panic Latch of reputed brand and manufacture to be approved by the Engineer- in- charge, all complete.	nos	68.00			-
21	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer in-charge (Door handle, lock and stopper etc.to be paid separately).	sqm	400.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
22	<p>Providing and fixing of 120 minutes fire rated doors system duly tested at CBRI, Roorkee for Integrity & Insulation criteria as per the IS: 3614 Part 2 and BS: 476 part 20 at independent accredited fire test laboratory with standard heating conditions as specified in IS: 9809 - 1979 and BS: 476 part 20 & 22: 1987 to achieve the required integrity and insulation (Temperature rise on the non fire side to the maximum of 180 deg C above the ambient temperature on the unexpected surface of the shutter) with following but not limiting to - Hardwood frame of section 150 x 75 mm with 2 nos of imported Promseal intumescent strip (10 mm x 4 mm) to take care of hot smoke, Concealed in the groove of the frame with fixing arrangements of 4 nos of Galvanized Iron, Hold fasts / Anchor fasteners including 4 nos stainless steel ball bearing hinges of SS 304/ 316 of size 100 mm x 75 mm x 2.5 mm thick to be capable of taking load upto 120 kg of the shutter with SS pin, 55 mm thick single leaf shutter made out of perimeter rail ported by at least two International Test reports showing clear Scanning Electron Microscopic (SEM) photographs of dandified and mature crystals formation to plug all the capillary tracks and pores of the concrete permanently and Permeability test as per IS 2720 conducted by CBRI the concrete Should not absorbed water more than 1.5 gms and not more than 1 mm from the concrete surface. The product to be listed in ICC ES EVALUATION REPORT INDEX January 2009, 2010 & 2011 and the product should be green Certified under any EcoLable programover the entire RCC slab and wall.</p> <p>The sixth part consisting of providing and laying 20 - 25 mm thick, CM 1: 3 screed admixed with XYPEX C-2000 NF integral Crystalline Waterproofing Compound @1.2% by weight of cement and 100% virgin polypropylene fibres of fibrillated grade @ 1 packet / bag of cement. (With XYPEX System 20-25 mm thick screed is not required).sultants over the entire podium driveway / hardscape slab and walls</p>	nos.	48.00			-
23	Same as item above but with double leaf shutter 120 minutes fire rated door of size 1500 mm x 2400 mm annd with 304 grade SS door handle 250 mm long for both doors and dead lock with 80 mm cylinder including 8 nos nos stainless steel ball bearing hinges of SS 304/ 316 of size 100 mm x 75 mm x 2.5 mm thick	nos.	8.00			-
VIII	STEEL AND ALUMINIUM WORK					
1	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of red oxide zinc chromate primer.					
a	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	Kg	34,000.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2	Providing and fixing in position doors, windows and ventilators frames made of cold rolled pressed steel sheet framed profiles made from commercial M.S. Sheets conforming to I.S. 513 of 1973 and as per general specifications of I.S 4351 including hinges jamb, lock jamb, steel butt hinges, base tie, joints mitred and welded with 10cm long legs of size 15x3mm M.S. flat, embedded in cement concrete blocks 15x10x10cm size of grade M-10 or rawl plugs and screws or with fixing clips or with bolts and nuts including neatly compacted filling M-10 cement concrete in profile section applying a priming coat of red oxide zinc chromate primer.					-
a	Single rebate 100mmx50mm size, 1.6mm thick sheet.	metre	3,694.00			-
3	Supplying and fixing rolling shutter of approved makes made of M.S. 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 out side locking with push and pull arrangement complete but excluding the cost of top cover and spring.					-
a	80x1.25mm M.S. Laths	m2	180.00			-
4.00	Providing and fixing 27.5cm long wire spring for rolling shutters.	each	20.00			-
5.00	Providing and fixing M.S. sheet top cover for rolling shutter					
a	1.25mm thick	m2	106.00			-
6.00	Providing and fixing ball bearing for rolling shutters.	each	20.00			-
7.00	Providing and fixing mechanical device chain and crank operation for operating rolling shutters.	set	20.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8	Extra for providing grilled rolling shutter manufactured out of 8 mm dia. M.S. bar instead of laths as per approved design (area of grill provided, only to be measured).	m2	80.00			-
9	Providing and fixing aluminium work for doors, windows, ventilators and partitions made out of extruded aluminium standard sections (main section with minimum 1.5mm thickness) conforming to IS: 733, IS: 1285 mitred and jointed mechanically including aluminium cleats, neoprene weather stripping gasket beveled edge beading, screws duly fixed in wall/ floor with fixing clips or hold fasteners or bolts and nuts as required aluminium sections shall be anodized transparent or dyed to approved shade according to IS: 1868, minimum anodic coating shall be of grade AC-15. (Glazing and panelling to be paid for separately)					-
a	For fixed portion	kg	5,054.00			-
b	For shutter of doors, windows & ventilators including providing and making provision for fixing of fitting wherever required including the cost of PVC/ neoprene gasket and all fittings required	kg	334.00			-
10.00	Extra for polyester powder coated (minimum 50 micron) aluminium sections instead of anodized.	kg	3,392.00			-
11	Providing and fixing 12mm thick Pre-laminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminium doors, windows shutters and partition frames with C.P. brass/ stainless steel screws etc. complete.					-
a	With decorative lamination on one side and balancing lamination on other side.	m2	100.00			-
12	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete. (Cost of aluminium snap beading shall be paid in basic item):					-
a	With float glass panes of 6 mm thickness	m2	126.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
13	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side having 12 mm air gap including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant (Both primary and secondary sealant) etc. complete.	m2	1,500.00			-
14.00	Providing and fixing of six/seven levers branded and approved mortise lock.	each	30.00			-
15	Providing and fixing of floor spring IS: marked (Everite, Door link or any equivalent make) with stainless steel cover plate including cutting and making good the floor etc. complete.	each	240.00			-
16	Providing stainless steel railing/ grill made of S.S. flats, hollow S.S. pipe or square/ rectangular sections of approved design fixing in stair case, balcony or other places with metal fasteners and stainless steel bolts etc complete.	kg	5,400.00			-
17	Designing, providing and fixing aluminium frame work made of special aluminium section on building face with M.S. angle iron brackets fixed on RCC structure with S.S. hold fasteners, including providing and fixing two sided structural adhesive tape of appropriate grade (NORTON or equivalent), on aluminium sections for fixing aluminium/ glass panel, sealing on periphery of frame work, by providing EPDM gasket, silicon weather sealant between aluminium frame and building structure including hire charges of double scaffolding complete.	kg	6,000.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
18	<p>ALUMINIUM WORK Spider Glazing partition & Biparting Automatic Sliding door - Supplying, fabricating and installing Dorma or equivalent spider glazing partition and Biparting automatic sliding door of frameless 12mm thick clear toughened automatic sliding glass door shutters with high efficiency brushless servo motor and direct drive reduction gear. Class of protection IP 20. The system shall have constant power supply 210 V, 50/60 Hz for opening size all complete as per design and manufacturer's specification. The automatic door shall be mounted on a MS portal. The door shall comprise of two sliding panels of 1800 x 2400 with 12mm clear toughened glass. The fixed glasses on top shall be 12mm clear toughened glass and shall be held with required Dorma Stainless steel Spider and patch fittings as per approved shop drawings. with SS sliding assembly with automatic sensor device, s.s. fasteners, DC 793/795 Dow corning transparent weather silicone sealant or equivalent, 15mm toughened clear glass fins, sealinported by at least two International Test reports showing clear Scanning Electron Microscopic (SEM) photographs of dandified and mature crystals formation to plug all</p>					-
a	Spider Glazing in 12 mm thick toughened glass with 15 mm thick toughened glass fins and all fittings as mentioned above	sqm	600.00			-
b	Automatic Sliding door system alongwith glass doors as given above	sqm	40.00			-
19	Providing and fixing decorative Glass Reinforced Concrete Jalis in Parapets/ Railings/ Shafts/ facades etc in approved design/ colour/ pattern of approved make Birla white/ Unistone or equivalent , 12 - 15 mm thickness, weight 25-40 kg/ sqm, dry density 1.8 - 2.2 T per cum in acid wash (stone finish) with Galss fibre (AR) between 2.5 - 5%, flexural strength 6 - 11 Mpa, Compressive strength 35- 65 Mpa and Impact Strength 7-20 KJ/sqm complete as specified and as per directions of the Project Manager.	sqm	282.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
20	<p>EXTERNAL FAÇADE : Designing detailing, supplying, installation of semi-unitised façade system comprising of ACP, Glazing, Aluminium Structure, insulation, façade cleaning system etc with all necessary fittings and fixing arrangements e.g. bracket, fastener, thermal barrier along with other accessories required to complete the job in all respect and satisfying the Green Building Norms. Any changes that may be required to be incorporated to comply with the Green Building Norms are to be carried out by the Contractor at no extra cost. The facade system shall be design considering minimum wind pressure @200kg/sqm. Incase the design wind pressure required as per NBC for the zone of the building or site condition or due to building profile is higher than 200kg/sqm, than the facade system shall be design at higher pressure. The design of Structural Glazing and external facade has to be got vetted by IIT Roorkee. The rate shall be quoted accordingly. No extra claim shall be entertained for this at any stage.</p> <p>Frame Work: Frame work shall be fabricated out of heavy duty extruded aluminium profiles of approved make polyester powercoated 60 microns as per approved colour/shade of appropriate coating grade as per specification. The aluminium members shall be protected with Masking Tapes all around the profiles for safety against external scratches at site (Masking Tapes shall be removed only at the time of handing over as per the instructions of Project Manager). The anchoring/bracing of the facade frame to the RCC slab/beams/columns shall be done with required no. of Galvanised MS brackets (Galvanising to be done conforming to IS:4759-1996 upto 610 gms. per sqm, 80-90 micron thickness) of approved design with SS dash fasteners of approved make of minimum 12mm dia and depth of minimum 100mm in the concrete and stainless steel bolts including providing and fixing of aluminium shims of various thickness to adjust the beam level & line variations.</p> <p>The anchoring system shall be designed to withstand the dead load of the</p>	Sqm	3,900.00			-
21	Extra for providing & fixing openable window in structural glazing in above item , the cost of adjustable Stainless Steel Friction stay/ Hinges, button locking handle & other hardware as per design to be got approved by the Project Manager/ Architect.	sqm	510.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
22	Providing and fixing of Frameless Glass fixed window of any height as per drawings and specifications at all floors with 12mm thick clear toughened glass with all necessary fittings and hardware of approved make including necessary fixing arrangements. The glass is fixed up with the cill / floor and lintel/ roof beam by embedding polyester powder coated Aluminium U channel of size 25 mm x 25 mm of 16 gauge. The U bottom will be grouted in the cill / floor and lintel by chasing the cill / floor and lintel including necessary filling up gaps at sides, top & bottom with required weather proof silicon & backer rod shall be inserted between aluminium channel and glass as well as both inside and outside around the periphery of the glass making the glazing air and water tight etc all complete as per directions and instructions of Engineer - in - charge at site.	sqm	100.00			-
23	Aluminium Louvers- Providing and installing fixed aluminium louvre assembly with louvres all polyester powder coated having an elliptical profile measuring 140mm x 23mmx2.25 mm thick weighing approx. 2.32 kg/m @ 90 mm vertical centres along vertical service/ ventilation shafts including anodising in approved colour, etc. including epoxy-coated structural steel brackets and support framework all complete as per approved shop drawings, samples and specifications including interface with curtain wall and cladding system, wherever applicable complete all as specified and directed by Engineer - in- charge	sqm	2,600.00			-
24	Supply and install modular toilet cubicles of MERINO-BESCO make 'TITAN STD' series as per manufacturer's std specifications. All intermediate panels, pilasters, doors shall be made up of Solid Compact Laminate (Phenolic Core Board) as per IS 2046 based on thermosetting resins, homogeneously reinforced with cellulose fibers making cubicles impervious to Water, resistant to Fire, etc. Compact laminate should be Greenguard and IGBC certified Hardware and Fixing All accessories shall be of Merino's SS 304 grade including all hardware/fittings. The pilaster are anchored to the flooring using adjustable SS legs. The SS top rail shall be fixed on the top of the pilasters Accessories :Std accessories include SS Hinges, SS Door knob, SS legs, SS thumb turn indicator, SS coat hook, SS top rail and SS channels (All accessories in SS 304 grade)					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a	Titan Std Series Cubicles: Std Sizes (W x D x H)- 900 mm x 1550 mm x 1980 mm, (Height is including 150 mm gap from bottom) Door Size- 600 mm	Nos	120.00			-
25	<p>Façade cleaning System Providing and installing Façade cleaning System comprising of the following :</p> <p>1 nos Floor mounted Davits. Made of Aluminium Alloy. Aluminium - Mill Finish The davits will be Top Slewing, 360 degree Rotating Type. The davits to be anchored to the RCC pedestal with davit sockets. 17 nos Davit Socket - Made of M.S. Plates. All Mild Steel shall be Hot Dip Galvanised 17 nos H.D.U's - 4 bolts Holding Down Units. The anchorage units comprises of parallel M.S. Plates with Stainless Steel Bolts fixed to the RCC pedestal. 1 no.Solo Power Cradle with safe working load of 180 kgs. The specifications further will be: 1 nos. safety breaks 2 nos Power cables suitable for height of the building 2 nos. wire winders complete with clutches Winches will be of IP55 construction, fitted with 0.55 KW Motor, 415V, 3 phase 50 Hz supply and 500 kg winch capacity the body of the cradle will be clad with SS perforated sheet on an MS hot dip galvanised frame, including anti-tilt, overload, bottom strike, power failure, top limit, emergency stop, etc.</p>	Set	2.00			-
IX	ROOFING AND CEILING					
1	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10mm and down grade) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design.	metre	1,160.00			-
2	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1mx1mx400micron, finished with 12mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement rounding the edge sand making and finishing the outlet complete.	each	50.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
4	Providing 10mm thick plaster of paris (Gypsum anhydrous) ceiling height of 5m. above floor level over strips (Sal, Bija, Haldu) 25x6mm with 10mm gap in between and reinforced with rabbit wire mesh fixed into wooden frame (Frame work to be paid separately)					-
a	Flat surface	sqm	60.00			-
5	Providing and fixing at all height false ceiling consisting of frame work "W" / "U" / "L" sections made of G.I. sheet with zinc coating of grade 120 consisting of angle 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 hangers of 25x25x0.55mm of required length, and other end of 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 diax230mm long G.I. wire at every junction including fixing the gypsum board with ceiling section and perimeter channels 0.55mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/partitr failure, top limit, emergency stop, etc.f heavy duty extruded aluminium profiles of approved make polyester powercoated 60 microns as per approved colour/shade of appropriate coating grade as per specification. The aluminium members shall be protected with Masking Tapes all around the profiles for safety against external scratches at site (Masking Tapes shall be removed only at the time of handing over as per the instructions of Project Manager). The achoring/bracing of the facade frame to the RCC slab/beams/columns shall be done with required no. of Galvanised MS brackets (Galvanising to be done conforming to IS:4759-1996 upto 610 gms. per sqm, 80-90 micro	m2	1,300.00			-

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
6	Providing and fixing tiled false ceiling of size 595x595 mm in true horizontal level suspended on inter locking Gyproc Micro metal grid of hot dipped galvanized steel sections consisting of main "T" runner with suitably spaced joints to get required length and of size 24x32mm made from 0.30mm thick (minimum) sheet, spaced at 1200mm center to center and cross "T" of size 24x25mm made of 0.30mm thick (minimum) sheet, 1200mm long spaced between main "T" at 600mm center to center to form a grid of 1200x600 mm, and secondary cross "T" of length 600mm and size 24x25mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600mm panel to form grids of 600x600mm Wall angle of size 24x24x0.4 mm is fixed along the perimeter to the wall/partition with nylon sleeves and wooden screws at 300mm centers. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 x mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200mm center to center along main T, bottom exposed width of 14 mm of all T-sections shall be pre-painted with polyester paint, 18mm thick SAINT-GOBAIN Certain teed High NRC Fine Fisured Square edge tile mineral fibre tiles of size 595x595mm having NRC 0.7, CAC 35, LR 83% and RH resistance of up to 90% shall be placed into the grid size of 600x600mm.	sqm	3,000.00			-
7.00	same as above item no. 7 but with Moisture restitnant grade tiles	sqm	1,000.00			-
8	Providing Cove in Gypsum ceiling 150 mm x 150 mm in straight / curved profile as required with all supporting members and finish as per Gypsum false ceiling	RM	200.00			-
X	PLASTERING AND POINTING					
1.00	15mm thick cement plaster on the rough side of single or half brick wall of mix:					
a	In cement Mortar 1:3 (1 cement : 3 fine sand)	sqm	42,000.00			-
b	In Cement Mortar 1:4 (1 cement : 4 fine sand)	sqm	462.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2	6mm thick cement plaster 1:3 (1 cement : 3 fine sand) finished with a floating coat of neat cement and a thick coat of lime wash on top of wall when dry for bearing of R.C.C. slab and beam.	sqm	41,196.00			-
3	18mm thick cement plaster in two coats with under layer of 12mm thick plaster 1:5 (1 cement : 5 fine sand) and top layer of 6mm thick with cement plaster 1:3 (1 cement : 3 fine sand) finished rough with sponge.	sqm	20,708.00			-
4.00	Extra for providing and mixing water proofing materials in cement plaster work in proportion as recommended by manufacturer.	kg	13,016.00			-
5.00	Extra for plastering of exterior walls when height exceeds 10m above ground level for every additional height of 3.0m or part thereof.	sqm	9,000.00			-
6	Providing and fixing chicken mesh weighting not less than 250 gms/ sqm as per IS : specification in the required width with 10mm long steel nails on vertical and horizontal surface near R.C.C. and brick walls junctions including scaffolding and all lead and lifts etc. complete before plastering upto 10mts in height.	sqm	2,420.00			-
7	Providing Plaster of Paris (POP) rendering over cement plaster upto 8mm thickness for walls beams at all heights and ceiling and levels including scaffolding staging etc, complete	sqm	24,000.00			-
XI	FLOORING					
1	52 mm thick cement concrete flooring with under layer of 40mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and top layer of 12 mm thick cement metallic hardener concrete mix 1:2 (1 cement hardener mix : 2 stone aggregate of 6 mm size by volume) with metallic hardening compound of approved quality mixed with cement in ratio of 4:1 (4 cement : 1 metallic floor hardening compound by weight) including finishing etc. complete.	sqm	570.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2	Providing and laying R.C.C. vacuum dewatering concrete flooring with floor hardener of approved make to be sprinkled at the rate of 5 kg/sqm before mechanical troweling as per manufacturer's specifications including mixing, tamping mechanically, consolidating, leveling cement concrete of grade M25 Design Mix in grade slab, 150 thick including suction drying, mechanical trowelling (power float) and finishing, curing, cutting expansion grooves and filling expansion grooves with polysulphide joint fillers complete as specified and directed including shuttering but excluding reinforcement, including doveled construction joints as per drawings.	CUM	1,800.00			-
3	Providing and laying vitrified floor tiles with double charge/ multi charge printing with water absorption less than 0.5% and conforming to IS : 15622 of approved make in all colours and shades and size mentioned below (+/- 10mm), laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc. complete IN FLOORING ANS 100 MM HIGH SKIRTING:					-
a	Size 600x600mm	sqm	1,430.00			-
b	Size 800x800mm	sqm	2,800.00			-
4.00	Deduct for not using 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) bedding in laying of floor tiles.	sqm	4,230.00			-
5	Extra for fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477, using 5kg. adhesive per sqm of tile area, in average 3mm thickness in place of cement mortar.	sqm	4,230.00			-
6	Chequerred precast cement concrete tiles 25mm thick in footpath & courtyard jointed with neat cement slurry mixed with pigment to match the shade of tile including cleaning of joint etc complete on 20 mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) :					-
a	Light shade using white cement	sqm	760.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
7.00	Extra for nosing in Granite stone for treads, capping on wall cladding, cills, coping	metre	13,368.00			-
8	15 mm thick Table rubbed polished Granite stone slab flooring laid 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 etc. complete. (Area of slab should be 0.50 sqm and above)					
a	Granite stone Jet black/ as per selection by Engineer In charge	sqm	1,500.00			-
9	15 mm thick Table rubbed polished Granite stone slab in risers and treads of steps skirting dado , capping on wall cladding, cills, coping and pillars laid on 12mm (average) thick base of cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement slurry including rubbing and polishing etc. complete (single stone is to be used for risers and treads of steps and width of stone for skirting and dado shall be equal to the height of skirting & dado and length of 1.0 m).					
a	Granite stone Jet black/ as per selection by Engineer In charge	sqm	5,000.00			-
10	25 mm thick KOTA stone slab flooring over 20mm (average) thick base of cement mortar 1:4 laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including grinding rubbing and polishing etc. complete (Area of slab to be over 0.20 sq.m and upto 0.50 sq.m)	sqm	2,296.00			-
11	KOTA stone slab 25mm thick in risers and treads of steps, skirting dado and pillar laid in 12mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete. (single stone is to be used for riser and treads of steps and the width of stone for skirting and dado shall be equal to the height of skirting/ dado with a minimum length of 1.0 M.)	sqm	1,532.00			-
12	Extra for nosing in steps and treads of kota stone slab.	metre	2,434.00			-
13	Providing and laying upto 10mm wide stone strips for pattern in flooring of approved colour and shade of:					-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a	Granite stone Jet black/ as per selection by Engineer In charge	metre	200.00			-
14	Providing & laying 60mm thick precast interlocking concrete blocks of approved size (approx 305 sqcm) and shape/ pattern, over 40 mm thick average complete coarse sand bed with joints of 3mm thick filled by fine sand including leveling with surface vibrator, temping and sweeping etc. complete of minimum compressive strength of 250 kg/sq.cm					-
a	Coloured pigment vermiculite texture, lacquer finsh precast interlock concrete blocks	each	1,000.00			-
15	Providing & laying 60mm thick precast interlocking vermiculite texture lacquer finish grass paver concrete blocks of approved size (approx 305 sqcm) and shape/ pattern, over 40 mm thick average complete coarse sand bed with joints of 3mm thick filled by fine sand including leveling with surface vibrator, temping and sweeping etc. complete of minimum compressive strength of 250 kg/sq.cm	metre	740.00			-
16	Providing and fixing precast compressed plain cement concrete edge restraint of size 500mmx250mmx60mm of compressive strength of 200kg. per sq.cm manufactured by electro hydraulically operated block machine by excavated trench of 150mm depth etc. complete	metre	1,110.00			-
17	Providing and laying brush concrete flooring of 12mm thick cement concrete (1 cement :2 black metal, 6mm size) mixed with granite pigment of approved quality in a ratio of 2.08 kg/sq metre are laid over & including a base of 40mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm size) with 12.50 mm size graded B.T metal mechanically mixed including neat cement finish over granite with red/ approved colour pigment including glass strip of size 45x3 mm including glass strip of size 45x3 mm including cost of all material & labor etc. complete.	sqm	2,300.00			-
18	Providing and fixing 1st quality ceramic glazed wall tiles of size 600 mm x 300mm conforming to IS:15622 of minimum thickness 8mm, of approved make,in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados,over minimum 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.(Basic price of tile= Rs 600/sqm)	sqm	2,788.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
19	Providing and fixing of Italian Marble stone of thickness 19/20 mm in flooring as per drawings & specifications. The italian marble should be factory processed, pre polished (diamond polished), surface calibrated, four side trimmed with the reinforcement of epoxy resin and fiber glass backing. The fixing of stone shall be done as per approved pattern and design with smooth and even surface without holes or pits. The top surface of full slab should be treated with epoxy resin (under vacuum & controlled temperature) with slab size not less than 1200 x 600 mm in combination of approved shades & colour, laid in 20 mm thick cement mortar 1:3 (1cement: 3 coarse sand) including finishing the joint with Laticrete or Araldite joint filler or approved equivalent of approved shade etc to match the colour of Italian marble stone slab including edge polishing wherever required all complete as per directions & instructions of Engineer in charge.(Basic cost of Italian marble = Rs 5000/sqm)	sqm	530.00			-
20	Same as item no. 20 above but on wall & column surface cladding / skirting with minimum 12mm thick cement mortar 1:3 including half round moulding on edges and providing grooves as directed	sqm	20.00			-
21	Providing and laying machine cut, machine mirror polished Granite Slabs of approved colour of size 750 mm x 750 mm and 18-20 mm thick of approved quality for flooring in square or diamond pattern on a bed of 1:6 cement mortar including neat white cement float including filling joints with white cement slurry, curing and cleaning complete as per detail dwg.	sqm	1,000.00			-
22	Same as above item no. 21 but for shot blasted rectangular granite stone band in flooring of width varying from 250mm-500mm and minimum length of 1800mm complete. as per detail drawing.	sqm	500.00			-
23	Same as above item no. 21 but for for larger size slabs of Granite in flooring upto 1200 x 1200mm as per detail drawing.	sqm	500.00			-
24	Providing & laying 18-20mm thick shot blasted granite slabs of approved colour & quality in a radial pattern with an inlay of 18 to 20 mm thick machine cut, machine mirror polished granite band of width upto 150mm of approved colour and quality intersplayed within the shot blasted granite as per detail drawing. Maximum size of shot blasted granite slab: upto 2000 x 2000 mm in a single piece	sqm	1,000.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
25	Providing and laying flamed finish Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge :					
a	Flamed finish granite stone slab Jet Black, Cherry Red, Elite Brown,Cat Eye or equivalent.	sqm	300.00			-
26	Providing and laying machine cut granite slab of approved colour for flooring in strips of 300 x 1800mm size, combination of mirror polished & shot blasted, 18 - 20mm thick of approved quality in required pattern on a bed of 1:6 cement mortar including neat white cement float including filling joints with white cement slurry, curing and cleaning complete as per detail dwg	sqm	700.00			-
27	Same as above item no. 26 but using only machine cut, machine mirror polished black granite stone in strips of 300 x 1800mm as per detail dwg.	sqm	500.00			-
28	Same as above item no. 26 but of only machine cut, shot blasted Granite strips of size 300 x 1800mm as per detail dwg.	sqm	500.00			-
29	Providing & Fixing double window cills hand cut, machine mirror polished green Kotah stone (Horizontal & Vertical) 25-32 mm thk. & reqd. width on 1:4 cement plaster/ Cement paste over 50mm thk bedding mortar 1:4, with required pins incl. cement float, filling joints with neat cement slurry, stone pieces to be fixed with Araldite or approved equivalent adhesive, including curing, 3 coats of polishing (incl. Edge Polish), cleaning and rubbing complete & as per drawing.	sqm	400.00			-
30	Providing and fixing 18 to 20mm thick granite stone partitions, mirror polished on both sides with edge polished of approved quality and colour for urinals including cutting holes of required sizes for pipes in appropriate places, fixing in cement mortar 1:3, curing, cleaning etc.complete.	sqm	10.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
XII	MARBLE WORK (Wall Lining)					
1	15mm thick Granite work (machine cut, table rubbed & mirror polished) for wall lining (vener work) in cement mortar 1:3 (1 cement : 3 coarse sand) including pointing with cement mortar 1:2 (1 white cement: 2 marble dust) mixed with matching pigment. (Area of slab should be over 0.5 sqm).					
c	Granite stone lakha red/ shahi red/ approved colour and design	sqm	200.00			-
2	15mm thick Granite work (machine cut, table rubbed & mirror polished) for kitchen platform, vanity counters, window sills and similar locations of required size laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) including joints treated with white cement mixed with matching pigment including rubbing and polishing to edge moulding to give high gloss finish.					
a	Granite stone lakha red/ shahi red/ approved colour and design	sqm	170.00			-
3	Extra for fixing marble /granite stone in facia and drops of width upto 150 mm with epoxy resin based adhesive instead of cement mortar including cleaning etc. complete.	metre	250.00			-
4	Extra for making opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including making necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. complete.	each	180.00			-
5	Mirror polishing on marble work/Granite work where ever required to give high gloss finish complete.					-
a	On walls	sqm	200.00			-
b	On kitchen platform, sills and similar	sqm	150.00			-
XIII	DISTEMPERING, PAINTING AND FINISHING					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
1	Wall painting with acrylic luxury emulsion (plastic) paint (top most approved branded quality) to give an even shade.					
a	On new work (two or more coats)	sqm	66,190.00			-
2	Providing and applying 2mm thick ready mix exterior grade putty (Birla wall care, Alltek Superfine W/R of (NCL), J.K. wall putty) on walls to make the surface smooth and even.	sqm	66,190.00			-
3	Painting new exterior surface (two or more coats) with PREMIUM TEXTURED paint as per manufacturer's specifications to give protective and decorative finish including cleaning washing of surface etc. complete with:					
a	On new work (Two or more coats)	sqm	20,710.00			-
4	Applying priming coat on steel work with red oxide zinc chromate primer.	sqm	1,850.00			-
5	Painting on new work (two or more coats) to give an even shade with:					-
a	Satin synthetic enamel paint (top most approved branded quality)	sqm	1,790.00			-
b	Premium synthetic enamel paint (2nd top most approved branded quality) to give an even shade.	sqm	-			-
6	Extra for painting with spray painting machine instead of paint brush:					-
a	On new work	sqm	1,850.00			-
7	Providing and laying Melamine polish on new wood work (two or more coats) with spray machine after preparing surface by rubbing down smooth with sand papers, preparation of surface, applying 5 to 10 coats of french sprit polish, applying two coats of Melamine sealer and finally applying two coats of Melamine clear as per manufacturers specifications complete:	sqm	200.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8	Providing and laying PU polish on new wood work (two or more coats) with spray machine after preparing surface by rubbing down smooth with sand papers, preparation of surface, applying 5 to 10 coats of french sprit polish, applying two coats of PU sealer and finally applying two coats of PU clear as per manufacturers specifications complete:	sqm	3,820.00			-
9	Providing and applying 3 coats over a coat of primer, of oil bound distemper of approved shade and of approved make over concrete/ plastered surfaces including preparing of the surfaces, scaffolding etc complete in all respects.	sqm	20,316.00			-
SUB TOTAL						-

BILL OF QUANTITY**Construction of Office Campus including Buildings and Services on Plot No. 7 & 8 of Phase 1, Sector-24 at Naya Raipur**

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
B	SITE DEVELOPMENT AND ROAD WORKS					
A	SITE CLEARANCE					
1	Clearing Grass and Removal of Rubbish (clearing grass and removal of rubbish up to a distance of 50 meters outside the periphery of the area)	hectare	10.00			-
B	EARTH WORK, EROSION CONTROL AND DRAINAGE					
1	Construction of embankment / sub grade with Material Obtained from Borrow Pits (Construction of embankment with approved material/selected soil having C.B.R. > 5 (unless specified otherwise in the contract) obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2)	cum	5,400.00			-
2	Compacting Original Ground					
a	Compacting Original Ground supporting sub grade Loosening of the ground upto a level of 500 mm below the subgrade level , watered, graded and compacted in layers to meet requirement of table 300-2 for sub grade construction	cum	2,700.00			-
b	Compacting Original Ground supporting embankment Loosening, leveling and compacting original ground to facilitate placement of first layer of embankment , scarified to a depth of 150 mm , mixed with water at O.M.C.and then compacted by rolling so as to achieve minimum dry density as given in table 300-2 for embankment construction.	cum	450.00			-
C	SUB-BASES, BASES (NON-BITUMINOUS) AND SHOULDERS					
1	Granular Sub-base as per Table:- 400-1					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Construction of granular sub-base by providing close graded Material, , carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface watering, rolling and compacting with vibratory power roller at OMC to achieve the desired density, complete as per clause 401					
	Plant Mix Method					
	for grading- III Material	cum	1,400.00			-
2	Wet Mix Macadam (Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.)	cum	810.00			-
4	Footpaths and Separators (Construction of footpath by providing a 150 mm compacted granular sub base as per clause 401 and 25 mm thick cement concrete grade M15, over laid with pre-polished cement concrete floor tiles confirm to IS 1237:1980 (Reaffirmed in 1996) for heavy duty tiles (Exterior Grade) of 22-25mm thick in cement mortar 1:4 including provision of all drainage arrangements but excluding kerb channel..) as per pattern, size and colour as approved by engineer	sqm	2,400.00			-
5	Providing and fixing kerb stones 100 mm thick and 600 mm wide chiesel dressed cut stones fixed in CC 1:3:6 (block size 250 x 225 mm) including all excavation.	RM	2,400.00			-
D	BASES AND SURFACE COURSES (BITUMINOUS)					
1	Prime coat (Providing and applying primer coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.85 kg/sqm using mechanical means)	sqm	840.00			-
2	Tack coat Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor on the prepared bituminous/granular surface cleaned with mechanical broom and as per clause 503 of section 500 - 2 Layers					
a	Normal bituminous surface @ 0.35 kg / Sqm	sqm	1,680.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
3	Bituminous Macadam (Providing and laying bituminous macadam with 60-90 TPH hot mix plant using crushed aggregates of specified grading premixed with bituminous binder, transported to site, laid over a previously prepared surface with paver finisher to the required grade, level and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction)					
a	With sensor paver finisher for Grading I(40 mm nominal size, bitumen content 3.25%)	cum	100.00			-
4	Semi - Dense Bituminous Concrete (Providing and laying semi dense bituminous concrete with 60-90 TPH using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5 % of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORT&H specification clause No. 508 complete in all respects)					
a	With sensor paver finisher for Grading I (13 mm nominal size) with bitumen 4.5 %	cum	50.00			-
5	Seal Coat (Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type A and B seal coats)					
a	Case - I : Type A	sqm	840.00			-
E	CEMENT CONCRETE PAVEMENTS					
1	Dry Lean Cement Concrete Sub- base (Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing.)					
a	With vibratory roller	cum	558.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
F	TRAFFIC SIGNS, MARKINGS & OTHER ROAD APPURTENANCES					
1	Construction of R.R. masonry walls 0.45 m thick and 0.60 m height in CM 1: 3 including excavation , white washing two coats on one side of wall for guard wall / protection wall over 100 mm thick base concrete of PCC 1:3:6 etc complete.	RM	1,200.00			-
2	Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia , across the road (new construction) , extending from drain to drain in cuts and toe of slopes to toe of slopes in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipes as per IRC 98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces , outer to outer distance of pipes at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts , joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC 98-1997 and approved drawings.					
a	Single row for one utility service	meter	600.00			-
b	Double row for two utility service	meter	600.00			-
c	Triple row for three utility service	meter	400.00			-
	SUB TOTAL					-

BILL OF QUANTITY

Construction of Office Campus including Buildings and Services on Plot No. 7 & 8 of Phase 1, Sector-24 at Naya Raipur

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
C	HVAC WORKS					
	Tendered Rates all Inclusive:					
1.1.1	Unless otherwise provided in the Bill of Quantities, the rates tendered by the contractor for all items of the work shall be all inclusive and shall apply to all heights, lifts, leads and depths, in all positions of the building.					
1.1.2	Rates/prices quoted in this tender shall be inclusive of cost of materials, labours, supervision, installation, testing and commissioning, materials erection, tools, plant appliances, scaffolding, sleeves, cutting, patching, excavation and backfilling, painting, storage of material, service connections, transport to site, taxes, duties, transit insurance octroi and levies, all relevant insurance charges, breakage, wastage and all such expenses as may be necessary and required for the satisfactory completion of all the items of the work and final guarantee testing and to put there in working conditions and all other requirements as called for in all the parts of these Tender Documents.					
1.1.3	All rates quoted must be for complete items inclusive of all such accessories, fixtures and fixing arrangements, supports, nuts, bolts, hangers as are a standard part of the particular item except where specially mentioned otherwise.					
1.1.4	All rates quoted are inclusive of cutting holes and chases in walls and making good the same with cement mortar / concrete / water proofing of appropriate mix and strength. Rates are inclusive of holes, sleeves, recesses in the concrete and masonry work as the Work proceeds except foundation work.					
1.1.5	Nothing extra shall be payable to Contractor on account of any of the above factors.					
1.1.6	The client reserves the right to supply directly any of the items listed in the BOQ. For all such items, if desired by the Owner, installation, testing and commissioning shall be the responsibility of the Contractor.					
1.1.7	All the equipment /material shall be only from one of the I-preference of approved makes as per tender documents.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
1.1.8	Wooden frame work for mounting grills on walls shall be in the scope of HVAC works and nothing shall be paid extra for this. However, frame work for mounting grills/diffusers on false ceiling shall be provided by other agencies.					
1.1.12	The bidder should quote all imported equipment with price breakup in Foreign exchange and Indian Rupees.					
1.1.13	The bidder should quote as per the equipment/ materials given in BOQ. Any suggested deviations can only be given as an option with proper justification.					
1.1.14	The quoted price shall include all labelling and identification of various equipment/piping as per relevant IS colour coding. In the absence of IS colour coding for any equipment, the labelling and identification shall be carried out as per good practice.					
1.1.15	All material shall be complete in all respect to run and complete operational requirement. All accessories shall be supplied by Vendor to achieve functional requirement of Equipment.					
1.1.16	All fan-motor efficiencies shall exceed ASHRAE- 90.1- 2007 criteria.					
A)	VENTILATION FANS:					
1.0	DIDW CENTRIFUGAL FAN					
	Supply, installation, testing and commissioning of DIDW Blowers complete with motor, drive (fan-motor efficiency exceeding ASHRAE 90.1-2007 Criteria), mounting arrangement etc. complete in all respect as per specifications and drawings.					
1.1	BASEMENT (PARKING VENTILATION)					
a)	38000 CFM at 25mm static pressure for normal (Normal Case)	Nos.	8.00			-
	Axial Flow FAN					
	Supply, installation, testing and commissioning of axial flow fans complete with motor, drive (fan-motor efficiency exceeding ASHRAE 90.1-2007 Criteria), mounting arrangement etc. complete in all respect as per specifications and drawings.					
1.2	BASEMENT (PARKING VENTILATION)					
a)	28500 CFM at 30mm static pressure for normal EX.Air(Fire Case)	Nos.	16.00			-
1.3	(LT PANAL)					
a)	7500 CFM at 25mm static pressure for normal EX.Air	Nos.	2.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b)	7500 CFM at 25mm static pressure for normal FA.Air	Nos.	2.00			-
1.4	(PUMP ROOM)					
a)	5000 CFM at 25mm static pressure for normal EX.Air	Nos.	2.00			-
b)	5000 CFM at 25mm static pressure for normal FA.Air	Nos.	2.00			-
1.5	(DG ROOM)					
a)	9600 CFM at 25mm static pressure for normal EX.Air	Nos.	2.00			-
1.6	UPPER FLOOR TOILET EX.AIR					
a)	3750 CFM at 25mm static pressure for normal EX.Air(Terrece)	Nos.	4.00			-
b)	2250 CFM at 25mm static pressure for normal EX.Air(Terrece)	Nos.	4.00			-
1.7	LIFT WELL PRESSURIZATION					
a)	8000 CFM at 30mm static pressure(Services Lift)	Nos.	8.00			-
1.8	STAIRCASE PRESSURIZATION(BASEMENT)					
a)	1000 CFM at 30mm static pressure (Services Lift)	Nos.	2.00			-
	STAIRCASE PRESSURIZATION(BASEMENT)					
	PROPELLER FAN					
a)	1000 CFM at 30mm static pressure(StaircasePress)	Nos.	6.00			-
b)	1000 CFM at 30mm static pressure(Lift Looby Press)	Nos.	4.00			-
	LOW SIDE					
B)	AIR DISTRIBUTE					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2.0	SHEET METAL DUCT: (Factory Fabricated)					
	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.					
a)	24 gauge galvanised sheet(0.63 mm)	Sqm	520.00			-
b)	22 gauge galvanised sheet(0.80 mm)	Sqm	3,700.00			-
c)	20 gauge galvanised sheet(1.00 mm)	Sqm	1,100.00			-
d)	18 gauge galvanised sheet(1.25 mm)	Sqm	360.00			-
2.1	DUCT WORK (SITE Fabricated)					
	Supplying, fabricating, installing and testing of sheet metal ducts of following thicknesses including necessary supports, flexible hangers with isolators, flexible connections, nut bolts, gasket, splitter dampers and vanes, volume control dampers etc. complete as per specification in accordance with the approved shop drawings and required by the specifications. (As per SMACNA)					
a)	24 gauge galvanised sheet(0.63 mm)	Sqm	50.00			-
b)	22 gauge galvanised sheet(0.80 mm)	Sqm	370.00			-
c)	20 gauge galvanised sheet(1.00 mm)	Sqm	110.00			-
d)	18 gauge galvanised sheet(1.25 mm)	Sqm	40.00			-
3.0	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as perspecifications.	Sqm	30.00			-
4.0	FRESH AIR GRILLES					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.					
a)	Powder Coated Aluminium fresh air grilles with volume control damper.	Sqm	8.00			-
5.0	FLEXIBLE CONNECTION					
	Supplying, installing, testing and balancing of flexible connections constructed of fire resistant flexible double canvas sleeve as per specifications.	Sqm	20.00			-
6.0	EXHAUST AIR GRILLES					
	Supplying & fixing of powder coated extruded aluminium exhaust Air Grills with out aluminium volume control dampers as per specifications.	Sqm	84.00			-
7.0	SMOKE CUM FIRE DAMPER					
	Supplying, Fixing,testing and commissioning of fire dampers in supply air duct/main branch and return air path as and where required of required sizes i/c control wiring,the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted.The damper shall also be closed in the event of fire signal complete as required and as per specifications.					
	Fire damper	Sqm	10.00			-
8.0	EXHAUST AIR LOUVERS (WITHOUT DAMPER)					
	Supplying, installing and testing of exhaust air GI outlet louvers with bird screen complete as per specification & drawings.	Sqm	44.00			-
	SUB TOTAL					-

BILL OF QUANTITY

Construction of Office Campus including Buildings and Services on Plot No. 7 & 8 of Phase 1, Sector-24 at Naya Raipur

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
D FIRE FIGHTING WORKS						
I FIRE SUPPRESSION SYSTEM						
1.00	Providing and fixing black steel pipes to IS:1239 (Heavy class) including all fittings like anchor fasteners, brick masonry supports, couplings, bends, elbows, tees and flanges etc. welded or screwed joints as required, cutting holes and chases in brick or RCC walls and making good complete.					
a	80 mm dia	Metre	350.00			-
b	100mm dia	Metre	400.00			-
c	150 mm dia	Metre	450.00			-
2.00	Providing and fixing first aid fire hose reel wall mounting swinging type fitted with 36.5 M x 20 mm dia high pressure RUBBER hose to IS: with 5 mm outlet gunmetal nozzle with shut off valve (IS:884-1969).	Each	62.00			-
3.00	Providing and fixing 63 mm dia 15 M long rubberized fabric lined hose including gunmetal male and female instantaneous type coupling approved by fire authority, machine wound with G.I. wire complete in all respects hose to IS:636 type II and coupling to IS:903-1975 with ISI certification.	Each	96.00			-
4.00	Providing and fixing standard short size gunmetal branch pipe with gunmetal nozzle 16 mm NB outlet with standard instantaneous type 63 mm dia coupling.	Each	48.00			-
5.00	Providing and fixing standard fire man's axe with heavy duty insulated rubber handle.	Each	48.00			-

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
6.00	Providing and fixing gunmetal collecting head with 63 mm dia instantaneous type inlet and 150/100 mm dia flanged outlet with built in check valve for fire brigade connection to fire tank and fire risers (IS:904-1965) including 16 gauge thick M.S. sheet enclosure stove enameled with 8 mm thick glass					
	a) Two way	Each	2.00			-
	b) Four way	Each	2.00			-
7.00	Providing and fixing single acting air valve with screwed inlet 25 mm dia.	Each	48.00			-
8.00	Providing gunmetal fire hydrant valve 80 mm inlet, single outlet with control and fitted with 63 mm dia instantaneous female coupling complete with blank cap and chain (Inlet flanged to IS: 5290)	Each	62.00			-
9.00	Providing and fixing fire hose cabinet fabricated from 16 gauge M.S. Sheet with single or double glazed front door (with 4 mm thick glass) and locking arrangement, painted fire red with stove enamelled paint "FIRE HOSE" written on front including necessary supports approximate size.					
a	2100x1200x600 mm deep.	Each	48.00			-
b	900x600x300 mm deep.(EFH)	Each	14.00			-
10.00	Painting M.S. pipes and fittings two or more coats of synthetic enamel paint of approved quality and shade over a coat of ready mixed red lead primer:					
a	80 mm dia	Metre	350.00			-
b	100mm dia	Metre	400.00			-
c	150 mm dia	Metre	450.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
11.00	Providing tar based corrosion protection tape complete as per specification by applying a coat of primer, wrapping tape spirally and thermosealing complete.					
	150mm dia	Metre	400.00			-
12.00	Providing and fixing lever operated butterfly valve conforming to IS:13095-91 including necessary companion flanges, bolts and nuts complete.					
a	100 mm dia	Each	4.00			-
b	150 mm dia	Each	12.00			-
13.00	Providing and fixing cast iron double flanged horizontal type non-return valves including nuts, bolts, 3 mm thick insertion rubber gasket complete to IS:5312 (PIN 1.6).					
a	100 mm dia	Each	-			-
b	150 mm dia	Each	4.00			-
14.00	Providing and fixing dial type pressure gauge with isolation cock and pipe at hydrant station.					
a	Dia diameter 100 mm calibration 0-8 Kg.	Each	48.00			-
15.00	Providing and fixing heavy duty armoured cables 1.1 KVA grade including necessary support clamps at ceiling level and connection lugs complete in all respects.					
a	power cable aluminium 3 core 6 sq.mm	Metre	170.00			-
II	HAND APPLIANCES					
1.00	Providing and fixing CO ₂ type fire extinguishers with steel cylinder with a discharge valve and conforming to IS:15683. Extinguishers shall be painted with rex enamel paint and fixed to wall with brackets capacity 4.5 Kg.	Each	80.00			-

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2.00	Providing and fixing water CO2 gas fire extinguishers with steel cylinder with a discharge valve and conforming to IS:940. Extinguishers shall be painted with rex enamel paint and fixed to wall with brackets capacity 9 litre.	Each	80.00			-
3.00	Providing and fixing ABC powder type fire extinguisher suitable for inverted operation and fabricated from 1.6 mm M.S. sheet internally protected with anticorrosive treatment and hydraulically tested to a pressure of 25 Kg/Sqcm. Extinguishers externally painted with red enamel and fixed to wall with brackets complete with internal charge and spanner (Conforming to IS:13849 capacity 5 Kg.).	Each	80.00			-
III	SPRINKLER SYSTEM					
1.00	Supply, installation, testing and commissioning of MS Pipe class 'C' (heavy duty) conforming to IS:1239 including all accessories such as screwed/welded joints, flanges, tees, reducers, structural steel supports and clamps etc. including lift to all heights, welding, jointing, painting and inserted rubber gaskets, nuts, bolts etc. as required. Pipes shall be painted with two coats of primer & two coats of post office red synthetic enamel paint over two coats of red oxide zinc chromate primer. Prior to application of primer surface to be cleaned including painting of legends both direction arrow as per approval of Project Manager and shall be fixed in ceiling, walls, columns for all heights with hangers/supports and fasteners all as per drawing including chasing of walls/columns /ceiling etc. and making good the same as required. G.I. pipe/PVC sleeve of suitable higher size shall be provided whenever the pipes are crossing the walls/floors and sealing the sleeves with glass wool in between & fire sealant compound at either end all as per Project Manager/Consultant requirement.					
a	25 mm dia	Meter	6,000.00			-
b	32 mm dia	Meter	2,400.00			-
c	40 mm dia	Meter	2,400.00			-
d	50 mm dia	Meter	1,000.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
e	65 mm dia	Meter	900.00			-
f	80 mm dia	Meter	1,300.00			-
g	100 mm dia	Meter	1,100.00			-
h	150 mm dia	Meter	1,370.00			-
Notes :						
i)	<i>Pipes upto 50 mm dia shall be threaded joints, above 50 mm shall be welded joints.</i>					
ii)	<i>For Pipe up to 50 mm dia standard threaded forged steel fitting and Pipe above 50 mm dia standard MS fitting with welded joint shall be used.</i>					
iii)	<i>Steel Structural Supports are included in this item.</i>					
iv)	<i>G.I. pipe sleeve of suitable higher size shall be provided wherever the pipe are crossing the wall/floors and sealing the sleeves with glass wool in between and fire sealant compound at either end all as per Project Manager's requirement.</i>					
2.00	Providing & fixing brass quartzoid sprinklers (approved) of 15 mm dia size, suitable for sustaining the pressure on the seat & water hammer effect. The type & temperature rating shall be as follows :					
a	Pendent / Upright (68 deg.C) sprinkler quick response	Nos.	4,100.00			-
b	Sidewall extended coverage (68 deg.C) sprinkler.	Nos.	30.00			-
3.00	Providing and fixing of UL listed electrically operated flow indicating switch (vane type) of following diameter with threaded connection with flexible full bore paddle & NO/NC contact terminals as specified complete with all accessories and necessary wiring.					
4.00	Providing and fixing 25 mm dia inspecting & testing assembly with gunmetal valve, gunmetal sight glass(if required), bypass valve & connected to drain line.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
5.00	Providing & fixing cast iron flanged butterfly valve complete in all respects confirming to IS :13095 as per standard design complete in all respects.					
a	100 mm dia	Nos.	22.00			-
6.00	Providing and fixing copper conductor PVC covered control cables from individual flow switches on each floor to annunciation panel installed in fire control room in basement including sleeves, cable clips, supports for horizontal runs making connection to each switch complete.					
a	4 core 2.5 Sqmm	Mtr	100.00			-
7.00	Supply, installation, testing and commissioning of Main Sprinkler Zone control and indicating panel with audio visual alarm including power pack and battery back-up for 10 Hrs capacity as required, the panels shall have electronic circuitry and flashing audio / visual alarm system for sprinkler zones of following capacities: (Addressable Type)					
a	8 zones	Set	2.00			-
8.00	Supply, installation, testing and commissioning of Installation Control Valve with Gong Bell Unit with tapping, pipes, Valves, interconnecting hoses and pipings complete as required to make it operational.	Set	4.00			-
9.00	Providing, fixing, jointing and testing of Sprinkler system as per the furniture drawing complete with required 25mm heavy quality (Class C) M.S. pipe ,drop down using 1000mm SS Flexible pipe with GI fittings i.e. tees, bends, elbows, unions, reducers etc., making connection with existing pipe work, with supports including painting with two coats of enamel paint of fire red shade over a coat of prime (Internal work)	Nos.	300.00			-
IV	FIRE PUMPS & ACCESSORIES					
	Supply,Installations, Testing & Commissioning of :					
1.00	Diesel Engine Driven Fire Pumping set suitable for automatic operation consisting of the following as per specifications:	Each	2.00			-

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Horizontally mounted, centrifugal type single stage/multi-stage fire pump having cast iron body, bronze impeller, stainless steel shaft & capable of delivering 2280 lpm against a total head of 75 m complete with necessary 'Y' strainer on the suction side and pressure gauge with stop cocks etc, on the delivery side including bypass arrangement (with 50 mm dia G.M. stop valve and upto 5M G.I. Medium pipes) for periodical testing of the working of the pumping set as per TAC rules					
	Water cooled TAC approved Diesel Engine suitable for developing at least 1500/1800 RPM) for above pump complete with automatic starting mechanism, batteries, automatic battery charger unit, flexible coupling with the pump, fuel tank, silencer, exhaust pipe & all standard accessories as required as per TAC rules including earthling, mandatory spares and tool kit.					
	Common bed plate for mounting Pump and Engine fabricated of suitable M.S.Channel as per manufacturer's recommendations.					
	Suitable Pump foundations as per manufacturer 's design and required numbers of Dunlop Anti-vibration (cushy foot) heavy duty mounting pads.					
2.00	Electrical Motor Driven Fire Pumping set suitable for automatic operation consisting of the following as per the specifications.	Each	2.00			-
	Horizontally mounted, centrifugal type single /Multi stage fire pump having cast iron body, bronze impeller, stainless steel shaft & capable of delivering 2280 LPM against a total head of 75 M complete with necessary 'Y' strainer on the suction side and pressure gauge with GM cocks on the delivery side including bypass arrangement (with 50 mm ball valve and upto 5M G.I. Medium pipes) for periodical testing of the working of the pumping set as per TAC rules.					
	Squirrel cage induction motor totally enclosed fan cooled type suitable for 415 Volts ± 15%, 3 phase, 50 HZ A.C. supply of suitable for the above pump coupled with flexible coupling including earthling as per relevant Indian Standard & specifications.					
	Common bed plate for mounting Pump and Motor fabricated of Motor fabricated of suitable M.S. Channel as per manufacturer's recommendations.					
	Suitable Pump-Foundations as per manufacturer's design and 4 nos. Dunlop (cushy foot) heavy duty Antivibration mounting pads.					
3.00	Electrical Motor Driven Fire Pumping set suitable for sprinkler system automatic operation consisting of the following as per the specifications.	Each	2.00			-

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Horizontally mounted, centrifugal type single /Multi stage fire pump having cast iron body, bronze impeller, stainless steel shaft & capable of delivering 2280 LPM against a total head of 75 M complete with necessary 'Y' strainer on the suction side and pressure gauge with GM cocks on the delivery side including bypass arrangement (with 50 mm ball valve and upto 5M G.I. Medium pipes) for periodical testing of the working of the pumping set as per TAC rules.					
	Squirrel cage induction motor totally enclosed fan cooled type suitable for 415 Volts ± 15%, 3 phase, 50 HZ A.C. supply of suitable for the above pump coupled with flexible coupling including earthing as per relevant Indian Standard & specifications.					
	Common bed plate for mounting Pump and Motor fabricated of Motor fabricated of suitable M.S. Channel as per manufacturer's recommendations.					
	Suitable Pump-Foundations as per manufacturer's design and 4 nos. Dunlop (cushy foot) heavy duty Antivibration mounting pads.					
4.00	Electrical Motor Driven Automatic pressurisation (Jockey) pumping set consisting of the following as per specifications. Horizontally mounted centrifugal type single/multi-stage fire pump for building pressure loss due to any leakage in the system and capable to deliver approx 180 LPM against a total head of 75 M having cast iron body, bronze impeller, stainless steel shaft and complete with Pressure Gauge with G.M. stop valve etc. on the delivery side including bypass arrangement (with 25 mm dia. G.M. Stop Valve and upto 5 M.G.I. medium pipe) for periodical testing of the working of the pumping set.	Each	2.00			-
	Squirrel cage induction motor totally enclosed fan cooled type suitable for 415 Volts ± 15% 3 phase. 50 hz A.C. supply of suitable for the above pump with synchronous speed of 1500/3000 RPM confirming to IS: 325 & duly coupled with above pump coupled with flexible coupling including earthing as per relevant Indian Standard and specifications.					
	Common bed plate for mounting pump and motor fabricated of suitable M.S. channel as per manufacturer's recommendations.					
	Pump foundations as per manufacturer ' s design and required numbers of Dunlop Anti-vibration (cushy foot) heavy duty mounting pads.					
5.00	Electrical Motor Driven Fire Pumping set suitable for water curtain system automatic operation consisting of the following as per the specifications.	Each	2.00			-

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Horizontally mounted, centrifugal type single /Multi stage fire pump having cast iron body, bronze impeller, stainless steel shaft & capable of delivering 2850 LPM against a total head of 75 M complete with necessary 'Y' strainer on the suction side and pressure gauge with GM cocks on the delivery side including bypass arrangement (with 50 mm ball valve and upto 5M G.I. Medium pipes) for periodical testing of the working of the pumping set as per TAC rules.					
	Squirrel cage induction motor totally enclosed fan cooled type suitable for 415 Volts ± 15%, 3 phase, 50 HZ A.C. supply of suitable for the above pump coupled with flexible coupling including earthing as per relevant Indian Standard & specifications.					
	Common bed plate for mounting Pump and Motor fabricated of Motor fabricated of suitable M.S. Channel as per manufacturer's recommendations.					
	Suitable Pump-Foundations as per manufacturer's design and 4 nos. Dunlop (cushy foot) heavy duty Antivibration mounting pads.					
V	MISCELLANEOUS ITEMS					
1.00	Providing and fixing double flanged vertical air vessel fabricated shell from 8 mm thick & dished ends 10 mm thick M.S.plate, 450 mm dia and 2.0 m high common for fire hydrant, sprinkler Diesel pump and jockey pumps complete with five numbers pressure switches to operate jockey and main pumps at drop of pressure as given in the specifications.	Each	2.00			-
2.00	Providing and fixing M.S. pipes to I.S.1239 (C class)/I.S:3589 with two or more coats of synthetic enamel paint of approved quality and shade over a coat of approved priming including all fittings like anchor fastners, couplings, bends, elbows, tees, flanges and epoxy coated structural supports where required etc. welded or screwed joints as required, cutting holes and chases in brick or RCC walls and making good complete.					
a	100 mm dia	Meter	50.00			-
b	150 mm dia	Meter	100.00			-
3.00	Providing and fixing resilient rubber neoprene lined style arch vibration eliminators suitable for raw water upto 45 deg. C. temperature working pressure upto 8 Kg/Sqcm					
a	100 mm dia	Each	4.00			-

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	150 mm dia	Each	4.00			-
	SUB TOTAL					-

BILL OF QUANTITY**Construction of Office Campus including Buildings and Services on Plot No. 7 & 8 of Phase 1, Sector-24 at Naya Raipur**

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
E	PLUMBING WORKS					
	INTERNAL WORK					
1	Providing and fixing 15 mm nominal bore uplasticised PVC connection pipe with C.P brass nuts collar and PVC bush of approved quality and colour: 30 CM length	Each	180			-
2	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink with drain board as per IS 13983 with C.I. brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required : 510x1040 mm bowl depth 250mm	Each	10			-
3	Providing and fixing flexible P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. 32 mm dia	Each	180			-
a						
b	40 mm dia	Each	10			-
4	Providing and fixing 600x450 mm beveled edge 4mm mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	Each	180			-
5	Providing and fixing 15 mm nominal bore C.P. brass fittings of approved make and conforming to IS:8931 including C.P. brass extension if required: Bib cock (450gms)	Each	10			-
5.1						
5.2	Long body bib cock (500gms)	Each	10			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
5.3	Angle valve for basin mixer and geyser points (450gms)	Each	550			-
5.4	Basin mixer pillar tap with spout (1000gms)	Each	180			-
5.5	Kitchen sink mixer with cast swivel spout (1000gms)	Each	10			-
5.6	Bottle trap set with extension pipes	Each	180			-
5.7	Toilet paper holder	Each	160			-
5.8	Soap dish plate	Each	180			-
6	Providing and Fixing vitreous china wall hung European type water closet straight / offset type flexible single body push fit type WC pan connector with factory supplied seal guard of McAlpine with C.P. bolts, nuts, C.I. chair or other hanging arrangement, with Solid plastic seat and slow falling cover, C.P. brass hinges rubber buffers with accessories,C.I./M.S. brackets painted with two coats of enamel paint of approved shade over a coat of primer. C.P. brass screws, including cutting and making good the wall and floors wherever required. (Make: Hindware Model: Studio (SPECIAL -Cat. No:20061)	Each	160			-
7	Providing and Fixing Concealed Flushing Cistern with dual flush Actuator, flush-stop function, noise less float valve and fast filling action with all component parts of high quality complete including fixing frame and set. (Make: Hindware Acuating Plate: Concealed Cistern 83mm Cat. No. 508179)	Each	160			-
8	Providing and Fixing vitreous WB Under Counter wash basin for under counter mounting, specially fabricated brackets painted white, C.P.cast brass bottle trap and connection pipe to wall with C.P. wall flange and rubber adopter for waste connection complete, including cutting and making good the walls wherever required. Star white color (Hindware (PASTLE)- "VISION" Cat. No. 91051)	Each	180			0.0
9	Providing and fixing C.P. cast brass twin coat hooks fixed to wooden cleats with C.P. brass screws Jaquar (Cat. No. 1161N)	Each	180			0.0

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
10	Providing and fixing health faucet with 1 m PVC tube and swivel hook including all fittings (Jaquar Cat No.ALD-563) complete.	Each	160			-
11	Fixing C.P. brass towel ring with S.S. screws wooden cleats including necessary fittings cutting holes in wall and making good the wall wherever required.	Each	180			-
12	Fixing automatic soap Dispenser similar with glass bottle and C.P. brass screws including cutting and making good the wall wherever required.	Each	180			-
13	Providing and fixing white vitreous china semistall lipped urinal size 645 x 410 mm C.I. Hanger, integral battery operated sensor flush valve, C.P. spreader, 32 mm C.P. brass domical waste, 32 mm C.P. cast brass bottle trap and pipe to wall with C.P. flange complete including cutting and making good the walls and floors wherever required. One urinal basin (Parryware Cat No. C8182) .	Each	80			-
14	Providing and fixing white vitreous china urinal partition Magnum/Large with expandable anchor fasteners with C.P. brass bolts and washers complete, including cutting and making good the walls where required. Division plate (Parryware Cat No. C0571/507 size 810mm) .	Each	80			-
	SOIL, WASTE & VENT PIPE					
15	Providing and fixing uPVC pipes type -B conforming to IS: 13592 for soil, waste and vent pipes including all fittings rubber ring type (plain or with access door) e.g. bends, junctions, cowls, offsets, access pieces, jointing with rubber ring joints with lubricant etc. fixed with clamps to walls with cement concrete 1:2:4 blocks complete in all respects. For soil, waste and vent pipes					
a	90 mm OD	Metre	600			-
b	110 mm OD	Metre	2700			-
c	160 mm OD	Metre	160			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
16	Providing, fixing, jointing and testing in position the following uPVC pipes conforming to IS 4985 of 6 kg/sqcm pressure rating including all fittings, solvent weld joints, testing complete for drainage system cut to required length to be laid under floor including covering all around with cement concrete and making good the same complete as required.					
	For waste pipes					
a	40mm OD	Metre	480			-
b	50mm OD	Metre	160			-
c	63mm OD	Metre	160			-
17	Providing and laying cement concrete1:2:4 (1cement: 2coarse sand: 4stone aggregate 20mm nominal size) all-round uPVC including centering and shuttering. 4" dia pipe	Metre	2700			-
18	Providing and fixing uPVC floor drain of following size inlet and outlet including cutting and making good the walls and floors wherever required complete in all respects.	Each	60			-
19	Providing and fixing 110x110 mm uPVC 'P' trap with 2-3 inlets required size fitting with seal 50 mm of self cleansing design floor/urinal trap without vent suspended with supporting clamp or in sunken portion including cutting and making good the walls and floors wherever required complete in all respects.					
a	110 x110 mm outlet	Each	336			-
20	Providing and fixing uPVC cleanout plug with openable cap for uPVC pipes					
a	For 110 mm OD pipes	Each	124			-
b	For 160 mm OD pipes	Each	12			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
21	Providing and fixing PTMT grating of approved quality and colour. Circular type 125 mm nominal dia with 25 mm waste hole	Each	396			-
	RAIN WATER SYSTEM (SCHEDULE ITEM)					
22	Providing and fixing on wall face UV stabilized Unplasticised Rigid PVC pipes (single socketed) having 3.2mm wall thickness conforming to IS : 13592 (4kg/sqcm) including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.					
a	75mm dia	Metre	0			-
b	110mm dia	Metre	282			-
23	Providing and fixing on wall face UV stabilized Unplasticised - PVC moulded fittings/ accessories having 3.2mm wall thickness for Rigid PVC pipes conforming to IS : 13592 (heavy) jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.					
	Single tee without door					
a	110x110x110 mm	Each	44			-
	Bend 45°					
b	110 mm bend	Each	44			-
	Plain bend					
c	110 mm bend	Each	44			-
	RAIN WATER SYSTEM					
24	Providing and fixing on wall face UV stabilized Unplasticised Rigid PVC pipes (single socketed) having 3.2mm wall thickness conforming to IS : 13592 (4kg/sqcm) including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion. 160mm dia	Metre	1870			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
25	Making khurras 600x600mm with average minimum thickness of 5 cms cement concrete 1:2:4 (1 cement : 2 coarse sand: 4 graded stone aggregate 20mm nominal size) over PVC sheet 1m x 1m x 400 micron, finished with 12mm plaster in cement mortar 1:3(1 cement :3 coarse sand) finished with floating coat of neat cement including rounding of edges and finishing of outlet complete in all respects.	Nos.	44			-
	WATER SUPPLY					
26	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes in trenches, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This included jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.					
a	15 mm nominal outer dia .Pipes.	Metre	900			-
b	20 mm nominal outer dia .Pipes.	Metre	700			-
c	25 mm nominal outer dia .Pipes.	Metre	800			-
d	32 mm nominal outer dia .Pipes.	Metre	300			-
e	40 mm nominal outer dia .Pipes.	Metre	0			-
27	Providing and laying in trenches G.I. pipes medium class complete with G.I. fittings including excavation of trenches, refilling the same and testing of joints complete:					
a	15 mm dia. nominal bore	Metre	0			-
b	20 mm dia. nominal bore	Metre	700			-
c	25 mm dia. nominal bore	Metre	260			-
d	32 mm dia. nominal bore	Metre	240			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
e	40 mm dia. nominal bore	Metre	460			-
f	50 mm dia. nominal bore	Metre	900			-
g	65 mm dia. nominal bore	Metre	160			-
h	80 mm dia. nominal bore	Metre	160			-
28	Providing and laying S&S centrifugally cast (spun) iron pipes (Class LA) conforming to IS - 1536 :					
a	100 mm dia. Pipe	Metre	0			-
29	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :					
a	15 mm nominal bore	Each	100			-
b	20mm nominal bore	Each	68			-
30	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end):					
a	25 mm nominal bore	Each	28			-
b	32 mm nominal bore	Each	40			-
c	40 mm nominal bore	Each	6			-
d	50 mm nominal bore	Each	16			-
e	65 mm nominal bore	Each	2			-
f	80 mm nominal bore	Each	18			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
31	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality:					
a	15 mm diameter pipe	Metre	0			-
b	20 mm diameter pipe	Metre	700			-
c	25 mm diameter pipe	Metre	260			-
d	32 mm diameter pipe	Metre	240			-
e	40 mm diameter pipe	Metre	460			-
f	50 mm diameter pipe	Metre	900			-
g	65 mm diameter pipe	Metre	160			-
h	80 mm diameter pipe	Metre	160			-
32	Constructing masonry Chamber 30x30x50 cm, inside with FALG bricks of 35 kg/ cm ² in cement mortar 1:4 (1 cement : 4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand:10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick finished with a floating coat of neat cement complete as per standard design :	Each	2			-
SUB TOTAL						-

BILL OF QUANTITY

Construction of Office Campus including Buildings and Services on Plot No. 7 & 8 of Phase 1, Sector-24 at Naya Raipur

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
F ELECTRICAL WORKS						
	WIRING					
1.00	Wiring for light/ fan/ exhaust fan / call bell point with 1.5 sqmm FR PVC insulated stranded copper conductor single core cable in concealed PVC conduit, with 5 amp modular switch, modular base and cover plate, suitable size G.I. box and earthing the point with same size cable as required.					
	Medium Point	Point	496.00			-
2.00	Wiring for light plug point with 2x2.5 sq mm FR PVC insulated stranded copper conductor cable in concealed PVC conduit along with modular type 6 Amp switch and 3 pin 6 amps socket outlet with modular base and cover plate, suitable size G.I. box, earthing the switch box and socket outlet with same size cable etc. as required.					
	Medium Point	Point	1,980.00			-
3.00	Wiring for power plug point with 2x4 sq mm FR PVC insulated stranded copper conductor cable in concealed PVC conduit along with modular type 16 Amp switch and 6 pin 16 amps socket outlet with modular base and cover plate, suitable size G.I. box, earthing the switch box and socket outlet with same size cable etc. as required.					
	Medium Point	Point	6,660.00			-
4.00	Wiring for circuit/ sub main wiring along with earth wire with the following sizes of FR PVC insulated copper conductor, single core cable in concealed PVC conduit as required.					
a	3 X 6 sq. mm in 25mm conduit	Meter	1,150.00			-
b	6 X 6 sq. mm in 32mm conduit	Meter	120.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
c	6 X 10 sq. mm in 40mm conduit	Meter	100.00			-
5.00	Extra cost for point wiring in concealed in PVC conduit at height above 4 meters from floor level, for every 2 meters or part thereof.	Point	68.00			-
6.00	Supplying and fixing of following sizes PVC conduit along with accessories in concealed complete as required.					
a	20 mm	Meter	300.00			-
b	25 mm	Meter	8,034.00			-
c	32 mm	Meter	1,500.00			-
d	40 mm	Meter	200.00			-
7.00	Supplying and drawing following pair 0.5 sq mm FR PVC insulated copper conductor, unarmored telephone cable in the existing surface/ concealed steel/ PVC conduit as required.					
a	2 Pair	Meter	300.00			-
8.00	Supplying and drawing following co-axial TV cable PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ concealed steel/ PVC conduit as required.					
a	RG-6 grade, 0.7 mm solid copper conductor	Meter	2,800.00			-
9.00	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc as required.					
a	75mmX75mm (1 Module)	Each	18.00			-
b	75mmX75mm (2 Module)	Each	10.00			-

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
c	100mmX75mm (3 Module)	Each	288.00			-
10.00	Supplying and fixing following modular switch, socket, other accessories on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
a	Bell push	Each	4.00			-
b	15/16 amps switch	Each	222.00			-
c	3 pin 5/6 amp socket outlet	Each	66.00			-
d	6 pin 15/16 amp socket outlet	Each	222.00			-
e	Telephone socket outlet	Each	10.00			-
f	T.V. antenna socket outlet	Each	2.00			-
g	Computer Outlet Jack	Each	8.00			-
h	25/32 amp A.C. Starter switch	Each	6.00			-
11.00	Providing and fixing composite unit for computer points having modular type 1 No 6 pin 16 amp socket outlet, 1 No 16 amp switch, 3 Nos 3 pin 6 amp socket outlets, 3 Nos 6 amp switches, suitable G.I. box, base and cover plates, earthing the sockets and switch box including etc. as required.	Each	8.00			-
12.00	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	200.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
13.00	Supplying and fixing call bell/ buzzer suitable for single phase, 230 volts A.C. supply, complete as required.					
	Deluxe	Each	4.00			-
14.00	Providing and fixing round/ hexagonal fan box (125mm dia) depth 75mm (max.) with 12mm dia steel bar hook, 1.6mm thick MS sheet cover, in RCC slab etc. as required.	Each	4.00			-
15.00	Supplying, installation, testing and commissioning of following sizes ceiling fan with resistance type regulator, including wiring the down rods of standard length up to 30 cm with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable, earthing etc. complete as required.					
	1200 mm sweep	Each	4.00			-
16.00	Providing and fixing phenolic laminated sheet cover of 180 mm dia 3 mm thick on the fan box etc. as required. (If provided at the time of installation of ceiling fan)	Each	4.00			-
17.00	Supplying and fixing of wall/ cabin fan of 400mm sweep including connection etc. as required.	Each	2.00			-
18.00	Supplying, installation, testing and commissioning of following T-5 fluorescent fitting (luminaries) complete with electronic ballast but without fluorescent lamp, on ceiling/ wall surface, earthing the fitting etc. as required.					
	Single box type with decorative end caps	Each	506.00			-
19.00	Supplying, installation, testing and commissioning of following mirror optics surface type CFL fitting (luminaries) complete with copper ballast, but without CFL lamp, on ceiling/ wall surface, earthing the fitting etc. as required.					
	2x 9/11/13 W	Each	126.00			-
20.00	Supplying, installation, testing and commissioning of following CFL down lighter luminaries with mirror reflector, but without CFL lamp, on surface/ recess in false ceiling including connection, testing and commissioning as required.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	For 1x13/18 watt CFL with cover	Each	1,020.00			-
21.00	Supplying, fixing and testing of approved make bulk head luminaire consisting of pressure die cast Alu. Housing, lamp holder, prismatic glass cover, rubber gasket and wire guard delux type including fixing on wall as required, with necessary material complete.	Each	112.00			-
22.00	Supplying, fixing, testing and commissioning of following CFL (Built in choke type) in existing lighting luminaries as required.					
a	9 Watt	Each	112.00			-
b	11 Watt	Each	352.00			-
c	20 Watt	Each	920.00			-
d	23 Watt	Each	4.00			-
e	26 Watt	Each	56.00			-
f	35 Watt	Each	506.00			-
23.00	Supplying, installation, testing and commissioning of following 230/250 volts metal halide wide beam flood light luminaries with weather proof gear box, igniter, capacitor with IP 65 protection on wall surface/ building parapet/ pole bracket complete but without lamp as required.					
a	1x150 watt	Each	8.00			-
24.00	Supplying, installation, testing and commissioning of following 230/250 volts HPSV street light fitting with gear box, igniter, capacitor with IP 65 protection on pole bracket complete but without lamp as required.					
a	70 watt	Each	78.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
25.00	Supplying, fixing, testing and commissioning of following 230/250 volts metal halide lamp in existing lighting luminaries fixed on pole/ wall/ roof etc as required.					
a	70 watt (T)	Each	40.00			-
b	150 watt (T)	Each	8.00			-
26.00	Supplying, fixing, testing and commissioning of following 230/250 volts HPSV lamp tubular/elliptical in existing lighting luminaries on pole/ wall/ roof etc as required.					
	70 watt (E)	Each	78.00			-
27.00	Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting of all types, complete with all accessories and tube etc., including supplying and fixing metallic chain up to 60 cm length, painting and wiring with 1.5 sq. mm PVC insulated, copper conductor, single core cable and earthing etc. as required.	Each	480.00			-
28.00	Supplying and fixing on surface/ recess prewired following way, 240 volts SP&N, MCB distribution board of sheet steel phosphatized and powder painted complete with loose wire box, terminal blocks, tinned copper busbar, neutral link, earth bar, din bar, detachable gland plate, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks including interconnections, earthing etc. as required. (But without MCB/ RCCB/ Isolator)					
	2 + 8 way, Double door	Each	46.00			-
29.00	Supplying and fixing on surface/ recess prewired vertical type following way, 415 volts TP&N, MCB distribution board of sheet steel phosphatized and powder painted complete complete with loose wire box, terminal blocks, 200 amps tinned copper busbar, common neutral link, earth bar, din bar, detachable gland plate, loose wire box, superior make terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FR PVC insulated copper conductor up to terminal blocks including interconnections, earthing etc. as required. (But without MCB/ RCCB/ Isolator) (Note : Prewired vertical type MCB TPDB is normally used where 3 phase outlets are required.)					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a	8 way (4 + 24), Double door	Each	2.00			-
b	12 way (4 + 36), Double door	Each	4.00			-
30.00	Supplying and fixing SP MCB , 240 volts, ' B ' series, suitable for lighting and other loads in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
	6 amps to 32 amps	Each	486.00			-
31.00	Supplying and fixing SP MCB , 240 volts, ' C ' series, suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
	6 amps to 32 amps	Each	20.00			-
32.00	Supplying and fixing following rating, 240 volts TWO POLE ISOLATOR in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
	40 amps	Each	46.00			-
33.00	Supplying and fixing following rating, 415 volts, FOUR POLES, ISOLATOR in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
	40 amps	Each	4.00			-
34.00	Supplying and fixing following rating, double pole , (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current up to 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
	25 amps	Each	58.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
35.00	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Each	34.00			-
36.00	Supplying and fixing 2 pole and earth, 240 volts, industrial type, socket outlet , enclosed metal plug top along with SP MCB in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.					
a	20 Amp with "C" series MCB	Each	4.00			-
b	32 Amp with "C" series MCB	Each	4.00			-
37.00	Supplying, installation, testing and commissioning following rating single phase 230 volts inverter (without battery) including connection as required.					
	1.40 KVA	Each	2.00			-
38.00	Supplying, installation, testing and commissioning following rating maintenance free lead acid battery including connection as required.					
	74 AH	Each	4.00			-
39.00	Earthing with G.I. earth pipe 4.5 mtr long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal and salt as required.	Set	1,760.00			-
40.00	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe, with charcoal and salt as required.	Set	36.00			-
41.00	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe, with charcoal and salt as required.	Set	20.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
42.00	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode at 0.5 Metre depth below ground level including excavation and refilling the trench etc. as required.	Meter	800.00			-
43.00	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Meter	400.00			-
44.00	Supplying and laying 25 mm X 6 mm G.I. strip at 0.50 Meter below ground as strip earth electrode, including soldering, excavation and refilling the trench etc. as required.	Meter	1,280.00			-
45.00	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode at 0.5 Metre depth below ground level including excavation and refilling the trench etc. as required.	Meter	200.00			-
46.00	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Meter	500.00			-
47.00	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Meter	1,000.00			-
48.00	Supplying and laying HDPE pipe of 4kg/sqcm in ground below road, path etc at a depth not less than 40 cm including excavation, dismantling of road if required and refilling the trench etc. as required.					
a	110 mm outer dia	Metre	100.00			-
b	160 mm outer dia	Metre	100.00			-
49.00	Supplying and laying following size RCC Hume pipe class NP-2 (in standard length of 2 metre) with collar in ground below road, path etc at a depth not less than 50 cm including excavation, dismantling of road if required and refilling the trench etc. as required.					
a	150 mm dia	Metre	100.00			-
b	300 mm dia	Metre	100.00			-
50.00	Supplying and laying following sizes one number PVC insulated, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a	2 x 6 sq. mm	Meter	4,000.00			-
b	4 x 25 sq. mm.	Meter	276.00			-
51.00	Supplying and laying following sizes one number PVC insulated, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade in existing masonry open duct as required.					
a	3.5 x 300 sq. mm.	Meter	1,800.00			-
52.00	Supplying and laying following sizes one number, steel armoured aluminium conductor power cable of 1.1 KV grade on surface/ existing cable tray as required.					
a	2 x 6 sq. mm	Meter	130.00			-
b	3 x 10 sq. mm	Meter	3,140.00			-
c	3.5 x 35 sq. mm.	Meter	510.00			-
d	4 x 10 sq. mm.	Meter	120.00			-
e	4 x 16 sq. mm.	Meter	40.00			-
f	4 x 25 sq. mm.	Meter	140.00			-
53.00	Supplying and laying following sizes one number, steel armoured aluminium conductor power cable of 1.1 KV grade on surface/ existing cable tray with M.S flat clamp and steel dash fastener/ G.I. bolts and nuts as required.					
a	3.5 x 50 sq. mm.	Meter	250.00			-
b	3.5 x 70 sq. mm.	Meter	570.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
c	3.5 x 95 sq. mm.	Meter	620.00			-
d	3.5 x 120 sq. mm.	Meter	790.00			-
e	3.5 x 150 sq. mm.	Meter	390.00			-
f	3.5 x 185 sq. mm.	Meter	1,420.00			-
g	3.5 x 240 sq. mm.	Meter	40.00			-
h	3.5 x 300 sq. mm.	Meter	2,200.00			-
54.00	Supplying and making end termination with brass compression gland and aluminum lugs for following size armoured aluminum conductor power cable of 1.1 KV grade as required.					
a	2 X 6 sq. mm	Each	192.00			-
b	3 X 10 sq. mm	Each	244.00			-
c	3½ X 35 sq. mm	Each	28.00			-
d	3½ X 50 sq. mm	Each	20.00			-
e	3½ X 70 sq. mm	Each	24.00			-
f	3½ X 95 sq. mm	Each	16.00			-
g	3½ X 120 sq. mm	Each	24.00			-
h	3½ X 150 sq. mm	Each	8.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
i	3½ X 185 sq. mm	Each	40.00			-
j	3½ X 240 sq. mm	Each	4.00			-
k	3½ X 300 sq. mm	Each	68.00			-
l	4 X 10 sq. mm	Each	16.00			-
m	4 X 16 sq. mm	Each	4.00			-
n	4 X 25 sq. mm	Each	8.00			-
55.00	Supplying and laying following sizes one number XLPE, steel armoured, aluminium conductor power cable of 33 KV grade in existing RCC/ HUME/ STONEWARE/ METAL pipe as required.					
a	3 x 300 sq mm	Meter	200.00			-
56.00	Supplying and laying following sizes one number XLPE, steel armoured, aluminium conductor power cable of 33 KV grade in existing masonry open duct as required.					
	3 x 300 sq mm	Meter	100.00			-
57.00	supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminum conductor cable of 33 KV grade as required :					
	300 sq. mm	Each	12.00			-
58.00	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminum conductor cable of 33 KV grade as required :					
	300 sq. mm	Each	12.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
59.00	Supplying and installing following size powder coated, perforated M.S. cable trays with perforation not more than 17.5% rigidly suspended from the ceiling with M.S. suspenders at a distance not more than 2.5 metre and near every junction/ joint etc complete as required.					
a	100 mm width X 50 mm depth X 1.6 mm thickness	Meter	300.00			-
b	150 mm width X 50 mm depth X 1.6 mm thickness	Meter	600			-
c	300 mm width X 50 mm depth X 1.6 mm thickness	Meter	600.00			-
d	450 mm width x 50 mm depth x 2.0 mm thickness	Meter	300.00			-
e	600 mm width X62.5 mm depth X 2.0 mm thickness	Meter	300.00			-
f	750 mm width X62.5 mm depth X 2.0 mm thickness	Meter	100.00			-
g	900 mm width X62.5 mm depth X 2.0 mm thickness	Meter	80.00			-
60	Supplying and fixing of following sizes powder coated, perforated, M.S. cable trays bends (horizontal) turning at 90° in same plane with perforation not more than 17.5% rigidly jointed with cable tray etc. complete as required.					
a	100 mm width X 50 mm depth X 1.6 mm thick	Each	4.00			-
b	150 mm width X 50 mm depth X 1.6 mm thick	Each	12.00			-
c	300 mm width X 50 mm depth X 1.6 mm thick	Each	16.00			-
d	450 mm width X 50 mm depth X 1.6 mm thick	Each	4.00			-
e	600 mm width X 62.5 mm depth X 2 mm thick	Each	12.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
f	900 mm width X 62.5 mm depth X 2 mm thick	Each	4.00			-
61	Supplying and fixing of following sizes vertical, powder coated, perforated, M.S. cable trays bends (vertical) turning at 90° in another plane with perforation not more than 17.5% rigidly jointed with cable tray etc. complete as required.					
a	100 mm widthX50 mm depthX1.6 mm thick	Each	4.00			-
b	150 mm widthX50 mm depthX1.6 mm thick	Each	4.00			-
c	300 mm widthX50 mm depthX1.6 mm thick	Each	8.00			-
d	450 mm widthX50 mm depthX1.6 mm thick	Each	8.00			-
e	600 mm widthX62.5 mm depthX2 mm thick	Each	4.00			-
f	750 mm widthX62.5 mm depthX2 mm thick	Each	4.00			-
g	900 mm widthX62.5 mm depthX2 mm thick	Each	8.00			-
62	Supplying and fixing cable route marker with 10 cm X 10 cm X 5 mm thick G.I. plate with inscription there on, bolted /welded to 35 mm X 35 mm X 6 mm angle iron, 60 cm long and fixing the same in ground as required.	Each	20			-
63	Supply of hot dipped galvanized (in single dip to average 70 micron) octoganal pole made of 3mm thick steel plate having base plate 200x200x12mm, window and flush cover with locking arrangement at suitable height from base for cable termination block, pole suitably reinforced with welded steel section at window cut section to make the strength of pole unaffected, including template and anchor plate 240x240x3mm with 4 nos 450mm long, 16mm dia foundation bolts bolts (EN8 grade).					
	3 metre high, minimum dia 107mm at bottom and 75mm at top	Each	40.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
64	Supply of hot dipped galvanized (in single dip to average 70 micron) octoganal pole made of 4mm thick steel plate having base plate 275x275x16mm, window and flush cover with locking arrangement at suitable height from base for cable termination block, pole suitably reinforced with welded steel section at window cut section to make the strength of pole unaffected, including template and anchor plate 270x270x3mm with 4 nos 750mm long, 24mm dia foundation bolts (EN8 grade).					
	9 metre high, minimum dia 173mm at bottom and 75mm at top	Each	38.00			-
65	Erection of GI octogonal pole on existing cement concrete foundation having grouted bolts and nuts, aligning in true vertical position as required.					
a	3 metre high	Each	40.00			-
b	9 metre high	Each	38.00			-
66	Designing and providing suitable RCC foundation for 3mere to 12 metre high GI octagonal pole including steel reinforcement (minimum 90kg per cum), form work, embedding 2 nos 50mm dia PVC pipe for cable entry in each foundation, excavation disposal of surplus soil and curing etc. as required.	cum	78			-
67	Supplying and fixing of 32mm dia x 2 metre long G.I pipe (light) bracket for mounting street light fittings of all types on poles including bending the pipe to the required shape, 2 Nos 40x3mm flat iron clamps with bolts and nuts including wiring with 1.5 sq. mm W.P /PVC wire etc. as required.	Each	78			-
68	Supplying and fixing water tight terminal box made of 1.6mm thick M.S. sheet with detachable gland plate in bottom, hinged front open able cover, rubber gasket, having 2 Nos 4way connector and 1 No SPMCB inside the box for cable connection, fixed to pole with 2 Nos clamp made from 40x3mm M.S. flat with 2 No nut bolt dully painted with 2 coat of red oxide paint and 2 coat aluminium paint complete as required.					
a	20x15x15 cms.	Each	40.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	30x20x15 cms.	Each	38.00			-
69	M.V. SWITCH GEARS & DISTRIBUTION BOARDS	.				
	GENERAL NOTES:					
	This BOQ to be read in conjunction with technical specifications and Single Line Diagram . If any discrepancy occurs that should be brought to the notice of Client/Consultant before quoting the price otherwise stringent condition will be deemed to have been considered.					
	All ACBs to be provided with ON/OFF/Trip lamps, 3 NO + 3NC Auxiliary contacts other than used in control circuit.					
	All Transformer and DG incoming ACBs shall be provided with Microprocessor based O/L, S/C and E/F releases.					
	All outgoing ACBs shall be provided with thermal magnetic O/L and S/C releases.					
	All MCCBs shall be provided with rotary operating handle, thermal magnetic O/L & S/C releases and ON/OFF lamps. Incoming MCCBs should be provided with E/F release and shunt trip release also.					
	All meters shall be digital type.					
	Multi-function meter to be provided as required to cover all the parameters as mentioned.					
	All current/voltage transformer shall be cast resin type.					
	All indicating lamps shall be LED type.					
	Current density for bus bar shall not be more than 0.8A/Sqmm. Rating of Bus bar is after considering all derating factors. Neutral bus in DG Power Panel/Main LT Panel/Bus Duct shall be fully rated. (Bus bar sizing calculation to be submitted for approval.)					
	All starter shall be provided with ON/OFF/Trip lamp, start/stop button.					
	All internal control wiring shall be heat resistant type.					
	All incoming breakers in Main LT panel shall be electrically interlocked.					
	All TP feeders shall be provided with Isolable neutral link.					
	Bus bar chamber shall be provided at top only. Incoming and outgoing cable entry shall be from top/bottom as required.					
	DOL Starter shall be MPCB (with Magnetic element only). In case of S/C & O/L relay should trip respectively.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	M.V. PANEL BOARDS:					
	Design, manufacture, supplying, fixing in position, testing and commissioning of following MV switchgear panels suitable for 415 V, 3 phase, 4 wire, 50 Hz power distribution system. The panel shall be Indoor, free standing, floor/wall mounting, sheet metal clad, cubicle, dead front, dust and vermin proof type compartmentalized design fabricated out of 14 SWG sheet steel, complete with copper bus bars, separate earth bus bar to be provided through out the length of the panel. The incoming and outgoing feeders shall be accommodated in a modular multitier arrangement and shall be interlocked to avoid paralleling, adequate size cable alley, painting, earthing, numbering, danger plate etc as required as per specifications and drawings.					
a	Main LT Panel					
	Incoming:					
	Transformer Incomer : Two (2) Nos. 1000 KVA Transformer incomer consisting of :					
	Two Nos. 1600A, 4-pole ACB (50 KA) with microprocessor based O/L, S/C and E/F releases.					
	Metering, Indication & Protection:					
	Multifunction digital meter (consisting of Voltage, Current, Frequency, PF, kWh, kVA parameter) with RS-485 Port.					
	Sets of 1600/5A, CL-1, 15VA CTs for measuring.					
	Sets of 1600/5A, CL-5P 10, 15VA CTs for Protection.					
	Sets of phase indicating lamps with 2A control MCBs.					
	Sets of ON/OFF/Trip/Trip circuit healthy/ready to close lamps.					
	4W annunciator with Audio/Visual alarm and accept/test/ reset push button.					
	IDMTL relay Two O/C & One E E/F with 1600/5A, CL-5P10, 15VA CTs.					
	1600/5A, CL-1, 15VA CT for APFCR.					
	Restricted earth fault relay with 1600/5A, CL-PS, CTs (3 Nos. to be mounted in panel and 1 No. to be supplied loose with panel).					
	Under voltage relay					
	Under frequency relay					
	Over frequency relay					
	Trip circuit supervision relay					
	Master trip lockout relay.					
	Bus Coupler:					
	One (1) No. 1600A, 4-pole ACB (50KA \).					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Phase indicating lamps with 2A control MCBs for Bus Section-1 & 2.					
	All incoming breakers and bus coupler shall be electrically interlocked, so that two supplies are not mixed up.					
	Busbar					
	Electrolytic high conductivity aluminium three pole and neutral busbars rated at 2000 amps(after deration) having a maximum current density of 0.8 amp per sq mm insulated with heat shrinkable PVC sleeves.					
	Interlocking					
	Provide PLC based Electrical & Mechanical Interlocking, Auto Load Management for operation of 2 nos. 1000 KVA Transformers complete as per specifications and as required in Main LT Panel.					
	Outgoing feeders:					
	1 Nos. 630A 4P Microprocessor Base ACB(50-KA)					
	2 Nos. 630A 4P Microprocessor Base MCCB(36-KA)					
	6 Nos. 160A 4P Microprocessor Base MCCB(36-KA)					
	14 Nos. 125A 4P Microprocessor Base MCCB(36-KA)					
	1 Nos. 100A 4P Microprocessor Base MCCB(36-KA)					
	2 Nos. 630A 4P Microprocessor Base MCCB(36-KA) For Spare only.					
	1 Nos. 250A 4P Microprocessor Base MCCB(36-KA) For Spare only.					
	2 Nos. 160A 4P Microprocessor Base MCCB(36-KA) For Spare only.					
	3 Nos. 125A 4P Microprocessor Base MCCB(36-KA) For Spare only.					
	Main LT Panel described as above	Set	2.00			-
b	DG AMF Panel					
	Incoming:					
	Supply from Transformer Incomer : One Nos. 630A, 4-pole ACB (50 KA) with microprocessor based O/L, S/C and E/F releases.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 600/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Supply from D.G. Set : One Nos. 630A, 4-pole ACB (50 KA) with microprocessor based O/L, S/C and E/F releases.					
	Metering and Indication for D.G. Incomer:					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Combined Ammeter/Voltmeter with inbuilt Selector Switch and 630/5A, CL-1, 15VA CTs and 2A control MCBs.					
	Sets of 630/5A, CL-1, 15VA CTs for measuring.					
	Sets of 630/5A, CL-5P 10, 15VA CTs for Protection.					
	Set of ON/OFF/Trip/Trip Circuit healthy/ready to close lamp.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Reverse power relay.					
	Under voltage relay					
	Over voltage relay					
	Under frequency relay					
	Over frequency relay					
	Trip circuit supervision relay					
	Master trip lockout relay.					
	Busbar					
	Electrolytic high conductivity aluminium three pole and neutral busbars rated at 800 amps(after deration) having a maximum current density of 0.8 amp per sq mm insulated with heat shrinkable PVC sleeves.					
	Interlocking					
	Provide PLC based Electrical & Mechanical Interlocking as per specifications and as required in AMF Panel.					
	Outgoing feeders:					
	1 Nos. 500A TP+NL Microprocessor Base MCCB(36-KA)					
	1 Nos. 200A TP+NL Thermal Magnetic MCCB(25-KA)					
	1 Nos. 125A TP+NL Thermal Magnetic MCCB(25-KA)					
	1 Nos. 100A TP+NL Thermal Magnetic MCCB(25-KA)					
	4 Nos. 63A TP+NL Thermal Magnetic MCCB(25-KA)					
	1 Nos. 500A TP+NL Microprocessor Base MCCB(36-KA) For Spare only.					
	1 Nos. 150A TP+NL Thermal Magnetic MCCB(25-KA). For Spare only.					
	2 Nos. 63A TP+NL Thermal Magnetic MCCB(25-KA). For Spare only.					
	D.G. AMF Panel described as above	Set	2.00			-
c	350 kVAR Capacitor Banks:					
	(5 x 50 kVAR + 3 x 25 kVAR + 2 x 10 kVAR + 1 x 5 kVAR)					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Supply and commissioning of Cubicle type, free floor mounted front operated panel with following capacitor units in formation including cost of tier formation, interconnections upto panel, connection to earthing system complete as specified for following rating capacitor unit suitable for operation on automatic control and shall form part of automatic control in cubicle form made out of 14 gauge CRCA powder coated sheet steel complete with 32 x 6 mm aluminium earth tape from end to end of the panel for following capacities of capacitor panel.					
	800A TP Al. busbar suitable for receiving incoming cables/Bus duct					
	11 Step APFC Relay having feature of changing the sequence of operation with Auto/Manual selector switch.					
	Auto/Manual Indicating lamps.					
	Set of Phase indicating lamps with 2A control MCBs.					
	One No. Control Transformer 415/230V AC rating as required with 2A control MCBs for Metering and Control Circuit.					
	5 Sets of 50 kVAR each set having 125A TP MCCB (25kA), capacitor duty contactor, ON/OFF indicating lamps with 2A control MCBs and ON/OFF push buttons.					
	3 Sets of 25 kVAR each set having 63A, TP MCCB (25 kA) capacitor duty contactor, ON/OFF indicating lamps with 2A control MCBs and ON/OFF push buttons.					
	2 Sets of 10 kVAR each set having 25A, TP MCB (10 kA) capacitor duty contactor, ON/OFF indicating lamps with 2A control MCBs and ON/OFF push buttons.					
	1 Sets of 5 kVAR each set having 16A, TP MCB (10 kA) capacitor duty contactor, ON/OFF indicating lamps with 2A control MCBs and ON/OFF push buttons.					
	350 kVAR Capacitor Banks described as above	Set	4.00			-
d	Basement Ventilation Panel:-					
	Incoming:					
	1 no.500 Amps 36 KA, 4 pole microprocessor base MCCB.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 500/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Electrolytic high conductivity aluminium three pole and neutral busbars rated at 600 amps(after deration) having a maximum current density of 0.8 amp per sq mm insulated with heat shrinkable PVC sleeves.					
	Outgoing:					
	Four (4) Nos.125 Amp TP + NL MCCB, 25 KA.					
	Two (2) Nos. 125 Amp TP + NL MCCB, 25 KA. For spare only					
	Basement Ventilation Panel described as above	Nos.	2.00			-
e	Zone-1 Panel(Typical for zone 2,3,4) :-					
	Tech. specification as described above					
	Incoming:					
	1 no.125 Amps 25 KA, 4 pole MCCB with thermal magnetic releases and ON/OFF indicating lamps..					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 125/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	Electrolytic high conductivity aluminium three pole and neutral busbars rated at 200 amps(after deration) having a maximum current density of 0.8 amp per sq mm insulated with heat shrinkable PVC sleeves.					
	OUTGOING UNITS					
	3 Nos. 80A(10KA)TPN MPCB .					
	2 Nos. 80A(10KA)TPN MPCB Only for spare.					
	The Switchboard shall be complete with all interconnections, risers, internal wiring, labels etc complete as required.					
	Fully automatic Star Delta starters (for 25 H.P. motors) with push buttons and on/off indicating lights with MN type relay, contactors, direct type ammeter (0-80A for 25 HP), single phase preventors for all motors, with selector switch and fuses overload relay as required.					
	25 HP - 3 Nos. Starter					
	Spare N.O. - N.C. contacts for each starter - 3Set.					
	G.I. strip 25 x 3 mm throughout the length of MCC.					
	All internal wiring with colour coding from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar.					
	All starters shall be compatible for remote operation.All Switch gears offered must be compatible with the H.P. of the motors offered					
	Zone-1 Panel(Typical for zone 2,3,4) described as above	Nos.	8.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
f	Common Area Panel :-					
	Tech. specification as described above					
	Incoming:					
	1 no.125 Amps 25 KA, 4 pole MCCB with thermal magnetic releases and ON/OFF indicating lamps..					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 125/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	200A, TPN aluminium bus bar of suitable length.					
	Outgoing:					
	Twenty two (22) Nos. 32 Amp DP MCB, 10 KA.					
	Eight (8) Nos. 25 Amp TPN MPCB, 10 KA.					
	Two(2) Nos. 40 Amp TPN MCB, 10 KA. For spare only					
	One(1) Nos. 25 Amp TPN MCB, 10 KA. For spare only					
	Common Area Panel described as above	Nos.	2.00			-
g	D.G. Auxulary Panel :-					
	Tech. specification as described above					
	Incoming:					
	1 no.63 Amps 25 KA, 4 pole MCCB with thermal magnetic releases and ON/OFF indicating lamps..					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 60/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	100A, TPN aluminium bus bar of suitable length.					
	Outgoing:					
	One (1) Nos. 40 Amp TPN MPCB, 10 KA.					
	Four (4) Nos. 25 Amp TPN MPCB, 10 KA.					
	One (1) Nos. 25 Amp TPN MCB, 10 KA.					
	One(1) Nos. 25 Amp TPN MCB, 10 KA. For spare only					
	Two(2) Nos. 25 Amp TPN MPCB, 10 KA. For spare only					
	The Switchboard shall be complete with all interconnections, risers, internal wiring, labels etc complete as required.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Fully automatic DOL starters (for 0.5 to 5 H.P motors) with push buttons and on/off indicating lights with MN type relay, contactors, direct type ammeter (0-32A for 0.5 to 5 HP), single phase preventors for all motors, with selector switch and fuses overload relay as required.					
	0.5 HP - 1 Nos. Starter					
	2 HP - 1 Nos. Starter					
	3 HP - 2 Nos. Starter					
	5 HP - 1 Nos. Starter					
	Spare N.O. - N.C. contacts for each starter - 3Set.					
	G.I. strip 25 x 3 mm throughout the length of MCC.					
	All internal wiring with colour coding from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar.					
	All starters shall be compatible for remote operation.All Switch gears offered must be compatible with the H.P. of the motors offered					
	D.G. Auxulary Panel described as above	Nos.	2.00			-
h	Plumbing Panel :-					
	Tech. specification as described above					
	Incoming:					
	One (1) No. 100A, 4P MCCB (25kA) with thermal magnetic O/L, S/C releases and ON/OFF indicating lamps.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 100/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	200A, TPN aluminium bus bar of suitable length.					
	OUTGOING UNITS					
	6 Nos. 40A(10KA)TPN MPCB .					
	4 Nos. 25A(10KA) TPN MPCB .					
	2 Nos. 40A(10KA)TPN MPCB Only for spare .					
	2 No. 25A(10KA) TPN MPCB Only for spare .					
	The Switchboard shall be complete with all interconnections, risers, internal wiring, labels etc complete as required.					
	Fully automatic DOL starters (for 2 H.P. to 7 H.P. motors) with push buttons and on/off indicating lights with MN type relay, contactors, direct type ammeter (0-40A for 2 to 7 HP), single phase preventors for all motors, with selector switch and fuses overload relay as required.					
	5 HP -2 Nos.(Filter feed pump) Starter					
	2 HP - 3 Nos.(Sump pump) Starter					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	7 HP -2 Nos.(Domestic water transfer pumps) Starter					
	7 HP -2 Nos.(Raw water transfer pumps) Starter					
	Spare N.O. - N.C. contacts for each starter - 3Set.					
	G.I. strip 25 x 3 mm throughout the length of MCC.					
	All internal wiring with colour coding from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar.					
	All starters shall be compatible for remote operation.All Switch gears offered must be compatible with the H.P. of the motors offered					
	Plumbing Panel described as above	Nos.	2.00			-
i	Fire Panel :-					
	Tech. specification as described above					
	Incoming:					
	One (1) No. 200A, 4P MCCB (25kA) with thermal magnetic O/L, S/C releases and ON/OFF indicating lamps.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 150/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	200A, TPN aluminium bus bar of suitable length.					
	OUTGOING UNITS					
	2 Nos.100A(25kA) TP+NL MCCB .					
	2 Nos. 40A(10KA)TPN MCB .					
	1 Nos. 100A(25KA)TP+NL MCCB Only for spare .					
	1 No. 40A(10KA) TPN MCB Only for spare .					
	The Switchboard shall be complete with all interconnections, risers, internal wiring, labels etc complete as required.					
	Fully automatic DOL starters (for 5 H.P. motors) with push buttons and on/off indicating lights with MN type relay, contactors, direct type ammeter (0-32A for 5 HP), single phase preventors for all motors, with selector switch and fuses overload relay as required.					
	Fully automatic Star Delta starters (for 85 H.P. motors) with push buttons and on/off indicating lights with MN type relay, contactors, direct type ammeter (0-160A for 85 HP), single phase preventors for all motors, with selector switch and fuses overload relay as required.					
	60 HP -2 Nos.(Main Electrical pump) Starter					
	5 HP - 2 Nos.(Jockey Pumps) Starter					
	Spare N.O. - N.C. contacts for each starter - 3Set.					
	G.I. strip 25 x 3 mm throughout the length of MCC.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	All internal wiring with colour coding from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar.					
	All starters shall be compatible for remote operation.All Switch gears offered must be compatible with the H.P. of the motors offered					
	Fire Panel described as above	Nos.	2.00			-
j	Lift Machine Room Panel-1(Typical for 2)					
	Incoming:					
	One (1) No. 63A, 4P MCCB (25kA).					
	Metering & Indication:					
	Combined Ammeter/Voltmeter with Selector Switch and 60/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	100A, TPN aluminium bus bar of suitable length.					
	Outgoing:					
	Two (2) Nos. 40 Amp TPN RCBO, 10 KA.					
	Two (2) No.32 Amp TPN MPCB, 10 KA.					
	One (1) No. 25 Amp TPN MCB, 10 KA.					
	One (1) No. 25 Amp DP MCB, 10 KA.					
	One (1) No. 40 Amp TPN RCBO, 10 KA. For spare only					
	One (1) No. 32 Amp TPN MCB, 10 KA. For spare only					
	One (1) No. 25 Amp DP MCB, 10 KA. For spare only					
	The Switchboard shall be complete with all interconnections, risers, internal wiring, labels etc complete as required.					
	Fully automatic DOL starters (for 5 H.P motors) with push buttons and on/off indicating lights with MN type relay, contactors, direct type ammeter (0-32A for 5 HP), single phase preventors for all motors, with selector switch and fuses overload relay as required.					
	5 HP - 2 Nos. Starter					
	Spare N.O. - N.C. contacts for each starter - 3Set.					
	G.I. strip 25 x 3 mm throughout the length of MCC.					
	All internal wiring with colour coding from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar.					
	All starters shall be compatible for remote operation.All Switch gears offered must be compatible with the H.P. of the motors offered					
	Lift Machine Room Panel-1(Typical for 2) described as above	Set	4.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
k	Lower gr. Floor Panel					
	Supplying, Fabricated, Installation, Testing & commissioning of Metal clad LT cubical wall/Floor mounted self supported totally enclosed compartmentalized separate compartment for each Meter with 1 No. SPN MCB earth bus & studs as required having padlock and sealing arrangement for each compartment, dust and vermin proof IP-52 protection made of 1.6 mm thick CRCA sheet steel duly powder coated for indoor application having arrangement for incoming/outgoing cable termination, earthing, insulated aluminium Bus Bar 3 phase 4 wire of suitable size in a separate chamber, suitable for 415V 3 phase 50 Hz AC supply duly prewired with 10 sq.mm Copper wire, from in-comer MCCB to bus bar and upto connectors mounted in an integrated loose wire box suitable for following mountings and switchgear accessories. (suitable for 5 Nos.three phase Single source energy meter).					
	Incoming:					
	One (1) No. 100A, 4P MCCB (25kA) with thermal magnetic O/L, S/C releases and ON/OFF indicating lamps.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 100/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	200A, TPN aluminium bus bar of suitable length.					
	OUTGOING UNITS					
	5 Nos. 40A(10KA)TPN MCB .					
	2 Nos. 40A(10KA)TPN MCB Only for spare .					
	Lower gr. Floor Panel described as above	Nos.	2.00			-
l	External lighting panel					
	Incoming:					
	Supply, installation, testing and commissioning of front operated, front access, totally enclosed, free standing, dust and vermin proof Panel with IP65 ingress protection, fabricated from 2 mm thick CRCA sheets, with hinged, gasketed and lockable doors including the cost of interconnections, copper crimping lugs, brass glands, bonding to earth and painting, suitable for use at 415 volts, 3 phase 4 wire 50 Hz system with 25 MVA rupturing capacity at 415 volts complete as per specifications, as required and as below.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	One (1) No. 100A, 4P MCCB (25kA) with thermal magnetic O/L, S/C releases and ON/OFF indicating lamps..					
	One (1) No.63A, Timer Switch for automatic operation.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 63/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Bus Bar:					
	100A, TPN aluminium bus bar of suitable length.					
	Outgoing:					
	Eighteen(18) nos 16 Amp DP MCB, 10 KA.					
	Six(6) nos 16 Amp DP MCB, 10 KA. For Spare only.					
	External Lighting Panel described as above	Set	2.00			-
m	Floor Panel Type-1					
	Supplying, Fabricated, Installation, Testing & commissioning of Metal clad LT cubical wall/Floor mounted self supported totally enclosed compartmentalized separate compartment for each Meter with 1 No. SPN MCB earth bus & studs as required having padlock and sealing arrangement for each compartment, dust and vermin proof IP-52 protection made of 1.6 mm thick CRCA sheet steel duly powder coated for indoor application having arrangement for incoming/outgoing cable termination, earthing, insulated aluminium Bus Bar 3 phase 4 wire of suitable size in a separate chamber, suitable for 415V 3 phase 50 Hz AC supply duly prewired with 10 sq.mm Copper wire, from in-comer MCCB to bus bar and upto connectors mounted in an integrated loose wire box suitable for following mountings and switchgear accessories. (suitable for 2 Nos.three phase Single source energy meter).					
	Incoming:					
	One (1) No. 125A, 4P MCCB (25kA) with thermal magnetic O/L, S/C releases and ON/OFF indicating lamps.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 125/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	200A, TPN aluminium bus bar of suitable length.					
	OUTGOING UNITS					
	1 Nos.100A TP+NL MCCB(25KA).					
	1 Nos.63A TP+NL MCCB(25KA).					
	1 Nos.100A TP+NL MCCB(25KA). Only for spare .					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Floor Panel Type-1 described as above	Nos.	28.00			-
n	Floor Panel Type-2					
	Technical specification as described above (suitable for 2 Nos.three phase Single source energy meter).					
	Incoming:					
	One (1) No. 125A, 4P MCCB (25kA) with thermal magnetic O/L, S/C releases and ON/OFF indicating lamps.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 125/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	200A, TPN aluminium bus bar of suitable length.					
	OUTGOING UNITS					
	1 Nos.100A TP+NL MCCB(25KA).					
	2 Nos.63A TP+NL MCCB(25KA).					
	1 Nos.100A TP+NL MCCB(25KA). Only for spare .					
	Floor Panel Type-2 described as above	Nos.	4.00			-
o	Floor Panel Type-3					
	Technical specification as described above (suitable for 2 Nos.three phase Single source energy meter).					
	Incoming:					
	One (1) No. 125A, 4P MCCB (25kA) with thermal magnetic O/L, S/C releases and ON/OFF indicating lamps.					
	Metering & Indication:					
	Combined digital Ammeter/Voltmeter with Selector Switch and 125/5A, CL-1, 10VA CTs and 2A control MCB.					
	Sets of phase indicating lamp with 2A control MCBs.					
	Sets of on, off, trip indicating lamp with 2A control MCBs.					
	Bus Bar:					
	200A, TPN aluminium bus bar of suitable length.					
	OUTGOING UNITS					
	2 Nos.100A TP+NL MCCB(25KA).					
	1 Nos.63A TP+NL MCCB(25KA).					
	1 Nos.100A TP+NL MCCB(25KA). Only for spare .					
	Floor Panel Type-3 described as above	Nos.	8.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
70	Supplying, fixing, connecting & testing of Telephone Tag Block krone type in a suitable size 1.6 mm thick dust and vermin proof Sheet steel enclosure duly painted by synthetic enamel over anti corrosive primer, lockable and hinged cover with provision for cable through glands complete in all respects. (Make- Om Entreprises)					
a	10 pair Krone	Each	20.00			-
b	100 pair Krone	Each	2.00			-
71	Supplying, laying, testing and commissioning of following size anealed tinned copper conductor PVC insulated and sheathed armoured copper telephone cables with suitable clamps, saddles and including making terminal joints complete as required.(Make- Skytone)					
a	10 pair	Mtrs	500.00			-
b	100 pair	Mtrs	200.00			-
72	Supply, laying, testing & commissioning Cat-6 cables in existing conduit for data.(Make Everest or Skytone).	Mtrs	200.00			-
73	LIGHT FIXTURE SUPPLY ONLY					
a	1x70W MHL (E 27) pendent mounted luminaire with acrylic (PMMA) prismatic diffuser.. (Make- Wipro, Model- (GRH 8300)Equivalent to Bajaj, Philips.	Each	40.00			-
b	2x26W CFL (TC-DE) pendent mounted luminaire with acrylic (PMMA) prismatic diffuser. (Make- Wipro, Model- (GRP 90226 SGW)Equivalent to Bajaj, Philips.	Each	28.00			-
c	LED aviation light luminaire (Make- Bajaj, Model- (110731)Equivalent to Wipro, Philips.	Each	4.00			-
74	External Lighting:-					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a	Post Top Gate Light luminaries suitable for 23 Watts CFL lamp, cast aluminium spigot & spun aluminium canopy duly pre-treated and powder coated , provided with polycarbonate diffusers duly gasketed, integral control gear comprising heavy duty copper ballast, lamp holder & 25W CFL lamp, connectors all duly wired , connection & wiring from junction box with 3# 2.5 sqmm copper wires, Mounted on existing gate column. Make: WIPRO Cat Ref: FPP21123 / equivalent	Nos.	4.00			-
75	Lightning Arrestor System					
i	Supply of ESE Stormaster type Lightning Protection complete with the Lightning Air Terminal - Configured as a Spheroid which is comprised of separate electrically isolated 4 panels surrounding an Earthed Central Finial. The Insulation material used to electrically isolate the panels shall be comprised of a base polymer which provides high Ozone & UV resistance with a di-electric strength of 24-38 KV/mm tested as per NFC 17-102 & IEC 60-1:1989. The ESE terminal shall be tested & certified by CPRI (Central Power Research Institute), Govt of India for the Impulse current of 45 KA (8/20 micro sec) with 5 positive & 5 negative impulse. The ESE Stormaster terminal shall be approved from DGMS (Director General of Mines Safety), Govt of India. The ESE Stormaster 15 terminal will offer a protection radius of 36 Mtr with Level 2/Medium protection @ 4 mtr mast hight & preferably to be mounted on roof top & centre of the building.					
	Make: LPI (Australia) / equivalent Model: Stormaster 15 Medium protection: Protection Radius = 36 mtrs @4 mtrs height Mast	Nos.	4.00			-
ii	Supply of Mast (G.I. pipe of 2 to 5 mtrs height) for mounting the terminal & adaptor with the Stormaster ESE Air Terminal along with supporting stray wires, etc.	Nos.	4.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
iii	Supply of 02 Nos. advance maintenance free Chemical Gel Earthing of 10 feet long 5/8" dia Rod molecularly bonded with 250 micron copper coating and treated with SS bolt and nuts with 3 bag of 10 Kgs of RESLO (mixture Sulphate, Silica, Alumina, Iron Oxide, Titanium Oxide, Calcium Oxide, Potassium Oxide, Chloride, Magnesium Oxide, Sodium Oxide, Zinc Oxide, etc) Resistance Lowering Grounding Minerals. The chemical compound is tested and certified by International accredited and BIS (Bureau of Indian Standards) accredited laboratory. The testing laboratory is ISO 9001 & ISO 14001 certified.					
	Make: LPI (Australia) / equivalent	Nos.	4.00			-
iv	Supply of heavy duty weather proof environment friendly polyplastic earth pit chamber with cover of autolocking facility with the following dimensions - 254mm dia (top), 330mm dia (bottom) and 260mm height 4 knock-out openings at the bottom are provided for the easy interconnection of earth strips between the earth pits to form a grid.	Nos.	8.00			-
v	Supply of Lightning Strike Recorder - 6 digits display to record the lightning current in an IP 67 enclosure with the minimum sensitivity of 3KA & maximum capacity of 150 KA (8/20 micro second waveform)					
	Make: LPI (Australia) / equivalent Model: LSR1	Nos.	4.00			-
vi	Test Link Joint in an IP 55 weather proof polyplastic enclosure of suitable dimension.	Nos.	4.00			-
vii	Supply of down conductor of 70 sq.mm single core insulated flexible copper cable with necessary accessories, etc.	mtr	400.00			-
76	FIRE ALARM SYSTEM WITH PA:					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
i	Supply, installation, testing and commissioning of Networkable Microprocessor based multiloop capacity, Networkable analogue addressable type fire alarm control panel with 640 character LCD display / Touch Screen Display. The panel should be equipped with sufficient numbers of loop with 20% spare capacity with each loop shall have a capacity of 318 analog addressable devices in one loop. Four access levels, flash EPROM sufficient numbers of programmable relay controls for controlling AHUs, pressurization fans, ventilation fans at fire pump room, monitoring of fire sprinkler and fire hydrant pump, 240 volts AC power supply, automatic battery charger, 24 volts sealed lead acid batteries sufficient for 24 hours normal working and then be capable of operating the system for 2 hours during an emergency conditions as required. The Panel shall have capability to accommodate & support backnet card for BMS interfacing.					
	2 Loop Capacity	Nos.	2.00			-
ii	Network Repeater Panel with 6 inch or 640-characters; The LCD shall Display all events / detectors, devices status of complete systems in the networked, The NRP shall be equipped with QWERTY Keypad. Mounting options include an annunciator box, and blank modules are required for mounting	Nos.	4.00			-
iii	Supply, installation, testing and commissioning of Automatic Analog addressable Photo - Thermal multicriteria detector with mounting Base. The Detector's Alarm LED shall be viewable from 360 Degree , The Detector shall have automatic Electronic addressing feature & each of these shall be equipped with fault Isolator complete with the GI Mounting Box and the hardware etc. as required.	Nos.	4.00			-
iv	Supply, installation, testing and commissioning of Automatic Analog addressable Photoelectric smoke detector with mounting Base. The Detector's Alarm LED shall be viewable from 360 Degree , The Detector shall have automatic Electronic addressing feature & each of these shall be equipped with fault Isolator complete with the GI Mounting Box and the hardware etc. as required.	Nos.	378.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
v	Supply, installation, testing and commissioning of Automatic Analog addressable Fixed Temperature cum rate of Rise type Heat detector with mounting Base. The Detector's Alarm LED shall be viewable from 360 Degree , The Detector shall have automatic Electronic addressing feature & each of these shall be equipped with fault Isolator complete with the GI Mounting Box and the hardware etc. as required.	Nos.	262.00			-
vi	Supply, installation, testing and commissioning of Automatic Addressable control module for AHU & Stair Pressurization fan, The Module shall have automatic Electronic addressing feature & each of these shall be equipped with fault Isolator complete with the GI Mounting Box and the hardware etc. as required.	Nos.	16.00			-
vii	Supply, installation, testing and commissioning of Dual LED Response indicator for indicating the activation of the Remotely located Detector.	Nos.	4.00			-
viii	Supply, installation, testing and commissioning of Addressable Manual call Station. The Call Point shall have automatic Electronic addressing feature & each of these shall be equipped with fault Isolator complete with the Mounting Box and the hardware etc. as required.	Nos.	48.00			-
ix	Supply, installation, testing and commissioning of Addressable electronic Sounder. The Sounder shall have automatic Electronic addressing feature & each of these shall be equipped with fault Isolator complete with the Mounting Box and the hardware etc. as required. The Sounders shall be Loop powered i.e. should not require additional cable to feed the Power & shall be programmable from the Fire Panel for Multiple type of tones selection.	Nos.	48.00			-
x	Supply, installation, testing and commissioning of 8 channel Voice Evacuation System with required suitable Nos. of Amplifiers sufficient for the speaker Qty's mentioned in the BOQ. The system shall be able to make Zone wise announcement through Microphone and operator command centre. The System shall be able to generate pre recorded voice messages. The voice evacuation System shall be complete with all the with zone wise switching and routing of the manual & automatic audio message to the respective areas as required for the operation of the System.	Nos.	2.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
xi	Supply, Installation, Testing and Commissioning of Wall mountable type column type Speaker 6 watt , SPL 90 dB, Freq response 200-15000 Hz, rated input voltage 100 Volts, & rated impedance 1667 Ohms,	Nos.	36.00			-
xii	Supply, installation, testing and commissioning of 12 U, 19" Equipment Rack with power coated finish with front lockable Door with M. S. Framed translucent Acrylic material, 2 Nos of fans for heat exhaust, Top & Bottom entry knock outs, back side lockable Door , inbuilt MCB, Power Points, raceways and partitions, one no. sliding Tray etc. complete as required to house the PC and other Equipment.	Nos.	2.00			-
77	Supply, following sizes of flexible cable with electrolytic grade annealed bare copper conductor 1100 V grade.					
	Supply and drawing of 2 C x 1.5 Sq.mm. Sheathed annealed flexible copper Conductor FRLS cable in existing PVC Conduit, Complete with termination and testing as per requirement.	mtr	8,016.00			-
78	UPS					
	Supply, Installation, Testing & Commissioning of micro processor controlled True On line double conversion, Stand Alone mode 3 Phase input and 3 phase 415V output UPS & each UPS consisting of followings :					
	1 No. 100% Rectifier + Inverter, Integrated in UPS module					
	Battery Circuit breaker					
	Galvanic Isolation transformer at the inverter output of UPS Module					
	Inbuilt Static switch for bypass and inverter in UPS module					
	Manual Maintenance bypass					
	Sealed Maintenance free batteries for 30 minutes backup time with UPS & interconnectors, Rack and accessories and UPS to battery DC cable upto 10 meters. (With SMF Batteries 12V/75Ah x 64 Nos. with Rack & Interlinks.)					
	Ratings of the UPS as follows :-					
	5 kVA (for Emergency Lighting, Work Stations, Fire Alarm, CCTV)	Nos.	2.00			-

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
79.00	SIGNAGES: Wall/Haging type self illuminated, Exit sign(100x300mm) , Fire Exit painted in RED. (Make- Prolite / Equivalent)	Nos.	60.00			-
80	Supplying all materials, storing, handling, fixing, laying, wiring and testing for the following Light Point with 1.5 sq.mm PVC insulated copper conductor 1100 volts grade stranded flexible wires in concealed/surface mounted FRLS PVC Conduit including cost of cutting & filling chases/saddle, clamps, inspection/solid bends, sockets etc. and providing and fixing of 6 amps single pole modular flush mounted switch & switch plate in 1.2mm thick & 65mm deep GI box. The cost of circuit wiring with 2 x 1.5 Sqmm + 1 x 1.5 Sqmm PVC insulated copper conductor 1100 Volts grade wires shall be included in the cost of point wiring. (Cost of fish wire also to be included in the item)					
	Controlled by MCB (Cost of MCB not be included):					
i	First Point	Nos.	228.00			-
ii	Loop Point controled by same MCB in continuation	Nos.	880.00			-
	SUB TOTAL					-