



BALMER LAWRIE & CO LIMITED
(A Government of India Enterprise)
Engineering & Projects
21, Netaji Subhas Road
Kolkata 700 001

Warehouse illumination and allied work

For

Container Freight Station

At

P-3/1, Transport Depot Road, Kolkata-700088

Tender No. EP/CFS/KOL/WH/ELE/04

PRICED BID (PART II)

NOTES:

- 1.0 Details of the items under this Schedule shall be read in conjunction with the corresponding Specifications, Drawings and other Tender Documents.
- 2.0 The work shall be carried out as per approved drawings, Specifications and the description of the items in this Schedule and/or Engineer's instructions. Drawings enclosed with these documents are only for providing some preliminary of the work involved.
- 3.0 Items of work provided in this Schedule but not covered in the Specifications shall be executed strictly as per instructions of the Engineer-In-Charge.
- 4.0 The Quantities of the various items mentioned in the Schedule of Items are approximate and may vary or may be deleted altogether. The Contractor, in his own interest, should get an indication of the probable extent of the work to be executed under any particular item in this Schedule before undertaking any preliminary and enabling work or purchasing bought out components related to the work.
- 5.0 Engineer's decision shall be final and binding on the Contractor regarding clarification of items in this Schedule with respect to the other sections of the Contract.
- 6.0 For extra items, rates shall be derived from similar item rates included in the schedule of work. Where there is no such similar item available in the schedule, rate shall be analyzed as follows:
Rate for extra item = Cost of material including transportation for delivery upto site (a) + cost of labour inclusive of all necessary tools, tackles, equipment, machinery and consumable (b) required to carry out the work + 15% of (a+b) towards profit and overhead + taxes, duties etc. as applicable.
- 7.0 Quoted Rate shall include cost of design, material procurement, fabrication, assembly, Painting, Supply (including Packing & Forwarding, Transportation upto project site, covering the materials under transit insurance), unloading at site with hiring of cranes/forklifts and manpower and safe storage at site, site shifting as required, site assembly, erection, alignment, testing, commissioning and handing over of the system. Necessary equipment, cranes, forklifts, tools & tackles, manpower and consumables required for erection and commissioning shall be included.
- 8.0 It is mandatory to quote for all the items of Schedule of Work/ Price Schedule. If any bidder does not quote for any item, their bid will be rejected. Bidders shall not change the unit or quantity of any item failing which may lead to cancellation of price bid.

SCHEDULE OF WORK

WAREHOUSE ILLUMINATION AND ALLIED WORK FOR CONTAINER FREIGHT STATION

SI No.	Description of Item	Unit	Qty	Rate (in Rs)	Amount (in Rs)
	ILLUMINATION SYSTEM				
1.0	Lighting Distribution Boards				
	Supply & installation of following LPs/SBs on wall/column or recessed mounted on wall.				
1.0.1	Wall/Column/ Recess mounted IP 43,IK-09 with metal door, TPN Lighting Distribution Board (LPB-01) - 125 Amp. FP MCCB (DPX125 type cat no. 250 29) with inbuilt thermal trip release and Underneath Earth Leakage Module (260 13) as Incomer; one no. 415V, 250A, 3 ph, 4 w, Cu fully insulated busbar and outgoing feeders as: 1 no. 80Amp, 10KA 4P MCB (Cat No. 4100 41), 1no. 32 amp 10 KA 4P MCB (Cat No. 4100 37), 3 nos. 16 Amp, 10KA SP MCB (cat no. 4085 92) 15nos. 10 Amp.,10KA SP MCB (cat. no. 4085 91) (Make :Legrand : IP-43 - IK 09 with metal door or, approved equivalent)	Nos.	1		
1.0.2	Wall/Column/ Recess mounted IP 43, TPN Lighting Distribution Board (LPD-01) - 80 Amp. FP RCCB (cat no. 4117 87) with inbuilt thermal trip release as Incomer; one no. 415V, 100A, 3 ph, 4 w, Cu fully insulated busbar and outgoing feeders as: 12 nos. 10 Amp, 10KA SP MCB (cat no. 4085 91), 6 nos. 16 Amp, 10KA SP MCB (cat no. 4085 92), 6 nos. 32 Amp.,10KA SP MCB (cat. no. 4085 95) (Make :Legrand : Ekinox TPN DB 6077 17 IP-43 - IK 09 with metal door or, approved equivalent)	Nos.	1		
1.0.3	Wall/Column/ Recess mounted IP 43, TPN Lighting Distribution Board (LPD-02) - 40 Amp. FP RCCB (cat no. 4117 85) with inbuilt thermal trip release as Incomer; one no. 415V, 100A, 3 ph, 4 w, Cu fully insulated busbar and outgoing feeders as: 12 nos. 10 Amp, 10KA SP MCB (cat no. 4085 91), 6 nos. 16 Amp, 10KA SP MCB (cat no. 4085 92), 6 nos. 32 Amp.,10KA SP MCB (cat. no. 4085 95) (Make :Legrand : Ekinox TPN DB 6077 17 IP-43 - IK 09 with metal door or, approved equivalent)	Nos.	1		

SI No.	Description of Item	Unit	Qty	Rate (in Rs)	Amount (in Rs)
1.1	Switch Boards & Receptacles				
	Supply & installation of following Switch Boards (along with 10A modular switches of approved colour, blank cover, GI 2 mm thick GI modular metal box embedded in wall, grid plate, FRONT PLATE with cover of approved colour suitable for modular switch) on wall/column/ work station or recessed mounted on wall. In case of concealed wiring, the switch board shall be mounted in 2mm thick GI metal box embedded in wall, base plate, face plates of colour approved by owner, (for concealed type wiring), earthing of the outlet boxes . The job includes cutting of walls and making it good (for concealed wiring). Colour of Face Plate and Switch shall be decided by the Owner during execution of work.				
1.1.1	Switch Board (6 module) (SWA) - Switchboard with 6 nos. one module 10A piano switch; (Surface / Recess Mounted)	Nos.	3		
1.1.2	Switch Board (8 module) (SWE) - Switchboard with 4 nos. one module 10A piano switch; 1 no. 6/15A, 5 pin two module International plug socket with 1 no. one module 10A switch; (Surface / Recess Mounted)	Nos.	1		
1.1.3	Switch Board (5 module) (SWH) - Switchboard with 2 nos. one module 10A piano switch and 1 no. 6/15A, 5 pin two module International plug socket with 1 no. one module 10A switch; (Surface / Recess Mounted)	Nos.	2		
1.2	Receptacles				
1.2.1	Modular Power Board (4 module metal box) (RA) - Supply, Installation, Testing and commissioning of 250V, 1 no. Single phase and Neutral 16A, 5 Pin 2/3 module power socket outlets with 1 no. 1 module 16A SP Modular Switch mounted in 2mm thick GI box including embedding of outlet boxes in wall, earthing of the outlet boxes. Leftout module, if any, shall be provided with switch.	pts	5		
1.2.2	Modular Power Board (6 module metal box) (RB) - Supply, Installation, Testing and commissioning of 250V, 2 no. 6/15A, 5 pin two module International plug socket with 2 no. one module 10A switch mounted in 2mm thick GI box including embedding of outlet boxes in wall, earthing of the outlet boxes (Surface / Recess Mounted)	pts	4		
1.2.3	Supply & Installation of 32A Modular Motor Starter Unit (3 module) (RC) for Air Conditioning units and 32A, 5 pin power socket unit (3 module) of North west make (cat. No. C12M01 J) mounted in 2mm thick 6 module GI box including embedding of outlet boxes in wall, earthing of the outlet boxes .	pts	2		

SI No.	Description of Item	Unit	Qty	Rate (in Rs)	Amount (in Rs)
1.3	Outdoor Lighting				
1.3.1	Street Light- TYPE STL -Supply ,Transportation and fixing of 1X60 W LED Street Light Fittings Outdoor Area, pipe bracket mounting type without pole . It shall be fixed on struture of shed or RCC building with all standard accessories, diffuser and all labour charges etc., complete. Efficacy 120 lm/w,, power factor >=0.9, IP66, IK08.LED light fitting make PHILLIPS / BAJAJ /CROMPTON GREAVES.BL approved Catalouge no. Bajaj ENXT P 72L WH CR PC SD.The fixtures shall be mounted on pipe structures which will be clamped to outdoor. Accordingly, the cost shall include supply of pipes for mounting.	Nos.	11		
1.3.2	Street Light- TYPE STM -Supply ,Transportation and fixing of 1X200 W LED Flood Light Fittings Outdoor Area, angle bracket mounting type without pole . It shall be fixed on struture of shed or RCC building with all standard accessories, diffuser and all labour charges etc., complete. Efficacy 120 lm/w,, power factor >=0.95, IP66, IK08.LED light fitting make PHILLIPS / BAJAJ /CROMPTON GREAVES.BL approved Catalouge no. Bajaj BJFL 200W LED I.The fixtures shall be mounted on angle structures which will be clamped to outdoor. Accordingly, the cost shall include supply of pipes for mounting.	Nos.	1		
1.4	Indoor Lighting				
	Supply, Installation, Testing & Commissioning and other associated activities, mounting arrangement, point wiring with FRLS wire 2.5 sq mm Phase & Neutral, 1.5 Earth & 1" ISI FRLS heavy duty PVC conduit, ceiling rose, 10A SP switch, hole cutting & sealing arrangement in PEB 150 mm sheet and with all necessary consumables to complete the job:				
1.4.1	Type HB : LED Light fitting 1 X 120W, Industrial Highbay Area type . Efficacy 110 lm/w,IP65, IK06, colour temp.Power factor >=0.9. Make BAJAJ/PHILLIPS/CGL. BL approved Catalouge no. Bajaj Tendo Nxt B 132L WH NB SD. The fixtures shall be hung from structures wherever required. Accordingly, the cost shall include supply of GI rods for hanging.	Nos.	85		
1.4.2	Type DB(40W) : LED Light fitting 1 X 40W, 4 feet Office / Parking / Stair Area type . Efficacy 110 lm/w, colour temp. Minimum 6500 K, beam angle:Minimum 120°, power factor >=0.9. Make BAJAJ/PHILLIPS/Panasonic. BL approved Catalouge no. Bajaj BCLAB SP 44L LED CW PC SD with CW LED. The fixtures shall be hung from structures wherever required. Accordingly, the cost shall include supply of GI rods for hanging.	Nos.	30		

SI No.	Description of Item	Unit	Qty	Rate (in Rs)	Amount (in Rs)
1.4.3	Type DB(18W) : LED Light fitting 1 X 18W, Office / Parking / Stair Area type . Efficacy 100 lm/w, colour temp. Minimum 6500 K, beam angle:Minimum 120°, power factor >=0.9. Make BAJAJ/PHILLIPS/Panasonic. BL approved Catalouge no. Bajaj BCLSB 18 WH LED with CW LED. The fixtures shall be hung from structures wherever required. Accordingly, the cost shall include supply of GI rods for hanging.	Nos.	5		
1.4.4	Supply, Installation, testing & commissioning of ceiling fans / exhaust fans including all associated masonry work, down rod. Make: Crompton / Bajaj / Havells / or approved equivalent				
1.4.4.1	Exhaust Fan (EX) 250 mm sweep. Cost shall include suporting steel structure and making opening in the wall, finishing as required.	Nos.	2		
1.4.4.2	Exhaust Fan (EX) 600 mm sweep Industrial type. Cost shall include suporting steel structure and making opening in the wall, finishing as required.	Nos.	1		
2.0	Cabling				
	Supply (delivery, unloading and storing of cables at site) and laying of cables (including supply of necessary clamping hardwares, cable markers etc.) either through conduits/G.I pipes, or in RCC Trenches or buried underground or on cable tray/ladder, or by clamping hardwares, cable markers etc.) either through conduits/Pipes, or in RCC Trenches or buried underground or on cable tray / ladder, or by clamping with wall / structure / machine frame suitably of following sizes of cables as specified. Item also includes dismantling of PCC, laying of cable through G.I. Pipes in places and making good of PCC thereof.The G.I pipe to be laid at a depth of 600mm. Cost of cable tray, trench, buried trench, G.I Pipe is excluded from this item and covered in some other items).				
	415V LT Cables				
2.0.1	3 -1/2 Core 70 Sq.mm stranded Al. Conductor, XLPE insulated, taped PVC inner sheathed, armoured, extruded PVC outersheathed, 1.1 KV grade cable	Mtr	450		
2.0.2	4 Core 16 Sq.mm stranded Cu. Conductor, XLPE insulated, taped PVC inner sheathed, armoured, extruded PVC outersheathed, 1.1 KV grade cable	Mtr	175		
2.0.3	4 -Core 4 Sq.mm stranded Cu. Conductor, XLPE insulated, taped PVC inner sheathed, armoured, extruded PVC outersheathed, 1.1 KV grade cable	Mtr	220		
3.0	Cable Termination : Non-Flameproof Termination of following sizes of XLPE/PVC insulated armoured cables, including supply of double compression type brass cable glands, lugs etc.				
	415V LT Cables				

SI No.	Description of Item	Unit	Qty	Rate (in Rs)	Amount (in Rs)
3.0.1	3 -1/2 Core 70 Sq. mm stranded Al. Conductor, XLPE insulated, taped PVC inner sheathed, armoured, extruded PVC outersheathed, 1.1 KV grade cable	Nos.	2		
3.0.2	4 Core 16 Sq.mm stranded Cu. Conductor, XLPE insulated, taped PVC inner sheathed, armoured, extruded PVC outersheathed, 1.1 KV grade cable	Nos.	2		
3.0.3	4 -Core 4 Sq.mm stranded Cu. Conductor, XLPE insulated, taped PVC inner sheathed, armoured, extruded PVC outersheathed, 1.1 KV grade cable	Nos.	2		
4.0	Lighting Wiring				
	Sub Main Cable Wiring for Outdoor Lighting and Warehouse Indoor Lighting				
4.0.1	Cabling from Lighting Distribution Boards [LPA] to indoor lighting fittings, peripheral light fittings, switch boards and Wiring to the RB type power plug points from Lighting / Power DBs : Supply of all materials (including supply of 3 Core 2.5 sq mm copper conductor , XLPE insulated, taped PVC inner sheathed, armoured , extruded PVC outersheathed cable; glands; lugs; saddles; MS JB's of adequate size and entries; GI Spacers etc.), installation, termination, testing, commissioning of cable wiring for lighting by surface wiring with armoured cables. The fixtures shall be mounted from ceiling / wall . (for technical detail of cable pl refer specification).	Mtr.	2400		
	Concealed - Wiring / Above False Ceiling or, normal Wiring using PVC conduit/ Cabling/Casing Capping				
4.0.2	Supply of PVC insulated copper conductor 600V Grade stranded flexible FRLS wires of Havells/Finolex/ Polycab/ National make (for phase, neutral & earth) for interconnection between DBs and switchboards/outlet boxes and routing of wires through 25/32 mm dia heavy duty, PVC conduit including supply and fixing/concealing of conduits and necessary junction boxes in wall/ceiling /floor with cleating, etc and termination of wires on DBs /Switchboards/outlet boxes. Conduits & accessories shall be of Standard make. The job includes cutting of walls and making it good for concealed wiring. Wires shall be of the following sizes :				
4.0.3	2 nos 2.5 sq.mm.+ 1 nos 1.5 sqmm	RM	550		
4.0.4	2 nos 4.0 sq.mm.+ 1 no 2.5 sqmm	RM	130		
4.0.5	Point Wiring : i) Concealed Wiring / Above False Ceiling or, ii) normal Wiring using 1 inch ISI FRLS Heavy Duty PVC conduit/ Cabling/Casing Capping				
	i) Supply of 1.5 Sq.mm 600 V Grade FRLS PVC insulated copper conductor stranded flexible wires (phase, neutral & earth) of havells/ Finolex/ Polycab/ National make.				

SI No.	Description of Item	Unit	Qty	Rate (in Rs)	Amount (in Rs)
	ii) Routing of wires through 25 / 32 mm dia heavy duty PVC conduit including supply & fixing of conduits, necessary JB's. The job includes cutting of walls and making it good for concealed wiring. Conduits and accessories shall be of Standard make.				
	iii) Embedding of switch boxes, JB's, earthing, concealing of conduits in wall/ceiling/floor with cleating, casing capping etc.				
4.0.6	One point controlled by one 10 A Switch (average route length 8 mtr)	Nos	20		
4.0.7	Two point controlled by one 10 A Switch (average route length 12 mtr)	Nos	9		
5.0	Grounding				
5.0.1	Installation of new earth pit as per IS standard with 50mm dia class B, GI Pipe 3 meters long, work includes all civil works Backfill materials like charcoal and salt of required quantity has to be put in the pit. Providing necessary frame around the pit, providing pit cover, supply and installation of earth pit display board, funnel for watering, measurement of Earth pit resistance. The job also includes dismantling of PCC for required earth pit installation.	Nos.	2		
5.0.2	Supply, laying, fixing and connection of equipment earthing lead with different sizes of conductor as specified, including floor chipping and repair (wherever required)				
5.0.2.1	6 swg GI wire (including provision of socket at both end of each piece)	RM	350		
5.0.2.2	25 x 3 GI Flat	Mtr	50		
6.0	PRE FABRICATED CABLE TRAY				
	Supply, fabrication, welding, cutting, bending and fixing of pre-fabricated perforated / ladder type Hot dip Galvanised low carbon steel cable tray with nominal rung spacing 12 inch, including supply of jointing coupler with nut bolts and washers, fabrication of bends as per requirement, hanger support @ 2.0 Mtr spacing (supply rate will includes supply of pre-fabricated cable tray and couplers, cost of installation includes all other things like supply and installations of other accessories like cable tray support / hanger; touch up galvanised painting at site and other consumables etc. all) However, Steel support made for this shall be paid under seperate item.				
6.0.1	Cable Tray 50W x 25H x 2 mm thickness perforated tray	Mtr	1410		
6.0.2	Cable Tray 100W x 25H x 2 mm thickness perforated tray	Mtr	25		

SI No.	Description of Item	Unit	Qty	Rate (in Rs)	Amount (in Rs)
7.0	Supply, installation, fixing, fitting, testing and commissioning of Advanced New Generation Early streamer emission (ESE)technology lightning protection system for protection of buildings, equipment etc. against natural lightening. It shall be complete with ESE air terminal made from with stainless steel with coverage of min 100 m,4/5 mtr mast extension, lightning flash counter, test point, Advance Earthing System (2 pits), Copper conductor (50 mtr) and to be mounted at a height of (+) 13.5 m of existing warehouse. Please refer specification for details.	Set	1		
	Miscellaneous				
8.0	Steel Work: Supply, fabrication & erection of cable tray and misc. steel structures for various support, mounting of light fittings, local panels, receptacles etc., including supply & application of two coats of epoxy primer and two coats of synthetic enamel paint.	Kg	1000		
9.0	Supply, installation of GI Pipe as per IS: 1239 / IS : 3589)				
9.0.1	3 inch dia GI Pipe- B Class	Mtr	25		
10.0	Excavation in hard soil, sand filling, including provision of, sand, 2nd class bricks from sides and 2nd class brick/ recast PCC slab on top for protection of the cables, and backfilling with earth as well as cable tags and markers etc. as per technical specification for cable trenches of following sizes: (Rates shall be inclusive of supply of sand, brick, PCC slab - 40mm thick,cable tag,markers etc).				
10.0.1	300mm (Wide) x 600mm (Deep)	Mtr	50		
	TOTAL				
	Add for GST	%	18		
	TOTAL with GST				