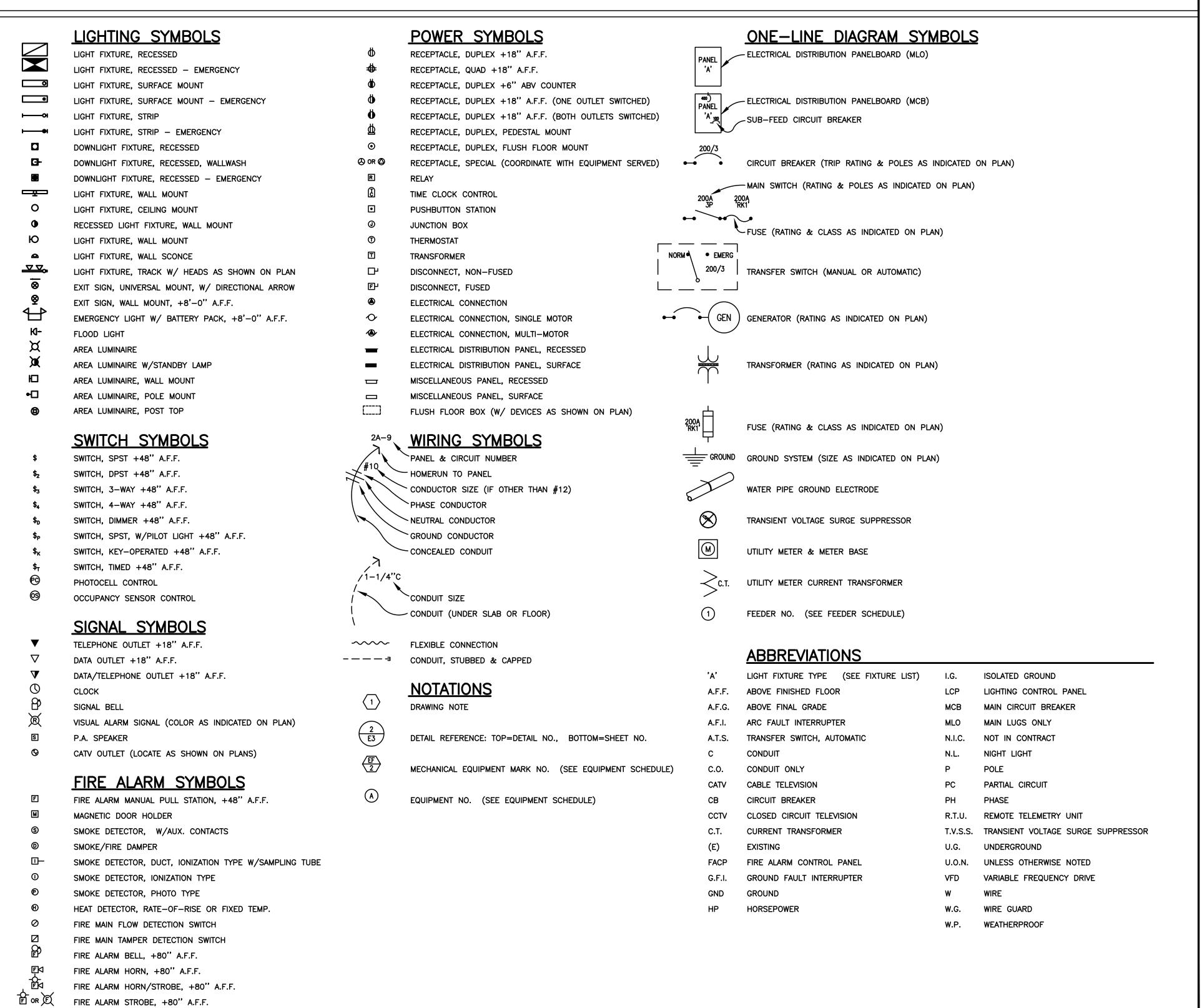
ELECTRICAL SYMBOL LIST



NOTE: SOME OF THE SYMBOLS AND ABBREVIATIONS ON THIS LIST MAY NOT APPLY TO THIS PROJECT.

CLASS A TRANSFORMER VAULT ROOM GENERAL NOTES

VAULT ROOM DOORS SHALL BE BLAST-RATED METAL DOORS. DOORS AND VENT SHUTTERS MUST HAVE A THREE HOUR BLAST & FIRE RATING PER NFPA 450.43.

VAULT VENTS MUST HAVE SHUTTERS THAT ARE AUTOMATICALLY CLOSED BY THE HEAT DETECTOR IN THE FIRE SUPPRESSION SYSTEM HEAT DETECTORS SHALL MEET NFPA 72 REQUIREMENTS.

ALL OPENING, GAPS & CRACKS MUST BE SEALED WITH THREE—HOUR RATED FIRE CAULKING.

LOCATE ONE ABOVE THE TRANSFORMER AND ONE OTHER WITHIN THE ROOM.

PROVIDE TWO "RATE TO RISE" HEAT DETECTORS PER THE UTILITY PROVIDER'S REQUIREMENTS.

CONSULT UTILITY PROVIDER FOR APPROVED PRODUCTS.

NON-METALIC SEISMIC-APPROVED CABLE TRAY WITH GALVANIZED HARDWARE SHALL BE INSTALLED

IN VAULT ROOMS WITH CEILING GREATER THAN 10 FEET HIGH.

ALL MATERIALS AND PRODUCTS USED WITHIN THE CLASS A VAULT IS SUBJECT TO THE UTILITY

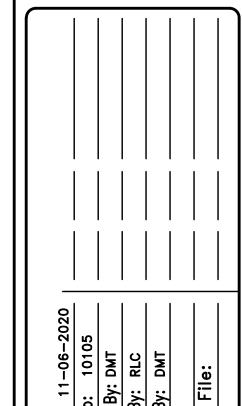
PROVIDER'S APPROVAL.

PRIMARY SERVICE CONDUCTORS FROM THE PROPERTY LINE TO THE VAULT SHALL BE IN SCHEDULE 40 PVC PER THE UTILITY PROVIDER'S DIRECTION. ALL CONDUIT PENETRATIONS MUST BE SEALED WITH A FLEXIBLE NON-SHRINK HYDROPHOBIC GROUT TO PREVENT WATER INTRUSION.

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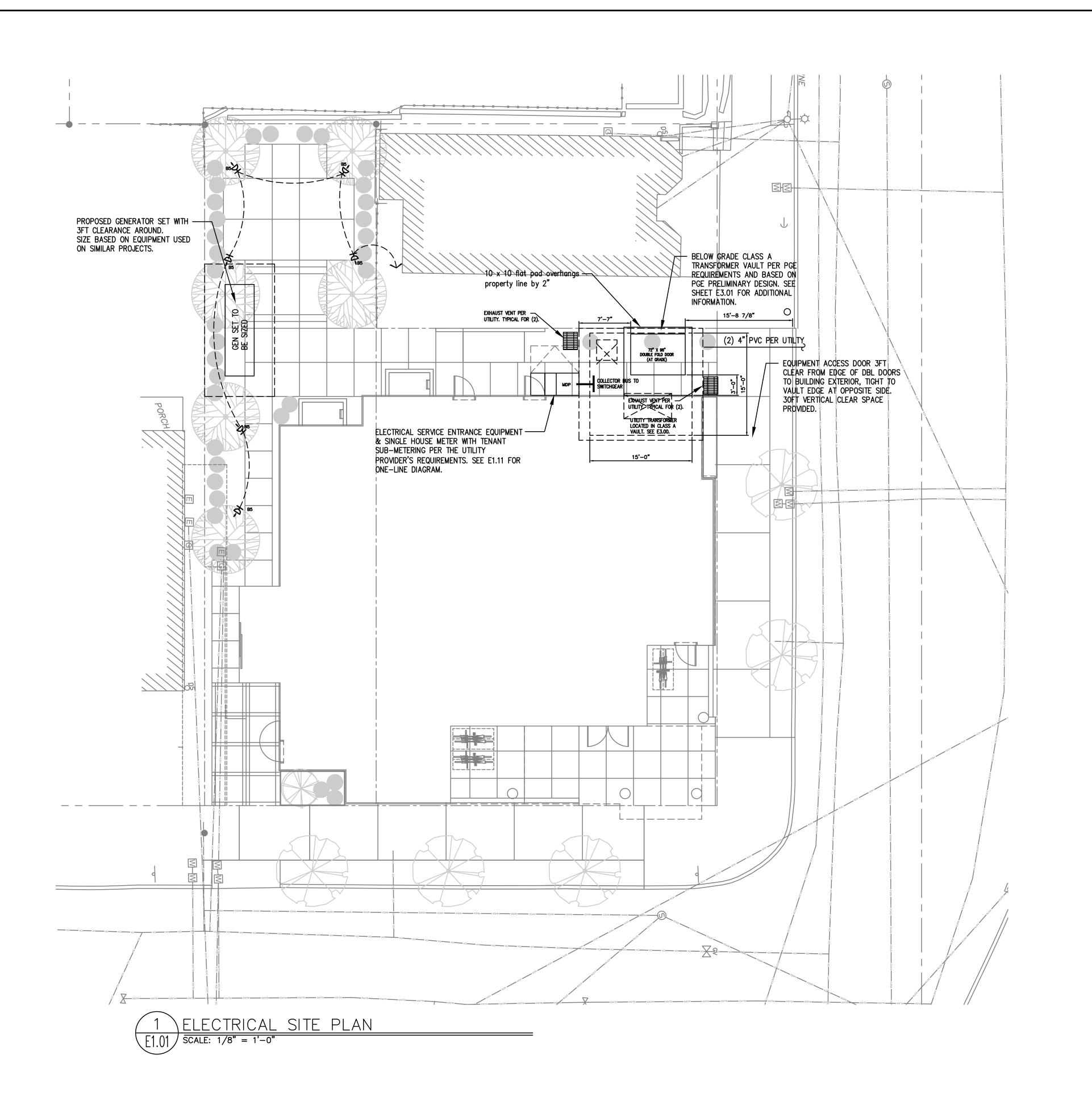
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GENERAL NOTES:

- A. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES.
- B. ELECTRICAL PLANS ARE DIAGRAMMATIC AND MAY OR MAY NOT REFLECT ACTUAL FIELD CONDITIONS.
- C. REFER TO LIGHTING PLANS FOR BUILDING MOUNTED LIGHT FIXTURE LOCATIONS.
- D. COORDINATE WITH LOCAL UTILITY PROVIDER FOR EXACT SERVICE CONDUIT AND CONDUCTORS REQUIREMENTS.
- E. ALL UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH CLARK PUBLIC UTILITIES ELECTRICAL SERVICE REQUIREMENTS.
- F. U.G. PRIMARY FEEDER SHALL HAVE A MINIMUM 48 INCH BURY.
- G. U.G. SECONDARY FEEDER SHALL HAVE A MINIMUM 36 INCH BURY.
- H. REFER TO SHEET E1.11 FOR ONE-LINE DIAGRAM, LOAD SUMMARY INFORMATION AND TYPICAL FEEDER SCHEDULE.

SECONDARY CONDUIT SWEEPS SHALL BE MINIMUM 60 INCH RADIUS WITH A MINIMUM OF 7'-0" STRAIGHT CONDUIT RUN BETWEEN SWEEPS.

- J. CONTRACTOR SHALL REVIEW THE UTILITY PROVIDER'S ELECTRICAL SERVICE REQUIREMENTS PRIOR TO THE START OF ANY WORK.
- K. LOCATION AND INSTALLATION OF THE PRIMARY AND SECONDARY CONDUITS, TRANSFORMER,
- ETC. SHALL BE PROVIDED PER UTILITY PROVIDER'S ELECTRICAL SERVICE REQUIREMENTS.
- L. CONTRACTOR SHALL REVIEW ALL PROJECT DOCUMENTS AND SPECIFICATIONS IN DETAIL AND REFER TO THE DOCUMENTS THROUGHOUT THE CONSTRUCTION.

UTILITY REQUIREMENTS

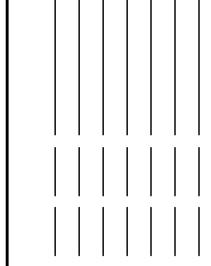
1. CUSTOMER TO PROVIDE ALL TRENCHING AND BACKFILLING. TRENCH TO BE 36 INCHES DEEP AND 30 INCHES WIDE, MEASURED FROM FINAL GRADE.

2. ALL UTILITY CONDUCTORS TO BE INSTALLED IN GRAY SCHEDULE 40, ELECTRICAL GRADE, PVC CONDUIT WITH NYLON PULL STRINGS (MIN 500 LBS. TEST). CLARK PUBLIC UTILITIES TO DETERMINE THE SIZE AND NUMBER OF CONDUITS REQUIRED. ALL ELBOWS TO BE 36 INCH (MIN) RADIUS. ALL BENDS MAY BE FACTORY MADE. IF MORE THAN 270 DEGREES OF BENDS OR IF RUN IS LONGER THAN 150 FEET, BENDS MUST BE RIGID STEEL.

3. CONSULT WITH UTILITY REPRESENTATIVE 2 WEEKS BEFORE STARTING MAIN POWER TRENCHING FOR A PRE-CONSTRUCTION CONFERENCE. INCLUDED IN THIS CONFERENCE WILL BE EXCAVATOR, CPU, TELCO, CATV, AND GAS.

4. CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES BEFORE TRENCHING.

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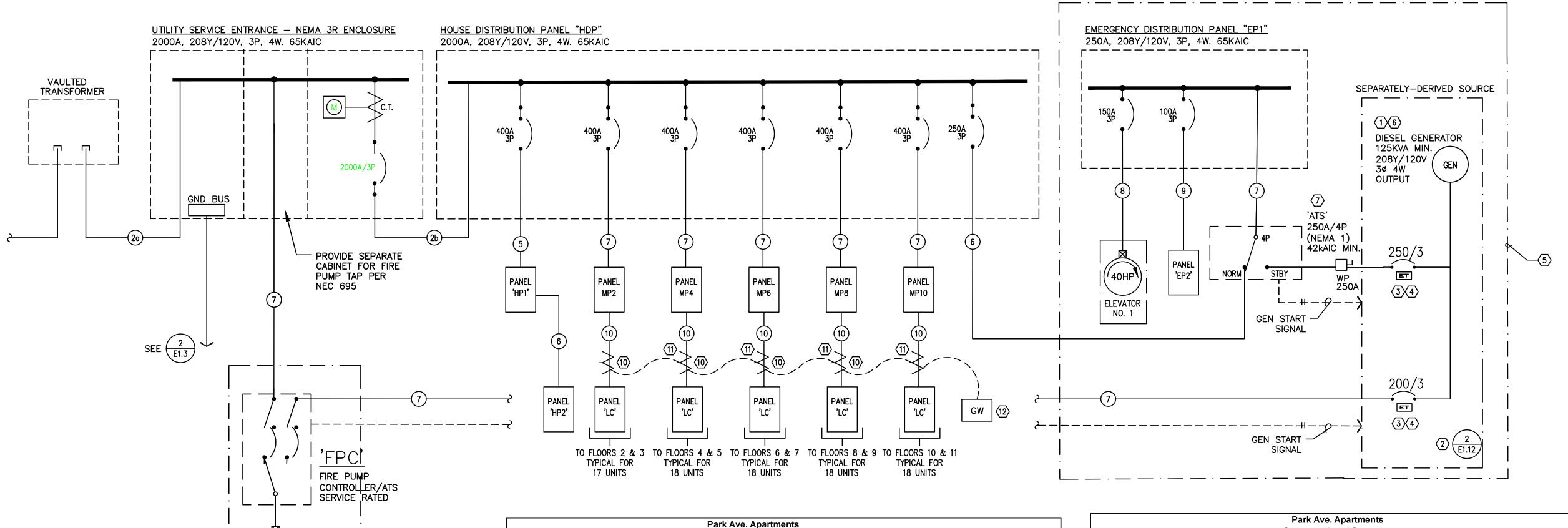
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	1	ELECTRICAL	ONE-LINE	DIAGRAM
1	E1.11	208/120v, 3ph, 4w		_

(1_{40HP}

 $\begin{array}{c|c} \hline \text{(8)} & FIRE & \hline \\ PUMP & \hline \\ \hline 1 \\ \end{array}$

	Dro		Ave. Apartm	ents cal Service Lo	and			
	PIE	enininary ESui	nated Electric	ai Service Lo	au			LARGEST
LOAD:	LIGHTS	RECEPT	HEAT	KITCHEN	EQUIP	MOTORS	MISC	MOTOR
House Loads (9000sf @ 20w/sf)							180,000	
Residential Units (91 units)							349,000	
Elevator (40hp)							43200	
Fire Pump (40hp)							43200	
SUBTOTAL	0	0	0	0	0	0	615,400	0
X-FACTOR	1	1 + .5	1	1	1	1	1	0
CODE LOAD:	0	0	0	0	0	0	615,400	0

X-FACTUR	ļ	1 + .5	l	l I	1	l l	'	
CODE LOAD:	0	0	0	0	0	0	615,400	
CONN LOAD:	615	KVA						
VOLTS:	208	3ph						
TOTAL CALC:	615	KVA						

1,708 AMPS

		Park	Ave. Apartm	ents				
		Genera	ator Load Sur	mmary				
LOAD:	LIGHTS	RECEPT	HEAT	KITCHEN	EQUIP	MOTORS	MISC	LARGEST MOTOR
House Loads (9000sf @ 10w/sf)							9,000	
Elevator (40hp)							43200	43,200
Fire Pump (40hp)							43200	
SUBTOTAL	0	0	0	0	0	0	95,400	43,200
X-FACTOR	1	1 + .5	1	1	1	1	1	0
CODE LOAD:	0	0	0	0	0	0	95,400	10,800

CONN LOAD:	95	KVA
VOLTS:	208	3ph
TOTAL CALC:	106	KVA
CALC AMPS:	295	AMPS
0, (20 , (iiii 0.		7

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	FE	EDER S	SCHEDULE (C	Ю	PPER	2)
NO.	AMPS	CONDUIT	CONDUCTOR			
1		PRIMARY	BY UTILITY CO.	&		GND
2 a		*(12) 5"	BY UTILITY CO.	&		GND
2b	2500A	*(6) 4"	ea w/ (4) #600Kcm	&	(1) #350	K GN D
3	1200A	*(3) 4"	ea w/ (4) #600Kcm	&	(1) #3/0	GND
4	800A	*(2) 4"	ea w/ (4) #600Kcm	&	(1) #1/0	GND
40	600A	*(2) 3"	ea w/ (4) #350Kcm	&	(1) #1	GND
5	400A	3 1/2"	(4) #500Kcm	&	(1) #3	GND
6	250A	2 1/2"	(4) #250Kcm	&	(1) #4	GND
7	200A	2"	(4) #3/0	&	(1) #6	GND
8	150A	2"	(4) #1/0	&	(1) #6	GND
9	100A	1 1/2"	(4) #1	&	(1) #8	GND
10	100A	1 1/2"	(3) #1	&	(1) #8	GND

* PARALLEL FEEDER

ONE-LINE GENERAL NOTES:

CALC AMPS:

- A. COORDINATE ALL WORK ASSOCIATED WITH ELECTRIC SERVICE WITH LOCAL UTILITY PROVIDER. PROVIDE ALL CONDUIT, GROUNDING, TRANSFORMER VAULT/PAD, ETC., IN ACCORDANCE WITH SERVING UTILITY REQUIREMENTS.
- B. COORDINATE METERING REQUIREMENTS WITH UTILITY.
- C. FOR LOAD CENTER FEEDER LENGTHS GREATER THAN 145'-0" FROM METER CENTER, INCREASE WIRE SIZE ONE SIZE UP FOR VOLTAGE DROP.
- D. PER NEC 240.87, THE ELECTRICAL CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR ARC ENERGY REDUCTION DEVICE(S) FOR CIRCUIT BREAKERS 1200A OR GREATER. CONTRACTOR SHALL PROVIDE AN ENERGY-REDUCING ACTIVE FLASH MITIGATION SYSTEM OR OTHER METHOD APPROVED BY THE NEC.
- E. USE OF ALUMINUM CONDUCTORS, AS ALLOWED BY CODE, MAY BE SUBSTITUTED FOR COPPER. CONTRACTOR SHALL PROVIDE WRITTEN SUBSTITUTION REQUEST DEMONSTRATING THE THAT THE PROPOSED PRODUCT IS EQUIVALENT TO COPPER IN ALL
- F. ACCEPTABLE POWER MONITORING SYSTEM MANUFACTURERS ARE: SIEMENS SEM3 E-MON D-MON SQUARE D POWERLOGIC OR AS APPROVED BY SUBMITTAL PROCESS.

O ONE-LINE NOTES:

- 1. ESTIMATED GENERATOR STARTING LOAD IS BASED ON THE ELEVATOR & FIRE PUMP MOTORS BEING PROVIDED WITH REDUCED STARTING.
- 2. PROVIDE GROUND FOR SEPARATELY DERIVED SYSTEM PER NEC.
- TO BE VERIFIED AND AS DETERMINED BY SELECTIVE COORDINATION STUDY AS PERFORMED BY THE ELECTRICAL DISTRIBUTION EQUIPMENT MANUFACTURER.
- SELECTIVELY COORDINATE WITH POWER STUDY RECOMMENDATIONS.
- 5. 'LIFE SAFETY' BRANCH TO MEET ALL REQUIREMENTS OF NEC 700. CONTRACTOR SHALL BE AWARE THAT MFIA HAS ATTEMPTED TO INDICATE EQUIPMENT AND SIZES THAT WILL SELECTIVELY COORDINATE, BUT WILL NOT BE KNOWN UNTIL ELECTRICAL EQUIPMENT MANUFACTURER PERFORMS THE REQUIRED POWER STUDIES AS SPECIFIED IN 26 05 73. CHANGES MAY BE NECESSARY AFTER THE BID.
- 6. GENERATOR IS SIZED TO OPERATE ONLY ONE ELEVATOR AT A TIME. COORDINATE WITH ELEVATOR & GENERATOR PROVIDERS FOR AUTOMATIC SEQUENTIAL OPERATION AS REQUIRED UNDER ASME A17.1, SECTION 2.27.2.1 THROUGH 2.27.2.5.
- 7. THE AUTOMATIC TRANSFER SWITCH FOR THE EMERGENCY PANEL "EDP" SHALL OPERATE SUCH THAT THE EGRESS LOADS ARE SWITCHED TO GENERATOR POWER WITHIN 10 SECONDS AND THE ELEVATOR(S) SWITCHED WITHIN 60 SECONDS OF A POWER FAILURE.

- 8. CONSULT MECHANICAL, PLUMBING AND/OR FIRE ALARM PLANS AND VERIFY EXACT POWER REQUIREMENTS FOR THE FIRE PUMP.
- 9. CONSULT ELEVATOR PROVIDER FOR INSTALLATION AND POWER REQUIREMENTS PRIOR TO ROUGH IN.
- 10. PROVIDE CIRCUIT BREAKER WITH INTEGRAL LOAD MONITORING MODULE COMPATIBLE WITH POWER MONITORING SYSTEM. SEE MANUFACTURER SPECIFICATIONS FOR WEB BASED POWER MONITORING SYSTEM REQUIREMENTS.
- 11. SERIAL COMMUNICATIONS CABLE, 18 AWG MINIMUM. BELDEN 9463 OR APPROVED. 12. PROVIDE LOAD MONITORING NETWORK GATEWAY COMPATIBLE WITH POWER MONITORING SYSTEM.

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3. PROVIDE ELECTRONIC TRIP CIRCUIT BREAKER. EXACT BREAKER TYPE, SETTINGS, ETC.

4. COORDINATE INSTALLATION OF OUTPUT BREAKERS WITH GENERATOR MANUFACTURER TO

			MFIA P	ANEL S	CHEDU	LE				
	panel		mountin	ıg		location	า		connected load amps	
	HP1		SURFA	CE		ELECT	. ROOM		21:	2
	voltage		phase		bı	us & ma	ain		calculated load amps	
	120/208V		3		400A			MLO	230	6
С	service	va	a/p	no.	abc	no.	a/p	va	service	С
1	LIGHTS - BLDG EXTERIOR		20/1	1	*	2	20/1	1080	RECEPT - 1ST FLR	2
1	LIGHTS - BSMNT, FLR 1 & 2		20/1	3	*	4	20/1	1080	RECEPT - 1ST FLR	2
1	LIGHTS - BSMNT, FLR 1		20/1	5	*	6	20/1	1080	RECEPT - 1ST FLR	2
1	LIGHTS - FLRS 3,4,5		20/1	7	*	8	20/1	1500	REFRIGERATOR	4
1	LIGHTS - FLRS 6,7,8		20/1	9	*	10	20/1	500	RECEPT - KITCHEN	2
1	LIGHTS - FLRS 9,10,11		20/1	11	*	12	20/1	900	DISPOSAL	4
1	LIGHTS - LANDSCAPING		20/1	13	*	14	20/1	500	RECEPT - KITCHEN	2
	SPARE		20/1	15	*	16	20/1	1500	DISHWASHER	4
5	TELECOM PANEL	500	20/1	17	*	18	20/1	1080	RECEPT - 1ST FLR	2
5	TELECOM PANEL	500	20/1	19	*	20	20/1		SPARE	
5	TELECOM PANEL	500	20/1	21	*	22	20/1	500	RECEPT - ELEV MACHINE RM	2
	SPARE	0	20/1	23	*	24	20/1	1440	RECEPT - FLRS 2,3	2
	SPARE	0	20/1	25	*	26	20/1	1440	RECEPT - FLRS 4,5	2
	SPARE	0	20/1	27	*	28	20/1	1440	RECEPT - FLRS 6,7	2
	SPARE	0	20/1	29	*	30	20/1	1440	RECEPT - FLRS 8,9	2
	SPARE	0	20/1	31	*	32	20/1	1440	RECEPT - FLRS 10,11	2
	SPARE	0	20/1	33	*	34	20/1	0	SPARE	
	SPARE	0	20/1	35	*	36	20/1	0	SPARE	
7	PANEL HP2	14004	250/3	37	*	38	20/1	0	SPARE	
7	*	22284	*	39	*	40	20/1	0	SPARE	
7	*	21444	*	41	*	42	20/1	0	SPARE	
	Phase A	20464	VA			NOTES	:		line-line voltage	
	Phase B	27804	VA						20	8
	Phase C	27884	VA						largest motor (va)	
	Total Connected	76152	VA						4320	0
	load code:	ph. A	ph. B		ph. C		total	factor	calculated load (va)	
	1. LIGHTS=	0	0		0	VA	0	1.25		0
	2. RECEPT.=	4460	3520		5040	VA	13020	1 + 0.5	1151	0
	3. HEATING=	0	0		0	VA	0	1.00		0
	4. KITCHEN= 1500 1500 900 VA 3900			3900	0.90	3510	0			
	5. EQUIP.=	500	500		500	VA	1500	1.00	150	0
	6. MOTORS=	0	0		0	VA	0	*	1080	0
	7. MISC=	14004	22284		21444	VA	57732	1.00	5773:	2
	(* 125% of the largest motor + 100%	of the b	alance)		•		-	TOTAL =	8505	2

	panel		mountin	ıa		location	n		connected load amps	
	HP1		SURFA	•			. ROOM		212	2
	voltage		phase	OL	l bi	us & ma			calculated load amps	
	120/208V		3		400A	23 X III	alli	MLO	236	8
С	service	va	a/p	no.	a b c	no.	a/p	va	service	
1	LIGHTS - BLDG EXTERIOR	- "	20/1	1	*	2	20/1		RECEPT - 1ST FLR	1
-	LIGHTS - BSMNT, FLR 1 & 2		20/1	3	*	4	20/1		RECEPT - 1ST FLR	+ 2
1	LIGHTS - BSMNT, FLR 1		20/1	5	*	6	20/1		RECEPT - 1ST FLR	1
	LIGHTS - FLRS 3,4,5		20/1	7	*	8	20/1		REFRIGERATOR	+-
	LIGHTS - FLRS 6,7,8		20/1	9	*	10	20/1		RECEPT - KITCHEN	+
	LIGHTS - FLRS 9,10,11		20/1	11	*	12	20/1		DISPOSAL	-
1	LIGHTS - LANDSCAPING		20/1	13	*	14	20/1	500	RECEPT - KITCHEN	1 2
	SPARE		20/1	15	*	16	20/1		DISHWASHER	+-
5	TELECOM PANEL	500	20/1	17	*	18	20/1	1080	RECEPT - 1ST FLR	1 2
5	TELECOM PANEL	500	20/1	19	*	20	20/1		SPARE	+
5	TELECOM PANEL	500	20/1	21	*	22	20/1	500	RECEPT - ELEV MACHINE RM	1
	SPARE	0	20/1	23	*	24	20/1	1440	RECEPT - FLRS 2,3	+:
	SPARE	0	20/1	25	*	26	20/1	1440	RECEPT - FLRS 4,5	1:
	SPARE	0	20/1	27	*	28	20/1	1440	RECEPT - FLRS 6,7	1
	SPARE	0	20/1	29	*	30	20/1	1440	RECEPT - FLRS 8,9	1
	SPARE	0	20/1	31	*	32	20/1	1440	RECEPT - FLRS 10,11	1
	SPARE	0	20/1	33	*	34	20/1	0	SPARE	\top
	SPARE	0	20/1	35	*	36	20/1	0	SPARE	\top
7	PANEL HP2	14004	250/3	37	*	38	20/1	0	SPARE	T
7	*	22284	*	39	*	40	20/1	0	SPARE	T
7	*	21444	*	41	*	42	20/1	0	SPARE	\top
	Phase A	20464	VA			NOTES	:	•	line-line voltage	
	Phase B	27804	VA						208	3
	Phase C	27884	VA						largest motor (va)	
	Total Connected	76152	VA						4320	3
	load code:	ph. A	ph. B		ph. C		total	factor	calculated load (va)	
	1. LIGHTS=	0	0		0	VA	0	1.25		0
	2. RECEPT.=	4460	3520		5040	VA	13020	1 + 0.5	11510	3
	3. HEATING=	0	0		0	VA	0	1.00		0
	4. KITCHEN=	1500	1500		900	VA	3900	0.90	3510	3
	5. EQUIP.=	500	500		500	VA	1500	1.00	1500	3
	6. MOTORS=	0	0		0	VA	0		10800	3
	7. MISC=	14004	22284		21444	VA	57732	1.00	57732	2
	(* 125% of the largest motor + 10	0% of the b	alance)					TOTAL =	85052	2

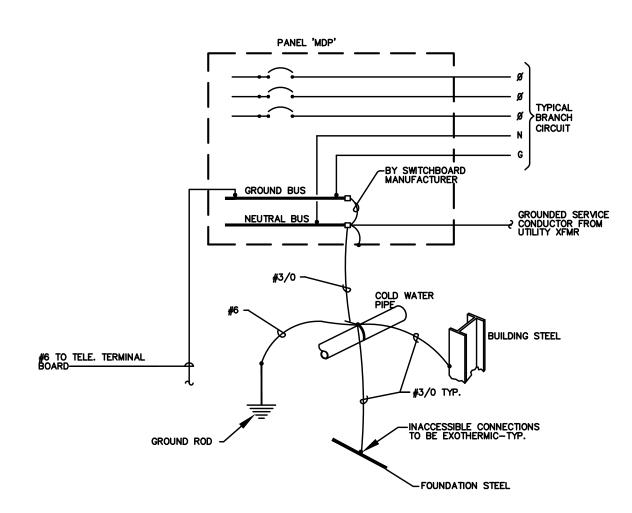
	panel		mountin	ıg		location	1		connected load amps	
	EP2		SURFA	CE		ELECT.	ROOM		21	
	voltage		phase		bı	us & ma	in		calculated load amps	
	120/208V		3					MLO	21	
5	service	va	a/p	no.	abc	no.	a/p	va	service	С
1	LIGHTS - BLDG EXTERIOR		20/1	1	*	2	20/1	1200	ELEV. CONTROL PANEL	5
1	LIGHTS - STAIR #1		20/1	3	*	4	20/1	1200	ELEV. CAB LIGHTS	5
1	LIGHTS - STAIR #2		20/1	5	*	6	20/1	1500	GENERATOR BLOCK HEATER	5
1	ELEV PITS & LTS (PIT & SHAFT)		20/1	7	*	8	20/1	1500	GENERATOR BATTERY CHARGER	5
1	LIGHTS - BSMNT, FLR 1 & 2		20/1	9	*	10	20/1	500	FACP	5
1	LIGHTS - FLRS 3,4,5		20/1	11	*	12	20/1	1176	SP-2	6
1	LIGHTS - FLRS 6,7,8		20/1	13	*	14	20/1		ELEVATOR RELIEF VENT	6
1	LIGHTS - FLRS 9,10,11		20/1	15	*	16	20/1	500	GENERATOR REMOTE ANNUNC.	5
	SPARE		20/1	17	*	18	20/1		SPARE	
	SPARE		20/1	19	*	20	20/1		SPARE	
	SPARE		20/1	21	*	22	20/1		SPARE	
	SPARE		20/1	23	*	24	20/1		SPARE	
				25	*	26				
				27	*	28				
				29	*	30				
				31	*	32				
				33	*	34				
				35	*	36				
				37	*	38				
				39	*	40				
				41	*	42				
	Phase A	2700	VA			NOTES:		I	line-line voltage	
	Phase B	2200	VA						208	
	Phase C	2676	VA						largest motor (va)	
	Total Connected	7576	VA						0	
	load code:	ph. A	ph. B		ph. C		total	factor	calculated load (va)	
	1. LIGHTS=	0	0		0	VA	0	1.25	0	
	2. RECEPT.=	0	0		0	VA	0	1 + 0.5	0	
	3. HEATING=	0	0		0	VA	0	1.00	0	
	4. KITCHEN=	0	0		0	VA	0	1.00	0	
	5. EQUIP.=	2700	2200		1500	VA	6400	1.00	6400	
	6. MOTORS=	0	0		1176	VA	1176	*	1176	
	7. MISC=	о	0		0	VA	0	1.00	0	
	(* 125% of the largest motor + 100%	of the h	alance)				L	L TOTAL =	7576	

			MFIA P	ANEL S	CHEDU	LE					
	panel		mountin	ıg		location	1		connected load amps		
	HP1		SURFA	CE		ELECT.	ROOM		212	2	
	voltage		phase		bus & main				calculated load amps		
	120/208V		3		400A			MLO	236	3	
С	service	va	a/p	no.	abc	no.	a/p	va	service	С	
1	LIGHTS - BLDG EXTERIOR		20/1	1	*	2	20/1	1080	RECEPT - 1ST FLR	2	
1	LIGHTS - BSMNT, FLR 1 & 2		20/1	3	*	4	20/1	1080	RECEPT - 1ST FLR	2	
1	LIGHTS - BSMNT, FLR 1		20/1	5	*	6	20/1	1080	RECEPT - 1ST FLR	2	
1	LIGHTS - FLRS 3,4,5		20/1	7	*	8	20/1	1500	REFRIGERATOR	4	
1	LIGHTS - FLRS 6,7,8		20/1	9	*	10	20/1	500	RECEPT - KITCHEN	2	
1	LIGHTS - FLRS 9,10,11		20/1	11	*	12	20/1	900	DISPOSAL	4	
1	LIGHTS - LANDSCAPING		20/1	13	*	14	20/1	500	RECEPT - KITCHEN	2	
	SPARE		20/1	15	*	16	20/1	1500	DISHWASHER	4	
5	TELECOM PANEL	500	20/1	17	*	18	20/1	1080	RECEPT - 1ST FLR		
5	TELECOM PANEL	500	20/1	19	*	20	20/1		SPARE		
5	TELECOM PANEL	500	20/1	21	*	22	20/1	500	RECEPT - ELEV MACHINE RM		
	SPARE	0	20/1	23	*	24	20/1	1440	RECEPT - FLRS 2,3		
	SPARE	0	20/1	25	*	26	20/1	1440	RECEPT - FLRS 4,5	2	
	SPARE	0	20/1	27	*	28	20/1	1440	RECEPT - FLRS 6,7	2	
	SPARE	0	20/1	29	*	30	20/1	1440	RECEPT - FLRS 8,9	2	
	SPARE	0	20/1	31	*	32	20/1	1440	RECEPT - FLRS 10,11	2	
	SPARE	0	20/1	33	*	34	20/1	0	SPARE		
	SPARE	0	20/1	35	*	36	20/1	0	SPARE		
7	PANEL HP2	14004	250/3	37	*	38	20/1	0	SPARE		
7	*	22284	*	39	*	40	20/1	0	SPARE		
7	*	21444	*	41	*	42	20/1	0	SPARE		
	Phase A	20464	VA			NOTES:			line-line voltage		
	Phase B	27804	VA						208	3	
	Phase C	27884	VA						largest motor (va)		
	Total Connected	76152	VA						43200)	
	load code:	ph. A	ph. B		ph. C		total	factor	calculated load (va)		
	1. LIGHTS=	0	0		0	VA	0	1.25	C)	
	2. RECEPT.=	4460	3520		5040	VA	13020	1 + 0.5	11510)	
	3. HEATING=	0	0		0	VA	0	1.00	0		
	4. KITCHEN=	1500	1500		900	VA	3900	0.90	3510)	
	5. EQUIP.=	500	500		500	VA	1500	1.00	1500)	
	6. MOTORS=	0	0		0	VA	0	*	10800)	
	7. MISC=	14004	22284		21444	VA	57732	1.00	57732	2	
	(* 125% of the largest motor + 100%	of the b	alance)	-	· · · · · ·	· · · · · ·		TOTAL =	85052	2	

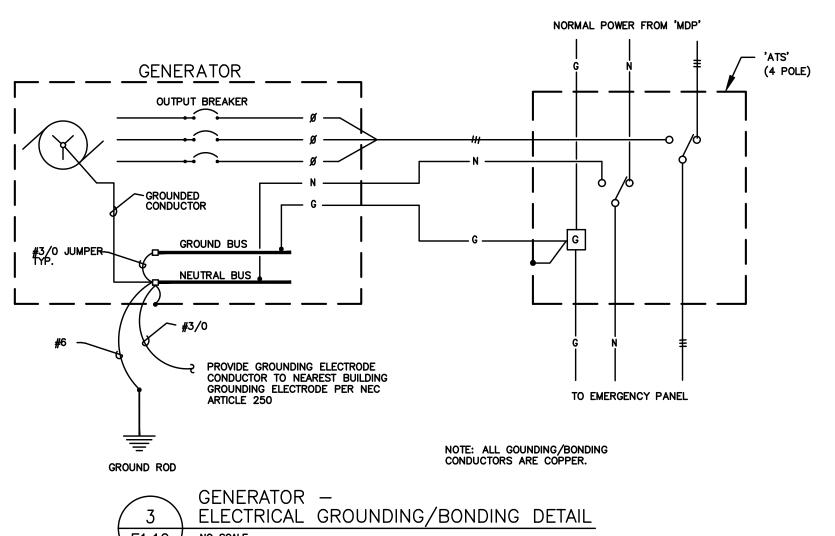
		MECHAI	VICAL	EQUI	PMENT	SCHEDU	LE		
NO.	EQUIPMENT NAME	HP/KW	VOLTS	PH	AMPS	CONDUIT	WIRE	GND	CIRCUIT
EF-1	EXHAUST FAN NO.1	11.0W	120	1		1/2"	#12	#12	SEE TYP. UNIT PLANS
EF-2	EXHAUST FAN NO.2	11.0W	120	1		1/2"	#12	#12	
ESF-1	ELEVATOR SUPPLY FAN NO.1	10HP	208	3		3/4"	#6	#10	
EH-1	WALL HEATER NO.1	1.5KW	208	1		1/2"	#12	#12	SEE POWER PLANS
EH-2	WALL HEATER NO.2	500W	120	1		1/2"	#12	#12	
EH-3	WALL HEATER NO.3	1.5KW	208	1		1/2"	#12	#12	
B-1	BOILER NO.1 (GAS)		120	1		1/2"	#12	#12	HP2-18 (PC)
B-2	BOILER NO.2 (GAS)		120	1		1/2"	#12	#12	HP2-18 (PC)
P-1	PUMP NO. 1	336W	120	1		1/2"	#12	#12	HP2-30
RP-1	RECIRC PUMP NO.1	1/2HP	120	1		1/2"	#12	#12	HP2-22
RP-2	RECIRC PUMP NO.2	1/2HP	120	1		1/2"	#12	#12	HP2-32
SP-1	SUMP PUMP NO.1	2x 3/4HP	208	3		1/2"	#10	#10	HP2-24,26,28
SP-2	SUMP PUMP NO.2	1/2HP	120	1		1/2"	#12	#12	EP2-12
WH-1	WATER HEATER NO.1 (GAS)		120	1		1/2"	#12	#12	HP2-20 (PC)
WH-2	WATER HEATER NO.2 (GAS)		120	1		1/2"	#12	#12	HP2-20 (PC)

GENERAL EQUIPMENT NOTES:

- A. CONTRACTOR/DESIGNER SHALL VERIFY ALL MECHANICAL EQUIPMENT CONNECTION LOAD REQUIREMENTS WITH THE MECHANICAL EQUIPMENT PROVIDER PRIOR TO ROUGH IN.
- B. MECHANICAL EQUIPMENT SIZES SHOWN IN THE MECHANICAL SCHEDULE ABOVE ARE FOR REFERENCE ONLY AND MAY NOT REFLECT THE ACTUAL EQUIPMENT TO BE INSTALLED.
- C. INDOOR & OUTDOOR COMPONENTS OF THE MINI-SPLIT SYSTEMS ARE INTERCONNECTED. CONSULT WITH AND COORDINATE THE ELECTRICAL REQUIREMENTS AND EXACT LOCATIONS WITH THE HVAC EQUIPMENT INSTALLER PRIOR TO ROUGH IN.
- D. REFER TO TYPICAL UNIT PLAN LOAD CENTER SCHEDULES ON THIS SHEET FOR CIRCUITING INFORMATION.

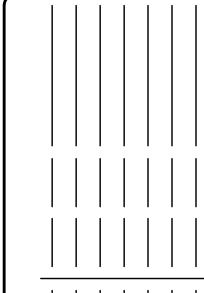


1 GROUNDING/BONDING DIAGRAM E1.12 208Y/120V, 3ø, 4 WIRE



E1.12 NO SCALE

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SHEET

	Park Ave. Apartments RESIDENTIAL LOAD SUMMARY											
UNIT TYPE:	QTY PER FLOOR	TOTAL	AREA (SF)	LTG/RECEPT	SM APPL	COOK TOP (NO OVEN)	MICRO/HOOD	DISHWASHER	ELECT DRYER	WATER HEATER	DISPOSAL	LARGEST OF: AC/HEATING
ONIT ITPE.	Studio	TOTAL	(3F)	(3VA / SF)	(1500VA X 2)	(CONNECTED)	(CONNECTED)	(CONNECTED)	(CONNECTED)		(CONNECTED)	(CONNECTED)
Level 1	2	2	325	975	3000	8000	1700	О	0	0	0	3000
Level 2	8	8	325	975	3000	8000	1700	o	0	0	0	3000
Level 3	9	9	325	975	3000	8000	1700	0	0	0	0	3000
Level 4	9	9	325	975	3000	8000	1700	0	0	0	0	3000
Level 5	9	9	325	975	3000	8000	1700	0	0	0	0	3000
Level 6	9	9	325	975	3000	8000	1700	0	0	0	0	3000
Level 7	9	9	325	975	3000	8000	1700	0	0	0	0	3000
Level 8	9	9	325	975	3000	8000	1700	o	0	0	0	3000
Level 9	9	9	325	975	3000	8000	1700	0	0	0	0	3000
Level 10	9	9	325	975	3000	8000	1700	0	0	0	0	3000
Level 11	9	9	325	975	3000	8000	1700	0	0	0	0	3000
TOTALS:	91	91	29575	88725	273000	728000	154700	0	0	0	0	273000

VOLTS: 208 3ph TOTAL CONNECTED: 1517 KVA

DEMAND FACTOR: 0.23 Based on Total Number of Residential Units = 63 & Over (See N.E.C. Article: 220.84)

TOTAL CALCULATED: 349 KVA CALCULATED AMPS: 969 AMPS

NOTE: Actual cooktop load is 3000w. Connected amount of 8000w is the minimum connected load per NEC 220.55 for full diversity.

DWELLING UNIT LOAD CALCULATION		
Project: Park Ave Apartments		
Unit Type Studio		
Area: 325 square feet(average)		
Minimum Size Feeder (NEC 220.40):		
General lighting load at 3 VA / SF	975	VA
Small Appliance load (2 ckts at 1500VA each)	3,000	VA
Laundry Load (1 ckt at 1500VA)	0	VA
Elect Cook Top (No Range)	8,000	VA
Other Cooking Appliance Load (Microwave Oven)	1,700	VA
Dishwasher Load	0	VA
Electric Dryer Load		VA
Electric Water Heater Load		VA
Disposal load	900	
Other motor loads	0	VA
Total "General Loads"	14,575	VA
First 10 kVA of "general loads" at 100%	10,000	VA
Remainder of "general loads" at 40%	1,830	VA
Net "general load"	11,830	VA
_argest of: 3,000 VA of electric space heating (less than 4) at 65%	1,950	VA
-or- VA of electric space heating (4 or more) at 40%	0	VA
-or- VA of air conditioning/cooling/heat pumps at 100%	0	VA
TOTAL LOAD	13,780	VA
For 120/208-volt, 3-wire, single-phase service or feeder, 13,780 VA / 208 volts =	57	Amps

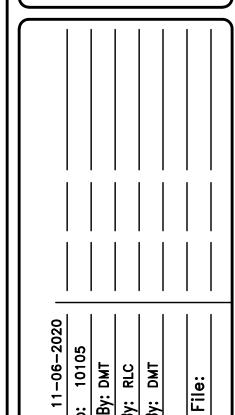
	MFIA C	IRCUIT	DIRE	СТС	ORY			14-Jul-21
Loadcenter Name	mountin	g			location	i		
LC-STUDIO (TYPICAL)		RECES	SSE	ED				
voltage	phase			bus & main				
120/208	1		100A M		ILO (SCCR: 22K)		22K)	
service	a/p	no.	L1	L2	no.	a/p	service	
LIGHTS-KITCHEN/LIVING	20/1(A)	1	*		2	20/1(A)	APPLIANCE CIRCUIT	
LTS & RECEPT - BATH	20/1	3		*	4	20/1(A)	APPLIANCE CIRCUIT	
LTS & RECEPT - BEDROOM	20/1(A)	5	*		6	20/1	REFRIGERATOR	
RECEPT - LIVING (OPTIONAL)	20/1(A)	7		*	8	20/1	MICRO/HOOD	
SMART PANEL	20/1	9	*		10	30/2	2-BURNER COOKTOP	
AC PORT (OPTIONAL)	20/1	11		*	12	*	*	
HEAT	20/2	13	*		14	20/1	DISPOSAL (OPTIONAL)	
*	*	15		*	16	20/1	SPARE	
SPARE	20/1	17	*		18	20/1	SPARE	
BLANK		19		*	20		BLANK	
BLANK		21	*		22		BLANK	
BLANK		23		*	24		BLANK	
BLANK		25	*		26		BLANK	
BLANK		27		*	28		BLANK	
BLANK		29	*		30		BLANK	
NOTES: 1. (A) DENOTES: ARC-FAULT INTE 2. LOADS FOR THIS PANEL ARE I	NDICATE	D ON T	HE '	'DW	ELLING	UNIT LO		
 BREAKER & WIRE SHALL BE S (G) DENOTES GFCI RATED BRE 		R EQUI	PME	ENT	INSTAL	LED.		

GENERAL LIGHTING NOTES:

- A. WHEREVER POSSIBLE, SELECTED LIGHT FIXTURES SHALL HAVE ENERGY EFFICIENT LAMPS, BALLASTS & DRIVERS AND/OR HAVE ENERGY COMPLIANT RATINGS SUCH AS DLC, ENERGY STAR, ETC.
- B. VERIFY ALL FIXTURE FINISHES WITH ARCHITECT PRIOR TO BID.
- C. VERIFY ALL FIXTURE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH IN.
- D. ALL LIGHTING SHALL BE 3000 KELVIN UNLESS OTHERWISE NOTED.
- E. ALL PRODUCT SUBSTITUTIONS AND VALUE ENGINEERING SHALL BE SUBMITTED DURING BID PHASE, SHALL MEET DESIGN INTENT AND ARE SUBJECT TO OWNER APPROVAL.
- F. EGRESS LIGHTING SHALL BE PROVIDED TO MEET MINIMUM LIGHT LEVELS AS DESCRIBED PER OREGON STRUCTURAL SPECIALTY CODE 1006.3.
- G. BUILDING EXTERIOR & SITE LIGHTING SHALL BE CONTROLLED VIA PHOTOCELL, EITHER INTEGRAL OR REMOTE, OR BY TIME CLOCK FOR DUSK-TILL-DAWN OPERATION.
- H. LIGHTING FIXTURES DESIGNATED AS NIGHT LIGHTS (N.L.) AND STAIRWELL LIGHTS SHALL BE ON 24/7.
- J. STAIRWELL LIGHTS SHALL BE PROVIDED WITH OCCUPANCY SENSOR(S), EITHER INTEGRAL OR REMOTE, TO PROVIDE 50% LIGHT REDUCTION DURING PERIODS OF INACTIVITY. ONCE ACTIVATED, LIGHTS ARE TO REMAIN AT 100% OUTPUT FOR A MINIMUM OF 20 MINUTES.
- K. DESIGN INTENT FOR CORRIDOR LIGHTING SHALL BE SUCH THAT LIGHTS INDICATED AS NIGHT LIGHTS (N.L.), SHALL BE ON 24/7. ALL OTHER LIGHT FIXTURES TO BE CIRCUITED VIA TIME CLOCK TO REDUCE CORRIDOR LIGHTING BY 50% DURING PERIODS OF LOW ACTIVITY (IE. 12AM 4AM OR AS DIRECTED BY OWNER).

TYPE	LAMP	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	OPTIONS
A1	LED 3000K 2300LM	NEO RAY LIGHTING (OR APROVED OTHER)	S124DWC575D SERIES	TYPE :4FT WALL BRACKET MOUNTING :SURFACE (+7'-0" MIN) HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT A1E SHALL HAVE BATTERY BACKUP EQUIP, & STORAGE ROOMS
A2	LED 3000K 3000LM	LITHONIA LIGHTING (OR APROVED OTHER)	ZL1N-L46 SERIES	TYPE :4FT GENERAL PURPOSE STRIP MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	STAIRWELLS
A3		NEO RAY LIGHTING (OR APROVED OTHER)	S124RD1P SERIES	TYPE :4FT DIRECT/INDIRECT MOUNTING :SUSPENDED HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT MOUNTING HEIGHT PER ARCHITECT AMENITY SPACES
A4	LED 4000K 3000LM	LITHONIA LIGHTING (OR APROVED OTHER)	FEML48 SERIES	TYPE :4FT ENCLOSED STRIP MOUNTING :SURFACE HOUSING :FIBERGLASS LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	ELEVATOR PIT, TOP OF SHAFT
B1	LED 3000K 1000LM	ALCON LIGHTING (OR APROVED OTHER)	11235 DIR-15 SERIES	TYPE :5" DIA EXTERIOR CYLINDER MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :CLEAR TEMPERED GLASS VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT 60 DEGREE WIDE FLOOD UL LISTED WET LOCATION ENTRY CANOPY
B2	LED 3000K 2130LM	STONCO LIGHTING (OR APROVED OTHER)	LPW16 SERIES	TYPE :EXTERIOR WALL PACK MOUNTING :SURFACE (ABOVE DOOR) HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :MVOLT BALLAST :LED DRIVER	TYPE III DISTRIBUTION BUILDING SERVICE ENTRANCE
C1	LED 3000K 1075LM	USAI LIGHTING (OR APROVED OTHER)	P4RDF SERIES	TYPE :4.5" DIA DOWNLIGHT MOUNTING :RECESSED HOUSING :STEEL LENS/REFL :NA VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT C1E SHALL HAVE BATTERY BACKUP LOBBY, CORRIDORS
C2 C2E	LED 3000K 1175LM 9W	USAI LIGHTING (OR APROVED OTHER)	P3RD SERIES	TYPE :3" DIA DOWNLIGHT MOUNTING :RECESSED HOUSING :STEEL LENS/REFL :NA VOLTAGE :MVOLT BALLAST :LED DRIVER	FINISH PER ARCHITECT C2E SHALL HAVE BATTERY BACKUP LOBBIES
U1	LED 2700K 1000LM	DESIGN CLASSICS (OR APPROVED OTHER)	DFR615-H-927-WH	TYPE :6" DIA CEILING LIGHT MOUNTING :SURFACE HOUSING :ALUMINUM LENS/REFL :ACRYLIC VOLTAGE :120V BALLAST :LED DRIVER (0-10 DIMMING)	UL LISTED WET LOCATION UNIT KITCHEN, BATH, HALL
U2	LED 3000K 1600LM	KUZCO LIGHTING (OR APPROVED OTHER)	FM3511 SERIES	TYPE :11" DIA CEILING LIGHT MOUNTING :SURFACE HOUSING :STEEL LENS/REFL :FROSTED GLASS VOLTAGE :120V BALLAST :LED DRIVER (0-10 DIMMING)	FINISH PER ARCHITECT UNIT BEDROOM
U3	LED 3000K 1600LM	KUZCO LIGHTING (OR APPROVED OTHER)	VL62220 SERIES	TYPE :20" VANITY BAR MOUNTING :SURFACE (=6" ABOVE MIRROR) HOUSING :STEEL LENS/REFL :ACRYLIC VOLTAGE :120V BALLAST :LED DRIVER (0-10 DIMMING)	FINISH PER ARCHITECT UNIT BATHROOM
X1 X2	LED (GREEN LETTERS)	LITHONIA DMF LIGHTING (OR APROVED OTHER)	LE EL N SERIES DLED500EM-G	TYPE :EXIT SIGN MOUNTING :UNIVERSAL HOUSING :DIE—CAST ALUMINUM LENS/REFL :SINGLE FACE/DUAL FACE VOLTAGE :MVOLT	X1=SINGLE SIDE X2=DOUBLE SIDE

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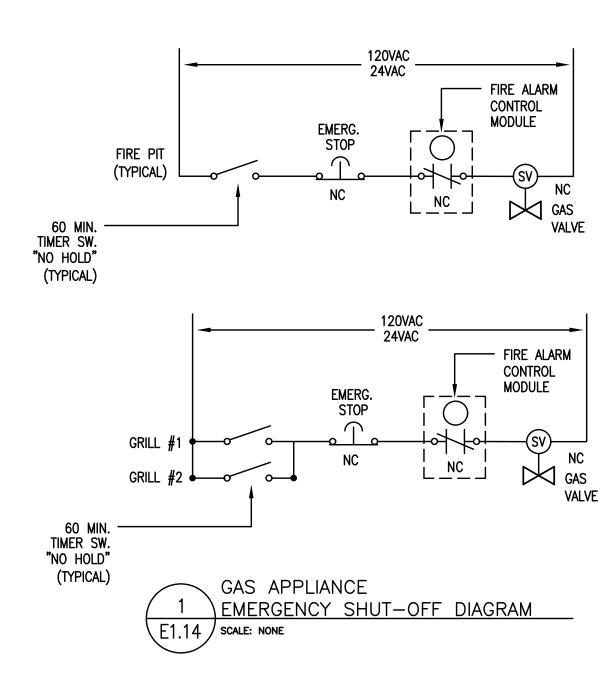
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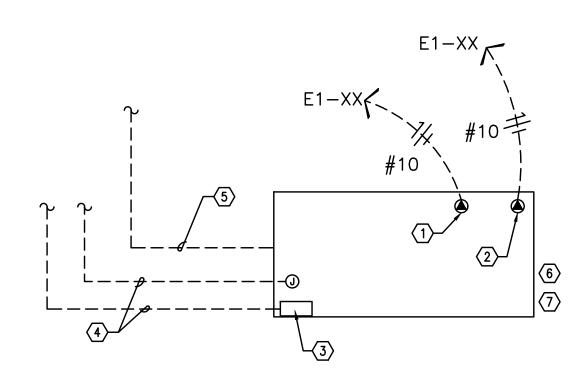


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SHEET

E1.13

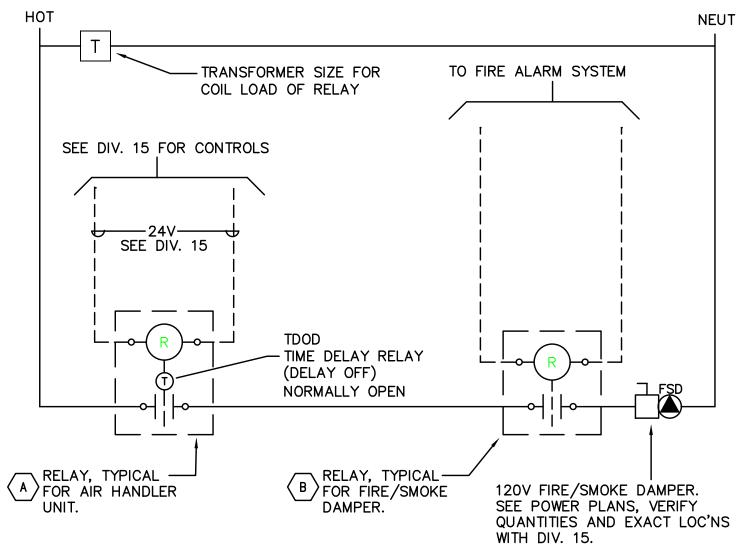






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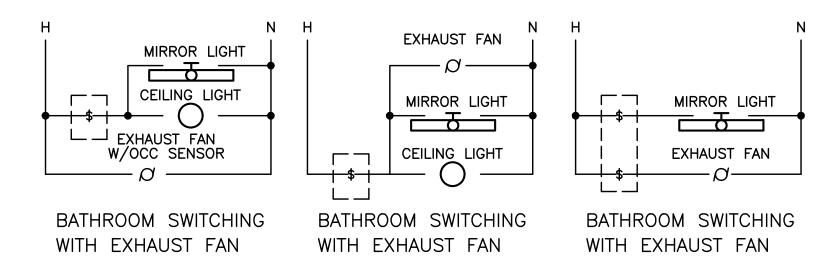
- 1. 120V GENERATOR BLOCK HEATER. SEE PANEL E1.
- 2. 120V GENERATOR BATTERY CHARGER. SEE PANEL E1.
- 3. GENERATOR OUTPUT BREAKER AND CONTROL SECTION. SEE PANEL E1.
- 4. POWER AND CONTROL TO TRANSFER SWITCH AND REMOTE ANNUNCIATOR. SEE ONE—LINE DIAGRAM ON SHEET E1.10.
- 5. TO AUTOMATIC TRANSFER SWITCH. SEE E1.10.
- 6. DIESEL GENERATOR TO BE PROVIDED WITH DOUBLE—WALL FUEL TANK AND SPILL CONTAINMENT PER CITY OF PORTLAND REQUIREMENTS.
- 7. DIESEL GENERATOR TANK SHALL DOUBLE WALLED AND BE EQUIPPED WITH OVERFILL PROTECTION (AUTO SHUTOFF), 5 GALLON INFILL SPILL BUCKET WITH DRAIN BACK, 12FT ABOVE GRADE TANK FUME VENTING AND ONSITE PRESSURE TESTING PER CITY REQUIREMENTS.



3 SMOKE/FIRE DAMPER CONTROL DIAGRAM E1.14 NO SCALE

ADDRESSABLE DETECTOR CONTROL

- RELAY TO BE 'NORMALLY OPEN'. TDOD (TIME DELAY ON DE-ENERGY)
 SET FOR 15 SECONDS. RELAY TO CLOSE UPON SIGNAL FROM HVAC
 CONTROL SYSTEM (ALLOWS DAMPER TO OPEN); DAMPERS TO CLOSE ON
 DE-ENERGIZE AFTER 15 SEC. TIME-OUT. PROVIDE WITH 20A CONTACTS
 AND COIL VOLTAGE AS REQ'D BY HVAC CONTROL SYSTEM. MOUNT RELAY
 IN NEMA 1 ENCLOSURE ADJACENT TO HVAC CONTROL PANEL.
- B RELAY TO BE 'NORMALLY ENERGIZED'. RELAY TO BE DE-ENERGIZED UPON SIGNAL FROM FIRE ALARM SYSTEM (ALLOWS DAMPERS TO CLOSE). PROGRAM FIRE ALARM SYSTEM FOR 15 SECOND DELAY BETWEEN SMOKE DETECTOR ACTIVATION AND FIRE/SMOKE DAMPER SHUTDOWN. PROVIDE WITH 20A CONTACTS AND COIL VOLTAGE AS REQ'D BY FIRE ALARM SYSTEM. MOUNT RELAY IN NEMA 1 ENCLOSURE ADJACENT TO FIRE/SMOKE DAMPER.







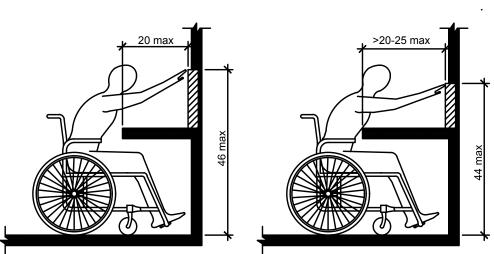
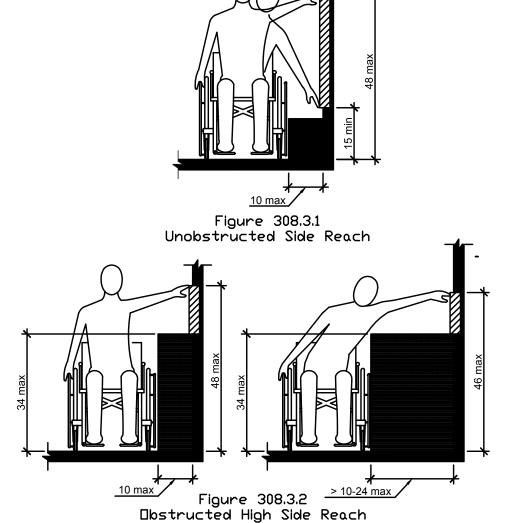


Figure 308.2.2 Obstructed High Forward Reach





308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach be 48" maximum and the low forward reach shall be 15" minimum above the f ground.

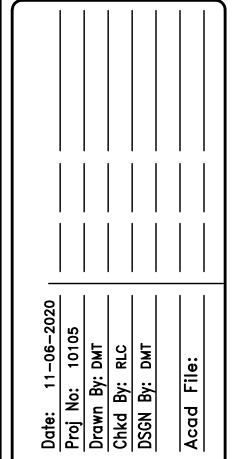
308.2.2 Obstructed High Reach. Where a high forward reach is over an obstruction, to clear floor or ground space shall extend beneath the element for a distance not thank the required reach depth over the obstruction. The high forward reach shall be "maximum where the reach depth is 20" maximum. Where the reach depth is 20", the high forward reach shall be 44" maximum and the reach depth shall be maximum.

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approarment and the reach is unobstructed, the high side reach shall be 48 ximun to the reach shall be 15" minimum above the floor or ground the floor or ground.

308.3.2 Obstruct approach to a ject and the high side reach is over an obstruction, the height approach to all be 34" maximum and the depth of the obstruction shall 24 timum. The mum. We side reach shall be 48" maximum for a reach depth of 10" the reach depth of 24" maximum.

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OREGON DETAILS

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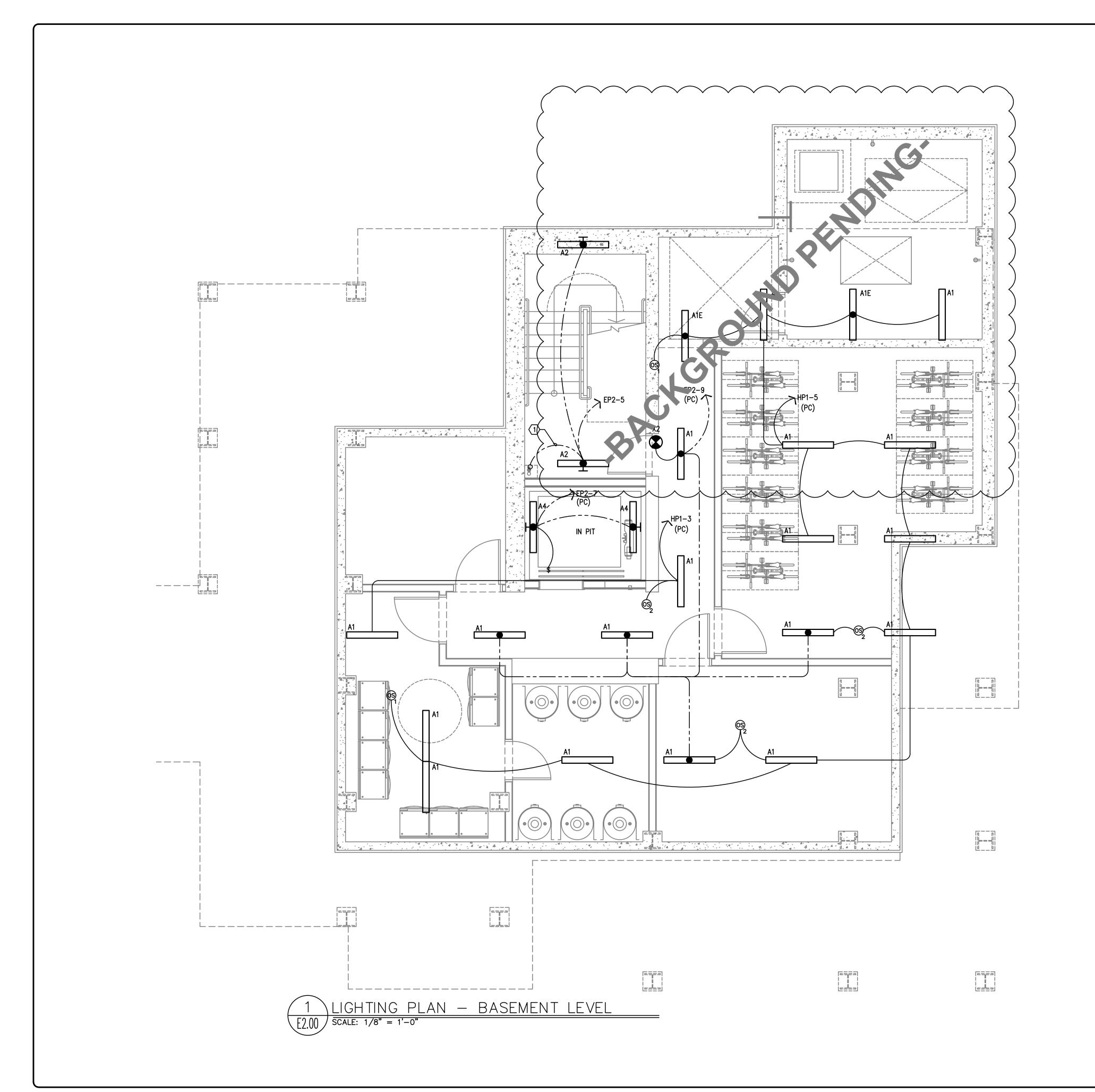
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E1.14



GENERAL LIGHTING NOTES:

- A. ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- B. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL & INTERIOR DESIGN DRAWINGS FOR EXACT LOCATIONS, MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.

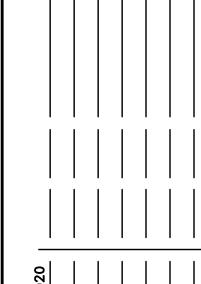
REFER TO ENLARGED TYPICAL UNIT PLANS (F4 SERIES SHEFTS) FOR TYPICAL POWER &

- D. REFER TO SHEET E1.21 FOR LIGHT FIXTURE SCHEDULE.
- E. REFER TO AVAILABLE ARCHITECTURAL AND/OR INTERIOR DESIGN DOCUMENTS & DRAWINGS FOR ADDITIONAL INFORMATION.
- F. OCCUPANCY SENSORS SHALL BE FIELD ADJUSTED TO ENSURE PROPER COVERAGE AND CONTROL
- G. PROVIDE DIGITAL LIGHTING CONTROLS FOR EACH ROOM/SPACE, CONSISTING OF MULTI-BUTTON SWITCH(ES), OCC SENSORS, POWER PACKS, DAYLIGHT SENSORS, DIMMERS, INTERCONNECTING WIRING, ETC.
- H. CORRIDOR LIGHTING TO BE CONSTANT "ON" AND PROVIDED WITH LOCAL MANUAL OVERRIDE SWITCHES FOR MAINTENANCE. REFER TO SHEET E1.22 FOR SWITCH WIRING DIAGRAMS.
- I. ALL EGRESS FIXTURES SHALL BE WIRED SUCH THAT IN THE EVENT OF A POWER FAILURE, ALL LIGHTS WILL AUTOMATICALLY RETURN TO FULL POWER. REFER TO SWITCHING DETAILS ON SHEET E1.22.
- J. REFER TO SHEET E1.23 FOR LIGHTING CONTROL DIAGRAMS AND DESIGN INTENT. VERIFY LIGHTING CONTROLLABILITY WITH ARCHITECT AND/OR OWNER'S REPRESENTATIVE TO DETERMINE EXACT NEEDS FOR ALL PUBLIC/COMMON AREAS SUCH AS LOBBIES, OFFICES, LOUNGE AREAS, ETC., PRIOR TO THE START OF ANY WORK.
- K. THERE SHALL BE NO SURFACE MOUNTED FIXTURES OR PATHWAYS (CONDUIT, ETC.) IN ANY PUBLICLY ACCESSIBLE SPACES, INCLUDING STAIRWELLS AND EXIT PASSAGEWAYS WITHOUT PRIOR APPROVAL BY OWNER AND ARCHITECT. ROUTE ALL PATHWAYS WITHIN STUD CAVITIES OR ABOVE FINISHED CEILINGS.

> KEYED NOTES

- 1. CONTINUE CIRCUIT UP THROUGH THE STAIRWELL.
- 2. EXTERIOR BUILDING LIGHTS TO BE CONTROLLED VIA INTEGRAL AND/OR REMOTE PHOTOCELL FOR DUSK-TILL-DAWN OPERATION. REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E1.21 FOR ADDITIONAL INFORMATION.
- 3. LIGHT FIXTURES IN THIS SPACE CONTROLLED BY CEILING MOUNT OCCUPANCY SENSOR.
- 4. PROVIDE PHOTOCELL FOR DAY-LIGHT REDUCTION OF LIGHT LEVELS.
- 5. CONTRACTOR TO COORDINATE WITH LANDSCAPE LIGHTING INSTALLER AND PROVIDE ROUGH—IN AND POWER CONNECTION(S) AS REQUIRED.
- 6. REFER TO SHEET E1.12 FOR TYPICAL DWELLING UNIT LOAD CENTER SCHEDULE FOR CIRCUITING INFORMATION.
- 7. REFER TO THE E3 SERIES SHEETS FOR TYPICAL DWELLING UNIT POWER DEVICE LAYOUT.
- 8. CORRIDOR LIGHTING CIRCUITS FOR THE UPPER FLOORS ARE AS FOLLOWS:

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Chkd By: RLC
DSGN By: DMT
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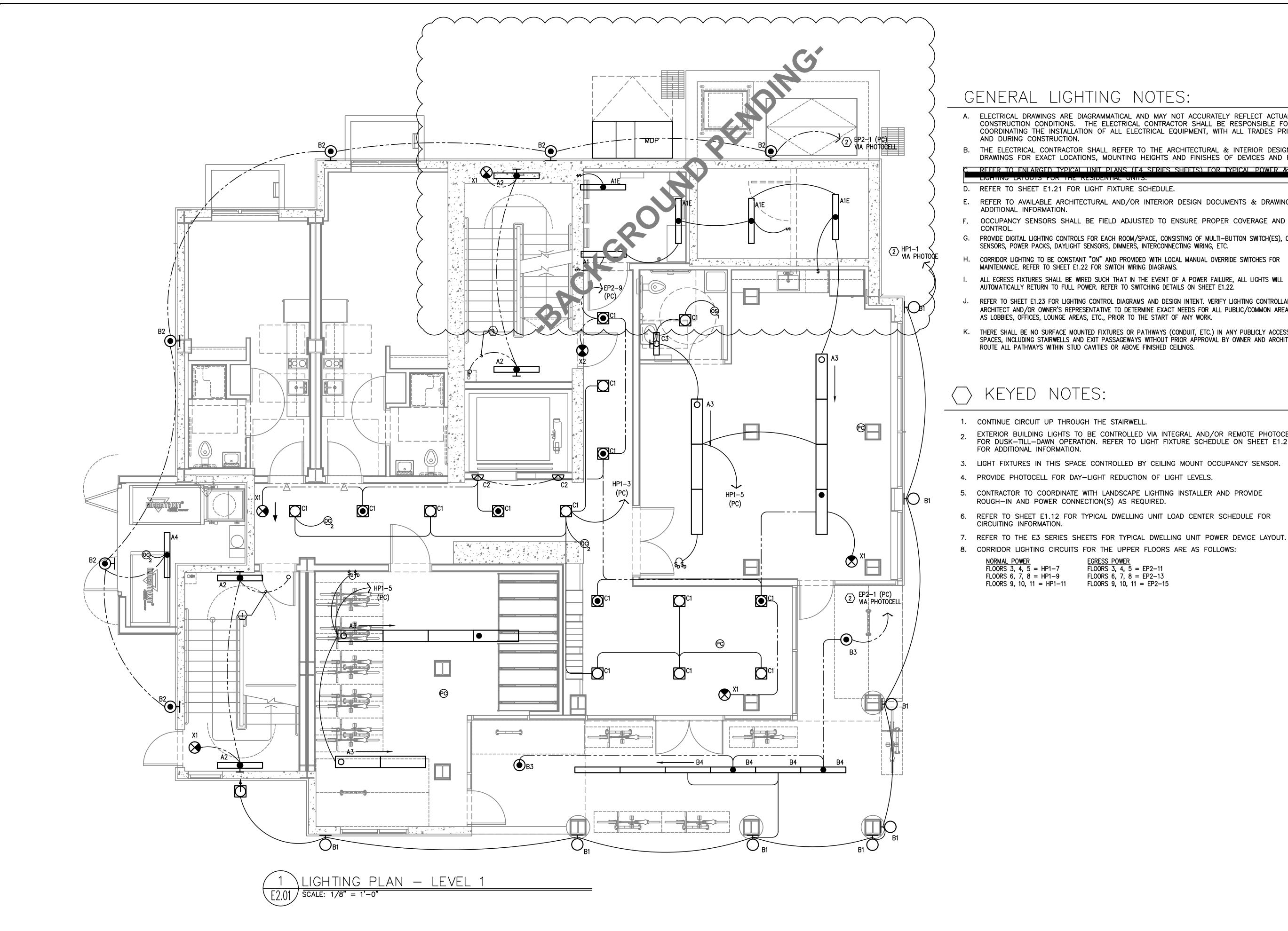
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GENERAL LIGHTING NOTES:

- A. ELECTRICAL DRAWINGS ARE DIAGRAMMATICAL AND MAY NOT ACCURATELY REFLECT ACTUAL CONSTRUCTION CONDITIONS. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF ALL ELECTRICAL EQUIPMENT, WITH ALL TRADES PRIOR TO AND DURING CONSTRUCTION.
- B. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL & INTERIOR DESIGN DRAWINGS FOR EXACT LOCATIONS, MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.

C REFER TO ENLARGED TYPICAL UNIT PLANS (F4 SERIES SHEFTS) FOR TYPICAL POWER &

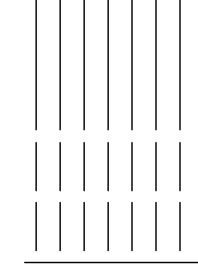
- D. REFER TO SHEET E1.21 FOR LIGHT FIXTURE SCHEDULE.
- E. REFER TO AVAILABLE ARCHITECTURAL AND/OR INTERIOR DESIGN DOCUMENTS & DRAWINGS FOR ADDITIONAL INFORMATION.
- F. OCCUPANCY SENSORS SHALL BE FIELD ADJUSTED TO ENSURE PROPER COVERAGE AND
- G. PROVIDE DIGITAL LIGHTING CONTROLS FOR EACH ROOM/SPACE, CONSISTING OF MULTI-BUTTON SWITCH(ES), OCC SENSORS, POWER PACKS, DAYLIGHT SENSORS, DIMMERS, INTERCONNECTING WIRING, ETC.
- H. CORRIDOR LIGHTING TO BE CONSTANT "ON" AND PROVIDED WITH LOCAL MANUAL OVERRIDE SWITCHES FOR MAINTENANCE. REFER TO SHEET E1.22 FOR SWITCH WIRING DIAGRAMS.
- ALL EGRESS FIXTURES SHALL BE WIRED SUCH THAT IN THE EVENT OF A POWER FAILURE, ALL LIGHTS WILL AUTOMATICALLY RETURN TO FULL POWER. REFER TO SWITCHING DETAILS ON SHEET E1.22.
- REFER TO SHEET E1.23 FOR LIGHTING CONTROL DIAGRAMS AND DESIGN INTENT. VERIFY LIGHTING CONTROLLABILITY WITH ARCHITECT AND/OR OWNER'S REPRESENTATIVE TO DETERMINE EXACT NEEDS FOR ALL PUBLIC/COMMON AREAS SUCH AS LOBBIES, OFFICES, LOUNGE AREAS, ETC., PRIOR TO THE START OF ANY WORK.
- K. THERE SHALL BE NO SURFACE MOUNTED FIXTURES OR PATHWAYS (CONDUIT, ETC.) IN ANY PUBLICLY ACCESSIBLE SPACES, INCLUDING STAIRWELLS AND EXIT PASSAGEWAYS WITHOUT PRIOR APPROVAL BY OWNER AND ARCHITECT. ROUTE ALL PATHWAYS WITHIN STUD CAVITIES OR ABOVE FINISHED CEILINGS.

KEYED NOTES:

- 1. CONTINUE CIRCUIT UP THROUGH THE STAIRWELL.
- EXTERIOR BUILDING LIGHTS TO BE CONTROLLED VIA INTEGRAL AND/OR REMOTE PHOTOCELL FOR DUSK-TILL-DAWN OPERATION. REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E1.21 FOR ADDITIONAL INFORMATION.
- 3. LIGHT FIXTURES IN THIS SPACE CONTROLLED BY CEILING MOUNT OCCUPANCY SENSOR.
- 4. PROVIDE PHOTOCELL FOR DAY-LIGHT REDUCTION OF LIGHT LEVELS.
- 5. CONTRACTOR TO COORDINATE WITH LANDSCAPE LIGHTING INSTALLER AND PROVIDE ROUGH-IN AND POWER CONNECTION(S) AS REQUIRED.
- 6. REFER TO SHEET E1.12 FOR TYPICAL DWELLING UNIT LOAD CENTER SCHEDULE FOR CIRCUITING INFORMATION.
- 8. CORRIDOR LIGHTING CIRCUITS FOR THE UPPER FLOORS ARE AS FOLLOWS:

EGRESS POWER FLOORS 3, 4, 5 = EP2-11 FLOORS 6, 7, 8 = EP2-13 FLOORS 9, 10, 11 = EP2-15 NORMAL POWER FLOORS 3, 4, 5 = HP1-7FLOORS 6, 7, 8 = HP1-9FLOORS 9, 10, 11 = HP1-11

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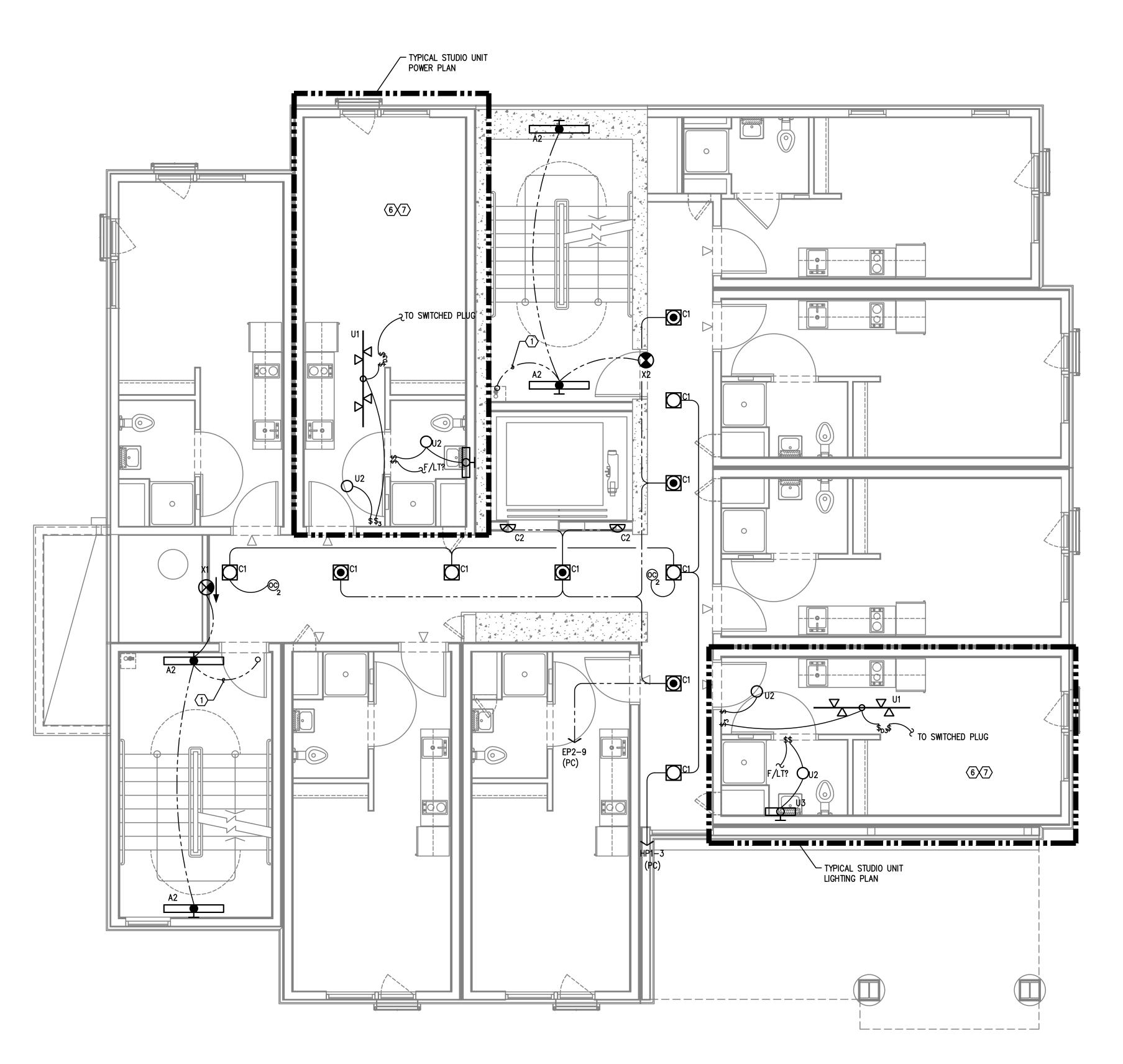
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- 8. CORRIDOR LIGHTING CIRCUITS FOR THE UPPER FLOORS ARE AS FOLLOWS:

NORMAL POWER

FLOORS 3, 4, 5 = HP1-7

FLOORS 6, 7, 8 = HP1-9

FLOORS 9, 10, 11 = HP1-11

FLOORS 9, 10, 11 = EP2-15

PRELIMINARY
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Proj No: 10105
Drawn By: DMT
Chkd By: RLC
DSGN By: DMT
Acad File:

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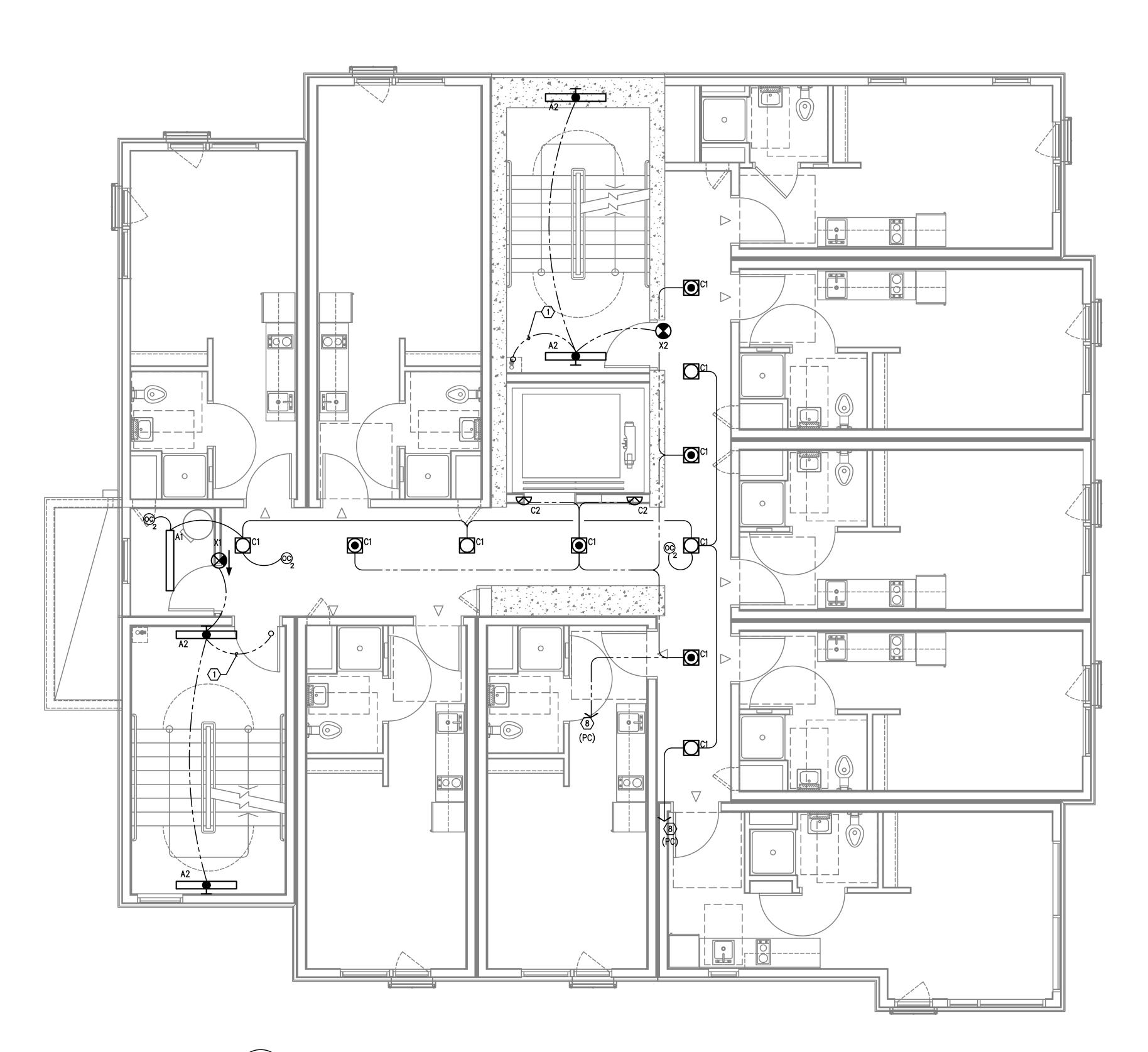
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E2.02

OF ****

1 LIGHTING PLAN - LEVEL 2

[2.02] SCALE: 1/8" = 1'-0"



1 LIGHTING PLAN - LEVELS 3-10 E2.03 SCALE: 1/8" = 1'-0"

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- 8. CORRIDOR LIGHTING CIRCUITS FOR THE UPPER FLOORS ARE AS FOLLOWS:

PRELIMINARY
NOT FOR
CONSTRUCTION

Proj No: 10105
Drawn By: DMT
Chkd By: RLC
DSGN By: DMT
Acad File:

OREGON OREGON 3-10

2057 SW PARK AVE.
PLAN - FLOORS

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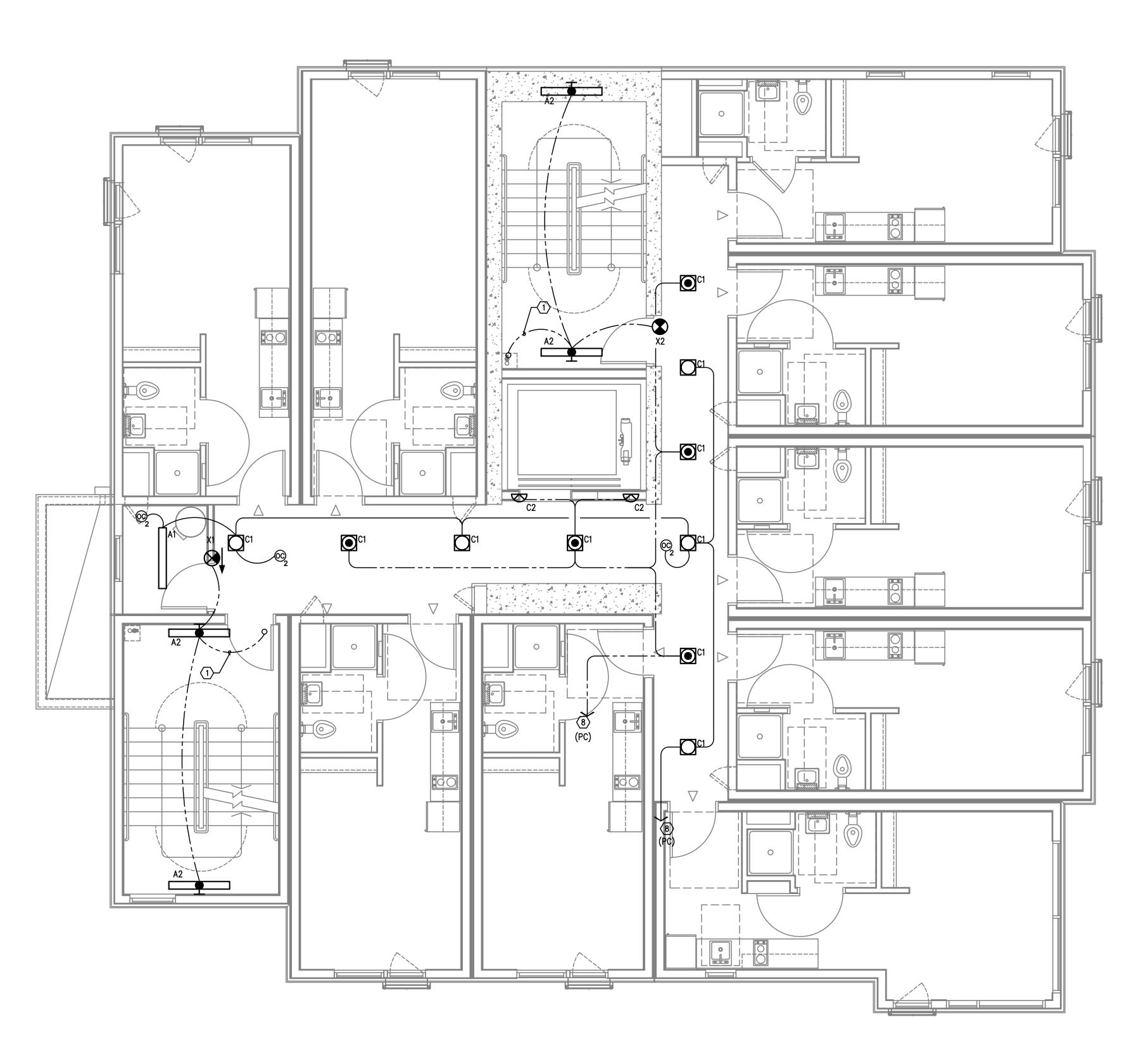
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E2.03



1 LIGHTING PLAN - LEVELS 3-10 E2.03 SCALE: 1/8" = 1'-0"

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Proj No: 10105
Drawn By: DMT
Chkd By: RLC
DSGN By: DMT
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OREGON OREGON FLOOR

2057 SW PARK AVE.

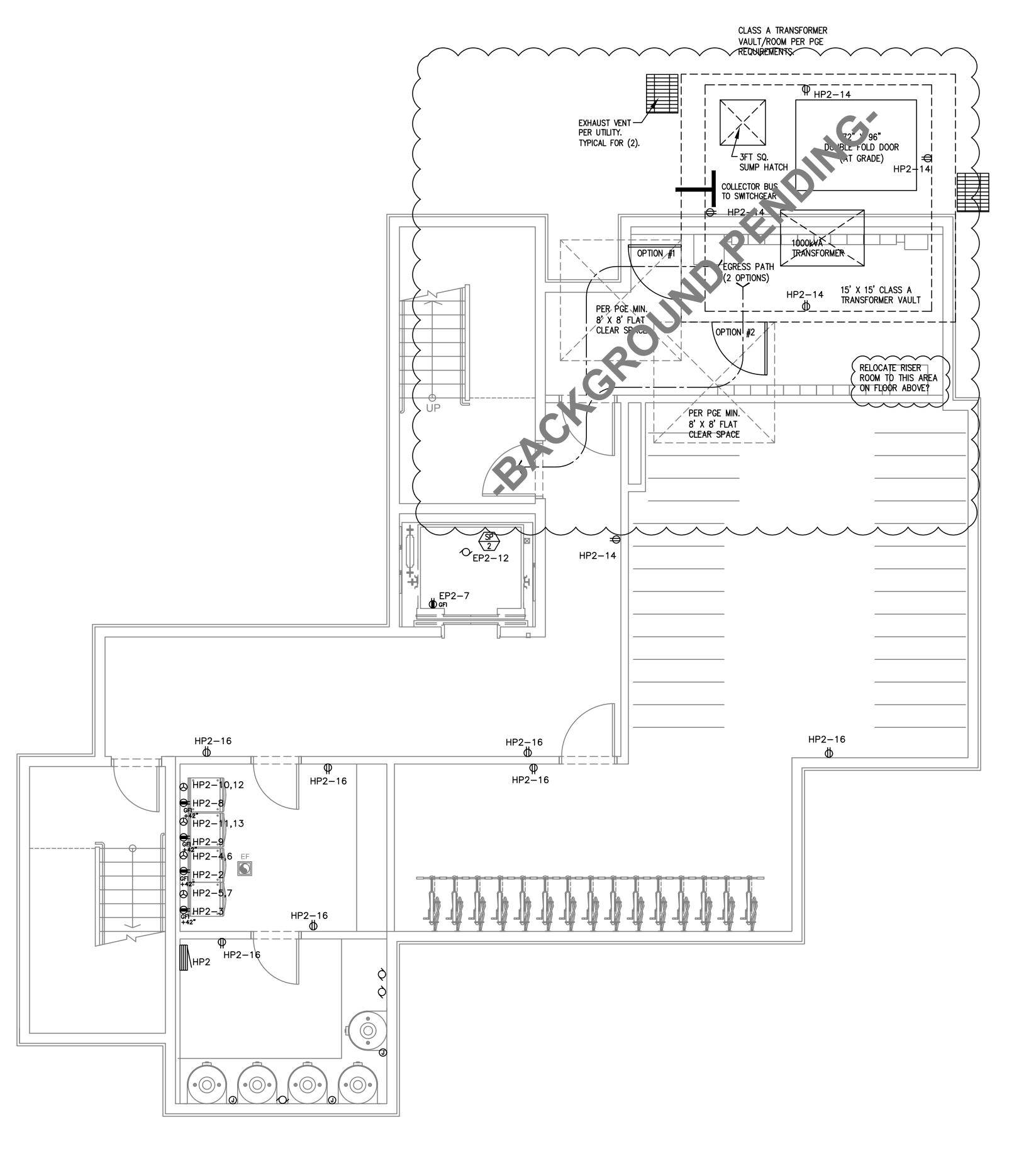
LIGHTING PLAN - 11TH

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POWER PLAN - BASEMENT LEVEL

 $\overline{(5.00)}$ SCALE: 1/8" = 1'-0"

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- B. WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES.
- . ELECTRICAL CONTRACTOR TO PROVIDE THERMOSTATS NOT SUPPLIED BY MECHANICAL CONTRACTOR, AS REQUIRED. CONSULT MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
- D. ELECTRICAL CONTRACTOR SHALL PROVIDE INSTALLATION AND FINAL CONNECTION OF THERMOSTATS AS REQUIRED. CONSULT MECHANICAL CONTRACTOR FOR EXACT REQUIREMENTS PRIOR TO ROUGH IN.
- E. COORDINATE WITH DIVISION 23 FOR EXACT LOCATION AND POWER REQUIREMENTS OF ALL MECHANICAL EQUIPMENT PRIOR TO ROUGH IN. REFER TO SHEET E1.13 FOR MECHANICAL EQUIPMENT SCHEDULE.
- F. THE ELECTRICAL CONTRACTOR SHALL REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS AND FINISHES OF DEVICES AND FIXTURES.
- G. ELECTRICAL CONTRACTOR SHALL REFER TO THE 'T' SERIES SHEETS AND PROVIDE ROUGH IN FOR THE LOW VOLTAGE SYSTEMS/FIRE ALARM INSTALLER.
- H. SERVICE ENTRANCE AND METERING EQUIPMENT SHOWN TO APPROXIMATE SCALE, BASED ON SIEMENS PRODUCTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT INSTALLED EQUIPMENT FITS THE SPACE PROVIDED AND THAT ALL REQUIRED WORKING CLEARANCES ARE PROVIDED.
- I. THE CLASS 'A' TRANSFORMER VAULT SHALL BE IN ACCORDANCE WITH NEC REQUIREMENTS AS WELL AS THOSE OF THE UTILITY PROVIDER. MAN-DOOR SHALL BE EQUIPPED WITH PANIC HARDWARE AND AN OUTWARD SWING.
- J. PROVIDE A KEY BOX AT THE TRANSFORMER ROOM DOOR PER THE UTILITY PROVIDER'S REQUIREMENTS, FOR 24/7 ACCESS.
- K. TENANT ELECTRICAL METERING SHALL BE SUB-METERED BY THE OWNER PER THE UTILITY
 PROVIDER'S REQUIREMENTS. SUB-METERING EQUIPMENT IS BASED ON SIEMENS SEM3 PRODUCTS.
 REFER TO SHEET E1.11 FOR ADDITIONAL INFORMATION.

O KEYED POWER NOTES:

- 1. PROVIDE KEY BOX FOR PGE AT METER ROOM FOR 24/7 ACCESS.
 - GENERATOR EMERGENCY DISCONNECT.
- JAUNDRY ROOM GFCI RECEPTACLES FOR WASHING MACHINES TO BE MOUNTED AT 42" A.F.F., OR UNLESS OTHERWISE DIRECTED BY THE ARCHITECT. LAUNDRY ROOM APPLIANCES CIRCUITED TO PANEL 'XX'. REFER TO PANEL SCHEDULE ON SHEET E1.12.
- 40A, DEDICATED 14-40R DRYER RECEPTACLE (TYPICAL). VERIFY EXACT POWER RATING REQUIRED FOR THE COMMERCIAL DRYERS PRIOR TO ORDERING. LAUNDRY ROOM APPLIANCES CIRCUITED TO PANEL 'XX'. REFER TO PANEL SCHEDULE ON SHEET E1.12.
- 5. EXHAUST FAN IN THIS AREA TO BE TIED INTO THE LIGHTING CIRCUIT.
- 6. CONSULT ELEVATOR PROVIDER FOR EXACT POWER REQUIREMENTS AND PROVIDE ALL ELECTRICAL WORK AS DIRECTED. VERIFY EXACT LOCATION FOR ELEVATOR EQUIPMENT WITH ARCHITECT AND COORDINATE WITH ELEVATOR INSTALLER.
- 7. PROVIDE ROUGH IN AND WIRING FOR ACCESS CONTROL. REFER TO 'T' SERIES SHEETS FOR ADDITIONAL INFORMATION.
- 8. LOW VOLTAGE/COMMUNICATIONS SYSTEM DEMARCATION BOARD(S). COORDINATE LOCATIONS AND ELECTRICAL POWER REQUIREMENTS WITH THE TELECOM PLANS ('T' SERIES SHEETS) AND LOW VOLTAGE SYSTEMS INSTALLERS. PROVIDE ROUGH IN AND/OR FINAL ELECTRICAL POWER CONNECTIONS & DEVICES. REFER PANEL 'XX' SCHEDULE ON E1.12 FOR CIRCUITS.
- 9. REFER TO SHEET E1.12 FOR TYPICAL DWELLING UNIT LOAD CENTER SCHEDULE FOR CIRCUITING INFORMATION.
- 10. REFER TO E2 SERIES SHEETS FOR EXHAUST FAN SWITCH LOCATION (WHERE INSTALLED).
- 11. EACH UNIT LOAD CENTER TO BE FED VIA SUB-METERING SYSTEM. REFER TO ONE-LINE DIAGRAM ON SHEET E1.11 FOR CONDUCTOR SIZE AND CABLING.

CLASS A TRANSFORMER VAULT GENERAL NOTES

- 1. VAULT ROOM DOORS SHALL BE BLAST-RATED METAL DOORS. DOORS AND VENT SHUTTERS MUST HAVE A THREE HOUR BLAST & FIRE RATING PER NFPA 450.43.
- 2. VAULT VENTS MUST HAVE SHUTTERS THAT ARE AUTOMATICALLY CLOSED BY THE HEAT DETECTOR IN THE FIRE SUPPRESSION SYSTEM HEAT DETECTORS SHALL MEET NFPA 72 REQUIREMENTS.
- 3. PROVIDE TWO "RATE TO RISE" HEAT DETECTORS PER THE UTILITY PROVIDER'S REQUIREMENTS. LOCATE ONE ABOVE THE TRANSFORMER AND ONE OTHER WITHIN THE ROOM.
- 4. ALL OPENING, GAPS & CRACKS MUST BE SEALED WITH THREE—HOUR RATED FIRE CAULKING. CONSULT UTILITY PROVIDER FOR APPROVED PRODUCTS.
- 5. NON-METALIC SEISMIC-APPROVED CABLE TRAY WITH GALVANIZED HARDWARE SHALL BE INSTALLED IN VAULT ROOMS WITH CEILING GREATER THAN 10 FEET HIGH.
- PROVIDER'S APPROVAL.

 7. PRIMARY SERVICE CONDUCTORS FROM THE PROPERTY LINE TO THE VAULT SHALL BE IN SCHEDULE 40 PVC PER THE UTILITY PROVIDER'S DIRECTION. ALL CONDUIT PENETRATIONS MUST

6. ALL MATERIALS AND PRODUCTS USED WITHIN THE CLASS A VAULT IS SUBJECT TO THE UTILITY

- SCHEDULE 40 PVC PER THE UTILITY PROVIDER'S DIRECTION. ALL CONDUIT PENETRATIONS MUS BE SEALED WITH A FLEXIBLE NON—SHRINK HYDROPHOBIC GROUT TO PREVENT WATER INTRUSION.

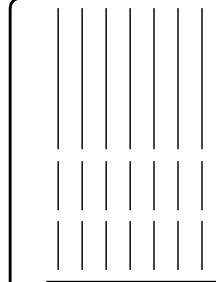
 8. THE CLASS A VAULT SHALL BE PROVIDED WITH BOTH EQUIPMENT AND UFER GROUNDING PER
- 9. PROVIDE TWO DIRECT UFER GROUND CONNECTIONS TO THE BUILDING FOOTER OR SOLDIER PILING. CONNECTIONS TO BE LOCATED AT OPPOSITE CORNERS OF THE VAULT FLOOR IN
- 10. PROVIDE A CONTINUOUS LOOP OF 250MCM BARE COPPER AROUND THE ROOM AT 24 INCHES ABOVE THE FLOOR, WITH HUBS AT 5-FOOT INTERVALS.
- 11. REFER TO E2 SERIES SHEETS FOR LIGHTING WITHIN THE VAULT ROOM.

THE UTILITY PROVIDER'S REQUIREMENTS.

ACCORDANCE WITH NEC 250.

12. THE ELECTRICAL CONTRACTOR SHALL CONSULT WITH THE UTILITY PROVIDER AND THE PROVIDER'S REQUIREMENTS FOR CLASS A TRANSFORMER VAULTS PRIOR TO THE START OF ANY WORK. THE UTILITY PROVIDER IS THE AUTHORITY REGARDING ALL ASPECS OF THE VAULT ROOM

PRELIMINARY
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CONSTRUCTION



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DSGN By: DMT
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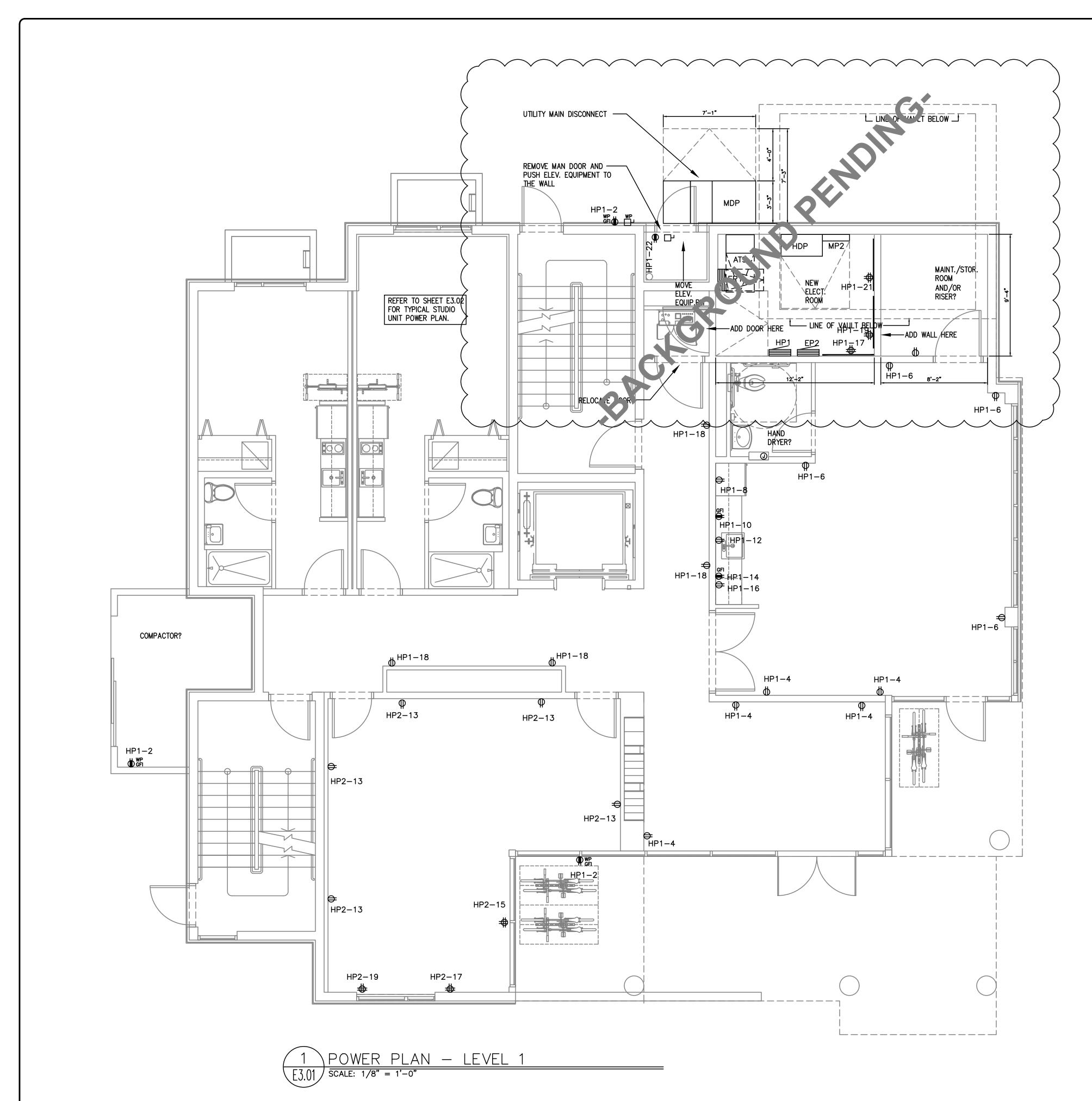
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M FI INC.

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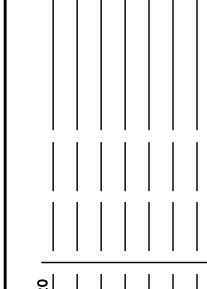
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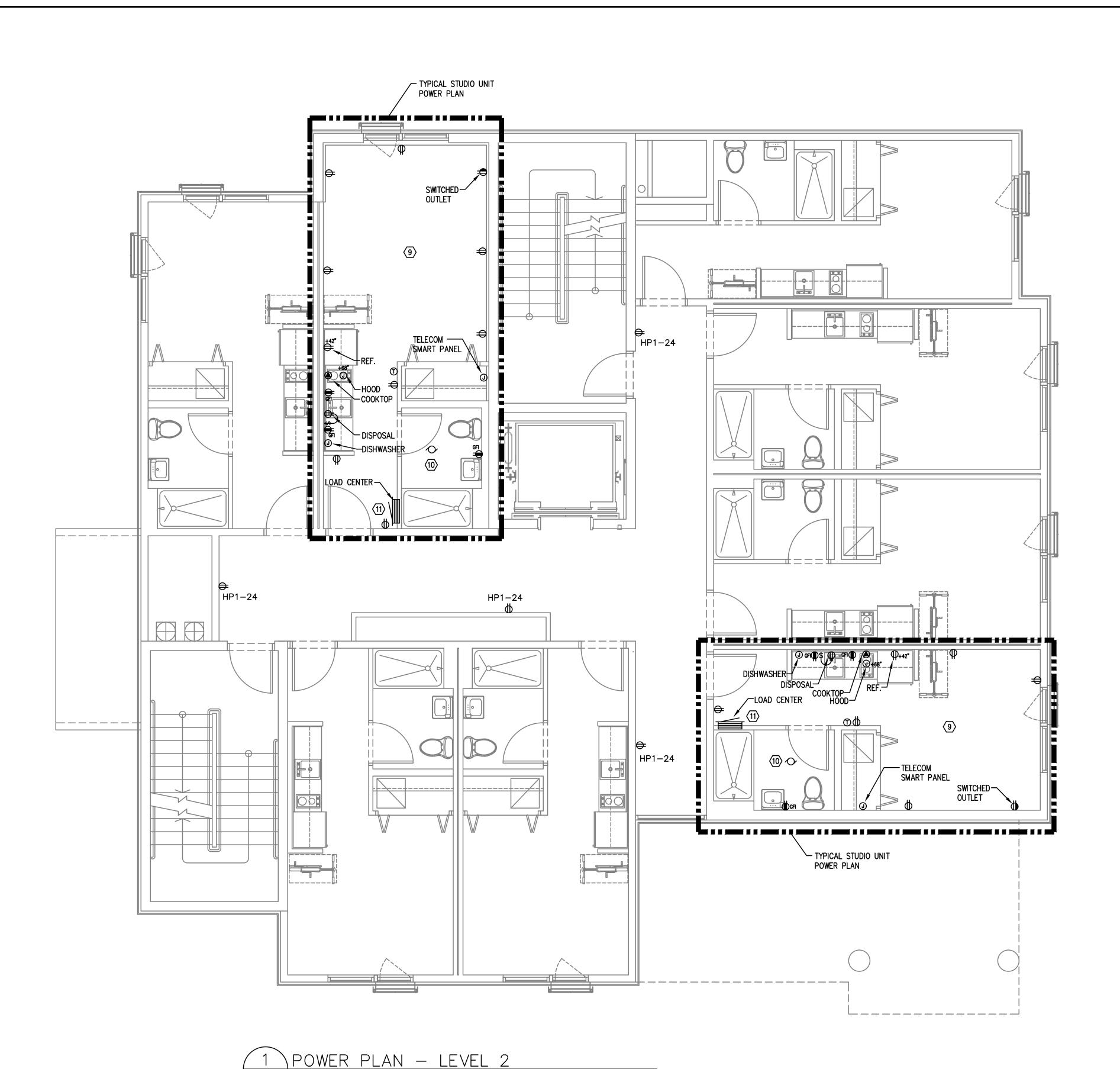
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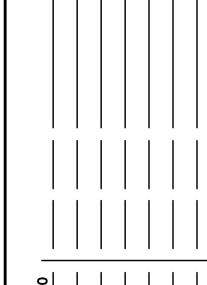


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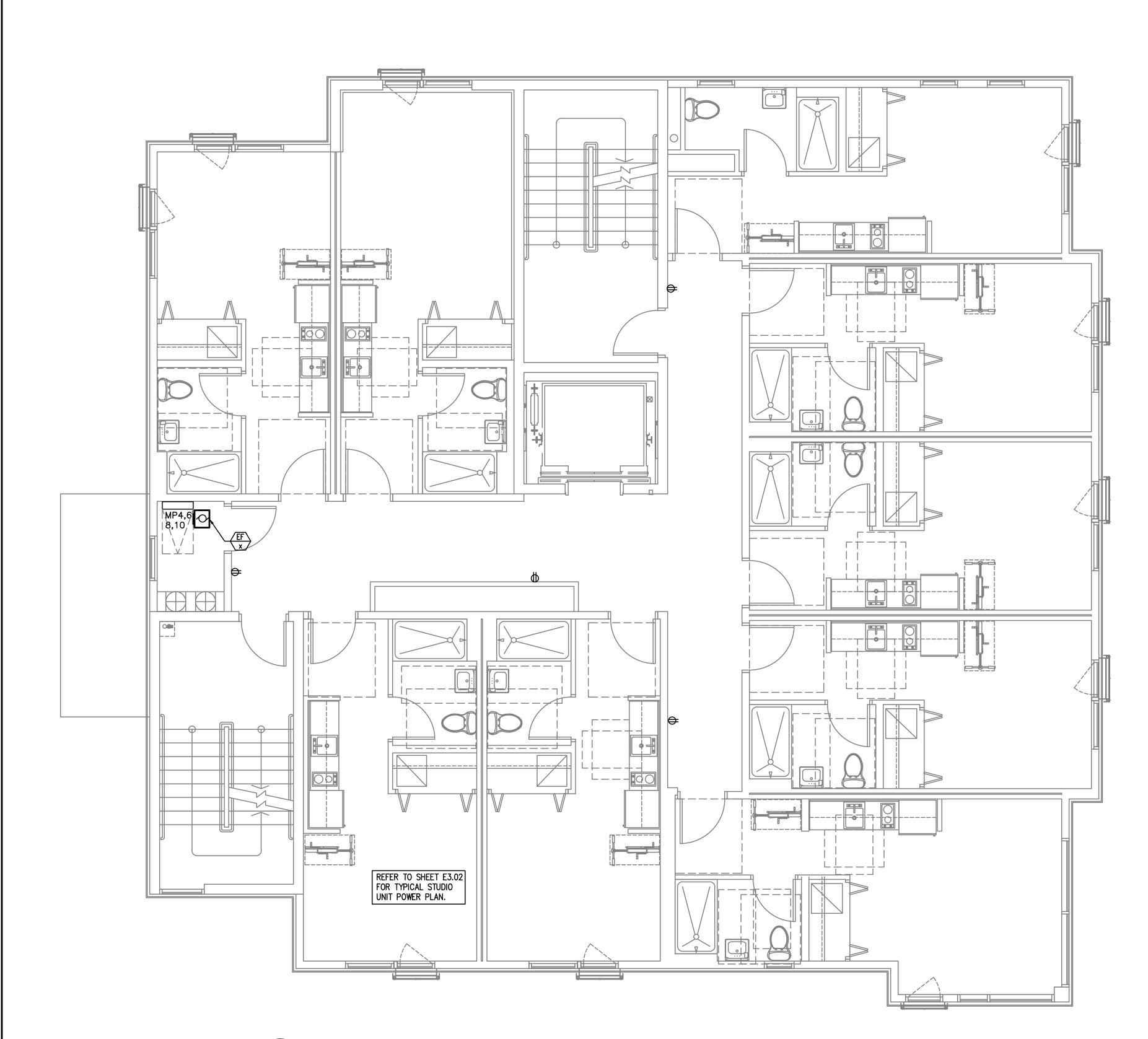
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POWER PLAN —

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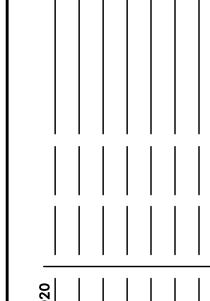
1 POWER PLAN — LEVELS 3—10 E3.03 SCALE: 1/8" = 1'-0"

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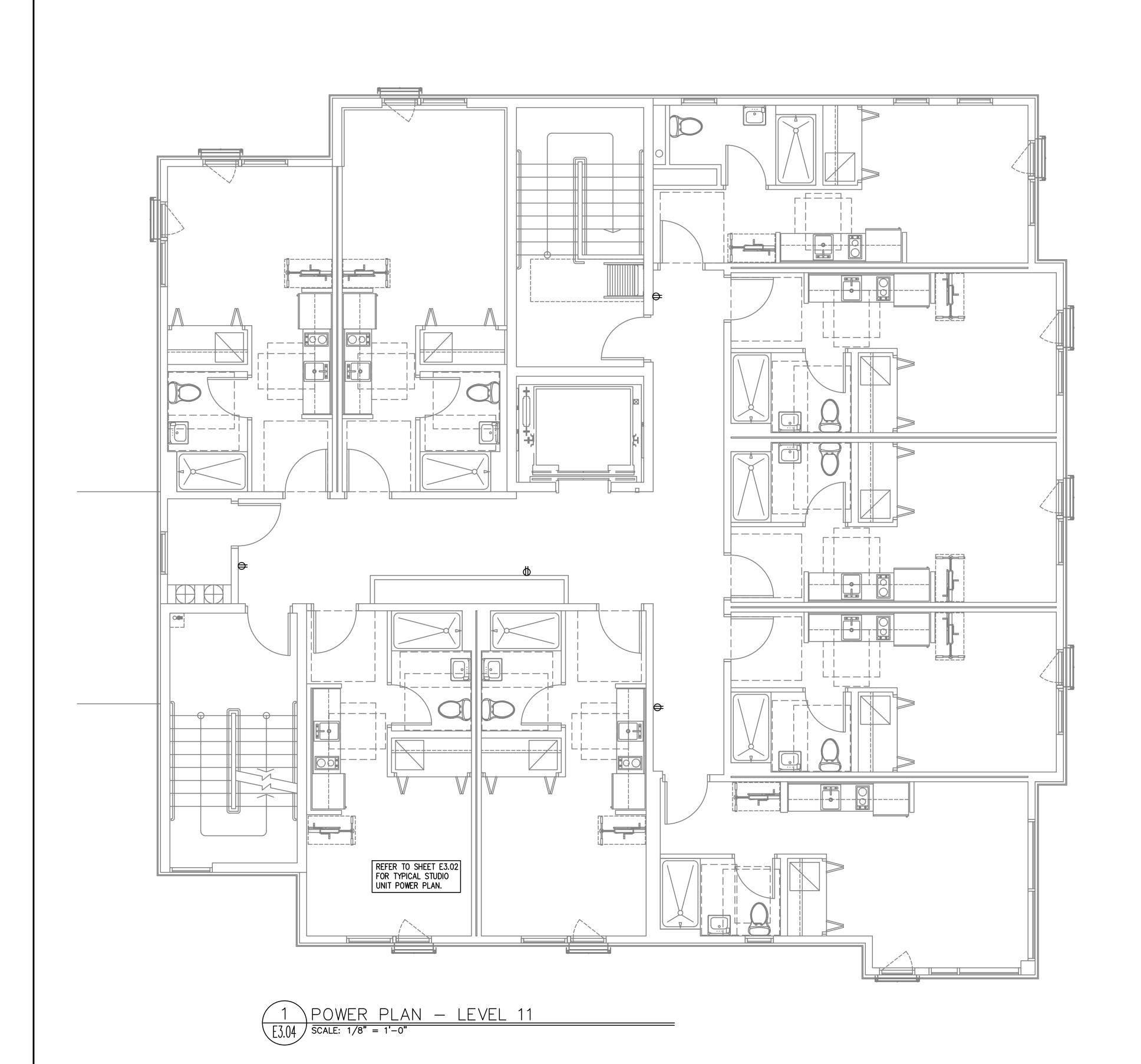
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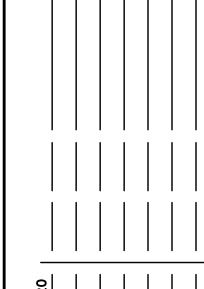


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