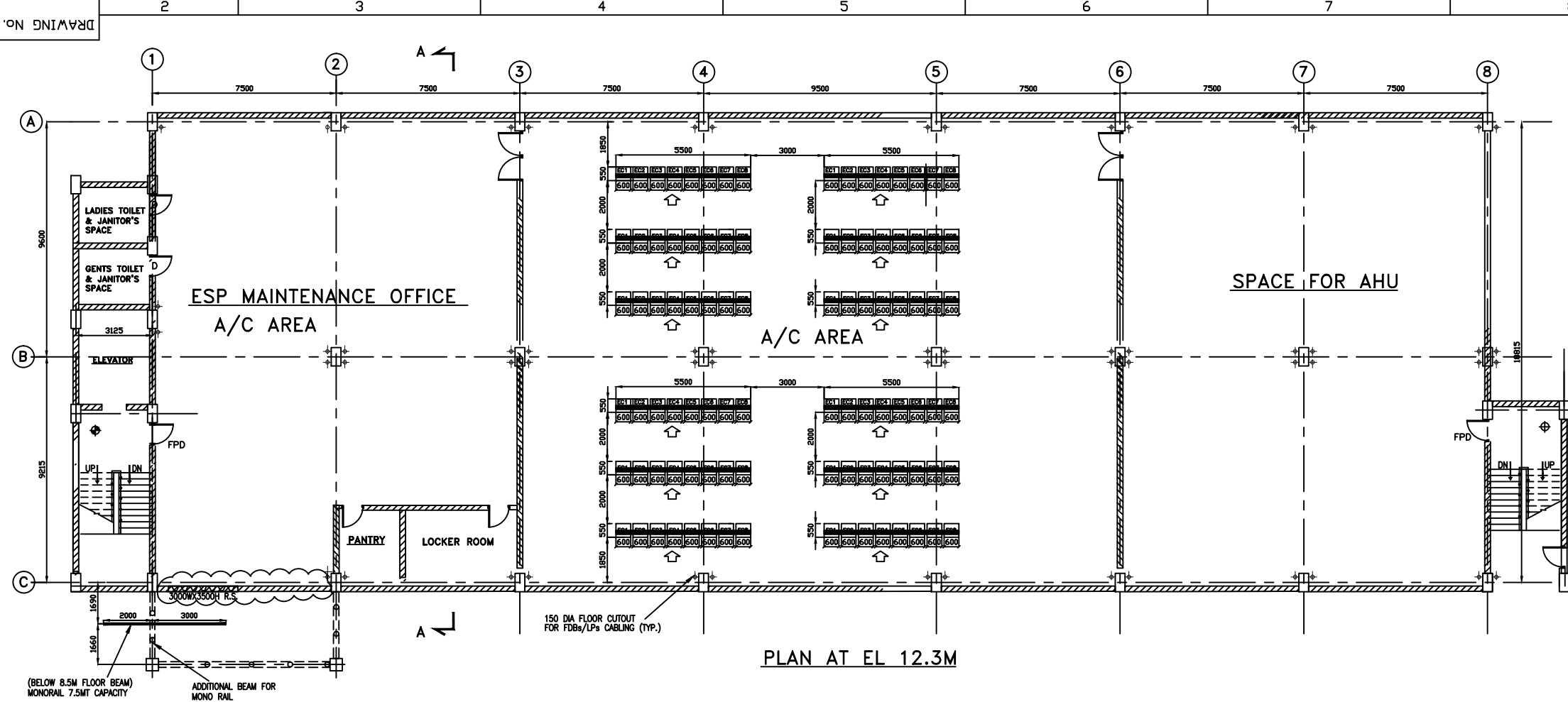
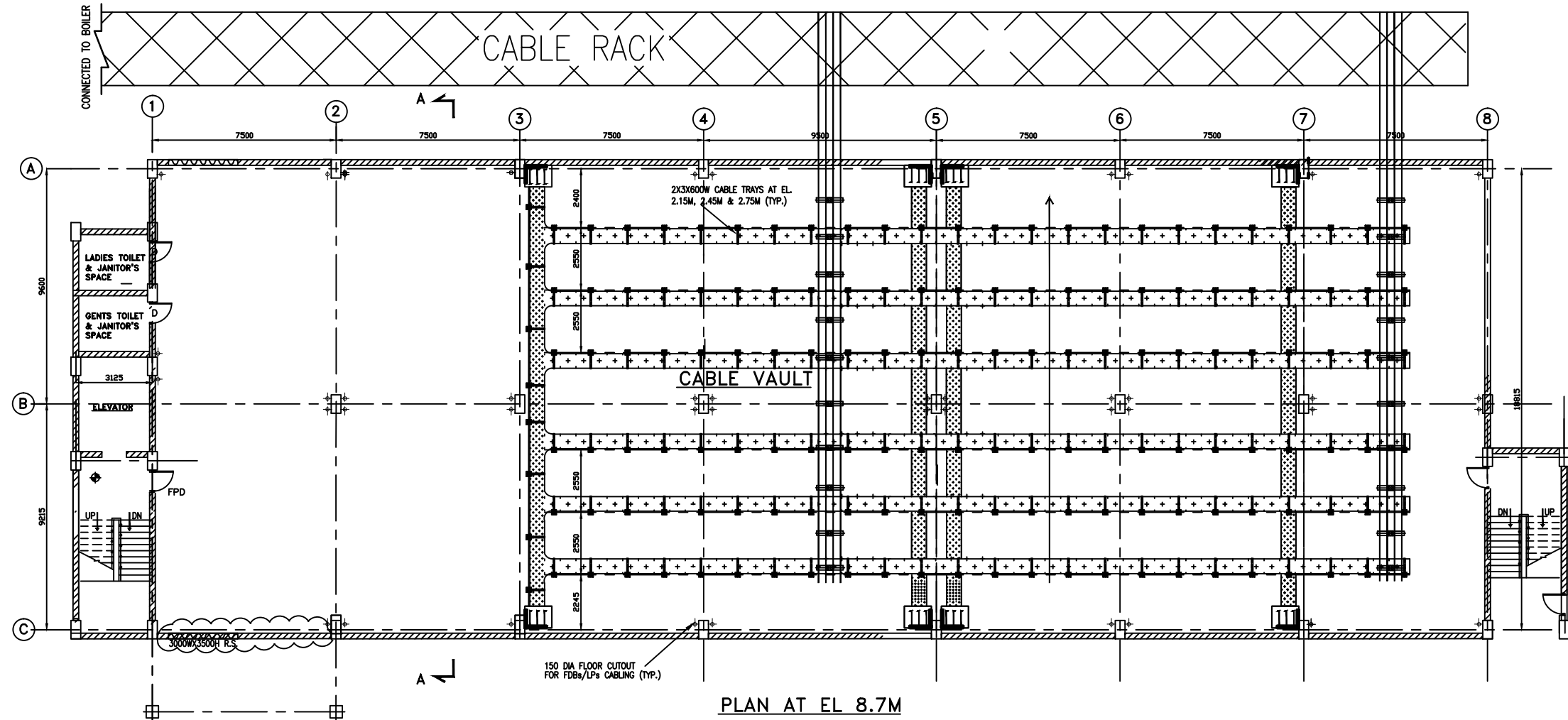


PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT

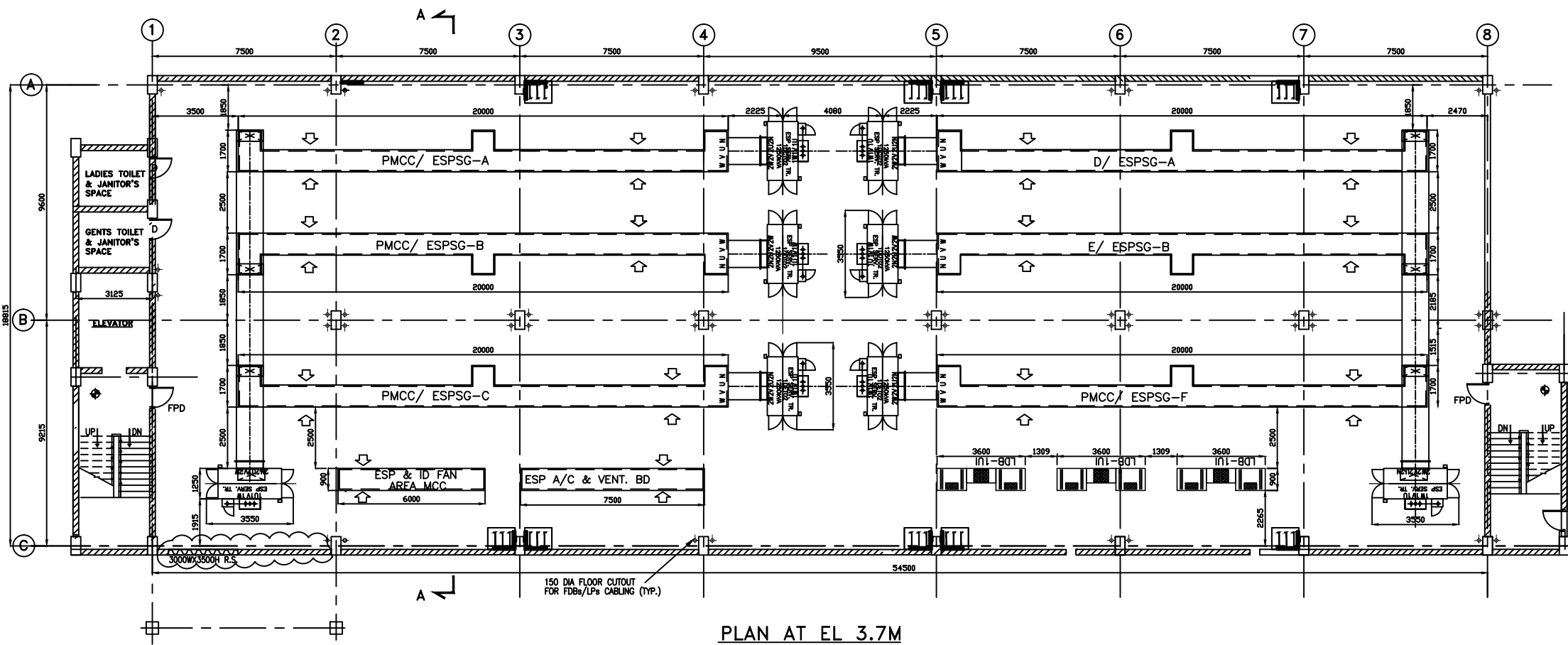
PRODUCED BY AN AUTODESK EDUCATIONAL PRODUCT



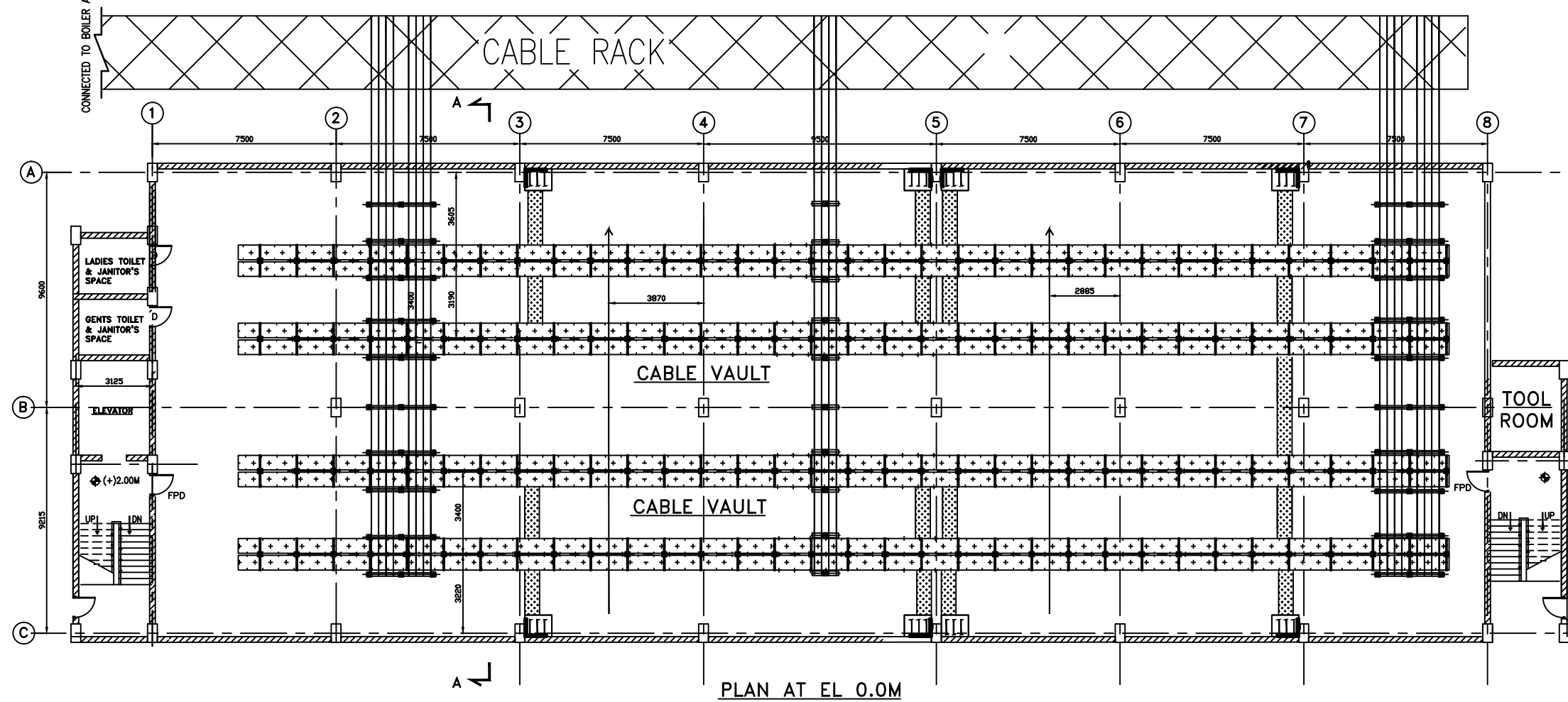
PLAN AT EL 12.3M



PLAN AT EL 8.7M



PLAN AT EL 3.7M



PLAN AT EL 0.0M

LEGEND

- OPERATING FRONT OF THE PANEL
- SINGLE LEAF DOOR (1200Wx2100H)
- DOUBLE LEAF FIRE PROOF DOOR (1200Wx2100H)
- DOUBLE LEAF FIRE PROOF DOOR (2000Wx2100H) WITH 900 HIGH REMOVABLE TRANSOM
- BRICK WALL
- PANEL CUTOUT
- WALL CUTOUT

TABLE-I SWBD DETAILS:

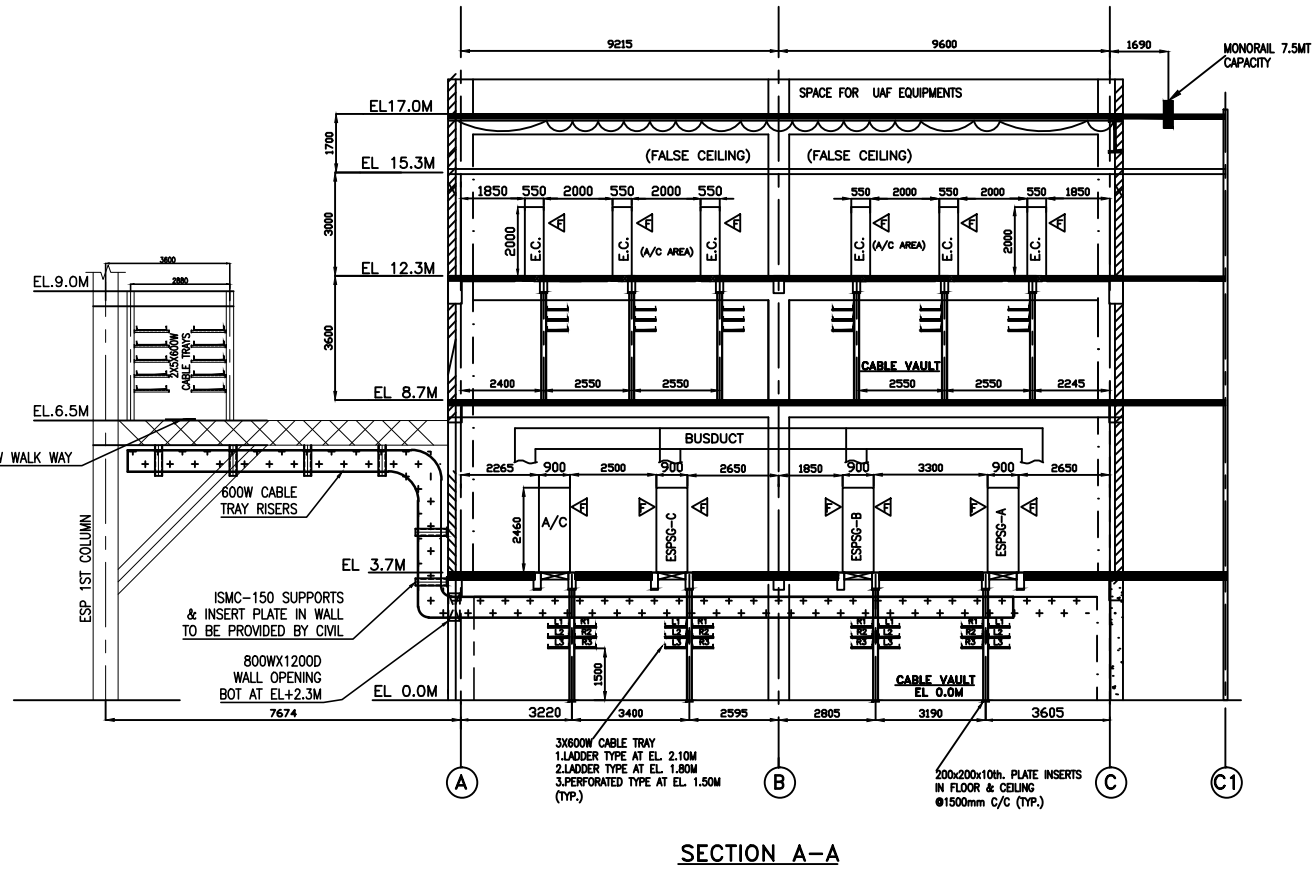
S.NO.	EQUIPMENT	DESIGNATION	LXWXH (MM)
1	PMCC/ESPSC	A,B,C,D,E,F	20000X1700X2415
2	ESP AREA MCC	8HD	6000X1000X2450
3	ESP AC & VENT MCC	8TB	7500X1000X2450
4	LDB (ACN 100KVA)	8UG	2000X1200X2200
5	LDB (ACE 100KVA)	8UJ	2000X1200X2200
6	LDB (ACE 100KVA)	8UJ	2000X1200X2200
7	EC PANEL'S	EC	6200X550X2000

REFERENCE DRAWINGS :

S. NO.	TITLE	DRAWING NO.	SOURCE AGENCY
1.	MAIN EQUIPMENT PLANT LAYOUT	PE-DG-423-100-M002	PEW/ MPL
2.	ELECTRICAL SINGLE LINE DIAGRAM	PE-DG-423-565-E001	PEW/ ELECT
3.	CABLE ERECTION PHILOSOPHY	PE-DG-423-507-E004	PEW/ ELECT
4.	TYPICAL DETAILS OF CABLE TRAYS AND ACCESSORIES	PE-DG-423-507-E005	PEW/ ELECT
5.	INSTALLATION DETAILS OF CABLE TRAYS SUPPORT SYSTEM	PE-DG-423-507-E006	PEW/ ELECT
6.	DESIGN PHILOSOPHY FOR ELECTRICAL EQUIPMENT LAYOUT	PE-DG-423-100-E101	PEW/ ELECT
7.	RECOMMENDED ESP CONTROL ROOM LAYOUT	1-00-114-29001	BHEL/ RANIPET
8.	GA PMCC/ ESPSC-A/B/C/D/E/F	-----	BHEL/ EPD
9.	GA 1250KVA TRANSFORMER	-----	BHEL/ JHANSI

NOTES :

- ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN METRES.
- THE FINISHED FLOOR LEVEL (FLL) OF POWER HOUSE BUILDING GROUND FLOOR IS EL. 0.00M.
- ♦ INDICATES OPERATING FRONT OF THE PANEL.
- DIMENSIONS INDICATED FOR EQUIPMENTS ARE PROVISIONAL. FINAL DIMENSION/ FOUNDATION DETAILS SHALL BE FURNISHED ON RECEIPT OF APPROVED DRAWING FROM BHEL-RANIPET.
- THIS DRAWING IS TO BE REFERRED FOR DETAILS OF ELECTRICAL EQUIPMENT AND CABLING LAYOUT ONLY. LAYOUT SHOWN FOR FACILITIES SUCH AS AC & VENTILATION SYSTEM IS INDICATIVE & FOR INTERFACE PURPOSE. FOR EXACT LAYOUT OF OTHER SYSTEMS, RELEVANT DISCIPLINE DRAWINGS SHALL BE REFERRED.
- ALL AREAS SHOWN IN THIS DRAWING ARE NON A/C UNLESS STATED OTHERWISE.
- BOTTOMMOST/OUTERMOST ONE TRAY OF ALL RUNS SHALL BE PERFORATED TYPE.
- THIS DRAWING IS PREPARED FOR FREEZING BASIC BUILDING DIMENSION. EQUIPMENT SIZES SHOWN ARE INDICATIVE ONLY & WILL BE FINALISED AFTER RECEIPT OGA'S OF VARIOUS EQUIPMENT FROM RESPECTIVE AGENCY.



SECTION A-A

PROGRESSIVE COPY

CUSTOMER: TAMILNADU GENERATION & DISTRIBUTION CORPORATION LIMITED
5th Floor, Western Wing, NPKRR Maaligai,
144, Anna Salai, Chennai-600002

CONSULTANT: LAHMEYER INTERNATIONAL INDIA PVT. LTD
Intec House, 37, Institutional Area,
Sector 44, Gurgaon-122002

PROJECT: 1X800 MW TANGEDCO NORTH CHENNAI TPP
STAGE III-BTG

BHARAT HEAVY ELECTRICALS LTD
POWER SECTOR
PROJECT ENGINEERING MANAGEMENT
NOIDA

JOB NO. 423
STATUS CONTRACT
DISTRIBUTION

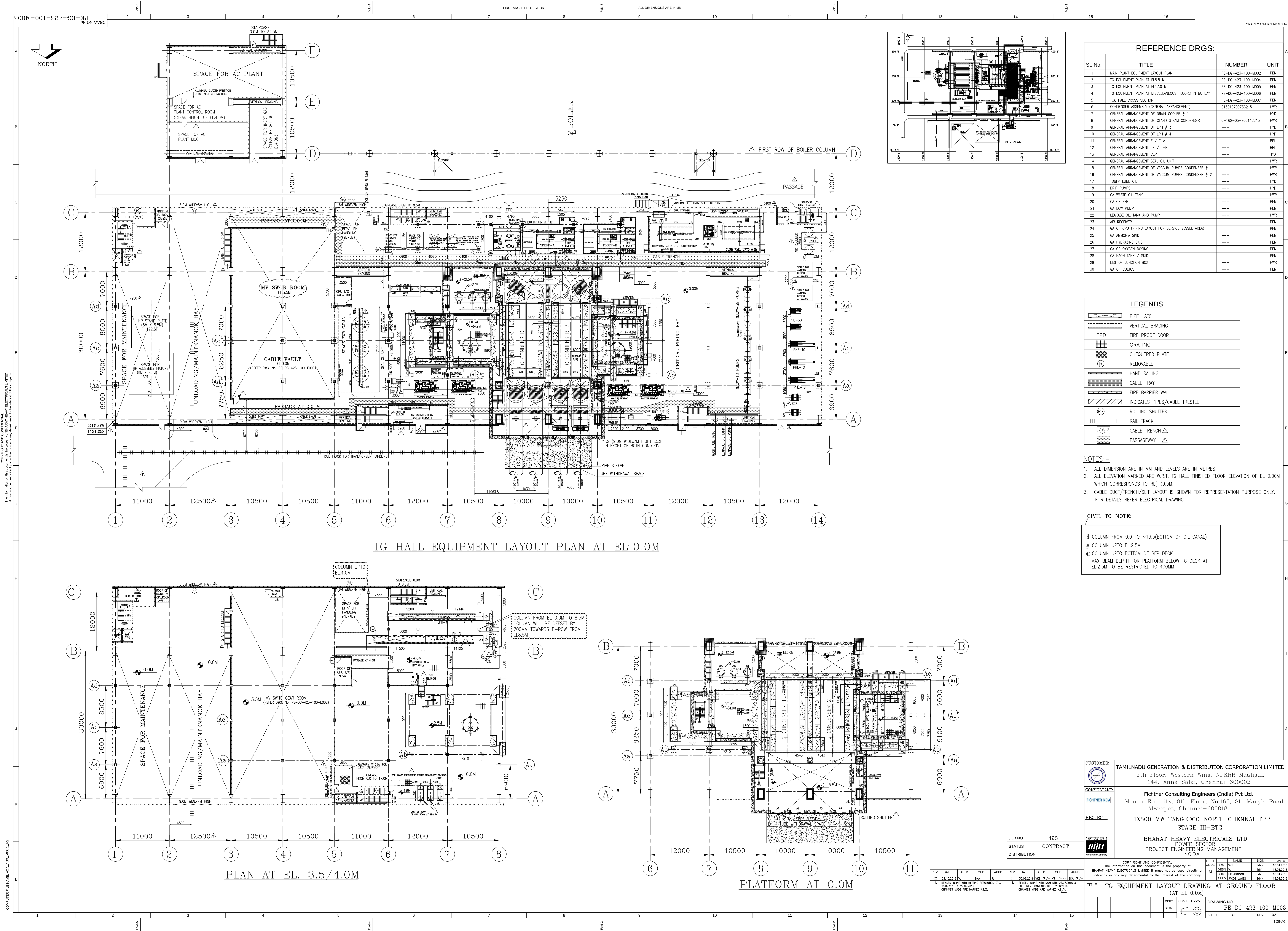
REV. DATE ALTD CHD APPD

DEPT. CODE BRN. DESN NAME LPS. SIGN DATE
E CHD SS 08/06/16

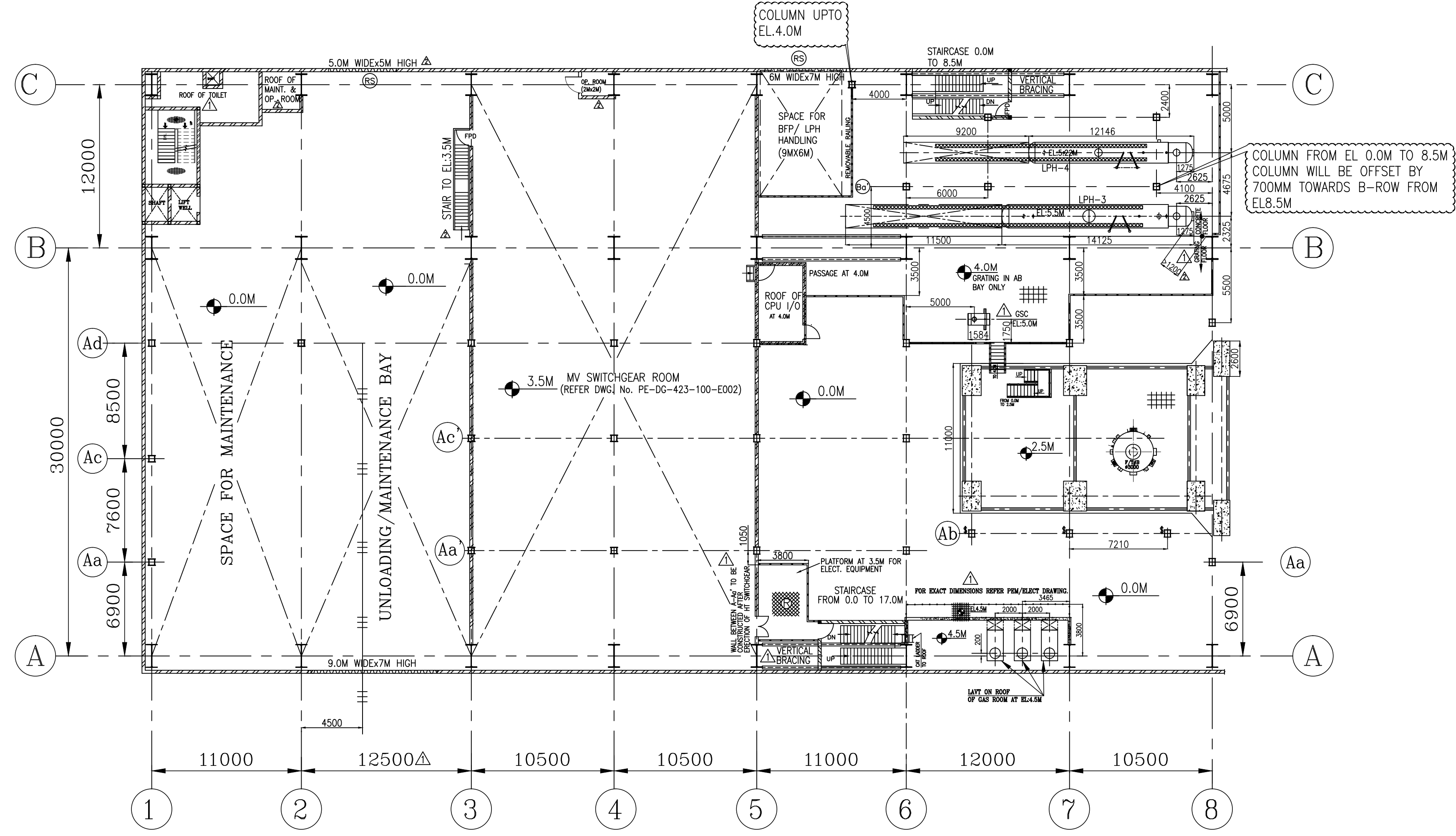
TITLE
ELECTRICAL EQUIPMENT & CABLING LAYOUT IN ESP CONTROL ROOM BUILDING

DEPT. SCALE
SIGN
DRAWING NO. PE-DG-423-100-E008
SHEET 01 OF 01 REV. 00

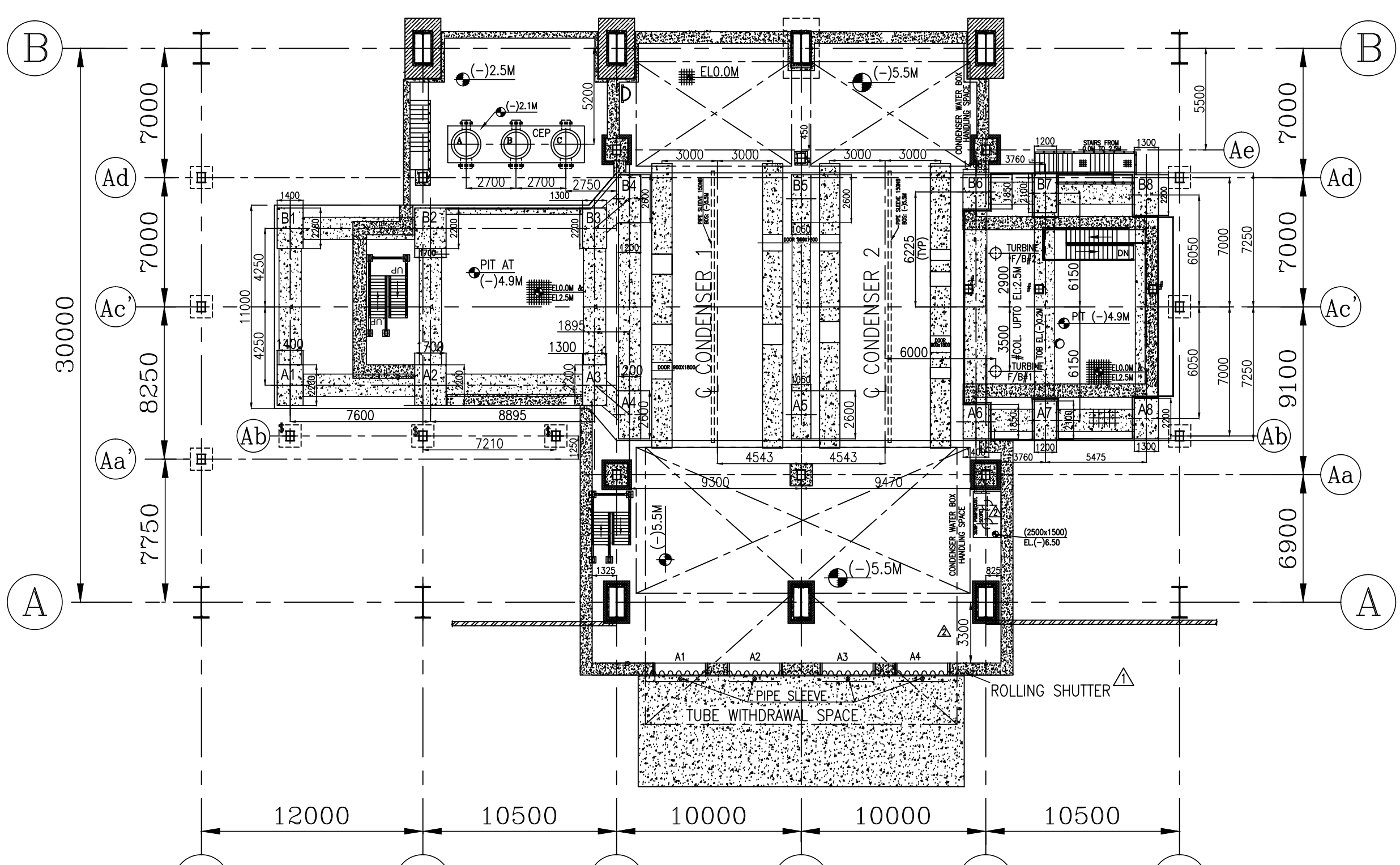
SIZE-A0



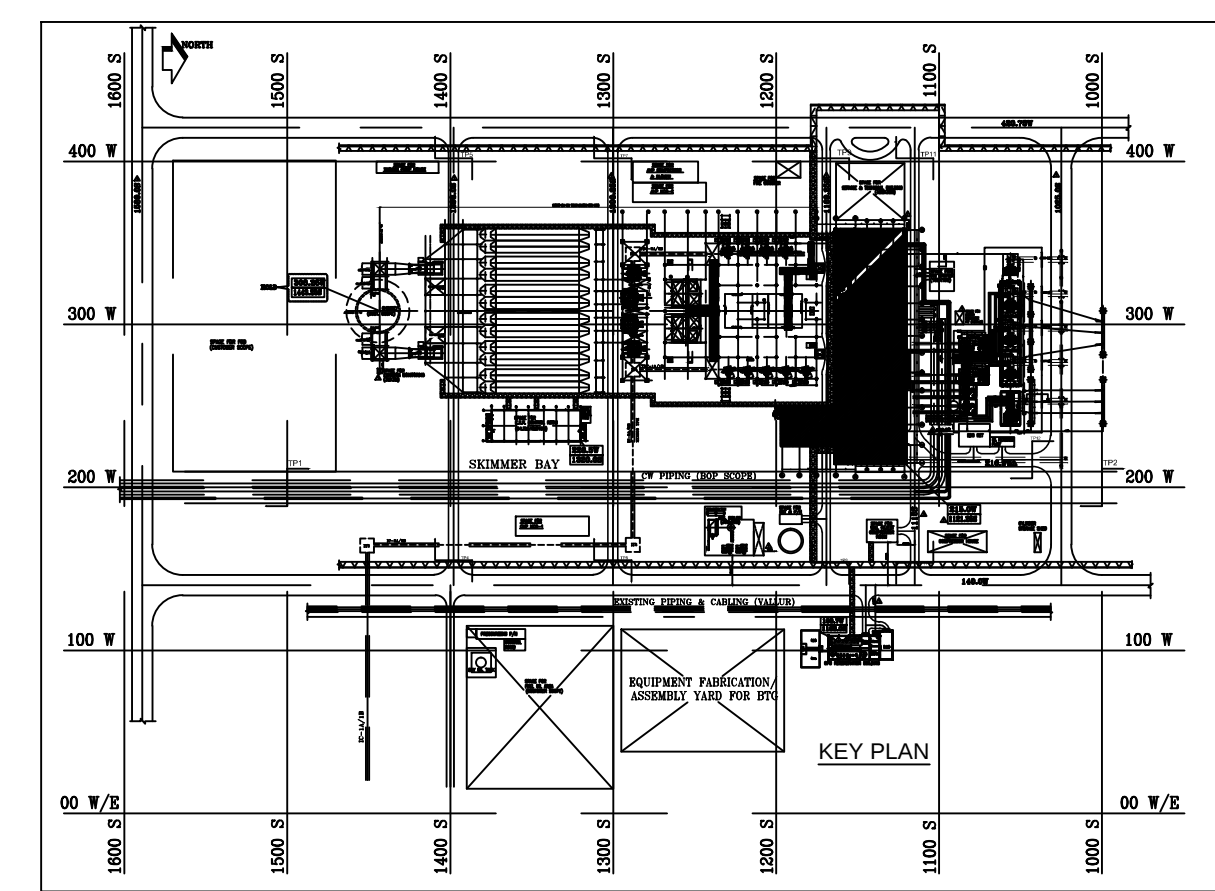
TG HALL EQUIPMENT LAYOUT PLAN AT EL 0.0M



PLAN AT EL 3.5/4.0M



PLATFORM AT 0.0M



REFERENCE DRGS:		
SL No.	TITLE	NUMBER UNIT
1	MAIN PLANT EQUIPMENT LAYOUT PLAN	PE-DG-423-100-M002 PEM
2	TG EQUIPMENT PLAN AT EL 8.5 M	PE-DG-423-100-M004 PEM
3	TG EQUIPMENT PLAN AT EL 17.0 M	PE-DG-423-100-M005 PEM
4	TG EQUIPMENT PLAN AT MISCELLANEOUS FLOORS IN BC BAY	PE-DG-423-100-M006 PEM
5	T.G. HALL CROSS SECTION	PE-DG-423-100-M007 PEM
6	CONDENSER ASSEMBLY (GENERAL ARRANGEMENT)	01601070073215 HWR
7	GENERAL ARRANGEMENT OF DRAIN COOLER # 1	--- HYD
8	GENERAL ARRANGEMENT OF GLAND STEAM CONDENSER	0-162-05-70014C215 HWR
9	GENERAL ARRANGEMENT OF LPH # 3	--- HYD
10	GENERAL ARRANGEMENT OF LPH # 4	--- HYD
11	GENERAL ARRANGEMENT F / T-A	--- BPL
12	GENERAL ARRANGEMENT F / T-B	--- BPL
13	GENERAL ARRANGEMENT CEP	--- HYD
14	GENERAL ARRANGEMENT SEAL OIL UNIT	--- HWR
15	GENERAL ARRANGEMENT OF VACUUM PUMPS CONDENSER # 1	--- HWR
16	GENERAL ARRANGEMENT OF VACUUM PUMPS CONDENSER # 2	--- HWR
17	TDRPP LUBE OIL	--- HYD
18	DRPP PUMPS	--- HYD
19	GA WASTE OIL TANK	--- HWR
20	GA OF PHE	--- PEM
21	GA EOW PUMP	--- PEM
22	LEAKAGE OIL TANK AND PUMP	--- HWR
23	AIR RECEIVER	--- PEM
24	GA OF CPU (PIPING LAYOUT FOR SERVICE VESSEL AREA)	--- PEM
25	GA AMMONIA SKID	--- PEM
26	GA HYDRAZINE SKID	--- PEM
27	GA OF OXYGEN DOSING	--- PEM
28	GA WASH TANK / SKID	--- PEM
29	LIST OF LATCH BOX	--- HWR
30	GA OF COLTCS	--- PEM

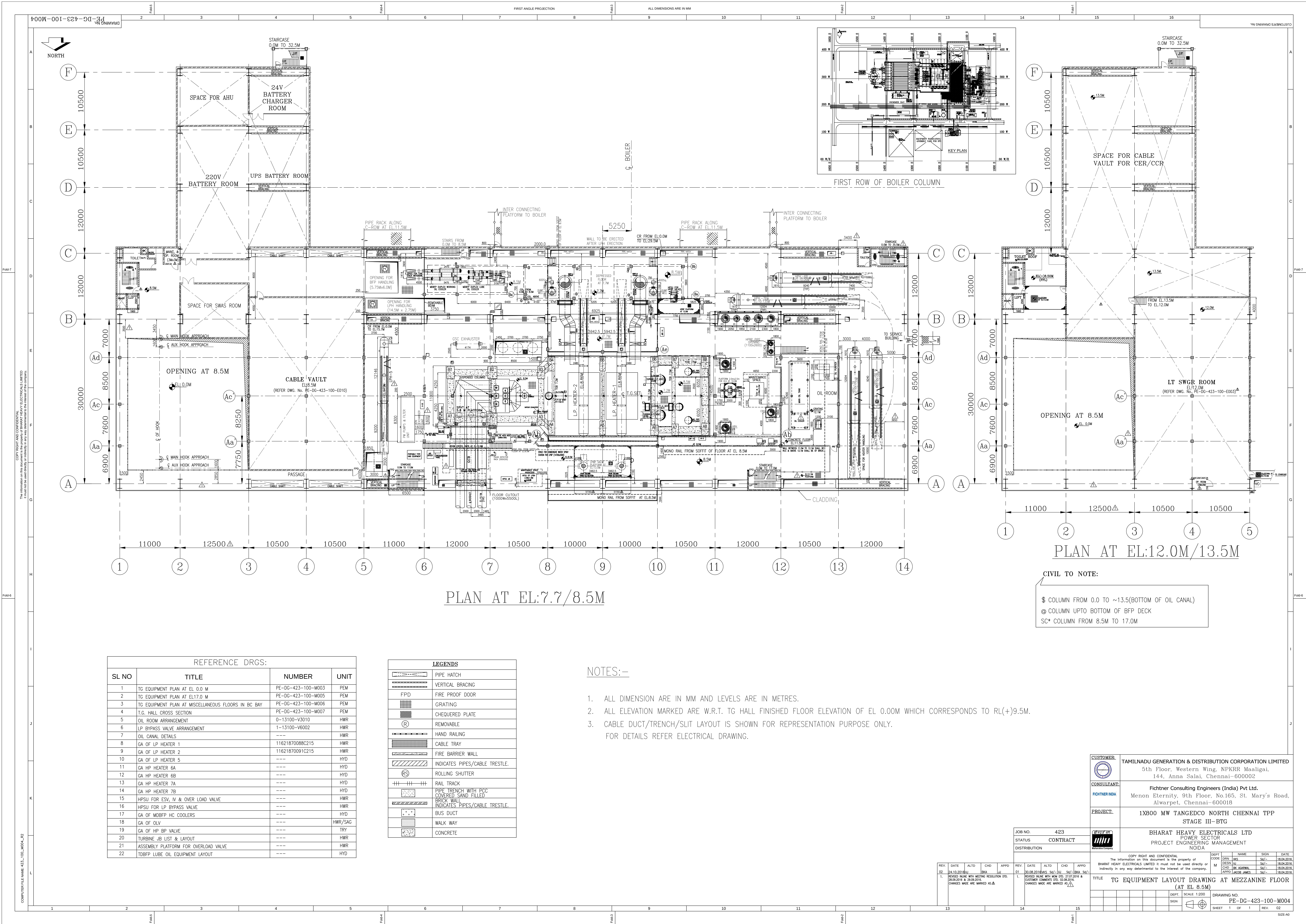
LEGENDS	
	PIPE HATCH
	VERTICAL BRACING
	FIRE PROOF DOOR
	GRATING
	CHEQUERED PLATE
	REMOVABLE
	HAND RAILING
	CABLE TRAY
	FIRE BARRIER WALL
	INDICATES PIPES/CABLE TRESTLE
	ROLLING SHUTTER
	RAIL TRACK
	CABLE TRENCH
	PASSAGEWAY

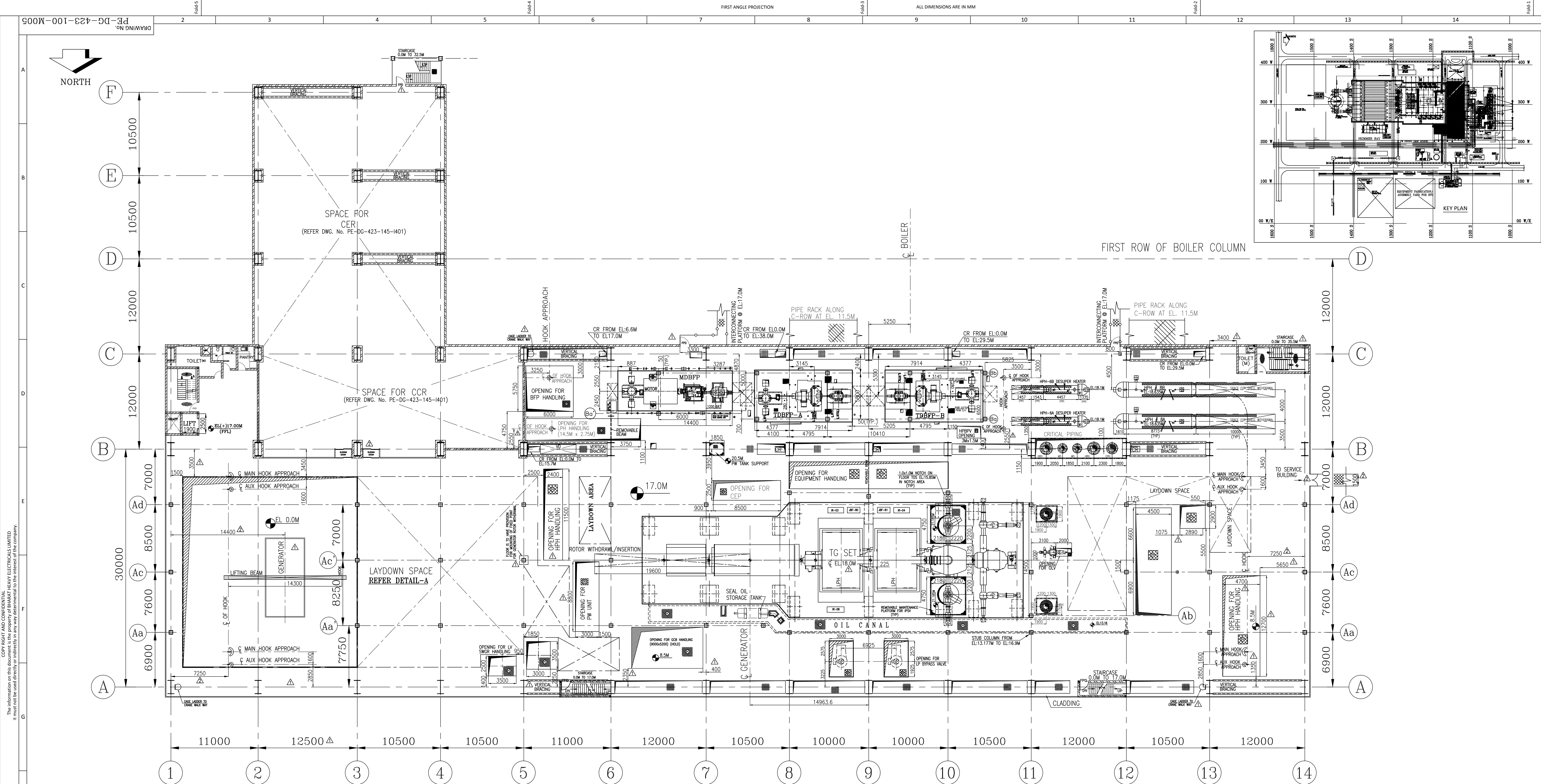
- NOTES:-
- ALL DIMENSION ARE IN MM AND LEVELS ARE IN METRES.
 - ALL ELEVATION MARKED ARE W.R.T. TO HALL FINISHED FLOOR ELEVATION OF EL 0.00M WHICH CORRESPONDS TO RL(+9.5M).
 - CABLE DUCT/TRENCH/SPLIT LAYOUT IS SHOWN FOR REPRESENTATION PURPOSE ONLY. FOR DETAILS REFER ELECTRICAL DRAWING.

CIVIL TO NOTE:

\$ COLUMN FROM 0.0 TO ~13.5(BOTTOM OF OIL CANAL)
COLUMN UPTO EL:2.5M
@ COLUMN UPTO BOTTOM OF BFP DECK
MAX BEAM DEPTH FOR PLATFORM BELOW TG DECK AT EL:2.5M TO BE RESTRICTED TO 400MM.

CUSTOMER:		TAMILNADU GENERATION & DISTRIBUTION CORPORATION LIMITED	
		5th Floor, Western Wing, NPKRR Maaigai, 144, Anna Salai, Chennai-600002	
CONSULTANT:		Fichtner Consulting Engineers (India) Pvt Ltd.	
		Menon Eternity, 9th Floor, No.165, St. Mary's Road, Alwarpet, Chennai-600018	
PROJECT:		1X800 MW TANGEDCO NORTH CHENNAI TPP	
		STAGE III-BTG	
		BHARAT HEAVY ELECTRICALS LTD	
		POWER SECTOR	
		PROJECT ENGINEERING MANAGEMENT	
		Noida	
JOB NO.		423	
STATUS		CONTRACT	
DISTRIBUTION			
REV		DATE	ALT
01		24.10.2016	WJ
02		30.08.2016	WJ
03		18.04.2016	WJ
04		18.04.2016	WJ
05		18.04.2016	WJ
06		18.04.2016	WJ
07		18.04.2016	WJ
08		18.04.2016	WJ
09		18.04.2016	WJ
10		18.04.2016	WJ
11		18.04.2016	WJ
12		18.04.2016	WJ
13		18.04.2016	WJ
14		18.04.2016	WJ
15		18.04.2016	WJ
16		18.04.2016	WJ
17		18.04.2016	WJ
18		18.04.2016	WJ
19		18.04.2016	WJ
20		18.04.2016	WJ
21		18.04.2016	WJ
22		18.04.2016	WJ
23		18.04.2016	WJ
24		18.04.2016	WJ
25		18.04.2016	WJ
26		18.04.2016	WJ
27		18.04.2016	WJ
28		18.04.2016	WJ
29		18.04.2016	WJ
30		18.04.2016	WJ





PLAN AT EL:17.0M

REFERENCE DRGS:			
SL NO	TITLE	NUMBER	UNIT
1	TG EQUIPMENT PLAN AT EL 0.0 M	PE-DG-423-100-M003	PEM
2	TG EQUIPMENT PLAN AT EL 8.5 M	PE-DG-423-100-M004	PEM
3	TG EQUIPMENT PLAN AT MISCELLANEOUS FLOORS IN BC BAY	PE-DG-423-100-M006	PEM
4	T.G. CROSS SECTION	PE-DG-423-100-M007	PEM
5	GA OF MDBFP	-	HYD
6	GA OF TDBFP	-	HYD
7	GA OF HP HEATER 8A	-	HYD
8	GA OF HP HEATER 8B	-	HYD
9	GA OF DESUPERHEATER-8A	-	HYD
10	GA OF DESUPERHEATER-8B	-	HYD
11	FOUNDATION ARRANGEMENT FOR BFP AND DRIVE TURBINE	-	HYD
12	FOUNDATION OF MDBFP	-	HYD
13	TG DECK FOUNDATION PLAN	0-13100-V6152	HWR
14	OIL CANAL DETAILS	-	HWR
15	LAYDOWN SPACE FOR GENERATOR COMPONENTS	3-139-00-01092	HWR
16	LAYDOWN OF TURBINE COMPONENTS	-	HWR
17	REMOVABLE MAINTENANCE PLATFORM FOR IPSV	-	HWR

LEGENDS	
	PIPE HATCH
	VERTICAL BRACING
	FIRE PROOF DOOR
	GRATING
	CHEQUERED PLATE
	REMOVABLE
	HAND RAILING
	CABLE TRAY
	FIRE BARRIER WALL
	INDICATES PIPES/CABLE TRESTLE
	ROLLING SHUTTER
	RAIL TRACK
	PIPE TRENCH WITH PCC COVERED SAND FILLED
	BRICK WALL INDICATES PIPES/CABLE TRESTLE
	BUS DUCT
	WALK WAY
	CONCRETE

NOTES:-

- ALL DIMENSION ARE IN MM AND LEVELS ARE IN METRES.
- ALL ELEVATION MARKED ARE W.R.T. TG HALL FINISHED FLOOR ELEVATION OF EL 0.00M WHICH CORRESPONDS TO RL(+9.5M).
- CABLE DUCT/TRENCH/SUT LAYOUT IS SHOWN FOR REPRESENTATION PURPOSE ONLY. FOR DETAILS REFER ELECTRICAL DRAWING.

DETAIL OF LAY-DOWN SPACE FOR TG COMPONENTS

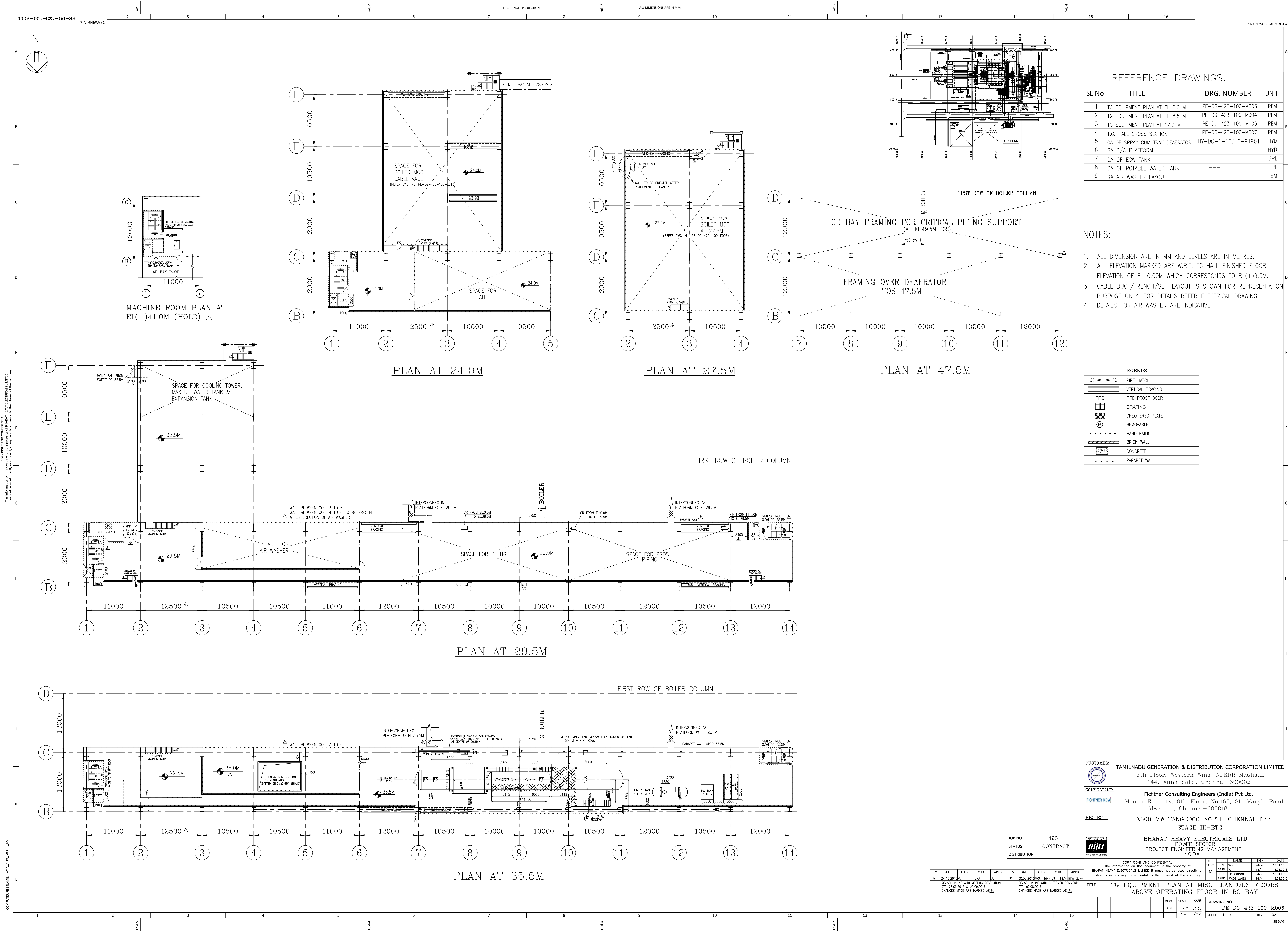
S.No	DESCRIPTION	WT.IN T	AREA M x M
01	HP SHFT	20.0	5.5 X 1.3
02	EXHAUST CASING	20.0	3.4 X 3.3
03	INNER CASING UPPER PART	17.0	3.4 X 2.0
04	IP SHFT	40.0	6.232 X 1.7
05	IP TURBINE OUTER CASING UPPER PART	41.0	5.89 X 4.4
06	IP TURBINE INNER CASING UPPER PART	32.0	3.9 X 3.2
07	IP TURBINE INNER CASING LOWER PART	37.0	3.9 X 3.5
08	LPI & LP2 SHFT	76.0	6.932 X 3.46
09	LPI & LP2 OUTER CASING UPPER PART	28.0	8.56 X 5.885
10	LPI & LP2-INNER CASING UPPER PART	28.0	5.55 X 5.36
11	SHFT SEAL CAS - TE & GE	0.5	0.405 X 1.12
12	HP FRONT BEARING UPPER PART PEDESTAL COVER	0.6	0.65 X 1.35
13	HP REAR BEARING UPPER PART PEDESTAL COVER	0.9	0.8 X 1.45
14	IP REAR BEARING UPPER PART PEDESTAL COVER	2.3	1.215 X 2.1
15	LP REAR BEARING UPPER PART PEDESTAL COVER	2.3	1.275 X 2.1
16	LP REAR-2 BEARING UPPER PART PEDESTAL COVER	2.3	1.235 X 2.1
17	GUIDE BLADE CARRIER ASSEMBLY 2 NOS	3.55	4.1 X 0.6
18	GENERATOR - ROTOR	93.0	14.57 X 1.91
19	END SHIELD UPPER & LOWER HALF (ES) 2 NOS	9.0	1.2 X 3.9
20	END SHIELD UPPER & LOWER HALF (LS) 2 NOS	8.0	1.2 X 3.6
21	HYDROGEN COOLERS (2 NON TWIN TYPE)	4.5	5.0 X 1.5
22	HYDROGEN COOLERS HOUSING	26.0	4.6 X 5.2
23	EXCITER	30.0	5.6 X 2.01
24	EXCITER HOUSING	3.5	4.4 X 1.91
25	BEARING SHELLS - TS & ES 4NOS	0.5	0.5 X 0.8
26	HP CONTROL VALVE	2.2	2.1 X 0.9
27	HP CONTROL VALVE ACTUATOR	1.6	1.5 X 0.8
28	HP STOP VALVE	2.5	2.0 X 1.0
29	HP STOP VALVE ACTUATOR	1.2	1.5 X 0.7
30	IP CONTROL VALVE	6.5	3.0 X 1.3
31	IP CONTROL VALVE ACTUATOR	1.6	2.0 X 0.7
32	IP STOP VALVE	7.0	2.1 X 1.7
33	IP STOP VALVE ACTUATOR	1.4	2.1 X 0.7
34	BYPASS VALVE ACTUATOR 2 NOS	2.2	2.0 X 2.0
35	CROSS OVER PIPE - PART1	30	12 X 3.1
36	CROSS OVER PIPE - PART2	22	6.5 X 3
37	BYPASS VALVE INSERT 2 NOS	0.5	2 X 0.7
38	OVERLOAD CONTROL VALVE	0.8	1.5 X 0.8
39	OVERLOAD CONTROL VALVE ACTUATOR	1.0	1.6 X 0.6
40	LIFTING BEAM	8.0	8.5 X 3.0

DETAIL-A

EQUIPMENT LAYDOWN ARRANGEMENT FOR TG & GENERATOR COMPONENTS AT 17.0M

CUSTOMER:	TAMILNADU GENERATION & DISTRIBUTION CORPORATION LIMITED		
	5th Floor, Western Wing, NPKRR Maaligai, 144, Anna Salai, Chennai-600002		
CONSULTANT:	Fichtner Consulting Engineers (India) Pvt Ltd.		
	Menon Eternity, 9th Floor, No.165, St. Mary's Road, Alwarpet, Chennai-600018		
PROJECT:	1X800 MW TANGEDCO NORTH CHENNAI TPP		
	STAGE III-BTG		
JOB NO.	423		
	CONTRACT		
STATUS	CONTRACT		
	DISTRIBUTION		
DEPT	Bharat Heavy Electricals Ltd		
	PROJECT ENGINEERING MANAGEMENT		
NAME	NODA		
	NODA		
DATE	18.04.2016		
	18.04.2016		
SHEET	1 OF 1		
	REV. 02		

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REV.	DATE	ALTD	CHD
02	24.10.2016	VJ	BKA
1. REVISED IN LINE WITH MEETING RESOLUTION DTD. 26.08.2016 & 29.08.2016. CHANGES MADE ARE MARKED AS A.			
TITLE			
TG EQUIPMENT PLAN AT OPERATING FLOOR (AT EL 17.0M)			
DEPT			
SCALE 1:200			
DRAWING NO.			
PE-DG-423-100-M005			
SHEET			
1 OF 1			
REV. 02			
SIZE-A0			



REFERENCE DRAWINGS:			
SL No	TITLE	DRG. NUMBER	UNIT
1	TG EQUIPMENT PLAN AT EL. 0.0 M	PE-DG-423-100-M003	PEM
2	TG EQUIPMENT PLAN AT EL. 8.5 M	PE-DG-423-100-M004	PEM
3	TG EQUIPMENT PLAN AT 17.0 M	PE-DG-423-100-M005	PEM
4	T.G. HALL CROSS SECTION	PE-DG-423-100-M007	PEM
5	GA OF SPRAY CUM TRAY DEAERATOR	HY-DG-1-16310-91901	HYD
6	GA D/A PLATFORM	---	BPL
7	GA OF ECW TANK	---	BPL
8	GA OF POTABLE WATER TANK	---	BPL
9	GA AIR WASHER LAYOUT	---	PEM

- NOTES:-
1. ALL DIMENSION ARE IN MM AND LEVELS ARE IN METRES.
 2. ALL ELEVATION MARKED ARE W.R.T. TG HALL FINISHED FLOOR ELEVATION OF EL. 0.0M WHICH CORRESPONDS TO RL(+)-9.5M.
 3. CABLE DUCT/TRENCH/SPLIT LAYOUT IS SHOWN FOR REPRESENTATION PURPOSE ONLY. FOR DETAILS REFER ELECTRICAL DRAWING.
 4. DETAILS FOR AIR WASHER ARE INDICATIVE.

LEGENDS	
	PIPE HATCH
	VERTICAL BRACING
	FIRE PROOF DOOR
	GRATING
	CHEQUERED PLATE
	REMOVABLE
	HAND RAILING
	BRICK WALL
	CONCRETE
	PARAPET WALL

JOB NO.	423
STATUS	CONTRACT
DISTRIBUTION	

CUSTOMER:	TAMILNADU GENERATION & DISTRIBUTION CORPORATION LIMITED		
	5th Floor, Western Wing, NPKRR Maaligai, 144, Anna Salai, Chennai-600002		
CONSULTANT:	Fichtner Consulting Engineers (India) Pvt Ltd.		
	Menon Eternity, 9th Floor, No.165, St. Mary's Road, Alwarpet, Chennai-600018		
PROJECT:	1X800 MW TANGEDCO NORTH CHENNAI TPP		
	STAGE III-BTG		
DISTRIBUTION	BHARAT HEAVY ELECTRICALS LTD		
	POWER SECTOR PROJECT ENGINEERING MANAGEMENT Noida		

REV.	DATE	ALTD	CHD	APPD	REV.	DATE	ALTD	CHD	APPD
02	24.10.2018	W	BKA	JJ	01	30.08.2018	W	SA/-/WJ	SA/-/BKA
1. REVISED IN LINE WITH MEETING RESOLUTION DTD. 26.09.2018 & 26.09.2018. CHANGES MADE ARE MARKED AS Δ.									

DEPT. NAME SIGN DATE			
DEPT. CHD	NAME	SIGN	DATE
DESIGN	WJ	SA/-	18.04.2018
CHD	BK AGARWAL	SA/-	18.04.2018
APPROD	JACOB JAMES	SA/-	18.04.2018
TITLE TG EQUIPMENT PLAN AT MISCELLANEOUS FLOORS ABOVE OPERATING FLOOR IN BC BAY			
DEPT. SCALE 1:225 DRAWING NO. PE-DG-423-100-M006			
SHEET 1 OF 1 REV. 02			

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COMPUTER FILE NAME: 423_100_M006_R2