

ACCEPTANCE LETTER No : MINUTES OF CWC-I HELD ON 06-03-2025

To

M/S. DEEPAM ENTERPRISES,
NO.1, GURUDHWARA CROSS STREET,
GANDHI SALAI, MITTANAMALI, AVADI, I.A.F.,
CHENNAI - 600055.

Dear Sir,

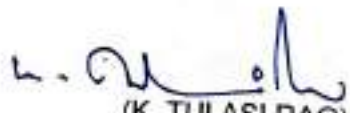
Type of Work: ITEM RATE

Sub : REPAIRS / RENOVATION OF VIJAYANTHA INSTITUTE AT HVF ESTATE.

Ref: (i) HVF Tender No. HVF/TE/13025/CEO/2024-25/44, Dt.24.10.2024 Tender ID : 2024_AVNL_212388_1
(ii) Your Bid No: 765010 in this tender and price revision and your quality confirmation mail dated.18.02.2025 & 03.03.2025.

For and on behalf of The President of India, I hereby convey the acceptance of your tender by the competent financial authority for the above mentioned work for a total value of **Rs. 81,29,720.50/- (Rupees Eighty One Lakh Twenty Nine Thousand Seven Hundred and Twenty and Paise Fifty Only)** and order the services detailed in the schedule enclosed herewith at the item rates quoted by you in Schedule 'A' of the Tender documents as per the terms, conditions and specifications laid therein. List of items, to be issued by factory, is given in Schedule 'B'.

2. The contract is allotted with No. **HVF/CE/28/2024-25/CAP, Dated, 15-03-2025** which will have to be quoted by you in all future correspondence in connection with this contract.
3. In accordance with condition No. 22 of the General Condition of Contract (IAFW-2249), please submit the security deposit of Rs. 1,84,000 /- (Rupees One Lakh Eighty Four Thousand Only) in favour of "Chief General Manager, Heavy Vehicle Factory, Avadi" as mentioned in tender condition. The maturity date of security Deposit shall be minimum 12 months from date of the completion of contract.
4. The contract shall be governed by the terms and conditions as per the contract documents enclosed and general condition of contract MES IAFW 2249. The deviation limit shall be as per the clause No.19.1.1 & 19.1.2 of MES Contract Manual (latest revision).
5. Shri. G. Anandakumar, WM/IMS is nominated as Engineer-in-Charge and Shri. S. Vijayakumar, JWM/IMS(E) is nominated as Site In-charge's for the subject work respectively.
6. You are requested to contact the Engineer-in-Charge within 7 days of receipt of this letter for taking over of site and to make time and progress chart. You will also maintain wage-cum-muster roll and all other records as required in Contract Labour Rules and Acts.
7. Please acknowledge receipt of this letter and return two copies duly signed by you in proof of acceptance within seven days from the date of receipt of this communication.


(K. TULASI RAO)

GENERAL MANAGER / CEO & QA
For CHIEF GENERAL MANAGER / HVF
For And On Behalf Of THE PRESIDENT OF INDIA

Copy to :

1. GM / HR, F&A, IMS, HVF, Avadi, Chennai - 600054
 2. Shri. Pranjit Bhagabati, DGM/IMS
 3. Shri. G. Anandakumar, WM/IMS
 4. Shri. S.Vijayakumar, JWM/IMS(E)
- Technical Examiner
- Engineer -In- Charge
- Site -In- Charge

IN LIEU OF IAFW-1823(REVISED)
CONTRACTORS' ORDER SHEET

Work Order/Deviation Order No	HVF/CE/28/2024-25/CAP, Dated. 15-03-2025
Acceptance letter No.	MINUTES OF CWC HELD ON 06-03-2025
Contractor's Name	M/s. DEEPAM ENTERPRISES, CHENNAI
Name of the work	REPAIRS / RENOVATION OF VIJAYANTHA INSTITUTE AT HVF ESTATE
CA amount	Rs. 81,29,720.50/-

PARTICULARS

1. Authority	CWC decision of Fy. LEVEL CWC
2. Brief Description of work to be carried out	As per details in sheet attached and adhering to your firm Bid No. 765010 in this tender and price revision and your quality confirmation mail dated.18.02.2025 & 03.03.2025 for all Terms & Conditions therein & rate quoted in Schedule 'A' enclosed with tender documents.
3. Time effect	
a. Date of handing over of the site	24/03/2025
b. Date of commencement of work	24/03/2025
c. Date of Completion as per contract	24/03/2026
d. Date for completion shown in previous Orders	NA
e. Revised date of completion	NA
4. Financial effect (Rs.)	
a. Present order	Rs. 81,29,720.50 /-
b. Contract amount as adjusted by previous orders	NA
c. Contract amount adjusted up to and including this order	NA
5. Expenditure to be booked under code Head No	920/34 (CAPITAL GRANT FUND)
6. Certified that no special rate is involved	
7. Technical Examiner	Shri. Pranjit Bhagabati, DGM/IMS
8. Approved	Shri. K. Tulasi Rao, GM / CEO & QA
9. Accepted	M/s. DEEPAM ENTERPRISES, CHENNAI


(K. TULASI RAO)
GENERAL MANAGER / CEO & QA
For CHIEF GENERAL MANAGER / HVF
For And On Behalf Of THE PRESIDENT OF INDIA

Distribution to :-

1. M/s. Deepam Enterprises, Chennai
2. GM / HR, F&A,IMS, HVF, Avadi, Chennai - 600054
3. Sr. Security Officer
4. Shri. Pranjit Bhagabati, DGM/IMS - Technical Examiner
5. Shri. G. Anandakumar, WM/IMS - Engineer -In- Charge
6. Shri. S.Vijayakumar, JWM/IMS(E) - Site -In- Charge
7. HOS/Safety, 8. HOS/Internal Audit cell, 9. HOS/Test Audit, 10. ALWC,
11. Chief Commissioner of Central Excise, 26/1, Mahatma Gandhi Road, Nungambakkam, Chennai - 600034
12. Dy. Chief Labour Commissioner(c), No: 26, III Block, 5th floor, Shastri Bhavan, Haddows Road, Nungambakkam, Chennai - 600006.

NAME OF WORK: REPAIRS / RENOVATION OF VIJAYANTHA INSTITUTE AT HVF ESTATE.

C.A. NO. HVF/CE/28/2024-25/CAP, Dated. 15-03-2025

SCHEDULE – "A"

Sl.No	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
1	Taking down window frame with shutter not exceeding 1.50 SqM and removing to CE Stores.	Each	10.00	192.00	1920.00
2	Demolition of brick work or stone / boulder masonry built in cement mortar or cement lime mortar.	CuM	2.00	1000.00	2000.00
3	Taking down plastering cement lime or cement mortar without removing lathing.	SqM	75.00	25.00	1875.00
4	Roughening surfaces of old concrete floor by picking, sweeping clean and washing down with water to remove dust, etc.	SqM	10.00	35.00	350.00
5	Dismantling floor, hearth or wall tiling including cement mortar bedding.	SqM	580.00	90.00	52200.00
6	Dismantling of false ceiling boards (fibre, pulp, insulation etc.) or insulation boards/slabs/ blankets, of any thickness and removing to CE Stores as directed.	SqM	85.00	29.00	2465.00
7	Dismantling structural steel work including doors, gates, windows but excluding framed truss etc.	Quintal	2.50	600.00	1500.00
8	Material and Labour for forming jambs using CM 1:4 to opening including cutting, toothing and also facing, jointing and pointing to match existing work complete.	SqM	40.00	675.00	27000.00
9	Material and Labour for GI frame work for seamless ceiling comprising of GI perimeter channel 0.55 mm thick with two unequal flanges of 20 and 30 mm and web of 27 mm fixed to surrounding wall using nylon sleeves and screws at 450 mm centre to centre / intermediate channel 0.9 mm thick having two equal flanges of 15 mm each and web of 45 mm suspended from soffit at approx 900 mm centre to centre with GI cleat and steel expansion fasteners with and including ceiling section (not exc. 1.2 m length) of 0.55mm thickness having kurlled web of 50 mm and flange of 26 mm each with lips of 10.5mm fixed to the intermediate channel with connecting clips across the intermediate channel at 457 mm centre to centre with Hangers 6 mm dia. G.I. (upto 1200mm length) adjusting level fixed to roof slabs by means of ceiling cleats made out of G.I. flat 40 x 3 mm size 60mm long and expansion hold fasteners 12.5mm dia, 40mm long complete all as specified and as directed by EIC.	SqM	270.00	435.00	117450.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
10	Material and Labour for providing and fixing 10mm thick plaster of paris ceiling (Gypsum anhydrous) to flat surface with metal frame work and reinforced with G.I. wire mesh (Fillets, metal frame work and G.I. wire mesh paid separately) including for any raised or sunk moulding complete as directed by EIC and also making the provisions for electrical fittings etc., by cutting the board as approved and complete.	SqM	270.00	1325.00	357750.00
11	Material and Labour for providing cornice to the false ceiling at the corners of 15cm width and apply neeru finish/putty and one coat of primer and two coats of plastic emulsion complete as directed by EIC.	RM	140.00	270.00	37800.00
12	Material and Labour for Vitrified Ceramic tiles (Dark shade/Double charged / Ultra charged) 10 mm thick (square/ rectangular) polished, area of each tiles exceeding 0.42 sqm but not exceeding 1.00 sqm, in floors/wall etc., set and joint in neat cement slurry and pointed in white or coloured cement to match including plastering in CM 1:4 15mm thick on existing walls for fixing tiles.	SqM	580.00	2100.00	1218000.00
13	Providing and fixing factory made uPVC white color Sliding window Two track made of extruded profiles with wall thickness of 2.3mm ($\pm$ 0.2mm). Window profile with hollow section with multi chamber, Frame (60mm x 62mm). sash (42mm x 67mm). Sliding Interlock (One vertical length in each shutters) (45.5mm x 28mm). Glazing bead (24.5mm x 16mm) will be mitered cut and fusion welded at all corners, including drilling of holes for fixing hardware and drainage of water etc., making arrangement for fixing of hardware. EPDM gasket 1.2 $\pm$ 0.2mm thick galvanized steel frame (30mm x 21.5mm), Sash (30mm x 18mm), profile to be inserted in required profile, frame will be fixed to the wall with 8mm x 100mm long fasteners. Hardware : [Touch Lock of zinc alloyed (white powder coated), steel roller system including 5mm thick glazing with selected quality glass, aluminum track on bottom rail for two track sliding frame, wool pine for Sliding sash and interlock.] (Note: The unit rate quoted by contractor excludes cost of glass and includes all other connected accessories. Net opening will be measured for payment purpose).(A) Area not exceeding 2.00 sqm each and includes all fittings as directed by EIC)	SqM	40.00	8450.00	338000.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
14	Providing and fixing factory made uPVC white colour fixed window made of extruded profiles with wall thickness of 2.3mm($\pm$ 0.2mm). Window profile with hollow section with multi chamber. Frame (60mm x 58mm). T profile (One vertical length in between two shutters) (60mm x 74mm). Glazing bead (35mm x 20mm) will be mitered cut and fusion welded at all corners, including drilling of holes for fixing hardware and drainage of water etc., making arrangement for fixing of hardware, EPDM gasket. 1.2 $\pm$ 0.2mm thick, galvanized steel Frame (28mm x 21.5mm), T profile (27mm x 17 mm) to be inserted in required profile, frame will be fixed to the wall with 8mm x 100mm long fasteners - 5mm thick glazing with selected quality glass. (Note: The unit rate quoted by contractor excludes cost of glass and includes all other connected accessories Net opening will be measured for payment purpose.) (A) Area not exceeding 1.00 sqm each	SqM	40.00	9450.00	378000.00
15	Providing and fixing factory made uPVC white colour casement (Open able) Door made of extruded profile with wall thickness of 2.3mm ($\pm$ 0.2mm). Window profile with hollow section with multi chamber, frame (60mm x 58mm), sash (60mm x 78mm). T profile (One vertical length in between two shutters) (60mm x74mm). Glazing bead (35mm x 20mm) will be mitered cut and fusion welded at all corners, including drilling of holes for fixing hardware and drainage of water etc., making arrangement for fixing of hardware. EPDM gasket 1.2 $\pm$ 0.2mm thick galvanized steel Frame (28mm x 21.5mm), sash (31mm x 27mm), T profile (27mm x 17mm) to be inserted in required profile, frame will be fixed to the wall with 8mm x 100mm long fasteners. Hardware: [casement door handle made of zinc alloyed (white powder coated). Corner striker. Secondary Strikers. Cylinder. Door transmission gear made of mild steel with multi point locking system with strikes. 3D Hinges of zinc alloyed (white powder coated)] and 5mm thick glazing with selected quality glass. (Note: The unit rate quoted by contractor excludes cost of glass and includes all other connected accessories. Net opening will be measured for payment purpose).	SqM	5.00	10875.00	54375.00
16	Supply and fixing of Sheet glass ordinary quality 5.50mm thick and glazing with oil putty in square not exceeding 0.5 sq.m in each pane.	SqM	85.00	906.00	77010.00
17	Providing and fixing of Glass Film stickering of Generic Forest landscape, any scenery, god /goddess etc., as approved and as directed with warranty as per the manufacturer specification and instructions.	SqM	85.00	1400.00	119000.00
18	Providing and fixing Zebra blinds with fabric Finish with approved texture with top fixing brackets roller chains and finish as required at site.	Each	20.00	1600.00	32000.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
19	Providing and fixing solid First class Teak wood door with wooden door frames of size of 5'x 4" with teak wood designer beeding wide 6"x 20mm thick around the frame, Providing 40 mm door Shutter single leaf with engraving as directed. Size of the Door shall be (3 1/2' x 7') with 4 Nos of 5" door Brass hinges, 300 mm ornamental brass handles two numbers, Brass tower bolts 200mm two numbers, 250mm Brass Aldrop bolt one number with Brass Door stopper and finished with one coat of wooden sealer and two coat of wooden polish matt / Glossy finish as directed.	Each	1.00	122000.00	122000.00
20	Supply and fixing of ACP Panels Wooden Finish/Dark Colour with Necessary Aluminium Frame work as approved and as directed by EIC.	SqM	70.00	8000.00	560000.00
21	Supply and fixing of Aluminium Rectangular Tubes of size 50x25 mm Powder coating wood Finish as approved and as directed by EIC.	RM	250.00	380.00	95000.00
22	Material and Labour for Providing Anti-termite along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 liters per linear meter including drilling and plugging holes, etc., in apron complete all as directed by EIC.	RM	250.00	75.00	18750.00
23	Material and Labour for providing Anti-termite treatment of soil under existing floors using emulsion @ one liter per hole, 300mm apart including drilling and plugging 12mm dia holes with cement mortar 1:2 (1 cement: 2 coarse sand) to match the existing floors.	SqM	580.00	200.00	116000.00
24	Dismantling of AC sheet (corrugated, semi-corrugated, etc.) in roofing covering as directed by EIC.	SqM	35.00	30.00	1050.00
25	Supply and Fixing of (Fe 410 -W (Gde- E- 250) quality-A Roof trusses (framed), trussed, purlins, crane gantries, rails and fastenings and heavy bracket framing (Beam, tee, angle, channel or flat sections) including distance pieces, cleats etc.	Kg	1725.00	130.00	224250.00
26	Supply and Fixing of pre-painted galvalume aluminium zinc coating GI based corrugated steel sheet 0.50mm (TCT) thick of any colour having tensile strength of 550 Mpa as in roof covering /cladding to wall fixed with self-tapping screws as specified.	SqM	310.00	800.00	248000.00
27	Supply of EWC with "P" or "S" trap including bedding valve less symphonic action type 10 liters flushing cistern low level, white, Flush pipe of polyethylene of low or high density or PVC 32 mm dia, for low level cistern with inlet ball valve float and handle including bracket Plastic water closet seat, black, closed pattern with flat bottom and cover and mild steel chromium plated or aluminised hinging device etc.,	Each	2.00	4600.00	9200.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
28	Providing and fixing in position Toilet Health Facet with chromed flexible hose & Wall Bracket. Make : JAGUAR / KOHLER /DURAVIT or Suitably Equivalent make as approved by EIC.	Each	2.00	1550.00	3100.00
29	Supply and Fixing of Vitreous China bowl (465X355X265) urinal flat back white, with grating and union for discharge pipe (excluding flushing cistern, but including flush pipe and waste pipe) including providing and fixing plugs, bedding urinal against wall in CM 1:2, fixed in repairs.	Each	2.00	1700.00	3400.00
30	Supply and fixing of urinal partition white of size 310 X 700 mm.	Each	1.00	1826.00	1826.00
31	Providing and fixing 600mm wide Wash basin of polished 19mm thick granite slab top of approved shade, Provide 200mm high front fascia & band above the counter top of same shade granite. All exposed surfaces of platform to be finished in same granite slab and all cut-out, exposed edges to be bull nosed with mirror polished. Also include making necessary cut-outs through counter top. Cost to also include Removing old and making necessary cut-outs for taking drainage pipes and Nahni traps in raised platform with supporting frame and Fancy Type Pillar cock, stop cock all complete and finished to satisfactory conditions. The shades / make of wash basin and Granite will be as per the directives of E-I-C.	Each	2.00	17500.00	35000.00
32	Supply and Fixing of vitreous china wash basin 580x450 mm including long body pillar cock 15mm dia waste chain and plug 32 mm dia and porcelian stopper and removal of old one from the site.	Each	4.00	2225.00	8900.00
33	Supply and fixing of cast copper alloy screwed down, high pressure stop cock /angle cock, concealed type of size 15mm.	Each	10.00	359.00	3590.00
34	Supply and Fixing of fancy type chromium plated cast copper alloy long body bib cock of size 15mm.	Each	10.00	600.00	6000.00
35	Material and Labour for fixing Looking Mirror 600 x 450mm beveled edge mirror of selected quality glass, mounted on 6mm thick AC building board or commercial plywood and fixed to wooden plugs with chromium plated brass screws and cup washers with Fixing only glass shelf assembly.	Each	5.00	645.00	3225.00
36	Supply and Fixing of Rotational moulded polyethylene water storage tanks 1000 Lit (cylindrical vertical with closed top) hoisted and fixed in position including all fittings such as nipple, ball valve etc., all as specified in SSR Part - I.	Each	3.00	7950.00	23850.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
37	Supply and Fixing of Gun-metal, globe or gate valves 32mm, with iron wheel head, screwed both ends for iron pipe and fixed.	Each	3.00	610.00	1830.00
38	Material and Labour for 25mm Ball brass valves, high pressure, with polythene float and flynut complete, screwed for iron pipe or brass ferrule and fixed.	Each	3.00	470.00	1410.00
39	Taking up or down 25 or 32 mm steel tubing and connections and handing over to CE(E) Stores.	RM	50.00	24.00	1200.00
40	Supply and Laying of CPVC 20mm dia pipes SD 11 & Plain CPVC SDR 11 fittings in Walls / Ceiling, complete all as specified.	RM	50.00	239.00	11950.00
41	Supply and Fixing of Unplasticised PVC pipes 32mm dia of pressure rating 10 kgf/cm ² laid in trenches.	RM	30.00	110.00	3300.00
42	Supply and fixing of PVC(SWR) pipe 110mm bend with access door.	Each	8.00	155.00	1240.00
43	Supply and fixing of PVC(SWR) pipe 75mm bend with access door.	Each	5.00	130.00	650.00
44	Supply and Fixing of PVC(SWR) pipes single socketed of 75 mm dia, laid in trenches including or in floors including all fittings complete as directed.	RM	30.00	195.00	5850.00
45	Supply and Fixing of PVC 110mm dia Pipes single socketed, in any length with rubber ring joints laid in trenches or in floors.	RM	60.00	375.00	22500.00
46	Supply and Fixing of PVC 110mm dia Pipes single socketed, in any length with rubber ring joints fixed to walls.	RM	18.00	395.00	7110.00
47	Supply and Fixing of PVC (SWR) junction single, (Single T) equal or unequal 110mm dia any radius.	Each	8.00	415.00	3320.00
48	Supply and Fixing of PVC floor trap 75mm dia outlet with grating and connecting PVC extension pipe including jointing with solvent cement etc., complete.	Each	5.00	215.00	1075.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
49	Supply and Fixing of PVC (SWR) gully trap 125/110 mm, setting and jointing with neat cement solvent.	Each	2.00	200.00	400.00
50	Material and Labour for Brick wall Cutting chases, pinning in, making good to facings where required and pointing in cement mortar 1:3 to ends or edges of landings, steps, cills, sunshades, shelves, lintels, etc., and cutting chases for concealed water tubing or concealed conduit wiring, etc., and making good, cutting not exc 10 cm girth.	RM	30.00	50.00	1500.00
51	Supply and Fixing of solid PVC door frame of size 50mm X 47mm made out of 5mm plain colour PVC sheet reinforced with M.S. square tube, supply and fixing in opening as per specification should be approved by E-I-C.	RM	22.00	409.00	8998.00
52	Supply and Fixing of solid PVC door shutter 30mm thick (style) consisting of frame made of M.S. tubes for top & bottom rail. M.S.frame shall be covered with heat moulded plain colour PVC 'C' channel having a PVC sheet strip of 20mm width stuck inside with solvent cement for stiles and plain colour PVC sheets for top rail, lock rail & bottom rail on either side & as gap insert for top rail & bottom rail; paneling of plain colour PVC sheet to be fitted in the M.S. frame welded/sealed to the stiles & rails with suitable PVC sheet beading, and joined together with solvent cement, supply and fixing in the frame at site as approved by E-I-C.	SqM	5.50	2105.00	11577.50
53	Erection and Fixing only of framed work using Fe 410 -W, A quality mild rolled steel tube, angles, plates etc., including cutting, welding and grouting in the brick work etc., complete.	Kg	350.00	20.00	7000.00
54	Excavating in post holes in Hard/dense soils (or similar holes) each n exc 0.5 cu.m, getting out, returning, filling in and ramming earth or broken rubble mixed with earth around in layers not exceeding 25cm.	Each	10.00	375.00	3750.00
55	Earth work excavation in hard/ dense soil for foundation width and depth not exceeding 1.50m and getting out.	CuM	7.00	545.00	3815.00
56	Material and labour for Earth work excavation in hard/ dense soil for foundation width and depth exceeding 1.50m and not exce 3m and getting out.	CuM	2.00	725.00	1450.00
57	Material and labour for sand filling in foundation including watering and consolidation.	CuM	20.00	1800.00	36000.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
58	Material and Labour for P.C.C 1:4:8, D2 type using 40mm graded aggregate in foundation.	CuM	50.00	5200.00	260000.00
59	Material and Labour for R.C.C A1 Type, 1: 1.5: 3 mix, M-20 (20mm graded aggregate) in foundations, including rafts, footings, column, beam, plinth beams, basement slab etc.,	CuM	2.00	6650.00	13300.00
60	Material and Labour for R.C.C A1 Type, 1: 1.5: 3 mix, M-20 (20mm graded aggregate) in columns, pillars, piers, posts and struts etc.	CuM	2.00	7385.00	14770.00
61	Material and Labour for R.C.C A1 Type, 1: 1.5: 3 mix, M-20 (20mm graded aggregate) in Slabs supported on walls, beams and columns in floors, roofs, landings, balconies, canopies, deck slabs and in shelves and the like, etc.	CuM	2.50	6800.00	17000.00
62	Material and labour for deformed or twisted mild steel bars 10 mm dia and over cut to length bent to shape required including cranking, bending, spirally for hooping for columns, hooking ends and binding with and including mild steel wire not less than 0.9 mm dia or securing with clips.	Kg	350.00	78.00	27300.00
63	Supply and fixing of mild steel reinforcement deformed or twisted bars 6mm to 8mm dia including bending, cranking, hooking and tying with mild steel wire not less than 0.90mm dia. Use RINL-VIZAG Steel / SAIL / TATA - TISCON / "BIS" MARKED / or Suitably Equivalent Make as approved by EIC.	Kg	250.00	75.00	18750.00
64	Material and Labour for form work to side of RCC Member Square, rectangular or polygonal such as columns, pillars etc., and the finishing shall be of fair finished surface.	SqM	20.00	550.00	11000.00
65	Material and Labour for form work to Flat sides and soffits of floor or roof beam, beam, lintels, cantilevers, shelves, columns, slabs including supports, overhangs etc., and the finishing shall be of fair finished surface.	SqM	15.00	520.00	7800.00
66	Material and Labour for form work to soffits rough finish Flat surfaces of suspended slabs such as roof slabs, floor slabs, landings and similar work not exceeding 200mm thick (Horizontal or sloping) and the finishing shall be of fair finished surface.	SqM	25.00	535.00	13375.00
67	Material and Labour for Brick work built in CM.1:6 using Sub-Class "B" Bricks.	CuM	22.00	7000.00	154000.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
68	Material and Labour for half Brick wall built in CM.1:4 using Sub-Class "B" Bricks.	SqM	10.00	660.00	6600.00
69	Material and Labour for Dubbing out average 10mm thick on irregular face of walls (when specifically ordered in writing) Cement plaster 1:6.	SqM	60.00	155.00	9300.00
70	Material and Labour for plastering in CM 1:4, 15mm thick on fair faces of brick work and concrete surfaces.	SqM	250.00	247.00	61750.00
71	Material and Labour for plastering in CM 1:4, 12mm thick on RCC Ceiling.	SqM	15.00	240.00	3600.00
72	Material and labour for PCC 1:2:4, B2 type using 20mm graded aggregate in foundation and flooring as directed by EIC.	CuM	6.00	6050.00	36300.00
73	Supply and Fixing of Vitrified ceramic tiles 10mm thick light colour (square / rectangular), area of each tile not exceeding 0.36 sqm in floors etc., Set and jointed in neat cement slurry and pointed in white or coloured cement to match, including Screed bedding 1:4, 15mm thick for laying floor finishes.	SqM	15.00	1550.00	23250.00
74	Supply and Fixing of Glazed colored ceramic tiles in vertical surface 450X 350X 7mm thick set and jointed in neat cement slurry and pointed in white or colour cement to match.	SqM	100.00	1100.00	110000.00
75	Material and labour for providing a cement concrete layer average thickness 40mm using B-0 1:2:4(12.5mm Grade) type concrete and finishing the surface even and smooth without using extra cement.	SqM	5.00	295.00	1475.00
76	Material and Labour for filling of moorum/red bajiri in floors or pavings, laid in layers not exceeding 15cm thick, spread, leveled and rammed including watering where directed.	CuM	75.00	1100.00	82500.00
77	Material and Labour for Machine pressed precast concrete interlocking paver block of any shape and size with grey cement and pigment conforming to IS 15668-2006 of 60mm thickness M-35 grade all complete as directed by EIC.	SqM	240.00	1050.00	252000.00
78	Supply and Fixing of Machine cut Kota stone slab 20-25mm thick in riser of steps, skirting, dado and pillar laid over cement screed and jointed in neat cement slurry and pointed in white or colored cement to match including screed bed in cement mortar 1:4, 15mm thick including polishing complete.	SqM	75.00	1155.00	86625.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
79	Material and labour for making nosing /Rounding to edges of Granite stone slabs one edge, such as in steps, platform, skirts, and other similar situations complete as direction by EIC.	RM	110.00	95.00	10450.00
80	Material & Labour for providing and fixing stainless steel (Grade 304) railing made of hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (where ever required) and fitting the same with necessary stainless steel nuts and bolts complete, including fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts, etc., of required size, on the top of floor or the side of waist slab with suitable arrangement.	kg	200.00	503.00	100600.00
81	Material and Labour for Demolition and breaking up drain pipes (Salt glazed ware, AC or Reinforced concrete) set in cement mortar. (100 mm)	RM	40.00	35.00	1400.00
82	Material and Labour for Concrete bed to drain pipes (150mm) in PCC Type C2 1:3:6 Including packing under, and haunching against the sides of pipes after they are laid and tested;	RM	115.00	415.00	47725.00
83	Material and Labour for 150mm Salt-glazed stoneware drain pipes laid in trenches and jointed as specified.	RM	100.00	450.00	45000.00
84	Material and labour for precast cement concrete type B1 1:2:4 20 mm graded aggregate set in cement mortar 1:6 in landings, cover slabs, manholes, chullas hoods, chajjas water groughs, mangers, shelves and similar articles with plain faces.	CuM	2.00	10300.00	20600.00
85	Supply and fixing of Cement concrete Tiles 20cm x 20cm x 20mm thick with grey cement and pigment machine pressed with screed bed or bedding layer in CM 1:3 , 15mm thick and pointed in neat cement slurry in floors and cut polished.	SqM	48.00	1270.00	60960.00
86	Material and Labour for 20mm thick Granite (of any type) work (table rubbed and polished) for wall lining (veneering to wall) 12mm thick in cement mortar (1:3) and pointing with white cement (1:2) using marble dust with admixture of pigment to match with shade of granite.	SqM	10.00	4370.00	43700.00
87	Supply and Fixing of Fe 410-W (Gde-E-250), Quality-A, Framed work as in doors or gates of angle or other section with gusset plates, rails, braces, etc., complete, drilled for fixing of steel sheeting or other covering. Doors, etc. to be prepared for hanging or sliding with and including either hooks and hinges or steel hanging door fittings (exclusive of steel sheeting or other covering, running rails and guides) and hanging; also fastening and fixing complete at site as per design/model approved by E-I-C.	Kg	450.00	110.00	49500.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
88	Material and Labour for metallic painting of steel surfaces with two coats of synthetic enamel paint and painting a coat of red chrome or zinc chromate primer over the steel surfaces including preparation of new surfaces.	SqM	10.00	370.00	3700.00
89	Material and Labour for white washing on ceiling with two coats including preparation of old ceiling surfaces.	SqM	20.00	20.00	400.00
90	Material and labour for applying one coat of primer and two coat of white cement based wall care putty 3mm in new walls / ceiling including removal of loose/peel off existing treatment, if any and as specified in SSR 2020 part-I specification clause 15.19.1 to 15.19.6.4. (Make shall be of JK white putty or Birla white wall care putty or suitably Equivalent make as approved by EIC).	SqM	150.00	160.00	24000.00
91	PLASTIC EMULSION: Material and Labour for rendering plastic emulsion/interior emulsion on new walls over fair finished plaster/concrete surface over 10 cm width or girth two coat on decorated wall and including preparation of new surfaces (ASIAN/NEROLAC/ BERGER or suitably Equivalent make as approved by EIC).	SqM	60.00	97.00	5820.00
92	PLASTIC EMULSION: Material and Labour for rendering plastic emulsion/interior emulsion on old walls over fair finished plaster/concrete surface over 10 cm width or girth two coat on decorated wall and including preparation of old surfaces (ASIAN/NEROLAC/BERGER or Suitably Equivalent make as approved by EIC).	SqM	105.00	105.00	11025.00
93	Material and Labour for Distempering walls with distemper oil emulsion, preparing the old painted surfaces. (ASIAN/NEROLAC/BERGER or Suitably Equivalent make as approved by EIC).	SqM	30.00	60.00	1800.00
94	Material and Labour for painting two coats of exterior emulsion Surfaces of any description over 10cm girth or width, (Make APEX ULTIMA of ASIAN PAINTS or Suitably Equivalent make as approved by EIC.) including one coat of priming paint applies after preparation of the old existing treatment. (two storey building) all complete.	SqM	350.00	130.00	45500.00
95	Material and Labour for painting of steel surfaces with two coats of synthetic enamel paint one coat of primer (red Oxide Zinc Chrome) including preparation of old steel painted surfaces, over 10cm in width or girth.	SqM	50.00	110.00	5500.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
96	Supply and Fixing of Granite Stone, including grinding and polishing complete with Engraved Golden/coloured Letters of any numbers and any size Include mounted on wall position in site all complete as directed by EIC	Each	1.00	7500.00	7500.00
97	Supply, Installation, testing and Commissioning of 1.5 TR, 3Star rated, split wall mounted cordless remote air conditioners with hermetically sealed rotary compressor of inverter technology with independent indoor and out door unit including outer door unit stand and copper core coil. Make :- Blue star, LG, Carrier & Voltas or Suitably Equivalent Make as approved by EIC) with all accessories including 4KVA stabilizer.	Set	10.00	49900.00	499000.00
98	Supply and Fixing of 4 Feet Air curtain (Make: Midlink, usha, almonard, air beam or Suitably Equivalent Make as approved by EIC).	Each	4.00	33900.00	135600.00
99	Material and Labour for applying interior decorative texture finish on wall surfaces using Asian paints royale play (or) Interior Decorative Wall Texture pattern work like Rustic Indian/Italian/Innovative Textures. The minimum painted thickness should not be less than 1mm. The texture and effects of decorative finish will be finalised by EIC. The cost includes labour, emulsion, scaffolding, plaster of paris etc., all complete as directed by EIC.	SqM	30.00	1600.00	48000.00
100	Returning / refilling of Soft / loose Soil including spreading, leveling, watering and well ramming in layers not exceeding 25 cm.	CuM	4.00	100.00	400.00
101	Removal of excavated soils exceeding 250m but not exceeding 500m and depositing where directed.	CuM	5.00	160.00	800.00
102	Material and labour for Point wiring with 1.5sqmm FRLS PVC insulated sheathed single core cable 1100V grade conforming to IS 694 multi strand copper conductor along with 2mm thick PVC conduit accessories run on wall/ roof/L angle including M.S. switch box concealed in the wall(made out of 1.6 mm thick sheet) and laminated sun mica sheet 3mm thick cover for housing the switches, regulators and plug socket etc. mount on a wall/roof etc. including 16SWG/1.5 sqmm bare/multistrand copper earth continuity wire. a)one light point controlled by one switch light/fan	Point	115.00	900.00	103500.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
103	Material and labour for Point wiring with 1.5sqmm FRLS PVC insulated sheathed single core cable 1100V grade confirming to IS 694 multi strand copper conductor along with 2mm thick PVC conduit accessories run on wall/ roof/L angle including M.S. switch box concealed in the wall(made out of 1.6 mm thick sheet) and laminated sun mica sheet 3mm thick cover for housing the switches, regulators and plug socket etc. mount on a wall/roof etc. including 16SWG/1.5 sqmm bare/ multistrand copper earth continuity wire.b)One 3 pin plug socket with switches flush type 5A on same board with 2.5sqmm cable	Point	38.00	240.00	9120.00
104	Material and labour for Point wiring with 1.5sqmm FRLS PVC insulated sheathed single core cable 1100V grade confirming to IS 694 multi strand copper conductor along with 2mm thick PVC conduit accessories run on wall/ roof/L angle including M.S. switch box concealed in the wall(made out of 1.6 mm thick sheet) and laminated sun mica sheet 3mm thick cover for housing the switches, regulators and plug socket etc. mount on a wall/roof etc. including 16SWG/1.5 sqmm bare/ multistrand copper earth continuity wire. c)One 3 pin plug socket with switches flush type 5A on independent board with 2.5sqmm cable	Point	10.00	1100.00	11000.00
105	Supply fixing and connecting to the system modular type switches 6A single pole one way (Make:,LEGRAND MYRIUS/ Litaski/ Crabtree or Suitably equivalent make as approved by EIC.	Each	175.00	220.00	38500.00
106	Supply, fixing and connecting to the system of socket, 6A-2/3 pin combined modular type 2 module(Make:,LEGRAND MYRIUS/ Litaski/ Crabtree or Suitably equivalent make as approved by EIC.	Each	42.00	210.00	8820.00
107	Supply, fixing and connecting to the system modular type switch one way 16A, 1 module (Make:,LEGRAND MYRIUS/ Litaski/ Crabtree or Suitably equivalent make as approved by EIC.	Each	20.00	297.00	5940.00
108	Supply, fixing and connecting to the system of socket, 6/16A-2/3 pin combined modular type 2 module(Make:,LEGRAND MYRIUS/ Litaski/ Crabtree or Suitably equivalent make as approved by EIC.	Each	32.00	420.00	13440.00
109	Supply, fixing & connecting of Fan step regulator modular type 120W, 2 module (Make:,LEGRAND MYRIUS/ Litaski/ Crabtree or Suitably equivalent make as approved by EIC.	Each	17.00	970.00	16490.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
110	Material & Labour for ceiling rose, 3 Phase/PVC/polycarbonate, isolated body (ANCHOR / LEGRAND/ HAVELLS make or Suitably equivalent make as approved by EIC.	Each	45.00	55.00	2475.00
111	Supply & fixing of lamp holders PVC/polycarbonate type with cord grid cap suitable for pendant/straight/slanting fittings.	Each	2.00	105.00	210.00
112	Supply & fixing of modular white cover plate with frame 2 module	Each	40.00	175.00	7000.00
113	Supply & fixing of metal flush box for 2 module plate	Each	40.00	150.00	6000.00
114	Supply & fixing of 4 module modular white cover plate with frame	Each	10.00	220.00	2200.00
115	Supply & fixing of metal flush box for 4 module plate	Each	10.00	178.00	1780.00
116	Supply & fixing of 6 module modular white cover plate with frame	Each	10.00	270.00	2700.00
117	Supply & fixing of metal flush box for 6 module plate	Each	10.00	260.00	2600.00
118	Supply & fixing of 8 module white cover plate with frame	Each	5.00	320.00	1600.00
119	Supply, fixing & connecting to the system of Sheet metal enclosures with double door DB's when MCB'S to be used single pole & neutral 8 way with 200 Amps rated bus bar, 240V (Make: Legrand / Havells / ABB or Suitably equivalent make as approved by EIC.	Each	1.00	1850.00	1850.00
120	Supply, fixing & connecting to the system of Sheet metal enclosures with double door DB's when MCB'S to be used Triple pole & neutral 4 way with 200 Amps rated busbar, 415V (Make: Legrand/Havells/ Hager/ABB or Suitably equivalent make as approved by EIC.	Each	3.00	2550.00	7650.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
121	Supply & fixing of MCCB 3 pole 415 Volt, fixed type 125 Amps, with breaking capacity 16KA. Make:Legrand/ Havells/ ABB or Suitably equivalent make as approved by EIC.	Each	1.00	3500.00	3500.00
122	Supply and fixing 240V, 10 KA 'B' curve miniature circuit breaker (MCB) of single poles and current carrying capacity 6 to 32 AMP, in the MCB DB Complete with connection testing and commissioning. (Make: ABB/Legrand/ Havells/Hager or Suitably equivalent make as approved by EIC.	Each	72.00	220.00	15840.00
123	Supply and fixing amp rating 240V, 10KA 'C' curve miniature circuit breaker (MCB) of following poles and current carrying capacity in the MCB DB complete with connection testing and commissioning. SPN 40 to 63 AMP (Make: ABB/Legrand/ Havells/Hager or Suitably equivalent make as approved by EIC.	Each	1.00	1200.00	1200.00
124	Supply and fixing 415V 10KA 'B' curve miniature circuit breaker (MCB) of following poles and current carrying capacity in the DB complete with connection testing and commissioning. TP (Triple pole) 25 To 63 AMP (Make: legrand/ havells/ ABB or Suitably equivalent make as approved by EIC.	Each	4.00	1450.00	5800.00
125	Material & Labour for wiring with two runs of FRLS PVC insulated sheathed single core copper cable upto 1100 volts grade confirming to IS 694 multistrand with copper conductor along with PVC conduit and conduit accessories run on wall/roof one run of copper cable as earth wire. (Make: Finolux/Havells/Polycab/ Kundan or Suitably equivalent make as approved by EIC. a) 2x1.5 sq.mm+1x1.5 sq.mm earth wire	RM	70.00	145.00	10150.00
126	Material & Labour for wiring with two runs of FRLS PVC insulated sheathed single core copper cable upto 1100 volts grade confirming to IS 694 multistrand with copper conductor along with PVC conduit and conduit accessories run on wall/roof one run of copper cable as earth wire. (Make: Finolux/Havells/Polycab/ Kundan or Suitably equivalent make as approved by EIC. b) 2x2.5 sq.mm+1x2.5 sq.mm earth wire	RM	175.00	180.00	31500.00
127	Material & Labour for wiring with two runs of FRLS PVC insulated sheathed single core copper cable upto 1100 volts grade confirming to IS 694 multistrand with copper conductor along with PVC conduit and conduit accessories run on wall/roof one run of copper cable as earth wire. (Make: Finolux/Havells/Polycab/ Kundan or Suitably equivalent make as approved by EIC. c) 2x4.0 sq.mm+1x4.0 sq.mm earth wire	RM	165.00	207.00	34155.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
128	Material & Labour for wiring with two runs of FRLS PVC insulated sheathed single core copper cable upto 1100 volts grade confirming to IS 694 multistrand with copper conductor along with PVC conduit and conduit accessories run on wall/roof one run of copper cable as earth wire. (Make: Finolux/Havells/Polycab/ Kundan or Suitably equivalent make as approved by EIC. d)4x10.0 sq.mm+1x10.0 sq.mm earth wire	RM	30.00	510.00	15300.00
129	Material and labour for Brick walls cutting chases, pinning in, making good to facing where required and pointing in cement mortar 1:3 to ends and cutting chases for concealed conduit wiring, etc., and making good, cutting exc. 10 cm but not exc. 20 cm grith.	RM	230.00	78.00	17940.00
130	Demolition of cement concrete of any description and in any position	CuM	2.00	1200.00	2400.00
131	Material and labour for cement concrete 1:2:4 Type B1 using 20mm graded aggregate in foundations, filling and mass concrete.	CuM	2.00	5200.00	10400.00
132	Excavating in trenches hard dense soil not exceeding 1.5 m wide and not exceeding 1.5 m in depth for laying cable.	CuM	96.00	460.00	44160.00
133	Material & labour for sand filling for cushioning on U.G cable	CuM	20.00	1750.00	35000.00
134	Material & labour for Bricks; common burnt clay building bricks sub class B designation 75, Old size bricks for protection to U.G cable	Number s in 1000	3.00	6000.00	18000.00
135	Returing, refilling of hard dense soil in the excavated trench after laying of power cable including spreading levelling, watering and well ramming in layers not exc 25 cml.	CuM	96.00	110.00	10560.00
136	Supply, laying or fixing with suitable clamps or passing through pipe, PVC insulated, armoured, heavy duty electric cable with aluminium conductor, 1100 volts grade, cross sectional area 25 sqmm, 4 core.(Make: Gloster/ KEI/ Finolux/ Havells / Polycab / orbit or Suitably equivalent make as approved by EIC.	RM	50.00	198.00	9900.00
137	Supply & fixing of galvanised steel tubes, medium grade 80mm dia	RM	12.00	485.00	5820.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
138	Taking down copper/aluminium point wiring (light,fan,socket or power) complete, including fixture and fittings such as switches, ceiling roses, pendants, regulators, sockets, light fitting, exhaust fan etc removing materials to store for keeping in safe custody .	Point	60.00	35.00	2100.00
139	Supply and fixing LED lights fitting 1x 20W, 220V, AC decorative box type with driver, holder including LED tube light connecting up with three core flexible copper conductor cable of suitable size from ceiling rose complete. Make: PHILIPS / CG /Havells / Wipro / Klite/ Bajaj/ Luker or Suitably equivalent make as approved by EIC.	Each	34.00	1200.00	40800.00
140	Supply and fixing LED light fitting mirror type with high out put diffuser 2 feet, 10 watt 220 V AC decorative type with driver holder and LED lamp including connecting up with three core flexible copper conductor cable of suitable size complete. Make: PHILIPS / CG /Havells / Wipro/ Klite/ Bajaj / Luker or Suitably equivalent make as approved by EIC.	Each	2.00	1250.00	2500.00
141	Supply and fixing LED street light fitting 70 Watt 230 V AC outdoor type with high pressure die cast aluminum housing and heat resistant complete with driver, lamp bracket with impact and corrosion resistant including thermal management in multiple optics complete with IP 65/66 protection complete. Make: PHILIPS /GE/ WIPRO /CG/ OSRAM / BAJAJ/ HAVELLS/ SYSKA or Suitably equivalent make as approved by EIC.	Each	12.00	5550.00	66600.00
142	Supply and fixing ceiling fans complete with blades, down rods, electronic regulator and accessories, 230 V, 1200 mm sweep. Min air delivery 210 CFM with service value 6.00 BEE. Five star rated with brushless direct current motor (BLDC). 3 Years onsite Warranty.IS 374-2019 Make : Crompton - Energion Riviera/ Atomberg - Renesa Alpha/ Havells - Efficiencia Neo /orient - Hectre 500 / Luker - Eco 30 Neo / Luminous - Triana or Suitably equivalent make as approved by EIC.	Each	10.00	2650.00	26500.00
143	Supply and fix exhaust fan, steel body AC single Phase, 230V of size 300mm sweep with, blades, and frame and louvers (Make: Almonard/ Kaithan/ Crompton or Suitably equivalent make as approved by EIC.	Each	6.00	3400.00	20400.00
144	Supply and laying or fixing or passing through pipe, 1100 volts grade heavy duty cable with PVC insulated aluminium conductor served with an inner sheathing of PVC tape armoured with galvanised steel wire or tape and overall PVC sheathed 16 sq. mm nominal cross section in service connections 4 core stranded conductor. (Make:Orbit/ Finolex/ Havells / Gloster / Polycab/ Paragon or Suitably equivalent make as approved by EIC.	RM	450.00	210.00	94500.00

Sl. No.	Item Description	Unit	Quantity	Rate/Unit (Rs.)	Total Cost (Rs.)
145	Supply and fixing of LED flood light 210 watt 230 V AC outdoor type with thermal management in multiple optics and equipped with IP66 protection, with impact and corrosion resistant complete with driver and lamp. (Make: PHILIPS /GE/ WIPRO /CG/ HAVELLS or Suitably equivalent make as approved by EIC.	Each	4.00	19500.00	78000.00
146	Supply and fixing of Decorative type Wall mounting fan with all accessories 400mm sweep (Make:Orient/Usha /Bajaj/CG or Suitably equivalent make as approved by EIC).	Each	18.00	2700.00	48600.00
147	Supply, installation and testing of LED strip light with adaptor, End holder and all accessories complete as required as per site conditions.	RM	40.00	800.00	32000.00
148	Supply and fixing of LED Gate light fitting complete with 30 watts LED lamp and accessories. (dia.425mm x 325mm) Make:Klite. (Cat.no.4975 or equivalent model of HAVELLS, PHILLIPS, CG, WIPRO)	Each	2.00	8700.00	17400.00
149	Supply & fixing of MCBDB 4 way(DPX160+12) legrand make as per legrand 2022 catalogue No.507745 or Suitably equivalent make as approved by EIC.	Each	2.00	10100.00	20200.00
150	Supply and fixing of LED ceiling/Recessed mounting fitting complete with suitable LED lamp and accessories,Wattage 24 to 30 watts and minimum system output 1800 lumens. Make: PHILIPS / Bajaj /CG /Havells / Wipro or Suitably equivalent make as approved by EIC.	Each	50.00	3600.00	180000.00
151	Supply of Recessed Mounted circle/square type Luminarie, 15 Watts with suitable LED lamp and accessories, minimum system output: 1000 lumens. Make: PHILIPS or equivalent of Bajaj/CG/Havells/Wipro or Suitably equivalent make as approved by EIC.	Each	10.00	1650.00	16500.00
152	Supply, fixing and connecting to the system modular type switch one way 20A, Single pole 2 module. (Make:LEGRAND MYRIUS/ Litaski/ Crabtree or Suitably equivalent make as approved by EIC.	Each	16.00	464.00	7424.00
153	Supply & fixing metal flush box for 8 module plate	Each	5.00	129.00	645.00
154	Supply & fixing of 12 module plate with frame and metal flush box	Each	12.00	400.00	4800.00
155	Supply & fixing of 16 module plate with frame and metal flush box	Each	4.00	1100.00	4400.00
156	Supply & fixing of modular type Dummy plate	Nos	75.00	25.00	1875.00

Sl. No.	Item Description	Unit	Quantity	Rate (Rs.)	Total (Rs.)
157	Supply, fixing & connecting of the system cable and termination of size 25 sqmm 4 core including with suitable cable gland & lugs.	Set	2.00	170.00	340.00
158	Supply, fixing & connecting of the system cable and termination of size 16 sqmm 4 core including with suitable cable gland & lugs.	Each	12.00	100.00	1200.00
159	Supply & Fixing of OUT DOOR FPB consisting of 200A MCCB-1 No for incoming, outgoing feeders ar 63A MCCB-4 Nos. Specification sheet enclosed as Annexure-1 (1.0.1 to 1.0.9.5).	Set	1.00	131000.00	131000.00
Gross Total of Items (Rs.)				81,29,720.50/-	



(K. TULASI RAO)
GENERAL MANAGER / CEO & QA
For CHIEF GENERAL MANAGER / HVF
For And On Behalf Of THE PRESIDENT OF INDIA

TERMS & CONDITIONS:

1 Special Condition: The Material required for the subject work which be brought inside the factory by the contractors, should be noted along with challan / vouchers etc., and a copy of the same are to be given to the engineering office for record and copy to be submitted to the contractors along with the bill while claiming the payment.

2 Payment Clause: The contractor has to pay the minimum daily wages to the skilled/semi skilled/unskilled labourers engaged in their work as has been specified by the Government, latest rate and displayed in the wages notice Board at factory.

3 Safety Clause: Annexure-B of MES Safety Code, IAFW 2249 must be observed in general. Work Permit shall be obtained for overhead/hazardous work condition. All the safety precautions/measures have to be taken by the contractor. However, a few points of safety measures to be followed for working at height and on the roof are mentioned hereby :

Use of safety belt and helmet of proper quality is mandatory for all workers working on roofs at height of above 5.00 meters and also in the underground areas. Safety belt with life line should be properly tied at some firm support.

(i) In case any difficulty is faced in proper fastening and securing of safety belt, a safety net may be provided below the workspot so that in case of accident fall, there might not be any fatality.

(ii) A crawling ladder or roof walker must be used for movement on Asbestos/CGI roofing.

(iii) Work Permit system should be followed in proper spirit. Contractors shall start the work after obtaining the Work Permit, wherever applicable. Contractor's supervisor and site-in-charge should brief on safety precautions to be observed by the workmen before start of the work. The workers should be clearly explained about the danger of standing or sitting on an apparently stout & new and neat looking asbestos/CGI sheet which is intrinsically weak.

(iv) The contractor shall clear the site after completion of work.

(v) The contractor must employ the labour force duly insured against life risk.

(vi) The contractors shall ensure compliance of all applicable statutory rules and regulations.

4 DEVIATION CLAUSE:

(i) $\pm 25\%$ of value of individual item other than freakishly rate quoted items.

(ii) For freakishly higher or lower rate quoted items it shall be $\pm 5\%$.

(iii) 20% of Work Order value (Contract value maximum Rs.10 lakhs)

10% of Work Order value (Contract value exceeding Rs.10 lakhs)



(K. TULASI RAO)

GENERAL MANAGER / CEO & QA

For CHIEF GENERAL MANAGER / HVF

For And On Behalf Of THE PRESIDENT OF INDIA

ANNEXURE-A

SAFETY POINTS TO BE FOLLOWED BY THE CONTRACTOR:

1	Working with Safety is the responsibility of every worker individually and collectively. The contractor will be fully responsible for safe working at site.
2	Contractors should ensure that workers under his control do not come to work under the influence of intoxicants. Any worker found on duty under the influence of liquor or of intoxicating drugs, will be liable to severe disciplinary action / removal from site.
3	The contractor shall ensure of necessary shut- down where ever there are hazards of gases, electricity, moving machineries etc., by the executing department & also ensure that these shutdown clearances are taken in writing before sending workers to such locations.
4	Height Pass (Permit for working at heights) and Safety permit must be obtained by the contractor from Safety Section / HVF, before commencement of the work and the same shall be handed over to Engineer In-Charge (EIC).
5	Every worker who is to be deployed for working at height must submit a certificate from a Government Doctor that he has been examined for physical and mental fitness and certified to be fit. This certificate is to be produced every six months. The fitness will include freedom from (1) Epilepsy (2) High BP (3) Obesity (4) Vertigo along with general fitness and good eye sight.
6	The persons engaged by the contractor must have the training certificate of working at heights issued by a reputed institution.
7	All work at height must be carried out under the supervision of an Experienced and Trained Supervisory Team wherein the workers and Supervisory staff are well conversant with use of Personnel Protective Equipments (PPE's).
8	There must be one supervisor to exclusively monitor the activities of workers at the roof to ensure that all people are adhering to all safety precautions like laying of net at top of roof, safety belt and fall arrestor tied with lifeline in addition to the supervisor at ground work spot.
9	List of PPEs proposed to be used along with Test Certificate of the same must be submitted by the Contractor to EIC before start of work.
10	The safety of Men and Material is the entire responsibility of the Contractor. The Workers must limit their movement to the designated work areas and not loiter around.
11	The contractor must take Insurance policy for workman covering workman's compensation act and submit the copy of the same to EIC before commencement of work.
12	The Contractor should commence the work only after clearance for starting the work is given by EIC / SIC / Safety Section representative / User Section representative / Service section representative (if involved) in writing after ensuring compliance of all safety instructions, safe work conditions and regulations. It must be ensured that all safety requirements like use of Safety belts, full body harness, Life line Protection, Helmets, Safety nets etc., in place and ready to be used by their labours.
13	The Contractor must use BOOM lift for Climbing up / down from heights.
14	Before Commencement of work at height all moving equipments under roof sheet where work is to be carried out shall be shut.
15	Workers should be conversant with the use of Retractable fall arrestor, life line, safe work ladder, duck ladder, crawling board, Helmets etc., The work of fixing safety net must be carried out by experienced person and precaution be taken so that net is fixed to a structural member sufficiently strong to bear at least one ton load and on sagging under the load of fall the net must not strike a machine structure or part of building or crane.
16	Ladders, if used, must have a nylon rope for tying on top and bottom with suitable self locking hooks, screws, rings etc.,
17	Use of Anchor plates to fix the lifeline etc must be done wherever necessary / feasible

18	In case the site conditions demands, a Safety Net may be fixed firmly on the fragile roof with the help of J-Bolts and this must be used for taking a life line. Proper training for the above must be imparted by the contractor to workers working on fragile roof and in any case fragile roof must not be taken for granted as safe.
19	During climbing on roof or on electrical pole using ladder or otherwise precautions must be taken to use two self locking hooks with lifelines and as climbing these hooks should be alternatively attached and detached with the cross bars / foot bars to prevent any eventual fall due to slippage. After reaching the roof of the top end of the ladder must be tied to the pole / fixed structure on top of the roof and work should be started thereafter.
20	The workers working at height must be cautioned not to allow leaving of loose items like broken sheets over the roof after completion of work.
21	Before starting the work, the area of work at height must be clearly defined and accordingly safety net of sufficient size should be put covering an area of 2.5 meters beyond the working area on all sides. The area of work at height and the approach also to be earmarked. The workers must specifically follow the specified route to reach the work area. If approach route is not firm than appropriate PPE as mentioned above must be used to ensure safety at work.
22	The Engineer in-charge executing the contract upon his satisfaction that the Contractor is not performing as per the safety requirements may direct stoppage of work. The contractor shall not proceed with the work until he has complied with such directions to the satisfaction of concerned Engineer in-charge.
23	On getting a Verbal intimation from Safety Section representatives / User Section representative regarding in any lapses in safety by the Contractor or his workers, the work should be stopped immediately. The verbal intimation must be followed up with written statement to civil section (Executing Section). After receiving the written statement from above representative, the EIC may pass orders wherein the contractor shall be liable for penalty of Rs.5000/- for the first violation, Rs. 10000/- for the second violation and Rs. 20000 /- for the Third Violation. For the Fourth violation his contract shall be liable cancelled and to be debarred from further contracts. The penalty / fine amounts will have to be deposited by Contractor in the form of MRO and the MRO will be handed over by the contractor to the EIC.
24	Suitable scaffolding should be provided for workmen for all works that cannot be safely be done from the ground or from solid construction.
25	While standing on the valley gutter, the safety belt should be worn and the life line should be tied to the purlin of the adjacent bay
26	In case the Contractor need to engage material handling equipments from outside, the following documents are required to be submitted to HVF without fail ; a. Competent person certificate issued by Competent Person approved by the Directorate of Industrial Safety and health. b. Registration certificate of the equipments c. Lifting tackles like wire rope, slings are also to be certified by the Competent person as they are part of the lifting material handling equipments. d. The valid driving licenses of the driver who operates the material handling equipments.

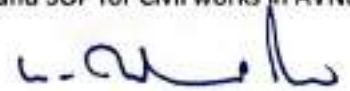


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INSTRUCTIONS TO CONTRACTOR:

- 1 The work is to be completed within the period (in accordance within the phasing, if any, indicated in the tender) from the date of handing over of the site, which will on or about.
- 2 Execution of the subject work shall be carried out strictly as per the specifications mentioned in MES SSR-2009 Part-I and the materials shall be used as per IS Specifications and also as instructed / directed by Site In Charge / Engineer In Charge of the work from time to time.
- 3 All good quality of materials shall be brought by the contractor for incorporation in the work shall be got checked & approved by EIC/SIC before incorporating in the work. All ISI marked/ EIC approved materials for Building materials and approved branded Electrical materials as directed by EIC shall be supplied by the Contractor for incorporation in the work.
- 4 The Contractor shall follow and execute all works as per the instructions of SIC/ EIC with the approval at every stage and then progress the work. The progress of the work shall be recorded day-to-day basis in the prescribed work diary for checking.
- 5 The Plant & Machineries like concrete mixer, vibrator & other machineries like tools, tackles, welding arrangement, Gas cutting equipments etc., has to be arranged by the contractor of his own and shall be in good condition.
- 6 PVC-Verification Report for the workers to be deployed on work inside the Factory shall be arranged by the Firm on their own.
- 7 Water & Electricity will be supplied by HVF at the prescribed /prevailing charges and the same will be deducted from the Contractors Bill. And electrical charges given by EE Section should be deposited as directed in Cash office and submit the acknowledgement.
- 8 The copies of relevant documents showing the work done of similar nature of work shall be enclosed /mentioned to enable verification by HVF.
- 9 The contractor shall give details of Engineers, Technical persons skilled persons with their qualifications & experience along with the details of Plant & Machineries, Trucks & other machineries owned by him for execution of the work.
- 10 The Contractor shall submit a Bar Chart/ PERT Chart showing the completion of the work showing the simultaneous progress of independent works at the same time so as to complete the work within the stipulated time. The chart shall indicate the planning of the work with progress and completion in time. The Contractor shall give PDCs for various stages of work to enable monitoring of work progress.
- 11 The Contractor shall have to adhere to all the safety rules/ regulations laid down by safety section /HVF & General Safety instructions from time to time.
- 12 The Contractor has to follow all the rules and regulations laid down by the IAFW-2249, MES (Defence Services Rules & Regulations) and SOP for Civil works in AVNL - 2021.
- 13 The Contractor shall make arrangement to clear the area in and around the work site and remove all debris emerged out from the site shall be cleared as per instruction of EIC/SIC and as per the contract conditions.
- 14 The contract will be executed as per the General Conditions of Contract IAFW-2249 and SOP for Civil Works in AVNL - 2021.
- 15 All Government Taxes as applicable from Time to Time, including GST for Civil / Electrical works, shall be borne by the Contractor and the quotation / offer shall be inclusive of all taxes including GST. It will be the duty of the contractor to completely update himself about prevailing taxes and rates and this office will not issue any certificate regarding taxes.
- 16 The offer should confirm to technical specification and general conditions of contract.
- 17 Agreed for execution of work inside the factory (Restricted Area) by adhering all Factories, Security & Safety Rules & regulations which are in force.
- 18 Agreed for bringing material for incorporation in the work as specified/ as directed/ as per IS specified and approved.

- 19 Terms & Conditions of payment mentioned in Contract is Acceptable.
- 20 Agreed for Condition No.25 under sub Para (c) of IAFW-2249 regarding Contractors Supervision.
- 21 Agreed for inspection of work at every stage of work.
- 22 Agreed for deploying only Police verified (PVR) Workers.
- 23 The Contractor shall be solely responsible for the soundness of the structure including lean period. The contractor shall guarantee satisfactory performance of the work for a period of 12 months from the date of successful completion of the work.
- 24 The firm shall undertake to rectify any defect including replacement of defective parts resulting from faulty design, poor workmanship, bad materials etc., during the erection as well as within guarantee period free of charge.
- 25 Agreed for submission of Security Deposit as mentioned in the contract.
- 26 Compensation for delay in completion of the work / Liquidated damage clause as per Clause No. 50 of IAFW 2249 for compensation for delay and latest amendments thereto, is accepted.
- 27 Arbitration Clause: All disputes & differences arising out of or in any way touching or concerning this agreement (except these for which specific provision has been made therein) shall be referred to Sole Arbitrator to be appointed by CMD/AVNL, Government of India. The Arbitrator so appointed shall be a Government servant who had not dealt with matters to which this agreement relates and in course of this duties had not expressed views on all or any of the matter in disputes or differences. The award of the Sole Arbitrator shall be final and binding on the parties.
- 28 Dispute subject to Tamil Nadu Jurisdiction accepted.
- 29 The firm is agreed the clause of compensation as well as Risk and Cost and it is hereby agreed the same.
- 30 No worker less than eighteen years of age on the date of employment shall be engaged by the contractor for the work.
- 31 Contractor has to obtain a Certificate from Labour Commissioner (C), Tamil Nadu if he employ more than 10 workmen or less than 20 workmen under Building & Construction Works (RE-CS) Act 1996 & Central Rules 1998.
- 32 The workers shall be paid as per the Minimum Wages Act 1948 and to be followed as per the notification issued from Ministry of Labour from time to time.
- 33 The workers engaged above 3 mtr. Height shall be medically checked and necessary medical certificate shall be produced.
- 34 The contractor must carefully study the safety provisions as mentioned in Annexure "A" of the tender and must follow the safety precautions and measures totally. By confirming compliance to this point, the contractor submits his compliance to follow all the safety provisions mentioned in the Annexure.
- 35 The Contractor must carefully study the NIT document and the enclosures and must follow the same. By confirming compliance to this point, the contractor submits his compliance to follow all the provisions / clauses mentioned in the NIT document and enclosures
- 36 In Accordance with conditions No. 22 of the General Conditions of the Contract (IAFW-2249), the Security Deposit must be deposited within 30 days from the date of issuance of order covering the execution period and maintenance period, drawn in favour of Chief General Manager/HVF, Avadi, Chennai in the form of FDR/TDR/BG from any Commercial Bank.
- 37 The Contract would be governed by the Terms and Conditions as per the Contract Document and General Conditions of the Contract IAFW-2249, SSR 2020 and SOP for Civil works in AVNL- 2021.
- 38 The Deviation limit shall be as per IAFW-2249 and subsequent amendments till date and SOP for Civil works in AVNL- 2021.



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NAME OF THE WORK: REPAIRS / RENOVATION OF VIJAYANTHA INSTITUTE AT HVF ESTATE.

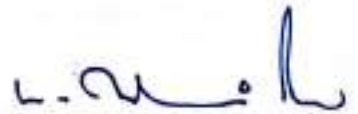
GENERAL SPECIFICATIONS

- 1 Sand : Fine aggregate for concrete work shall conform to materials specifications and grading within the limits of grading zones II or III all as specified in clauses 4.4 to 4.4.7.3 of MES Schedule Part-I. Contractor may without any extra cost in lieu of river sand use manufactured sand (crushed stone sand) produced from hard granite/basalt/black trap stone, having cubical shaped particles with grounded edges of ground gradation zone II / III as per IS 383 - 1970 as applicable. In the market it is known as M-sand / Robo sand / I-sand etc. For pricing deviations, SSR rates shall only be applicable without any price adjustment for manufactured sand. However manufactured sand shall be used only in concrete, Cushioning and masonry works. For plastering, river sand shall only be used.
- 2 The brick to be used for the work shall be of well burnt, good quality bricks free from cracks, flaws, wraps and nodules of free lime and shall be of uniform sizes and shape.
- 3 The aggregates to be used for the concrete shall be of black or blue hard granite aggregate free from quarry dust, earth etc. The size of the aggregate shall be of uniform size as per the requirement. Flaky & elongated pieces over sizes shall be avoided.
- 4 The cement to be used shall be of OPC (Ordinary Portland Cement) of 43 Grade and 53 grade in accordance with IS8112-1989 only (of The Associated Cement Companies Ltd., Grasim Industries Ltd, Ultra Tech Cement, The India Cement, Dalmia Cement, Andhra cement Ltd., Century Cements, Saurashtra Cement, Madras Cement, Mangalam Cement, Birla Cement, Orient Cement, Lafarge Cement, Shree Cement, J.K. Cement, Jaypee Rewa Cement, Binani Cement, Lakshmi cement, Gujrat Ambuja Cement and . Bangur Cement) (or) Suitably equivalent make , age not more than six months from date of manufacture.
- 5 All the Mass concrete work should be of Ready Mix Concrete (RMC). RMC shall be procured by the contractor from the producers whose RMC plants are fully Automatic plants and conform to the IS 4926-2003 and IS 4925-2004.
- 6 The concrete test certificate for samples taken at RMC plant should be submitted to E-I-C.
- 7 The contractor should cast 3 Nos. of concrete cube per 200 CUM of concrete at site. The testing of concrete cubes to be done by the contractor at his own cost at government approved testing lab. The relevant test certificate should be submitted to E-I-C
- 8 All the cement works shall be cured for at least 21 Days.
- 9 The normal concrete shall be of machine mixed and no manual mixing shall be allowed and the materials required for the concrete and the cement work shall be measured by means of weigh batching/ measurement boxes only as directed by E-I-C and no other mode of measurement shall be allowed.
- 10 All the concrete work shall be compacted using mechanical vibrator or surface vibrator as required.
- 11 The tiles for the work to be used shall be of (JHONSON / KAJARIA / NITCO / SOMANY make) (or) Suitably equivalent make.
- 12 The Structural Steel and Reinforcement steel to be used shall be of (RINL - VIZAG Steel / SAIL / TATA - TISCON / " BIS" Marked Primary manufacturers) (or) (or) Suitably equivalent make.
- 13 The primer to be used on steel, Concrete, Cementous plastered surfaces and wooden surface must be of first quality (ASIAN / NEROLAC / BERGER / NIPPON make) (or) Suitably equivalent make.
- 14 The enamel paint / External Emulsion / Internal Emulsion / OBD to be used must be first quality (ASIAN / NEROLAC / BERGER / NIPPON) (or) Suitably equivalent make. The Cement Paint to be used must be first quality (SUPERCEM / DUROCEM / SNOWCEM) (or) Suitably equivalent make.
- 15 All the materials must be approved by E-I-C before Incorporation into the work and shall have ISI / BIS Mark (wherever applicable)
- 16 All Sanitary fitting make shall be of (Make - Parryware / Hindware / Nycer / Johnson / Cera) (or) Suitably equivalent make.
- 17 Wherever make of any item is specifically mentioned in the description of the BOQ Items, the items/material of that specified make (or) suitably equivalent make must be supplied/fixed by the contractor with the approval of E-I-C

GENERAL CONDITIONS

- 1 All the works are to be carried out as per the Standard Procedure laid in SSR '2009 Part-I
- 2 All the materials, tools etc., required for the work shall be the responsibility of the Contractor.
- 3 The safety of men and materials shall be the responsibility of the contractor. Chief General Manager / HVF will not have any responsibility in this account. The contractor will be solely responsible for any accidents occurring during execution of the work.
- 4 All the materials shall be got approved by E-I-C before incorporation into the work and shall have ISI Mark. Original cash vouchers of materials purchased and used by contractor on the work shall be submitted to EIC/ Site in-charge for record. Inward gate pass of all materials being brought by contractor are to be made on a pucca bound register and got it checked along with cash vouchers from the E-I-C /Site-In-Charge at the time of its entry in the Factory/Estate.
- 5 The contractor should take Workmen compensation, Insurance Policy as per Workmen Compensation Act for the workers in this work and copies of the same shall be handed over to E-I-C before commencement of the work. Further, in case of the death of the contractor person, the contractor will have to arrange for the compensatory payment after meeting the legal heir of the deceased and obtain the necessary acknowledgement for having made the payment. A copy of the same should be submitted to the Principal employer (Chief General Manager) within 30 days of the accident. If any failure in this regard happens on the contractor's part, the recovery of the amount shall be arranged from the contractor's bill.
- 6 The entire work shall be carried out as per the relevant clauses/specifications of **MES SSR 2020** and **SOP for Civil works in AVNL- 2021**.
- 7 Contract period shall be '**TWELVE MONTHS (365 Days)**' from the date of handing over the site.
- 8 The maintenance period shall be '**TWELVE MONTHS**' from the date of completion of the work.
- 9 The contractor may visit the site before quoting their rates with prior appointment with Divisional Officers of CE / EE
- 10 The safety norms shall be strictly followed and any deviation will lead to cancellation of the contract agreement.
- 11 All the workmen should confine to their work spot only and should not venture into areas other than the work spot.
- 12 The work shall be completed within the stipulated period, failing which liquidity damages shall be deducted from the Contract amount as per **IAFW 2249** and **SOP for Civil works in AVNL- 2021**.
- 13 Any damages to Government property, shall be made good, free of cost by the contractor
- 14 The dismantled materials except credit item if any shall be returned to CE / EE stores intact.
- 15 The order is for complete work and on completion of the job; the work shall be jointly inspected by the Contractor and CE / EE representatives.
- 16 Adequate safety precautions are to be adopted by the Contractor while working at height such as Safety Helmets to all the personnel, ii) Roof ladder shall be arranged for roof work, iii) Full Body harness safety belt shall be arranged for the workmen, iv) Retractable fall arrestor to be arranged by the contractor for the workmen working at height, v) Life line to be arranged for the personnel working at height and vi) Safety net to be tied as per safety norms.
- 17 Safety permit shall be obtained by the contractor from safety section / HVF before commencement of the subject work and same shall be handed over to EIC.
- 18 The contractor shall engage skilled labourers only, for the works such as Roof Work, Masonry, plumbing, plastering, Painting and electrical works etc.
- 19 The contractor shall engage a qualified site supervisor and his relevant qualification certificate shall be produced before commencement of work to E-I-C to maintain all the relevant records and documents.
- 20 All Xerox copies of material pass in slips shall be handed over to CE / EE
- 21 The demolished debris shall be disposed off from the site as per the directions of E-I-C
- 22 The Labours to be employed for roof work shall be insured and the copy of the insurance shall be handed over to the Engineer-In-Charge before the commencement of work.

- 23 The order is for complete work and any minor material/minor civil work required for completing the work is deemed to have been included in the quotation, if not specifically stated otherwise.
- 24 The contractor must submit the Certificates / documentations obtained from the Original Manufacturer / Authorised Dealers to prove the genuineness / Authenticity of the branded - materials / chemicals / products being supplied / used during execution as per scope of work of the Contract Agreement. These documents must be submitted to E-I-C before using the materials.
- 25 In view of the safety of Man & Materials, the Contractor is advised to use Boom Lift for doing all the work involving working at height including all types of roof works, under the roof works and roof related works.
- 26 The Contractor is advised to visit the work site with prior permission of Divisional Officers of CE / EE for inspection of the site for seeing the suitability of using Boom Lift for all types of work involving working at height including all types of roof works, under the roof works and roof related works.



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ELECTRICAL PARTICULAR SPECIFICATION

- 1 All the materials shall be got approved before incorporation into the work from E-I-C.
- 2 The material used should conform to relevant I.S specification with ISI mark.
- 3 Wiring work should confirm to IS 732 code of practice for electrical wiring installations.
- 4 Wiring should be done block wise and shall be completed in all respect so as to restore the supply in the evening.
- 5 Earthing work should confirm to IS 3043 strictly.
- 6 All steel parts should be painted with one coat of red oxide and two coats of synthetic enamel/ aluminum paint as directed.
- 7 All nuts, bolts, screws etc., used for the works will be galvanized/cadmium plated.
- 8 On completion of work, the contractor should carry out all the tests and submit all the documents (IR & ER values) specified including drawing/layout of the work done.
- 9 The work is for complete work and any minor material/minor civil work required for completing the work is deemed to have been included in the quotation, if not specifically stated otherwise.
- 10 While selecting concealed boxes of sun mica top sheet sizes should be 90x90mm, 130x130mm, 130x180mm or 230x330mm and box depth to be maintained 65mm (minimum). Box should have proper fixing arrangement for earth lid and sun mica top.
- 11 The Contactor shall take shut down with the knowledge of Concerned Shop and deploy their workmen. All safety precautions shall be taken while working.
- 12 Wherever make of any item is specifically mentioned in the description of the BOQ Items, the Items / Materials of that specified make (OR) Suitably Equivalent Make must be supplied / fixed by the contractor with the approval of E-I-C.


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PARTICULAR SPECIFICATION

a)	All the materials shall be got approved before incorporation into the work from E-I-C.
b)	Galvalume sheet shall be 0.50 mm thick (total coated thickness), 550 Mpa minimum yield strength. It shall be coated with hot dip alloy of 55%, Aluminium 43.5%, Zinc 1.5% Silicon and finished with resin coat on both surfaces @ 150gm/sqm of coating (total both surfaces) having overall width and laid width as specified and shall be fixed using hot dip galvanized, self drilling and self tapping screws neoprene and EPDM washers. Penetrations and laps in sheet shall be sealed by using proper sealant profile. HDPE filters shall be provided wherever required to close voids between sheets, sheet & fasteners etc., Fixing system shall be as per manufacturer's instruction and shall be safe against effects of wind velocity. And the galvalume sheets shall be of ("TATA BLUE SCOPE BUILDING SOLUTIONS", "JSW ISPAT STEEL LTD", "LLOYD INSULATIONS ", "KIRBY BUILDINGS SYSTEMS", "MULTI COLOUR STEELS", "ZAMEL STEEL BUILDING INDIA PVT LTD", "BHUSHAN STEEL LIMITED", "META TECH COMSTN PVT LTD", "COLOUR ROOF INDIA LTD", "CENTURY WELLS ROFFING INDIA LTD", "ISPAT INDUSTRIES LTD") Makes (OR) Suitably Equivalent Make only. Fixing system shall be as per manufacturer's instructions.
c)	Valley Gutters shall be provided with proper slope over the MS brackets and joints has to be soldered / fixed with leak proof paste and connected to the existing down take pipe with seamless joint.
d)	Dismantling and re-fixing of the lightening conductors has to be done carefully without damaging the aluminum straps and lightning receivers any damage occurs should be replaced by the contractor at free of cost.
e)	After completion of the work lightening conductors has to be checked to ensure the proper functioning.
f)	The contractor should visit the site before quoting the tender. The Galvalume / Asbestos Cement sheet / Non Asbestos High Impact Polypropylene Reinforced Cement Corrugated Sheet profile should match the existing / damaged sheets profile. The profile / Colour of the Galvalume sheet shall be approved by EIC.
g)	The Asbestos Cement sheet make shall be of (RAMCO, VISAKA, ACC, EVEREST) (OR) Suitably Equivalent Make. The make shall be approved by EIC.
h)	The Non Asbestos High Impact Polypropylene Reinforced Cement Corrugated Sheet Make shall be (RAMCO, VISAKA, ACC, EVEREST, HIL) (OR) Suitably Equivalent Make. The make shall be approved by EIC.
i)	The MS Flat shall be fixed on top of existing Galvalume / Asbestos Cement sheet / Non Asbestos High Impact Polypropylene Reinforced Cement Corrugated Sheet according to the existing alignment of the purlin below the galvalume sheet with anti corrosive self tapping screws with EDPM washers and "J" bolt with required washer (to prevent the leakage of water) at the rafter portion. The flat shall be fixed with anti corrosive self tapping screws with EDPM washers over crest of Galvalume sheet and the screw heads shall be applied with MS polymer (modified selaine) based sealant / adhesive to seal drilling holes in MS Flat / Galvalume sheet.
j)	Structural Mild Steel to be used for the work shall be of (SAIL, VIZAG, JINDAL STEEL, JSL Ispat, TATA) (OR) Suitably Equivalent Make.

SPECIFICATION FOR OUT DOOR FEEDER PILLAR BOX
660/690 Volts, 200 Amps, 35KA/1sec,

1.0.1	LT OUTDOOR Feeder Pillar Box Panel enclosure
1.0.1.1	The LT Feeder Pillar Box Panel shall be rigid, self-supporting, floor mounted, dust and vermin proof, outdoor type metal clad totally enclosed and confirms to IP54 as per IS 13947.
1.0.1.2	The Feeder Pillar Box Panel shall be in fixed, fully compartmentalized execution with inter panel metal partition.
1.0.1.2.1	Feeder pillar boards specified for outdoor installation shall be housed in outdoor type kiosks to make it weatherproof. The switchboards shall be suitable for the ambient and site conditions specified.
1.0.1.2.2	Suitable hooks shall be provided for lifting the boards. These hooks when removed shall not leave any openings in the boards.
1.0.1.3	The Switch boards shall be divided into distinct vertical sections each comprising of:
1.0.1.3.1	The main horizontal bus bars shall run in a separate fully enclosed bus bar compartment provided at the top of the each panel. The bus bar compartment shall be fully segregated from other compartments.
1.0.1.3.2	The vertical bus bars shall be located in a separate and totally enclosed chamber covered from all sides.
1.0.1.3.3	Cable compartments shall be of adequate size for easy termination of all incoming and outgoing cables entering from bottom.
1.0.1.4	The complete structure shall be free from flaws, twists and bends. All cutouts shall be true in shape and avoid of sharp edges.
1.0.1.5	Wherever required, stiffeners shall be provided to increase stiffness of large size doors and covers.
1.0.1.6	The thickness of the sheet at various parts of panel (with construction of high quality CRCA sheet steel) is as below
1.0.1.6.1	Front Door of the instrument panel and ACB panel chamber: 1.6 mm
1.0.1.6.2	Load bearing/structural members (Vertical & Horizontal): Minimum 2.0 mm
1.0.1.6.3	Top cover & Bottom sheet: 1.6 mm
1.0.1.6.4	Partition covers between the panels: 1.6 mm
1.0.1.6.5	Barrier sheet between Breaker, Bus bar and Cable chamber: 1.6 mm
1.0.1.6.6	Bottom Gland Plate: 3.0 mm
1.0.1.7	The structure shall be mounted on a rigid base frame fabricated using ISMC channel of minimum 75 mm x 75 mm x 5 mm thick.
1.0.1.8	The base frame shall be able to withstand the static and dynamic loads of the LT switch

	boards. The steel channels shall be painted with epoxy polyester paint.
1.0.1.9	The panels shall be of uniform height of 1600 mm (including the base channel) and the total depth of the panel should be adequate to cater for proper cabling space is not less than 600mm.
1.0.1.10	Mounting height of components requiring operations and observation shall not be lower than 300 mm and higher than 1800 mm.
1.0.1.11	The panel shall be designed such that Incoming MCCB is arranged in single tier formation and Outgoing MCCB's are arranged in multi-tier formation to facilitate easy operation and maintenance.
1.0.1.12	All feeder switch boards' front access shall be provided with concealed type hinged doors.
1.0.1.13	All Hinged doors and movable parts shall be earthed through flexible copper connections to the fixed frame to the switch board.
1.0.1.14	All doors and enclosures shall be provided with fully Neoprene/ Synthetic rubber gasket to make the switch board dust-tight and vermin proof and shall be lockable with triangular type steel cam lock.
1.0.1.15	Switchgear shall be designed such that all component equipment and bus bars operate satisfactorily without exceeding their respective maximum permissible temperature limits of 105°C.
1.0.1.16	Louvers backed with metal screen should only be provided on the bus bar chambers for adequate ventilation.
1.0.1.17	The earth bus bars shall be provided throughout length of the switch board. It shall be bolted to the frame work of each unit and each breaker earthing contact bar.
1.0.1.18	All non-current carrying metallic parts of the mounted equipment shall be earthed.
1.0.1.19	The construction shall include necessary adequate and proper support shall be provided in cable compartments to support and clamping the cable in the cable alley/ cable chamber.
1.0.1.20	Compartment or alley for running power and control cables. Cable alley shall be provided with suitable hinged doors. It shall be of at least 250mm width. Cable terminations located in cable alley shall be suitably shrouded to prevent accidental contact with tools etc.
1.0.1.21	All components in a panel shall be neatly arranged and easily accessible for operation and maintenance.
1.0.1.22	The indicating lamps shall be provided for MCCBs on the compartment doors.
1.0.1.23	Suitable engraved White on black name plates and identification labels of metal for all switch boards shall be provided.
1.0.1.24	The switch board panel shall be provided "Danger Notice Plate" confirming to relevant Indian standards.
1.0.1.25	Paint shade: The panel enclosures should be 7 tanks pretreatment processed and powder coated with paint shade as per company standard.

1.0.1.26	Wiring and Terminals
1.0.1.26.1	Inside the switch board cubicle the wiring of power, control, signaling & protection and instrument circuits shall be done with BIS approved FRLS PVC insulated 1100 volts grade multi – stranded copper conductor.
1.0.1.27	The panel wiring shall preferably be enclosed in PVC ducts/channels or neatly bunched together with Nylon self-locking cable securing bands.
1.0.1.28	All components inside the instrument compartment shall be provided with printed metal labels for identification.
1.0.2	Bus bars
1.0.2.1	The bus bars shall be of three phases and neutral system with separate neutral and earth bar.
1.0.2.2	The Main bus bars and Jumpers are of Copper/ETP grade material and to confirm the reference standards of IS: 1897.
1.0.2.3	The Main bus bars shall be of rectangular cross section designed to withstand full load current for phase bus bar and half rated current for neutral bus bar and shall be extensible type on either side.
1.0.2.4	The rectangular shape Main bus bars and Jumpers are covered with heat shrinkable PVC insulating sleeves with proper identification of phases in regular intervals.
1.0.2.5	All Main bus bars shall be uniform throughout the switchgear and shall be sized (current density shall not exceed 1.3 Amps per 1 Sq mm) to carry continuously the current specified.
1.0.2.6	The vertical and horizontal bus bars should be supported at suitable intervals with non-hygroscopic FRP/DMC insulated supports for withstanding mechanical stress during the normal operations as well as abnormal conditions (short circuit capacity of 50 KA RMS symmetrical and a peak short circuit withstand of 105 KA minimum).
1.0.2.7	The uninsulated bus bars shall be arranged such that minimum clearances and creepage between the bus bars in air are maintained as per below or should be as per relevant IS/IEC standards.
1.0.2.7.1	Between phases : 27 mm min.
1.0.2.7.2	Between phases and neutral : 25 mm min.
1.0.2.7.3	Between phases and earth : 25 mm min.
1.0.2.7.4	Between neutral and earth : 23 mm min.
1.0.2.8	Details of Bus bars (Main Horizontal & Feeder Jumper Bus bars)
1.0.2.8.1	System : 3 Phase 4 Wire
1.0.2.8.2	Rated current Main Bus bar :400 Amps
1.0.2.8.3	Rated current Feeder jumper: As per feeder rating.

1.0.2.8.4	Temp. rise limit (Final temp)0C : 55° C (As per IS / IEC)
1.0.2.8.5	Rated short time with stand current : 35 KA for 1 sec
1.0.2.9	Details of Earth Bus bar
1.0.2.9.1	Rating : Sized for rated short circuit current 1sec.
1.0.2.9.2	Material / Grade : Copper/ETP
1.0.2.9.3	Size (minimum cross section): 30 X 6 sqmm for throughout panel.
1.0.2.10	Bus bar Connections: Between main horizontal bus bar and Circuit Breaker
1.0.2.11	Material / Grade : Copper
1.0.3	Moulded Case Circuit Breaker - (General requirements)
1.0.3.1	The MCCBs shall comply with the requirement of IEC 60947/IS 13947.
1.0.3.2	The MCCB's shall be of fast acting double break contacts type, quick make, quick break trip-free operation.
1.0.3.3	The MCCB's of the outgoing feeders shall be fixed-mounted version and manual operation type.
1.0.3.4	The MCCB's shall be with terminal extension links and safety phase barriers as standard.
1.0.3.5	Housing of the MCCB shall be of heat resistant and flame retardant insulating material.
1.0.3.6	All MCCB's shall be provided with Extended rotary handles.
1.0.3.7	Operating handle of the MCCB shall be in front and clearly indicate ON/OFF/TRIP positions.
1.0.3.8	The MCCB shall be provided with Microprocessor based trip unit for incomer and thermal / magnetic type bi-metal over load release and Electro-magnetic short circuit protection device for outgoing feeders. All the release shall operate on common trip busbar so that in case of operation of any one of the releases in any of the three phases, it will cut off all the three phases and thereby single phasing of the system is avoided.
1.0.3.9	The MCCB's shall be with door inter lock defeat and pad lock facility.
1.0.3.10	The MCCB should trip for short circuit current above 25 In in less than 10 ms with an independent of the tripping unit.
1.0.3.11	Technical Data for Moulded Case Circuit Breaker
1.0.3.11.1	Rated service voltage (Ue): 690 V
1.0.3.11.2	Rated insulation voltage (Ui): 800 V
1.0.3.11.3	Rated current: 200/63 Amps
1.0.3.11.4	Rated impulse with stand voltage (Uimp): 8 KV

1.0.3.11.5	Rated short time withstanding current at 50/60Hz: 35 KA ($I_{cu}=I_{cs}=100\%$)
1.0.3.11.6	Frequency: 50 Hz
1.0.3.11.7	No of poles: 3
1.0.3.11.8	Utilization category : A
1.0.3.11.9	Make (Type): Siemens (SENTRON VL series)/ABB (T max series)/Schneider Electric (COMPACT NSX series)
1.0.4	Protection & Control unit for MCCB feeders
1.0.4.1	Protection release – MCCB's with thermal over load release for over load protection (L), Instantaneous short circuit protection (I), Delayed short circuit protection (S), with LED's for finding cause of tripping, LED status indicator.
1.0.4.2	The Microprocessor based over current trip unit shall contain all the necessary following protections with wide setting ranges:
1.0.4.2.1	Overload protection (40-100%) with time lag adjustments
1.0.4.2.2	Short – time delayed short circuit protection (1.5 – 10 times of rated current) with time lag I^2t ON/OFF
1.0.4.2.3	Instantaneous short – circuit protection (1.5 to 15 times of I_n)
1.0.4.2.4	Ground fault protection adjustment from 20% to 100% of I_n with time lag I^2t ON/OFF
1.0.4.2.5	Protection against L, S, I, G
1.0.5	660/690 Volts LT Feeder Pillar Box panel configuration
1.0.5.1	The LT Feeder Pillar Box panel shall be configured with required number of Incomer and Outgoing feeders as given below in accordance with this specifications and standards stated.
1.0.5.2	200 Amps, 35 KA/1 sec, rating MCCB for Incomer feeder – Qty: 1 Nos.
1.0.5.3	63 Amps, 25 KA/1 sec, rating MCCB for Outgoing feeder – Qty: 4 Nos.
1.0.6	Two pole MCB for AC control supply
1.0.6.1	6 Amps, 250 Volts AC supply
1.0.6.2	Make: Schneider Electric/Havells/Siemens/Indo Asian/GE Power
1.0.7	Indication lamps – High intensity, clustered LED integral module type
1.0.7.1	Breaker ON indication (RED Colour)
1.0.7.2	Breaker OFF indication (GREEN Colour)
1.0.7.3	Incoming supply healthy R,Y & B phases

1.0.7.4	Voltage: 230 Volts AC Supply
1.0.7.5	Diameter: 22.5 mm (panel cut)
1.0.7.6	Make: Teknic / Vaishno / Siemens / L&T
1.0.8	Analog Volt Meter with selector switch
1.0.8.1	Wiring: 3 Phase
1.0.8.2	Voltage input: 415 Volts, 50 Hz, AC
1.0.8.3	Type of mounting: Flush
1.0.8.4	Make: AEE/Siemens/L&T
1.0.9	Analog Ammeter with selector switch
1.0.9.1	Wiring: 3 Phase
1.0.9.2	Suitable for CT Ratio:200-100/5 -5Amps
1.0.9.3	Current input: 5 amps
1.0.9.4	Type of mounting: Flush
1.0.9.5	Make: AEE/Siemens/L&T



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For CHIEF GENERAL MANAGER / HVF
For And On Behalf Of THE PRESIDENT OF INDIA