	ELECTRONIC ENERGY METER (RS485)
1	CURRENT
2	VOLTAGE
3	REAL POWER
4	REACTIVE POWER
5	APPARENT POWER
6	POWER FACTOR
7	FREQUENCY

	MULTIFUNCTION METER (RS485)
1	CURRENT
2	VOLTAGE
3	REAL POWER
4	REACTIVE POWER
5	APPARENT POWER
6	POWER FACTOR
7	FREQUENCY
8	CUMULATIVE MD

INTERLOCK LOGIC FOR FP-MAIN LT PANEL

	ACB-1	ACB-2	ACB-3
CASE-I	ON	ON	OFF
CASE-II	OFF	ON	ON
CASE-III	ON	OFF	ON

#	ONE SET POTENTIAL FREE CONTACTS TO BE PROVIDED FOR EACH FIRE MODE VENTILATION FAN IN LCP/PANEL

BMS MONITOR/COMMAND STATUS

BMS	NO/NC POTENTIAL FREE CONTACTS TO BE PROVIDED IN THE PANEL FOR ON/OFF STATUS TRIP STATUS
BMS M	NO/NC POTENTIAL FREE CONTACTS TO BE PROVIDED IN THE PANEL FOR ON/OFF STATUS TRIP STATUS VOLTAGE PRESENSE
BMS ✱✱	NO/NC POTENTIAL FREE CONTACTS TO BE PROVIDED IN THE PANEL FOR ON/OFF STATUS TRIP STATUS ON/OFF COMMAND A/M SWITCH

ALL THE LCP'S SHALL BE PROVIDED WITH THE BELOW CONFIGURATION

CABLE ENTRY DETAILS
ENTRY: TOP EXIT : TOP
INGRESS PROTECTION (IP)
IP: 42
PHASING CONFIGURATION
3Ø, TP - R,Y,B
SHORT CIRCUIT RUPTURING CAPACITY
10kA/SEC

ABBREVIATIONS
4P - FOUR POLE
TPN - TRIPLE POLE & NEUTRAL
TP - TRIPLE POLE
DP - DOUBLE POLE
TCH - TRIP CIRCUIT HEALTHY

INDICATION LAMP DETAILS

INDICATION LAMP	COLOUR
● ON	GREEN
● OFF	RED
● TRIP	AMBER

NOTES

1. MAIN PCC PANEL SHOULD FULFILL THE REQUIREMENTS OF RELEVANT SPECIFICATIONS.
2. CONTROL CIRCUIT VOLTAGE SHALL BE 240V AC UNLESS SPECIFIED.
3. ALL EQUIPMENTS & PANELS ARE DOUBLE EARTHED WITH ADEQUATE SIZE OF G.I. STRIPS (BODY EARTHING)
4. ALL CABLES ARE ARMOURED CABLES UNLESS OTHERWISE SPECIFIED.
5. ALL THE FEEDERS SHALL BE LABELLED WITH FEEDER IDENTIFICATION.
6. THIS SLD SHOULD BE READ IN CONJUNCTION WITH RELEVANT TECHNICAL SPECIFICATION, RESPECTIVE FLOOR LAYOUTS & EARTHING LAYOUT.
7. ALL BUSDUCT/RISING MAINS SHALL BE OF SANDWICH CONSTRUCTION IT SHALL BE POSSIBLE TO MOUNT THE BUSBAR SYSTEM IN ANY ORIENTATION WITHOUT AFFECTING THE CURRENT RATING.
8. EARTHING SHALL BE CARRIED OUT AS PER IS 3043 / 2010.
9. HPFC CT AND CONTROLLER SHALL BE PROVIDED TO CONTROL / SENSING THE CAPACITOR BANK UNDER EACH BUS SECTION ONLY IN MAIN LT PANEL. THESE DETAILS ARE SUBJECT TO CHANGE DURING DETAIL ENGINEERING BASED ON VENDOR DETAILS
10. CIRCUIT BREAKER FOR MOTOR FEEDER IS DESIGNED BASED ON TYPE 2 COORDINATION CHART. THE FINAL RATING SHALL BE DECIDED BASED ON SELECTED VENDOR COORDINATION CHART.
11. STAR DELTA STARTER IS PROVIDED FOR 7.5kW MOTOR RATING AND ABOVE. LESS THAN 7.5kW MOTOR RATING IS PROVIDED WITH DOL STARTER
12. 2RUNS OF 3C CABLE TO BE PROVIDED FROM S/D STARTER TO PUMP MOTOR AND SINGLE RUN TO BE PROVIDED FOR DOL STARTER TO PUMP MOTOR
13. DOL STAR DELTA CONTACT RATING SHALL BE PROVIDED AS PER THE TYPE 2 COORDINATION CHART
14. FOR MOTOR AND PUMP PANELS, TP BREAKER & BUSBARS SHALL BE PROVIDED.
15. ALL LT PANELS - IN ALL OUTGOINGS ON, OFF & TRIP LED INDICATION LAMPS SHALL BE PROVIDED.
16. THE BUS BARS SHALL BE OF SUFFICIENT CROSS SECTION SO THAT A CURRENT DENSITY OF 0.8A/SQ.MM IS NOT EXCEEDED AT NOMINAL CURRENT RATING FOR ALUMINIUM BUS BARS, 1.0A/SQ.MM FOR COPPER BUS BARS.
17. MCCB'S SHOULD BE SUITABLE FOR ICU=ICS RATINGS.
18. 2 NOS 20 X 3 MM COPPER STRIP FOR LT PANEL UP TO 400 AMP AND 25 X 5 MM COPPER STRIP FOR LT PANEL OF HIGHER CAPACITY SHALL BE PROVIDED INSIDE THE PANELS.
19. ALL INCOMING AIR CIRCUIT BREAKERS (ACBS) SHALL BE OF ELECTRICALLY OPERATED DRAW-OUT TYPE (EDO) ENCASED IN METAL CLAD HOUSINGS AND OUTGOING SHALL BE MDO TYPE.
20. CABLE LENGTHS SHALL BE AS PER ACTUAL SITE MEASUREMENT.
21. IN THE ACB ALL INCOMER AND OUTGOING FEEDERS SHALL BE PROVIDED WITH VARIABLE MICROPROCESSOR BASED RELEASES FOR OVERLOAD(L), SHORT CIRCUIT(S), INSTANTANEOUS(I) AND EARTH FAULT PROTECTION.
22. ALL THE STARTERS SHALL BE PROVIDED WITH CONTACTORS & RELAYS.
23. DUAL RATIO RANGE MENTIONED IN THE SLD ARE INDICATIVE, IT SHALL BE AS PER THE FINALIZED CT MANUFACTURES AS PER PANEL SUPPLIER.
24. UPS' EMERGENCY LIGHTING /ELV UPS UNDER NORMAL CONDITION , BOTH UPS SHALL SHARE THE LOADS AND IN CASE ONE UPS FAILS OTHER UPS SHALL FEED THE COMPLETE LOAD WITHOUT INTERRUPTION.
25. REFER EQUIPMENT & CABLE TRAY LAYOUT FOR LCP LOCATIONS.
26. REFER CABLE SCHEDULE FOR LCP INCOMING & OUTGOING FEEDERS.

ALL MCCB'S WITH RATINGS UPTO AND INCLUDING 200A SHALL BE EQUIPPED WITH THERMAL MAGNETIC RELEASE.

SLD SYMBOLS

S.NO	SYMBOL	DESCRIPTION
1		MINIATURE CIRCUIT BREAKER
2		MOULDED CASE CIRCUIT BREAKER
3	E	AIR CIRCUIT BREAKER - ELECTRICAL DRAW OUT TYPE
4	M	AIR CIRCUIT BREAKER - MECHANICAL DRAW OUT TYPE
5	P1 S1 S2 P2	CURRENT TRANSFORMER (DUAL RATIO)
6	●/⊗	LED INDICATION LAMP
7	VSS	VOLTMETER SELECTOR SWITCH
8	ASS	AMMETER SELECTOR SWITCH
9	EEM	ELECTRONIC ENERGY METER WITH RS485 COMMUNICATION PORT
10	LCP	LOCAL CONTROL PANEL
11	V	DIGITAL TYPE VOLTMETER
12	A	DIGITAL TYPE AMMETER
13		CAPACITOR PANEL
14	⏚	GROUNDING
15	E/L	ELECTRICAL INTERLOCK
16	HPFCR	HYBRID POWER FACTOR CORRECTION RELAY
17	BMS	BUILDING MANAGEMENT SYSTEM
18	M	MOTOR / PUMP
19		POWER CONTACTOR
20		LIGHTING DISTRIBUTION BOARD (LDB)
21		EMERGENCY LIGHTING DISTRIBUTION BOARD (ELDB)
22		POWER DISTRIBUTION BOARD (PDB)
23		UPS DISTRIBUTION BOARD (UDB)
24		UNINTERRUPTIBLE POWER SUPPLY
25	95	TRIP CIRCUIT SUPERVISION RELAY
26	64R	RESTRICTED EARTH FAULT REALY
27	50G	SENSITIVE EARTH FAULT RELAY
28	MFM	MULTIFUNCTION METER WITH RS485 COMMUNICATION PORT
29		STAR DELTA STARTER
30	DOL	DIRECT ON LINE STARTER
31		AUTO/MANUAL SELECTOR SWITCH
32	SPP	SINGLE PHASE PROTECTION RELAY
33	●	CABLE SIZES SHALL BE AS PER CABLE SCHEDULE

REFERENCE DRAWINGS

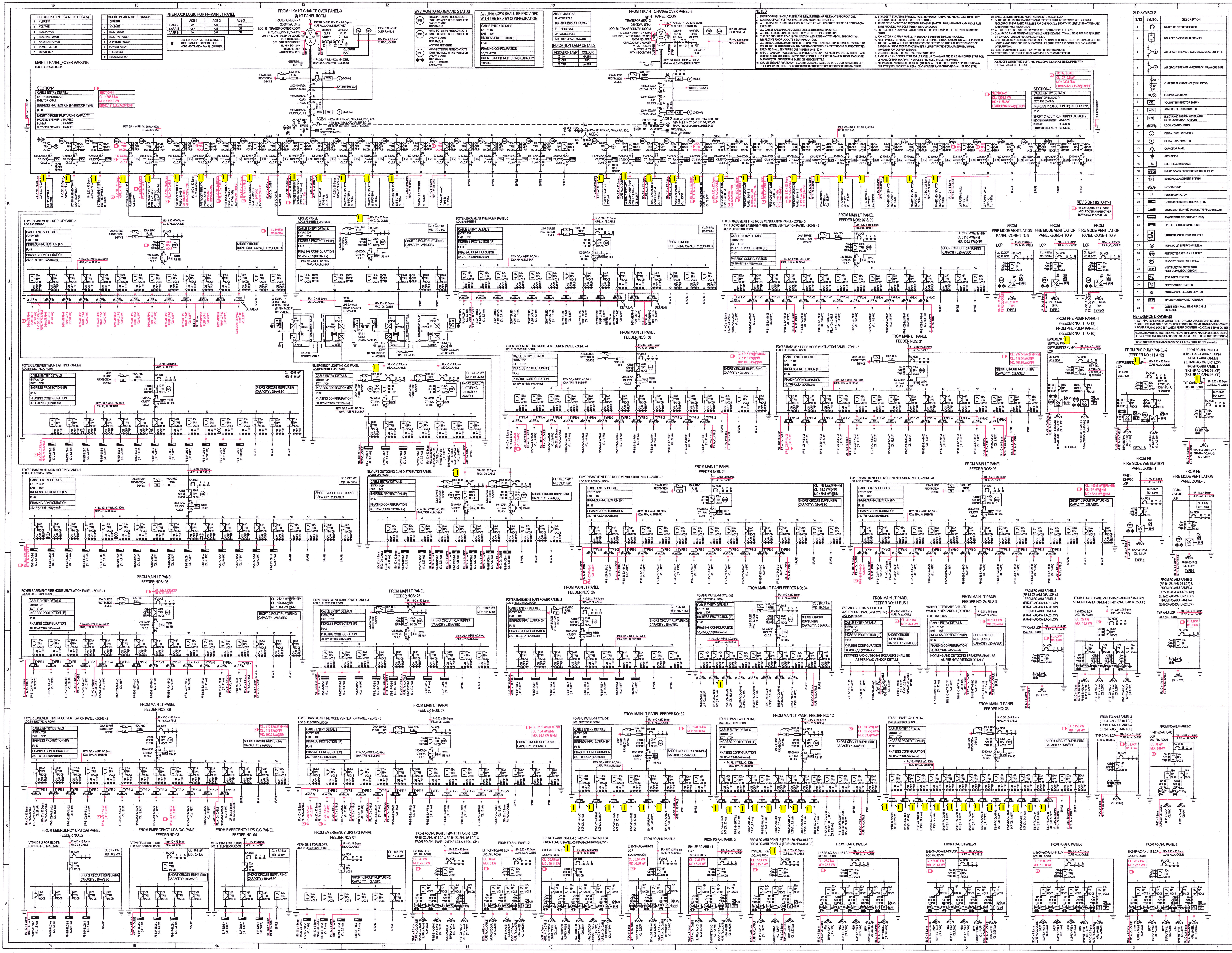
1. EARTHING SCHEMATIC DRAWING, REFER DWG. NO. O17203-E-SP-01-SC-0085.
2. FOYER PARKING, CABLE SCHEDULE REFER DOCUMENT NO. O17203-E-SP-01-DC-0133
3. FOYER PARKING, LOAD ESTIMATION REFER DOCUMENT NO. O17203-E-SP-01-DC-0135

ALL MCCB'S WITH RATINGS 250A AND ABOVE SHALL HAVE MICROPROCESSOR BASED RELEASE WITH ADJUSTABLE LONG TIME AND ADJUSTABLE SHORT TIME PROTECTION

SHORT CIRCUIT BREAKING CAPACITY OF ALL ACB's SHALL BE OF Icw=Icu=Ics

REVISION HISTORY-1

BREAKERS,CABLES & LOADS ARE UPDATED AS PER OTHER SERVICES APPROVED TDS.


MAIN LT PANEL_FOYER PARKING
LOC. B1 LT PANEL ROOM
FROM 11KV HT CHANGE OVER PANEL-3 @ HT PANEL ROOM
TRANSFORMER - 1 2500KVA, 50Hz
LOC: B1 TRANSFORMER ROOM
11 / 0.433kV, DYN 11, Z = 6.25% DRY TYPE, CAST RESIN Cu. WOUND FLOOR MOUNTED OFF LOAD TAP CHANGER HV +5% TO -12.5% IN STEPS - 2.5% WITH INDOOR TYPE
11kV HT CABLE, 1R - 3C x 240 Sq.mm XLPE Ar. Al. CABLE (EARTHED)
415V, 3Ø, 4WIRE, 4000A, 4P, 50HZ, 65kA/sec AL SANDWICH BUS DUCT
ACB-1 4000A, 4P, 415V, AC, 50Hz, 65kA, EDO, ACB WITH BUILT IN CT, O/C, U/V, E/F, S/C, O/L MICRO PROCESSOR BASED RELEASE
FROM 11KV HT CHANGE OVER PANEL-3 @ HT PANEL ROOM
TRANSFORMER - 2 2500KVA, 50Hz
ACB-2
ACB-3
SECTION-1
CABLE ENTRY DETAILS
ENTRY: TOP (BUSDUCT)
EXIT: TOP (CABLE)
INGRESS PROTECTION (IP) INDOOR TYPE
IP: 42
SHORT CIRCUIT RUPTURING CAPACITY
INCOMING BREAKER : 65kA/SEC
BUSBAR : 65kA/SEC
OUTGOING BREAKER : 65kA/SEC
SECTION-1
CL : 1356.5 kW
MD : 1152.9 kW
EBMD:1213.6kVA@0.95PF
SECTION-2
CL : 1359.1 kW
MD : 1155.2W
EBMD:1216.0kVA@0.95PF
TOTAL LOAD:
CL : 2715.6kW
MD : 2308.2kW
EBMD:2429.7 kVA@0.95PF
FOYER BASEMENT PHE PUMP PANEL-1
FOYER BASEMENT PHE PUMP PANEL-2
UPS I/C PANEL
EMERGENCY LIGHTING O/G PANEL
ELV-UPS OUTGOING CUM DISTRIBUTION PANEL
FOYER BASEMENT MAIN LIGHTING PANEL-1
FOYER BASEMENT MAIN LIGHTING PANEL-2
FOYER BASEMENT MAIN POWER PANEL-1
FOYER BASEMENT MAIN POWER PANEL-2
FOYER BASEMENT FIRE MODE VENTILATION PANEL - ZONE - 1 … ZONE - 9
FO-AHU PANEL-1(FOYER-1)
FO-AHU PANEL-2(FOYER-2)
FO-AHU PANEL-3(FOYER-2)
FO-AHU PANEL-4(FOYER-2)
VARIABLE TERTIARY CHILLED WATER PUMP PANEL-1 (FOYER-1)
VARIABLE TERTIARY CHILLED WATER PUMP PANEL-2 (FOYER-2)
FROM EMERGENCY UPS O/G PANEL
VTPN DB-1 FOR ELDB'S
VTPN DB-2 FOR ELDB'S
VTPN DB-3 FOR ELDB'S
VTPN DB-4 FOR ELDB'S
DETAIL-A
DETAIL-B

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Room No 341 B, 3rd Floor Hotel Ashok, Diplomatic Enclave, 50B Chankyapuri, New Delhi - 110021

Employer's Engineer
Programme Management Consultant (PMC)
AECOM

Preliminary Engineering Architecture Consultants (PEAC)
idom
Av. Del Monasterio de El Escorial, 4, 28049 Madrid, Spain
CP KUKREJA ARCHITECTS
No.D-1, Ashirwad Building, Green Park, New Delhi, Delhi 110016, India

L&T Construction
Buildings & Factories
Mount Poonamallee Road, Manapakkam, P.B.No.979, Chennai – 600 089

Design Consultant
Engineering Design and Research Center (EDRC)
L&T Construction - Buildings & Factories

Architectural Consultant
Arcop Associates Pvt. Ltd.
A-15, Pampose Enclave , G.K.-1
New Delhi, Delhi 110048, India

Structural Proof Consultant
Indian Institute of Technology (IIT) Madras
Sardar Patel Rd, Opposite to C. L.R.I. Adyar, Chennai, Tamil Nadu 600036

MEP Proof Consultant
Egis India Consulting Engineers Pvt. Ltd.
Plot No. 66, Sector 32, Institutional Area, Opp: Zenatix Solutions, Gurugram, Haryana 122001

ICT Proof Consultant
CKR iT Consulting
Bld. No.47/1, 3rd Floor, Narayana Arcade, Subbaramachetty Road, Netkalappa Circle, Basavanagudi, Bengaluru - 560004

Certification

EPC Contractor			
Design Consultant			
Architectural Consultant			
Proof Consultant			
Structural	**MEP**	**ICT**	
PEAC	Reviewed GFC drawing prepared by contractor and ensured that all preliminary aspects and parameters have been adhered to :		
Issued by:		20/08/2020	
Employer / Employer's Engineer	Sign of PEAC	Date:	

R1	REVISED AS PER REVISION HISTORY-1 & ISSUED AS GFC	10.08.20	NVS	GANA	RJ	RAA
REV	DESCRIPTION	DATE	DSGN	DRWN	CHKD	APPD

Revisions

ARCHITECTURE			FPS		
STRUCTURAL			PIPING		
ELECTRICAL			PHE		
ELV SYSTEM			GIS		
HVAC			GEOTECH.		
CHECKED BY	SIGN	DATE	CHECKED BY	SIGN	DATE

EPC Contractor
L&T Construction
Buildings & Factories
JOB No : O17203

Project Name
DESIGN AND CONSTRUCTION OF INDIA INTERNATIONAL CONVENTION & EXPO CENTRE
SECTOR 25, DWARKA, NEW DELHI, INDIA

Drawing Status
GOOD FOR CONSTRUCTION (GFC)

GOOD FOR CONSTRUCTION

Drawing No			Rev. No
E	01	0083	R1

Title :
FOYER PARKING
MASTER SINGLE LINE DIAGRAM

EDRC DWG No :	Scale :	Sheet Size
O17203-E-SP-01-1L-0083	NTS	A0

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