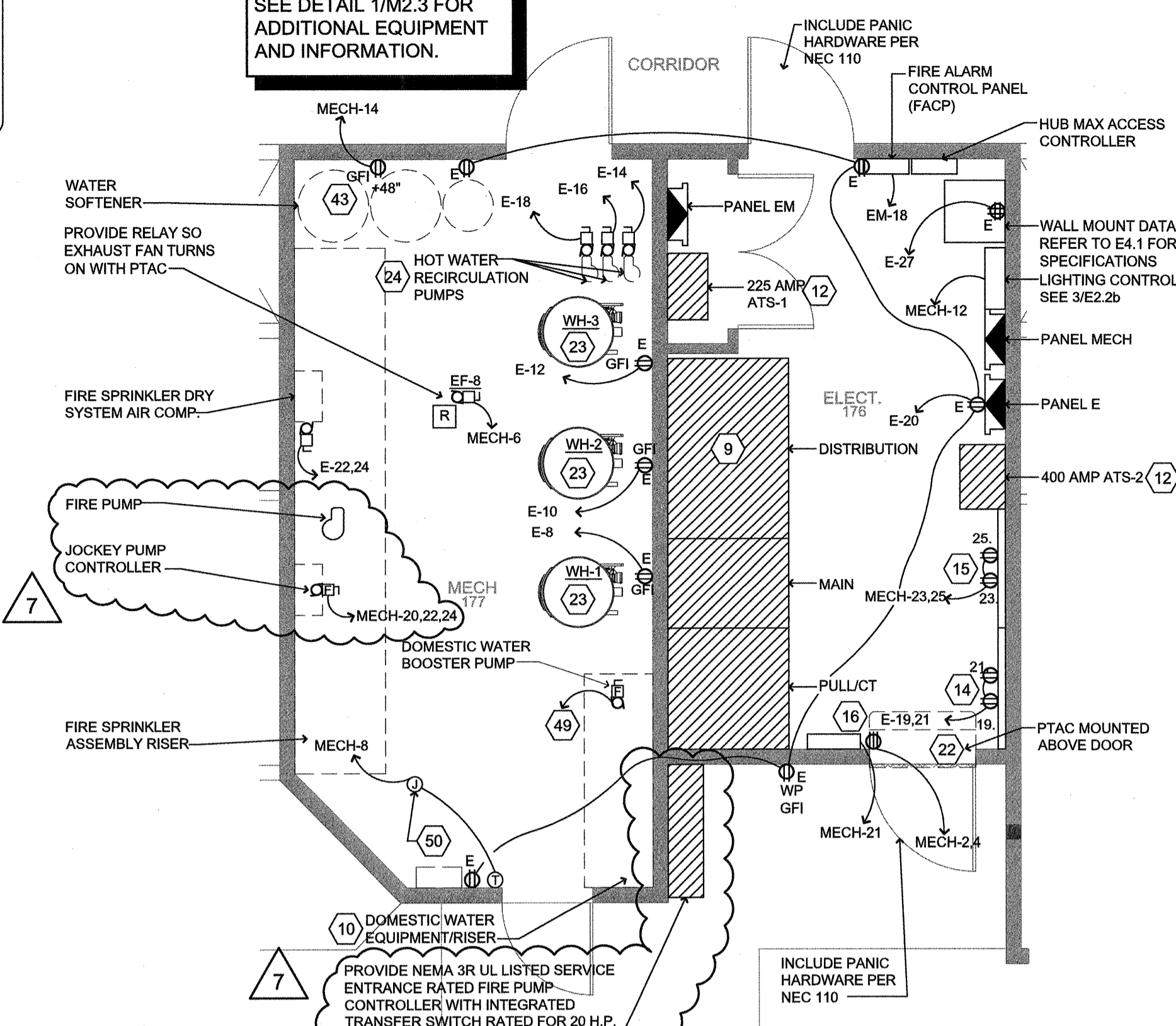


SEE DETAIL 1/M2.3 FOR ADDITIONAL EQUIPMENT AND INFORMATION.



ELECTRICAL DETAIL
(MECHANICAL/ELECTRICAL ROOM PLAN)
SCALE: 1/4" = 1'-0"

FEEDER SCHEDULE

TAG	AMPERAGE	COPPER - 75°C			ALUMINUM - 75°C		
		CONDUCTOR (A)	GROUND (B)	CONDUIT (C)	CONDUCTOR (A)	GROUND (B)	CONDUIT (C)
60	60	(4) #6	(1) #8	1"	(4) #4	(1) #8	1-1/4"
80	80	(4) #4	(1) #8	1-1/4"	(4) #2	(1) #6	1-1/4"
100	100	(4) #2	(1) #8	1-1/4"	(4) #1	(1) #6	1-1/2"
125	125	(4) #1	(1) #6	1-1/2"	(4) #20	(1) #4	2"
150	150	(4) #10	(1) #6	1-1/2"	(4) #30	(1) #4	2"
200	200	(4) #30	(1) #6	2"	(4) #250	(1) #4	2-1/2"
225	225	(4) #40	(1) #4	2-1/2"	(4) #300	(1) #2	3"
225G	225	(4) #250	(1) #4	4"	(4) #400	(1) #2	4"
250	250	(4) #250	(1) #4	2-1/2"	(4) #400	(1) #2	3"
300	300	(4) #350	(1) #4	4"	(4) #500	(1) #2	4"
350	350	(4) #500	(1) #3	4"	(4) #700	(1) #1	4"
350G	350	(4) #600	(1) #3	(2) 4"	N/A	N/A	N/A
400	400	(4) #600	(1) #3	4"	(4) #900	(1) #1	4"
1200	1200	4 SETS (4) #350	--	4 SETS 4"	4 SETS (4) #500	--	4 SETS 4"
1600	1600	5 SETS (4) #400	--	5 SETS 4"	5 SETS (4) #600	--	5 SETS 4"
2000	2000	6 SETS (4) #400	--	6 SETS 4"	6 SETS (4) #600	--	6 SETS 4"
2500	2500	8 SETS (4) #400	--	8 SETS 4"	(4) #600	--	8 SETS 4"
3000	3000	8 SETS (4) #600	--	8 SETS 4"	(4) #700	--	8 SETS 4"

(A) - BASED ON NEC TABLE 310.15(B)(16)
(B) - BASED ON NEC TABLE 250.122
(C) - BASED ON 40 PERCENT FILL

ELEVATOR ELECTRICAL SIZING

HORSEPOWER	VOLTAGE/PHASE	RATED AMPS (PER MANUFACTURER)	BREAKER SIZE (430.52)	FUSE SIZE (430.52)	ELEV	
					CU WIRE SIZE WITH FULL SIZE GROUND (430.22)	AL WIRE SIZE WITH FULL SIZE GROUND (430.22)
20	208V/3P	65	150	125	(5) #3, 2"C.	(5) #1, 2"C.
25	208V/3P	79	175	150	(5) #1, 2"C.	(5) 1/0, 2"C.
30	208V/3P	94	200	175	(5) 1/0, 2"C.	(5) 2/0, 2"C.

NOTE: PENETRATIONS OF AREA SEPARATION WALLS SHALL BE PROTECTED WITH THROUGH-PENETRATION FIRE STOPS AND MEMBRANE PENETRATION FIRE STOPS

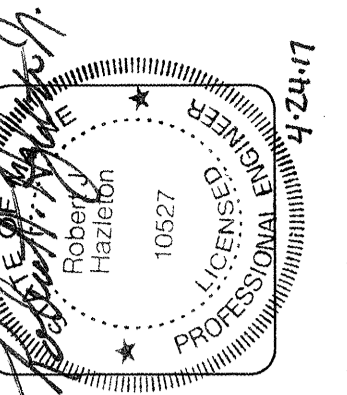
FAULT CURRENTS SHOWN ARE FOR INFORMATION AND BASED ON AN ASSUMED UTILITY TRANSFORMER KVA WITH 4% IMPEDANCE AND AT LOCATION OF TRANSFORMER SHOWN ON A1.1. RELOCATING TRANSFORMER WILL CHANGE AIC RATINGS AND ANY RELOCATION SHALL BE REVIEWED AND AUTHORIZED BY ARCHITECT AND ENGINEER OF RECORD. CALCULATED FAULT CURRENT IS LESS THAN 10K AIC WHERE IS SHOWN. OVER CURRENT DEVICES SHALL NOT BE SMALLER THAN FAULT CURRENT OF EQUIPMENT THEY ARE INSTALLED. SEE E2.1.

ONE-LINE DIAGRAM GENERAL NOTES:

- PROVIDE SIGNAGE AS REQUIRED BY N.E.C. ARTICLE 700-8 (a) & (b). SIGNAGE SHALL BE PHENOLIC TYPE WITH 3/4" BLACK LETTERS ON A YELLOW BACKGROUND.
- METALLIC AND CONDUCTIVE MATERIALS OF THE ELECTRICAL DISTRIBUTION SYSTEM SHALL BE BONDED TO EQUIPMENT GROUNDING CONDUCTOR THAT IS SIZED PER NEC AND LOCAL CODES AND ROUTED BACK TO ELECTRICAL SOURCE.
- DO NOT ROUTE SERVICE UNDER SLAB OF BUILDING OR THROUGH FOOTERS OR PIER BLOCKS. COORDINATE WITH STRUCTURAL TO AVOID CONFLICTS. SERVICE RACEWAY WILL NOT SUPPORT WEIGHT OF BUILDING.
- METALLIC RACEWAY SYSTEMS SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR. METALLIC RACEWAYS ARE NOT PERMITTED AS THE EQUIPMENT GROUNDING CONDUCTOR REGARDLESS OF LISTING OR NEC PERMISSIONS. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE BONDED TO THE METALLIC RACEWAYS.
- WIRING FROM EMERGENCY SOURCES SHALL BE KEPT ENTIRELY INDEPENDENT OF OTHER WIRING AND EQUIPMENT AND SHALL NOT ENTER THE SAME RACEWAY, CABLE, BOX OR CABINET WITH OTHER WIRING.
- OVER CURRENT DEVICE ENCLOSURES SHALL BE IDENTIFIED AND LABELED IN ACCORDANCE WITH NEC 110-22.
- OVER CURRENT DEVICES SHALL BE AIC RATED PER MANUFACTURERS LABELING OF THE ELECTRICAL EQUIPMENT.
- BOXES AND ENCLOSURE FOR EMERGENCY CIRCUITS SHALL BE PERMANENTLY MARKED AS A COMPONENT OF THE EMERGENCY SYSTEM IN ACCORDANCE WITH NEC 700-9(b).
- SERVICE AND SUBSERVICE EQUIPMENT SHALL HAVE AN AIC RATING OF 65K UNLESS OTHERWISE SHOWN.
- PROVIDE MANUAL RESET SHUNT-TRIP/SHUTDOWN DEVICES FOR ANSUL/FIRE ALARM KITCHEN POWER SHUTDOWN. SEE E.1.1P.
- EMERGENCY BREAKERS SHALL BE BY THE SAME MANUFACTURER, AND SELECTIVELY COORDINATED PER THE NEC.
- IN ADDITION TO GROUNDING SHOWN, BOND ALL CONDUCTIVE PIPING AND CONDUCTIVE SYSTEMS LIKELY TO BE ENERGIZED INCLUDING BUT NOT LIMITED TO: DOMESTIC WATER PIPING SYSTEM, FIRE SPRINKLER PIPING SYSTEM, GAS PIPING SYSTEM, AND CABLE TRAY SYSTEM.

ELECTRICAL KEY NOTES:

- CONNECT 120 VOLT SINGLE PHASE WASHING MACHINE. PROVIDE ONE CIRCUIT FOR EACH MACHINE. (MOUNT 40" A.F.F.)
- CONNECT 120 VOLT SINGLE PHASE GAS CLOTHES DRYER. PROVIDE ONE CIRCUIT FOR EACH MACHINE. RUN 3/4" EMT FROM 1ST FLOOR LAUNDRY ROOM TO ATTIC FOR FUTURE DRYER BOOSTER FAN. (MOUNT 40" A.F.F.)
- ELECTRIC RANGE. PROVIDE NEMA 14-60R 50 AMP 120/208 VOLT SINGLE PHASE RECEPTACLE AT 8" A.F.F.
- ENTRY CANOPY / EXIT LIGHTS. CONNECT TO EXTERIOR LIGHTING CONTROL. SEE DETAIL 3/E2.2b
- PROVIDE A 30-AMPERE, 120-VOLT CIRCUIT WITH A NEMA L5-20R RECEPTACLE INSTALLED AT THE STANDPIPE RISER, SUPPLIED FROM THE EMERGENCY PANEL. THE WIRING SHALL BE IN METALLIC CONDUIT WITH APPROPRIATE GALVANIZED BOXES AND WITH WEATHERPROOF GASKETED FLAP-DOOR COVER. RECEPTACLE SHALL BE MOUNTED AS HIGH AS THE STANDPIPE AND WITHIN 2". EACH OUTLET BOX MUST BE PAINTED "FIRE-ALARM RED" IN COLOR AND BE MARKED "ONLY FOR FIRE DEPARTMENT USE."
- PROVIDE 20 AMP ELEVATOR CAB LIGHT FUSED DISCONNECT IN EQUIPMENT ROOM CIRCUITED TO EMERGENCY PANEL. FUSE SIZE PER MANUFACTURER.
- TO EXTERIOR PARKING AREA, PATHWAY AND LANDSCAPE LIGHTING. CIRCUIT TO PANEL VIA EXTERIOR LIGHTING CONTROL. SEE SITE PLAN DRAWING(S) FOR LOCATIONS AND QUANTITIES.
- ELECTRICAL MAIN DISTRIBUTION PANEL. SEE ONE-LINE.
- DOMESTIC COLD WATER AND FIRE SPRINKLER SERVICE ENTRANCES FOR GROUNDING. COORDINATE WITH PLUMBING CONTRACTOR.
- EMERGENCY STANDBY ENGINE GENERATOR. SEE SPECIFICATIONS. SEE SITE (E1.0A1.1) PLAN FOR LOCATION.
- AUTOMATIC TRANSFER SWITCH (ATS) FURNISHED AS PART OF ENGINE GENERATOR PACKAGE. SEE SPECIFICATIONS AND ONE-LINE.
- PROVIDE FUSED DISCONNECT ELEVATOR MODULE WITH INTEGRAL SHUNT-TRIP FOR ELEVATOR MACHINE. COORDINATE FUSE REQUIREMENTS WITH ELEVATOR MANUFACTURER. CONNECT TO FIRE ALARM AND REMOTE SHUNT-TRIP SWITCH. COOPER BUSMAN, EATON ELEVATOR CONTROL SWITCH ES SERIES, OR APPROVED.
- TELEPHONE TERMINAL BOARD. SEE TELEPHONE SECTION OF SPECIFICATIONS. PROVIDE DOUBLE DUPLEX RECEPTACLE MOUNTED ON BACKBOARD AND TWO DEDICATED CIRCUITS AND #6 EQUIPMENT GROUND CONNECTED TO GROUND BUS AT MDP.
- TELEVISION TERMINAL BOARD. SEE TELEVISION SECTION OF SPECIFICATIONS. PROVIDE DOUBLE DUPLEX RECEPTACLE MOUNTED ON BACKBOARD AND TWO DEDICATED CIRCUITS AND #6 EQUIPMENT GROUND CONNECTED TO GROUND BUS AT MDP.
- IRRIGATION CONTROL PANEL. PROVIDE RECEPTACLE ON DEDICATED CIRCUIT. STUB OUT A 2" PVC CONDUIT TO EXTERIOR OF BUILDING. COORDINATE LOCATION AND REQUIREMENTS WITH IRRIGATION CONTRACTOR.
- POWER DOOR CONNECTED TO ATTILUM SMOKE CONTROL SYSTEM. SEE DETAIL 15/E2.2b AND SEQUENCE OF OPERATION ON E1.8P. SEE SPECIFICATION SECTION 16100 FOR ADDITIONAL WIRING REQUIREMENTS.
- INSTALL RECEPTACLE HORIZONTALLY.
- LOCATE FIXTURES IN ATTIC SPACE FOR EACH WING. MOUNT IN AREAS TO PROVIDE LIGHT FOR MAINTENANCE USE. PROVIDE PILOT LIGHT SWITCH AT EACH ACCESS INSIDE OF STAIR DOOR.
- PROVIDE WEATHERPROOF LIGHT FIXTURE AND WEATHERPROOF GFI RECEPTACLE WITHIN 10 FEET OF MECHANICAL EQUIPMENT. COORDINATE LOCATION WITH MECHANICAL.
- KITCHEN MAKE-UP AIR UNIT. ROUTE FAN POWER CONDUCTORS THROUGH SUPPLY VFD#1 LOCATED IN ENERGY MANAGEMENT SYSTEM (EMS) CONTROL PANEL LOCATED ON THE SIDE OF THE KITCHEN HOOD. PROVIDE ONE 3/4" CONDUIT FOR CONTROL WIRING FROM EMS CONTROL PANEL TO MAKE-UP AIR UNIT. PROVIDE TWO SETS OF 2-WIRE 16 AWG SHIELDED MULTI-CONDUCTOR CABLES BETWEEN MAU AND EMS PANEL. DO NOT ROUTE CONTROL CABLE ADJACENT TO HIGH POWER WIRING. COORDINATE WITH KITCHEN HOOD VENTILATION CONTROL CONSULTANT DRAWINGS H-3 AND H-4. ACTIVATION OF ANSUL SYSTEM SHALL SHUT DOWN MAU. FUSE SIZE PER MANUFACTURER.
- THRU-WALL HVAC UNIT. SEE MECHANICAL SPECIFICATION. FURNISHED BY OWNER. INSTALLED BY MECHANICAL CONTRACTOR. CONNECTED BY ELECTRICAL CONTRACTOR.
- GAS FIRED WATER HEATERS. CIRCUIT ELECTRICAL GAS WATER HEATER CONNECTIONS TO BACK-UP POWER PANEL.
- HOT WATER REGULATOR PUMPS. FRACTIONAL HORSEPOWER 120V SINGLE PHASE. CIRCUIT TO BACK-UP POWER PANEL.
- AC-1 PACKAGED ROOFTOP GAS PACK AIR CONDITIONING EQUIPMENT. SEE MECHANICAL EQUIPMENT SCHEDULE. SEE DETAIL 17/E2.2b.
- KITCHEN RANGE HOOD EXHAUST FAN. ROUTE FAN POWER CONDUCTORS THROUGH SHIELDED MULTI-CONDUCTOR CABLES BETWEEN MAU AND EMS PANEL. DO NOT ROUTE CONTROL CABLE ADJACENT TO HIGH POWER WIRING. COORDINATE WITH KITCHEN HOOD VENTILATION CONTROL CONSULTANT DRAWINGS H-2 AND H-4. FUSE SIZE PER MANUFACTURER.
- NOT USED
- EF-608a. CONNECT TO EMERGENCY PANEL. SEE DETAILS ON IM4.2. FUSE PER MANUFACTURER AND NEC. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS SPECIFIC TO THIS EQUIPMENT. SEE DETAIL 15/E2.2b.
- AC-2 PACKAGED ROOFTOP GASPACK AIR CONDITIONING EQUIPMENT. SEE MECHANICAL EQUIPMENT SCHEDULE. FUSE PER MANUFACTURER. SEE DETAIL 17/E2.2b.
- COORDINATE LIGHTING WITH EQUIPMENT. CHAIN OR SURFACE MOUNT.
- MOUNT LIGHTS, RECEPT. SWITCHES AND TIMERS ON WALL NEXT TO CATWALK.
- 8F-3 SUPPLY FAN FOR COOLING AND HEATING CORRIDORS. SEE MECHANICAL EQUIPMENT SCHEDULE FOR DESCRIPTION. SEE DETAIL 17/E2.2b.
- 1/12 HP ATTIC FAN ON ROOF. PROVIDE INDIVIDUAL DISCONNECTS. MOUNT FAN CONTROL 12" BELOW ROOF SHEATHING ON WALL NEXT TO CATWALK. SEE DETAIL 8/E2.2b
- OMARK MUH-03-81 RATED 3KW AT 208 VOLT 1 PHASE. SUSPENDED FROM CEILING. CONTROLLED BY REMOTE WALL THERMOSTAT.
- 30 AMP 2 POLE CIRCUIT FOR COMBO WASHER & DRYER UNIT.
- PROVIDE POWER FOR GAS FIRE PLACE PER MANUFACTURER REQUIREMENTS.
- LOCATION OF FUTURE DOOR (DO NOT CIRCUIT (WIRE) IN THIS LOCATION).
- NOT USED
- NOT USED
- AREA OF RESCUE ASSISTANCE ANNUNCIATOR. CORNELL 4200 SERIES. WIRE PER MANUFACTURER REQUIREMENTS. NOT LESS THAN #12 AUC. COPPER FOR POWER. PROVIDE BATTERY BACKUP BY MANUFACTURER AND LOCATED IN CLOSET IN OFFICE#151. SEE 1/E5.1. LABEL ANNUNCIATOR PER AHJ REQUIREMENTS. SYSTEM PROVIDED BY OWNER.
- AREA OF RESCUE CALL STATION. CORNELL 4200 SERIES. CONNECT TO ANNUNCIATOR PANEL IN FOYER. PER MANUFACTURER REQUIREMENTS. SYSTEM PROVIDED BY OWNER.
- EMERGENCY CALL REMOTE HEAD END. VERIFY LOCATION AND ELECTRICAL REQUIREMENTS WITH GENERAL CONTRACTOR.
- SHUTDOWN KITCHEN EQUIPMENT AND RECEPTACLE POWER UNDER HOOD UPON ACTIVATION OF ANSUL SYSTEM. SEE KITCHEN DRAWINGS.
- GFI RECEPTACLE @ 48" FOR WATER SOFTENER. CONNECT TO DEDICATED 120V CIRCUIT. OWNER SUPPLIED WATER SOFTENER. CONTRACTOR TO INSTALL.
- FRACTIONAL HP FAN MOTOR, 120V. CONNECT TO SWITCHED LEG OF LIGHTING CIRCUIT.
- PROVIDE GFI BREAKER.
- KITCHEN WALK-IN FREEZER & COOLER CONDENSING UNITS. REFER TO KITCHEN PLANS.
- FIRE/SMOKE DAMPER CONNECTION. CIRCUIT TO BACK-UP POWER PANEL. SEE DETAIL 12/E2.2b. DO NOT CONNECT MORE THAN SEVEN FSDS TO EACH CIRCUIT.
- EMERGENCY CALL SYSTEM BACK BOARD. PROVIDE RECEPTACLE ON DEDICATED CIRCUIT.
- DOMESTIC WATER BOOSTER PUMP. SEE ONE-LINE.
- BROAD MODEL 164 LOW PROFILE CEILING HEATER. 120 VOLT, 1,250 WATTS. WITH MODEL 86W LINE-VOLTAGE THERMOSTAT.
- PROVIDE UN-SWITCHED/UNCONTROLLED HOT TO EXIT SIGNS, TYPICAL.
- WIRE ATTIC LIGHTS TO EMERGENCY CIRCUIT.
- PROVIDE #6 CU GROUND WIRE FOR P.A. SYSTEM TO BUILDING GROUND IN MECHANICAL ROOM.
- ELECTRIC DRYER-VERIFY ELEC. REQUIREMENTS.
- WIRE FOR FUTURE THRU-WALL PTAC UNIT TO REPLACE BASEBOARD IN "C" UNIT BEDROOMS. SEE DETAIL "C-UNIT, TYPICAL." ON E5.X SERIES. DO NOT CIRCUIT (WIRE) IN THIS LOCATION.
- PROVIDE EMERGENCY POWER SWITCH/DIMMER BYPASS RELAY. SEE DETAIL 5/E2.2b.
- PROVIDE SEPARATE BOX FOR EMERGENCY CIRCUIT.
- CONNECT VIA LIGHTING CONTROLLER. SEE DETAIL 3/E2.2b.
- SINGLE POINT POWER CONNECTION. PROVIDE CONNECTION TO EXTERIOR CONDENSING UNIT. SEE MECHANICAL.
- PROVIDE CONDUCTORS FOR BASEBOARD CONNECTIONS. INCLUDE REMOTE THERMY HEAT AND FAN TO OPERATE WHEN EMERGENCY POWER IS IN OPERATION.
- PROVIDE DUAL CONNECTION TO UNIT. MECHANICAL UNIT MODIFICATIONS IS NOT ACCEPTABLE. SEE MECHANICAL.
- PROVIDE CF-1 CEILING FAN WITH SEPARATE SWITCH FOR FAN AND LIGHT. SEE E5 SHEETS.



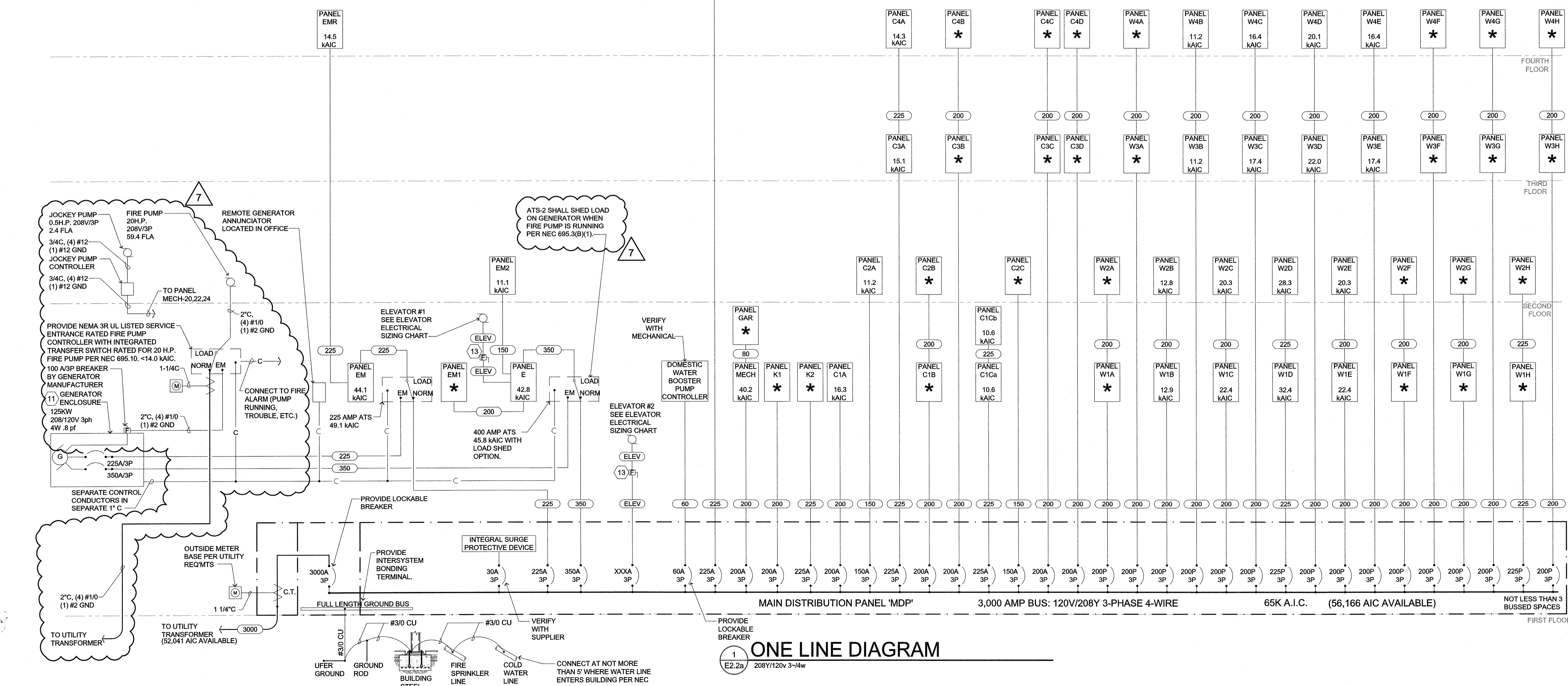
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ELECTRICAL ONE LINE AND ONE LINE DETAILS

DATE: 8/28/2015
REVISED DATE: 9/22/2015, 2/12/2016
SHEET: E2.2a



ONE LINE DIAGRAM
E2.2a 208Y/120V 3-4w