

Detailed Estimate

Name of Work :- Providing electrical panel, meter panel, street light panel and other allied electrical work at ISPW office and residential complex Bhopal.

S. No.	Description of item	Qty	Unit	Rate	Amount	Remarks
1	Supply, installation, testing & commissioning of cubical type Indoor panel suitable for 415 V, 3 phase, 4 wire 50 Hz AC supply system having fabricated in compartmentalized & segregated design, CRCA sheet steel of 2 mm thick for frame work and 1.6 mm for door, 3 mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade, Having 300 Amp. TPN aluminum bus bars of high conductivity extensible type, DMC/SMC bus bar supports, bottom base channel of MS section not less than 75 mm x 75 mm x 5 mm thick, with 2 Nos. earth stud connected with 25 mm x 5 mm common earth bar, solid connection from main bus bar to switch gear with required size of aluminum busbar & control wiring with suitable size PVC insulated copper conductor S/C cable, cable alleys, cable gland plates i/c providing following switchgears. (The face area of panel should not be less than 1.9 Sq.mtr. and depth 300 mm)					
	(A) Incoming: (i) 200 Amps, 4P MCCB, 100% ics=icu, 25 kA rating - 1 No. (ii) Aluminium Bus bar of 300 Amp. Current carrying capacity . (B) Outgoing: (i) 100 Amp 4 Pole MCCB 100% ics=icu, 25 kA rating- 2 No. (ii) 63 Amp 4 Pole MCCB 100% ics=icu 16 kA Rating - 1 No. (iii) 32 Amp 2 Pole MCB 10 kA - 3 No. (iv) 300 mm x 300 mm space for 3 phase energy meter (v) 3 Nos. Phase indication LED lamps with protection MCB, - 1 Set (vi) Multifunction Meter with suitable size of CTs (vii) 1 No. spare compartment for future use	1	Each	195540.00	1,95,540.00	MR
2	Supply, installation, testing & commissioning of cubical type Outdoor panel suitable for 415 V, 3 phase ,4 wire 50 Hz AC supply system having fabricated in compartmentalized & segregated design, CRCA sheet steel of 2 mm thick for frame work and 1.6 mm for door, 3 mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade , Having 250 Amp. TPN aluminum bus bars of high conductivity extensible type, DMC/SMC bus bar supports, bottom base channel of MS section not less than 50 mm x 50 mm x 5 mm thick, with 2 Nos. earth stud connected with 25 mm x 5 mm common earth bar, solid connection from main bus bar to switch gear with required size of aluminum busbar & control wiring with suitable size PVC insulated copper conductor S/C cable, cable alleys, cable gland plates i/c providing following switchgears. (The face area of panel should not be less than 1.95 Sq.mtr. and depth 350 mm)					
	(A) Incoming: (i) 160 Amps, 4P MCCB, 100% ics=icu, 25 kA rating - 1 No. (ii) Aluminium Bus bar of 250 Amp. Current carrying capacity . (B) Outgoing: (i) 125 Amp 4 Pole MCCB 100% ics=icu, 25 kA rating - 2 No. (ii) 63 Amp 4 Pole MCCB 100% ics=icu, 16 kA rating - 1 No. (iii) 32 Amp 2 Pole MCB 10 kA - 3 No. (iv) 3 Nos. Phase indication LED lamps with protection MCB, - 1 Set (v) Multifunction Meter with suitable size of CTs (vii) 1 No. spare compartment for future use	1	Each	199643.00	1,99,643.00	MR

S. No.	Description of item	Qty	Unit	Rate	Amount	Remarks
3	Supply, installation, testing & commissioning of cubical type Outdoor panel suitable for 415 V, 3 phase ,4 wire 50 Hz AC supply system having fabricated in compartmentalized & segregated design, CRCA sheet steel of 2 mm thick for frame work and 1.6 mm for door, 3 mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade , Having 150 Amp. TPN aluminum bus bars of high conductivity extensible type, DMC/SMC bus bar supports, bottom base channel of MS section not less than 50 mm x 50 mm x 5 mm thick, with 2 Nos. earth stud connected with 25 mm x 5 mm common earth bar, solid connection from main bus bar to switch gear with required size of aluminum busbar & control wiring with suitable size PVC insulated copper conductor S/C cable, cable alleys, cable gland plates i/c providing following switchgears. (The face area of panel should not be less than 0.42 Sq.mtr. and depth 300 mm)					
3.1	(A)Incoming: (i) 100 Amps, 4P MCCB, 100% ics=icu, 25 kA rating - 1 No. (ii) Aluminium Bus bar of 150 Amp. Current carrying capacity . (B) Outgoing: (i) 40 Amp 2 Pole MCB 15 kA- 6 No. (ii) 3 Nos. Phase indication LED lamps with protection MCB, - 1 Set (iii) Multifunction Meter with suitable size of CTs	1	Each	80332.00	80,332.00	MR
4	Supply, installation, testing & commissioning of cubical type Outdoor panel suitable for 415 V, 3 phase ,4 wire 50 Hz AC supply system having fabricated in compartmentalized & segregated design, CRCA sheet steel of 2 mm thick for frame work and 1.6 mm for door, 3 mm thick for gland plates including cleaning & finishing complete with 7 tank process for powder coating in approved shade , Having 150 Amp. TPN aluminum bus bars of high conductivity extensible type, DMC/SMC bus bar supports, bottom base channel of MS section not less than 50 mm x 50 mm x 5 mm thick, with 2 Nos. earth stud connected with 25 mm x 5 mm common earth bar, solid connection from main bus bar to switch gear with required size of aluminum busbar & control wiring with suitable size PVC insulated copper conductor S/C cable, cable alleys, cable gland plates i/c providing following switchgears. (The face area of panel should not be less than 0.56 Sq.mtr. and depth 300 mm)					
4.1	(A)Incoming: (i) 100 Amps, 4P MCCB, 100% ics=icu, 25 kA rating - 1 No. (ii) Aluminium Bus bar of 150 Amp. Current carrying capacity . (B) Outgoing: (i) 40 Amp 2 Pole MCB 15 kA- 8 No. (ii) 3 Nos. Phase indication LED lamps with protection MCB, - 1 Set (iii) Multifunction Meter with suitable size of CTs	1	Each	89078.00	89,078.00	MR
5	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.					
5.1	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	15.00	Meter	1078.00	16,170.00	1.14.10
5.2	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	15.00	Meter	1454.00	21,810.00	1.14.11

S. No.	Description of item	Qty	Unit	Rate	Amount	Remarks
6	Providing & installation of maintainance free chemical earthing with the help of GI earth electrode 3 Mtrs. Long fabricated by encapsulating 2 nos. 65 X 6 mm GI strip primary earth electrode in B class GI pipe of 88 mm outer dia. As secondary electrode, sealed at bottom with solid conical GI base seal. The earth electrode has to be vertically driven into the rocky soil earth in 7 inches dia. hole of 3.7 mtrs. depth. The entire earthing is to be enclosed at the top with massonary chamber of size 450 mm X 450 mm made up of modular bricks of class designation 35 & also provided with square shape 300 mm cover of 6 mm thick MS sheet with frame. The vertically driven electrode to be filled with conductive 2 bags of 25 Kgs each advanced grade earthing compound mixed with black cotton soil complete as required.	6	Each	31871.00	1,91,226.00	MR
7	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	50.00	Metre	287.00	14,350.00	5.15
8	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having singleprong at top, with 85 mm dia 6 mm thick G.I. baseplate including holes etc. complete as required.	4	Each	609.00	2,436.00	6.1
9	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	150.00	Meter	148.00	22,200.00	6.6
10	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	40.00	Meter	238.00	9,520.00	6.7
11	Providing and fixing testing joint, made of 20 mm X 3mm thick G.I. strip, 125 mm long, with 4 nos. of G.I.bolts, nuts, chuck nuts and spring washers etc.complete as required.	4	Each	140.00	560.00	6.10
12	Supplying and laying of following size of XLPE insulated and PVC sheathed aluminum conductor armoured power cable of 1.1 KV grade (ISI Mark) confirming to IS: 7098 (Part-I) 1988 complete etc. as reqd.					
	In the existing G.I. pipe/DWC HDPE Pipe/ Loose/Loop/Left for connection/ Open duct/ On wall.					
12.1	3.5 x 120 Sq.mm.	180.00	Metre	1695.00	3,05,100.00	MR
13	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.					
13.1	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	180.00	Meter	180.00	32,400.00	10.7.3
14	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge					CDSR
14.1	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	3.00	cum	2434.25	7,302.75	15.2.1
15	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :					
15.1	1:3:6 (1 Cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 40 mm nominal size derived from natural sources)	1.50	cum	7178.75	10,768.13	CDSR 4.1.6
16	Supplying and fixing weather proof control FRP box of outdoor type (minimum size should be 250 mm x 200 mm x 105 mm) with hinged type front door, having locking arrangement & suitable knock out at bottom for cable entry, 4 way heavy duty connector and 1 No. 10 Amp 'C' curve SP MCB with fixing arrangement i/c interconnection etc. as reqd.	10	Each	1669.00	16,690.00	MR

S. No.	Description of item	Qty	Unit	Rate	Amount	Remarks
17	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching (75 cm deep) and re-filling etc as required					
17.1	100 mm dia	10.00	Meter	1918.00	19,180.00	15.13.3
18	SITC of minimum 6 kW, 3 Phase street light automatic control panel with Astronomical timer, 32 Amp TP contactor, 32-40 Amp TPN MCB 40 Amp, inbuilt shortcircuit protection, FRLS or FR internal wiring, class H insulation, minimum IP 42 protection and suitable for outdoor application i/c testing etc. complete as reqd.	1	Set	31538.00	31538.00	MR
19	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. in the existing trench, complete as required.					
19.1	90 mm dia (OD-90 mm & ID-76 mm nominal)	150.00	Meter	183.00	27,450.00	15.15.2
20	Supply, installation, testing & commissioning of 10 KVA stabilizer having working range 100 V - 290 V i/c connection complete etc. as required. (Make: Microtek / Luminous / Servo)	1	Each	24146.00	24,146.00	MR
21	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)					
21.1	4 way (4 + 12), Double door	2	Each	7951.00	15,902.00	2.5.1
22	Supplying and fixing weather proof control FRP box of outdoor type (minimum size should be 450 mm x 375 mm x 200 mm) with hinged type front door, having locking arrangement & suitable knock out at bottom for cable entry and suitable size of glass / PVC transparent panel on the front hinged door with necessary fixing arrangement i/c interconnection etc. as reqd.	1	Each	4168.00	4,168.00	MR
23	Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal (Aluminium alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body Power Factor not less than 0.9, Service Value (CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10%, suitable for operation with regulator for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise = 75 °C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC supply, Ceiling Fan compliant to IS 374:2019 fan i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required.					
23.1	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	5	Each	2695.00	13,475.00	9.2.3
24	LED Street light fixture, powder coated pressure die cast aluminium body (System lumen efficacy $\geq 105 < 120$ lm/Watt) Supplying, installation, Testing & Commissioning of Street light LED fixture powder coated pressure die cast aluminium body with driver as per the requirement with Driver efficiency $> 85\%$, Input voltage: 140-270 Volt AC, frequency 50/60 hz, Operating temperature range -5 °C to 50 °C, internal surge protection of 5 KV L,N,E as per IEC 61000-4-5, Driver efficiency $> 85\%$, THD $< 10\%$ as per IEC					

S. No.	Description of item	Qty	Unit	Rate	Amount	Remarks
	61000-3-2, P. F. ≥ 0.95 , IP-66, IK-10, CRI > 70 , under voltage and over voltage protection, EMI/EMCs as per CISPR -15, lenses for beam angle as per IESNA type I/II/III as per the width of the road and the project requirement., suitable to fit in up to 65mm dia pipe, life time (LED, Driver & electrical circuitry) of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K / 5700°K / 6500°K (As per ANSI Bin), SDCM (Standard Deviation Colour Matching) < 5 , Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard complete in all respect i/c external connections with 1.5sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy $\geq 105 < 120$ lm/Watt output. LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).					
24.1	50 watt	6	Each	1782.00	10,692.00	8.12.12
24.2	90 watt	8	Each	2162.00	17,296.00	8.12.14
25	Supplying, Installation, Testing & Commissioning of exhaust fan of metal body of following size complete with louvers/ shutter's in the existing opening i.e. making the hole to suit the size of the above fan, making good the damage and connection with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable and testing, commissioning etc. as required.					
25.1	300 mm heavy duty, metal body	8	Each	2140.00	17,120.00	MR
	TOTAL of MR+DSR-2025 E&M				13,78,022.00	
	Total of Civil DSR-2023				18,070.88	
	Modified Estimated Cost after using correction factor on DSR 2023 on account of GST @ 0.973 * 18070.875 = 17582.961375 /- (F x 0.973)			0.973	17,582.96	
	Total of Civil DSR-2023				17,582.96	
	TOTAL MR+DSR+CDSR				13,95,604.96	
	Say Rs.				13,95,605.00	

Assistant Engineer(E)(P)
CPWD, Bhopal

Executive Engineer(E)
CPWD, Bhopal