

PRICE BID
(VOLUME - 3 For Electrical,ELV&HVAC Works)

CLIENT: SRFDCL

Price Bid: Bill of Quantities (BOQ)

Name of Contractor : _____

Address :

Tender Amount : Rs.

Contractor's Quoted Rates :

..... % above Add Rs.

OR

..... % below deduct Rs.

.....

..... Only)

PLEASE NOTE : PLEASE DO NOT FILL PRICE BID IN HARD COPY.

SUMMARY

No.	Item of Works	Amount in Rs.
C	Electrical & ELV Work	13,38,24,679.28
D	Elevator Work	2,03,45,735.04
E	HVAC Work	69,31,222.10
		16,11,01,636.42

PROJECT- RIVERSIDE SAVOURIES, AHMEDABAD

DOCUMENT-BOQ

Schedule of rate for R & B

Item	Description of Item	Quantity	Unit	SOR Rate	Amount (Rs.)	Total Amount
Electrical & ELV Work						
1	Compact Substation					
1.1	<p>Unitized Sub-Stations Supplying, installation, testing and commissioning of 11 KV, 21 KA for 3 sec. non extensible unitized / Compact sub-station consisting of following 11 KV SF6 insulated compact VCB, transformer & LT Air circuit Breaker in a pre - fabricated dust and vermin proof out door enclosure having modular construction of galvanised sheet steel in corugated type wall design dully painted with epoxy based powder paint (Colour RAL 7032) . The enclosure shall have IP54 degree of protection for HT&LT switch gear compartment and IP23 degree of protection for transformer compartment. Short Circuit breaking capacity of 21 KA at 11 KV 3 phase. Interconnection between HT switch gear and transformer using suitable size aluminium conductor armoured XLPE cable, HV Danger Notice board, Internal earth connections copper bus bars of 25mm X 6mm.</p> <p>A) HT SF6 VCB Supplying, Installation, Testing & Commissioning of HT VCB panel consisting of 1 no. of 630A HT VCB . The panel should have tinned copper busbars and extensible type for future requirements. The Panel should be complete with metering and protection as per specification.</p> <p>B) Transformer Dry type 500 kVA, 11KV / 415 Volts , 3 phase, 50 Hz, Dyn11 vector group, copper wound, class "F" insulation associated with winding temperature indicator / controller actuated by means of resistance temperature detector embedded in LV windings , indoor type distribution Transformer with approximately 5 % impedance, tappings for off load operation on HV side in steps of +/- 2.5 % , + 10 % & - 10 % having Suitable cu busbar connection between LV side & LT ACB with neutral brought out separately including supplying and laying copper conductor multicore control cable from transformer to HT breaker for safety tripping, suitably mounted on MS channel with all accessories and confirming to IS 11171:1985 complete with all fittings and accessories as per specifications attached etc. as required at site.Efficiency should be as per IS1180 Level -02.</p> <p>B) LT Circuit Breker 800A FP, ACB, 36KA with busbar outgoing Suitable to connect 5#3.5x300Sq mm. Complete with OL,SC,EF</p>	1.00	Each	28,35,072.00	28,35,072.00	2835072.00
	Total					2835072.00
2	DG Set					
2.1	Supplying and erecting, commissioning and testing of Diesel Generating set confirming to IS: 4722:1968 & BS:5514 having continuous rating, 3 phase, 415 volts, 50 cycles A.C. supply comprising of a totally enclosed air/water cooled diesel engine with multi-cylinders developing suitable BHP not less than following capacity at 1500 RPM with 10% overload for one hour in 24 hours with standard accessories like fly wheel, lubricating oil cooler, "A" class governor, heavy duty fuel wheel and lubricating oil filter, oil bath air filler, lubricating oil pressure gauge, end exhaust manifold, standard set of tools with adjustable spanners, screw drivers, cylinder head to cover, joint cylinder head to exhaust, element lube oil filter, 12 / 24 volts electric starting equipment complete with standard heavy duty battery, dynamo, cut-outs, ammeter, necessary wiring, pressure gauge, starter etc and heavy duty Residential type exhaust silencer and vertical hot air duct both	1.00	Each	40,18,180.00	4018180.00	4018180.00

	<p>logged with asbestos rope, save oil trays, exhaust piping of required length, standard wall/floor mounted fuel with level indicator and piping and drip proof alternator, self excited, self regulated, screen protected, with excitation system, capable of delivering the rated system output at 415 volts, 3 phase, 0.8 PF, 50 Hz, 4 wire, running at 1500 RPM, conforming to IS-4722- 1968 with voltage regulation +/- 5% of rated voltage from no load to full load. Both the engine and alternator fitted on a common fabricated steel base plate with antivibration mounting engine and alternator both connected to each other by flexible flange coupling and with floor/wall mounted control panel box comprising of voltmeter ammeter, selector switches, ACB / MCCB / MCB of adequate capacity,</p> <p>indicator lamps duly wired with HRC fuses. The alternator & control panel shall be connected with provided suitable capacity armoured cable and complete with Acoustic enclosure (canopy) made out of 16 SWG CRCA Sheet, sound absorbing material Rockwool of 64 density & 100 mm thick conforming to IS:8183 / PU Foam of 40 Density - at least 40 mm. The resin bonded rockwool covered from inside the canopy by perforated sheet with 3/4 mm holes, sound level not more than 75 dB at a distance of 1 mtr, as per PVCT norms. Erection, commissioning and satisfactory testing as per requirement with first filling of fuel, oil, etc. with guarantee / Warrantee of complete system for Two years. & with obtaining all necessary certificate from Electrical Inspector. The Capacity and Ratings of DG sets are as below.</p> <p>(V) Continuous rating of 500 KVA ,BHP not less than 600 BHP</p>					
2.2	<p>AMF panel</p> <p>Providing & erecting approved make AMF control panel suitable for following size of 3 phase, 415 V., 50 cycles, A.C. diesel generating set complete of scope as detailed below:</p> <p>1) Power module: A pair of electromechanically interlocked contactors (for mains & generator) Overload relay for generator contactor Neutral contactor for mains and generator Power socket for connections.</p> <p>2) Control and metering module: Line voltage monitor. Generator voltage monitor Ammeter 3 items attempt start facility. Air circuit breakers/MCB/MCCB of suitable rating for auto/manual operation. Auto/manual switch. Emergency stop push buttons. Manual start push button. frequency meter. Engine hour meter. Two earthing studs.</p> <p>3) Protection module: The engine shutdown in the unlikely event of Low lube oil pressure High cylinder head temperature. V belt failure.</p> <p>4) Indicators with alarm Load on generator.</p> <p>5) Indicators Load on mains Engine fails to start . Emergency stop battery charger.</p> <p>The AMF Panel of following capacity</p> <p>(G) AMF Control Panel for 500 KVA 3 phase DG Set</p>	1.00	Each	4,38,931.00	438931.00	438931.00
	Total					4457111.00
3	LT PANEL					

	<p>Supply, installation, testing and commissioning of 3 phase 415V 4 wire Free Standing Floor mounted MV panel made out of minimum 14 SWG CRCA sheet after seventank process and painting with Epoxy powder coating including all switchgear as detailed below. The panel having PU/Neoprene rubber gasket of not less than 3mm thickness, separate detachable, gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. The panel shall consist of suitable rating FP/TPN Aluminium- busbar-as per SLD (at the rating of 0.8ASq.mm) supported with DMC/ SMC barriers and colour coded with Heat shrinkable sleeves. The Metering shall be provided as specified.</p> <p>The panel shall have Short circuit with standing capacity as given in SLD and consist of the switchgear as mentioned below. The panel shall be mounted on plinth, stand, etc. including all materials. The panel shall be got fabricated from manufacturers with CPRI Test certificate only. All the Panels shall have minimum 25% outgoing as per SLD. The earth bus shall be continuously run without any jointing/welding and its Size should be per SLD. The size of all Panel Mounting Meters shall be 96X96mm. The Panels shall be mounted on U channels including supply and fixing of the same. MCBs shall be provided for Control purposes. (All Panels shall be extendable type only). Price shall be inclusive following:</p> <p>Shifting of panels from site store to the suitable location. Installation of panel as located in electrical drawings or as per site conditions, including removing packing etc. Earthing all components, frame etc. to a common internal earth bar. Connection, testing & commissioning. Electrical contractor shall carry out the insulation test at site & all the readings shall be submitted in copy to the consultant or engineer-in-charge. Supply, installation, testing and commissioning all accessories, supporting structure, hard ware etc to complete the job. Supply, installation, testing and commissioning of necessary tools, hard ware, testing hard ware, testing equipment etc. The rates for the distribution boards apart from the Breakers and instruments shall also include the following :</p> <p>This schedule of Quantities shall be read in conjunction with the technical specification, General & Special conditions as well as all tender drawings. Supporting rigid steel framework. Cubicle type, 14 gauge CRCA sheet steel enclosed. Proper bonding to earth. Painting/lettering on Breakers and distribution boards, the location they serve, providing on each panel its circuit diagram.</p> <p>Providing cable clamps / supports within distribution boards cable alley.</p> <p>All MCB's shall be of minimum 10 KA breaking capacity.</p> <p>The breaking capacity of MCCB's are mentioned panel wise. All MCCB's shall be with thermal magnetic releases</p>					
3.1	<p>SITC OF Main LT Panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	1.00	Each	11,02,281.90	11,02,281.90	1102281.90
3.2	<p>SITC OF Block Common Panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	6.00	Each	1,08,037.90	6,48,227.40	648227.40
3.3	<p>SITC OF External Lighting Panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	4.00	Each	1,10,222.04	4,40,888.15	440888.15
3.4	<p>SITC OF PHE Panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	1.00	Each	99,916.60	99,916.60	99916.60
3.5	<p>SITC OF APFC PANEL - 200 KVAR Design, Supplying, installing, testing of factory fabricated ready made Three phase APFC Panel Cubical Panel fabrication should be type tested as per IEC 61921, 61439:1&2 Capacitor Duty Contactor for switching as per following Steps Incomer Switch of MCCB type Icu=Ics=50KA at 400/440 Volts, with OC, SC, internal earth fault protection Incomer Switch of MCCB type Icu=Ics=50KA at 400/440 Volts, with OC, SC, internal earth fault protection, Copper tinned insulated Busbar, Cubical panel should be indoor type with IP 43 and IK 10, Metalized polypropylene film tye3-phase 550Volt Capacitor, De tuning Reactor for each capacitor, Panel having Short Circuit and Overload protection, Each step Capacitor having suitable MCB with Sc, OL, internal earth fault relay, Each stage having Stage Contactor (Capacitor load rating), PF regulator master controller having suitable steps with LCD display, Rs 485 Communication port, Indication LED Lamps for main incomer and ON-OFF for each capacitor bank, MS Chanel for Floor mounting, Cable entry as per site situation, Cooling fans for panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	1.00	Each	5,74,578.00	5,74,578.00	574578.00

	Total					2865892.05
4	JUNCTION BOXES					
4.1	Supply, Transportation, Installation, testing and commissioning of IP-67 Rated weather proof Outdoor type junction boxes having dimensdios Height x Width x Depth:- 104 x 104 x 70 mm with terminal having black colour RAL 7035. with 5 pole terminal set upto 4 sqmm cables	5.00	Each	904.42	4,522.09	4522.09
4.2	Supply, Transportation, Installation, testing and commissioning of IP 66/69 weather proof Outdoor type junction boxeshaving dimensdios Height x Width x Depth:- 155 x 210 x 92 mm with terminal having black colour RAL 9011. with 5 pole terminal set upto 16 sqmm cables	10.00	Each	4,072.96	40,729.55	40729.55
	Total					45251.64
5	DISTRIBUTION BOARD					
	SPN Distribution Board :					
5.1	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for (A) Single phase incoming and horizontal single phase outgoing (b) Sheet Steel double door (IP-43) (iii) 8 way	44.00	Each	1,141.00	50,204.00	50204.00
5.2	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for (A) Single phase incoming and horizontal single phase outgoing (b) Sheet Steel double door (IP-43) (iv)12 way	8.00	Each	1,478.00	11,824.00	11824.00
5.3	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for (A) Single phase incoming and horizontal single phase outgoing (b) Sheet Steel double door (IP-43) (v) 16 way	1.00	Each	1,664.00	1,664.00	1664.00
	TPN Distribution Board :					

5.4	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB)</p> <p>(B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (ii) 6 way</p>	7.00	Each	2,885.00	20,195.00	20195.00
5.5	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB)</p> <p>(B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (iii) 8 way</p>	17.00	Each	3,379.00	57,443.00	57443.00
5.6	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB)</p> <p>(B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (iv)12 way</p>	1.00	Each	3,836.00	3,836.00	3836.00

5.7	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB) (B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (v)16 way	1.00	Each	4,620.00	4,620.00	4620.00
VTPN Distribution Board :						
5.8	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) (A)4 way outgoing	1.00	Each	5,760.00	5,760.00	5760.00
5.9	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) (C)8 way outgoing	1.00	Each	8,319.00	8,319.00	8319.00
5.10	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) (D)12 way outgoing	1.00	Each	10,857.00	10,857.00	10857.00
MCB 's and its Accessories						
5.11	Providing & erecting insulated socket 3P+N+E with Plug16A rating which is comprised of Four pole MCB slot and insulated socket IP40 Cat-III.	1.00	Each	1,690.00	1,690.00	1690.00
5.12	providing and erecting Miniature circuit breaker single pole 6A to 25A suitable to operate on 240 V A.C. system and having breaking capacity 10 KA to be erected in existing box. confirming to IS 8828/1996 with ISI Mark Cat.III.	614.00	Each	111.00	68,154.00	68154.00
5.13	Providing & erecting 240 V MCB double pole switch for motor & inductive load having 10 KA breaking capacity & confirms to IS : 8828 in existing box having following capacity (A) 6 to 32 Amp.	1.00	Each	297.00	297.00	297.00
5.14	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (a) 6 to 32 Amp. (Cat.III)	7.00	Each	590.00	4,130.00	4130.00

5.15	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (b) 40 Amp. (Cat.III)	17.00	Each	662.00	11,254.00	11254.00
5.16	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (c) 63 Amp. (cat III)	87.00	Each	730.00	63,510.00	63510.00
5.17	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (a) 6 to 32 Amp. (Cat.III)	4.00	Each	582.00	2,328.00	2328.00
5.18	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (b)40 Amp.(Cat.III)	4.00	Each	641.00	2,564.00	2564.00
5.19	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (C)63 Amp. (Cat.III)	1.00	Each	709.00	709.00	709.00
5.20	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (i) 25 Amps.DP (Cat. III)	89.00	Each	1,950.00	1,73,550.00	173550.00
5.21	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (ii) 40Amps. DP (Cat. III)	7.00	Each	2,213.00	15,491.00	15491.00
5.22	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (iii) 63Amps. DP (Cat. III)	1.00	Each	2,628.00	2,628.00	2628.00
5.23	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [a] 6A / 10A / 16A / 20A / 25A 2 pole single phase Cat. II	14.00	Each	1,798.00	25,172.00	25172.00
5.24	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [b] 32A / 40A, 2 pole Single Phase Cat. II	1.00	Each	1,925.00	1,925.00	1925.00

5.25	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [e] 32A to 40 A, 4 Pole Three Phase Cat. II	14.00	Each	2,145.00	30,030.00	30030.00
5.26	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [f] 63A, 4 pole Three Phase Cat. II	1.00	Each	2,806.00	2,806.00	2806.00
5.27	SITC of Sheet steel metal enclouser for DP MCB	1.00	Each	175.00	175.00	175.00
5.28	SITC of Sheet steel metal enclouser for FP MCB	86.00	Each	623.00	53,578.00	53578.00
5.29	SITC of 80-100 A FP MCCB with thermal magnetic release.	1.00	Each	6,723.20	6,723.20	6723.20
5.30	SITC of 125A FP MCCB with thermal magnetic release with sheet steel metal enclosure. Note:-1 Add Rs. 10% extra for housing/Encloser of MCCB for Item No 3-4-1 to 3-4-12 (The Enclosures should be used of same company of MCCBs to be used) *Add 35% additional for microprocessor type of mccb in place of conventional for item no.3-4-1 to 3-4-12	12.00	Each	8,773.60	1,05,283.20	105283.20
5.31	SITC of IP 65 - outdoor type - 4Way SPN DB	1.00	Each	1,833.45	1,833.45	1833.45
5.32	SITC of IP 65 - outdoor type - 8Way SPN DB	1.00	Each	2,891.68	2,891.68	2891.68
5.33	SITC of Blank Plates	50.00	Each	9.00	450.00	450.00
5.34	SITC of 20A x 415 V Industrial type plug & socket with 20A FP RCBO, 30mA and surface mounting box IP 66 but without cost of wiring and piping.	4.00	Each	6,300.16	25,200.64	25200.64
Total						777095.16
6	HT AND LT CABLES & CABLE TERMINATION					
6.1	11KV HT CABLES.					
6.1.1	Providing and erecting ISI Marked 3core 240 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	100.00	Mtr.	2,196.00	2,19,600.00	219600.00
6.2	HT CABLE TERMINATION'					
6.2.1	Supplying and erecting high tension cable end box outdoor type suitable. for 11 KV 240Sq.mm 3core H.T. cable complete with gland bushing and jointing material.	1.00	Ea.	4,154.00	4,154.00	4154.00
Total						223754.00

7	LT CABLES & CABLE TERMINATION					
7.1	UNARMoured COPPER CABLES.					
7.1.1	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (E) 3 core 2.5 Sq. mm	10.00	Mtr.	136.00	1,360.00	1360.00
7.1.2	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (F) 3 core 4 Sq. mm	432.00	Mtr.	187.00	80,784.00	80784.00
7.1.3	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (J) 4 core 2.5 Sq. mm	10.00	Mtr.	167.00	1,670.00	1670.00
7.1.4	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (K) 4 core 4 Sq. mm	10.00	Mtr.	238.00	2,380.00	2380.00
7.1.5	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (L) 4 core 6 Sq. mm	10.00	Mtr.	361.00	3,610.00	3610.00
7.1.6	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (M) 4 core 10 Sq. mm	10.00	Mtr.	568.00	5,680.00	5680.00
7.2	ARMoured ALUMINIUM CABLES					
7.2.1	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (A) 4 core 16 Sq. mm	10.00	Mtr.	152.00	1,520.00	1520.00
7.2.2	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand / Solid Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 4 core 10 Sq. mm	10.00	Mtr.	139.00	1,390.00	1390.00
7.2.3	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 25 Sq. mm(16 Sq. mm 1/2 core)	10.00	Mtr.	182.00	1,820.00	1820.00
7.2.4	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 35 Sq. mm(25 Sq. mm 1/2 core)	30.00	Mtr.	218.00	6,540.00	6540.00

7.2.5	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 3 1/2 core 50 Sq. mm (25 Sq.1/2 mm core)	713.00	Mtr.	282.00	2,01,066.00	201066.00
7.2.6	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (D) 3 1/2 core 70 Sq. mm (35 Sq. mm 1/2 core)	341.00	Mtr.	375.00	1,27,875.00	127875.00
7.2.7	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (E) 3 1/2 core 95 Sq. mm (50 Sq. mm 1/2 core)	236.00	Mtr.	486.00	1,14,696.00	114696.00
7.2.8	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (F) 3 1/2 core 120 Sq. mm (70 Sq. mm 1/2 core)	504.00	Mtr.	535.00	2,69,640.00	269640.00
7.2.9	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (G) 3 1/2 core 150 Sq. mm (70 Sq. mm 1/2 core)	357.00	Mtr.	724.00	2,58,468.00	258468.00
7.2.10	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (H) 3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core)	423.00	Mtr.	896.00	3,79,008.00	379008.00
7.2.11	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 240 Sq. mm(120 Sq. mm 1/2 core)	25.00	Mtr.	1,157.00	28,925.00	28925.00
7.2.12	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 300 Sq. mm(150 Sq. mm 1/2 core)	150.00	Mtr.	1,394.00	2,09,100.00	209100.00
7.3	ARMOURED COPPER CABLES					
7.3.1	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (A) 3 core 2.5Sq. Mm	50.00	Mtr.	213.00	10,650.00	10650.00

7.3.2	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 3 core 4 Sq. mm	480.00	Mtr.	285.00	1,36,800.00	136800.00
7.3.3	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (C) 3 core 6 Sq. mm	10.00	Mtr.	392.00	3,920.00	3920.00
7.3.4	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (C) 3 core 10 Sq. mm	10.00	Mtr.	495.00	4,950.00	4950.00
7.3.5	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable.. (A) 4 core 2.5 Sq. mm	10.00	Mtr.	269.00	2,690.00	2690.00
7.3.6	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 4 core 4 Sq. mm	1300.00	Mtr.	361.00	4,69,300.00	469300.00
7.3.7	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (C) 4 core 6 Sq. mm	1168.00	Mtr.	505.00	5,89,840.00	589840.00
7.3.8	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (A) 4 core 10 Sq. mm	320.00	Mtr.	670.00	2,14,400.00	214400.00
7.3.9	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 4 core 16 Sq. mm	2931.00	Mtr.	978.00	28,66,518.00	2866518.00
7.4	CABLE GLANDS.					
7.4.1	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (A) 2 to 4 core 2.5/4 Sq. mm	82.00	Ea.	33.00	2,706.00	2706.00

7.4.2	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 2 to 4 core 6 Sq. mm	42.00	Ea.	38.00	1,596.00	1596.00
7.4.3	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (C) 2 to 4 core 10 Sq. mm	4.00	Ea.	38.00	152.00	152.00
7.4.4	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (D) 2 to 4 core 16 Sq. mm	134.00	Ea.	47.00	6,298.00	6298.00
7.4.5	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 3 & 1/2 core 25Sq. mm	2.00	Ea.	66.00	132.00	132.00
7.4.6	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 3 & 1/2 core 35/50 Sq. mm	28.00	Ea.	75.00	2,100.00	2100.00
7.4.7	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (C) 3 & 1/2 core 70 Sq. mm	4.00	Ea.	102.00	408.00	408.00
7.4.8	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (D) 3 & 1/2 core 95 Sq. mm	2.00	Ea.	130.00	260.00	260.00
7.4.9	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (E) 3 & 1/2 core 120 Sq. mm	4.00	Ea.	139.00	556.00	556.00
7.4.10	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (F) 3 & 1/2 core 150 Sq. mm	2.00	Ea.	189.00	378.00	378.00
7.4.11	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (G) 3 & 1/2 core 185 Sq. mm	2.00	Ea.	236.00	472.00	472.00

7.4.12	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (H) 3 & 1/2 core 240 Sq. mm	2.00	Ea.	245.00	490.00	490.00
7.4.13	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (I) 3 & 1/2 core 300 Sq. mm	12.00	Ea.	278.00	3,336.00	3336.00
7.5	Aluminium lugs					
7.5.1	Supply, installation, testing and commissioning of Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (B) 10 Sq.mm	8.00	Ea.	13.00	104.00	104.00
7.5.2	Supply, installation, testing and commissioning of Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (C) 16/25 Sq.mm.	8.00	Ea.	15.00	120.00	120.00
7.5.3	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (D) 35/50 Sq.mm.	112.00	Ea.	20.00	2,240.00	2240.00
7.5.4	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (E) 70 Sq.mm.	16.00	Ea.	25.00	400.00	400.00
7.5.5	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (F) 95 Sq.mm.	8.00	Ea.	40.00	320.00	320.00
7.5.6	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (G) 120 Sq.mm.	16.00	Ea.	45.00	720.00	720.00
7.5.7	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (H) 150 Sq.mm.	8.00	Ea.	61.00	488.00	488.00

7.5.8	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (I) 185 Sq.mm.	8.00	Ea.	80.00	640.00	640.00
7.5.9	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (J) 240 Sq.mm.	8.00	Ea.	85.00	680.00	680.00
7.5.10	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (J) 300 Sq.mm.	48.00	Ea.	98.00	4,704.00	4704.00
7.6	Copper lugs					
7.6.1	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (A) 1.5/2.5 to 6 Sq.mm	496.00	Ea.	8.00	3,968.00	3968.00
7.6.2	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (B) 10 Sq.mm	16.00	Ea.	10.00	160.00	160.00
7.6.3	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (C) 16 Sq.mm.	536.00	Ea.	12.00	6,432.00	6432.00
	Total					6034460.00
8	CABLE TRAY					
	Perforated type cable tray					
8.1	Providing and fixing approved make Perforated C type cable tray . Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge.. (2) 100 X 50 X 1.6 mm Thick	330.00	Rmt	357.00	1,17,810.00	117810.00

8.2	<p>Providing and fixing approved make Perforated C type cable tray. Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge..</p> <p>(3) 150 X 50 X 1.6 mm Thick</p>	1477.00	Rmt	420.00	6,20,340.00	620340.00
8.3	<p>Providing and fixing approved make Perforated C type cable tray. Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge.</p> <p>(5) 300 X 50 X 2.0 mm Thick</p>	512.00	Rmt	616.00	3,15,392.00	315392.00
8.4	<p>Providing and fixing approved make Perforated C type cable tray. Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge..</p> <p>(6) 450 X 50 X 2.0 mm Thick</p>	10.00	Rmt	794.00	7,940.00	7940.00
8.5	<p>Providing and fixing approved make Perforated C type cable tray. Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge..</p> <p>(7) 600 X 50 X 2.0 mm Thick</p>	10.00	Rmt	997.00	9,970.00	9970.00
8.5	<p>Providing and fixing approved make 'T' Junction for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size</p> <p>(2) 100 X 50 X 1.6 mm Thick</p>	14.00	Ea.	158.00	2,212.00	2212.00
8.6	<p>Providing and fixing approved make 'T' Junction for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size</p> <p>(3) 150 X 50 X 1.6 mm Thick 'T' Junction</p>	33.00	Ea.	183.00	6,039.00	6039.00

8.7	Providing and fixing approved make 'T' Junction for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size (5) 300 X 50 X 2.0 mm Thick ' T' Junction	2.00	Ea.	289.00	578.00	578.00
8.8	Providing and fixing approved make 'T' Junction for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size (6) 450 X 50 X 2.0 mm Thick ' T' Junction	1.00	Ea.	544.00	544.00	544.00
8.9	Providing and fixing approved make 'T' Junction for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size (7) 600 X 50 X 2.0 mm Thick ' T' Junction	1.00	Ea.	815.00	815.00	815.00
8.10	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (2)100 X 50 X 1.6 mm Thick 90° Elbow	33.00	Ea.	115.00	3,795.00	3795.00
8.11	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (3)150 X 50 X 1.6 mm Thick 90° Elbow	121.00	Ea.	162.00	19,602.00	19602.00
8.12	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (5) 300 X 50 X 2.0 mm Thick 90° Elbow	29.00	Ea.	243.00	7,047.00	7047.00
8.13	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (6) 450 X 50 X 2.0 mm Thick 90° Elbow	1.00	Ea.	442.00	442.00	442.00

8.14	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (7) 600 X 50 X 2.0 mm Thick 90° Elbow	1.00	Ea.	688.00	688.00	688.00
8.15	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (2) 100 X 50 X 1.6 mm Thick Cross Junction	5.00	Ea.	213.00	1,065.00	1065.00
8.16	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (3) 150 X 50 X 1.6 mm Thick Cross Junction	5.00	Ea.	242.00	1,210.00	1210.00
8.17	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (5) 300 X 50 X 2.0mm Thick Cross Junction	5.00	Ea.	370.00	1,850.00	1850.00
8.18	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (6) 450 X 50 X 2.0 mm Thick Cross Junction	1.00	Ea.	667.00	667.00	667.00
8.19	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (7) 600 X 50 X 2.0 mm Thick Cross Junction	1.00	Ea.	976.00	976.00	976.00
	Ladder type cable tray					
8.20	Providing and fixing approved make Ladder type cable tray . Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (8) 150 X 100 X 1.6 mm Thick	224.00	Mtr.	518.00	1,16,032.00	116032.00

8.21	<p>Providing and fixing approved make Ladder type cable tray. Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(9) 200 X 100 X 1.6 mm Thick</p>	898.00	Mtr.	530.00	4,75,940.00	475940.00
8.22	<p>Providing and fixing approved make Ladder type cable tray. Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(10) 300 X 100 X 2.0 mm Thick</p>	608.00	Mtr.	551.00	3,35,008.00	335008.00
8.23	<p>Providing and fixing approved make Ladder type cable tray. Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(12) 500 X 100 X 2.0 mm Thick</p>	867.00	Mtr.	658.00	5,70,486.00	570486.00
8.24	<p>Providing and fixing approved make Ladder type cable tray. Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(13) 600 X 100 X 2.0 mm Thick</p>	110.00	Mtr.	688.00	75,680.00	75680.00
8.25	<p>Providing and fixing approved make 'T' Junction for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>A 'T' Junction (8) 150 X 100 X 1.5 mm Thick 'T' Junction</p>	14.00	Ea.	619.00	8,666.00	8666.00
8.25	<p>Providing and fixing approved make 'T' Junction for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>A 'T' Junction (9) 200 X 100 X 1.5 mm Thick 'T' Junction</p>	14.00	Ea.	653.00	9,142.00	9142.00

8.26	Providing and fixing approved make 'T' Junction for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. A 'T' Junction (10) 300 X 100 X 2.0 mm Thick 'T' Junction	10.00	Ea.	700.00	7,000.00	7000.00
8.27	Providing and fixing approved make 'T' Junction for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. A 'T' Junction (12) 500 X 100 X 2.0 mm Thick 'T' Junction	22.00	Ea.	967.00	21,274.00	21274.00
8.28	Providing and fixing approved make 'T' Junction for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. A 'T' Junction (13) 600 X 100 X 2.0 mm Thick 'T' Junction	2.00	Ea.	1,077.00	2,154.00	2154.00
8.29	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (8) 150 X 100 X 1.6 mm Thick	3.00	Ea.	437.00	1,311.00	1311.00
8.29	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (9) 200 X 100 X 2.0 mm Thick	80.00	Ea.	467.00	37,360.00	37360.00
8.30	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (10) 300 X 100 X 2.0 mm Thick	22.00	Ea.	531.00	11,682.00	11682.00
8.31	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (12) 500 X 100 X 2.0 mm Thick	51.00	Ea.	721.00	36,771.00	36771.00

8.32	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (13) 600 X 100 X 2.0 mm Thick	9.00	Ea.	806.00	7,254.00	7254.00
8.33	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (8) 150 X 100 X 1.6 mm Thick	5.00	Ea.	729.00	3,645.00	3645.00
8.34	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (9) 200 X 100 X 2.0 mm Thick	5.00	Ea.	759.00	3,795.00	3795.00
8.35	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (10) 300 X 100 X 2.0 mm Thick	5.00	Ea.	823.00	4,115.00	4115.00
8.36	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (12) 500 X 100 X 2.0 mm Thick	5.00	Ea.	1,069.00	5,345.00	5345.00
8.37	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (13) 600 X 100 X 2.0 mm Thick	5.00	Ea.	1,174.00	5,870.00	5870.00
8.38	Supplying , fabricating and installation of various sizes clamps for cable tray supports using available M.S. sections & rod as per drawings or instructions of engineer in charge or consultant including applying zinc chromate yellow oxide and two to three coats of required enamel paints with anchor fasteners etc.	7753.00	Kg	77.00	5,96,981.00	596981.00
Total						3454493.00

9	INTERNAL WIRING					
9.1	<p>Point wiring for Tissino / Modular secondary light point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires, in below type of pipe to be erected complete with earth continuity and necessary connection with primary light with accessories erected on Metal / PVC / wooden box covered with 3 mm thick PC(Polycarbonate) / Acrylic sheet for open / concealed wiring. with necessary Lamp holder / ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	1699.00	Pt.	174.30	2,96,135.70	296135.70
9.2	<p>Point wiring for Light / Bell with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length , in below type of pipe erected with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III)</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	540.00	Pt.	505.05	2,72,727.00	272727.00
9.3	<p>Point wiring for FAN with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of .ISI marked 1.1 KV Grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected with 6A Modular type switch and hum free EME step type electronic fan regulator mounted and accessories with earth continuity of following type erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III)</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	5.00	Pt.	701.40	3,507.00	3507.00
9.4	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[I] For 6A Plug and 6 a switch with 2-1.5 sq.mm Cu. Wire from nearby switchboard/mcb db board</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III)</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	10.00	Pt.	530.25	5,302.50	5302.50

9.5	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[II] For 16A Plug and 16 amp switch with 2-2.5 sq.mm Cu. Wire from mcb db board. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	214.00	Pt.	774.90	1,65,828.60	165828.60
9.6	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[III] For 16A Plug and 16 amp switch with 2-4 sq.mm Cu. Wire with 2.5 sq.mm (green) earthing wire from mcb d b board. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	10.00	Pt.	906.15	9,061.50	9061.50
9.7	<p>Point wiring for on board Looped Plug with 6A Modular type switch & 5 pin socket erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling with following type accessories Cat. III NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	140.00	Pt.	250.95	35,133.00	35133.00
9.8	<p>Point wiring for Two Way Controlled Light Point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of .ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires erected in below type of pipe with 6A Modular type switches and following type of accessories erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary batten/angle holder or ceiling rose or H.D.Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	10.00	Pt.	627.90	6,279.00	6279.00
9.9	<p>Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories (a) 2 wire 1.5 sq. mm</p>	23748.00	Rmt.	62.00	14,72,376.00	1472376.00

9.10	Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories (b) 2 wire 2.5 sq. mm	27582.00	Rmt.	82.00	22,61,724.00	2261724.00
9.11	providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected in / on wall / ceiling with 2.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) with medium class Rigid PVC pipe and accessories (a) 2 wire 4 sq. mm	300.00	Rmt.	111.00	33,300.00	33300.00
9.12	Providing & erecting Switch board for Computer or electric apparatus consisting of following modular type accessories mounted with PVC / Metallic concealed/open box with single mounting base frame covered with textured/metallic /white front plate,modules erected with necessary connections as directed 1 no. 6A/16A universal plug-switch combined. 3 nos. 6A Switch 3 nos. 6A 5 pin Plug For Modular Type accessories Cat. III	5.00	Pt.	1,122.00	5,610.00	5610.00
9.13	SITC of following type of Modular Type accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge. (5) Electronic hum Free four or more steps EME Fan regulator (cat III)	5.00	Ea.	395.00	1,975.00	1975.00
9.14	SITC of following type of Modular Type accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge. (7) Blank Plate Single (cat III)	20.00	Ea.	25.00	500.00	500.00
9.15	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (b) 25 mm	9194.00	Ea.	33.00	3,03,402.00	303402.00
9.16	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (c) 32 mm	100.00	Ea.	54.00	5,400.00	5400.00
9.17	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (d) 40 mm	100.00	Ea.	67.00	6,700.00	6700.00
	TOTAL					4884961.30
10	INDOOR LIGHT FIXURE					

10.1	Supply, Installation Testing and Commissioning of 20W CEILING/WALL MOUNTED TUBE LIGHT POINT (A) Tube Light with integral driver (iii) 18-20 Watts, Surge - 2KV,IP-20, conventional 4 feet	354.00	Each	293.00	1,03,722.00	103722.00
10.2	Supply, Installation Testing and Commissioning of 36W CEILING/WALL MOUNTED TUBE LIGHT POINT (A) Tube Light with integral driver (v) 36-40 Watts, Surge-2 KV, IP-20, conventional 4 feet	439.00	Each	530.00	2,32,670.00	232670.00
10.3	Supply, Installation Testing and Commissioning of 10W WALL MOUNTED MIRROR LIGHT POINT (H) Mirror Light 9 Watts, wall mounted minimum 1 feet long	80.00	Each	309.00	24,720.00	24720.00
10.4	Supply, Installation Testing and Commissioning of 24W CEILING SURFACE MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iv) 22-24 watts, Surge-2 KV	29.00	Each	751.00	21,779.00	21779.00
10.5	Supply, Installation Testing and Commissioning of 24W CEILING RECESSED MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iv) 22-24 watts, Surge-2 KV	400.00	Each	751.00	3,00,400.00	300400.00
10.6	Supply, Installation Testing and Commissioning of 18W CEILING SURFACE MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iii) 16-20 watts, Surge-2 KV	9.00	Each	584.00	5,256.00	5256.00
10.7	Supply, Installation Testing and Commissioning of 18W CEILING RECESSED MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iii) 16-20 watts, Surge-2 KV	90.00	Each	584.00	52,560.00	52560.00
10.8	Supply, Installation Testing and Commissioning of 10W CEILING SURFACE MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (ii) 11-15 watts, Surge-2 KV	37.00	Each	423.00	15,651.00	15651.00
10.9	Supply, Installation Testing and Commissioning of 10W CEILING RECESSED MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (ii) 11-15 watts, Surge-2 KV	300.00	Each	423.00	1,26,900.00	126900.00
10.10	Supply, Installation Testing and Commissioning of Flood Light: (B) Flood Light (IP-65), Surge protection -4KV integral and ,Light must have 440VAC line supply with over-voltage protection. (vi) above 160 to 200 watts	1.00	Each	9,552.00	9,552.00	9552.00
10.11	Type -A (with Basic Rate of Rs.1000/-) up to Rs. 1500	0.00	Each	800.00	-	0.00
10.12	Type -B (with Basic Rate of Rs.2000/-) Rs. 1501 to Rs. 2500	0.00	Each	1,800.00	-	0.00
10.13	Type – C (with Basic Rate of Rs.3000/-) Rs. 2501 to Rs. 3500	0.00	Each	3,000.00	-	0.00
10.14	Type – D (with Basic Rate of Rs.4000/-) Rs. 3501 to Rs. 5000	0.00	Each	4,200.00	-	0.00
10.15	Type – E (with Basic Rate of Rs.5000/-) Rs. 5001 to Rs. 10500	90.00	Each	8,500.00	7,65,000.00	765000.00
10.16	Type – F (with Basic Rate of Rs.10000/-) Rs. 10501 to Rs.15000	3.00	Each	13,500.00	40,500.00	40500.00

10.17	Ceiling Fan: Supply, Installation, Testing and Commissioning of suitable sweep, BEE 5 Star rated, Ceiling fan with Brush Less Direct Current (BLDC) permanent ferrite magnet Motor, class of insulation: B, Rust free 3 nos. Aluminium blades, 2 nos. canopies, shackle kit with earthing provision, copper winding, Power factor not < 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM, 230v (tolerance as per IS : 374-2019), THD < 10%, with remote unit for Speed Control and all remaining accessories including safety pin, nut bolts, washers, temperature rise = 75 degree C (Max.), suitable for 140 to 285 Voltage and rectifier circuit with surge, over current and overload protection, 50 Hz, Single phase AC Supply, earthing etc. Complete as required. [Make shall be approved by Engineer in Charge] (B) 1200 mm Sweep (48")	5.00	Each	2,857.00	14,285.00	14285.00
10.18	Wall bracket fan: Supplying and erecting approved make oscillating type bracket fan A.C. 230V. 50cy/s 400/450 mm sweep wall mounted with height adjustment and rotary tilting device complete with guard, flexible Core plug top complete erected with lead wires as directed. Cat ii	1.00	Each	2,509.00	2,509.00	2509.00
Total						1715504.00
11 EARTHING						
11.1	SITC of required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	5063.50	Kg.	77.00	3,89,889.50	389889.50
11.2	SITC of required size Copper strip for earthing of H.T. OCB / ACB/ Transformer, LT panel board, Motors etc. using copper clamp.	589.60	Kg.	787.00	4,64,015.20	464015.20
11.3	SITC of Annealed bare Copper wire 8 to 16 SWG.	186.30	Kg.	787.00	1,46,618.10	146618.10
11.4	SITC of HOT deep Galvanised iron strip wire 8 to 16 SWG.	10.00	Kg.	77.00	770.00	770.00
11.5	Supplying & erecting earth pit of minimum bore dia.150mm size approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanising, Inner pipe dia of 25 mm having 200-250 Micron galvanising, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover. (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistance mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphur content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency. (c) For Electrical Installation covering Transformer Neutrals, Lightning arrester Earthing, A.C.Plant & Sensitive Computer System(like Automation, SCADA) i.e independent Earthing in normal soil. Length of Pipe : 3.00 mtrs Back filling Compound :2 nos Bags of 25 Kg.	89.00	Each	8,551.00	7,61,039.00	761039.00
Total						1762331.80
12 UPS						

12.1	Supplying and erecting approved make online Un-interruptible Power Supply system comprising flat cum-boost charger with IGBT base rectifier & Inverter & sealed maintenance free SMF batteries. The charger having operating capacity for input 160-270V AC & inverter having output 230V,50 Hz Ac with 0.8 load power factor with battery, over/under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following power backup.with MS painted batteries stand, 10% Overload capacity for momentary load. (D) 5KVA with 1Hr Backup	9.00	Each	1,28,815.00	11,59,335.00	1159335.00
	Total					1159335.00
13	SAFETY ITEMS					
13.1	SITC of metallic vitrified danger notice board as per language suggested by engineer incharge for MEDIUM VOLTAGE installation to be erected as per IS-2551.	10.00	Ea.	69.00	690.00	690.00
13.2	SITC of metallic vitrified danger notice board as per language suggested by engineer incharge for HIGH VOLTAGE installation to be erected as per IS.2551.	2.00	Ea.	81.00	162.00	162.00
13.3	SITC of printed instruction chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from Electric shock with minimum 50" diagonally size.	2.00	Ea.	129.00	258.00	258.00
13.4	SITC of pair of rubber hand gloves suitable for working on 11 KV supply.	2.00	Ea.	212.00	424.00	424.00
13.5	SITC of rubber matting of 3 mm thickness as per IS 15652 and IEC 61111. (A) 3 mm	20.00	Sq.mtr	763.00	15,260.00	15260.00
13.6	SITC of stand first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, gauge bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, ScisR&BR&BSORs, anti-septic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	10.00	Ea.	297.00	2,970.00	2970.00
13.7	SITC of FIREbucket round bottom of9 litres capacity made out of 24 gauge G.I. sheet with extra handle at bottom duly painted white inside andRed out side with FIRE mark, filled with dry-sand and kept on existing stand provided or hung on wall hook.	2.00	Ea.	212.00	424.00	424.00
13.8	SITC of floor mounting stand for keeping four nos. of FIRE buckets comprising 1500 mm in length, 900 mmheight frame made out of 30mm X30 mm X 4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of approved enamelled silver paint.	2.00	Ea.	933.00	1,866.00	1866.00
13.9	Wall hook 22 to 25 cms. projection for keeping fire buckets made out of 15 mm dia. M.S rod grouted in wall to a depth of minimum 15 cms.	2.00	Ea.	60.00	120.00	120.00
13.10	Supplying & erecting D.C.P. type fire extinguisher for following capacity cartridge type with gun metal cap 150 gram CO2 gas cartridge, powder and brackets conforming to IS 2171 1985 and complete erected with necessary clamps made from 50 x 6 mm M S Flat with nuts and bolts grouted in wall complete. [A] For 5 Kg Capacity	2.00	Ea.	1,696.00	3,392.00	3392.00

13.11	Supply and installtion of expanding firestop foam equivalent to Hilti CP 620 on both sides of wall, with minimum 2 hours fire rating when tested in accordance with UL 1479/ASTM-E 814, for horizontal openings in floors or slabs made of concrete/ masonry or Gypsum after passing service lines like cable trays or cables/cable bundles. The expanding foam expands seven times its volume to fill the cavity at the time of dispensing the material and shall fully cure within two minutes after dispensing. The product shall be age tested as per Dafstb and DIBT standards. The product shall provide water tightness when tested for W rating as per UL standards and shall carry test certificate for sound insualtion of 50 db when tested in accordance with ASTM E 90. The product shall carry test certificate for mold resistance rating of 0 as determined by ASTM G21-96 and shall have a VOC content of approx. 1.3 g/l as per LEED 2009. The product shall be tested in accordance with IEC 60068-2-57:1999-11 (Environmental Testing) as per Part 2-57: Test for Vibration-Time-history method and VERTEQII for seismic zone 4. The system shall be UL listed & classified. The system shall be UL & FM approved.	5.00	Ea.	8,490.45	42,452.25	42452.25
13.12	Supply and installation of Fire stop mortar system equivalent to Hilti CP 636 , with minimum 2 hours fire rating when tested in accordance with UL 1479/ASTM-E 814 standards, for horizontal openings in floors or slabs after passing service lines like cables/cable bundles, cable trays etc. The mortar shall be a light weight cementitious product and shall carry test certificate in accordance with IEC 60068-2-57:1999-11 (Environmental Testing) as per Part 2-57: Test for Vibration-Time-history method and VERTEQII for seismic zone 4. The product shall be age tested as per Dafstb and DIBT standards. The product shall carry test certificate for mold resistance rating of 0 as determined by ASTM G21-96. The product shall be age tested as per Dafstb and DIBT standards.The system shall be UL listed. The gaps around inaccessible or complicated openings shall be sealed with exapnding firestop foam.	10.00	Sq. mtr	13,043.30	1,30,433.00	130433.00
Total						198451.25
14	EXTERNAL LIGHT FIXTURE AND POLE					
14.1	PLANT UPLIGHTER SITC of Plant Uplighter: System Wattage : 12W LED,Driver Integral : Constant Current,Operating Voltage : 100-300Vac,Operating Temperature : -15°C~+50°C,Body : Die-cast Aluminium Alloy,Diffuser : Clear Toughened Glass,Mounting : Spike / Die-castAluminium BracketFinish : Powder coated.Light Source : CITIZEN.CRI (Ra) : ≥80.LED Colour Temperature : 3000K.Driver Power Supply : Integral.Input Voltage : 230-240Vac.Frequency : 50-60 Hz.Power Factor : >0.95. THD : <10%.Surge Protection : 4KV.Efficiency : >80%.Beam Angle : 25°.IP66	38.00	Each	1,846	70,138.50	70138.50

14.2	<p>POST TOP FIXTURE</p> <p>Supply, Installation, assembling, connection, testing & commissioning of Post Top light fixture equivalent to 20-30W LED module of NICHIA/Cree/Osram LED source of CCT 3000K/4000K/5700K. Constructed out of Extruded aluminium graphite grey pipe of grade-6063 (with test certificate) , mounting Ø70(PIPE DIA) x 2.5mm thickness, suitable for mounting 4 mtr high pole , having spun aluminium top cover.</p> <p>The mechanical resistance of the luminaire is IK08 and with ingress protection of IP65. This luminaire contains built-in LED modules. LED modules are engineered accordingly to the existing regulations of Lumen Maintenance (LM80) and Technical Memorandum (TM21), Lifespan of the luminaire > 50,000 hours at 40°C. Translucent polycarbonate opal diffuser of 1.8mm thickness with controlled downward light emission, lamp fixed position.</p> <p>Operating ambient temperature range is from -15°C to +50°C. Driver efficiency >85%, power factor >0.9, THD <10%, Colour Rendering Index: Ra>80 and SDCM MacAdam step 3. Input voltage of 140-280Vac at 50-60Hz frequency with Surge protection 5KV and have 360 Degree light distribution and simple electronic On-Off driver. The luminaire is BIS & CE certifications. (NOTE: Final wattage capacity, light fixture colour, light Colour Coding Temperature, Fixture sample is to be done and approved by the architect and Engineer incharge after sampling and mock-up before finalization.)</p> <p>GRAPHITE GREY/ANTHRACITE GREY/JET BLACK. Dimensions:-Ø527X151mm.</p>	130.00	Each	12,305	15,99,650.00	1599650.00
14.3	<p>Post top Pole</p> <p>[D] Overall length of 4 Mtr. Average Thickness: 7mm. Top/ Bottom OD Dia A/F 89/145 mm ± 2mm approx. Approx. Weight of Pole 19 kg approx. (Without Base) Anchor Base (Size 250X250 & 12mm th.)</p>	130.00	Each	9,696	12,60,480.00	1260480.00
14.4	<p>Bollard:</p> <p>Supply, Installation, assembling, connection, testing & commissioning of bollard light fixture equivalent to LB-14 Bollard 11W LED , LED source of CCT 3000K/4000K/5700K. Constructed out of Extruded circular extruded aluminium housing (with test certificate) Height: 840mm, dia. 100 mm thickness, SS fasteners & Pre-treated silicone gaskets. Finished with acid treatment & pure polyester powder coating with MARINE COATING. Mounting base made of Die-cast aluminium mounting. Base plate 150 x 150 x 4mm thick with 2 elongated holes 20 x 14 to suit 3 nos M10 bolts at CC 130mm with pure polyester powder coating. This mounting plate along with foundation bolts of suitable size to be used for ensuring firm grouting into the specially designed foudation with Hot dip galvanised foundation bolts. The mechanical resistance of the luminaire is IK06 and with ingress protection of IP65. This luminaire contains built-in LED modules. LED modules are engineered accordingly to the existing regulations of Lumen Maintenance (LM80), Lifespan of the luminaire > 50,000 hours at 40°C. High efficiency Transmission with specially designed extruded seamless Milky white PC diffuser, lamp fixed position. Operating ambient temperature range is from -15°C to +50°C. Driver efficiency >84%, power factor >0.9, THD <10%, Colour Rendering Index: Ra>80 . Input voltage of 230-240Vac at 50-60Hz frequency and have an operating voltage of 100-277Vac with Surge protection 2.5KV and have Asymmetrical light distribution and simple electronic On-Off driver. The luminaire is BIS & CE certifications. (NOTE: Final wattage capacity, light fixture colour, light Colour Coding Temperature, Fixture sample is to be done and approved by the architect and Engineer incharge after sampling and mock-up before finalization.)</p>	34.00	Each	4,883	1,66,009.22	166009.22
14.5	<p>Construction of Foundation for Post Top light pole of size 600mm dia, 1000mm depth including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes R.C.C work of M-25 for foundation also having 100mm thick PCC in M-15 at bottom level. It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction. (Foundation should be designed as per wind speed of local area guidelines.)</p>	130.00	Nos.	4,478	5,82,140.00	582140.00

14.7	STEP LIGHT SITC of Step Light: System Wattage : 12W LED,Driver Integral : Constant Current,Operating Voltage : 100-277Vac,Operating Temperature : -15°C~+50°C,Body : Die-Cast Aluminium,Diffuser : Clear Acrylic,Gasket : Silicone,Mounting Sleeve : ABS Plastic,Mounting : Wall - Recess,Finish : Powder coated,Light Source : NICHIA,CRI (Ra) : ≥80,LED Colour Temperature : 3000K,Driver Power Supply : Integral,Input Voltage : 230-240Vac,Frequency : 50-60 Hz,Power Factor : ≥0.90,THD : <10%,Surge Protection : 2KV / 2.5KV,Efficiency : >85%,IP65	364.00	Nos.	923	3,35,926.50	335926.50
14.8	Supply, Installation Testing and Commissioning of 9W ground flush light-IP67	5.00	Each	7,690.63	38,453.13	38453.13
	Total					4052797.34
15	DWC PIPE AND CHAMBER					
15.1	SITC of R.C.C. Hume pipe for cable to be laid 90 cm. below ground across the road crossing or on floor with necessary material in an approved manner and making the ground as per original. (C)300 mm dia	10.00	Mtr.	340	3,400.00	3400.00
15.2	SITC of R.C.C. Hume pipe for cable to be laid 90 cms. below ground across the road crossing or on floor with necessary material in an approved manner and making the ground as per original. (E)150 mm dia	39.00	Mtr.	261	10,179.00	10179.00
15.3	SITC of approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II)with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable. (A)50 mm outer dia	100.00	Mtr.	62	6,200.00	6200.00
15.4	SITC of approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II)with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable. (B)63mm outer dia	650.00	Mtr.	73	47,450.00	47450.00
15.5	SITC of approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II)with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable. (D)120 mm outer dia	1271.00	Mtr.	136	1,72,856.00	172856.00
15.6	Excavating hard Murrum or Metal road by chiselling for preparing pit for poles or earth plates or for laying pipes & clearing the site by removing debris & making site good.	300.00	Cu.Mtr	238	71,400.00	71400.00
	Total					311485.00
16	SOLAR SYSTEM					

	<p>Supply, Installation, Testing & Commissioning of following size of Grid Tied Solar Power Plant with Solar Panels (ALMM approved): Frame Material : Anodized Aluminum alloy Frame With Twin Wall Profile, Front Cover : High Transmission Low-Iron Tempered Glass (AR Coated), High efficiency and positive power tolerance Pmax: 0/+5, Module Efficiency should be approx. 18%-21%, Normal operating temperature 45°C, Junction Box with Waterproof IP67 & MC4 Compatible and Enclosed with Bypass diodes, 100% Electroluminescence test to ensure error free Modules, Thep. temp. co-efficient of the PV module shall equal or better than -0.45%/degree C. Solar PV modules of minimum fill factor 75% to be used. Unit Production:- 4 to 5 Unit /kw /day (Actual)(1Year Avg) With 10 year Product warranty and 25 year Linear Power Warranty.,</p> <p>Solar Inverter: MPPT Range: 80-1000 V, Max efficiency: 97.5% - 98.9%, O/p Frequency: 50/60Hz, Operating Altitude (m) ≤4000, O/p Power Factor: ~1, O/P THDi: <3%, Operating Temperature Range: -25~60°C, Anti-islanding Protection:</p> <p>Integrated, Input Reverse Polarity Protection Integrated, Insulation Resistor Detection Integrated, Residual Current Monitoring Unit Integrated, Output Over Current Protection Integrated, Output Short Circuit Protection Integrated, Output Over Voltage Protection Integrated, Protection Degree: IP65, User Interface LCD & APP, Datalogger & Communication: GPRS / Wi-Fi, Module Mounting Structure: Seamless Box Pipe / 'C' Channel of suitable size for rooftop solar installations with good stability against wind & weight load., Hot Dipped Galvanized steel coils. suitable arrangement for base plate for foundation, solar panel mounting, the structure should be suitable for carry the load of solar panel, wiring, sprinkler system etc. with necessary foundation work/wall mount, j bolt, anchor fastener etc. the nut bolt used for installation of structure should be (SS 304) quality. and Balance of System with necessary Switchgears (Suitable size and protection of ACDB & DCDB), inter connecting wiring, earthing system, lightning arrester system, all liaisoning work with various gov. department like state nodal agency, DISCOM & CEIG is included in agency scope. (Excluding GEDA Application fees, Solar connectivity Charges, Meter connectivity Charges, Meter testing Charges.)</p> <p>(C) Grid Tied Solar Power System: 11 - 25 kW (3 - phase)</p>	150	PER KW	42035	63,05,250.00	6305250.00
	Total					6305250.00
17	MAINTENANCE & OPERATION FOR ELECTRICAL & ELV WORK					
17.1	Provide annual maintenance service (including supply of material) and operation for 3 years after handing over of work for electrical and ELV works as per schedule including necessary materials to be given under warantee free of cost, etc. 1st Year (During DLP Period)	1.00	Year	16,69,220.02	16,69,220.02	1669220.02
17.2	2nd Year (After DLP Period)	1.00	Year	15,71,659.30	15,71,659.30	1571659.30
17.3	3rd Year (After DLP Period)	1.00	Year	15,71,659.30	15,71,659.30	1571659.30
17.4	4rd Year (After DLP Period)	1.00	Year	15,71,659.30	15,71,659.30	1571659.30
17.5	5th Year (After DLP Period)	1.00	Year	15,71,659.30	15,71,659.30	1571659.30
	Total					7955857.21
18	LPS SYSTEM					
18.1	SITC of Vertical Air Termination Solid aluminium with Base- 10 mm dia and 1000 mm long. Air Termination Base tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350µs waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol with MAST 34mm dia 3000 mm long- Cold Galvanized	33.00	Nos.	9,323.00	3,07,659.00	307659.00

18.2	SITC of 8 mm dia solid Aluminium Conductor for roof top mesh grid and tested as per IEC 62561- 2 conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/IEC 62305 with Required Accessories - Aluminium Holding clamp at every 1 mtr distance, Aluminium/SS cross splicer at every crossing of Alu. conductor, Expansion piece with connectors at every 20 mtr distance, Aluminium straight Splicer to connect conductors. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350µs waveform(Ageing & Electrical test) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230	1530.00	Meter	297.00	4,54,410.00	454410.00
18.3	SITC of 10 mm MS Round Solid Conductor having smooth surface Should be tested and use exclusively for lightning protection (Vertical Riser/Down Conductor which shall be concealed in Column) to meet the requirement of IS IEC 62305 With Accessories - Earthing stud of dimension SS-75mm OD plate with 10mm dia tail connector used in structural steel ring earthing system to meet the requirements of IS/IEC 62305. (For Interconnecting the Column and the Terrace AL Conductor / Strip/Flat), SS Cross Connector to connect Earth fixing point to vertical raiser/Down conductor, SS Straight Splicer at every 4 Mtr to connect MS conductor in column, Bonding /Rebar Clamp at every 3 mtr suitable for interconnecting round conductor with reinforcement inside the concrete for structural earthing system, SS connector -To connect external conductor 8- 10 mm with earth fixing point. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350µs waveform(Ageing & Electrical test) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230	100.00	Meter	721.00	72,100.00	72100.00
18.4	SITC of Galvanized Steel Flat 25x6 mm thickness from earth electrode directly in ground as required. Zinc coating: 500 g/m square (Approx:70 micron coating) tested and used exclusively for lightning protection earthing system and ring equipotential bonding.	1090.00	Meter	153.00	1,66,770.00	166770.00
18.5	SITC of 14.2 mm dia 3 mtr long Earth electrode of High tensile steel electrode with 250 micron copper bonding & 1 bag of Carbon fill Based environment friendly backfill tested as per IEC 62561-7 in NABL accredited Laboratory and suitable stainless Steel double sided clamp. Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height).	6.00	set	5,933.00	35,598.00	35598.00
Total						1036537.00
19	SERVICE WORK					
19.1	Service charges for Liasion with supply company including submission of application forms, obtaining load sanction and other all associated works to complete the job. It is lumpsum job item and may vary as per requirement.	1.00	Job	1,00,000.00	1,00,000.00	100000.00
Total						100000.00
20	FIRE DETECTION & ALARM SYSTEM					

20.1	Supply, Installation, Testing and commissioning of Microprocessor based Networkable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have inbuilt 10 loops and expandable capacity upto 16 loops. The Panel must have Full colour 800 x 480 LCD with resistive touch screen and automatic backlight dimming. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The panel shall have an event log of minimum 10,000 events @ 1 second resolution, Filterable and Printable. The Panel shall have Three access levels. Panel shall support upto 5000 Cause & Effects entries, with upto 20,000 inputs controlling & 20,000 Controlling outputs across the network. The Panel shall have capability for Peer to Peer networking through RS485 network card. The Panel must have 4 inbuilt programmable sounder circuits, each circuit rated at 2.5A. The Panel must have inbuilt 3 programmable inputs and 5 inbuilt programmable relay outputs. The Panel shall have up to sub-addressable 512 programmable Inputs/Outputs via optional RS485 COMMS serially connected expansion cards. The Panel shall have 240 V AC power supply along with automatic Battery Charger. The Panel shall be fully expandable via common plug in loop driver boards. The user shall have a choice of using the panel with 5.25 Amp or 10.25 Amp power supply unit which is inbuilt in the FACP and should be approved to EN54-4. The Panel shall have configurable via USB port to PC or memory stick. The Panel shall have dedicated RS232 serial port for optional printer. Approved by LPCB	2.00	Each	₹ 6,97,599.98	13,95,199.96	1395199.96
20.1	Supply, Installation, testing and commissioning of Active Repeater Panel to be integrated with Fire Alarm Control Panel, larger display Full colour 800 x 480 LCD with resistive touch screen and automatic back-light dimming and the status of any Fire/Fault of Integrated Fire Alarm Panels, Panel should compliant with EN54-2, EN54-4 and Approved by LPCB	1.00	Each	₹ 88,974.99	88,974.99	88974.99
20.2	Supply, Installation, testing and commissioning of Analogue Addressable Multi- Sensor (Above/Below Ceiling) which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 1% to 4.5% obs/m, Incorporate Optical and dual Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB & VdS.	1170.00	Each	₹ 4,259.99	49,84,189.47	4984189.47
20.3	Supply, Installation, testing and commissioning of Analogue Addressable Multi- Heat Sensor which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 0 to 88 degree celsius, Incorporates Fixed Temperature and Rate Of Rise Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB (EN54: Part 5)	92.00	Each	₹ 3,881.00	3,57,051.72	357051.72
20.4	Supply, Installation, testing and commissioning of Multi-Criteria Sensor (Smoke+Heat+CO) Features, Low profile - only 2" high, Simple and reliable device addressing, Supports 16 operational modes, Automatic compensation for sensor contamination, Built in Fire test feature, Two built-in power/alarm LEDs, programmable non-polling LEDs, Non-directional Smoke chamber, Vandal resistant security locking feature, 10 years CO sensor life span, Approved by LPCB.	244.00	Each	₹ 15,713.49	38,34,090.34	3834090.34
20.5	Supply, Installation, Testing and commissioning of sensor common mounting base, includes stainless steel contacts, slim profile - only 8mm, quick connection via square cable clamps, facility for remote indicator, Approved by LPCB	1422.00	Each	₹ 284.25	4,04,197.10	404197.10
20.6	Supply, Installation, Testing and commissioning of sensor common mounting base, Features integral Short-Circuit isolator, slim profile, Approved by LPCB	84.00	Each	₹ 2,367.48	1,98,868.49	198868.49
20.7	Supply, Installation, Testing and commissioning of Response Indicator	300.00	Each	₹ 322.39	96,717.30	96717.30
20.8	Supply, Installation, testing and commissioning of Analogue Addressable Manual Call Point with Integral Short Circuit Isolator, Analogue Addressable Protocol having, Bi-coloured status LED (red for alarm, amber for (short-circuit), Non-frangible element fitted as standard (conforms to EN54), pulsing/non-pulsing can selectable via panel, Electronically addressed, Approved by LPCB.	61.00	Each	₹ 5,869.49	3,58,038.59	358038.59

20.9	Supply, Installation, testing and commissioning of Intelligent Loop Powered Wall Sounder Beacon, Variable Sound Output 90 ~ 102 dB(A) (± 2 dB(A)) output at 1 metre, High Intensity LED technology, 51 User-Selectable Tones (all tones EN54-3 compatible). Approved by LPCB & VdS	61.00	Each	₹ 9,466.24	5,77,440.43	577440.43
20.10	Supply, Installation, testing and commissioning of Analogue Addressable Single Input Module. which Includes a single monitored input, flying leads for easy installation. Electronically addressed, Approved by LPCB & Vds.	25.00	Each	₹ 4,685.74	1,17,143.60	117143.60
20.11	Supply, Installation, testing and commissioning of Analogue Addressable Single Output Module . which Includes a single output, flying leads for easy installation. Electronically addressed, Approved by LPCB & Vds.	25.00	Each	₹ 5,111.50	1,27,787.43	127787.43
20.12	Supply, Installation, Testing and Commissioning of 2Core x 1.5 sqmm, Copper Conductor, XLPE Insulated, Unshielded, Armoured, FRLS cable	21500.00	Mtr	₹ 171.04	36,77,349.25	3677349.25
Total						16217048.67
21	CCTV SYSTEM					
21.1	Supply, Installation, Testing and Commissioning of 5MP IR Dome Camera with 2.8mm Lens with Audio, Resolution 5 MP (2592 x 1944), 1/2.8" SONY - CMOS 5MP Active Pixel, Minimum Illumination Color - 0.01 Lux @ F1.2 (AGC ON) Monochrome - 0 Lux, Focal Length 2.8mm, IR Range Up to 30m, Two-way Audio, SD Card Up to 512GB, Video Compression H.265, H.264, MJPEG, STQC,CE, IP67, IK10	39	Nos.	₹ 10,791.49	4,20,867.92	420867.92
21.2	Supply, Installation, Testing and Commissioning of 5MP IR Bullet Camera with 2.8mm Lens with Audio, Resolution 5 MP (2592 x 1944), 1/2.8" SONY - CMOS 5MP Active Pixel, Minimum Illumination Color - 0.01 Lux @F1.2 (AGC ON), Monochrome - 0 Lux, Focal Length 2.8mm, IR Range Up to 30m, Two-way Audio, SD Card Up to 512GB, STQC,CE, IP67, IK10	109	Nos.	₹ 10,791.49	11,76,271.87	1176271.87
21.3	Supply,, Installation, Testing and Commissioning of 96 IP Channel Inputs; 4K HDMI, 1/1 Audio I/O and 2/1 Alarm I/O, 12MP, 8MP, 5MP, 4MP, 3MP, 2MP, 720p, D1 and CIF Recording Resolution, 8 SATA HDD Support (Maximum 18TB Capacity per Slot), throughput - 512Mbps Uplink, 512Mbps Downlink, ONVIF and support for other camera brands	3	Nos.	₹ 1,23,050.00	3,69,150.00	369150.00
21.4	Supply, Installation, Testing and Commissioning of 10TB hard Disk for 30 days recording 24 hours @25FPS with 2Mbps Data rate	18	Nos.	₹ 44,487.50	8,00,774.95	800774.95
21.5	Supply, Installation, Testing and Commissioning o 55 Inch, UHD Professional display With Web OS, IPS Panel, 500 Nits, Resolution 3840X2160, 1000000 : 1 Dynamic Contrast Ratio, 24*7 Operation Time, Inbuilt WIFI, HDMI 3/DVI-D/ SB/DP Ports RS232C In/Out, RJ45 (LAN) In, IR In, Screen Share, Time Scheduler, Clear View with Non Anti-glare Coating, IP5X Dust Proof Certified Design, Built in Speaker	2	Nos.	₹ 1,04,498.98	2,08,997.96	208997.96
21.6	Supply, Installation, Testing and Commissioning of Workstation - Industry standard Intel based x64 platform computer system. Intel Core i7 12th generation 8C Processor, 16 GB of RAM DDR3/4, 512GB NVME SSD for Operating System, 1600 x 1200 or higher screen resolution, 24" Display, 1 x 1000Mbps ethernet network interface card along with appropriate licenced Operating System, licenced applications suites from OEM as per the technical requirement	1	Nos.	₹ 3,81,455.00	3,81,455.00	381455.00
Total						3357517.69
22	PUBLIC ADDRESS SYSTEM					
22.1	SITC of Controller Public address and emergency sound system control unit Control and routing of 4 simultaneous audio channels One controller supports 12 zones, expandable up-to 492 zones with 24-zone routers Four controllers can be networked using OMNEO interface module EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	1	Each	₹ 2,20,124.00	2,20,124.00	220124.00

22.2	SITC of Router Expansion of PAVIRO system by 24 zones Total 4000 W speaker load, max 500W per zone 20 GPI, 24 GPO and 2 control relays Up to 20 routers per controller EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	1	Each	₹ 1,88,860.00	1,88,860.00	188860.00
22.3	SITC of Power amplifier, 2x500W 2 × 500 W class-D power amplifier (70/100 V output) Low power consumption in standby mode Excellent sound quality, high signal-to-noise ratio EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	5	Each	₹ 2,17,686.00	10,88,430.00	1088430.00
22.4	SITC of Call station Call station with soft touch button for PAVIRO system 15 freely programmable buttons Customization via built-in display and keys Provision for installing emergency button and key switch EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	1	Each	₹ 78,156.00	78,156.00	78156.00
22.5	SITC of Call station extension Call station extension keypad with 20 freely programmable buttons Soft-touch selection buttons Up to 5 extension keypads can be connected to one call station EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	1	Each	₹ 46,891.00	46,891.00	46891.00
22.6	SITC of Ceiling loudspeaker 6W, ABS with clamps [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	438	Each	₹ 732.00	3,20,616.00	320616.00
22.7	SITC of Plastic speaker dome [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	438	Each	₹ 592.00	2,59,296.00	259296.00
22.8	SITC of Cabinet loudspeaker, 15W, black High-fidelity music and speech reproduction Selectable 8 ohm, 70 V and 100 V inputs Compact yet robust ABS enclosure Supplied with adjustable mounting bracket Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	16	Each	₹ 9,288.00	1,48,608.00	148608.00
22.9	SITC of Horn loudspeaker 30W, circular, ABS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	46	Each	₹ 3,346.00	1,53,916.00	153916.00
23	Supply, Installation, Testing and Commissioning of 2Core x 1.5 sqmm, Copper Conductor, XLPE Insulated, Unshielded, Armoured, FRLS cable	6500	Mtr.	₹ 171.04	11,11,756.75	1111756.75
	Total					3616653.75
23	NETWORKING SYSTEM					
23.1	SITC of 42U (800W X 1000D)MM floor rack with PDU, Horizontal Cable manager, self, mounting hardware and cooling fan with standard accessories. UL Certified. Racks should be manufactured by ISO9001:2015, ISO14001:2004 & OHSAS 18001 : 2007, DIN41494 and Equivalent EIA/ISO/EN /CEA Certified company and should have proper EHS Policy.	2	Each	₹ 1,00,617.99	2,01,235.97	201235.97

23.2	SITC of 6U/600 Rack/ Welded/WM/Off White,Glass Door/6U/WM/Gray,Server /IT Rack mount power distribution unit, 1Ph, 230V, 16A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA/Side feed-1.5Mt/ Black,Horz. Cable Organiser/1U/Loop,Cantilever Shelf/Type2/1U/Off White,Mounting Hardware-CR (Pack of 20),ITE / Server Rack Air Circulation module/90CFM	28	Each	₹ 20,123.60	5,63,460.72	563460.72
23.3	SITC of 6U/600 Rack/WMOD/Metal Door/ IP56/Off White,Pole Mounting Bracket,Server /IT Rack mount power distribution unit, 1Ph, 230V, 16A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA/Side feed-1.5Mt/ Black,Horz. Cable Organiser/1U/Loop,Horz. Cable Organiser/1U/Loop,Cantilever Shelf/Type2/1U/Off White,Mounting Hardware-CR (Pack of 10),ITE / Server Rack Air Circulation module/90CFM,Filter Unit/Double louvered Module/IP56/Off White,Universal Rack Ground Kit-Type 1	24	Each	₹ 42,594.99	10,22,279.71	1022279.71
23.4	SITC of O. F.Cable 06F Outdoor - Armoured Unitube SM - HDPE Sheath [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	4800	Mtr.	₹ 50.00	2,40,000.00	240000.00
23.5	SITC of LIU 12 PORT Rack Mount - Loaded (LC) SM [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	56	Each	₹ 6,833.00	3,82,648.00	382648.00
23.6	SITC of PIGTAIL LC SM SIMPLEX LENGTH- 1m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	672	Each	₹ 772.00	5,18,784.00	518784.00
23.7	SITC of PATCH CORD LC-LC SM DUPLEX LENGTH- 3m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	120	Each	₹ 1,883.00	2,25,960.00	225960.00
23.8	SITC of CAT6 UTP 23AWG Solid: Per Meter [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	16165	Mtr.	₹ 43.00	6,95,095.00	695095.00
23.9	SITC of Patch Panel Cat 6 UTP Keystone Type- 24 Port-Fully Loaded [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	22	Each	₹ 4,357.00	95,854.00	95854.00
23.10	SITC of CAT6 UTP 24AWG PATCH CORD:1M,Plug 30U' Snag less [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	240	Each	₹ 155.00	37,200.00	37200.00
23.11	SITC of Cat 6 RJ 45 Connectors	330	Each	₹ 38.15	12,588.02	12588.02
23.12	SITC of PVC Pipe 25 MM	10508	Mtr.	₹ 94.75	9,95,617.24	995617.24
23.13	SITC of HDPE Pipe 25 MM	4500	Mtr.	₹ 94.75	4,26,368.25	426368.25
23.14	SITC of Flexible Pipe 32 MM	350	Mtr.	₹ 91.06	31,869.95	31869.95
23.15	SITC of Flexible Pipe 50 MM	100	Mtr.	₹ 123.05	12,305.00	12305.00
23.16	SITC of 100 x 50 mm trunking	60	Each	₹ 757.99	45,479.28	45479.28
23.17	SITC of 20 x SFP ports 4 x Combo 10/100/1000BASE-T/SFP ports 4 x 10G SFP+ ports 6 kV surge protection on all RJ-45 access ports Switch Resource Management (SRM) for flexible management of system resources Redundant Power Supply (RPS) support MPLS L2VPM/L3 VPN support Full L3 routing protocol support including OSPF, BGP, and ISIS for IPv4/IPv6 SDN-enabled switch, compatible with Openflow 1.3 10-GbE SFP+ to SFP+ 1M Direct Attach Cable [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	2	Each	₹ 6,41,524.00	12,83,048.00	1283048.00

23.18	SITC of 24 x 10/100/1000BASE-T PoE ports 4 x Gigabit RJ45/SFP Combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 193 W PoE budget [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	22	Each	₹ 31,680.00	6,96,960.00	696960.00
23.19	SITC of Maximum distance of up to 10 km Hot-pluggable Single-mode fiber 1000BASE-LX (IEEE 802.3z standard) Duplex LC connector MSA, RoHS-compliant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	64	Each	₹ 4,754.00	3,04,256.00	304256.00
23.20	SITC of 8 x 10/100/1000BASE-T PoE ports 2 x Gigabit SFP ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 65W PoE budget [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	6	Each	₹ 18,218.00	1,09,308.00	109308.00
23.21	SITC of 8 Port industrial grade switch, on Port 1 (90W max power per port) with IEEE 802.3at PoE+ on Ports 2-8 (30W max per port), Uplink Port 2*1000M SFP	24	Each	₹ 28,396.25	6,81,509.96	681509.96
23.22	SITC of 1000Base Single-Mode , 20Km	48	Each	₹ 3,503.23	1,68,155.21	168155.21
	Total					8749982.30

24	Façade Lighting					
24.1	<p>O11 Supply, Installation, Testing and Commissioning of IP67 Outdoor integrated into facade grooves and bands LED diffuse encapsulated dual/two way/3D bendable flexible striplight with flexible mounting profile, CCT : 2700K (as required)</p> <p>Luminaire to have 220-240V AC supply with appropriate low voltage (24V DC) transformer, Minimum delivered luminous flux is 605lm/m, Minimum luminaire efficacy 67lm/W, Lamp life ≥50,000 hrs L80 B10, SDCM≤ 3, CRI ≥ 80, THD < 10%, Power factor 0.9 or above, Remote DALI/1-10V Dimmable Drivers.</p> <p>Dual/3D/Two way bendable, flexible dot free and perfectly homogeneous linear LED light line, to be mounted in the curved/ flexible aluminum/ SS profile with matching finish as the adjoining surface's finish. Opal polyurethane encapsulation offering a premium water proof sealing, UV resistance, chemical stability against urban gazes and protection against abrasion. Vertical and Horizontal bending ,with radius of 150 mm offering the ideal solution for outdoor locations. Light source should be assembled using state of the art automated Reel to Reel (R2R) production process with LED packages that helps optimal heat dissipation (junction to installation surface) is achieved. Luminaire to have Exceptional color consistency and light quality over the rated lifetime. Consistent light intensity all along the strip length is obtained with active current regulation operated by dedicated integrated circuits (ICs) on each step. Protected against electrostatic discharge +/- 2,000 V and polarity miss wiring. Installation accessories like flexible mounting profile/clips & end caps made out from aluminum or manufacturers standard end cap which comes with standard luminaire. Maximum linear lengths shall be provided have a seamless effect of light, and to reduce number of joints. Leader cable lengths as per site.</p> <p>Final selection of CCT, Finish color and Accessories is to be done after sampling and mock-up, as per Lighting Architect and Engineer in charge. Designer should have a freedom to change the design within the given budget.</p> <p>±5% variation in the dimensions will be allowed after mockup. Contractor to Supply Luminaire with LED, Non-dimmable power supply and control unit, all mounting and installation accessories. 1) All IP rated driver and power supply box, gel connectors, Surge protection devices (SPD), secondary cable and conduit from junction box to the Luminaire shall be provided by the lighting contractor.</p> <p>Luminaire dimensions L: Varies in running meter as per plan provided and limitations of power supply and site condition, W: 16mm , H: 16mm , F: To be decided after Mock-Up</p> <p>Location: Façade grooves and bands</p>	2942	Mtr.	₹ 17,223.83	5,06,72,501.49	50672501.49
24.2	<p>Façade Lighting Austomation</p> <p>Supply, Installation, Testing and Commissioning of IP20 Façade lighting automation system with Computer System, Professional Software Key, Splitter and Data Cable as required.</p>	1	Set	₹ 10,35,336.63	10,35,336.63	1035336.63
Total						51707838.12
Total Electrical & ELV Amount						13,38,24,679.28

NAME OF WORK- RIVERSIDE SAVORIES-CONSTRUCTION OF BUILDING WITH TUNNEL ROAD AND BETWEEN NEHRU BRIDGE TO ELLISBRIDGE, RIVERFRONT-WEST.

ELEVATORS Work

S.N.	DESCRIPTION	UNIT	QTY	TOTAL RATE IN RS.	TOTAL AMOUNT IN RS.
	<p>Machine room Less LIFT Supplying, Erecting, Testing & Commissioning the passenger / stretcher lift having following main features: [1] GEAR LESS LIFT DRIVE comprising of High Starting torque Lift duty 3 phase 440 V A. C. Permanent magnetic synchronous motor of proper rating with high efficiency shall be used. [2] Micro processor based / PLC, ACVVV, vector control drive with encoder feedback closed loop system shall be used for lift car and door operation which shall be full collective selective operation hall call demand response, UP/DOWN hall stops, Main, Up/ Down Contactor with overload and phase reversal relay and safety controls. [3] Car with M S platform with bracings of adequate size and to sustain the impact load cabin + passenger with safety factor of fire for steel and side panels of Stainless steel of sheet of grade 304 duty. Car ceiling will be S.S. finishes with aesthetic appearance with LED ceiling lights. Car flooring shall be of anti skid PVC with choice of colour of engineer in charge. Car doors shall be of stainless steel grade 304, hairline finish with centre opening / telescopic automatic doors.</p>				
	<p>Car panel will also be S.S. 304 finished with emergency stop device, mechanical door safety device, facility of auto/ attended mode. All car panel buttons and all floor switches must be with brail language as per lift act. [4] All landing doors shall be fully automatic centre opening/ telescopic opening made of hairline finish steel grade of 304 with key holes and infrared curtains with Unlocking facility from outside. [5] Appropriate battery operated emergency light in the car along with alarm switch shall be provided. [6] Digital scrolling indicator system for up-down arrow along with floor position indicator shall be provided inside the car and at all floors. [7] Full height infra red curtain with multiple criss / crossing light beams shall be provided. [8] Automatic Rescue Device (ARD) shall be provided accordingly of passenger capacity. [9] Audio visual indication in the lift car showing over loading shall be provided such that doors kept open till excess load is removed.</p>				
	<p>[10] Spring buffers/PU Buffers shall be provided. [11] Car fan with automatic sleep timer shall be provided. [12] Voice annunciater with suitable music shall be provided in lift car. [13] Self diagnostics system for operational and safety parameters shall be provided in control panel. [14] Mechanical over speed governor, door key holes in the floor doors, fireman switch shall be provided. [15] Lift machine hoisting arrangement in the lift machine room and monkey ladder for lift pit should be provided by the lift agency, along with the other steel structure works, foundations for the machine etc... [16] In the hoist way fascia plate shall be provided without any extra cost, where ever required as / if directed by engineer in charge. [17] Permanent wiring in lift machine room and lift well with proper numbers of light points, with fixtures, exhaust fan and plug points shall be provided by the agency. Power supply of 3 phase 440 V shall be made available by department in lift machine room. [18] Any civil/ electrical works for additional and alteration in lift shaft and machine room related to erection of lift shall be made by lift agency without any extra cost.(granite/marble fixing around all landing door openings are not in lift agency's scope.)</p>				

	<p>19] Agency has to provide all working drawings and documents and liaison services for obtaining all necessary permission from lift inspector and other authorities.</p> <p>[20] As per statutory requirement of Govt. Of Gujarat lift & escalator act 2000, lift</p> <p>[20A] As per statutory requirement of Govt. Of Gujarat lift & escalator act 2000, lift agency has to provide</p> <ol style="list-style-type: none"> 1. Car top safety barricade 2. Push & talk communication system. 3. Fireman's switch operation at Ground Floor. 4. carrying out third party lift inspection during/after lift erection and provide report by third party authorized by concern licensing authority 5. agency has to provide third party insurance upto completion of free maintenance period and submit the document for the same. <p>[21] Car Panel Operating Buttons with floor position indicator/buttons must be of Auto Glow type clearly visible when view from inside cabin.</p> <p>[22] For Physically Handicapped person Full Length Handrails of hairline finish steel grade of 304 should be provided at appropriate height on the Rear & Side Wall Panels in Lift Car.</p>				
	<p>agency has to provide</p> <ol style="list-style-type: none"> 1. Car top safety barricade 2. Push & talk communication system. 3. Fireman's switch operation at Ground Floor <p>Note: 1 - Advanced control system dual 32bit embedded microprocessor with CANBUS Serial Communication mode including Regenerative power efficient operation on site programming facility, Anti nuisance, Pre-opening, BMS/RMS system supporting hardware & Software.</p> <ol style="list-style-type: none"> 2. Floor indication LCD Display with call registration & brail mark with arrival gong and hall lantern & TFT Screen in the car with MP3 Voice Announcer. 3. CAR PANEL should be scratch resistive SS Moonrock finish for car and all Doors, All landing doors must have fire rating up to 1 hours and car door must have multi-level crisscross beam door protection. 4. To & Fro communication system & wiring (i.e. car, control room, guard room) 				
1.0	13 Passengers, . Basement+ Ground plus 2 upper floors with Rated Speed of 1.0 m/sec., (C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Nos	6.00	16,84,815.00	1,01,08,890.00
2.0	8 / 10 Passengers, Basement+ Ground plus 2 upper floor with Rated Speed of 1.0 m/sec., (A) With General Specification attached herewith. Cat.II	Nos	6.00	10,94,657.00	65,67,942.00
2.0	Provide Comprehensive Service & Maintenance of Lift including part, spare, labour, licence renewal (Liaison) etc. complete as directed. 15/16 Passangers lift [The Contractor is required to renew the bank gurantee submitted for defect liability period during the course of AMC] AMC will commence after defect liability period For 1st Year (During DLP Period)				-
	2nd Year (After DLP Period)	Nos	12.00	97,281.52	11,67,378.24
	3rd Year (After DLP Period)	Nos	12.00	97,281.52	11,67,378.24
	4th Year (After DLP Period)	Nos	12.00	1,11,178.88	13,34,146.56
	Total				2,03,45,735.04

SRFDCL Riverside

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
HVAC WORK					
	MECHANICAL WORKS				
1.0	DX UNITS				
1.1	Providing and erecting Inverter based approved make split air-conditioning unit consisting of condensing unit with variable speed fan motor, inverter type hermetically sealed rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by means of extra supplied proper insulated copper tubing, drain PVC pipes suitable for (cost includes Eco Friendly green gas charging and 15A plug top & Remote Control & MS Stand) with necessary core cutting.				
	(1)For ISEER Range (KWH/KWH)(4.0 to 4.99) Premium Category				
1.1.1	[a] For 0.8 to 1.0 Ton Capacity- premium Category	1	NOS	44,217.0	44,217.0
1.1.2	(b) for 1.5 ton capacity- premium Category	6	NOS	54,643.0	3,27,858.0
1.2	Supplying & installing MS standard type stand mounting for outdoor unit of Split A.C. upto 4 TR capacity erected with necessary hardware materials as directed.	7	Each	739	5,173.0
1.3	Supplying and erecting insulated pair of soft copper tubing open or concealed including power and control cable, necessary PVC drain pipes for Split AC machine up to 4 TR capacity	35	Rmt	1,348	47,180.0
1.4	Supplying and installing MS angle , powder coated / Painted standard type of wall/floor stand mount for outdoor unit of split AC of following capacity, erected with necessary hardware materials as directed.				
1.4.1	(A) 25mm*25mm*3mm thick M.S angle suitable for upto 2 TR. Capacity of ac machine	7	Each	1,305	9,135.0
1.5	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation. 40 mm dia.	5	Rmt	108	540.0

SRFDCL Riverside

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
1.6	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation. 32 mm dia.	10	Rmt	87	870.0
1.7	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation. 25 mm dia.	35	Rmt	87	3,045.0
1.0	SUB TOTAL - DX UNITS				4,38,018.0
2.0	VENTILATION FAN				
2.1	CABINET TYPE INLINE CENTRIFUGAL EXHAUST AIR FAN				
	Supply, Installation, testing & Commissioning of Cabinet type Centrifugal Fans / Inline Fan for Exhaust Air System complete with SISW/DIDW Forward Curved blower, fan assembly shall be AMCA certified (AMCA certification required for Air Performance & Sound) & totally enclosed, fan-cooled, provided with class F insulation, and of approved make.,				
	Fan shall be provided with TEFC Sq.cage, direct driven F' Class induction motor with minimum IP-55 protection Motor shall be suitable for 220 ± 5% volts, Single phase, 50 cycles electric supply- I OR 415+/-10% V, 50 hz, 3 phase AC. The motor (Eff1 Class-Motor must be VFD Compatible) Max. noise level shall be 56 dBA at 1.5 meter in hemispherical reverberant room condition.				
	The complete fan assembly shall be CE Certified in accordance with EN-12101-3:2015 (Vendor shall submit the certifications for below listed fans)				
	The Fan units shall be designed as per the criteria mentioned in the specifications and selected so as to operate in the best efficiency zone; the units shall be statically and dynamically balanced.				
	Necessary starter shall be in scope of HVAC Contract. Power cable will be available up to starter panel. The controller will be BMS compatible with all required open protocol and required licence softwares.				
2.1.1	8500 CFM / 40 MM ESP	R.O.	NOS	90,000.0	
2.1.2	6000 CFM / 40 MM ESP	6	NOS	70,000.0	4,20,000.0
2.1.3	1000 CFM / 30 MM ESP	6	NOS	25,000.0	1,50,000.0

SRFDCL Riverside

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
2.2	CABINET TYPE INLINE CENTRIFUGAL FRESH AIR FANFILTER UNIT				
	SITC of Cabinet (Square) Type Inline Centrifugal Fresh Air Fan AMCA Certified (For Air and Sound Performance) suitable for installing in any position in vertical or horizontal ducts. The casing shall be single skin, internally acoustically lined and constructed of galvanised steel. The inline fan shall be with Farword curve up to 1500 CFM & above shall be backward curve centrifugal impeller fitted with maintenance free external rotor motor, flexible connections at the discharge & inlet. The motor shall be suitable for 220 / 415±10% volt single/three phase 50 Hz AC supply. 3 phase fans quoted price shall be inclusive of DOL starter panel with cabling between starter panel and fan. The fan shall have low sound level exceeding not more than 65 DBA at 3 meter distance.				
	The fan shall have easily washable 20 micron fresh air filter The Fan units shall be designed as per the criteria mentioned in the specifications and selected so as to operate in the best efficiency zone; the units shall be statically and dynamically balanced.				
	Necessary starter shall be in scope of HVAC Contract. Power cable will be available up to starter panel. The controller will be BMS compatible with all required open protocol and required licence softares.				
2.2.1	7000 CFM / 40 MM ESP	R.O	NOS	92,000.0	
2.3	WALL MOUNTED PROPELLER EXHAUST FAN WITH GRAVITY LOUVERS				
	Supply, Installation, testing & Commissioning of Propeller fan for wall or panel mounting suitable for supply or exhaust use having casing, protection guard and impeller. Impeller shall be made with galvanized steel. Entire assembly shall be black enamel painted to avoid the rust. The fan should have sickle blade impellers with external rotor motor, fan assembly shall be AMCA certified (AMCA certification requird for Air Performance & Sound) & totally enclosed, fan-cooled, provided with class F insulation, and of approved make.,				
	Fan shall be provided with TEFC Sq.cage, direct driven B' Class induction motor with minimum IP-54 protection Motor shall be suitable for 230 ± 5% volts, Single phase, 50 cycles electric supply- I. The motor (Eff1 Class-Motor must be VFD Compatible) Max. noise level shall be 60 dBA at 3 meter in hemispherical reverberant room condition.				

SRFDCL Riverside

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
	The complete fan assembly shall be CE Certified in accordance with EN-12101-3 (Vendor shall submit the certifications for below listed fans)				
	The Fan units shall be designed as per the criteria mentioned in the specifications and selected so as to operate in the best efficiency zone; the units shall be statically and dynamically balanced.				
	Necessary starter shall be in scope of HVAC Contract. Power cable will be available up to starter panel.				
2.3.1	1000 CFM / 15 TSP	8	Set	20,000.0	1,60,000.0
2.3.2	300 CFM / 15 TSP	26	Set	6,000.0	1,56,000.0
2.3.3	100 CFM / 15 TSP	6	Set	3,000.0	18,000.0
2.0	SUB TOTAL - VENTILATION FANS				9,04,000.0
3.0	AIR DISTRIBUTION NETWORK				
3.1	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.				
3.1.1	24 G	1210	SQM	1,100.0	13,31,000.0
3.1.2	22 G	800	SQM	1,296.0	10,36,800.0
3.2	SUPPLY INSTALLATION TESTING AND COMMISSIONING OF DIFFUSERS/ GRILLES AS PER FOLLOWING SCHEDULE				
3.2.1	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	4	SQM.	10,328.0	41,312.0
3.2.2	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	13	SQM.	7,003.0	91,039.0

SRFDCL Riverside

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
3.3	SITC of Gravity Louvers	6	SQM	4,000.0	24,000.0
3.4	SUPPLY, INSTALLATION, TESTING, COMMISSIONING OF DUCT DAMPERS				
3.4.1	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	4	SQM	8,298.0	33,192.0
3.0	SUB TOTAL - AIR DISTRIBUTION NETWORK				25,57,343.0
4.0	CIVIL SUPPORT STRUCTURE				
4.1	Engineering Support to hang the fan from 5000 mm height/ mount on roof terrace and fan stable operation for 60 Kg weight of Fan	12	Each	5,000.0	60,000.0
4.2	Core Cut up to 150mm Dia	5	Each	1,350.0	6,750.0
4.0	SUB TOTAL - CIVIL SUPPORT STRUCTURE				66,750.0
5.0	JET FANS AND CO SENSORS FOR ROAD TUNNEL VENTILATION				
	Ductless Ventilation System for Road Tunnel				
	Supply, installation, testing, programming and commissioning				
	Ductless Jet fans for Road Tunnel Ventilation as per attached specifications for normal ventilation suitable for Normal ventilation and Smoke Extraction application. The complete fan assembly with its Casing, impeller & motor (not only the motor or one of the item) shall be imported from manufacturer and certified as tested for 300 Deg C for 2 hours operation.				
	The jet fans as shown in the drawing*. Each fan shall be complete with dual speed motor. Casing shall be made of Hot Dipped Galvanized Steel. The Motor shall run on the electrical power suitable for 1 Ph/ 50Hz.				
5.1	450mm Dia dual speed jet fans for Road Tunnel	30	No.	65,000.0	19,50,000.0

SRFDCL Riverside

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
5.2	Supply, installation, testing, and commissioning of Analog type Carbon Monoxide (CO) sensors designed for accurate detection of low-level CO concentrations in enclosed parking areas. Sensor range: 0–250 PPM, with accuracy of ±5% FS (0–100 PPM) and ±10% FS (100–250 PPM). Warm-up time: ≤30 seconds to reach 90% of final value. Sensors shall be installed at mid-height on columns for optimal air sampling. Sensors shall interface with the master control panel to initiate ventilation fan operation based on CO levels, enabling energy-efficient operation of the ventilation system.	15	NO.	9,000.0	1,35,000.0
5.3	SITC of Power & Control cabling between Jet Fans and Panel / Signal & Control Cabling between CO Sensors and Jet Fan Panel PLC/Power Cabling, Cable tray . The same shall be BMS communicable. (Suitable Core and Cable size to be considered)	1	LOT	75,000.0	75,000.0
5.4	Duly internally wired and tested Electrical Power Panel with feeders and starters suitable for operation of total Jet Fans with necessary accessories / relays / auto-manual provision etc as per above fan quantity	1	SET	1,35,000.0	1,35,000.0
5.5	SITC of Control Module housed within the electrical panel comprising of Programmable logic controller / signal wiring / hard wired integration with fan relays of Power panel for control of Jet fans and CO sensors input signal	1	SET	40,000.0	40,000.0
5.0	SUB TOTAL - JET FANS AND CO SENSORS FOR ROAD TUNNEL VENTILATION				23,35,000.0
	TOTAL VALUE				63,01,111.0

SRFDCL Riverside

HVAC WORK - AMC CHARGES

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate in Rs.	Total Amount in Rs.
	ANNUAL MAINTENANCE CONTRACT (Note : From Each RA Bill, 5% retention money to be deduct during O&M Period)				
	Comprehensive AMC for SITC of High Side units and Ventilation System				
1.0	It includes all preventive maintainance , break down maintainance with all spares - repair or replacement of the defactive part or parts , this includes all cosumable if any applicable.				
1.1	1st year (From the date of Completion of DLP)	12	Months	1,57,528	1,57,528
1.2	2nd year (From the date of Completion of DLP)	12	Months	1,57,528	1,57,528
1.3	3rd year (From the date of Completion of DLP)	12	Months	1,57,528	1,57,528
1.4	4th year (From the date of Completion of DLP)	12	Months	1,57,528	1,57,528
	Sub Total - Comprehensive Maintenance				6,30,111
Total HVAC Amount					69,31,222.1