

GENERAL NOTES:

- ALL ELECTRICAL WORKS HEREIN SHALL BE DONE IN ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE. THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITY AND THE REQUIREMENTS OF THE LOCAL UTILITY COMPANY.
- ALL FOLLOWING NOTES SHALL APPLY TO ALL ELECTRICAL DRAWINGS UNLESS OTHERWISE INDICATED.
- ALL ELECTRICAL WORKS SHALL BE UNDER DIRECT AND IMMEDIATE SUPERVISION BY A DULY AUTHORIZED ELECTRICAL ENGINEER.
- THE ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE REST OF THE DRAWINGS IN ARCHITECTURAL, STRUCTURAL, SANITARY, MECHANICAL AND OTHER INFORMATION AS APPLICABLE.
- ALL EXPOSED NON-CURRENT CARRYING METAL PARTS OF THE ELECTRICAL EQUIPMENT SHALL BE GROUND EFFECTIVELY.
- ALL ELECTRICAL MATERIALS SHALL COMPLY IN FULL WITH THE RELEVANT ELECTRICAL STANDARDS AS MENTIONED IN THE SPECIFICATIONS AND THE CODES OF PRACTICE.
- ALL ELECTRICAL MATERIALS TO BE USED SHALL BE NEW AND INSTALLED IN APPLICATIONS FOR WHICH THEY ARE INTENDED.
- ALL WIRES SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THHN" UNLESS INDICATED IN THE PLAN. THE MINIMUM SIZE WIRE FOR POWER AND LIGHTING CIRCUIT HOMERUN SHALL BE 3.5 mm², AND INSULATED FOR 600 VOLTS. LIKEWISE, ALL CONDUCTORS SHALL BE COLOR CODED. SMALLEST RACEWAY/CONDUIT SHALL BE 20mmØ.
- UNLESS OTHERWISE SPECIFIED MOUNTING HEIGHTS GIVEN SHALL BE MEASURED AS FOLLOWS:
 - EQUIPMENT - FROM FINISHED FLOOR TO CENTER OF EQUIPMENT.
 - LIGHT SWITCH - 1.45 METERS ABOVE FINISHED FLOOR TO CENTER OF EQUIPMENT.
 - CONVENIENCE OUTLET - 0.3 METER ABOVE FINISHED FLOOR TO BOTTOM OF EQUIPMENT.
- STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATION IMPORTANCE FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE DONE.
- THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE WITH OTHER TRADES PRIOR TO THE EXECUTION OF ELECTRICAL INSTALLATION WORK.
- THE CONTRACTOR SHALL VERIFY THE AND ORIENT THE ACTUAL LOCATION OF THE SERVICE ENTRANCE FOR CONNECTION TO POWER SUPPLY AND OTHER UTILITIES INCLUDED IN THE PLAN.
- ALL DIMENSIONS SHOWN ON THE DRAWINGS ARE IN MILLIMETERS UNLESS OTHERWISE INDICATED.
- EQUIPMENT GROUNDING SYSTEM SHALL BE PROVIDED TO THE ELECTRICAL SYSTEM AS PER PHILIPPINE ELECTRICAL CODE REQUIREMENTS.
- FEEDER WIRES ARE COLOR CODED AND SHOULD BE ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE.

LEGEND AND SYMBOLS:

SYMBOL	MOUNTING	DESCRIPTION
	RECESSED	DIMMABLE, SQUARE CLEANROOM LED STAINLESS STEEL HOUSING IN WHITE COATED FINISH, TEMPERED GLASS LENS MATERIAL AND OPAL OPTICAL COVER LENS DAYLIGHT, IP65
	SURFACE	DIMMABLE, RECTANGULAR CLEANROOM LED STAINLESS STEEL HOUSING IN WHITE COATED FINISH, TEMPERED GLASS LENS MATERIAL AND OPAL OPTICAL COVER LENS DAYLIGHT, IP65
	WALL	DUST PENETRATION-PROTECTED, JET-PROOF ANTI UV PC MATERIAL POLYCARBONATE BOWL DIFFUSER AND HOUSING, STAINLESS STEEL FIXATION AND REFLECTOR MATERIAL DAYLIGHT, IP65
	SURFACE	LED TUBE LIGHT - EX-LTL-A-SERIES IP 45 OUTDOOR
	RECESSED	RECTANGULAR RECESSED LED PANEL WITH ALUMINUM EXTRUDED HOUSING MATERIAL & POLYMETHYL METHACRYLATE OPTIC MATERIAL PRISMATIC COVER FROSTED LENS
	RECESSED	SQUARE RECESSED LED PANEL WITH ALUMINUM EXTRUDED HOUSING MATERIAL AND POLYMETHYL METHACRYLATE OPTICAL COVER PRISMATIC COVER FROSTED LENS
	RECESSED	SQUARE RECESSED LED PANEL WITH ALUMINUM HOUSING POLYSTYRENE OPTIC MATERIAL, POLYSTYRENE OPTICAL COVER FROSTED LENS FINISH DAYLIGHT
	SURFACE	FLEXIBLE CEILING CLIP ECONOMICAL, COMPACT WATERPROOF LUMINAIRE, ELECTRONIC HF DAYLIGHT
	RECESSED	HIGH CEILING SURFACE MOUNTED HIGH-GLOSS MIRROR DOWNLIGHT ALUMINUM DIE CAST HOUSING WITH ALUMINUM REFLECTOR AND OPTIC MATERIAL DAYLIGHT
	RECESSED	LOW RECESSED DOWNLIGHT WITH POLYCARBONATE REFLECTOR MATERIAL AND POLYCARBONATE FROSTED LENS WHITE PLASTIC HOUSING DAYLIGHT
	SURFACED	LOW CEILING SURFACE MOUNTED HIGH-GLOSS MIRROR DOWNLIGHT ALUMINUM DIE CAST HOUSING WITH ALUMINUM REFLECTOR AND OPTIC MATERIAL DAYLIGHT
	HANG/PENDANT	PENDANT LED HIGH BAY
	WALL	FLOOD LIGHT SLIM TYPE
		LED STRIP LIGHTS COVE LIGHT
	1400mm AFFL	LIGHT SWITCH, 230V, 60Hz, ONE-GANG
	1400mm AFFL	LIGHT SWITCH, 230V, 60Hz, TWO-GANG
	1400mm AFFL	LIGHT SWITCH, 230V, 60Hz, THREE-GANG
	1400mm AFFL	LIGHT SWITCH, 230V, 60Hz, THREE-WAY SWITCH
	1400mm AFFL	PUSH BUTTON SWITCH
	RECESSED	EXHAUST FAN
	300mm AFFL	SIMPLEX/DUPLEX TYPE-A CONVENIENCE OUTLET
	300mm AFFL	SIMPLEX/DUPLEX TYPE-B CONVENIENCE OUTLET
	300mm AFFL	SIMPLEX/DUPLEX UNIVERSAL OUTLET WITH GROUND
	1200mm AFFL	SIMPLEX/DUPLEX TYPE-A CONVENIENCE OUTLET
	1200mm AFFL	SIMPLEX/DUPLEX TYPE-B CONVENIENCE OUTLET
		SIMPLEX/DUPLEX TYPE-A CONVENIENCE OUTLET, NUMBER INDICATES MOUNTING HEIGHT IN METERS
		SIMPLEX/DUPLEX TYPE-B CONVENIENCE OUTLET, NUMBER INDICATES MOUNTING HEIGHT IN METERS
		SIMPLEX/DUPLEX TYPE-E CONVENIENCE OUTLET, 1ST-NUMBER INDICATES MOUNTING HEIGHT IN METERS, 2ND-NUMBER INDICATES NUMBER OF SOCKETS
	1200mm AFFL	SIMPLEX/DUPLEX TYPE-E CONVENIENCE OUTLET
	1200mm AFFL	SIMPLEX UNIVERSAL CONVENIENCE OUTLET FOR HAND DRYER
		DUPLEX FLOOR MOUNTED UNIVERSAL CONVENIENCE OUTLET
	1300mm AFFL	ENCLOSED CIRCUIT BREAKER
		UNINTERRUPTIBLE POWER SUPPLY (UPS)
		ELECTRICAL POWER FEED (CABLE)
	2500mm AFFL	EMERGENCY LIGHT WITH 2 LED LAMP

SYMBOL	MOUNTING	DESCRIPTION
	CEILING	EMERGENCY EXIT SIGN, ARROW INDICATES THE EMERGENCY EXIT PATHWAY
	CEILING	DOUBLE SIDE EMERGENCY EXIT SIGN, ARROW INDICATES THE EMERGENCY EXIT PATHWAY
	2000mm AFFL	WALL MOUNTED EMERGENCY EXIT SIGN, ARROW INDICATES THE EMERGENCY EXIT PATHWAY
	2200mm AFFL	WALL MOUNTED EMERGENCY EXIT SIGN, ARROW INDICATES THE EMERGENCY EXIT PATHWAY
	CEILING	SMOKE DETECTOR
	2400mm AFFL	STROBE HORN
	1370mm AFFL	FIRE ALARM MANUAL PULL SWITCH
	1600mm AFFL	PANELBOARD/FACP, OTHERWISE INDICATED
	1600mm AFFL	FIRE ALARM CONTROL PANELBOARD (FACP)
		HOMERUN CIRCUIT
		ELECTRICAL JUNCTION BOX
		PULLBOX
		LIGHTING AND CONVENIENCE OUTLET
		GROUND
		MOLDED CASE CIRCUIT BREAKER OTHERWISE INDICATED
		CURRENT TRANSFORMER, RATING AS INDICATED
		POTENTIAL TRANSFORMER
		DIGITAL PANEL METER
		GENERATOR, RATING AS INDICATED
		TRANSFORMER, RATING AS INDICATED
		LOAD BREAK SWITCH, RATING AS INDICATED
		FUSE CUT-OUT, RATING AS INDICATED
		SERVICE ENTRANCE

ABBREVIATIONS:

A	AFFL AT AF AHU ATS	ABOVE FINISH FLOOR LEVEL AMPERE TRIP AMPERE FRAME AIR HANDLING UNIT AUTOMATIC TRANSFER SWITCH
C	CT	CURRENT TRANSFORMER
D	DPM DGS	DIGITAL PANEL METER DIESEL GENERATOR SET
F	FACP	FIRE ALARM CONTROL PANEL
G	G, GND GENSET GFCI	GROUND GENERATOR GROUND FAULT CIRCUIT INTERRUPTER
H	HP HVAC Hz	HORSEPOWER HEATING, VENTILATION AND AIR-CONDITIONING HERTZ
I	ITCB	INDUSTRIAL-TYPE CIRCUIT BREAKER
K	KAIC KV KVA KW	KILOAMPERE INTERRUPTING CAPACITY KILOVOLT KILOVOLT-AMPERE KILOWATT
L	LBS LPP	LOAD BREAK SWITCH LIGHTING AND POWER PANEL
M	M1, M2 MCCB mm ² MECO MDP	METER MOLDED CASE CIRCUIT BREAKER SQUARE MILLIMETER MANILA ELECTRIC COMPANY MAIN DISTRIBUTION PANEL
N	N NEMA	NEUTRAL NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
P	PT PVC	POTENTIAL TRANSFORMER POLYVINYL CHLORIDE
R	RSC	RIGID STEEL CONDUIT
S	SPEC	SPECIAL EQUIPMENT PANEL
T	THHN	THERMOPLASTIC HIGH HEAT-RESISTANT NYLON-COATED
V	V VA	VOLTS VOLT-AMPERE
W	W	WATTS
Ø		PHASE / DIAMETER

3 E-1 ABBREVIATIONS NTS SCALE

CABLE SCHEDULE:

2A3.5aM

RACEWAY, REFER TO CABLE SCHEDULE FOR SIZE PER NUMBER & TYPE OF CONDUCTOR

- "R" - RIGID STEEL CONDUIT
- "P" - POLYVINYL CHLORIDE CONDUIT
- "a" - 2.0mm² THWN/THWN GROUND CONDUCTOR
- "a²" - 3.5mm² THWN/THWN GROUND CONDUCTOR
- "b" - 5.5mm² THWN/THWN GROUND CONDUCTOR
- "c" - 8.0mm² THWN/THWN GROUND CONDUCTOR
- "d" - 14mm² THWN/THWN GROUND CONDUCTOR
- "e" - 22mm² THWN/THWN GROUND CONDUCTOR
- "f" - 30mm² THWN/THWN GROUND CONDUCTOR
- "g" - 38mm² THWN/THWN GROUND CONDUCTOR
- "h" - 50mm² THWN/THWN GROUND CONDUCTOR
- "i" - 60mm² THWN/THWN GROUND CONDUCTOR
- "j" - 80mm² THWN/THWN GROUND CONDUCTOR
- "k" - 100mm² THWN/THWN GROUND CONDUCTOR
- "l" - 125mm² THWN/THWN GROUND CONDUCTOR
- "o" - 200mm² THWN/THWN GROUND CONDUCTOR

— DENOTES CONDUCTOR SIZE IN mm²

WIRE CODE:

- "A" - 2 - WIRE THHN/THWN-2, PHASE
- "B" - 3 - WIRE THHN/THWN-2, PHASE
- "C" - 4 - WIRE THHN/THWN-2, PHASE & NEUTRAL CONDUCTOR

— SET OF WIRES

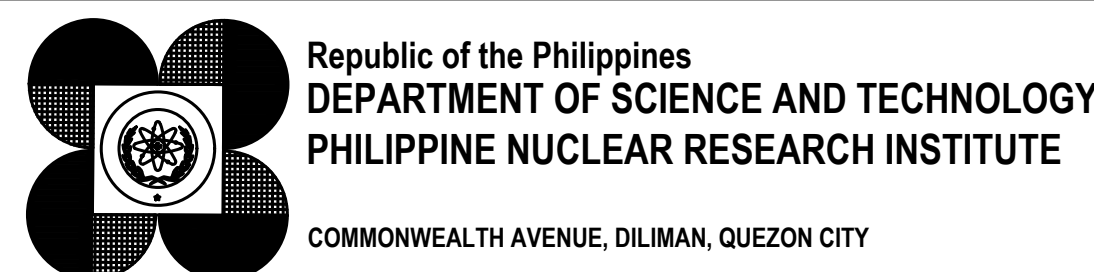
CONDUIT SCHEDULE:

WIRE CODE	PHASE WIRE SIZE, mm ²	RSC SIZE CONTAINING PHASE, NEUTRAL & GROUND	WIRE CODE	PHASE WIRE SIZE, mm ²	RSC SIZE CONTAINING PHASE, NEUTRAL & GROUND
A & B	3.5	20mmØ	C	3.5	20mmØ
	5.5	20mmØ		5.5	20mmØ
	8.0	20mmØ		8.0	25mmØ
	14	25mmØ		14	25mmØ
	22	32mmØ		22	32mmØ
	30	32mmØ		30	40mmØ
	38	40mmØ		38	50mmØ
	50	50mmØ		50	50mmØ
	60	50mmØ		60	50mmØ
	80	50mmØ		80	65mmØ
	100	65mmØ		100	80mmØ
	125	65mmØ		125	80mmØ
	150	80mmØ		150	80mmØ
	200	80mmØ		200	90mmØ
	250	100mmØ		250	100mmØ
325	130mmØ	325	130mmØ		
15 - M	EMPTY	15mmØ	15 - M	EMPTY	15mmØ
20 - M	EMPTY	20mmØ	20 - M	EMPTY	20mmØ
25 - M	EMPTY	25mmØ	25 - M	EMPTY	25mmØ
32 - M	EMPTY	32mmØ	32 - M	EMPTY	32mmØ

1 E-1 GENERAL NOTES NTS SCALE

2 E-1 LEGEND AND SYMBOLS NTS SCALE

4 E-1 CABLE AND CONDUIT SCHEDULE NTS SCALE



PROJECT TITLE:
**INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES:
 DEVELOPMENT OF EMERGING PET RADIOPHARMACEUTICAL
 FOR EARLY CANCER STAGING AND ASSESSMENT OF
 BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023)
 PHASE 4**

SHEET CONTENTS:
 GENERAL NOTES
 LEGEND AND SYMBOLS
 ABBREVIATIONS
 CABLE AND CONDUIT SCHEDULE

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MECO
34.5kV
3Ø, 60 Hz

PAD MOUNTED TRANSFORMER (MERALCO)
2.0 MVA
34.5kV/400V
60Hz, 3Ø

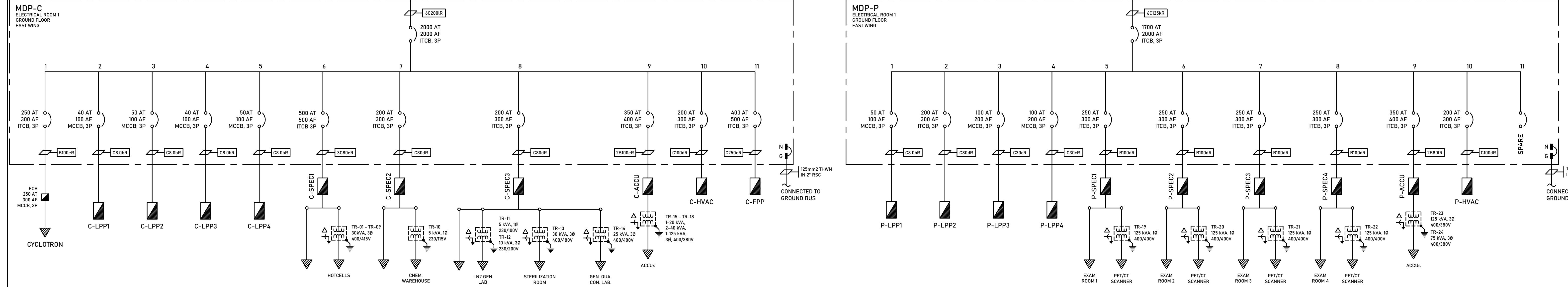
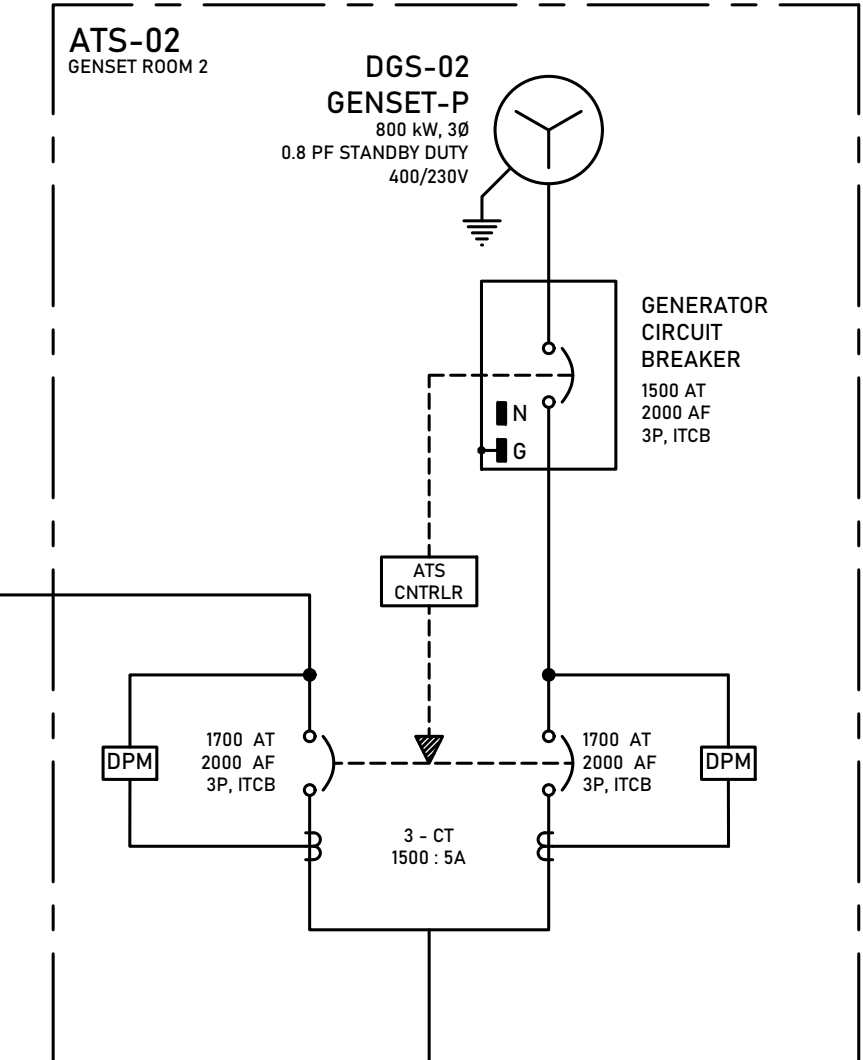
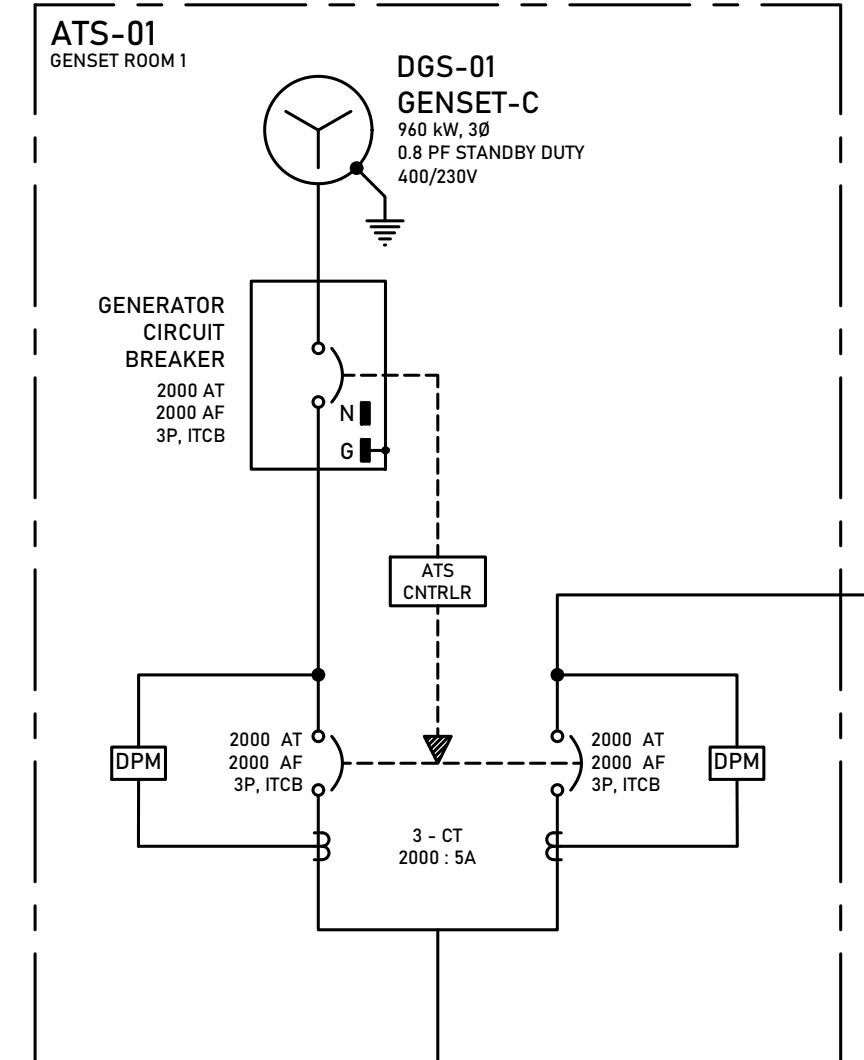
MERALCO METER

INDUSTRIAL-TYPE CIRCUIT BREAKER
3000 AT
3000 AF
3P

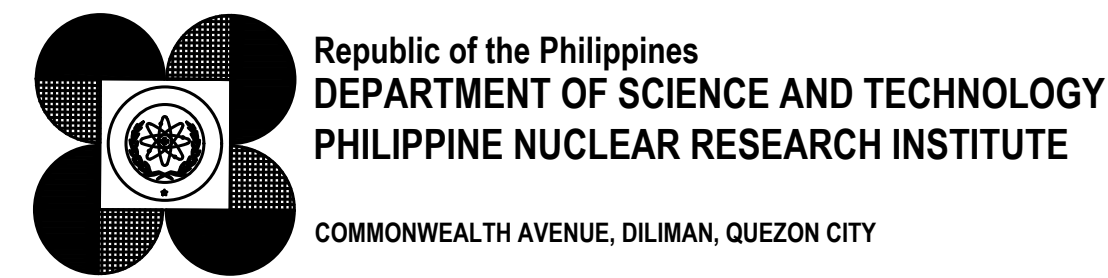
CYCLOTRON SUB-METER BASE (M1)
2000 AT
2000 AF
3P, ITCB

PETCT SUB-METER BASE (M2)
1700 AT
2000 AF
3P, ITCB

$[(\text{HIGHEST VA (PHASE)/400V}) \times 1.732] \times 1.15 = 2,885.46 \text{ A; } 8\text{C}250\text{oR}$



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E-2 SINGLE-LINE DIAGRAM 1
SCALE NTS



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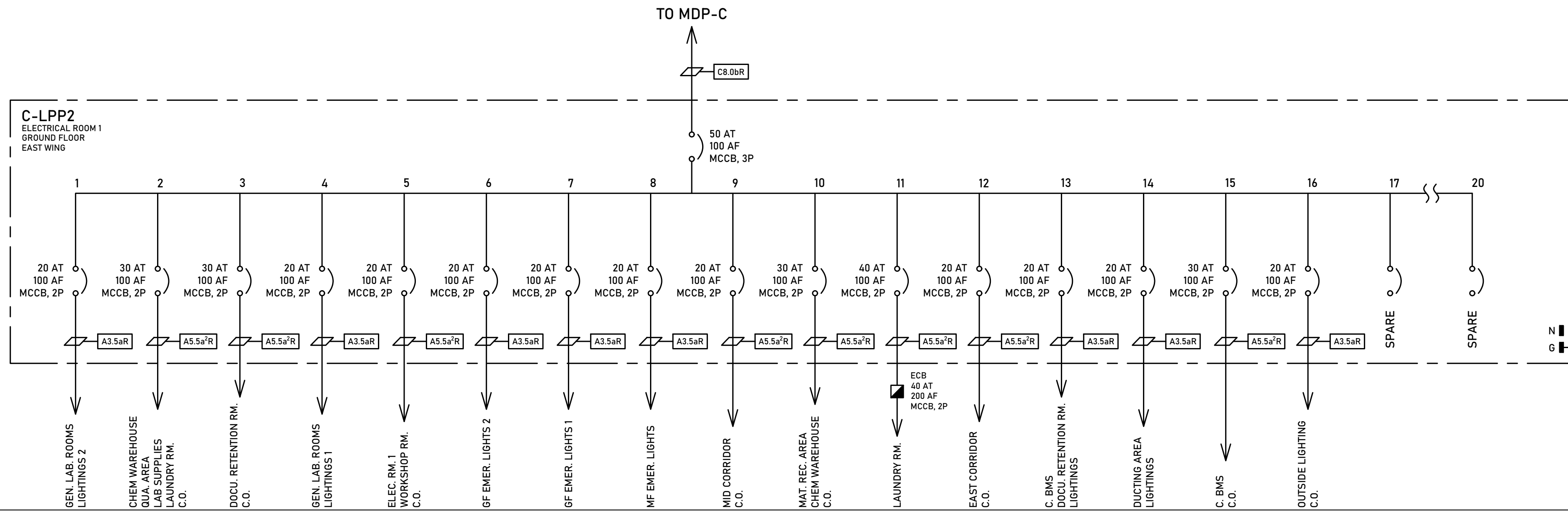
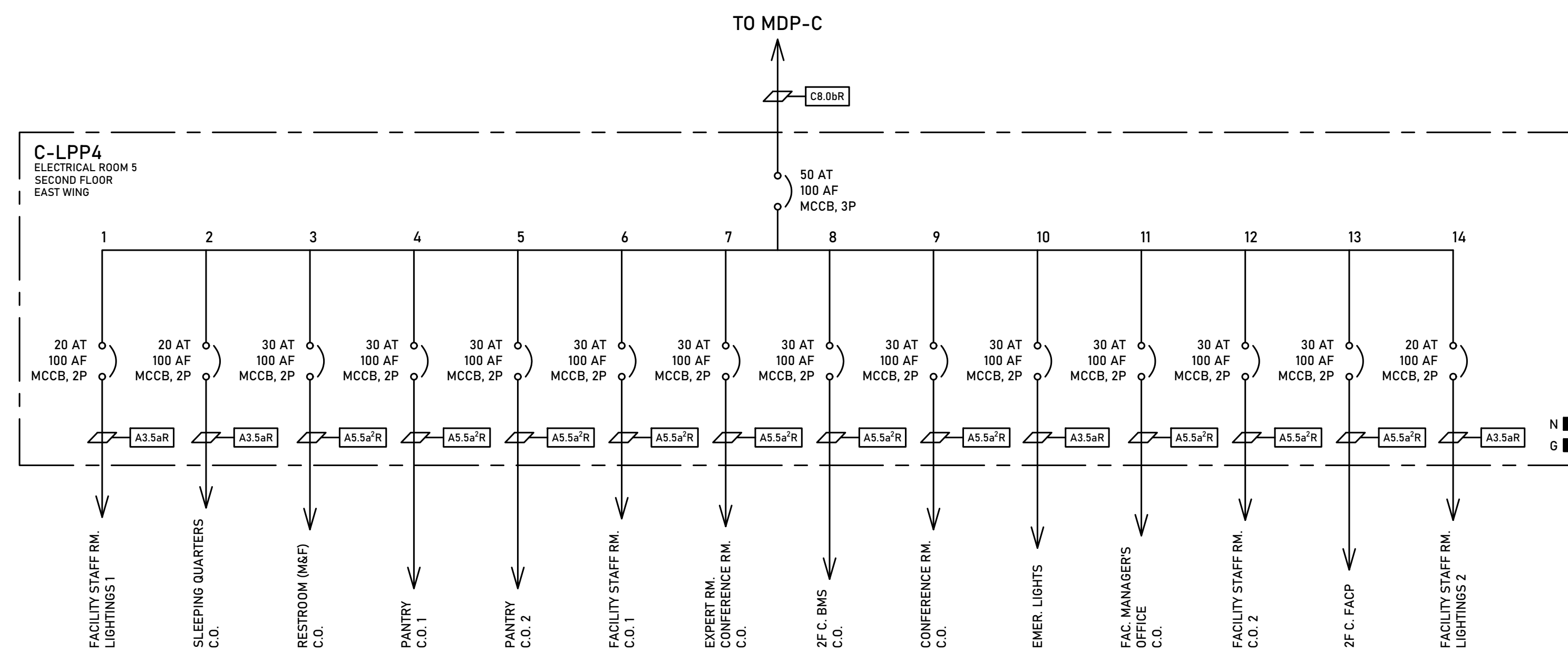
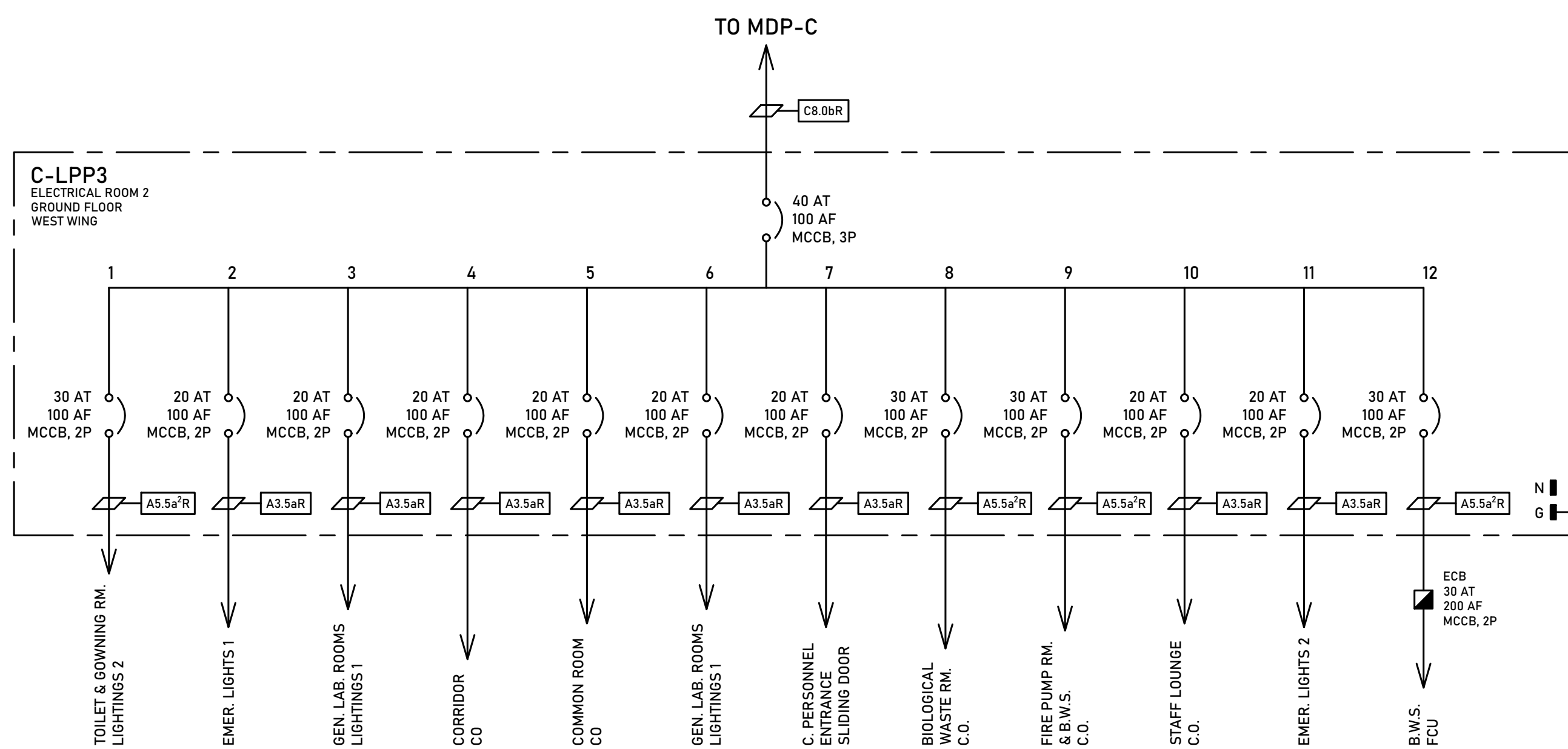
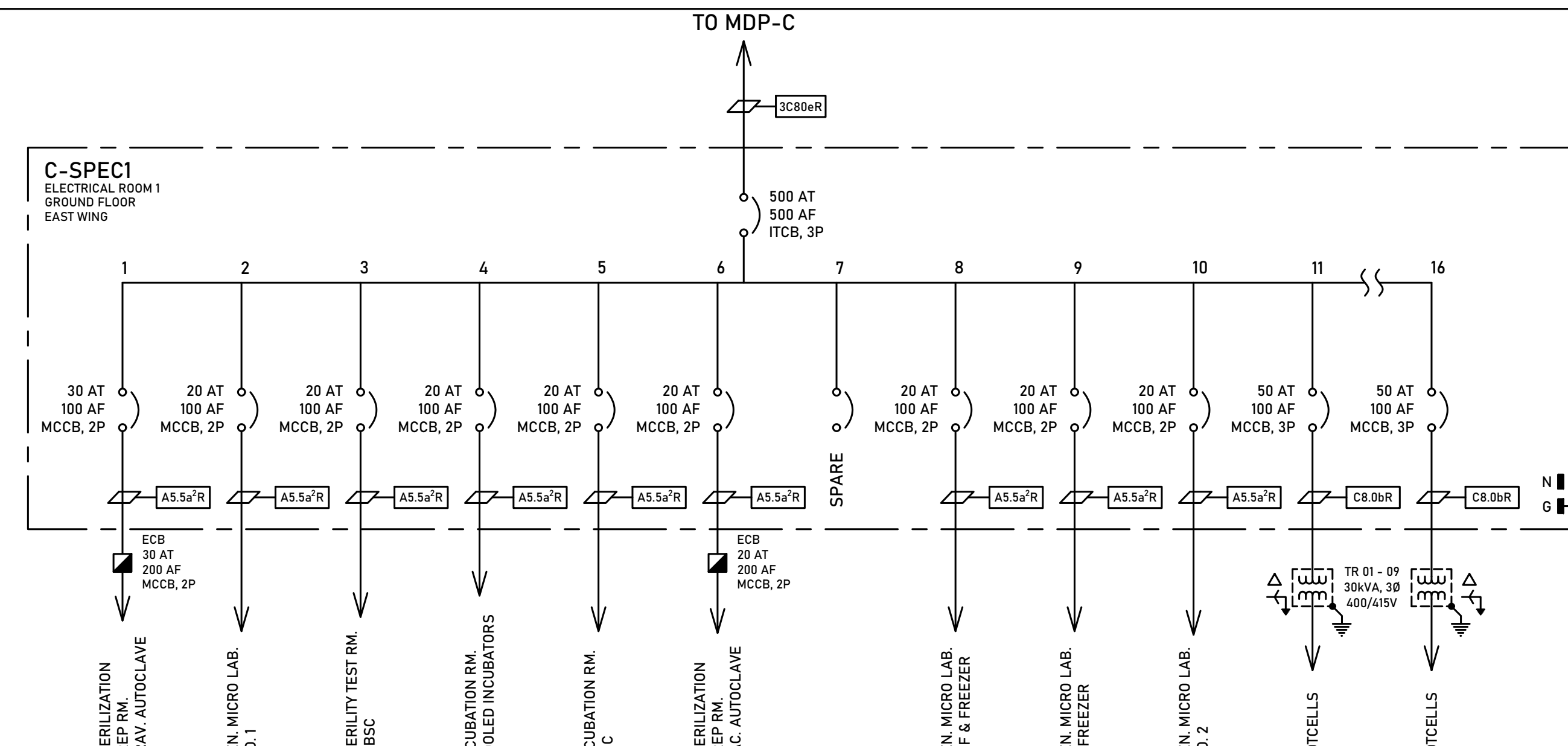
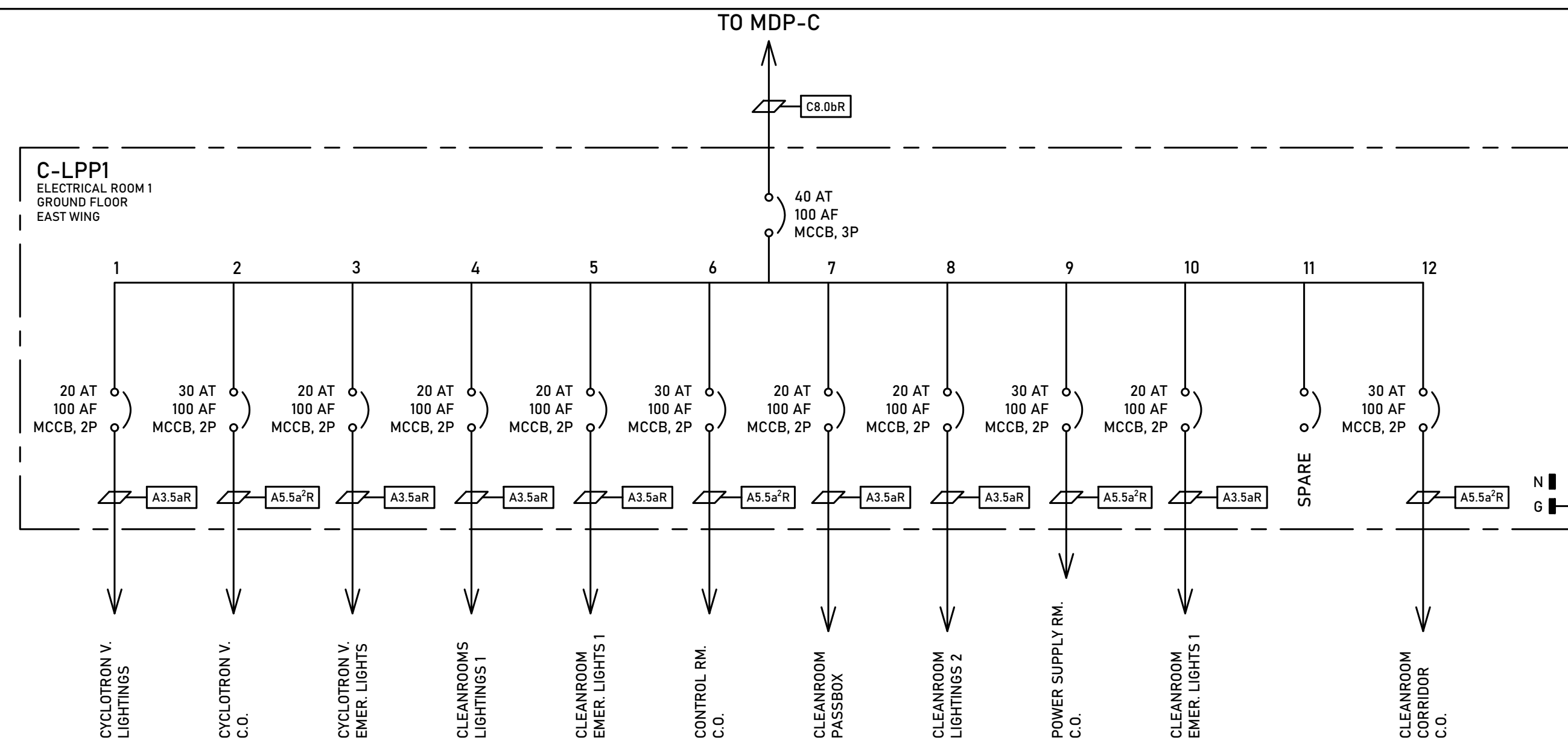
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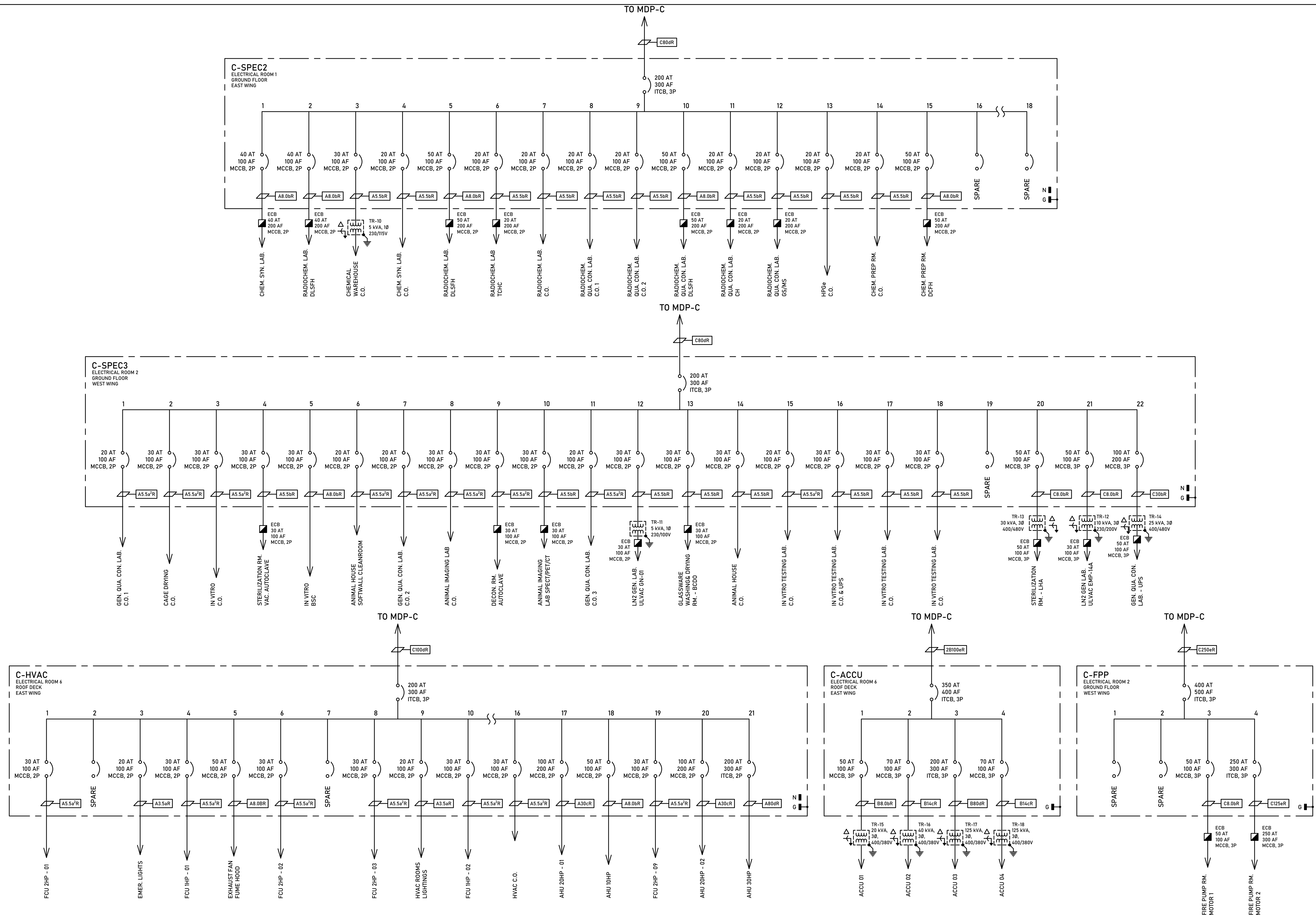
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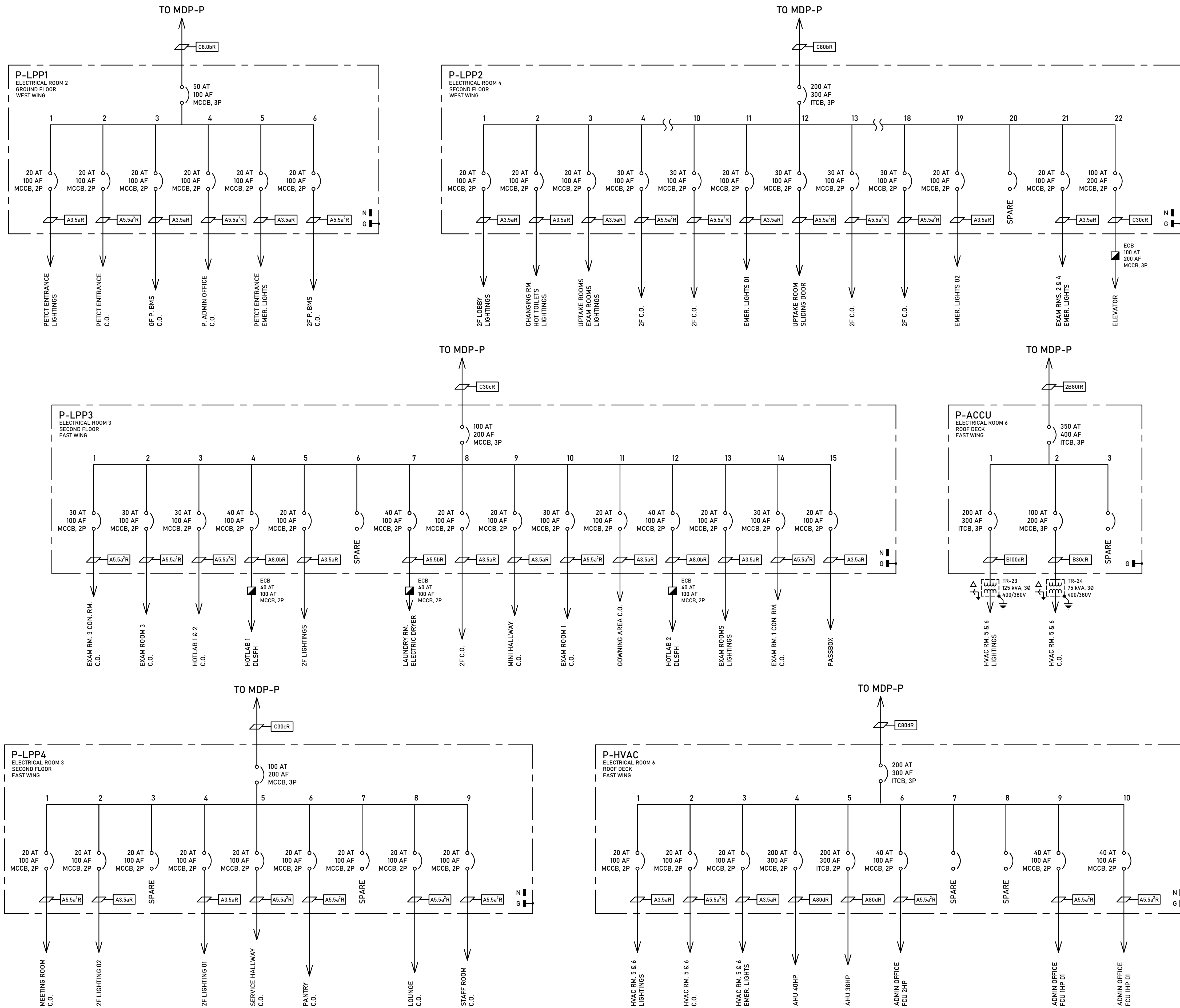
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1 SINGLE-LINE DIAGRAM 2
E-3 SCALE NTS



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E-4 SINGLE-LINE DIAGRAM 3
 SCALE NTS



1 SINGLE-LINE DIAGRAM 4
E-5 SCALE NTS

PANELBOARD	: MDP-C	VOLTAGE	: 400/230	ENCLOSURE	: NEMA-1	
LOCATION	: EE ROOM 1 (GF EAST WING)	PHASE	: 3	MIN. KAIC	:	
FEED	: TOP	FED FROM: ATS-01	WIRE	: 3+N+G	MOUNT	: SURFACE

CKT. NO.	LOAD DESCRIPTION	PHASE	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
				AN	BN	CN		P	AT	AF	KAIC		
1	CYCLOTRON	3	100,000	33,333	33,333	33,333	B100eR	3	250	300			
2	C-LPP1	3	11,200	3,770	3,620	3,810	C8.0bR	3	40	100			
3	C-LPP2	3	20,024	7,326	5,320	7,378	C8.0bR	3	50	100			
4	C-LPP3	3	13,917	4,542	4,780	4,595	C8.0bR	3	40	100			
5	C-LPP4	3	22,660	7,560	7,580	7,520	C8.0bR	3	50	100			
6	C-SPEC1	3	219,979	73,373	73,303	73,303	3C80eR	3	500	600			
7	C-SPEC2	3	61,320	20,160	20,780	20,380	C80dR	3	200	300			
8	C-SPEC3	3	82,114	27,418	27,144	27,552	C80dR	3	200	300			
9	C-ACCU	3	159,276	53,092	53,092	53,092	2B100eR	3	350	400			
10	C-HVAC	3	95,498	31,380	33,532	30,586	C100dR	3	200	300			
11	C-FPP	3	119,837	39,946	39,946	39,946	C250eR	3	250	300			
TOTAL			905,825	301,900	302,430	301,495							

FEEDER : [HIGHEST VA (PHASE)/230V]x1.15 = 1,512.15 A; 6C200IR
MAIN BREAKER : 2000 AT, 2000 AF, 3P, ITCB

PANELBOARD	: C-LPP1	VOLTAGE	: 230	ENCLOSURE	: NEMA-1	
LOCATION	: EE ROOM 1 (GF EAST WING)	PHASE	: 3	MIN. KAIC	:	
FEED	: TOP	FED FROM: MDP-C	WIRE	: 3+N+G	MOUNT	: SURFACE

CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AN	BN	CN		P	AT	AF	KAIC		
1	CYCLOTRON V. - LIGHTING	19		950				A3.5aR	2	20	100			
2	CYCLOTRON V. - CONV. OUTLET		4	720	720			A5.5aR	2	30	100			
3	CYCLOTRON V. - EMER. LIGHTS		6	100				A3.5aR	2	20	100			
4	CLEANROOM - LIGHTINGS 01		46	2,450			2,450	A3.5aR	2	20	100			
5	CLEANROOM - EMER. LIGHTS 02		9	150			150	A3.5aR	2	20	100			
6	CONTROL RM. - C.O.		8	1,500			1,500	A5.5aR	2	30	100			
7	PASSBOX - J.B.			1,200	1,200			A3.5aR	2	20	100			
8	CLEANROOM - LIGHTINGS 02		21	900	900			A3.5aR	2	20	100			
9	POWER SUPPLY RM. - C.O.		3	720			720	A5.5aR	2	30	100			
10	CLEANROOM - EMER. LIGHTS 01		23	350			350	A3.5aR	2	20	100			
11	SPARE			1,440			1,440							
12	CLEANROOM CORRIDOR - C.O.		4	720			720	A5.5aR	2	30	100			
TOTAL				11,200	3,770	3,620	3,810							

FEEDER : [HIGHEST VA (PHASE)/230V]x1.15 = 19.05 A; C8.0bR
MAIN BREAKER : 40 AT, 100 AF, 3P, MCCB

PANELBOARD	: C-LPP2	VOLTAGE	: 230	ENCLOSURE	: NEMA-1	
LOCATION	: EE ROOM 1 (GF EAST WING)	PHASE	: 3	MIN. KAIC	:	
FEED	: TOP	FED FROM: MDP-C	WIRE	: 3+N+G	MOUNT	: SURFACE

CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AN	BN	CN		P	AT	AF	KAIC		
1	GEN. LAB. RMS. - LIGHTINGS 02		27	1,260	1,260			A3.5aR	2	20	100			
2	CHEM. WH. QUA. AREA, LAB SUPPLIES - C.O.		7	1,260	1,260			A5.5aR	2	30	100			
3	DOCU. RETENTION RM. - C.O.		5	900			900	A5.5aR	2	30	100			
4	GEN. LAB. RMS. - LIGHTINGS 01		24	1,400			1,400	A3.5aR	2	20	100			
5	ELECTRICAL AND WORKSHOP RM. - C.O.		3	540			540	A5.5aR	2	20	100			
6	EMER. LIGHTS 02		7	118			118	A3.5aR	2	20	100			
7	EMER. LIGHTS 01		14	216	216			A3.5aR	2	20	100			
8	EMER. LIGHTS (MF)		8	200	200			A3.5aR	2	20	100			
9	MIDDLE CORRIDOR - C.O.		3	540			540	A5.5aR	2	20	100			
10	MAT. REC. AREA, CHEM. WAREHOUSE - C.O.		6	1,080			1,080	A5.5aR	2	30	100			
11	LAUNDRY RM. - ECB		1	4,000			4,000	A5.5aR	2	40	100			
12	EAST WING CORRIDOR - C.O.		4	720			720	A5.5aR	2	20	100			
13	BMS & DOCU. RETENTION RM. - LIGHTINGS		14	640	640			A3.5aR	2	20	100			
14	DUCTING AREA - LIGHTINGS		35	1,750	1,750			A3.5aR	2	20	100			
15	BMS RM. (MF) - C.O.		5	900			900	A5.5aR	2	30	100			
16	OUTSIDE - LIGHTINGS 03		29	500			500	A3.5aR	2	20	100			
17	SPARE			1,000			1,000							
18	SPARE			1,000			1,000							
19	SPARE			1,000	1,000									
20	SPARE			1,000	1,000									
TOTAL				20,024	7,326	5,320	7,378							

FEEDER : [HIGHEST VA (PHASE)/230V]x1.15 = 36.89 A; C8.0bR
MAIN BREAKER : 50 AT, 100 AF, 3P, MCCB

PANELBOARD	: C-LPP3	VOLTAGE	: 230	ENCLOSURE	: NEMA-1	
LOCATION	: EE ROOM 2 (GF WEST WING)	PHASE	: 3	MIN. KAIC	:	
FEED	: TOP	FED FROM: MDP-C	WIRE	: 3+N+G	MOUNT	: SURFACE

CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AN	BN	CN		P	AT	AF	KAIC		
1	TOILET AND GOWNING RM. - C.O.		4	3,000	3,000			A5.5aR	2	30	100			
2	EMER. LIGHTS 01		21	322	322			A3.5aR	2	20	100			
3	GEN. LAB. RMS. - LIGHTINGS 01		44	2,080			2,080	A3.5aR	2	20	100			
4	WEST WING CORRIDOR - C.O.		3	900			900	A3.5aR	2	20	100			
5	COMMON ROOMS - C.O.		7	1,500			1,500	A3.5aR	2	20	100			
6	GEN. LAB. RMS. - LIGHTINGS 02		35	1,105			1,105	A3.5aR	2	20	100			
7	FAC. PERSONNEL ENTRANCE - SLIDING DOOR		1	500	500			A5.5aR	2	30	100			
8	BIOLOGICAL WASTE RM. - C.O.		2	720	720			A5.5aR	2	30	100			
9	FIRE PUMP RM. AND B.W.S. - C.O.		2	720			720	A5.5aR	2	30	100			
10	STAFF LOUNGE - C.O.		6	1,080			1,080	A3.5aR	2	20	100			
11	EMER. LIGHTS 02		9	150			150	A3.5aR	2	20	100			
12	B.W.S. FCU - ECB			1,840			1,840	A5.5aR	2	30	100			
TOTAL				13,917	4,542	4,780	4,595							

FEEDER : [HIGHEST VA (PHASE)/230V]x1.15 = 23.9 A; C8.0bR
MAIN BREAKER : 40 AT, 100 AF, 3P, MCCB

PANELBOARD	: C-LPP4	VOLTAGE	: 230	ENCLOSURE	: NEMA-1	
LOCATION	: EE ROOM 5 (2F EAST WING)	PHASE	: 3	MIN. KAIC	:	
FEED	: TOP	FED FROM: MDP-C	WIRE	: 3+N+G	MOUNT	: SURFACE

CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AN	BN	CN		P	AT	AF	KAIC		
1	FAC. STAFF RM. - LIGHTINGS 01		28	1,200	1,200			A3.5aR	2	20	100			
2	SLEEPING QUARTERS - C.O.		6	1,080	1,080			A3.5aR	2	20	100			
3	RESTROOM - C.O.		4	4,000			4,000	A5.5aR	2	30	100			
4	PANTRY - C.O. 01		3	2,000	2,000			A5.5aR	2	30	100			
5	PANTRY - C.O. 02		4	2,000			2,000	A5.5aR	2	30	100			
6	FAC. STAFF RM. - C.O. 01		6	1,080			1,080	A5.5aR	2	30	100			
7	EXPERTS AND CONFERENCE RM. - C.O.		6	1,080	1,080			A5.5aR	2	30	100			
8	2F BMS - C.O.		7	1,500	1,500			A5.5aR	2	30	100			
9	CONFERENCE RM. - C.O.		6	1,080			1,080	A5.5aR	2	30	100			
10	EMER. LIGHTS		14	500			500	A3.5aR	2	20	100			
11	FAC. MANAGERS OFFICE AND TOILETS - C.O.		6	3,000			3,000	A5.5aR	2	30	100			
12	FAC. STAFF RM. - C.O. 02		7	1,440			1,440	A5.5aR	2	30	100			
13	2F C. FACP			1,500	1,500			A5.5aR	2	30	100			
14	FAC. STAFF RM. - LIGHTINGS 02		22	1,200	1,200			A3.5aR	2	20	100			
TOTAL				22,660	7,560	7,580	7,520							

FEEDER : [HIGHEST VA (PHASE)/230V]x1.15 = 37.9 A; C8.0bR
MAIN BREAKER : 50 AT, 100 AF, 3P, MCCB

PANELBOARD	: C-SPEC1	VOLTAGE	: 400/230	ENCLOSURE	: NEMA-1	
LOCATION	: EE ROOM 1 (GF EAST WING)	PHASE	: 3	MIN. KAIC	:	
FEED	: TOP	FED FROM: MDP-C	WIRE	: 3+N+G	MOUNT	: SURFACE

CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AN	BN	CN		P	AT	AF	KAIC		
1	STER. PREP. RM. (GRAV. AUTOCLAVE) - ECB		1	2,000	2,000			A5.5aR	2	30	100			
2	GEN. MICRO LAB - C.O. 01		5	1,000	1,000			A5.5aR	2	20	100			
3	STERILITY TEST RM. (LSBSC) - C.O.		1	2,300			2,300	A5.5aR	2	20	100			
4	INCUBATION RM. (C. INCUBATORS) - C.O.		1	720			720	A5.5aR	2	20	100			
5	INCUBATION RM. (BSC) - C.O.		1	2,300			2,300	A5.5aR	2	20	100			
6	STER. PREP. RM. (VAC. AUTOCLAVE) - ECB		1	2,000			2,000	A5.5aR	2	20	100			
7	SPARE			1,000	1,000									
8	GEN. MICRO LAB (REF & FREEZER) - C.O.		1	370	370			A5.5aR	2	20	100			
9	GEN. MICRO LAB (UL. FREEZER) - C.O.		1	1,180			1,180	A5.5aR	2	20	100			
10	GEN. MICRO LAB - C.O. 02		3	100			100	A5.5aR	2	20	100			
11	FLUORINE-18 01			23,002	7,667	7,667	7,667	C8.0bR	3	50	100			
12	FLUORINE-18 02			23,002	7,667	7,667	7,667	C8.0bR	3	50	100			
13	FLUORINE-18 03			23,002	7,667	7,667	7,667	C8.0bR	3	50	100			
14	FLUORINE-18 04			23,002	7,667	7,667	7,667	C8.0bR	3	50	100			
15	RADIOMETALS 01			23,002	7,667	7,667	7,667	C8.0bR	3	50	100			
16	RADIOMETALS 02			23,002	7,667	7,667	7,667	C8.0bR	3	50	100			
17	RADIOMETALS 03			23,002	7,667	7,667	7,667	C8.0bR	3	50	100			
18	RESEARCH HOTCELLS 01													

PANELBOARD : C-HVAC		VOLTAGE : 230		ENCLOSURE : NEMA-1										
LOCATION : EE ROOM 6 (RD EAST WING)		PHASE : 3		MIN. KAIC :										
FEED : TOP		FED FROM: MDP-C		WIRE : 3+N+G										
		MOUNT : SURFACE												
CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AN	BN	CN		P	AT	AF	KAIC		
1	OFFICE - FCU 2HP 01			1,492	1,492			A5.5aR	2	30	100			
2	SPARE			4,500	4,500									
3	EMER. LIGHTS		5	100		100		A3.5aR	2	20	100			
4	OFFICE - FCU 1HP 01			746		746		A5.5aR	2	30	100			
5	EXHAUST FAN FUME HOOD			3,730		3,730		A8.0bR	2	50	100			
6	OFFICE - FCU 2HP 02			1,492		1,492		A5.5aR	2	30	100			
7	SPARE			4,500	4,500									
8	OFFICE - FCU 2HP 03			1,492	1,492			A5.5aR	2	30	100			
9	C. HVAC ROOMS - LIGHTINGS	19		1,200		1,200		A3.5aR	2	20	100			
10	OFFICE - FCU 1HP 02			746		746		A5.5aR	2	30	100			
11	OFFICE - FCU 2HP 04			1,492		1,492		A5.5aR	2	30	100			
12	OFFICE - FCU 2HP 05			1,492		1,492		A5.5aR	2	30	100			
13	OFFICE - FCU 2HP 06			1,492	1,492			A5.5aR	2	30	100			
14	OFFICE - FCU 2HP 07			1,492	1,492			A5.5aR	2	30	100			
15	OFFICE - FCU 2HP 08			1,492		1,492		A5.5aR	2	30	100			
16	C. HVAC ROOMS - C.O.		4	900		900		A5.5aR	2	30	100			
17	C. HVAC AHU 20HP 01			14,920		14,920		A30cR	2	100	200			
18	C. HVAC AHU 10HP			7,460		7,460		A8.0bR	2	50	100			
19	OFFICE - FCU 2HP 09			1,492	1,492			A5.5aR	2	30	100			
20	C. HVAC AHU 20HP 02			14,920	14,920			A30cR	2	100	200			
21	C. HVAC AHU 30HP			28,348		28,348		A80cR	2	200	300			
TOTAL				95,498	31,380	33,532	30,586							
FEEDER		: [HIGHEST VA (PHASE)/230V]x1.25 = 181.26 A; C100dR												
MAIN BREAKER		: 200 AT, 300 AF, 3P, ITCB												

PANELBOARD : C-FPP		VOLTAGE : 400/230		ENCLOSURE : NEMA-1										
LOCATION : EE ROOM 2 (GF WEST WING)		PHASE : 3		MIN. KAIC :										
FEED : TOP		FED FROM: MDP-C		WIRE : 3+N+G										
		MOUNT : SURFACE												
CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AB	BC	CA		P	AT	AF	KAIC		
1	SPARE			19,919	6,640	6,640	6,640							
2	SPARE			19,919	6,640	6,640	6,640							
3	HORIZONTAL SPLIT CASE JOCKEY PUMP - ECB			5,000	1,667	1,667	1,667	C8.0bR	3	50	100			
4	HORIZONTAL SPLIT CASE FIRE PUMP - ECB			75,000	25,000	25,000	25,000	C125aR	3	250	300			
TOTAL				119,837	39,946	39,946	39,946							
FEEDER		: [(HIGHEST VA (PHASE)/380V)x1.732]x1.25 = 376.02 A; C250fR												
MAIN BREAKER		: 400 AT, 500 AF, 3P, ITCB												

PANELBOARD : P-HVAC		VOLTAGE : 400/230		ENCLOSURE : NEMA-1										
LOCATION : EE ROOM 6 (RD EAST WING)		PHASE : 3		MIN. KAIC :										
FEED : TOP		FED FROM: MDP-P		WIRE : 3+N+G										
		MOUNT : SURFACE												
CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AN	BN	CN		P	AT	AF	KAIC		
1	HVAC 5 AND 6 - LIGHTINGS	6		4,000	4,000			A3.5aR	2	20	100			
2	HVAC 5 AND 6 - C.O.		4	4,000	4,000			A5.5aR	2	20	100			
3	HVAC 5 AND 6 - EMER. LIGHTS		3	50		50		A3.5aR	2	20	100			
4	P. HVAC AHU 40HP			29,840		29,840		A80dR	2	200	300			
5	P. HVAC AHU 38HP			28,348		28,348		A80dR	2	200	300			
6	P. ADMIN OFFICE - FCU 2HP			1,492		1,492		A5.5aR	2	40	100			
7	SPARE			4,000	4,000									
8	SPARE			4,000	4,000									
9	P. ADMIN OFFICE - FCU 1HP 01			746		746		A5.5aR	2	40	100			
10	P. ADMIN OFFICE - FCU 1HP 02			746		746		A5.5aR	2	40	100			
TOTAL				77,222	16,000	31,382	29,840							
FEEDER		: [HIGHEST VA (PHASE)/230V]x1.25 = 170.55 A; C100cR												
MAIN BREAKER		: 200 AT, 300 AF, 3P, ITCB												

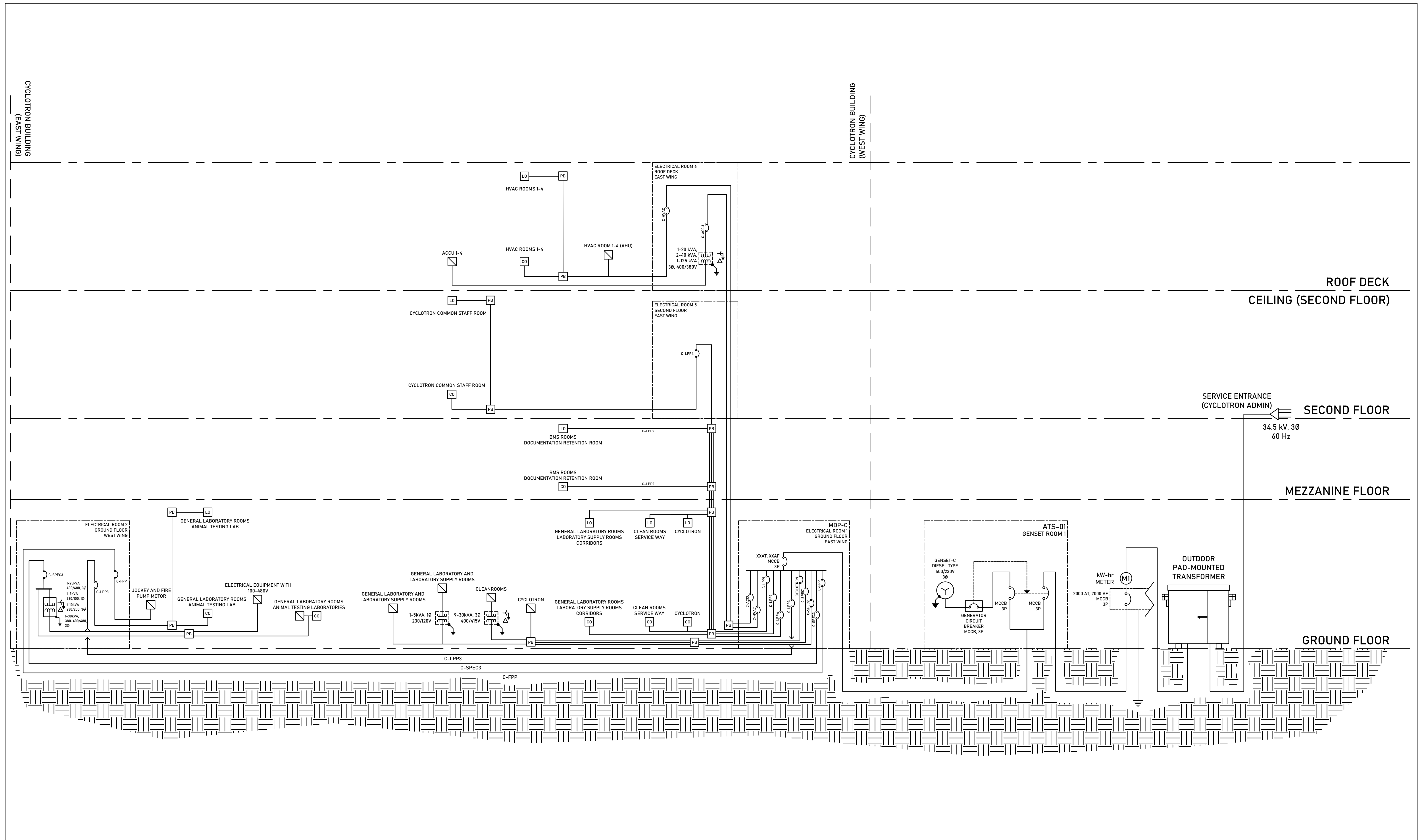
PANELBOARD : MDP-P		VOLTAGE : 400/230		ENCLOSURE : NEMA-1									
LOCATION : EE ROOM 1 (GF EAST WING)		PHASE : 3		MIN. KAIC :									
FEED : TOP		FED FROM: ATS-02		WIRE : 3+N+G									
		MOUNT : SURFACE											
CKT. NO.	LOAD DESCRIPTION	PHASE	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
				AN	BN	CN		P	AT	AF	KAIC		
1	P-LPP1	3	9,000	3,000	3,000	3,000	C8.0bR	3	50	100			
2	P-LPP2	3	50,296	17,782	15,297	17,217	C80dR	3	200	300			
3	P-LPP3	3	37,720	12,600	12,300	12,820	C30cR	3	100	200			
4	P-LPP4	3	14,718	6,680	4,498	3,540	C30bR	3	100	200			
5	P-SPEC1 (EXAM ROOM 1)	3	100,000	33,333	33,333	33,333	B100dR	3	200	300			
6	P-SPEC2 (EXAM ROOM 2)	3	100,000	33,333	33,333	33,333	B100dR	3	200	300			
7	P-SPEC3 (EXAM ROOM 3)	3	100,000	33,333	33,333	33,333	B100dR	3	200	300			
8	P-SPEC4 (EXAM ROOM 4)	3	100,000	33,333	33,333	33,333	B100dR	3	200	300			
9	P-ACCU	3	172,164	57,388	57,388	57,388	2B80fR	3	350	400			
10	P-HVAC	3	77,222	14,000	31,382	29,840	C100dR	3	200	300			
11	SPARE	3	60,000	20,000	20,000	20,000		3					
TOTAL			821,116	266,782	277,197	277,137							
FEEDER		: [HIGHEST VA (PHASE)/230V]x1.15 = 1,385.99 A; 6C125kR											
MAIN BREAKER		: 1700 AT, 2000 AF, 3P, ITCB											

PANELBOARD : P-LPP2		VOLTAGE : 400/230		ENCLOSURE : NEMA-1									
LOCATION : EE ROOM 4 (2F WEST WING)		PHASE : 3		MIN. KAIC :									
FEED : TOP		FED FROM: MDP-P		WIRE : 3+N+G									
		MOUNT : SURFACE											
CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER				
					AN	BN	CN		P	AT	AF	KAIC	
1	2F LOBBY - LIGHTING	49		1,285	1,285			A3.5aR	2	20	100		
2	CHANGING RM. AND HOT TOILET - LIGHTING	28		1,400	1,400			A3.5aR	2	20	100		
3	UPTAKE CUBICLE AND EXAM RMS.	33		1,650		1,650		A3.5aR	2	20	100		
4	CONSULTATION ROOMS	8		1,500		1,500		A5.5aR	2	30	100		
5	TOILET, ELEC. RM. 4 AND ROOF DECK - C.O.	6		3,000		3,000		A5.5aR	2	30	100		
6	LOBBY - C.O.	9		1,620		1,620		A5.5aR	2	30	100		
7	HALLWAY - C.O.	4		720		720		A5.5aR	2	20	100		
8	CON. LOUNGE & REPORTING AREA - C.O.	8		3,440		3,440		A5.5aR	2	30	100		
9	UPTAKE CUBICLE - C.O. 02	6		1,080		1,080		A5.5aR	2	30	100		
10	PREPARATION RM. AND UPTAKE ROOM - C.O.	5		1,000		1,000		A5.5aR	2	30	100		
11	2F LOBBY & CON. LOUNGE - EMER. LIGHTS 01	8		130		130		A3.5aR	2	20	100		
12	UPTAKE ROOM SLIDING DOOR			1,500		1,500		A5.5aR	2	30	100		
13	EXAM RM. 4 CONTROL RM. - C.O.	5		1,000		1,000		A5.5aR	2	30	100		
14	POST SCAN WALL & UPTAKE RM. - C.O.	4		720		720		A5.5aR	2	30	100		
15	UPTAKE CUBICLE - C.O. 01	5		900		900		A5.5aR	2	30	100		
16	EXAM RM. 2 CONTROL RM. - C.O.	3		1,000		1,000		A5.5aR	2	30	100		
17	EXAM RM. 4 - C.O.	6		1,500		1,500		A5.5aR	2	30	100		
18	EXAM RM. 2 - C.O.	6		1,500		1,500		A5.5aR	2	30	100		
19	UP ROOM, H.WAY & H. TOILET - EMER. LIGHTS 01	16		250		250		A3.5aR	2	20	100		
20	SPARE			1,000		1,000							
21	EXAM RM. 4 & 2 CONTROL RM. - EMER. LIGHTS	12		200		200		A3.5aR	2	20	100		
22	ELEVATOR - ECB			23,902	7,967	7,967	7,967	C30cR	3	100	200		
TOTAL				50,296	17,782	15,297	17,217						
FEEDER		: [HIGHEST VA (PHASE)/230V]x1.15 = 88.91 A; C80dR											
MAIN BREAKER		: 200 AT, 300 AF, 3P, ITCB											

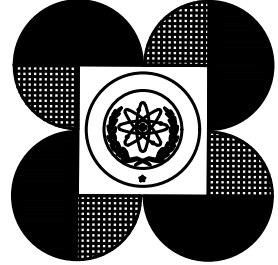
PANELBOARD : P-ACCU		VOLTAGE : 380		ENCLOSURE : NEMA-1									
LOCATION : EE ROOM 6 (RD EAST WING)		PHASE : 3		MIN. KAIC :									
FEED : TOP		FED FROM: MDP-P		WIRE : 3+G									
		MOUNT : SURFACE											
CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER				
					AB	BC	CA		P	AT	AF	KAIC	
1	P. ACCU 01			97,410	32,470	32,470	32,470	B100dR	3	200	300		
2	P. ACCU 02			44,754	14,918	14,918	14,918	B30cR	3	100	200		
3	SPARE			30,000	10,000	10,000	10,000						
TOTAL				172,164	57,388	57,388	57,388						
FEEDER		: [(HIGHEST VA (PHASE)/380V)x1.732]x1.25 = 326.97 A; 2B80fR											
MAIN BREAKER		: 350 AT, 400 AF, 3P, ITCB											

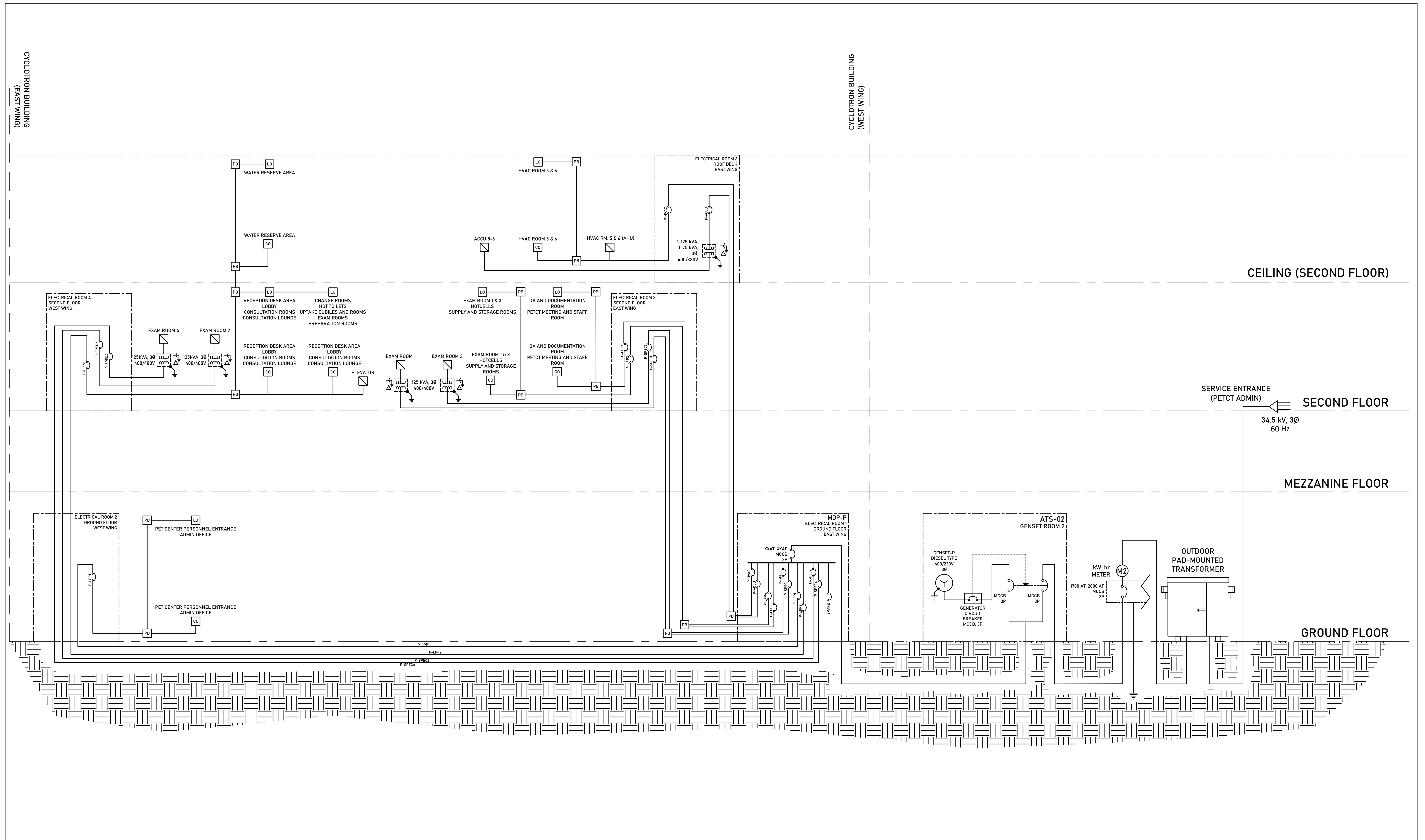
PANELBOARD : P-LPP1		VOLTAGE : 230		ENCLOSURE : NEMA-1										
LOCATION : EE ROOM 2 (GF WEST WING)		PHASE : 3		MIN. KAIC :										
FEED : TOP		FED FROM: MDP-P		WIRE : 3+N+G										
		MOUNT : SURFACE												
CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG	CIRCUIT BREAKER					
					AN	BN	CN		P	AT	AF	KAIC		
1	PETCT ENTRANCE - LIGHTING		34	1,500	1,500			A3.5aR	2	20	100			
2	PETCT ENTRANCE - C.O.		3	1,500	1,500			A5.5aR	2	20	100			
3	GF P. BMS - C.O.		3	1,500		1,500		A3.5aR	2	20	100			
4	ADMIN OFFICE - C.O.		4	1,500		1,500		A5.5aR	2	20	100			
5	PETCT ENTRANCE - EMER. LIGHTS		4	1,500		1,500		A3.5aR	2	20	100			
6	MF P. BMS - C.O.		5	1,500		1,500		A5.5aR	2	20	100			
TOTAL				9,000	3,000	3,000	3,000							
FEEDER		: [HIGHEST VA (PHASE)/230V]x1.15 = 15 A; C8.0bR												
MAIN BREAKER		: 50 AT, 100 AF, 3P, MCCB												

PANELBOARD : P-LPP3		VOLTAGE : 400/230		ENCLOSURE : NEMA-1				
LOCATION : EE ROOM 3 (2F EAST WING)		PHASE : 3		MIN. KAIC :				
FEED : TOP		FED FROM: MDP-P		WIRE : 3+N+G				
		MOUNT : SURFACE						
CKT. NO.	LOAD DESCRIPTION	L.O.	C.O.	VA	CONNECTED LOAD (VA)			CABLE TAG

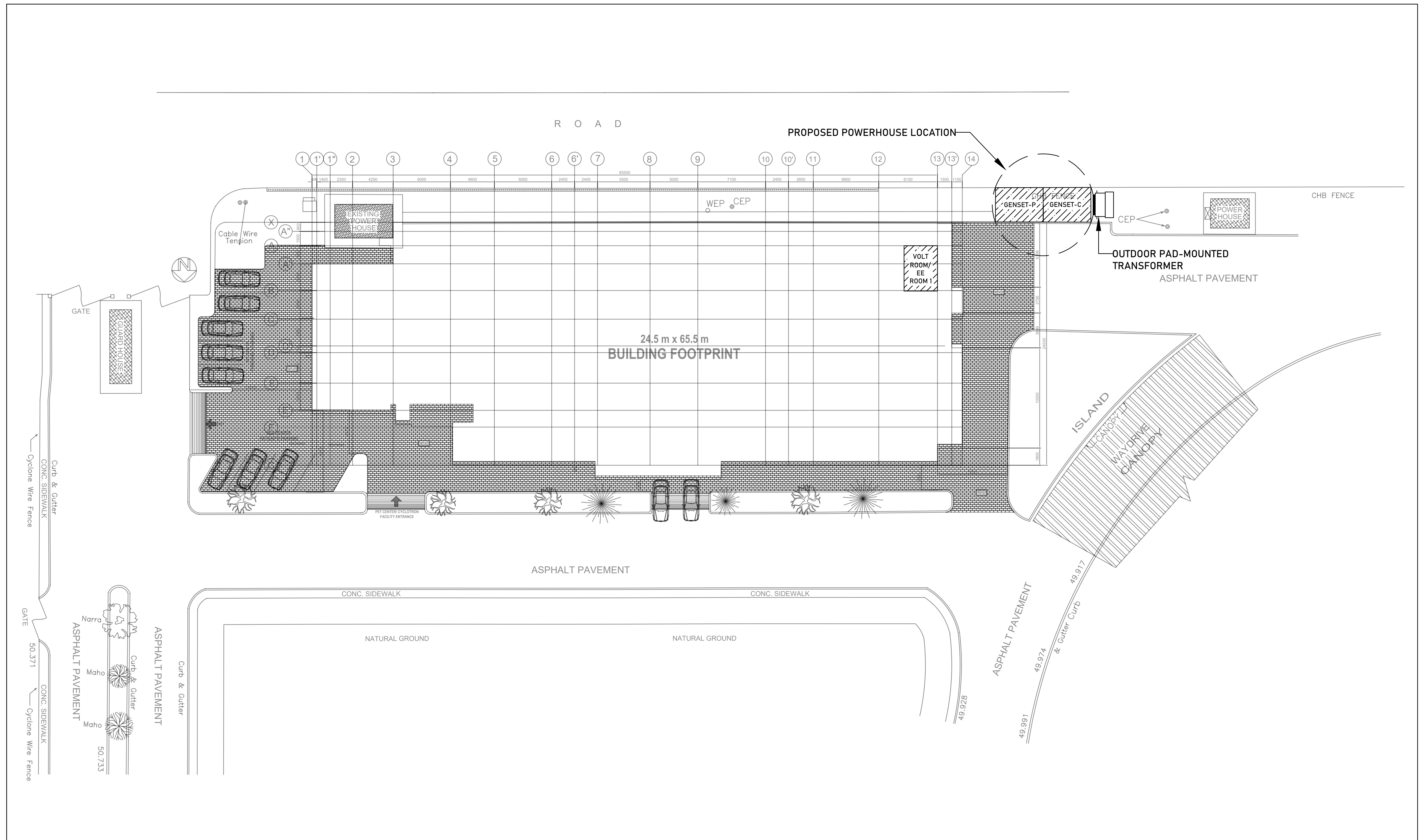


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E-8 CYCLOTRON RISER DIAGRAM
SCALE: NTS

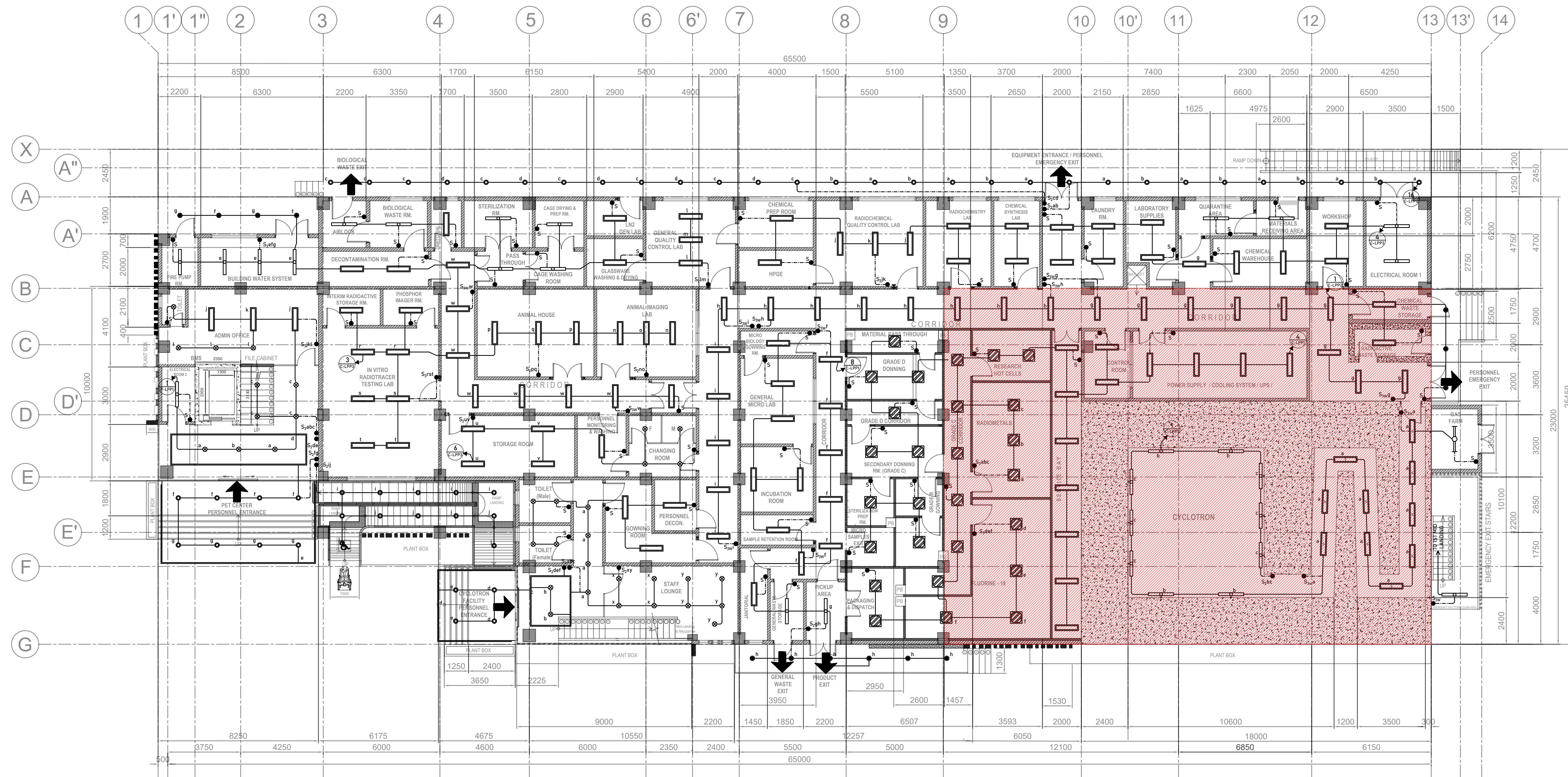
 <p>Republic of the Philippines DEPARTMENT OF SCIENCE AND TECHNOLOGY PHILIPPINE NUCLEAR RESEARCH INSTITUTE COMMONWEALTH AVENUE, DILIMAN, QUEZON CITY</p>	<p>PROJECT TITLE: INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES: DEVELOPMENT OF EMERGING PET RADIOPHARMACEUTICAL FOR EARLY CANCER STAGING AND ASSESSMENT OF BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023) PHASE 4</p>	<p>SHEET CONTENTS: CYCLOTRON RISER DIAGRAM</p>	<p>PREPARED BY: <u>ENGR. ROSALINO B. REJAS</u> SSRS, ESS <u>ENGR. ANDREW C. BARRIDA</u> SSRS, ESS</p>	<p>RECOMMENDING APPROVALS:</p> <p><u>MARIA TERESA L. BORRAS</u> END-USER, SSRS, ITS</p> <p><u>PRECIOSA CORAZON B. PABROA, Ph. D.</u> CHIEF, NSD</p>	<p>APPROVED BY:</p> <p><u>ENGR. ARTURO F. SALIH</u> SSRS / OIC-ESS</p> <p><u>VALLERIE ANN I. SAMSON, Ph. D.</u> DEPUTY DIRECTOR</p>	<p>APPROVED BY:</p> <p><u>CARLO A. ARCILLA, Ph. D.</u> DIRECTOR</p>	<p>DRAWN BY:</p> <p>CHECKED BY:</p> <p>DATE:</p>	<p>SHEET NO. E - 8 PAGE NO. OF TOTAL NO. OF PAGES 8 OF 28</p>
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1
E-9 SCALE NTS
PETCT RISER DIAGRAM

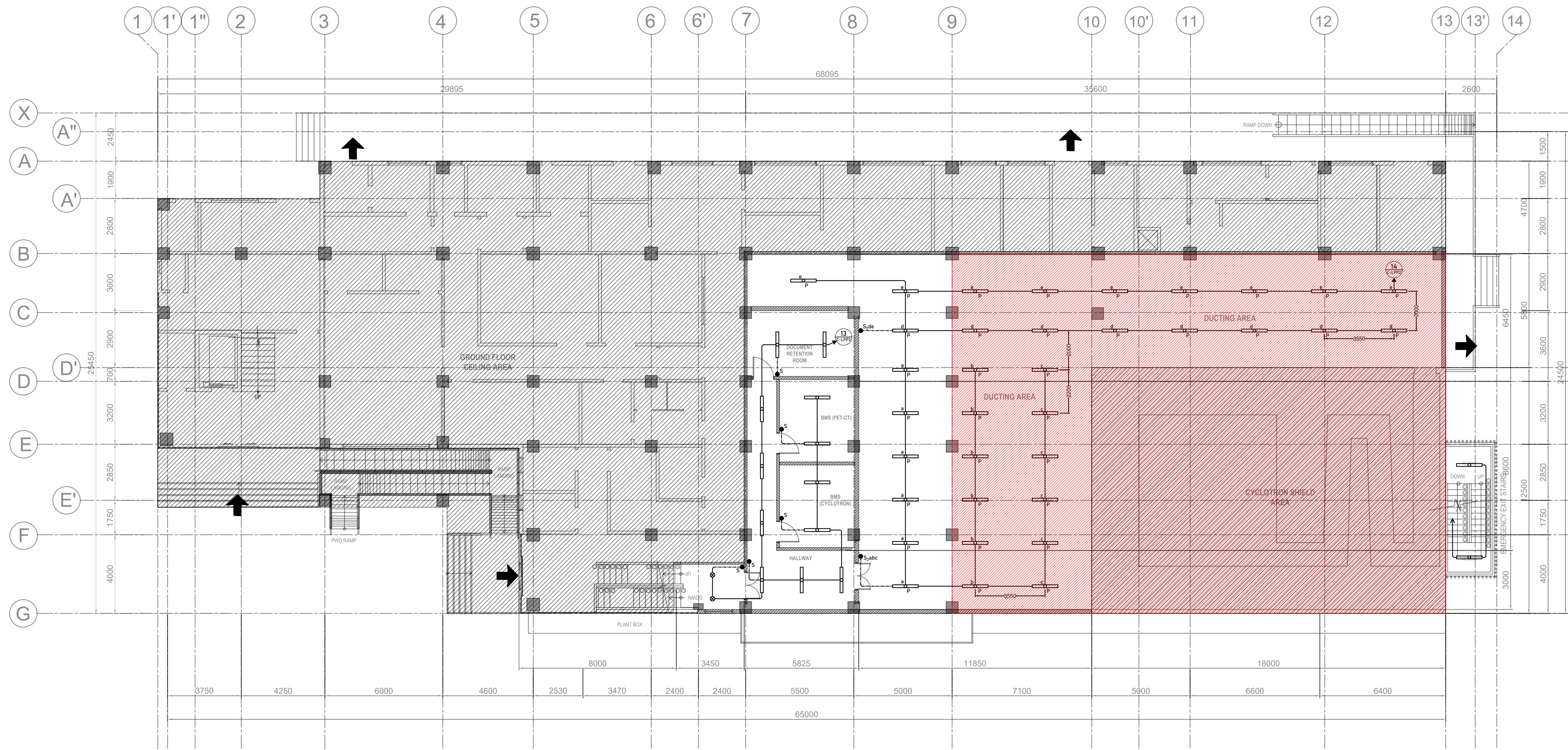


1
E-10 SCALE 1:100m



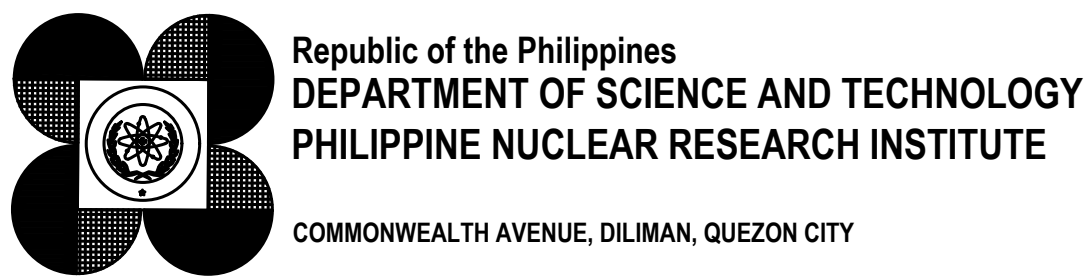
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	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

1
E-11
 GROUND FLOOR LIGHTING LAYOUT
 SCALE 1:100m



LEGEND	
	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

MEZZANINE FLOOR
1
E-12
 LIGHTING LAYOUT
 SCALE 1:100m



PROJECT TITLE:
 INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES:
 DEVELOPMENT OF EMERGING PET RADIOPHARMACEUTICAL
 FOR EARLY CANCER STAGING AND ASSESSMENT OF
 BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023)
 PHASE 4

SHEET CONTENTS:
 MEZZANINE FLOOR LIGHTING LAYOUT

PREPARED BY:
ENGR. ROSALINO B. REJAS
 SSRS, ESS
ENGR. ANDREW C. BARRIDA
 SSRS, ESS

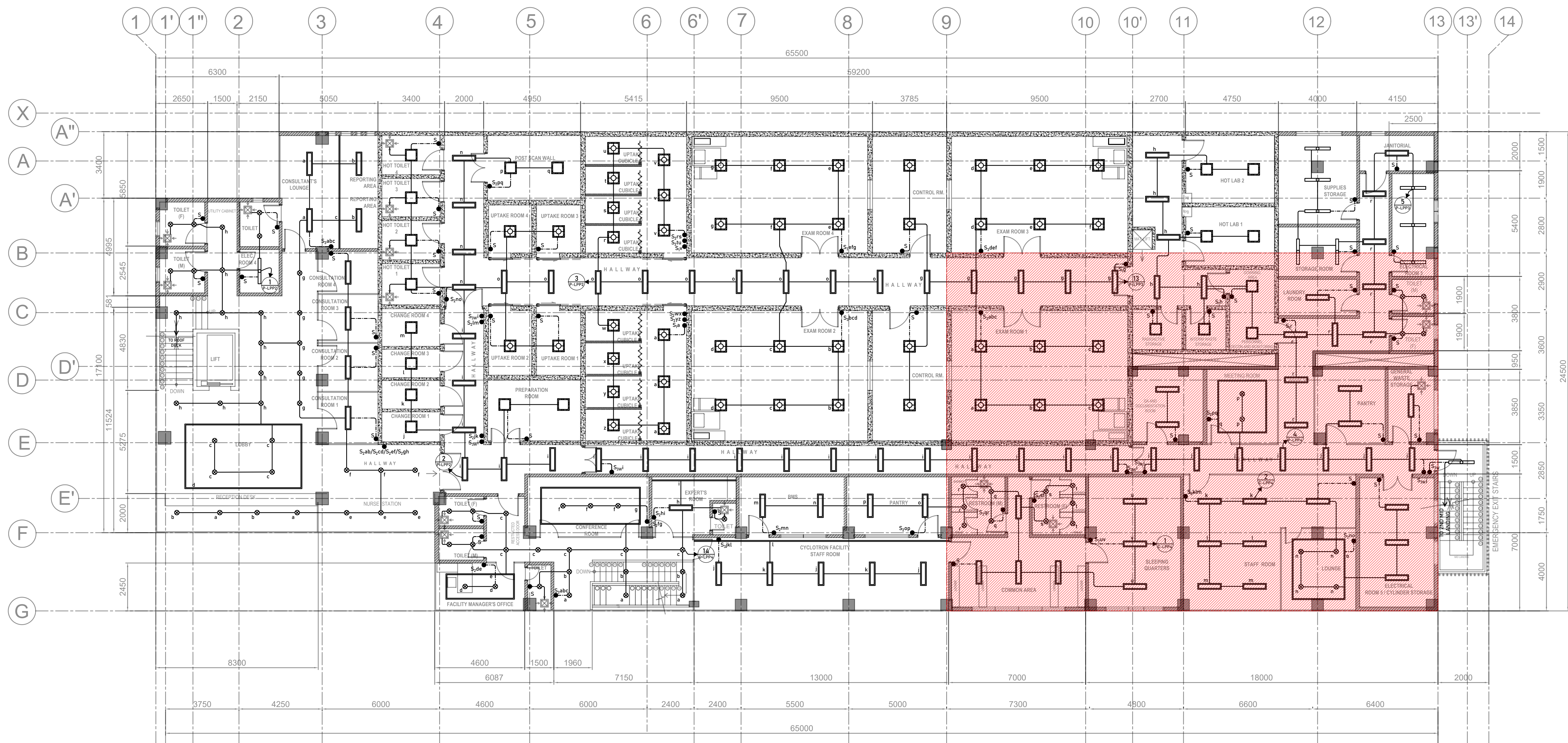
RECOMMENDING APPROVALS:
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PRECIOSA CORAZON B. PABROA, Ph. D.
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ENGR. ARTURO F. SALIH
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VALLERIE ANN I. SAMSON, Ph. D.
 DEPUTY DIRECTOR

APPROVED BY:
CARLO A. ARCILLA, Ph. D.
 DIRECTOR

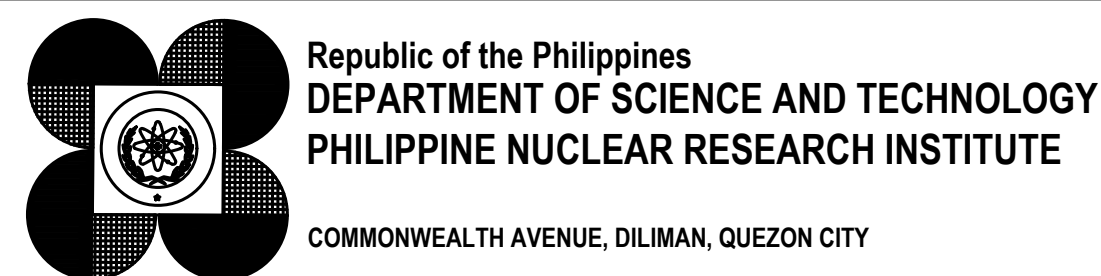
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SHEET NO.
E - 12
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LEGEND	
	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

SECOND FLOOR
1 LIGHTING LAYOUT
 SCALE 1:100m



PROJECT TITLE:
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 PHASE 4

SHEET CONTENTS:
 SECOND FLOOR LIGHTING LAYOUT

PREPARED BY:
 ENGR. ROSALINO B. REJAS
 SSRS, ESS
 ENGR. ANDREW C. BARRIDA
 SSRS, ESS

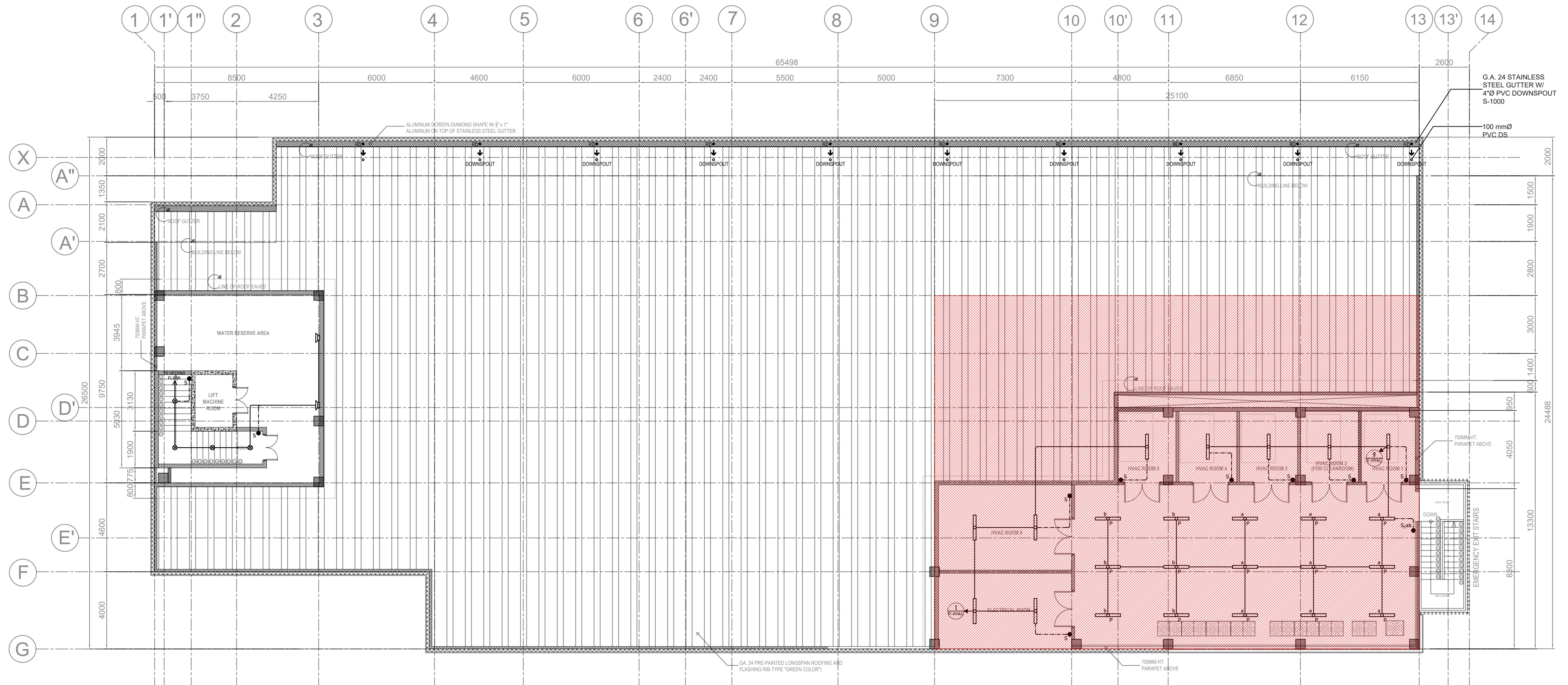
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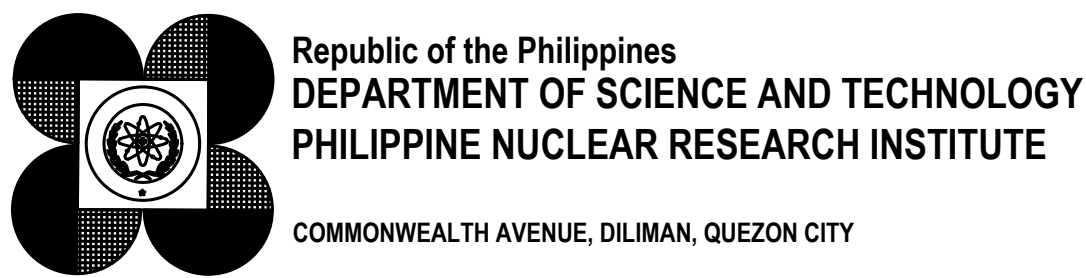
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13 OF **28**



LEGEND	
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	INCLUDES WIRES ONLY

ROOF DECK
1
E-14
 LIGHTING LAYOUT
 SCALE 1:100m



PROJECT TITLE:
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SHEET CONTENTS:
 ROOF DECK LIGHTING LAYOUT

PREPARED BY:
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 SSRS, ESS

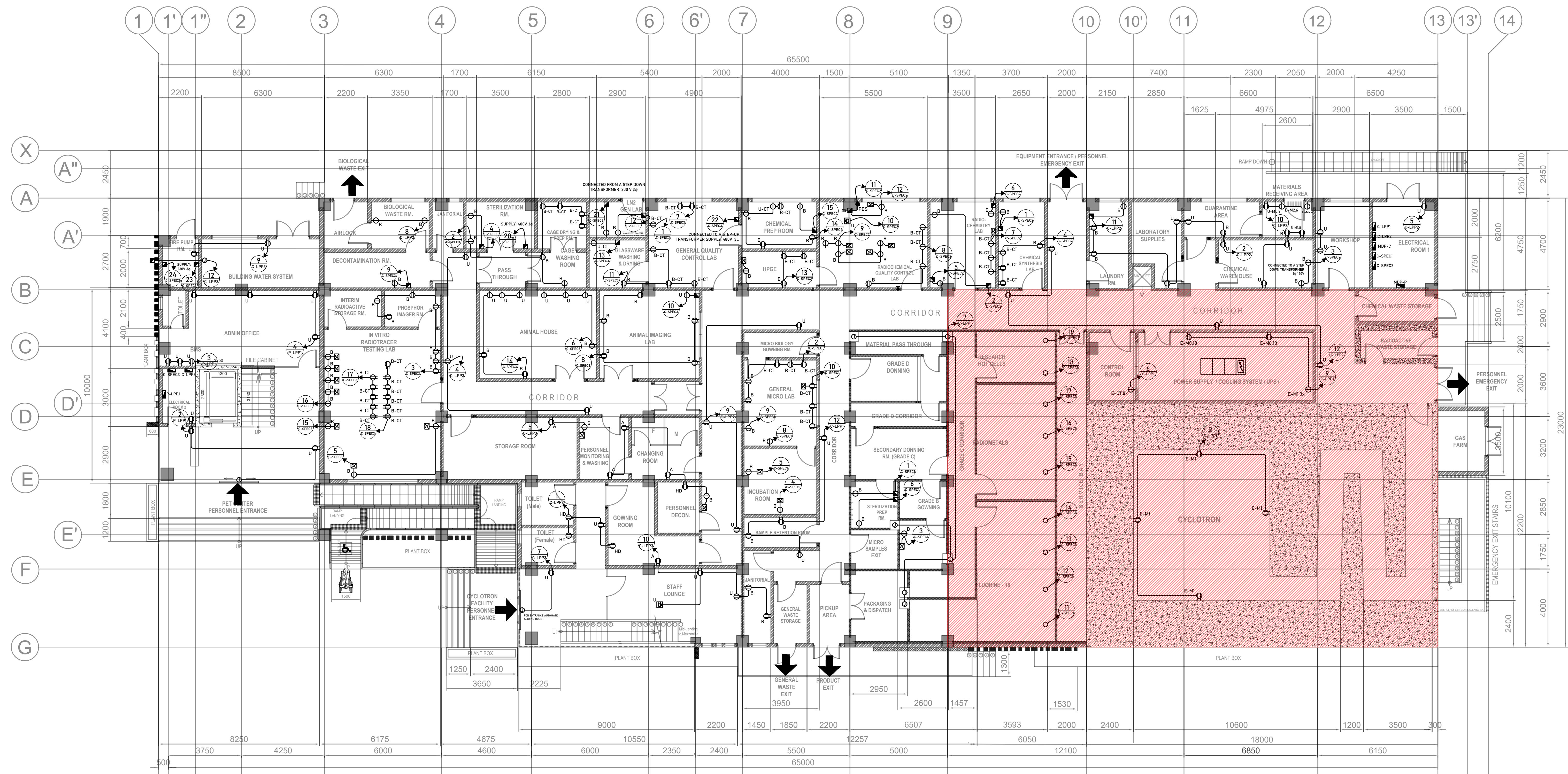
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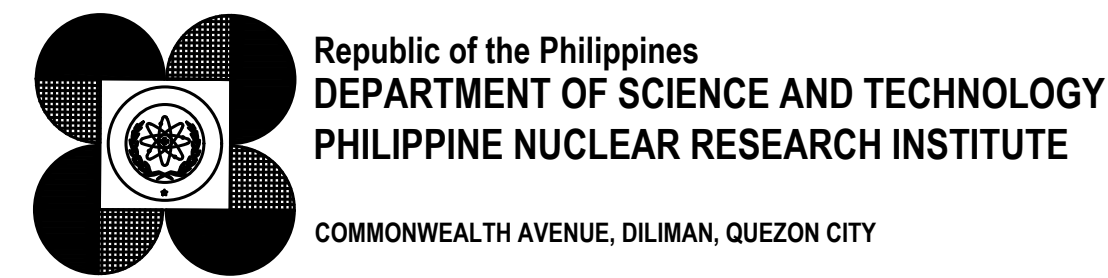
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14 OF **28**



LEGEND	
	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

GROUND FLOOR
POWER LAYOUT
 1
 E-15
 SCALE 1:100m



PROJECT TITLE:
 INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES:
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 FOR EARLY CANCER STAGING AND ASSESSMENT OF
 BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023)
 PHASE 4

SHEET CONTENTS:
 GROUND FLOOR POWER LAYOUT

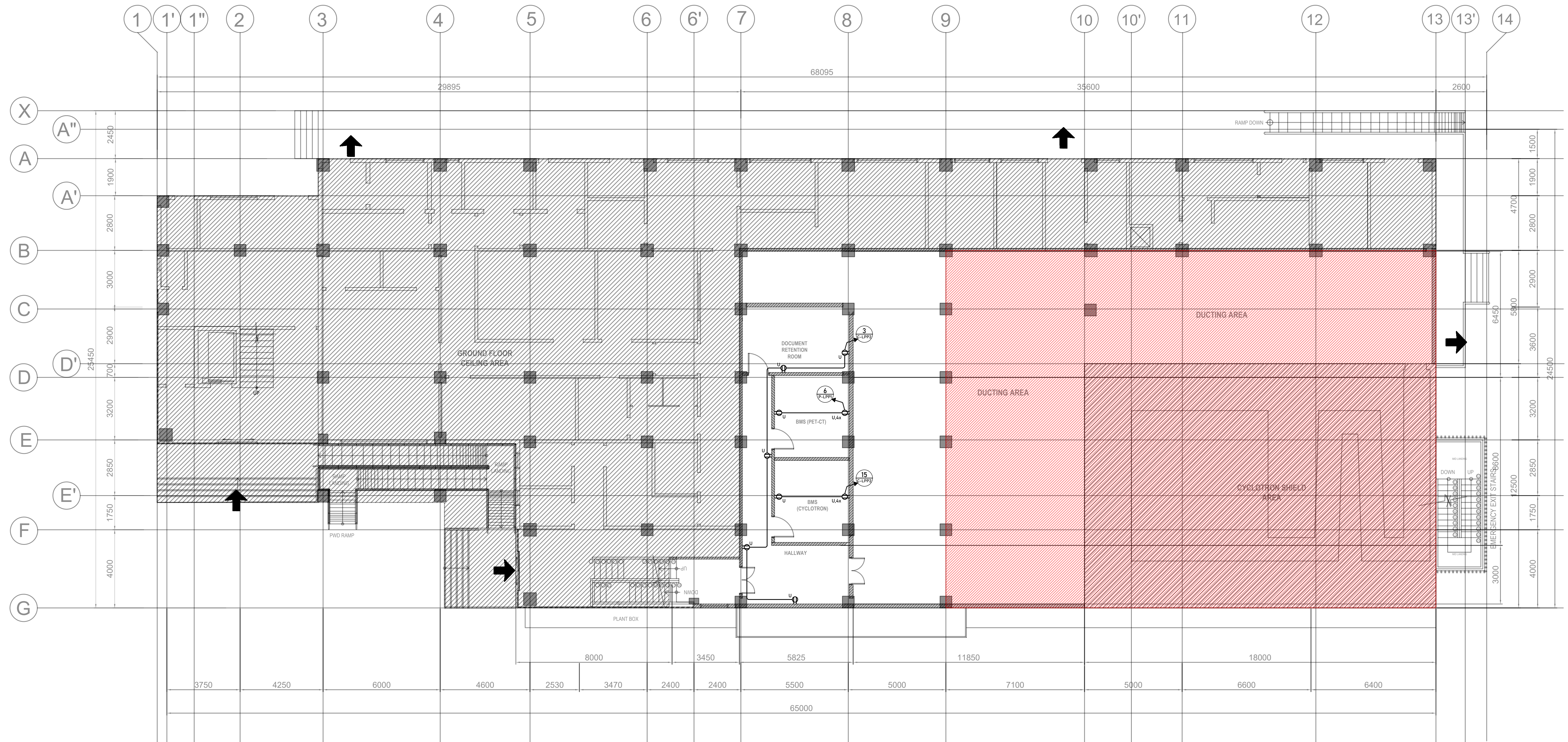
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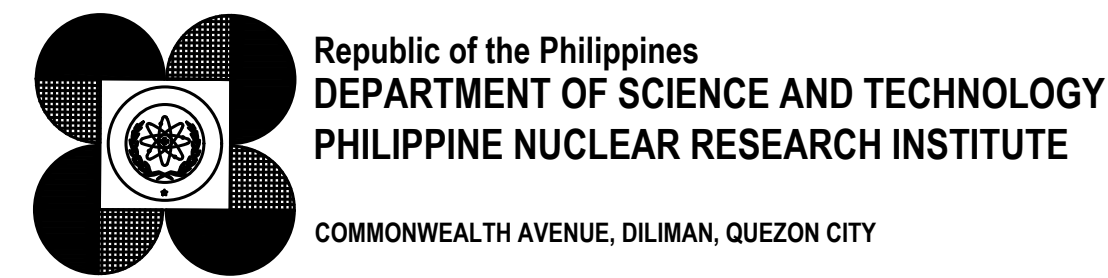
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SHEET NO.:
E - 15
 PAGE NO. OF TOTAL NO. OF PAGES
15 OF 28



LEGEND	
	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

MEZZANINE FLOOR
POWER LAYOUT
 SCALE 1:100m



PROJECT TITLE:
 INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES:
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 PHASE 4

SHEET CONTENTS:
 MEZZANINE FLOOR POWER LAYOUT

PREPARED BY:
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 ENGR. ANDREW C. BARRIDA
 SSRS, ESS

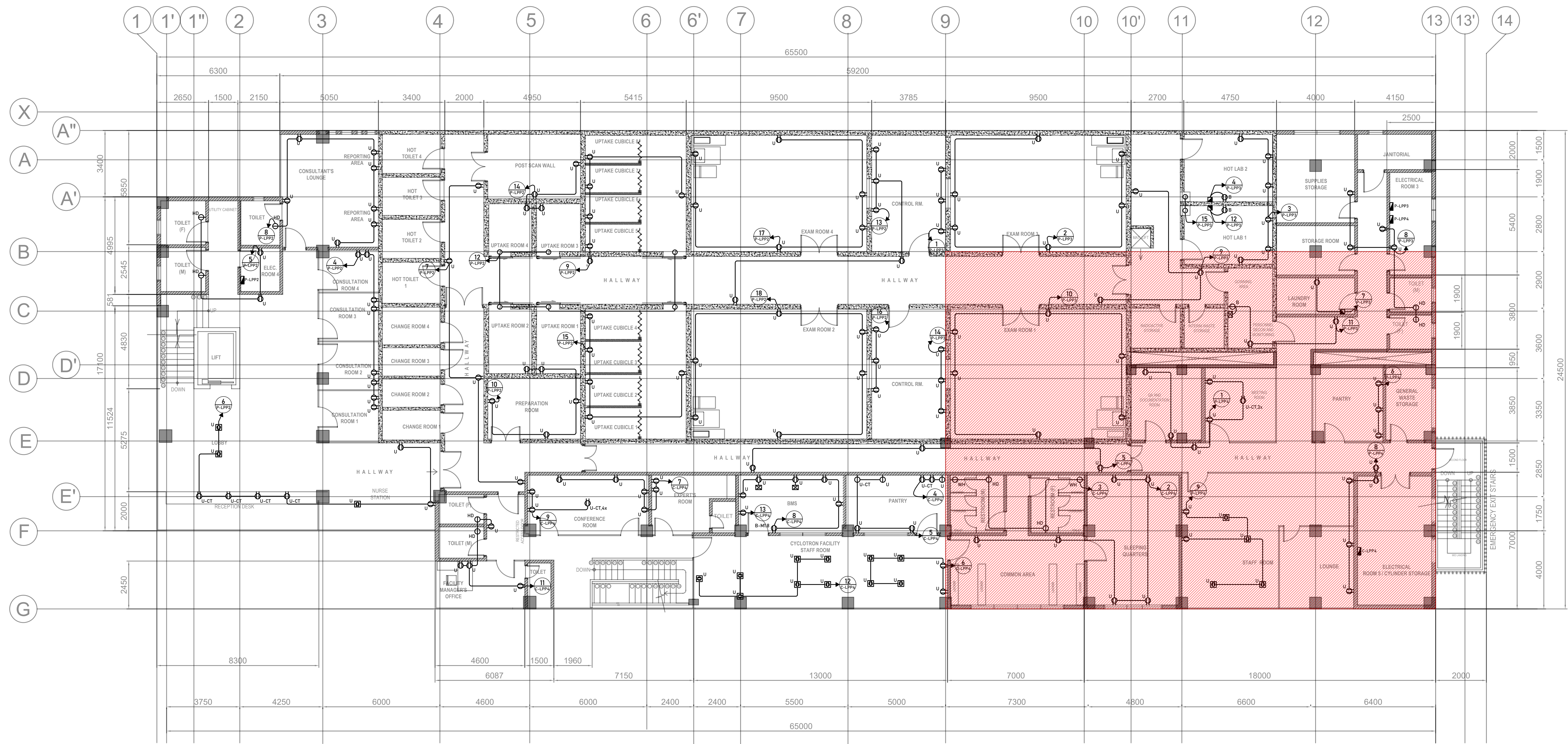
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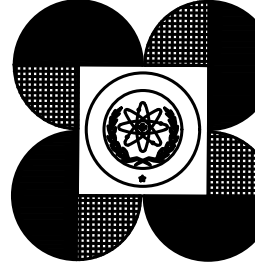
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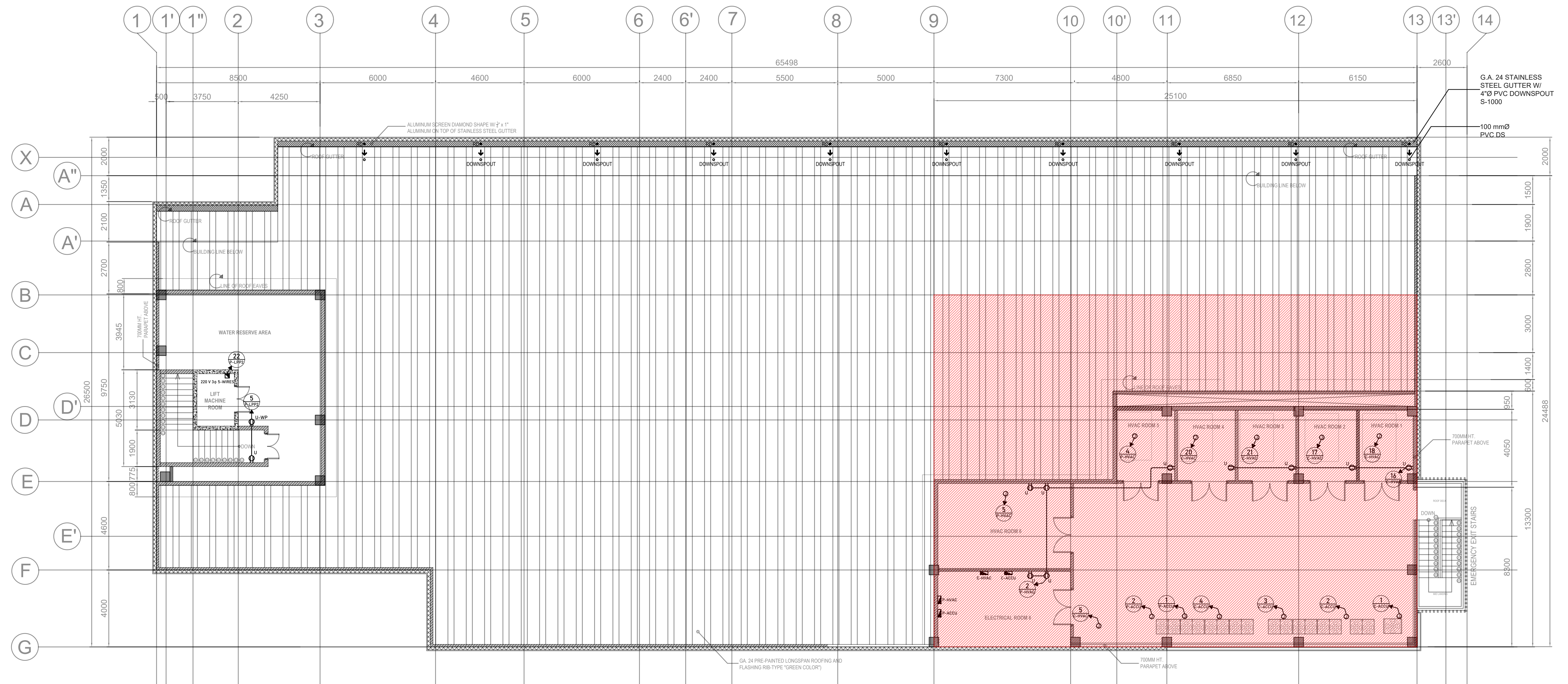
SHEET NO.
E - 16
 PAGE NO. OF TOTAL NO. OF PAGES
16 OF 28



LEGEND	
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	INCLUDES WIRES ONLY

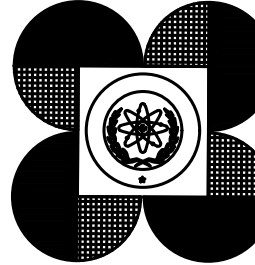
1
E-17
 SECOND FLOOR
POWER LAYOUT
 SCALE 1:100m

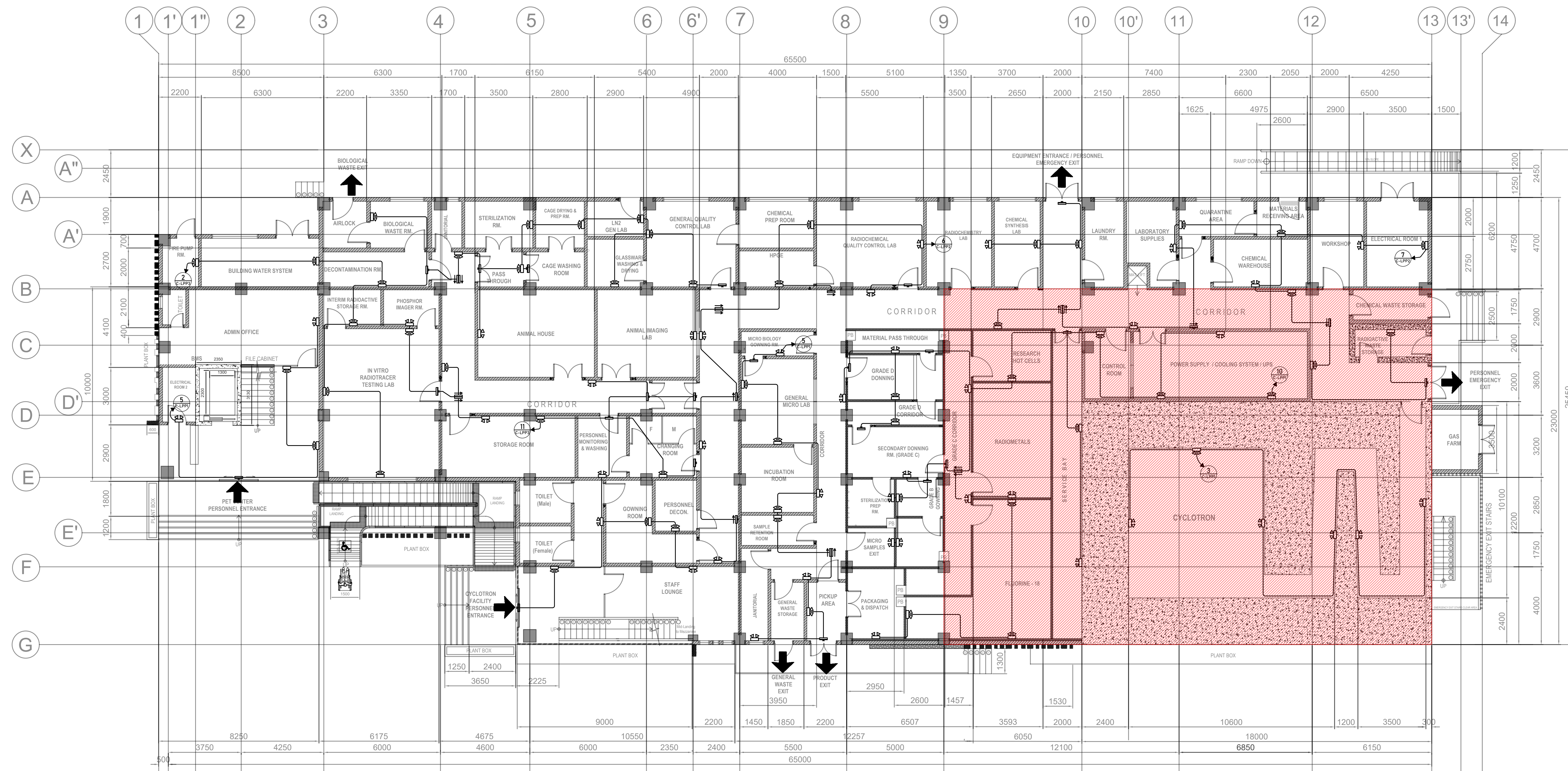
 Republic of the Philippines DEPARTMENT OF SCIENCE AND TECHNOLOGY PHILIPPINE NUCLEAR RESEARCH INSTITUTE COMMONWEALTH AVENUE, DILIMAN, QUEZON CITY	PROJECT TITLE: INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES: DEVELOPMENT OF EMERGING PET RADIOPHARMACEUTICAL FOR EARLY CANCER STAGING AND ASSESSMENT OF BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023) PHASE 4	SHEET CONTENTS: SECOND FLOOR POWER LAYOUT	PREPARED BY: ENGR. ROSALINO B. REJAS <small>SSRS, ESS</small> ENGR. ANDREW C. BARRIDA <small>SSRS, ESS</small>	RECOMMENDING APPROVALS: MARIA TERESA L. BORRAS <small>END-USER, SSRS, ITS</small> PRECIOSA CORAZON B. PABROA, Ph. D. <small>CHIEF, NSD</small>	ENGR. ARTURO F. SALIH <small>SSRS / OIC-ESS</small> VALLERIE ANN I. SAMSON, Ph. D. <small>DEPUTY DIRECTOR</small>	APPROVED BY: CARLO A. ARCILLA, Ph. D. <small>DIRECTOR</small>	DRAWN BY: CHECKED BY: DATE:	SHEET NO. E - 17 <small>PAGE NO. OF TOTAL NO. OF PAGES</small> 17 OF 28
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LEGEND	
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	INCLUDES WIRES ONLY

1
ROOF DECK
POWER LAYOUT
 SCALE 1:100m

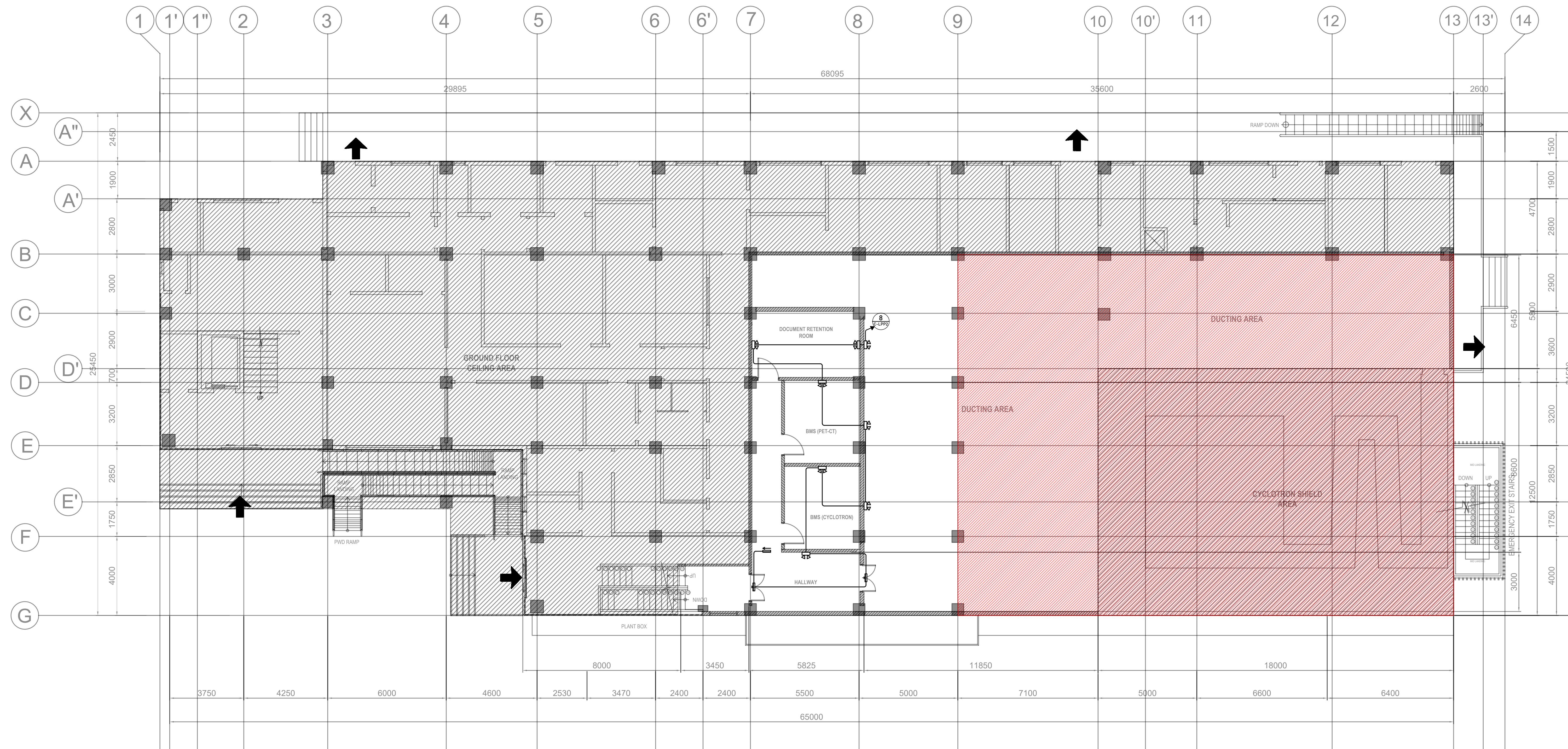
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LEGEND	
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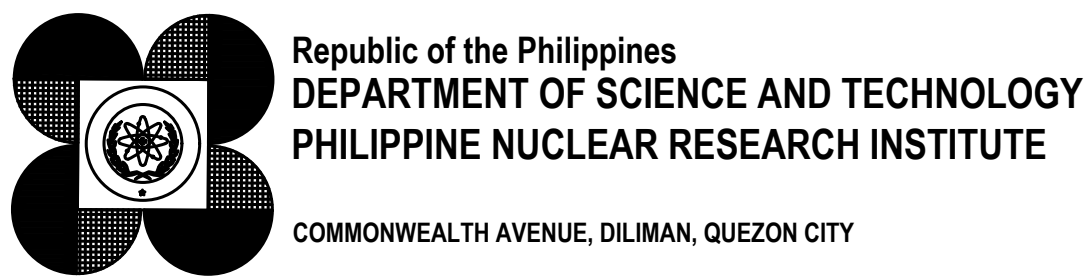
GROUND FLOOR
1
E-19
 EMERGENCY LIGHTING LAYOUT
 SCALE 1:100m

<p>Republic of the Philippines DEPARTMENT OF SCIENCE AND TECHNOLOGY PHILIPPINE NUCLEAR RESEARCH INSTITUTE COMMONWEALTH AVENUE, DILIMAN, QUEZON CITY</p>	PROJECT TITLE: INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES: DEVELOPMENT OF EMERGING PET RADIOPHARMACEUTICAL FOR EARLY CANCER STAGING AND ASSESSMENT OF BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023) PHASE 4	SHEET CONTENTS: GROUND FLOOR EMERGENCY LIGHTING LAYOUT	PREPARED BY: <u>ENGR. ROSALINO B. REJAS</u> <small>SSRS, ESS</small> <u>ENGR. ANDREW C. BARRIDA</u> <small>SSRS, ESS</small>	RECOMMENDING APPROVALS: <u>MARIA TERESA L. BORRAS</u> <small>END-USER, SSRS, ITS</small> <u>PRECIOSA CORAZON B. PABROA, Ph. D.</u> <small>CHIEF, NSD</small>	ENGR. ARTURO F. SALIH <small>SSRS / OIC-ESS</small> <u>VALLERIE ANN I. SAMSON, Ph. D.</u> <small>DEPUTY DIRECTOR</small>	APPROVED BY: <u>CARLO A. ARCILLA, Ph. D.</u> <small>DIRECTOR</small>	DRAWN BY: _____ CHECKED BY: _____ DATE: _____	SHEET NO. E - 19 <small>PAGE NO. OF TOTAL NO. OF PAGES</small> 19 OF 28
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LEGEND	
	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

MEZZANINE FLOOR
EMERGENCY LIGHTING LAYOUT
 1
 E-20
 SCALE 1:100m



PROJECT TITLE:
 INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES:
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 BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023)
 PHASE 4

SHEET CONTENTS:
 MEZZANINE FLOOR EMERGENCY
 LIGHTING LAYOUT

PREPARED BY:
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 ENGR. ANDREW C. BARRIDA
 SSRS, ESS

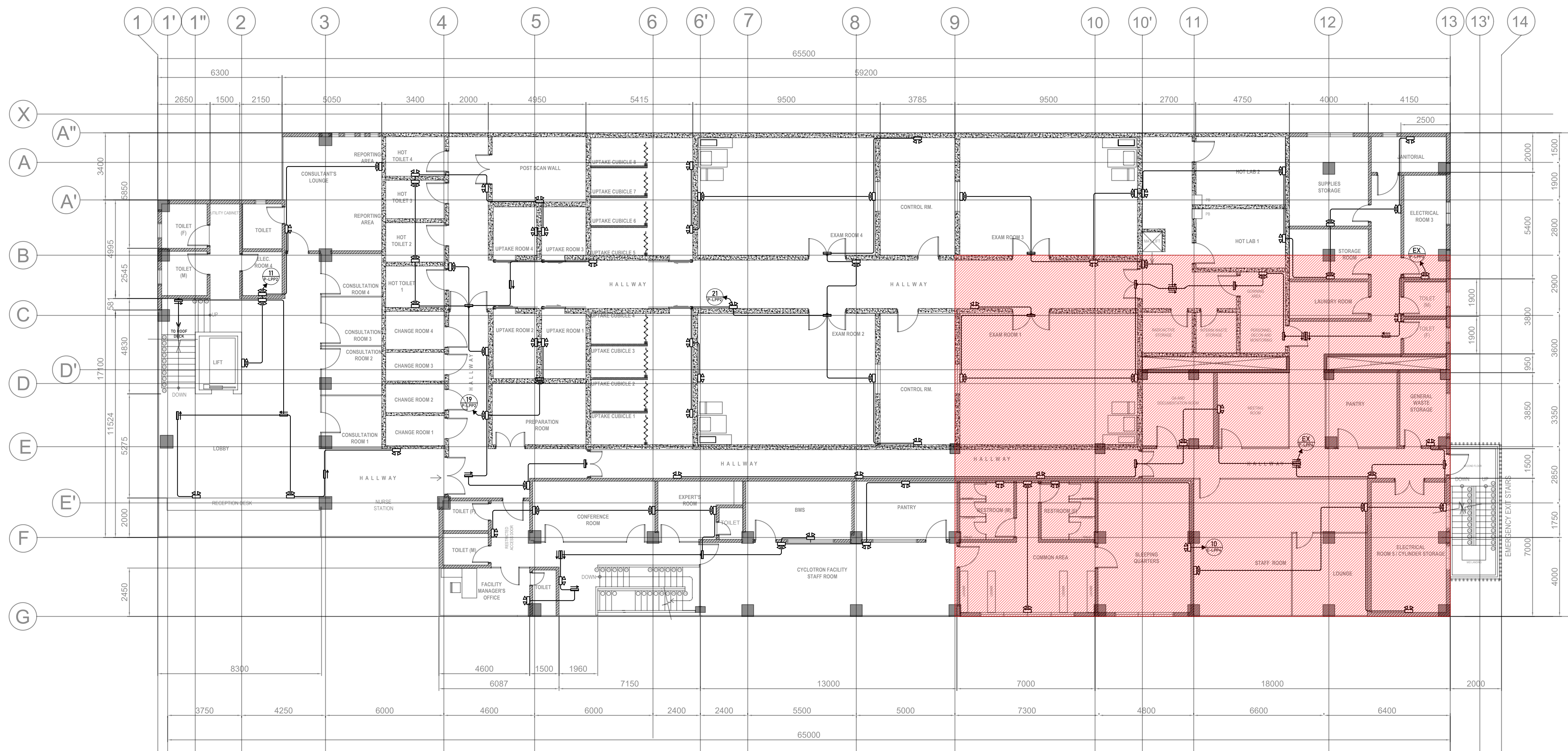
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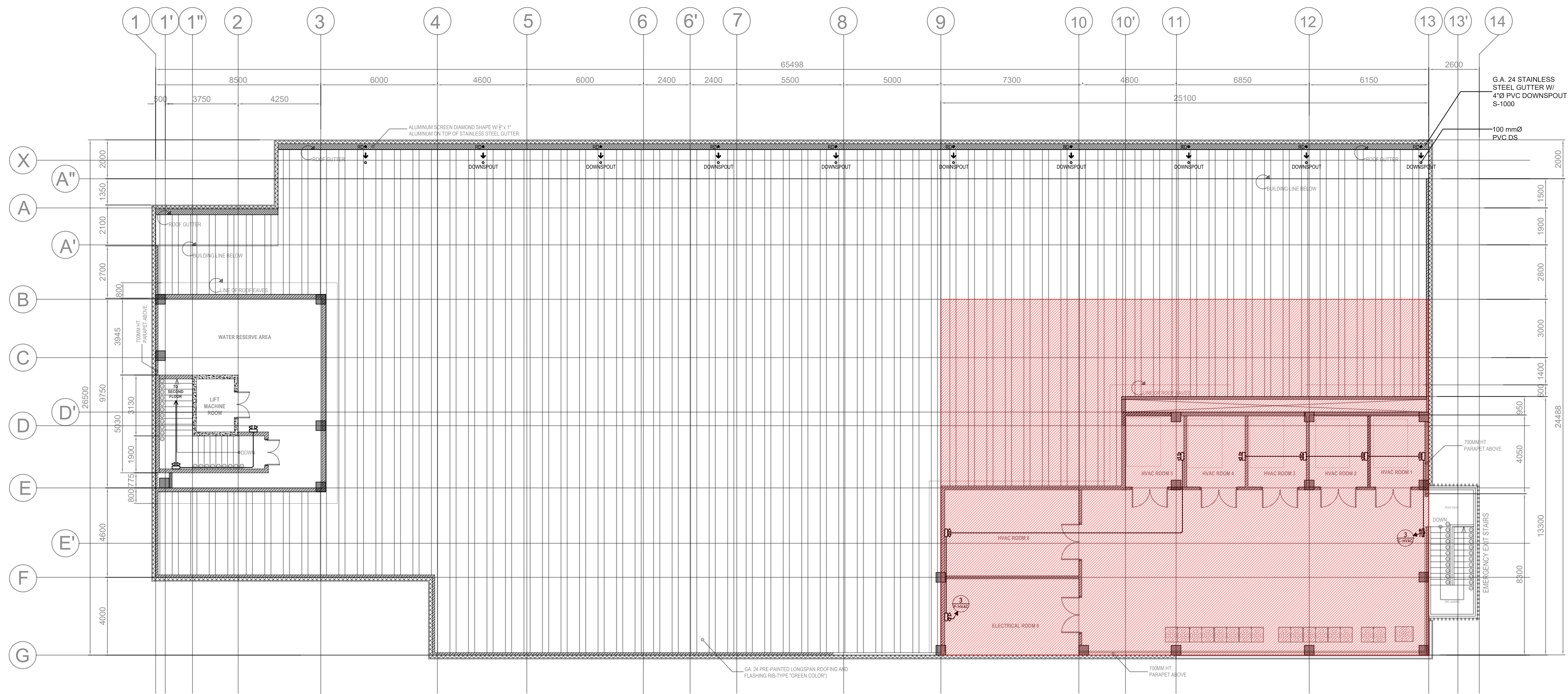
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20 OF 28



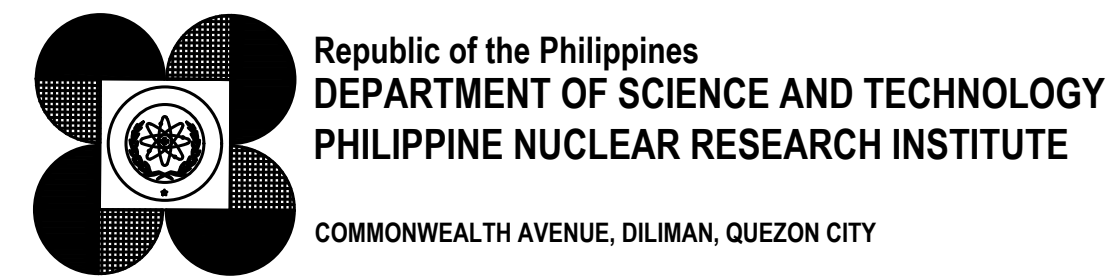
LEGEND	
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	INCLUDES WIRES AND ROUGH-INS

1
 SECOND FLOOR
 EMERGENCY LIGHTING LAYOUT
 SCALE 1:100m



LEGEND	
	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

ROOF DECK
EMERGENCY LIGHTING LAYOUT
SCALE 1/100m



PROJECT TITLE:
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 FOR EARLY CANCER STAGING AND ASSESSMENT OF
 BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023)
 PHASE 4

SHEET CONTENTS:
 ROOF DECK EMERGENCY LIGHTING
 LAYOUT

PREPARED BY:
 ENGR. ROSALINO B. REJAS
 SSRS, ESS
 ENGR. ANDREW C. BARRIDA
 SSRS, ESS

RECOMMENDING APPROVALS:
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E - 22
 PAGE NO. OF TOTAL NO.
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22 OF 28

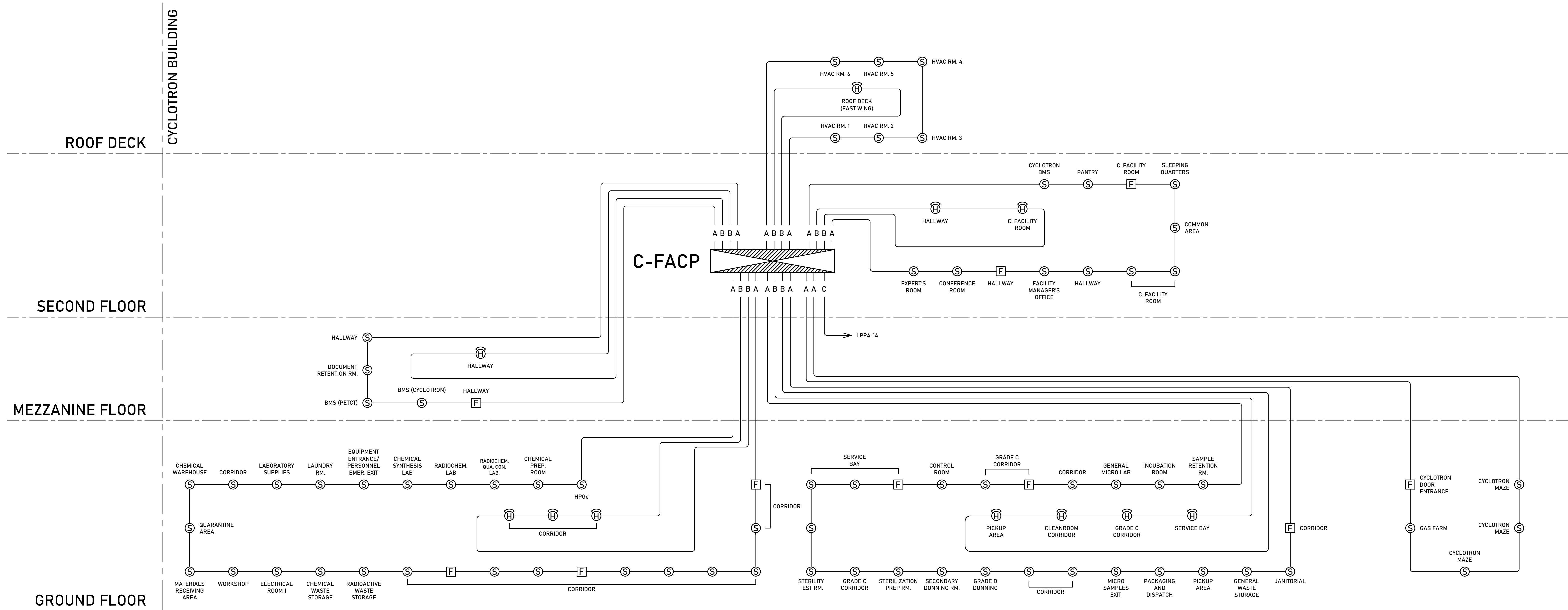
GENERAL NOTES:

- ALL WORKS HEREIN SHALL COMPLY IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE APPLICABLE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE (PEC). THE RULES AND REGULATION OF THE LOCAL ENFORCING AUTHORITY AND THE REQUIREMENTS OF THE LOCAL COMPANY.
- ALL INSTALLATIONS SHOULD BE IN ACCORDANCE TO NFPA STANDARDS AND FIRE CODE OF THE PHILIPPINES.
- THE WORK SHALL BE EXECUTED IN CLOSE COORDINATION WITH OTHER TRADES SO AS TO ENSURE THE PROPER IMPLEMENTATION OF THIS WORK WITHOUT CLASHES WITH OTHER TRADES.
- ALL ELECTRICAL WORKS SHALL BE UNDER DIRECT AND IMMEDIATE SUPERVISION BY A DULY AUTHORIZED ELECTRICAL ENGINEER.
- PROVIDE ALL MATERIALS AND LABOR OF THE ENGINEERING, DESIGN, AND INSTALLATION OF AUTOMATIC FIRE DETECTION AND ADDRESSABLE FIRE ALARM CONTROL PANEL, STROBE HORN AND MANUAL PULL SWITCH STATION SYSTEM.
- THE FIRE ALARM CONTROL PANEL (FACP) IS AN ADDRESSABLE DEVICE IN 10, 3 - WIRE W/ GROUND, 240V A.C. 60 Hz.
- ALL OUTLET BOXES SHALL BE GALVANIZED GAUGE NO. 16 DEEP TYPE WITH FACTORY KNOCKOUTS AND APPROVED TYPE FOR THE PARTICULAR LOCATION AND PURPOSE OF USAGE.
- MOUNTING HEIGHT OF FACP, STROBE HORN AND PULL OUT SWITCH SHALL BE AS FOLLOW:
 - FIRE ALARM CP - 1.40 M ABOVE FINISH FLOOR
 - MANUAL PULL SWITCH - 1.30 M ABOVE FINISH FLOOR
 - STROBE HORN - 2.40 M ABOVE FINISH FLOOR
- ALL SMOKE AND HEAT DETECTORS ARE SURFACED TYPE INSTALLED BELOW CEILING LINE.
- FOR FIRE DETECTION AND ALARM SYSTEM, THE SIZE AND TYPE OF WIRE ARE AS FOLLOWS:
 - SIGNALING CIRCUIT - 1.25mm² TWISTED PAIR SHIELDED CABLE
 - NOTIFICATION CIRCUIT - 2-2.0mm² THHN/THWN
 - POWER SUPPLY CIRCUIT - 2-3.5mm² THHN/THWN AND 1-3.5mm² TW (G)
- THE MINIMUM SIZE OF CONDUIT FOR FIRE DETECTION AND ALARM SYSTEM SHALL BE IN 20mmØ PVC.
- ACTIVATION OF SMOKE DETECTORS, HEAT DETECTORS, AND MANUAL PULL STATIONS SHALL INITIATE THE FOLLOWING TASKS FOR THE FIRE ALARM CONTROL PANEL (FACP):
 - THE ACTIVATION OF BOTH AUDIBLE AND VISUAL ALARMS.
 - THE LCD DISPLAY SHALL INDICATE ALL APPLICABLE INFORMATION ASSOCIATED WITH THE ALARM CONDITION INCLUDING THE ZONE, DEVICE TYPE, DEVICE LOCATION, TIME AND DATE.
 - DOCUMENT ALL SYSTEM ACTIVITIES AND EVENTS.
- PROVIDE ADDITIONAL POWER SUPPLY FOR NOTIFICATION CIRCUIT IF THE FIRE ALARM NOTIFICATION CIRCUIT IS INSUFFICIENT.
- FIRE PROTECTION, ALARM AND DETECTION SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH THE LATEST EDITION OF PHILIPPINE ELECTRICAL CODE, PART 1.

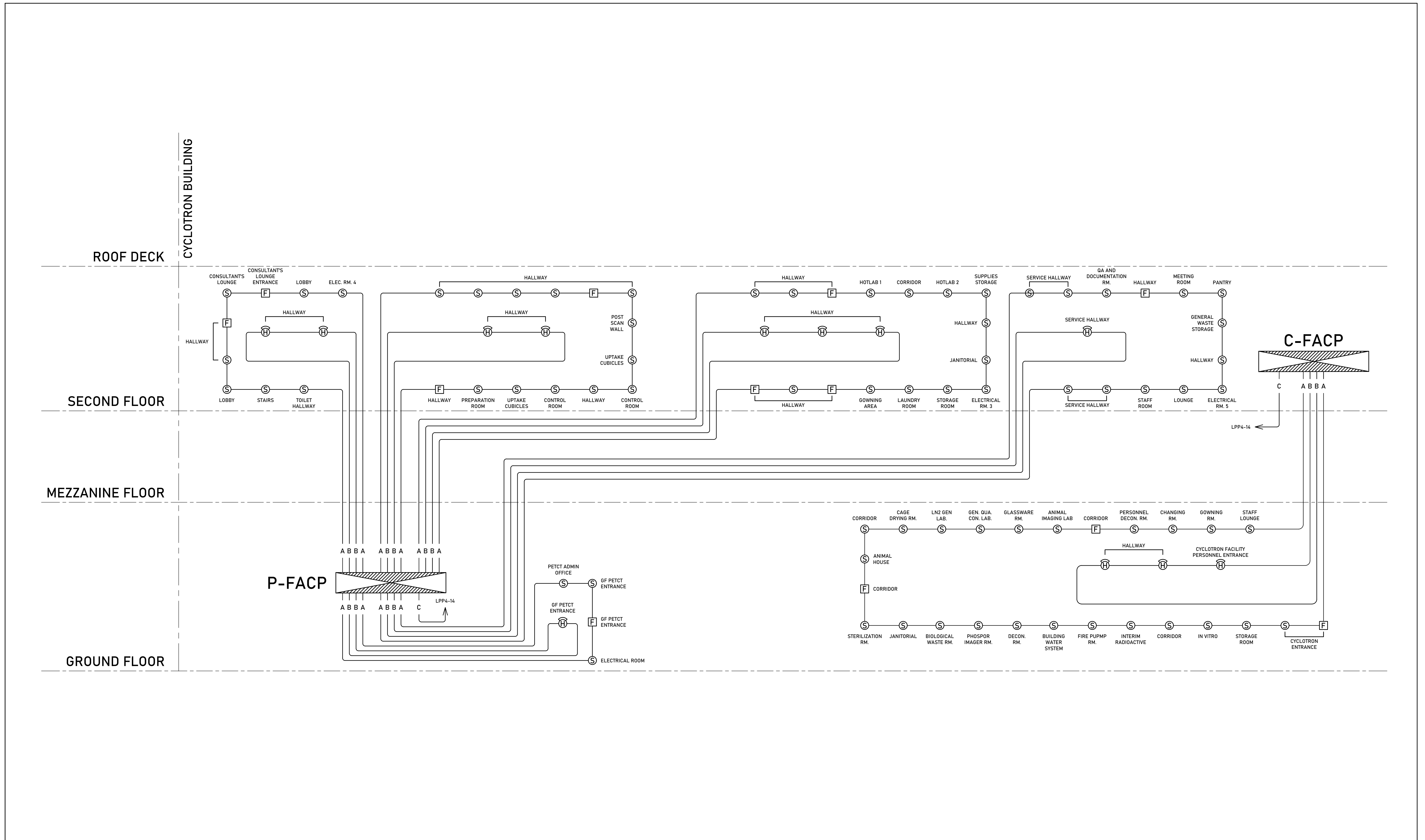
FIRE DETECTION & ALARM SYSTEM WIRING SCHEDULE		
LABEL	WIRE	CONDUIT
A	1.25mm ² TF WIRE BLACK AND RED COLOR	20mm ² PVC
B	2-3.5mm ² THHN/THWN	20mm ² PVC
C	2-5.5mm ² THHN/THWN & 1-3.5mm ² THHN (G)	20mm ² RSC

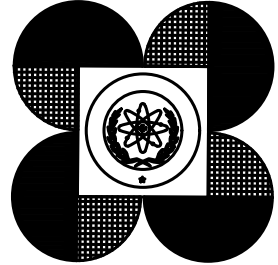
1 FACP GEN. NOTES
SCALE: NTS

2 FACP WIRING SCHEDULE
SCALE: NTS

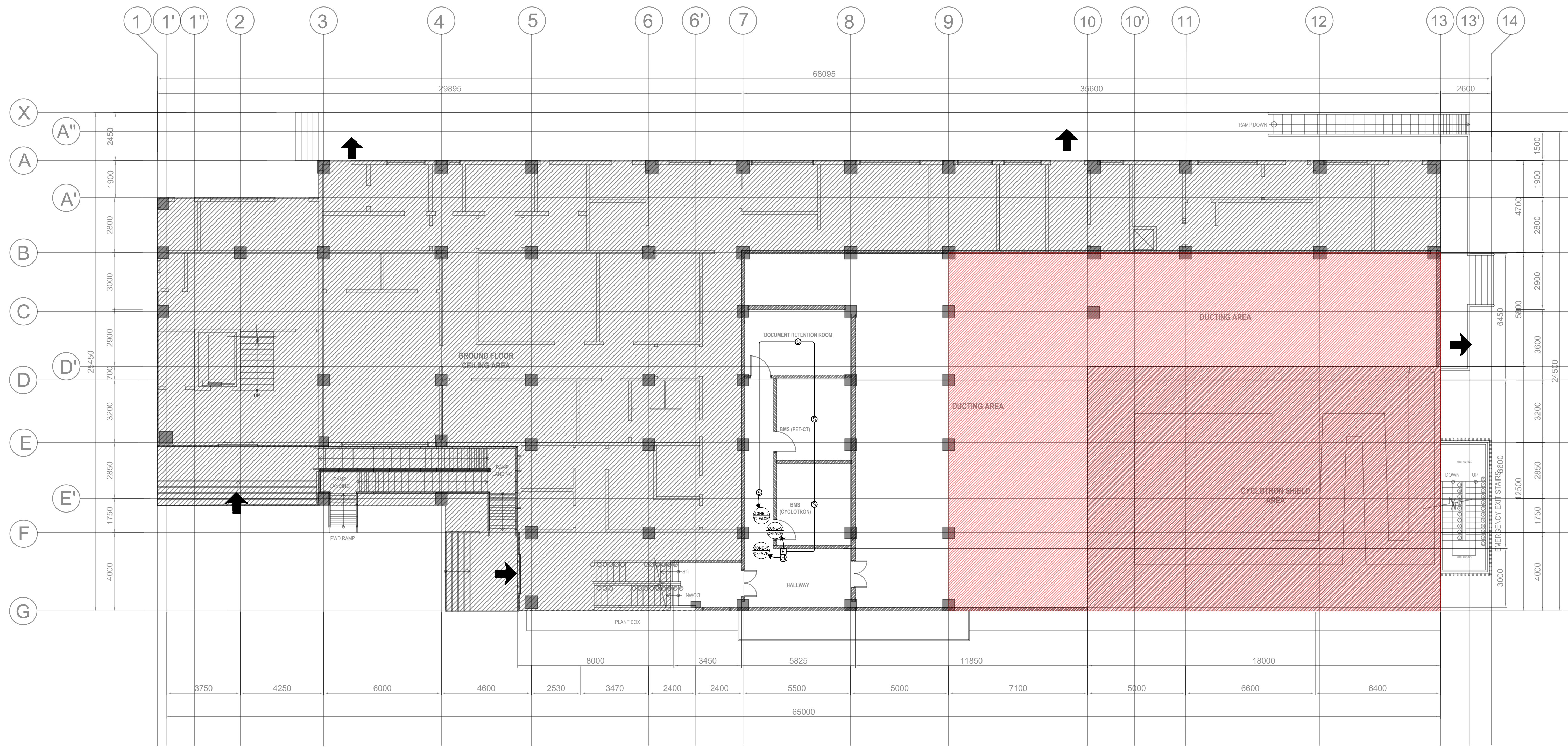


3 CYCLOTRON FACP SLD
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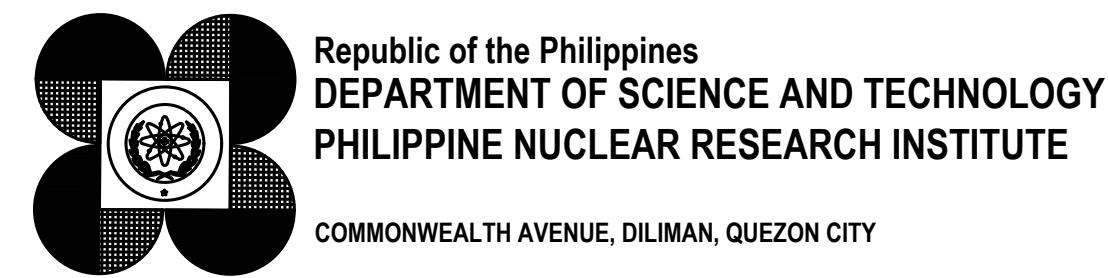
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	INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES: DEVELOPMENT OF EMERGING PET RADIOPHARMACEUTICAL FOR EARLY CANCER STAGING AND ASSESSMENT OF BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023) PHASE 4	FACP SINGLE LINE DIAGRAM 2	ENGR. ROSALINO B. REJAS SSRS, ESS	MARIA TERESA L. BORRAS END-USER, SSRS, ITS	ENGR. ARTURO F. SALIH SSRS / OIC-ESS	CHECKED BY:	E - 24
			ENGR. ANDREW C. BARRIDA SSRS, ESS	PRECIOSA CORAZON B. PABROA, Ph. D. CHIEF, NSD	VALLERIE ANN I. SAMSON, Ph. D. DEPUTY DIRECTOR	DATE:	PAGE NO. OF TOTAL NO. OF PAGES
					CARLO A. ARCILLA, Ph. D. DIRECTOR		24 OF 28

CYCLOTRON & PETCT
FACP SLD
1
E-24 SCALE NTS



LEGEND	
	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

MEZZANINE FLOOR
FACP LAYOUT
 SCALE 1:100m



PROJECT TITLE:
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 PHASE 4

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PREPARED BY:
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ENGR. ANDREW C. BARRIDA
 SSRS, ESS

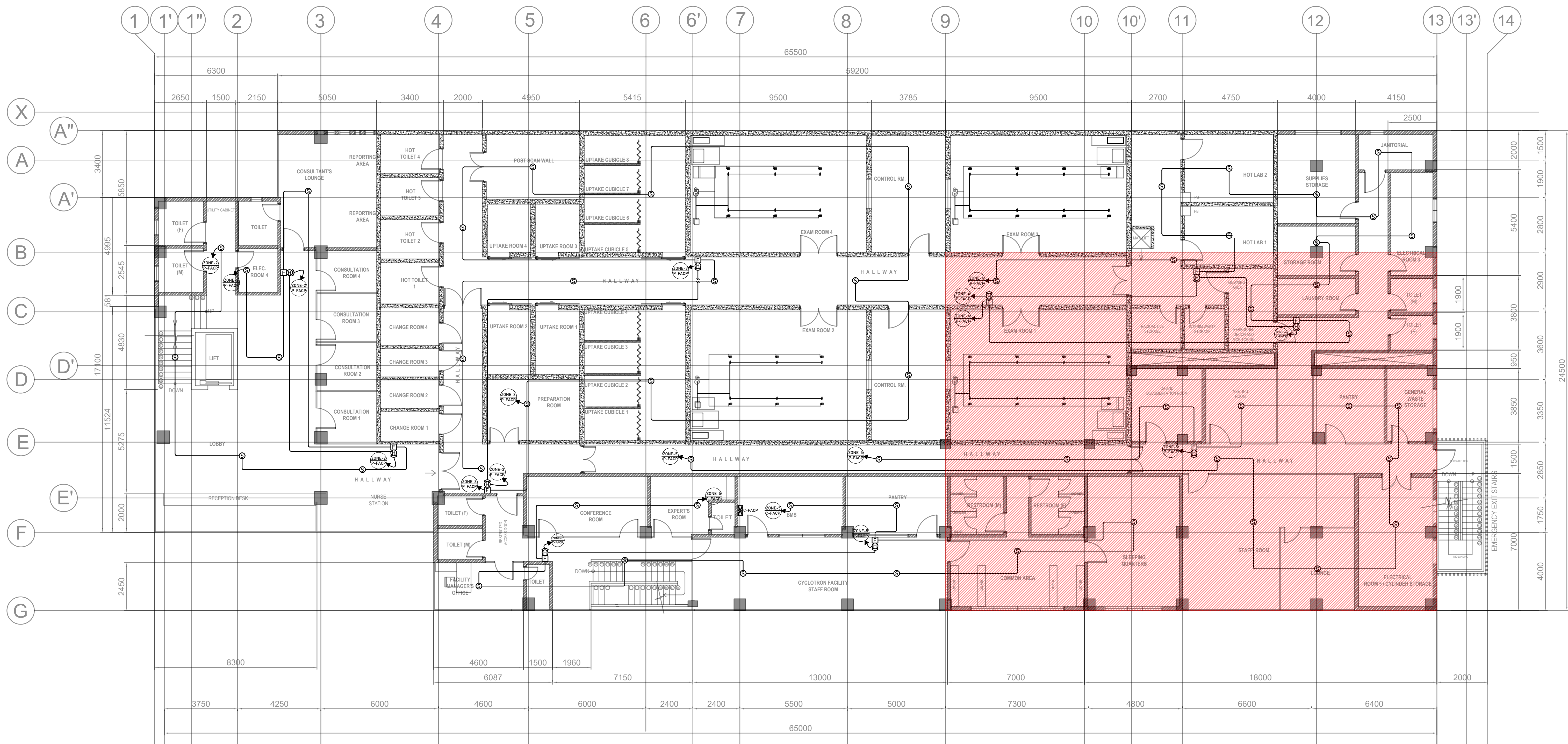
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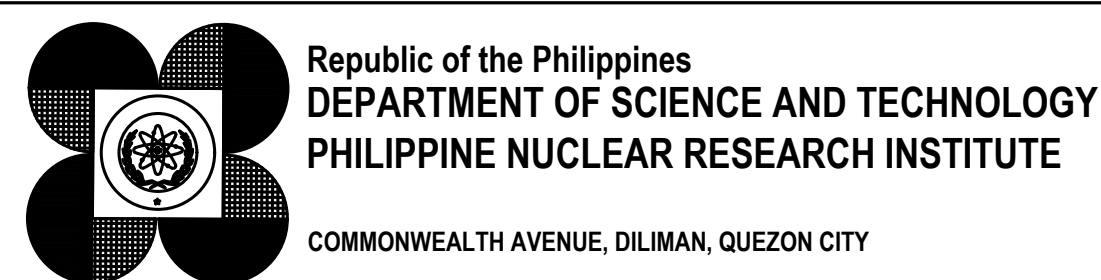
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	INCLUDES WIRES AND ROUGH-INS
	INCLUDES WIRES ONLY

SECOND FLOOR
1
FACP LAYOUT
 SCALE 1:100m



PROJECT TITLE:
 INNOVATING NUCLEAR MEDICINE RESEARCH AND SERVICES:
 DEVELOPMENT OF EMERGING PET RADIOPHARMACEUTICAL
 FOR EARLY CANCER STAGING AND ASSESSMENT OF
 BIOLOGIC FUNCTIONS IN CANCER CELLS (C.Y. 2023)
 PHASE 4

SHEET CONTENTS:
 SECOND FLOOR FACP LAYOUT

PREPARED BY:
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 SSRS, ESS
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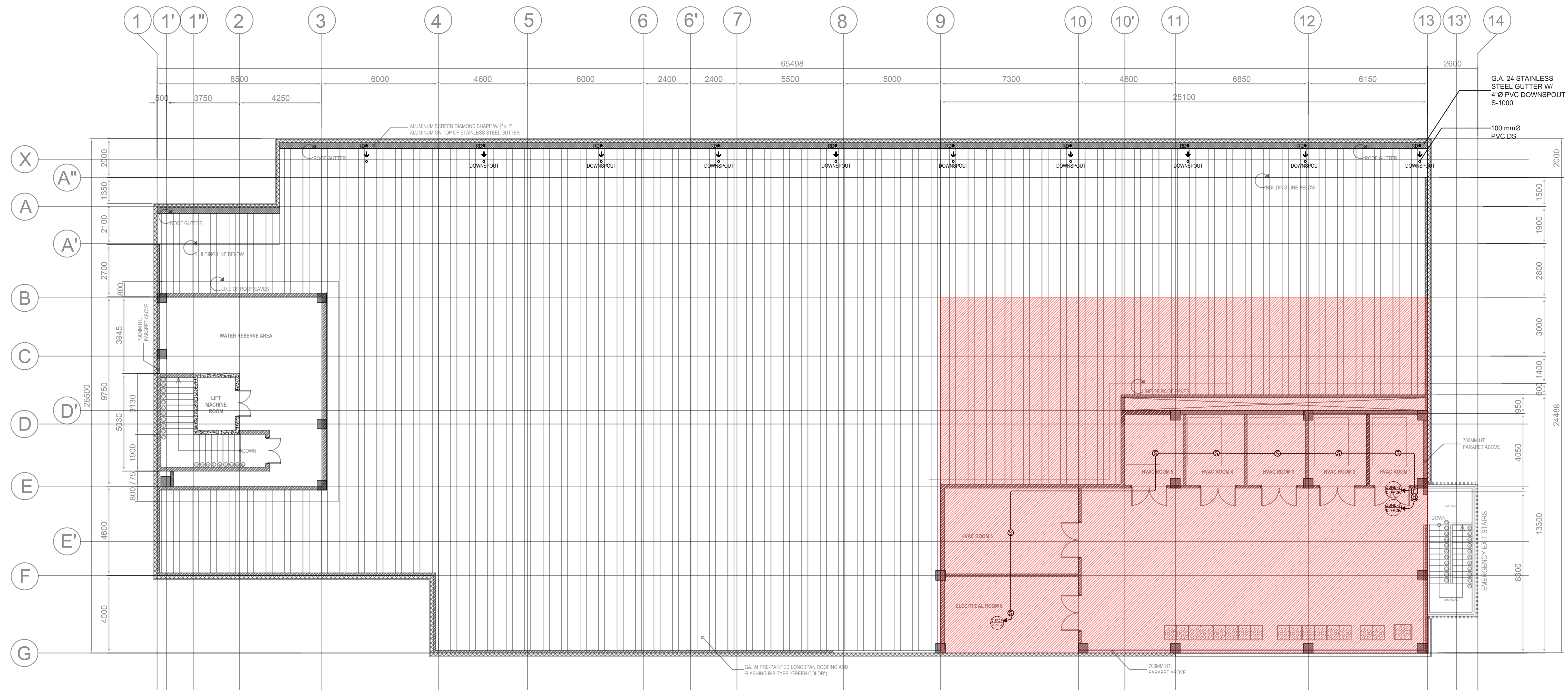
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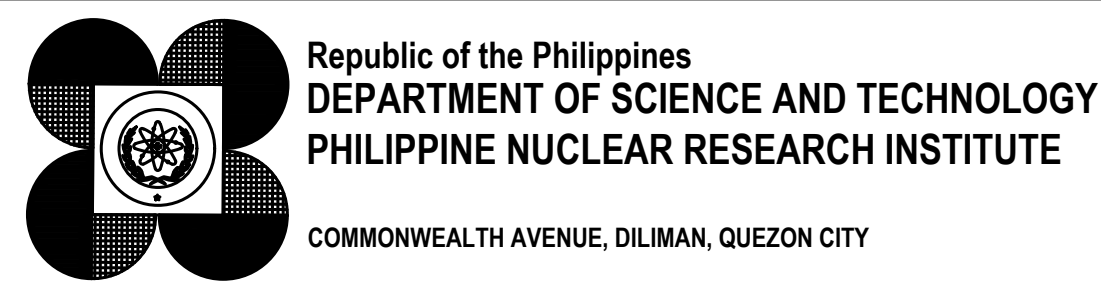
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ROOF DECK
FACP LAYOUT
 SCALE 1:100m



PROJECT TITLE:
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 PHASE 4

SHEET CONTENTS:
 ROOF DECK FACP LAYOUT

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