

ELECTRICAL SPECIFICATIONS		GENERAL NOTES		ELECTRICAL SYMBOLS LIST									
<p>PART 1 - GENERAL</p> <p>1.01 COORDINATION OF TRADES: SCHEDULE AND COORDINATE WORK WITH THAT OF OTHER DIVISIONS AND SECTIONS.</p> <p>1.02 GUARANTEE IN WRITING THE ELECTRICAL INSTALLATION, AND ALL WORK UNDER THIS SECTION, FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER AGAINST ALL EVIDENCE OF IMPERFECT WORKMANSHIP OR FAILURE OR MALFUNCTION OF MATERIALS.</p> <p>PART 2 - PRODUCTS</p> <p>2.01 MATERIALS AND EQUIPMENT</p> <p>A. MATERIAL FURNISHED UNDER THIS CONTRACT, UNLESS OTHERWISE NOTED, SHALL BE NEW, FREE FROM DEFECTS AND SHALL CONFORM WITH THE STANDARDS OF UL.</p> <p>B. VOLTAGE, AMPERE, AND OTHER RATINGS OF EQUIPMENT SHALL BE SUITABLE FOR USE INTENDED. DISCONNECT SWITCHES SHALL BE PROPERLY HORSEPOWER RATED AND SUITABLE FOR VOLTAGE AND AMPERE RATING OF LOAD.</p> <p>C. THE DRAWINGS GENERALLY INDICATES THE RACEWAY SIZE, THE NUMBER, SIZE, AND INSULATION TYPE OF CONDUCTORS TO BE PROVIDED AND INSTALLED. WHERE THESE ITEMS DO NOT MEET MINIMUM APPLICABLE CODES, FOR EQUIPMENT BEING SERVED, COMPLY AS REQUIRED AT NO ADDITIONAL COST.</p> <p>2.02 RACEWAYS</p> <p>A. GALVANIZED RIGID CONDUIT (GRC); INCLUDING ELBOWS AND COUPLINGS.</p> <p>B. INTERMEDIATE METAL CONDUIT (IMC); INCLUDING ELBOWS AND COUPLINGS.</p> <p>C. ELECTRIC METALLIC TUBING (EMT) WITH FITTINGS OF PRESSED STEEL OR MALLEABLE IRON, COMPRESSION TYPE (IN WET AREAS ONLY) WITH INSULATED THROATS.</p> <p>D. RIGID NON-METALLIC CONDUIT: (PVC) U.L. LABELED SCHEDULE 40 P.V.C.</p> <p>2.03 DEVICE AND JUNCTION BOXES: INCLUDE PLASTER RINGS, COVERS, AND KO SEALS AS REQUIRED.</p> <p>2.04 WIRE AND CABLE: UNLESS OTHERWISE NOTED, WIRE AND CABLE SHALL BE SOFT DRAWN, ANNEALED COPPER, WIRE SIZES NO. 8 AND LARGER AND CONDUCTORS SERVING MOTORS AND SUBJECT TO VIBRATIONS SHALL BE STRANDED CABLE. INSULATION TO BE THWN/THHN, JACKETED 90C INSULATED WIRE. PROVIDE WIRE COLOR IDENTIFICATION: NEUTRAL WIRE - WHITE, LIVE WIRE - BLACK, RED, BLUE ON 120/208 VOLT SYSTEM; NEUTRAL WIRE - GREY, LIVE WIRE - BROWN, ORANGE YELLOW ON 277/480 VOLT SYSTEM; GROUND - GREEN.</p> <p>2.05 ADDED PANELS TO BE PANELBOARDS- LOAD CENTERS ARE NOT ACCEPTABLE UNLESS SPECIFICALLY APPROVED.</p> <p>2.06 SERVICE ENTRANCE AND DISTRIBUTION GEAR BY G.E., SQUARE "D" OR CUTLER HAMMER OR SIEMENS ONLY. INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS ARE NOT ALLOWED.</p> <p>2.07 SWITCHBOARDS: COPPER BUSSING WITH FULL CAPACITY NEUTRAL.</p> <p>2.11 120/208 VOLT AND 277/480 VOLT PANELBOARDS: 3 PHASE, 4 WIRE, COPPER BUS, COMPOSED OF AN ASSEMBLY OF BOLT-IN-PLACE MOLDED CASE CIRCUIT BREAKERS WITH THERMAL AND MAGNETIC TRIP AND TRIP FREE POSITION SEPARATE FROM EITHER ON OR OFF POSITIONS.</p> <p>2.13 SAFETY SWITCHES: FUSED, HEAVY DUTY, HORSEPOWER RATED.</p> <p>2.14 STARTERS, CONTACTORS AND CONTROL DEVICES: PROVIDE AS SHOWN AND AS REQUIRED BY CODE. FURNISH COMPLETE WITH PILOT LIGHTS, AUXILIARY CONTACTS, PUSH BUTTONS, HAND-OFF-ON SWITCHES, CONTROL DEVICES, AND OVERLOAD RELAYS. THERMAL OVERLOADS TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS. AMBIENTLY COMPENSATE ALL HEATERS EXPOSED TO HIGH TEMPERATURE OR INSTALLED OUTSIDE AS NEEDED.</p> <p>2.16 NAMEPLATES: PROVIDE BLACK LAMICOID NAMEPLATES WITH 3/16" HIGH WHITE ENGRAVED LETTERS ON PANELS, SWITCHBOARDS, MAINS AND SUBMAINS, DISTRIBUTION EQUIPMENT, REMOTE SAFETY SWITCHES, CIRCUIT BREAKERS, TIME SWITCHES, CONTACTORS, AND STARTERS.</p> <p>2.17 WIRING DEVICES</p> <p>A. HUBBELL OR COMPARABLE LEVITON OR BRYANT: WHITE AND GREY IN COLOR - AS NOTED ON DRAWINGS OR PER ARCHITECT. 15 AMP DEVICES ALLOWED ONLY WHEN SPECIFICALLY DENOTED ON ELECTRICAL CONSTRUCTION DRAWINGS.</p> <p>B. TOGGLE SWITCHES: SINGLE POLE - HUBBELL 1221- 20A, 120/277V, THREE WAY - HUBBELL 1223- 20A, 120/277V, FOUR WAY - HUBBELL 1224- 20A, 120/277V.</p> <p>C. RECEPTACLES: DUPLEX GROUNDING TYPE, SPECIFICATION GRADE, 125 VOLT, 20 AMPERES, SINGLE PHASE, HUBBELL NO. 5262 OR COMPARABLE.</p> <p>D. GROUND FAULT INTERRUPTER TYPE RECEPTACLE: DUPLEX GROUNDING TYPE, SPECIFICATION GRADE, 125 VOLT, 20 AMPERES, SINGLE PHASE, 5 ma GROUND TRIP, FEED THROUGH CONSTRUCTION.</p> <p>2.18 DEVICE PLATES: LEXAN (STA-KLEEN), SMOOTH FINISH IN STAINLESS STEEL - AS NOTED ON PLANS. MULTI-GANG OUTLET PLATES SHALL BE USED FOR MULTI-GANG BOXES.</p> <p>2.19 NOT USED.</p> <p>2.20 LIGHTING FIXTURES</p> <p>A. ALL INTERIOR / BUILDING MOUNTED LIGHTING PROVIDED BY PX AND INSTALLED BY E.C.</p> <p>B. ALL EXTERIOR SITE LIGHTING IS PROVIDED AND INSTALLED BY E.C.</p> <p>PART 3 - EXECUTION</p> <p>3.01 GENERAL INSTALLATION</p> <p>A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN A NEAT, APPROVED, FINISHED, AND SAFE MANNER.</p> <p>B. INSPECT AND MAKE TIGHT ALL CONNECTIONS FOR ALL EQUIPMENT, INCLUDING FACTORY CONNECTIONS. TORQUE ALL CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS.</p> <p>C. LIGHTING FIXTURES INSTALLED AND USED FOR LIGHTING DURING CONSTRUCTION SHALL BE RELAMPED WITH NEW LAMPS JUST PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.</p> <p>D. INSTALL SEISMIC RESTRAINT DEVICES FOR ALL CEILING MOUNTED EQUIPMENT, I.E. LAY-IN FIXTURES. PROVIDE GRID CLIPS AND #12 SLACK WIRES FROM FIXTURE CORNERS TO STRUCTURE.</p> <p>3.02 RACEWAYS</p> <p>A. INSTALL COMPLETE RACEWAY SYSTEMS FOR ALL ELECTRICAL CONDUCTORS INCLUDING TELEPHONE, SIGNAL, CONTROL, AND OTHER SYSTEMS.</p> <p>B. UNLESS OTHERWISE NOTED, INSTALL ALL RACEWAYS CONCEALED. WHERE IT IS NOT FEASIBLE TO CONCEAL RACEWAYS, INSTALL AS DIRECTED BY ARCHITECT.</p> <p>C. INSTALL EXPOSED RACEWAYS TO RUN PARALLEL OR AT RIGHT ANGLES TO STRUCTURAL BUILDING LINES WITH NEAT BENDS AND NEATLY OFFSET INTO TERMINATIONS.</p> <p>D. IN EMPTY RACEWAY PROVIDE AND INSTALL A NO. 14 NYLON DRAG LINE.</p> <p>E. INSTALL RACEWAYS WITH APPROVED HEAVY DUTY SUPPORTS, STRAPS, HANGERS, CONNECTORS, AND COUPLINGS AS REQUIRED TO MAINTAIN AN APPROVED INSTALLATION.</p> <p>F. NOT USED.</p> <p>H. MINIMUM CONDUIT SIZE TO BE 3/4" U.N.O.</p> <p>3.03 GALVANIZED RIGID CONDUIT (GRC): ALL RACEWAYS SHALL BE GRC EXCEPT AS NOTED. CONDUIT, ELBOWS, AND STANDARD COUPLINGS SHALL BE HOT DIPPED GALVANIZED RIGID STEEL. IF PARTITIONS OR WALLS ARE SOLID CONCRETE OR ARE GROUTED SOLID WITH CONCRETE OR MORTAR, RIGID STEEL CONDUIT SHALL BE USED.</p> <p>3.04 INTERMEDIATE METAL CONDUIT (IMC): IMC RACEWAY AND APPROVED FITTINGS WHERE PERMITTED BY APPLICABLE CODES AND REGULATIONS MAY BE USED IN RACEWAYS. IMC CONDUIT SHALL BE INSTALLED ABOVE FINISH GRADE AND ABOVE CONCRETE SLABS ON GRADE.</p> <p>3.05 ELECTRIC METALLIC TUBING (EMT): EMT MAY BE USED WHERE CONCEALED IN AREAS ABOVE CEILINGS, FURRED SPACES, PARTITIONS OR WALLS. ALSO MAY BE EXPOSED, WHEN NOT IN HAZARDOUS AREAS, AREAS SUBJECT TO PHYSICAL DAMAGE, OR WHEN DIRECTLY EXPOSED TO RAIN OR WASH-DOWN.</p> <p>3.06 FLEXIBLE METAL CONDUIT (FLEX): USE FLEXIBLE CONDUITS FOR CONNECTIONS TO MOTORS, WHERE SUBJECT TO MOVEMENT OR VIBRATION, AND LIQUID TIGHT WHERE EXPOSED TO MOISTURE OR OIL.</p> <p>3.07 RIGID NONMETALLIC CONDUIT (PVC) SCHEDULE 40 MAY BE INSTALLED FOR DIRECT BURIAL RACEWAYS WHERE INSTALLED WITH MINIMUM COVERAGE PER NEC TABLE 300.5. ALL UNDERGROUND BENDS SHALL BE GRC.</p> <p>3.08 OUTLET, PULL AND JUNCTION BOXES</p> <p>A. UNLESS OTHERWISE SHOWN OR AS DIRECTED PRIOR TO INSTALLATION, OUTLET BOXES SHALL GENERALLY BE PLACED AT THE FOLLOWING HEIGHTS, CENTER OF BOX TO FINISHED FLOOR LEVEL.</p> <p>B. WALL SWITCHES: 44".</p> <p>C. CONVENIENCE RECEPTACLES: 18" (OR 4" ABOVE COUNTERS) AND/OR AS NOTED. (SIMILAR TYPE OUTLETS SHALL BE MOUNTED AT SAME HEIGHT IN EACH AREA); GROUNDING PIN AT BOTTOM.</p> <p>D. OTHER OUTLET TYPES: REFER TO ELECTRICAL SYMBOL LIST ON THIS SHEET.</p> <p>3.09 CONDUCTORS (COPPER ONLY)</p> <p>A. USE SPECIFIED COLOR SCHEDULE FOR ALL WIRING. WHERE LARGE CONDUCTORS ARE NOT AVAILABLE IN COLORS, IDENTIFY WITH PERMANENT COLORED TAPE AT ALL TERMINATIONS, JUNCTION BOXES, ETC. COLOR CODING PER NEC.</p> <p>B. MAKE TAPS, JOINTS, SPLICES, AND OTHER CONNECTIONS WITH FIXTURE CONNECTORS.</p> <p>C. DO NOT INSTALL WIRING OR PULL WIRES, IN RACEWAYS UNTIL RACEWAY SYSTEM IS COMPLETE, CLEAN, DRY, AND FREE OF ALL FOREIGN MATERIALS. LUBRICATE AS REQUIRED.</p> <p>D. MINIMUM CONDUCTOR SIZE TO BE #12 CU. THWN.</p> <p>3.10 LIGHTING FIXTURES</p> <p>A. LEAVE FIXTURES AND LAMPS CLEAN OF ALL DIRT, DUST, GREASE SPOTS AND DEBRIS. ALL GLASS, PLASTIC AND OTHER COMPONENTS SHALL BE UNSCRATCHED AND UNBROKEN.</p> <p>B. FIT AND ADJUST ALL FIXTURES WHERE STRUCTURAL CONDITIONS, PARTITIONS, FURNITURE, SHELVING, AND AIR CONDITIONING DIFFUSERS INTERFERE WITH THE LIGHTING FIXTURES AT LOCATIONS SHOWN, NOTIFY ARCHITECT IN WRITING AND RELOCATE AT NO ADDITIONAL COST AS DIRECTED.</p> <p>C. FIXTURES WITH FINISH TRIM OR LENS FRAMES SHALL BE GASKETED AND BAFFLED TO PREVENT LIGHT LEAKS. INSTALL SO THAT NO LIGHT LEAKS EXIST.</p> <p>D. FIXTURES MOUNTED DIRECTLY ON COMBUSTIBLE LOW-DENSITY CEILINGS SHALL MEET UL APPROVAL FOR THIS CONDITION AND BE PLAINLY MARKED AS SUCH.</p> <p>3.11 GROUNDING</p> <p>A. GROUNDING FOR DISTRIBUTION EQUIPMENT, EQUIPMENT AND MATERIALS WITH ELECTRICAL CONNECTIONS, ELECTRIC MOTOR FRAMES, ELECTRIC RACEWAY AND RELATED EQUIPMENT, SHALL BE EFFECTIVELY AND PERMANENTLY GROUND IN ACCORDANCE WITH PERTINENT SECTIONS OF ARTICLE 250 OF NEC. RESISTANCE TO GROUND SHALL NOT EXCEED 10 OHMS.</p> <p>B. ALL RACEWAYS SHALL HAVE AN APPROVED SIZED, INSULATED, STRANDED COPPER GROUNDING CONDUCTOR.</p> <p>C. WHERE RACEWAYS CONNECT TO A CONCENTRIC K.O. PROVIDE GROUNDING LOCKNUT OR BUSHING AND BOND WIRE EXTENDED AND BONDED TO ENCLOSURE. SIZE AS PER NEC.</p> <p>3.12 DITCHING, EXCAVATION AND BACKFILLING: PERFORM ALL DITCHING, EXCAVATION AND BACKFILLING REQUIRED FOR THE ELECTRICAL WORK. PROVIDE AND MAINTAIN ALL SHEATHING, BRACING AND PROPER GUARDS FOR PREVENTION OF ACCIDENTS.</p> <p>3.13 UTILITY COMPANY SERVICE CONTRACTOR TO BE RESPONSIBLE FOR COORDINATING AND PROVIDING REQUIRED WORK FOR SUPPLYING ELECTRICAL POWER AND COMMUNICATIONS UTILITIES TO THE PROJECT.</p> <p>3.14 FINAL INSPECTION: TEST SYSTEM FOR SHORTS AND OPENS. FAULTY WIRING SHALL BE REMOVED AND REPLACED. AFTER SYSTEM IS CONNECTED COMPLETELY, TEST FOR INSULATION RESISTANCE. RESISTANCE LOWER THAN OUTLINED IN THE NEC, MANUFACTURER'S DATA, ETC., SHALL BE REMOVED AND REPLACED. ANY DEVICE, APPARATUS OR FIXTURE UNDER THIS CONTRACT SHOWING SUBSTANDARD READINGS SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ARCHITECT.</p> <p>3.15 LABEL ALL RECEPTACLES WITH 3/16" HIGH BLACK LETTERING ON CLEAR TAPE. IF THE RECEPTACLE IS BLACK OR BROWN, PROVIDE WHITE LETTERING ON CLEAR TAPE. LABEL TO BE NEATLY CENTERED IN THE TOP SPACE OF THE COVERPLATE, AND SHALL INDICATE THE SERVING PANEL AND CIRCUIT ORIGIN.</p>		<p>1. THE ELECTRICAL DRAWINGS, SPECIFICATIONS AND GENERAL NOTES DESCRIBE THE SCOPE OF WORK AND THE DOCUMENTS SHALL BE USED FOR THE PURPOSE OF BIDDING, BUILDING DEPARTMENT REVIEW, AND TO SECURE THE NECESSARY CONSTRUCTION PERMIT ONLY.</p> <p>2. BRANCH CIRCUITING AND WIRE COUNT MAY NOT BE INDICATED ON THESE PLANS. CONTRACTOR IS RESPONSIBLE TO COMPLETE THE BRANCH CIRCUIT WIRING IN ACCORDANCE WITH PLAN NOTES AND AS PERMITTED BY AUTHORITY. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS AS A PART OF RECORD DRAWING SUBMITTAL TO ARCHITECT AND AUTHORITY HAVING JURISDICTION (AHJ).</p> <p>3. ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH BOTH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL ORDINANCES / AMENDMENTS. WHERE CONFLICTS ARISE, THE MOST STRINGENT REQUIREMENT SHALL TAKE PRECEDENCE.</p> <p>4. ALL ELECTRICAL EQUIPMENT SHOWN IS NEW, CONTRACTOR FURNISHED AND INSTALLED, UNLESS OTHERWISE NOTED. IF CONTRACTOR PROPOSES TO SUBSTITUTE SPECIFIC EQUIPMENT SPECIFIED, A REQUEST FOR CONSIDERATION SHALL BE SUBMITTED TO THE OWNER AND ENGINEER PRIOR TO THE BID IN WRITING. ALL SUBSTITUTIONS MUST BE REVIEWED BY THE ENGINEER. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTIONS SHALL BE IMPLEMENTED WITHOUT THE APPROVAL OF THE ENGINEER OR RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE, AT HIS OWN EXPENSE, FOR ANY CHANGE RESULTING FROM HIS PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS OWN WORK, OR SUBSTITUTIONS WHICH AFFECT THE WORK OF OTHER CONTRACTORS.</p> <p>5. THE ELECTRICAL DRAWINGS, CONDUIT RUNS, WIRING AND ELECTRICAL INFORMATION ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE EXACT LOCATION OF EQUIPMENT OR OUTLETS. COORDINATE WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.</p> <p>6. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES, CEILING MOUNTED OUTLETS AND EQUIPMENT.</p> <p>7. ALL DEVICE MOUNTING HEIGHTS AND EXACT LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND ELEVATIONS PRIOR TO ROUGH-IN.</p> <p>8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY TYPES OF CEILING SYSTEMS LOCATED IN DAMP OR WET LOCATIONS SHALL BE LISTED AND LABELED FOR USE IN SUCH LOCATIONS. CONTRACTOR SHALL PROVIDE ALL REQUIRED TRIMS AND HARDWARE TO ACCOMMODATE CEILING TYPE.</p> <p>9. ALL RECESSED LIGHTING FIXTURES, PANELBOARDS, SWITCHES, ETC., MOUNTED IN FIRE RATED STRUCTURES SHALL BE ENCLOSED WITH AN APPROVED ENCLOSURE CARRYING THE SAME FIRE RATING AS THE STRUCTURE. SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC., TO MAINTAIN THE FIRE RATING. FURNISH AND INSTALL FIRE RATED ENCLOSURE FOR ALL EQUIPMENT PENETRATING INTO FIRE RATED ENVELOPS, SPACES ETC.</p> <p>10. PORTIONS OF THE CEILING SYSTEMS MAY BE INACCESSIBLE, THEREFORE, THE CONTRACTOR SHALL STRATEGICALLY LOCATE ACCESS BOXES, ETC., WHICH SHALL BE READILY ACCESSIBLE. ALL LIGHTING FIXTURE WIRING, BALLASTS, J-BOXES, ETC. SHALL BE ACCESSIBLE FROM FIXTURE OPENING.</p> <p>11. ALL WIRING AND ELECTRICAL EQUIPMENT SERVING MECHANICAL AND PLUMBING EQUIPMENT SHALL BE IN ACCORDANCE WITH MECHANICAL AND PLUMBING SPECIFICATIONS AND ASSOCIATED DRAWINGS. CONTRACTOR SHALL OBTAIN THE REQUIRED MECHANICAL AND PLUMBING DRAWINGS AND PROVIDE ALL EQUIPMENT, RACEWAYS, WIRING, FITTINGS, ETC., AS INDICATED ON CONSTRUCTION DOCUMENTS.</p> <p>12. ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED. VERIFY ELECTRICAL CHARACTERISTICS AND U.L. LISTING PRIOR TO CONNECTION.</p> <p>13. THE CONTRACTOR SHALL VERIFY THE LOAD AND INPUT VOLTAGE OF ALL PROVIDED EQUIPMENT TO MATCH LOAD INPUT OF ALL EQUIPMENT BEING SUBSTITUTED.</p> <p>14. ELECTRICAL OUTLETS ON OPPOSITE SIDES OF FIRE RATED WALLS AND PARTITIONS MUST BE SEPARATED BY DISTANCE OF 24 IN. HORIZONTALLY, IN ACCORDANCE WITH I.B.C. SEC. 711.3.2. OPENINGS IN FIRE RATED WALLS MUST BE FIRE STOPPED.</p> <p>15. PROVIDE AN ADDITIONAL JUNCTION BOX EXTENSION RING (SIZE AS REQUIRED) WHERE THE NUMBER OF CONDUCTORS EXCEEDS THE MAXIMUM ALLOWED FOR A GIVEN JUNCTION POINT OR OUTLET.</p> <p>16. CONDUCTORS SHALL BE COPPER THHN/THWN 600 VOLT INSULATION UNLESS OTHERWISE NOTED. USE PROPER TEMPERATURE RATING OF CONDUCTORS BASED ON THE AMBIENT AIR TEMPERATURE WHERE CONDUCTORS ARE BEING USED. HIGHER AMPACITY CONDUCTOR AND LARGER RACEWAY SHALL BE PROVIDED TO OFFSET THE AMPACITY CORRECTION FACTORS AS INDICATED IN NEC ARTICLE 310 AND ELSEWHERE IN CODE.</p> <p>17. ALL LIGHTING FIXTURES PROVIDED BY PANDA EXPRESS INSTALLED BY GC UNLESS NOTED OTHERWISE.</p> <p>18. DO ALL DRILLING, CUTTING, AND/OR CHANNELING AS REQUIRED FOR ELECTRICAL WORK INDICATED OR HEREIN SPECIFIED. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT ALL EXPOSED ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES AND FITTING TO MATCH IN COLOR TO ADJACENT SURFACES IN FINISHED AREAS. (PROTECT UL LISTINGS LABELS FROM PAINT).</p> <p>19. EMERGENCY LIGHTING SHALL BE PROVIDED PER U.B.C. PROVIDE ADDITIONAL EMERGENCY ILLUMINATION AS REQUIRED BY AUTHORITIES HAVING JURISDICTIONS.</p> <p>20. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA.</p> <table><tr><td>FIXED EQUIPMENT ON GRADE:</td><td>33% OF OPERATING WEIGHT</td></tr><tr><td>FIXED EQUIPMENT ON STRUCTURE:</td><td>50% OF OPERATING WEIGHT</td></tr><tr><td>EMERGENCY POWER AND COMMUNICATION & EQUIPMENT ON GRADE:</td><td>50% OF OPERATING WEIGHT</td></tr><tr><td>EMERGENCY POWER AND COMMUNICATION ON STRUCTURE:</td><td>75% OF OPERATING WEIGHT</td></tr></table> <p>FOR FLEXIBLE MOUNTED EQUIPMENT DOUBLE THE ABOVE VALUES. SIMULTANEOUS VERTICAL FORCE - USE 1/3 HORIZONTAL FORCE. CONDUIT, BUSDUCT, CABLE TRAY, WIREWAYS, ETC., SHALL BE BRACED IN ACCORDANCE WITH "GUIDELINES", PUBLISHED BY SMACNA AND PPIC.</p>		FIXED EQUIPMENT ON GRADE:	33% OF OPERATING WEIGHT	FIXED EQUIPMENT ON STRUCTURE:	50% OF OPERATING WEIGHT	EMERGENCY POWER AND COMMUNICATION & EQUIPMENT ON GRADE:	50% OF OPERATING WEIGHT	EMERGENCY POWER AND COMMUNICATION ON STRUCTURE:	75% OF OPERATING WEIGHT	<p>MC CABLE SHALL NOT BE USED. PREWIRED MC CABLE WHIPS FROM LIGHTING FIXTURES ARE ACCEPTABLE WHEN SUPPLIED WITH THE FIXTURE AND NO LONGER THAN 72".</p> <p>ELECTRICIAN TO PROVIDE STAINLESS STEEL COVER PLATES FOR ALL LOW VOLTAGE OUTLETS.</p> <p>IF PROVIDED UNDER SLAB ALL UNDERGROUND CONDUIT SHALL BE 12" BELOW FINISHED GRADE.</p>	
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NOT TO SCALE		NOT TO SCALE		NOT TO SCALE									
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NOTICE
THESE DRAWINGS ARE SUBJECT TO APPROVAL BY THE BUILDING DEPARTMENT, FIRE MARSHAL, UTILITY COMPANY AND OTHER AUTHORITIES HAVING JURISDICTION (AHJ). BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK, THE CONTRACTOR INDICATES THAT HE OR SHE HAS REVIEWED THE PLANS THOROUGHLY AND ACCEPTED FULL RESPONSIBILITY OF PLAN CORRECTIONS AND ASSOCIATED CONSTRUCTION COSTS REQUIRED BY AHJ.



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REVISIONS:	

ISSUE DATE:	
1	08.01.2023 ISSUE FOR PERMIT
2	08.01.2023 ISSUE FOR BID

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E-000
ELECTRICAL SYMBOLS
SPECIFICATIONS, NOTES

PANDA HOME 2600 R4

SEE SHEET A-103 FOR PAINT SCHEDULE

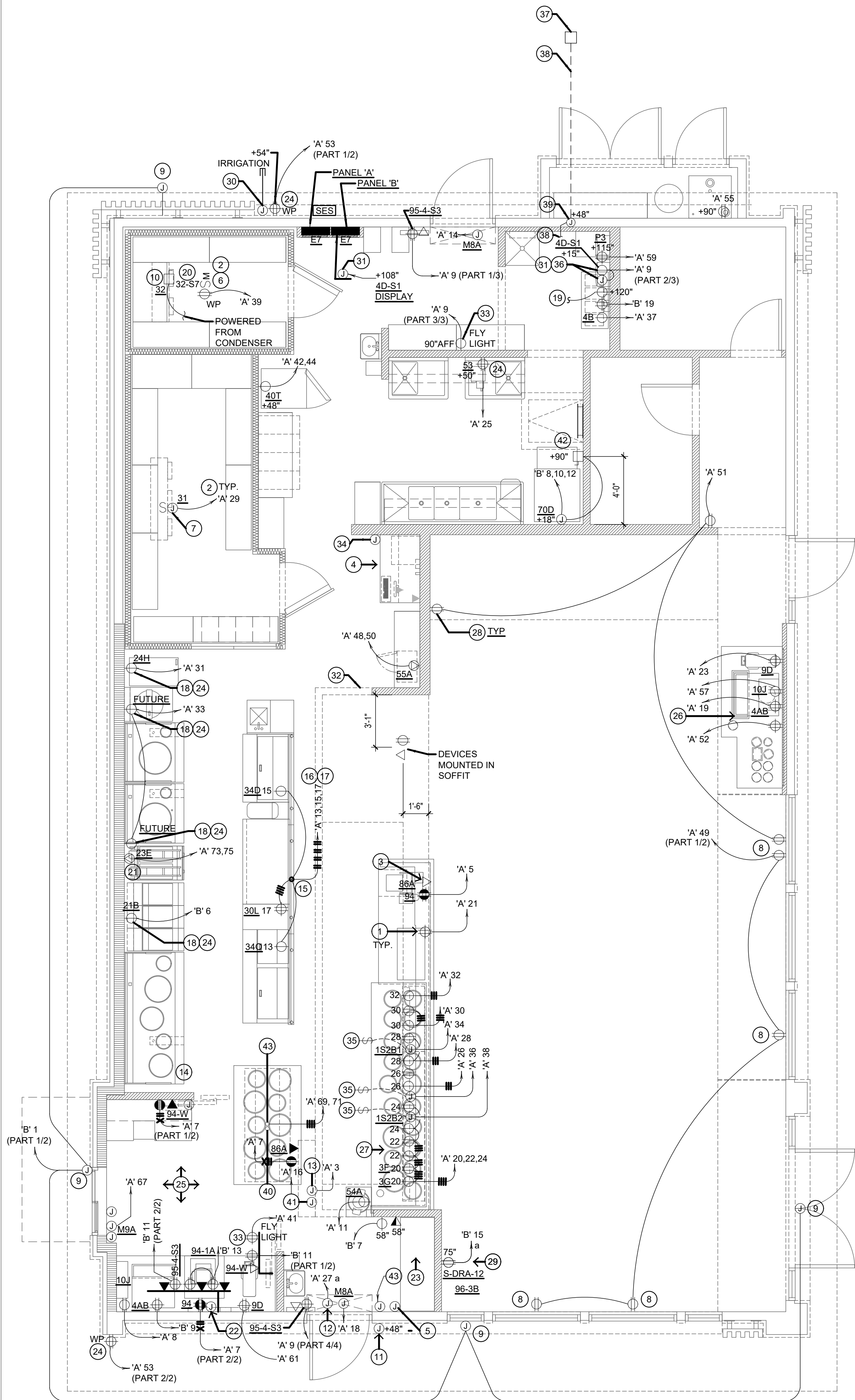
EQUIPMENT SCHEDULE

NOT TO SCALE

PANDA HOME 2600 R4

- ALL CIRCUITRY/CONDUIT FOR FRONT LINE EQUIPMENT TO BE ROUTED IN CASEWORK TO J-BOX IN WALL AND CONCEALED IN WALL.
2. PROVIDE SEALS AND EXPANSION COUPLINGS ON ALL CONDUITS ENTERING OR LEAVING AREA OF TEMPERATURE DIFFERENCE. REFER TO WIRING NOTES 6/E-400 FOR ADDITIONAL INFORMATION.
3. PROVIDE (2) 1-1/2" CONDUITS WITH PULL STRINGS FROM CASH REGISTER TO MANAGER STATION. SEE P.O.S. AND SERVICE LINE ELEVATIONS, 6/E-200.
4. SEE 'MANAGER STATION ELEVATION' 1/E-200 FOR ADDITIONAL OUTLETS AND J-BOXES.
5. ANSUL PULL STATION. REFER TO DETAIL, 2/E-400.
6. REFER TO 'LTG AND DOOR HEATER' WIRING DIAGRAM, 10/E-400.
7. REFER TO 'COOLER EVAPORATOR COIL' WIRING DIAGRAM, 8/E-400.
8. SHOW WINDOW RECEPTACLE SHALL BE CONTROLLED VIA SWITCH "b". REFER TO LIGHTING SWITCHBANK SCHEDULE, SHEET 4/E101. RECEPTACLE SHALL BE MOUNTED IN WALL AS CLOSE TO TOP OF STRUCTURAL HEADER AS POSSIBLE.
9. BUILDING SIGNAGE/LOGO DEDICATED/PROPOSED W.P. J-BOX FOR SIGNAGE. COORDINATE LOCATION WITH ARCHITECT / OWNER / SIGN PACKAGE PRIOR TO ROUGH-IN. SIGN DISCONNECT PROVIDED BY SIGN CONTRACTOR.
10. REFER TO 'FREEZER EVAPORATOR COIL' WIRING DIAGRAM, 9/E-400. THE FAN COIL UNIT IS POWERED FROM THE CONDENSER UNIT VIA DISCONNECT CONNECTION. HEAT TAPE PROVIDED AND INSTALLED BY ELECTRICIAN.
11. PROVIDE J-BOX/PULL STRING TO ABOVE CEILING FOR DOOR KEYPAD CONTROL WIRING.
12. J-BOX CIRCUIT ABOVE CEILING TO POWER ELEC. DOOR HARDWARE SYSTEM SHALL BE CONNECTED TO SWITCH 'A'. REFER 4/E-101 FOR SWITCHBANK DETAIL.
13. HOOD CONTROL PANEL/ANSUL SYSTEM CABINET. MOUNT CABINET DIRECTLY BELOW T-BAR CEILING.
14. PROVIDE 2-GANG J-BOX @ 48" AFF FOR HOOD CONTROL SWITCHES. REFER TO M-400 AND M-401.
15. 1" CONDUIT STUB UP LOCATION IN STAINLESS STEEL POWER PANEL FOR ISLAND KITCHEN EQUIPMENT CONNECTION. REFER TO DETAIL 2/A-109. COORDINATE LOCATION WITH ARCHITECT / OWNER.
16. ROUTE CABLEING / CIRCUITRY THROUGH 1" CONDUIT IN SLAB.
17. UTILIZE SEAL TIGHT CONDUIT FOR ALL WIRING INCLUDED ALONG LOW WALL PANEL.
18. ALL DEVICES UNDER HOOD TO BE PROVIDED AND INSTALLED WITH GROUND FAULT CIRCUIT BREAKER AND WATERPROOFING BOX (RED DOT #CKSUJ). REFER TO COOKLINE ELECTRICAL ELEVATIONS, 3/E-200. ROUTE HOMERUN THROUGH CONTRACTOR INTERFACED WITH THE HOOD FIRE SUPPRESSION SYSTEM. REFERENCE 13/E-400 FOR ADDITIONAL INFORMATION.
19. SIMPLEX RECEPTACLE TO BE CONNECTED TO BACK-OF-HOUSE LIGHTING CIRCUITRY/CONTROL. CONTRACTOR TO PROVIDE PITGAIL FROM CIRCULATION PUMP.
20. PROVIDE WEATHERPROOF RECEPTACLE FOR HEAT TAPE. COORDINATE FINAL LOCATION WITH REFRIGERATION INSTALLER.
21. ELECTRIC GRIDDLE "23E": FEED WITH (2) #6, (1) #10 GROUND, 3/4" CONDUIT. REFER TO 3/E-200.
22. SEE DRIVE THRU ELEVATION 2/E-200 FOR CONDUIT SIZES AND CONFIGURATIONS.
23. SEE TICKET PRINTER ELEVATIONS, 4/E-200.
24. PROVIDE WATERPROOFING, COVER, IN-USE RED DOT (#CKSUJ).
25. SEE FOR DRIVE-THRU ELEVATIONS, 2/E-200.
26. SEE BEVERAGE STATION ELEVATIONS, 5/E-200.
27. SEE 6/E-200 FOR SERVICE COUNTER ELEVATIONS.
28. SEE DEVICE / RECEPTACLE SCHEDULE 3/E400.
29. SEE DRAGON SIGN ELEVATION, DETAIL 7/E-200.
30. PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRING FROM CLOSEST LANDSCAPE AREA, THROUGH WALL UP TO EMPTY FLUSH MOUNTED JUNCTION BOX @ 54" A.F.F. (FOR IRRIGATION CONTROLS). CLOSE OFF CONDUIT IN LANDSCAPE AREA WITH REMOVABLE CAP. UTILIZE WP CIRCUIT A-53 NEAR ENTRY POINT.
31. REFER TO 3/E-200 FOR LOCATION/INSTALLATION OF CO2 DEVICE.
32. SEE SWITCH BANK ELEVATION , DETAIL 1/E-200.
33. FLY LIGHT RECEPTACLE SHALL BE INSTALLED WITH A RECESSED CLOCK SIMPLEX OUTLET. TYP OF ALL LOCATIONS.
34. SEE SECURITY KEY PAD ELEVATION 1/E200.
35. CONNECT HEAT LAMPS TO COUNTER-MOUNTED SWITCH PROVIDED AND INSTALLED BY CONTRACTOR. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT PROVIDER.
36. PANDA EXPRESS TO PROVIDE CO2 MONITOR. E.C. TO MOUNT OVER J-BOX WITH WIRING THROUGH WALL CONDUIT FOR CLEAN INSTALLATION. PROVIDE ALL OTHER REQUIRED CONNECTIONS AND COMPONENTS FOR FULLY WORKING SYSTEM.
37. PROVIDE IN-GRADE QUIAZITE 8"x8" PC STYLE POLYMER CONCRETE BOX OR EQUAL FOR UNDERGROUND CABLE REQUIRED FOR THE STORE. PART NO. PC081XXXXX OR SIMILAR. REFER TO ELECTRICAL SITE PLAN 1/E105.
38. PROVIDE 1" CONDUIT FOR CABLE DEDICATED FOR ENTIRE STORE FROM IN-GRADE 8X8 QUIAZITE BOX TO EXTERIOR CLOSET 6X6 FLUSH MOUNTED JUNCTION BOX. TERMINATE INTERIOR ABOVE CEILING.
39. PROVIDE FLUSH MOUNTED NEMA 1 6X6 JUNCTION/PULL BOX AT +48" - HUBBELL OR EQUAL. ROUTE CABLE FROM EXTERIOR 6X6 IN 1" CONDUIT THROUGH BUILDING. TERMINATE INTERIOR ABOVE CEILING.
40. PROVIDE A (1) 3/4" UNDERGROUND CONDUIT AND PULLSTRING FOR LOW VOLTAGE WIRING. CONDUIT AND PULLSTRING TO RUN UNDERGROUND FROM HOTWELL CABINET AND STUB-UP THROUGH WALL AND ABOVE CEILING ADJACENT TO MANAGER STATION.
41. FIRE SUPPRESSION SHUTDOWN CONTACTOR LOCATED ABOVE CEILING . REFER TO 13/E-400.
42. ELECTRICIAN TO WALL MOUNT A NEMA ELECTRICAL DISCONNECT BOX AT +88". ELECTRICIAN TO SUPPLY A WIRE WHIP FROM BOX TO MACHINE, FINAL CONNECTIONS BY HOBART SERVICE.
43. PROVIDE (1) 1" UNDERGROUND CONDUIT AND PULLSTRING FOR HOTWELL CABINET. CONDUIT AND PULLSTRING TO RUN UNDERGROUND FROM HOTWELL CABINET AND STUB-UP BENEATH ELECTRICAL PANEL. REFER TO PANEL SCHEDULE.

- VERIFY QUANTITIES AND REQUIREMENTS OF ALL HVAC & KITCHEN EQUIPMENT PRIOR TO ROUGH IN.
- ALL TELEPHONE/DATA/TV CABLES AND WIRES, AND TERMINATIONS OF ALL REQUIRED CABLE AND JACKS WILL BE INSTALLED BY THIRD PARTY.
- POWER SUPPLY FOR COMPUTER AND CASH REGISTER (86A & 94) SHALL BE ON THE SAME CIRCUIT BREAKER, W/ISOLATED GROUND & ORANGE RECEPTACLE.
- ALL CIRCUITRY SHOWN WITHOUT TICKS SHALL HAVE (2) WIRES PLUS EQUIPMENT GROUNDING CONDUCTOR.
- WHEN WORKING IN JURISDICTIONS WHICH HAVE ADOPTED THE 2017 NEC OR LATER, ALL MULTI-WIRE BRANCH CIRCUITS SHALL HAVE SEPARATE NEUTRALS TO MEET THE REQUIREMENTS OF 2017 NEC 210.4(B).
- TRANSFORMERS SHALL BE MOUNTED ABOVE CEILING BELOW TRUSSES WITH LOW VOLTAGE WIRING FEEDING TO ALL EXTERIOR LIGHTS.
- ALL UNDERGROUND CONDUIT SHALL BE 12" BELOW F.F.



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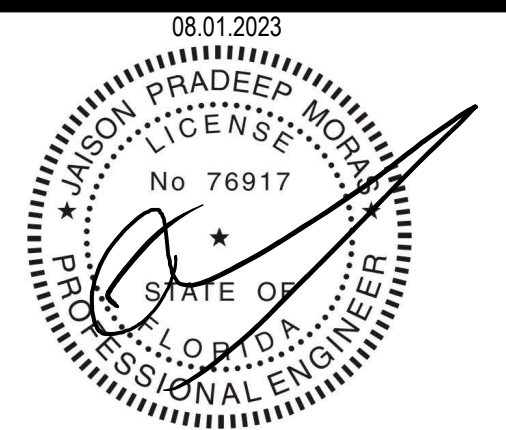
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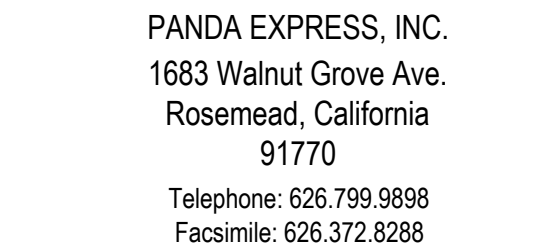


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POWER FLOOR PLAN

PANDA HOME 2600 R4



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PANDA HOME 2600 R4




- CONTRACTOR SHALL PROVIDE ALL REQUIRED HARDWARES, BRACKETS, ETC. FOR A COMPLETE LIGHTING FIXTURE INSTALLATION.
- FIXTURES THAT ARE TO BE ROUTED VIA TIMECLOCKS ARE SHOWN ON DETAIL 11/E400. SEQUENCE OF OPERATION: TIMECLOCKS WERE FIRST FOR DESIGNATED CONTROL. SWITCHES ARE SERIES WIRED WITH THE CONTACTORS. UTILIZE DIGITAL OVERRIDE TIMER SWITCH (DOTS) TO OVER-RIDE THE TIMECLOCKS FOR CLEANING AND AFTER HOURS AS NEEDED. SEE DETAIL 11/E400
- ALL LIGHTING FIXTURES SHALL BE SUPPORTED PER N.E.C. 410-16(C). SEE DETAIL 4/E400.
- CONTRACTOR SHALL INSTALL ALL LIGHTING FIXTURES INCLUDING OWNER-FURNISHED FIXTURES.
- ALL FIXTURE BALLASTS SHALL BE U.L. LISTED.
- E.C. SHALL INSTALL OWNER SUPPLIED LED STRIP LIGHTING & CUT TO PROPER LENGTH. COORDINATE WITH OWNER FOR EXACT LENGTHS AND FINAL LOCATIONS.
- WHEN WORKING IN JURISDICTIONS WHICH HAVE ADOPTED THE 2008 NEC OR LATER, ALL MULTI-WIRE BRANCH CIRCUITS TO HAVE SEPARATE NEUTRALS TO MEET THE REQUIREMENTS OF 2008 NEC 210.4(B).
- ALL CIRCUITRY SHOWN WITHOUT TICKS SHALL HAVE (2) WIRES PLUS EQUIPMENT GROUNDING CONDUCTOR.
- 'N.L.' DESIGNATION INDICATES NIGHT LIGHT ON UNSWITCHED CIRCUIT.

NOTE:
ALL SWITCHES/DEVICES TO BE STANDARD SINGLE POLE.
DO NOT USE "DECORA" TYPE SWITCH/DEVICE

NOTE:
FIXTURES TO BE ROUTED VIA TIME TIMECLOCKS ARE SHOWN ON
DETAIL 11/E400.

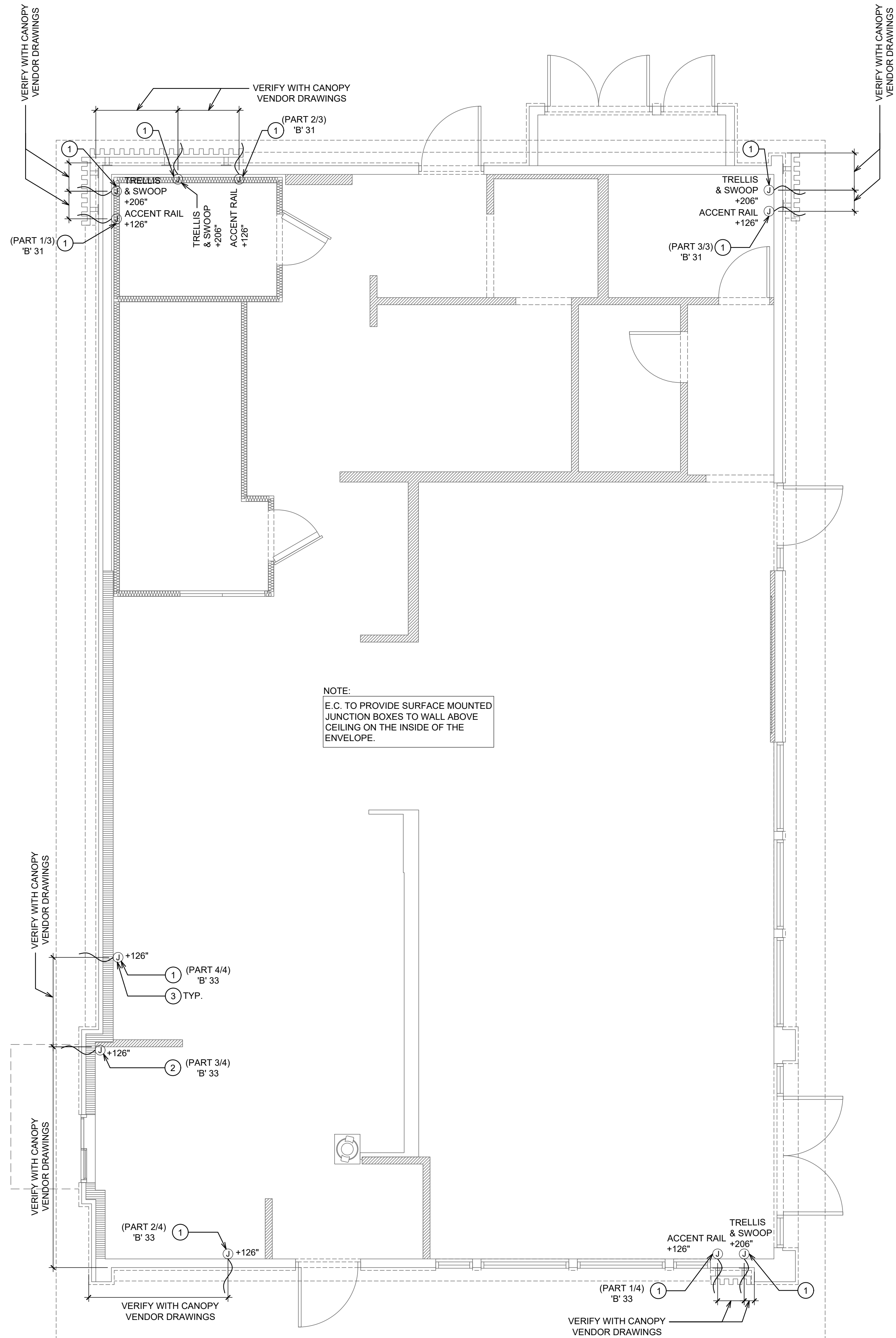
NOTE:
CONTRACTOR TO INSTALL (2) 5 GANG SWITCH BOXES AS SHOWN
BELOW. DO NOT INSTALL SEPERATE/INDIVIDUAL BOXES FOR EACH
SWITCH

(a)	(b)	(c)	(d)	(e)
\$	\$	\$	\$	\$
BACK OF HOUSE LTG & EX. FAN & RECIRC PUMP	SHOW WINDOW RECEPTS	WALK-IN MENU LED ACCENTS	SERVING LINE SOFFIT	DINING PENDANTS
(f)	(g)	(h)	(i)	(j)
\$	\$	\$	\$	
INTERIOR DINING	BEVERAGE COUNTER	DAYLIGHT HARVEST	SPARE	INTERIOR LIGHTING SHUT DOWN OVERRIDE

SWITCHBANK SCHEDULE 'A'				
TAG	SWITCH TYPE	AREA SERVED / SWITCH LABEL	CIRCUIT	LOAD
a	TOGGLE SWITCH	BACK-OF-HOUSE / RR FANS	'A' 45	530 VA
b	TOGGLE SWITCH	SHOW WINDOW RECEP	'A' 49	720 VA
c	TOGGLE SWITCH	WALK-INS, MENU, LED ACCENTS	'A' 1	275 VA
d	TOGGLE SWITCH	SERVING LINE SOFFIT	'A' 45	140 VA
e	TOGGLE SWITCH	DINING PENDANTS	'A' 47	140 VA
f	TOGGLE SWITCH	INTERIOR DINING	'A' 47	118 VA
g	TOGGLE SWITCH	BEVERAGE COUNTER	'A' 47	16 VA
h	TOGGLE SWITCH	DAYLIGHT HARVESTING ZONE	'A' 47	219 VA
i	SPARE			
j	TIMER SWITCH	INTERIOR LIGHTING SHUT DOWN OVERRIDE	'A' 47	118 VA

INTERIOR / EXTERIOR LTG CONTACTORS SCHEDULE	4
NOT TO SCALE	E-101

LIGHTING FLOOR PLAN	1
Scale: 1/4"=1'-0"	E-101



1. E.C. TO PROVIDE J-BOX WITH 3' WHIP FOR CONNECTION TO PANDA EXPRESS PROVIDED LIGHTED CANOPY. E.C. TO MAKE FINAL CONNECTION.	
2. E.C. TO PROVIDE J-BOX WITH 3' WHIP FOR CONNECTION TO PANDA EXPRESS PROVIDED LIGHTED DRIVE THRU CANOPY. E.C. TO MAKE FINAL CONNECTION.	
3. ALL JUNCTION BOXES ON THIS SHEET TO BE RECESS MOUNTED.	
#	2
CANOPY LIGHTING KEYED NOTES	
NOT TO SCALE	
E-101.1	

CANOPY LIGHTING PLAN	1
Scale: 1/4"=1'-0"	E-101.1



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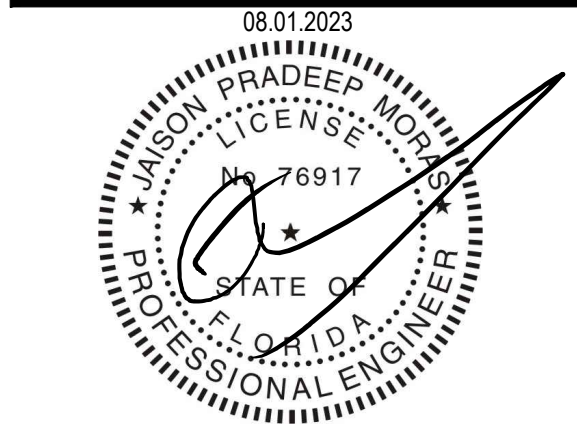
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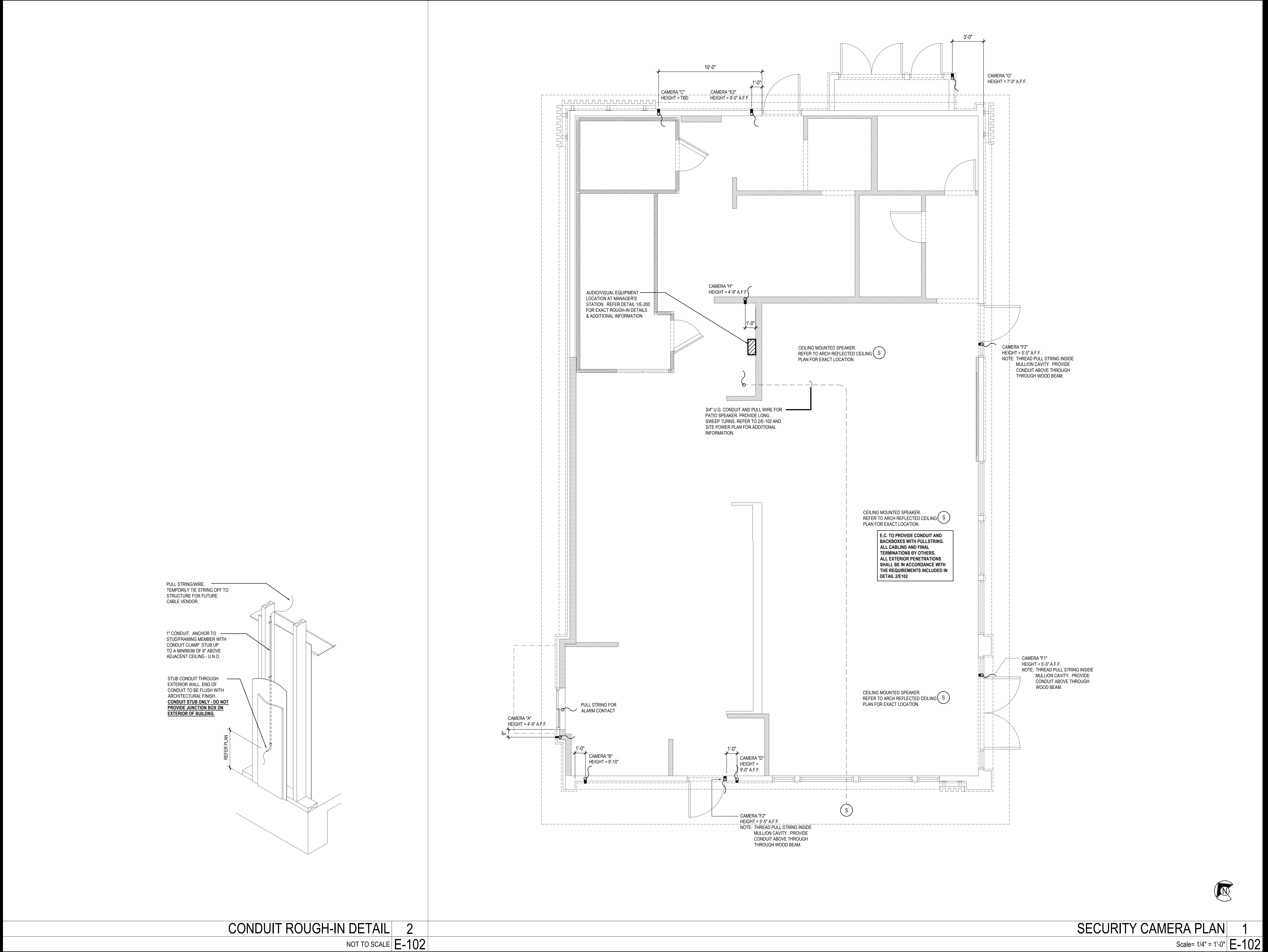



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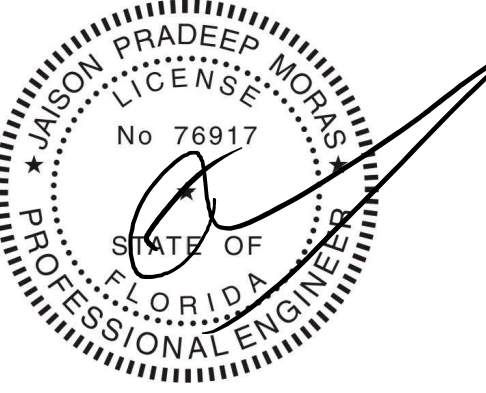
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E-102

SECURITY CAMERA PLAN

Scale= 1/4" = 1'-0"

PANDA HOME 2600 R4



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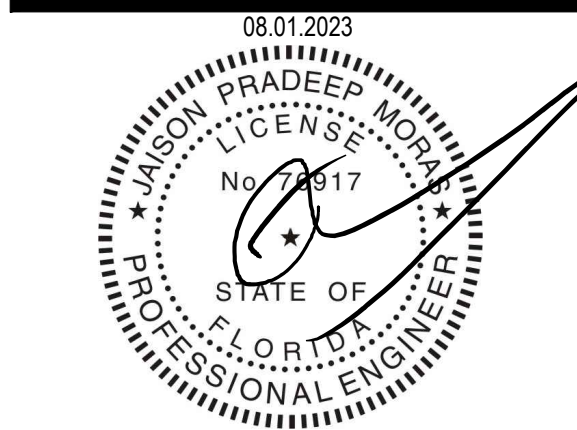
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E-104

ROOF POWER PLAN

PANDA HOME 2600 R4

- ALL ROOF MOUNTED EQUIPMENT SHALL BE IN NEMA-3R ENCLOSURES.
- ALL CONDUIT RUNS SHOWN ON THE ROOF SHALL BE RUN BELOW IN THE CEILING SPACE WHERE AMBIENT TEMPERATURE WILL BE BELOW 30° C. FINAL CONNECTIONS TO THE ROOF EQUIPMENT IS LIMITED TO 5'-0" OF DIRECT SOLAR EXPOSURE.
- VERIFY ALL FUSE SIZES AND TYPES WITH THE MECHANICAL EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
- REVIEW THE MECHANICAL PLANS FOR HVAC CONTROL REQUIREMENTS AND SCOPE OF WORK PRIOR TO BIDDING AND INCLUDE ALL COSTS IN BID.
- VERIFY CONNECTION POINTS OF ALL HVAC EQUIPMENT PRIOR TO INSTALLATION. PROVIDE CONTROL VOLTAGE CONNECTION TO DUCT MTD. SMOKE DETECTOR AS REQUIRED BY MECHANICAL DRAWING M-100 AND INTERLOCK WITH FIREALARM.
- SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND THERMOSTATS. PROVIDE RACEWAY SYSTEM FOR ALL CONTROL WIRING AS REQUIRED BY MECHANICAL DRAWING M-100.
- E.C. COORDINATE ELECTRICAL, MECHANICAL, FIRE ALARM (IF REQUIRED) FOR INTERLOCK SEQUENCE FOR FIRE SUPPRESSION.
- RESTROOM EXHAUST FAN TO BE POWERED FROM BACK OF HOUSE LIGHTING CIRCUIT. SEE DETAIL 5/E400 FOR ADDITIONAL INFORMATION.

ROOF PLAN GENERAL NOTES 2

NOT TO SCALE E-104

- ROUTE HOMERUN THROUGH BACK OF HOUSE LIGHTING CIRCUIT. REFER TO LIGHTING CONTACTOR SCHEDULE. 4/E-101. FAN TO BE CONTROLLED BY SWITCH FOR BACK OF HOUSE LIGHTING.
- DUCT SMOKE DETECTOR. FURNISHED BY MECHANICAL/FACTORY. WIRED BY ELECTRICAL / FIRE ALARM CONTRACTOR. FURNISH AND INSTALL ALL RACEWAY, WIRING, AND ADDITIONAL ACCESSORIES REQUIRED FOR CODE COMPLIANCE AND UNIT SHUTDOWN.
- CIRCUIT FEEDS FROM PANELBOARD - THROUGH HOOD CONTROL PANEL - UP TO ROOF. REFER TO DETAIL, SHEET 3/E-401 & KITCHEN HOOD SUBMITTAL DATA.
- REFER TO CONDENSING UNIT WIRING DIAGRAM, 7/E-400.
- STRUT RACK SUPPORT FOR EQUIPMENT DISCONNECT SWITCHES. REFER TO DETAIL, SHEET 2/E-401.
- NOT USED.
- DO NOT INSTALL UNTIL BACK DRAFT DAMPER INSTALLATION IS COMPLETE. UTILIZE FACTORY KNOCKOUTS FOR ELECTRICAL RUN FOR THIS FAN. REFER TO SHEET M-402.
- MOUNT PHOTOCELL AS DETAILED ON EQUIPMENT DISCONNECT SWITCH SUPPORT DETAIL 12/E400 ON CONDENSER RACK.
- STUB ELECTRICAL FEED FOR EF-1 & EF-2, THROUGH ROOF ON HINGE SIDE OF EXHAUST FANS, IN LOCATION AS SHOWN ON POWER ROOF PLAN. REFER TO DETAIL 3/M-501 FOR ADDITIONAL DETAILS.
- ROUTE POWER FEEDS VIA FACTORY PROVIDED THRU-BASE CONNECTION AREA. COORDINATE WITH MECHANICAL.
- UNIT INCLUDES FACTORY MOLDED CASE DISCONNECT SWITCH (NO OCP). VERIFY WITH MECHANICAL SUBMITTAL DATA. PROVIDE DISCONNECT IF / AS REQUIRED.

ROOF PLAN KEYED NOTES 3

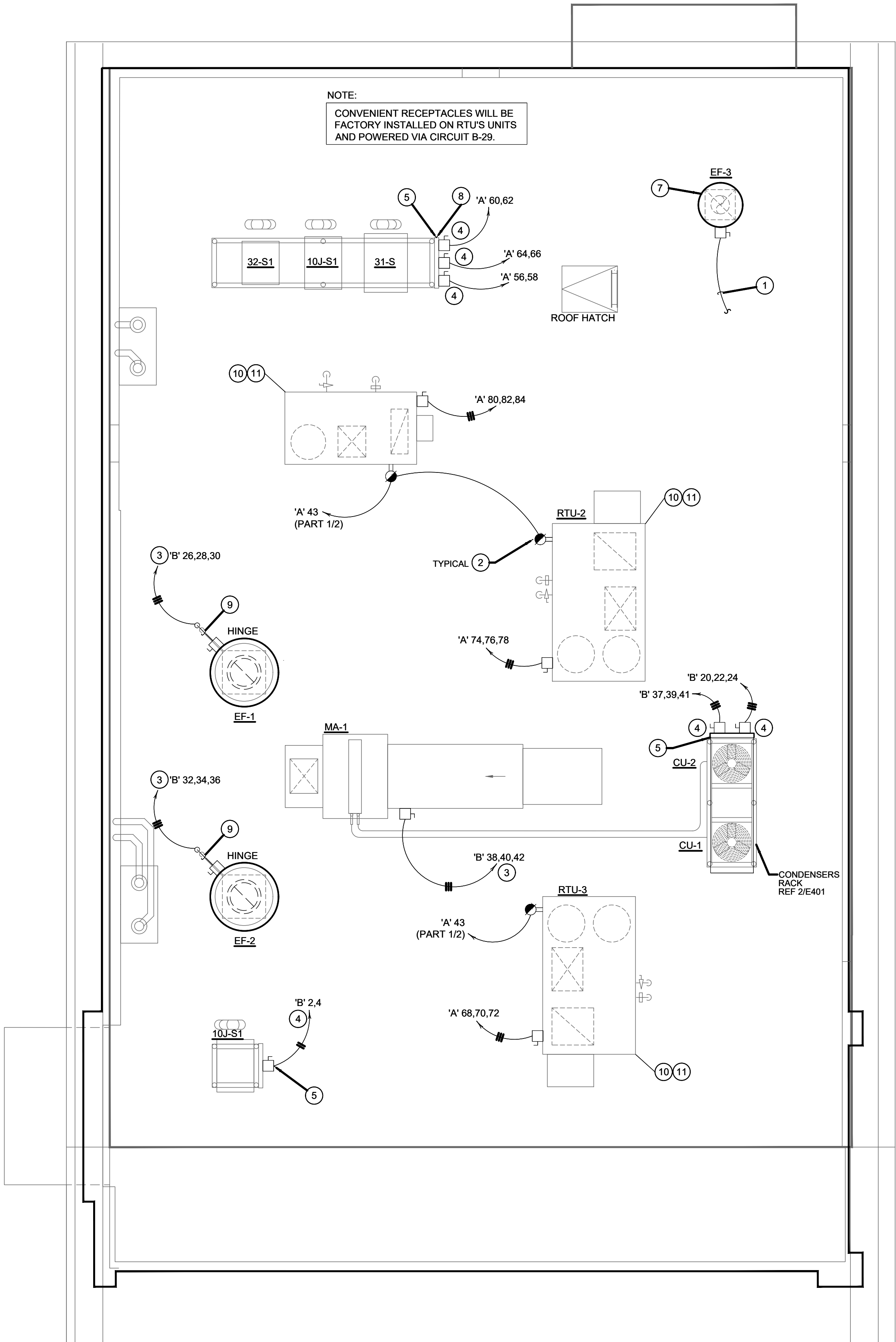
NOT TO SCALE E-104

ROOFTOP EQUIPMENT SCHEDULE										
TAG	DESCRIPTION	KW	H.P.	FLA	VOLT/Ø	WIRE, CONDUIT	CONN	MOUNT HEIGHT	DISC. SW. WITH RK1 FUSES PER MFR'S REQ'S. AND/OR REMARKS	
RTU1	A/C UNIT (LENNOX)			32.0	208V.3Ø	3 #8, #10 GND., 1" C.	□	AT UNIT	60A. 3P. 3F. WP	① ④
RTU2	A/C UNIT (LENNOX)			46.0	208V.3Ø	3 #6, #10 GND., 1" C.	□	AT UNIT	60A. 3P. 3F. WP	① ④
RTU3	A/C UNIT (LENNOX)			46.0	208V.3Ø	3 #6, #10 GND., 1" C.	□	AT UNIT	60A. 3P. 3F. WP	① ④
CU-1	CONDENSING UNIT			21.4	208V.3Ø	3 #10, #10 GND., 1" C.	□	AT UNIT	30A. 3P. 3F. WP	
CU-2	CONDENSING UNIT			21.4	208V.3Ø	3 #10, #10 GND., 1" C.	□	AT UNIT	30A. 3P. 3F. WP	
MA-1	MAKE-UP AIR UNIT	7.5	24.2	208V.3Ø	3 #8, #10 GND., 1" C.	□	AT UNIT		① ④	
EF-1	EXHAUST FAN	5.0	17.5	208V.3Ø	3 #10, #10 GND., 1" C.	□	AT UNIT		①	
EF-2	EXHAUST FAN	3.0	11.0	208V.3Ø	3 #12, #12 GND., 3/4" C.	□	AT UNIT		①	
EF-3	EXHAUST FAN	1/4	4.8	120V.1Ø	2 #12, #12 GND., 3/4" C.	□	AT UNIT	30A. 2P. 1F. WP	① ④	
31-S	W/ COOLER COND.			27.0	208V.1Ø	2 #10, #10 GND., 3/4" C.	☒	AT UNIT		② ③
32-S1	W/ FREEZER COND.			32.0	208V.1Ø	2 #8, #8 GND., 3/4" C.	☒	AT UNIT	30A. 2P. 2F. WP	② ③
10J-S1	ICE MACHINE COND.			11.7	208V.1Ø	2 #12, #12 GND., 3/4" C.	☒	AT UNIT		② ③

- ① DISCONNECT SWITCH PROVIDED WITH UNIT.
- ② COMBINATION 30A. 2P. 2F. WP DISCONNECT SWITCH WITH RK5 FUSES PER MANUFACTURER RECOMMENDATION.
- ③ COMBINE CIRCUITRY IN 1" CONDUIT FROM J-BOX ON EQUIPMENT DISCONNECT SWITCH SUPPORT. REFER TO DETAIL THIS SHEET, 1 / E-104.
- ④ ELECTRICAL FEEDS ARE TO BE ROUTED FROM PLENUM SPACE. UP THROUGH EQUIPMENT CURB, INTO BOTTOM OF EQUIPMENT, THROUGH FACTORY INSTALLED WATER TIGHT CONNECTIONS.

HVAC EQUIPMENT SCHEDULE 4

NOT TO SCALE E-104

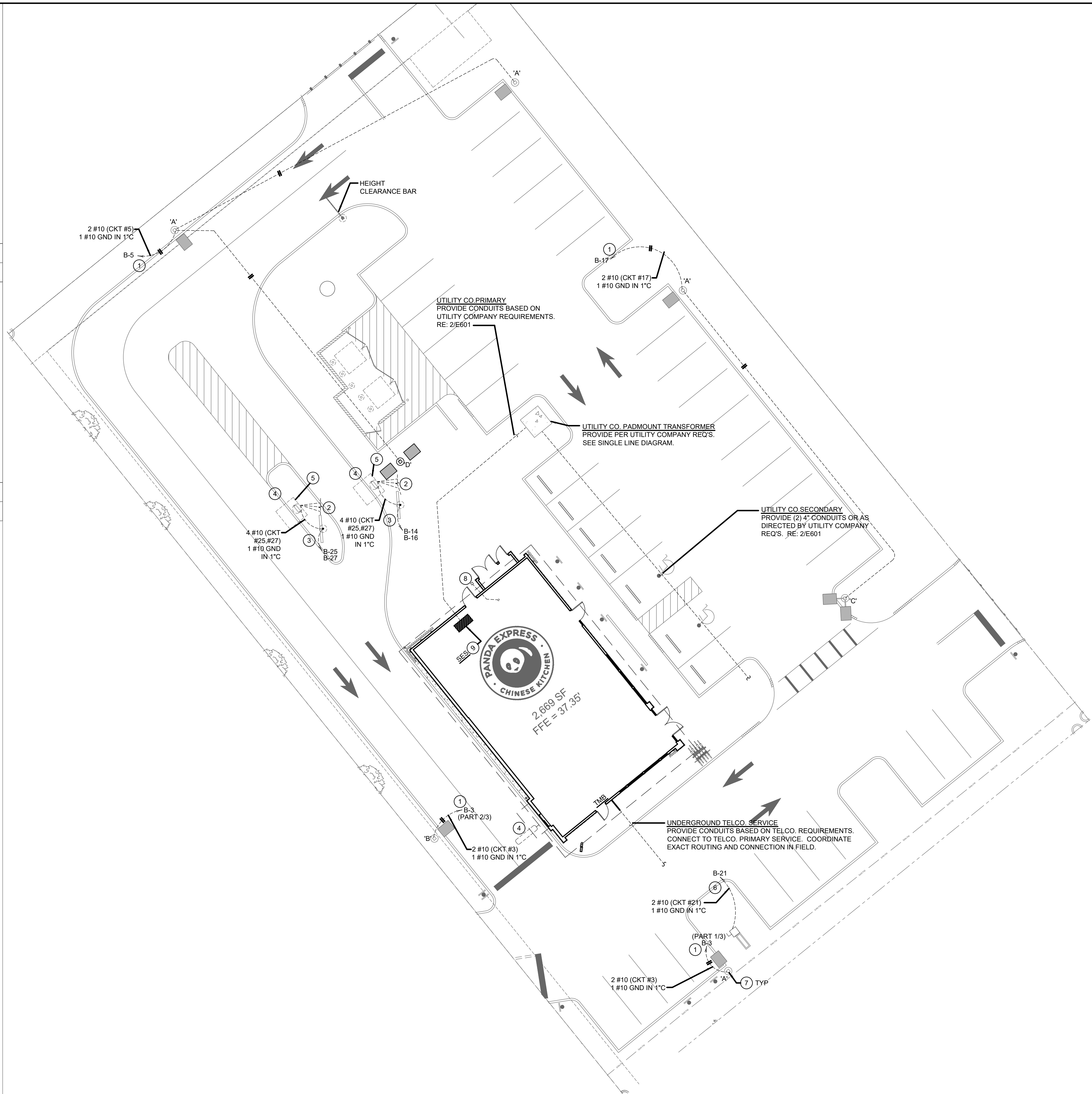
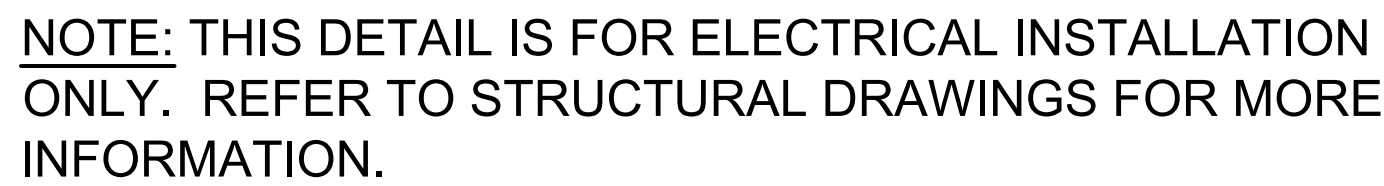


ROOF POWER PLAN 1

1/4" = 1'-0" E-104

- | | |
|-------------------------|-------|
| SITE PLAN GENERAL NOTES | 2 |
| | E-105 |

- | | | |
|---|-----------------------|-------|
| # | SITE PLAN KEYED NOTES | 3 |
| | | E-105 |



POLE MOUNTING DETAILS	4
NO SCALE	E-105

SITE & EXTERIOR LIGHTING PLAN	1
1" = 16'-0"	E-105



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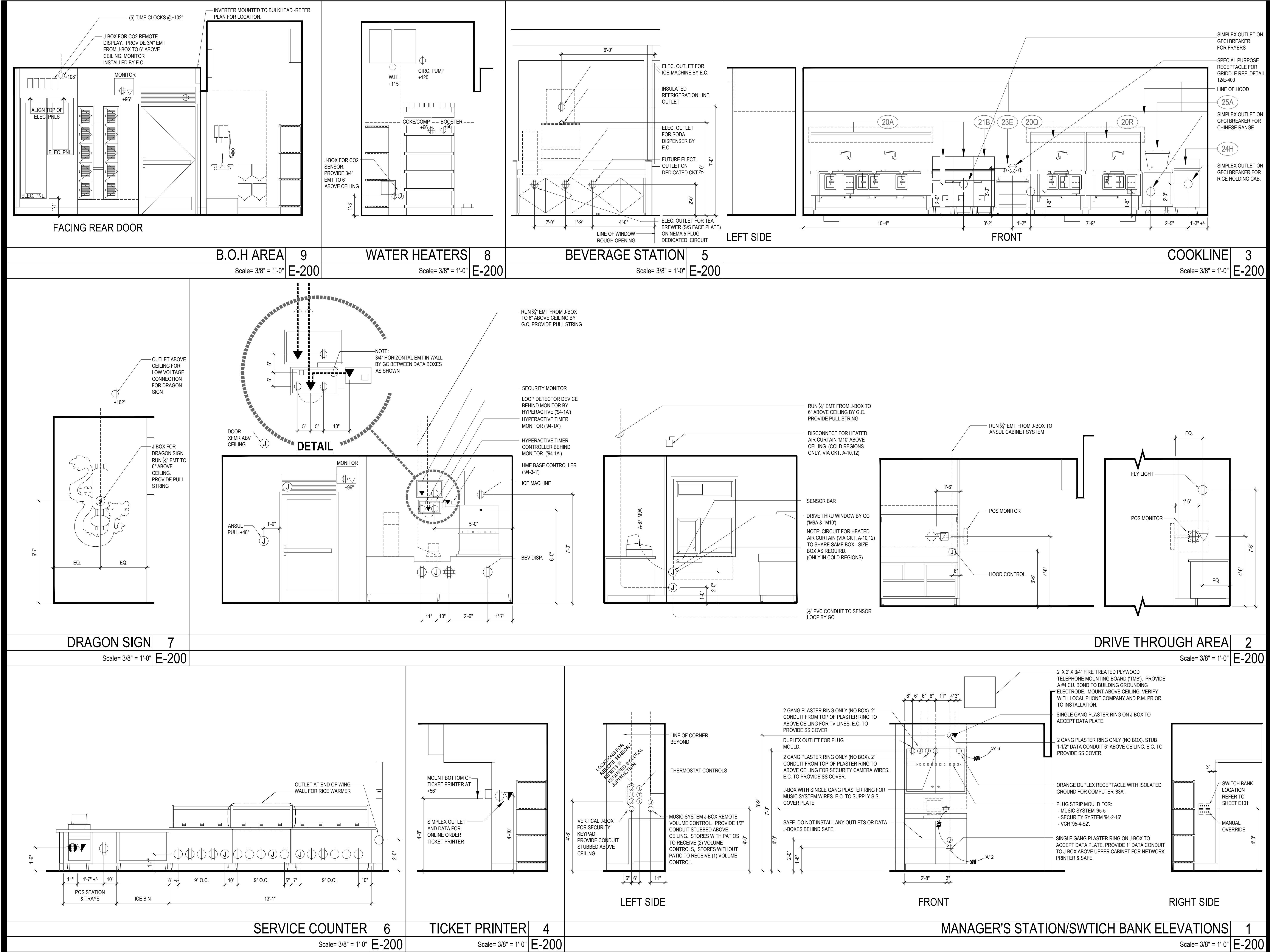
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E-105

SITE & EXTERIOR LIGHTING PLAN

1" = 16'-0" E-105

PANDA HOME 2600 R4



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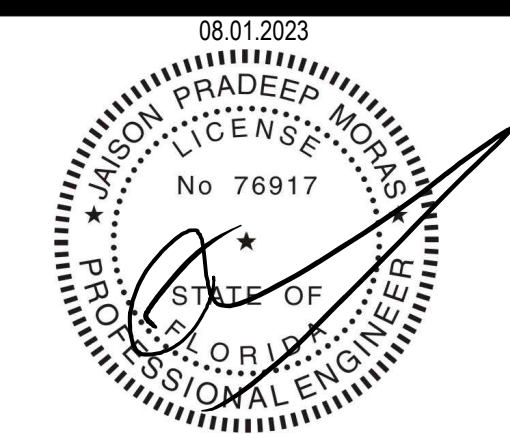
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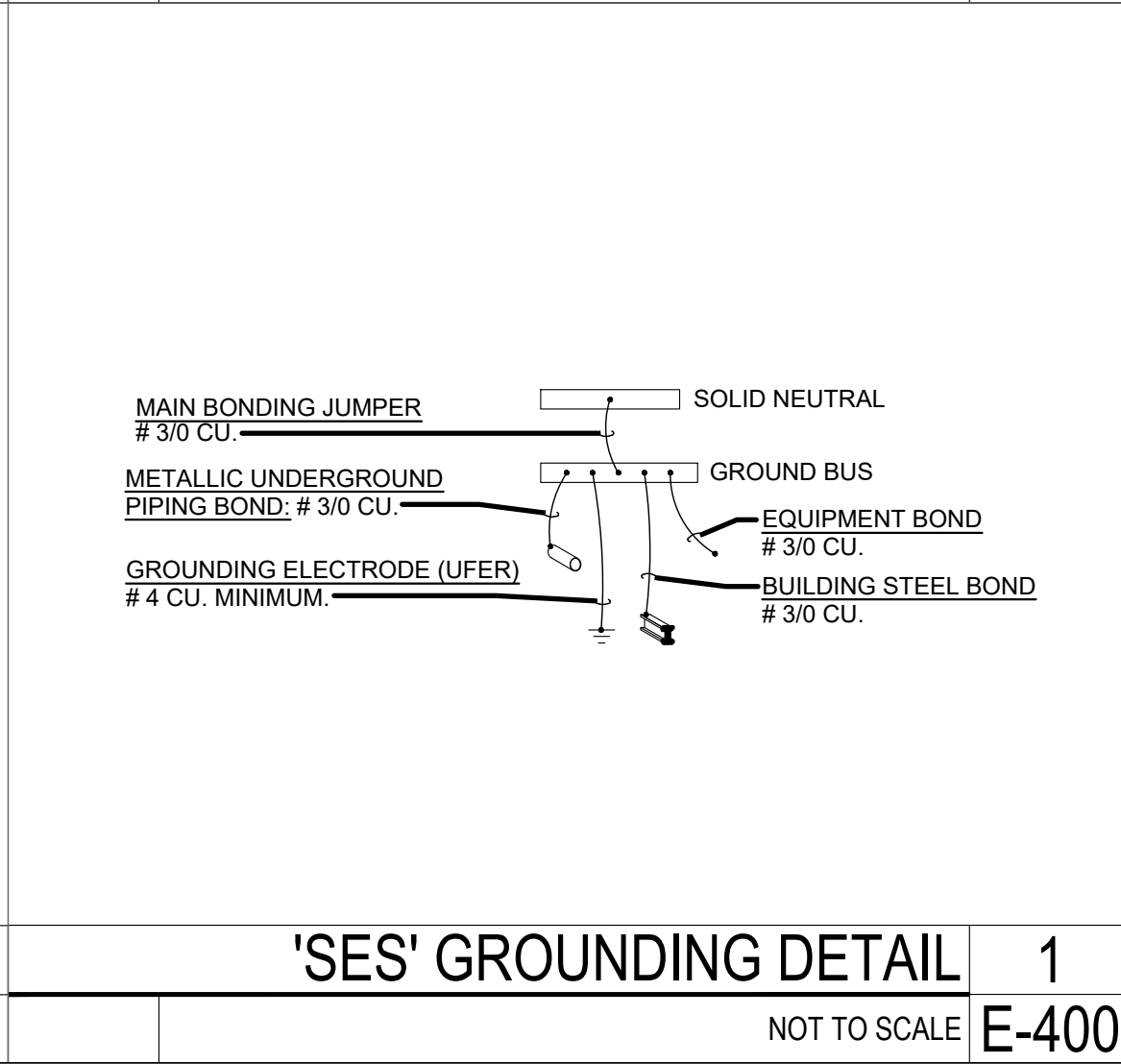
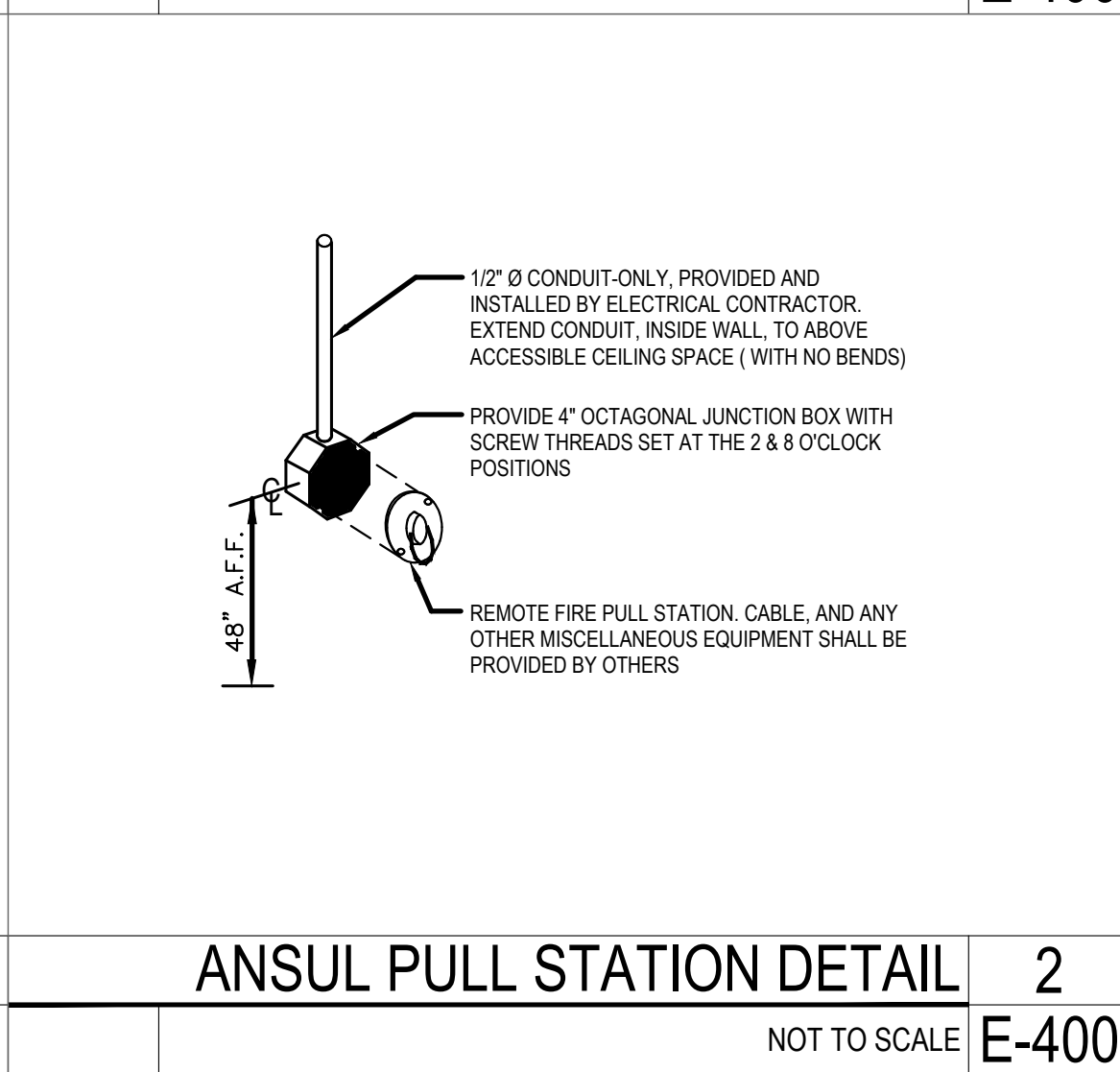
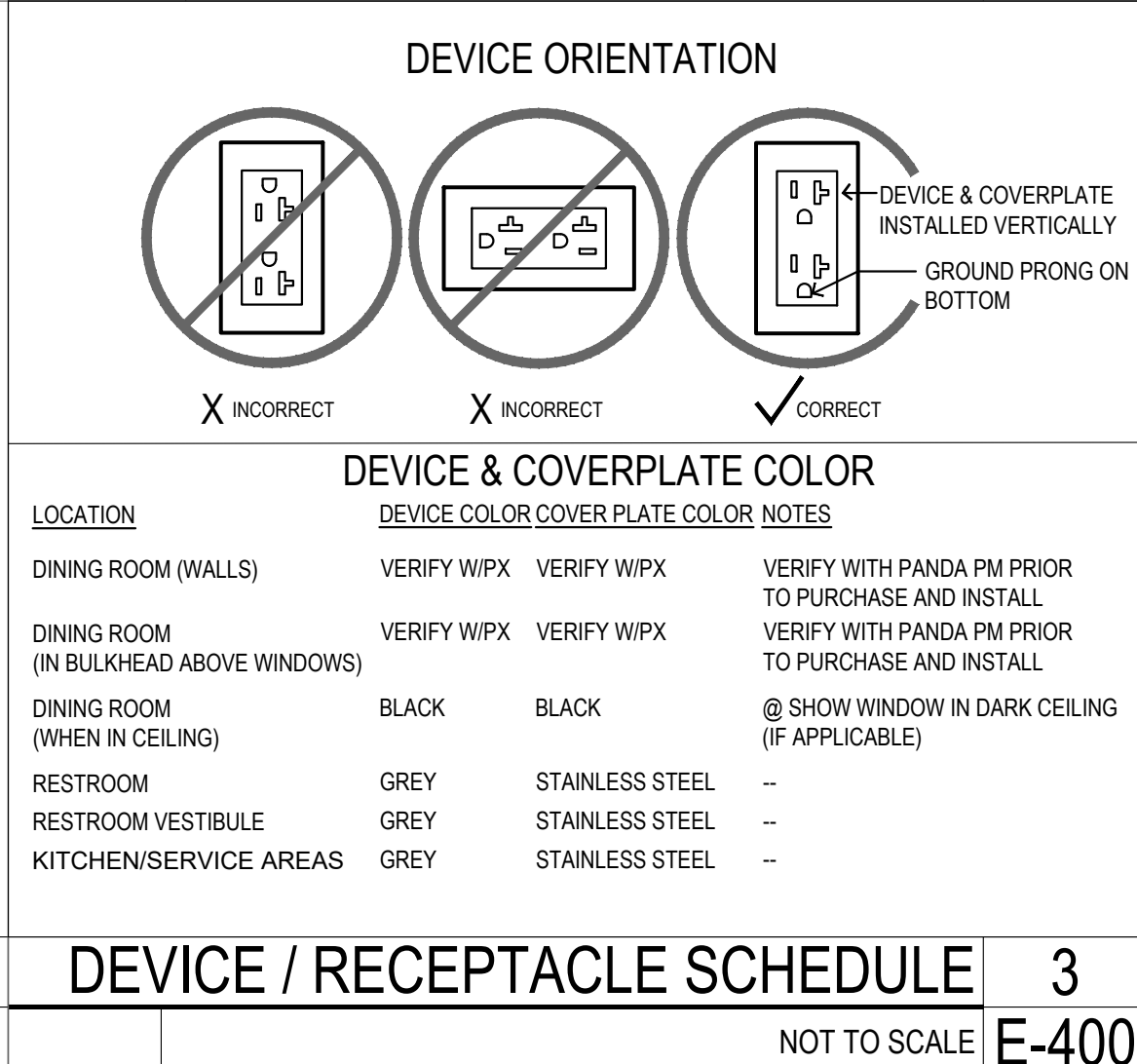
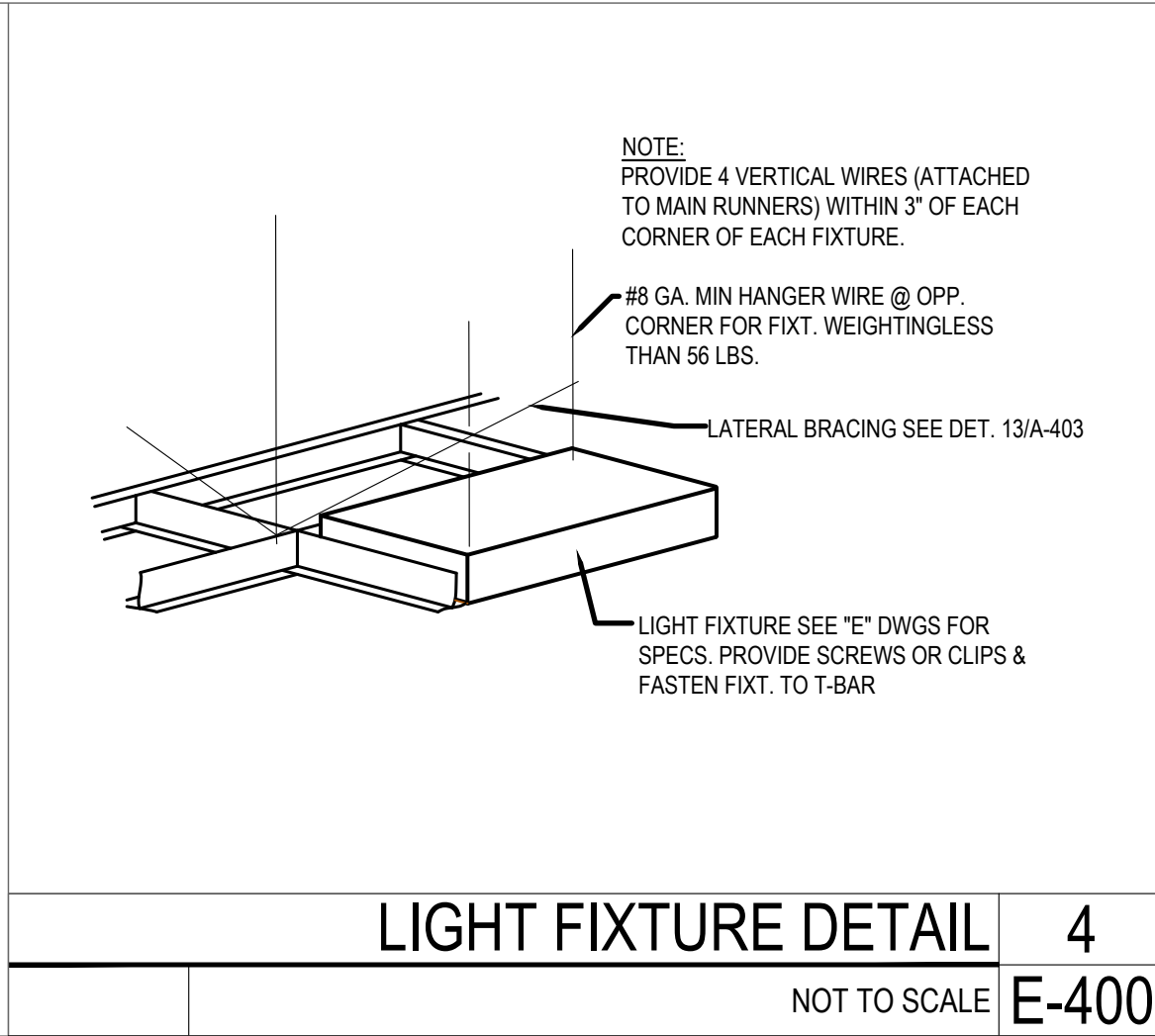
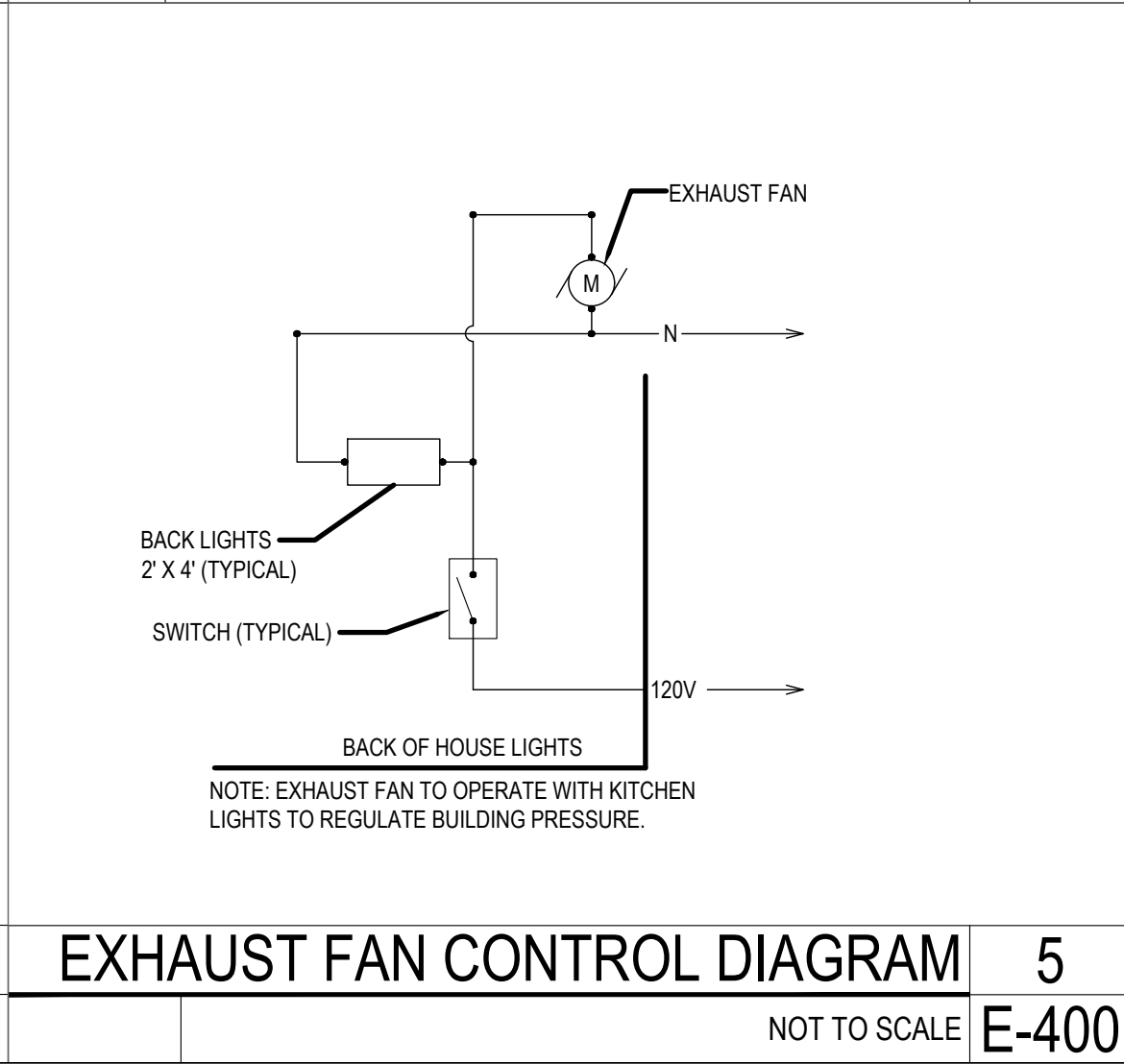
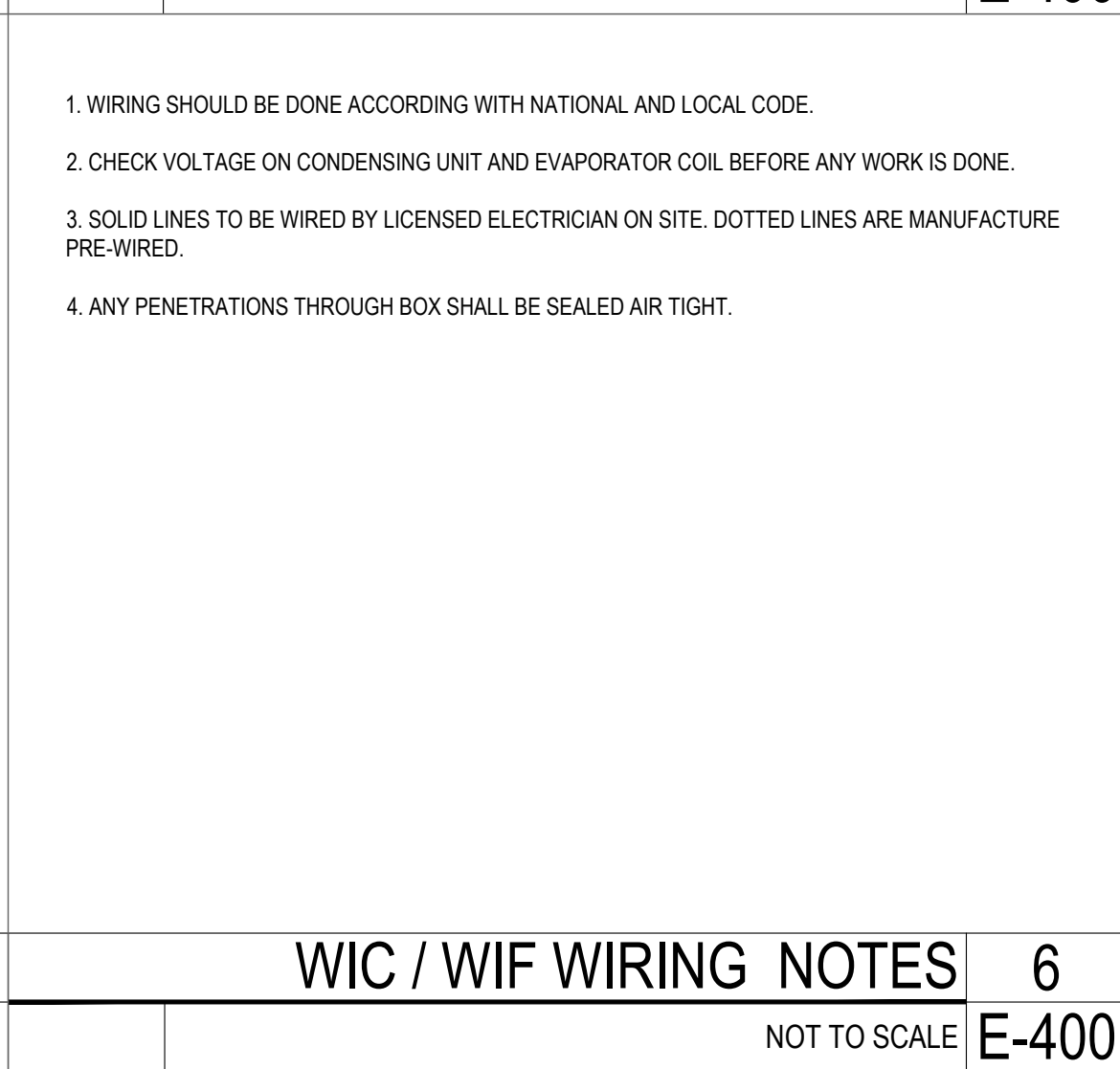
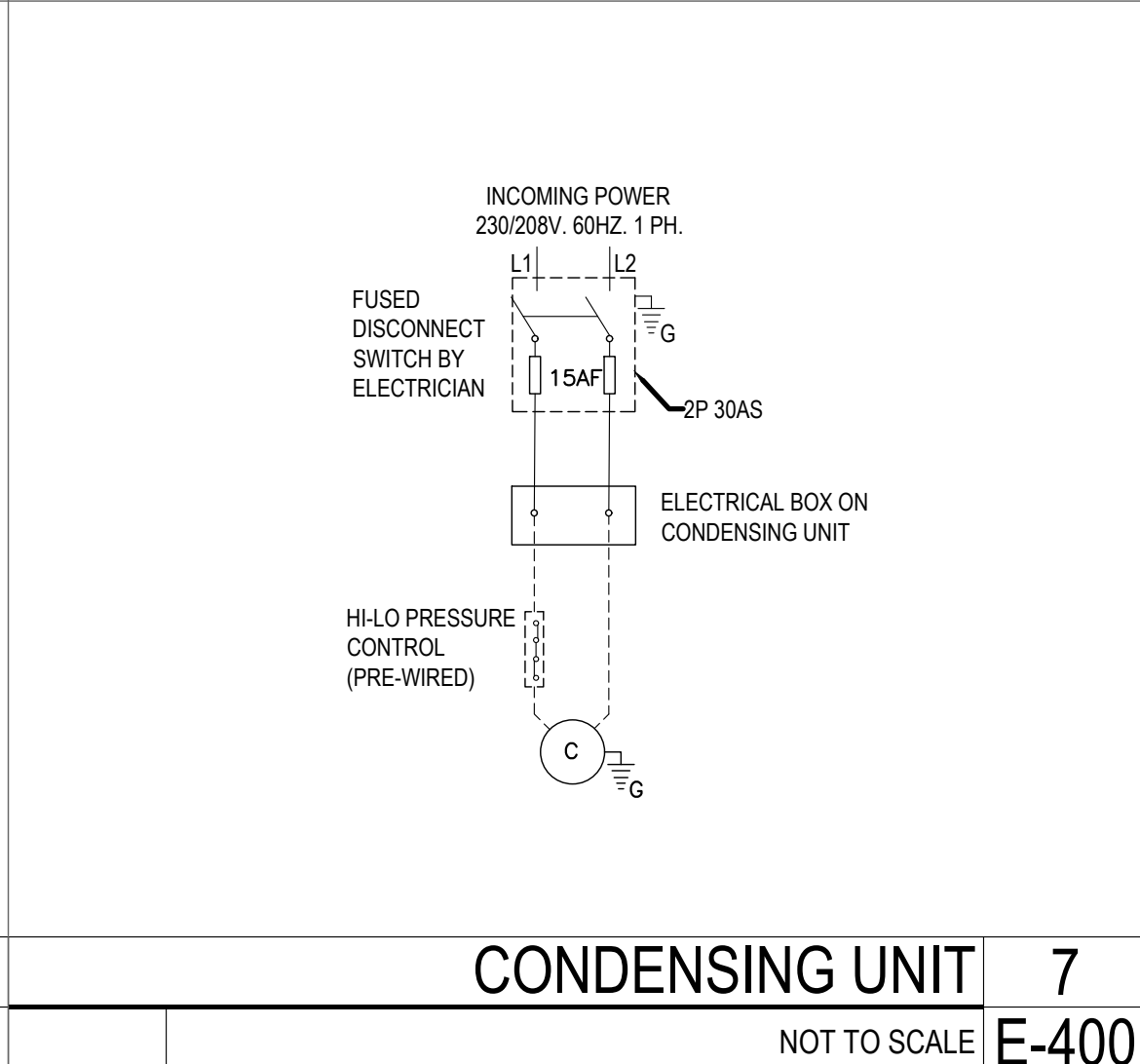
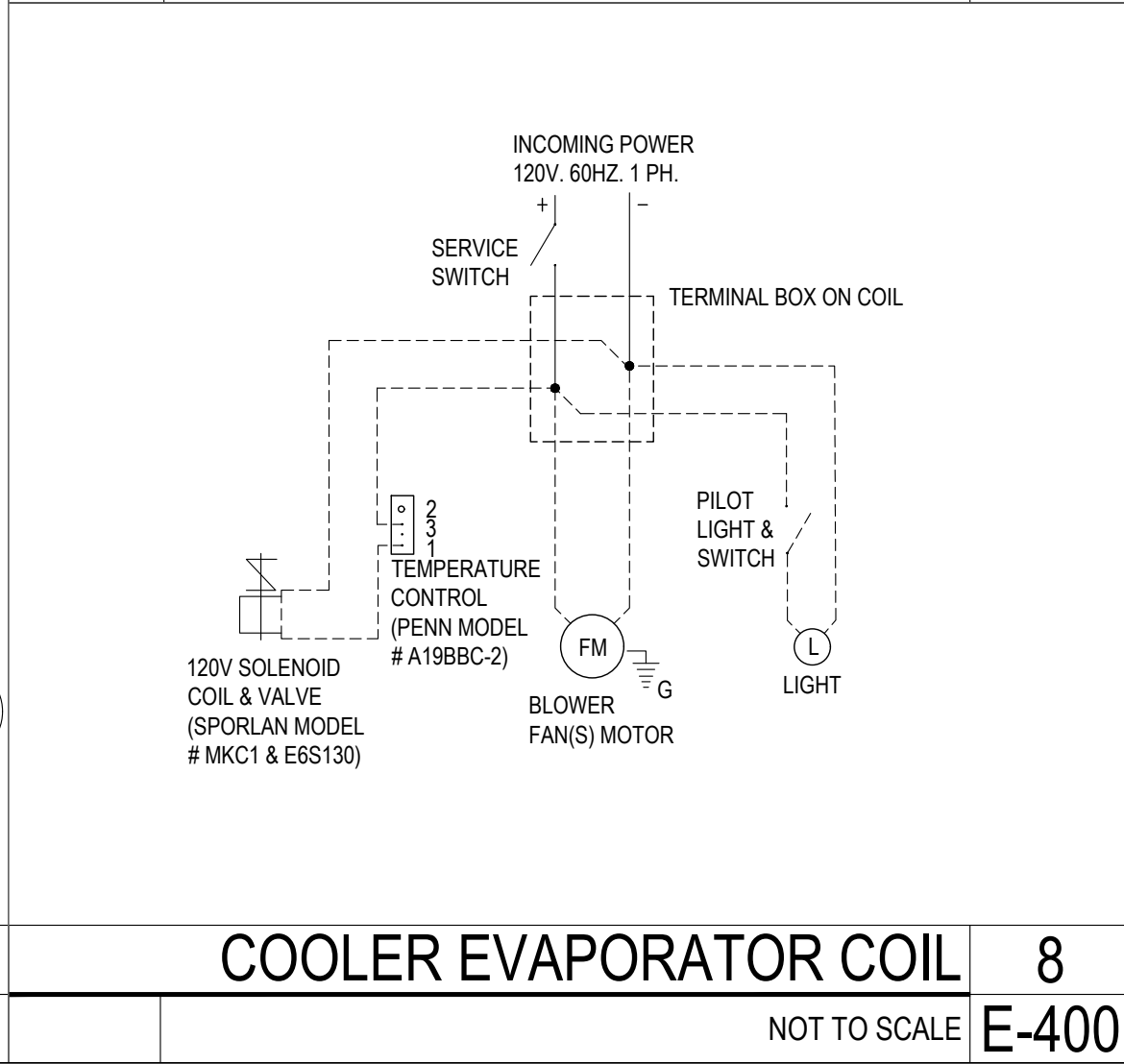
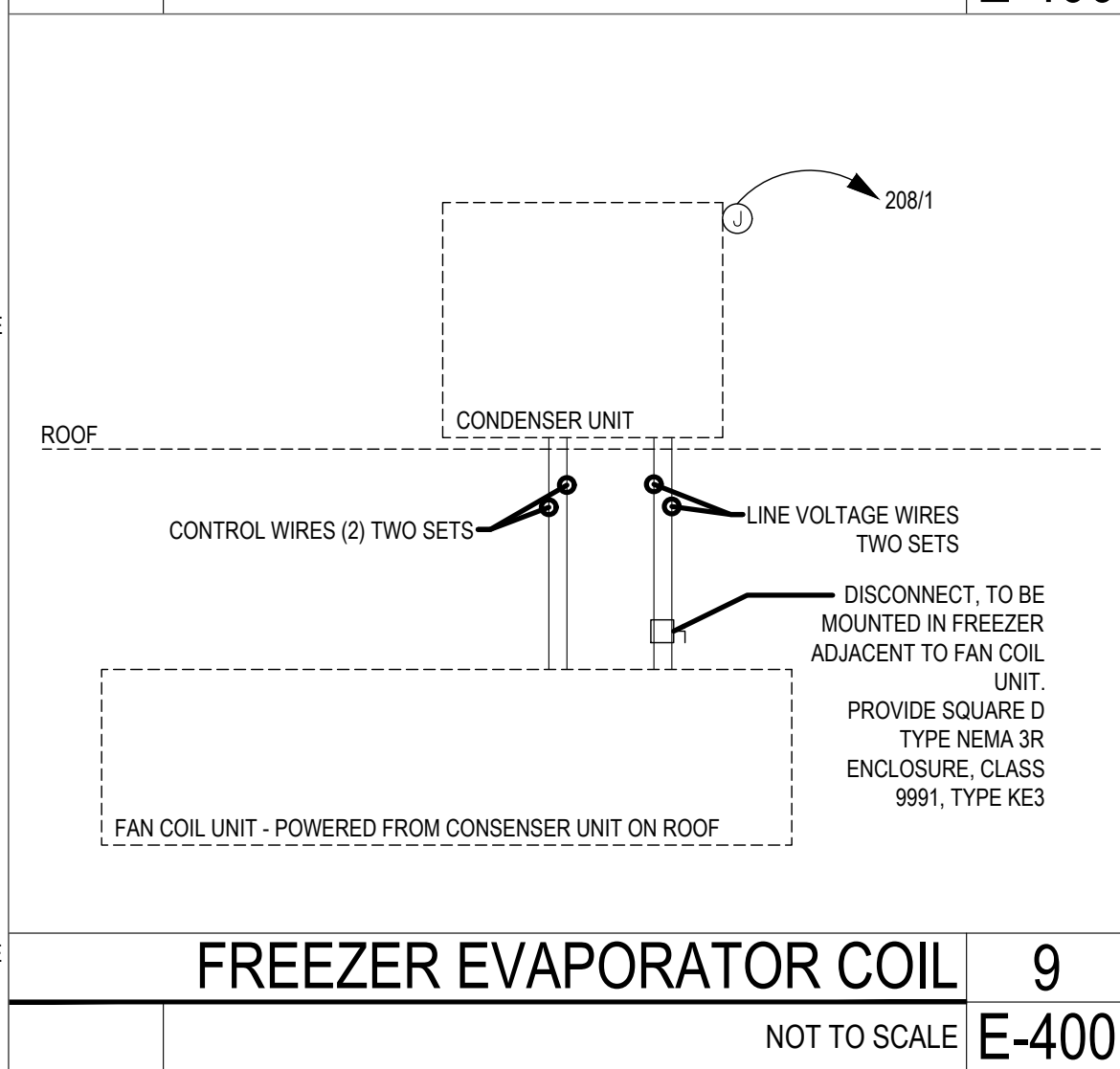
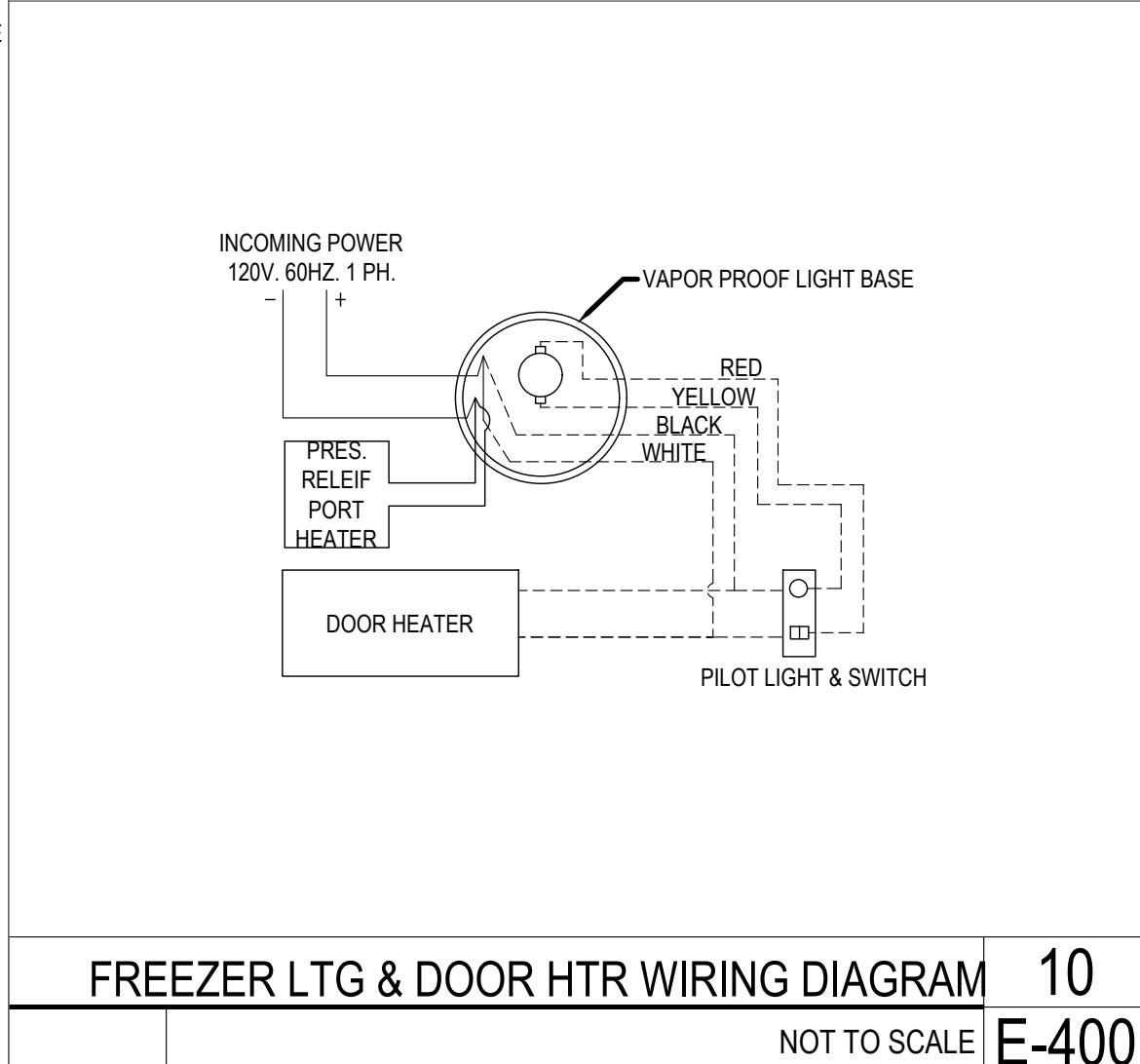
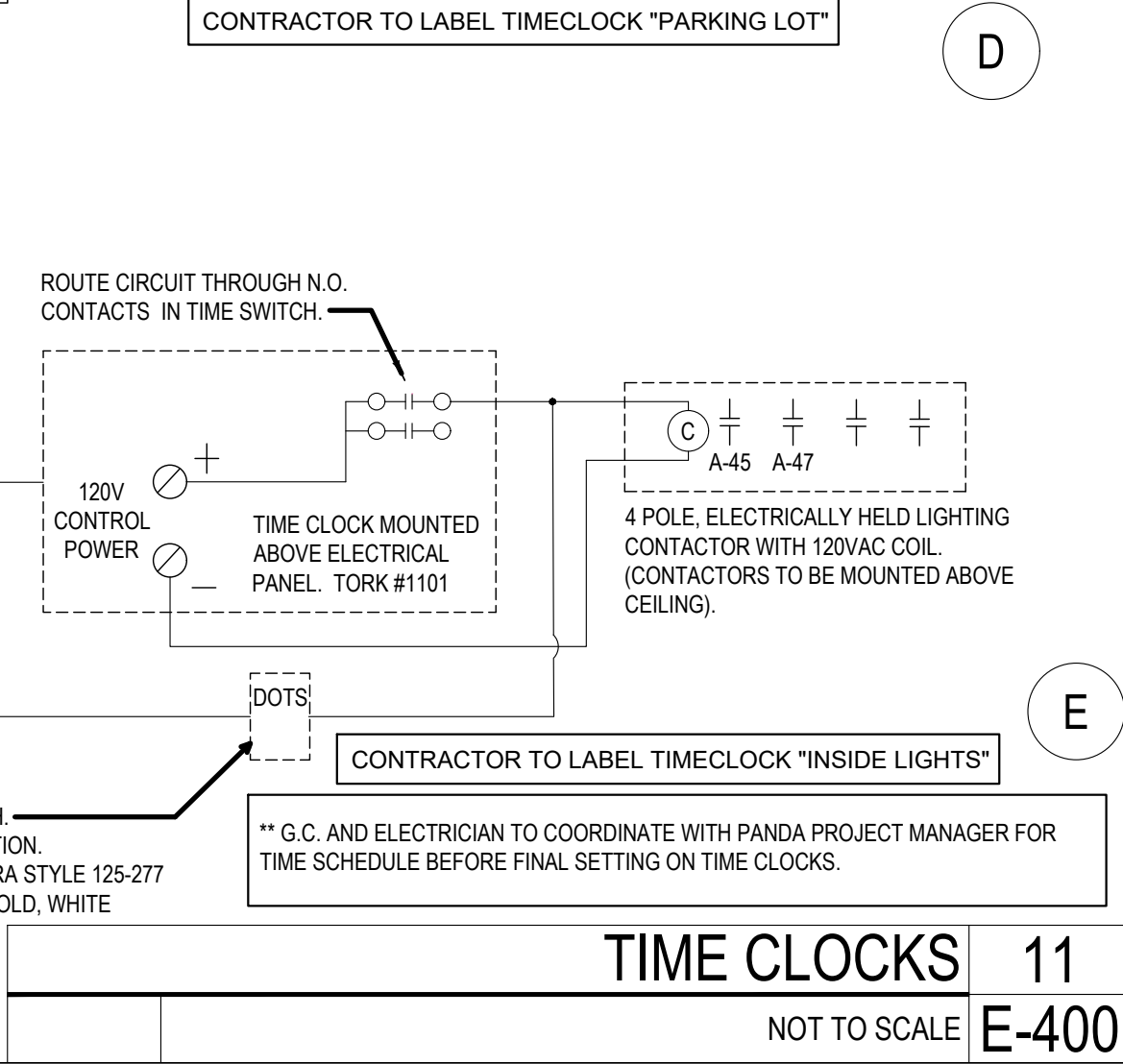
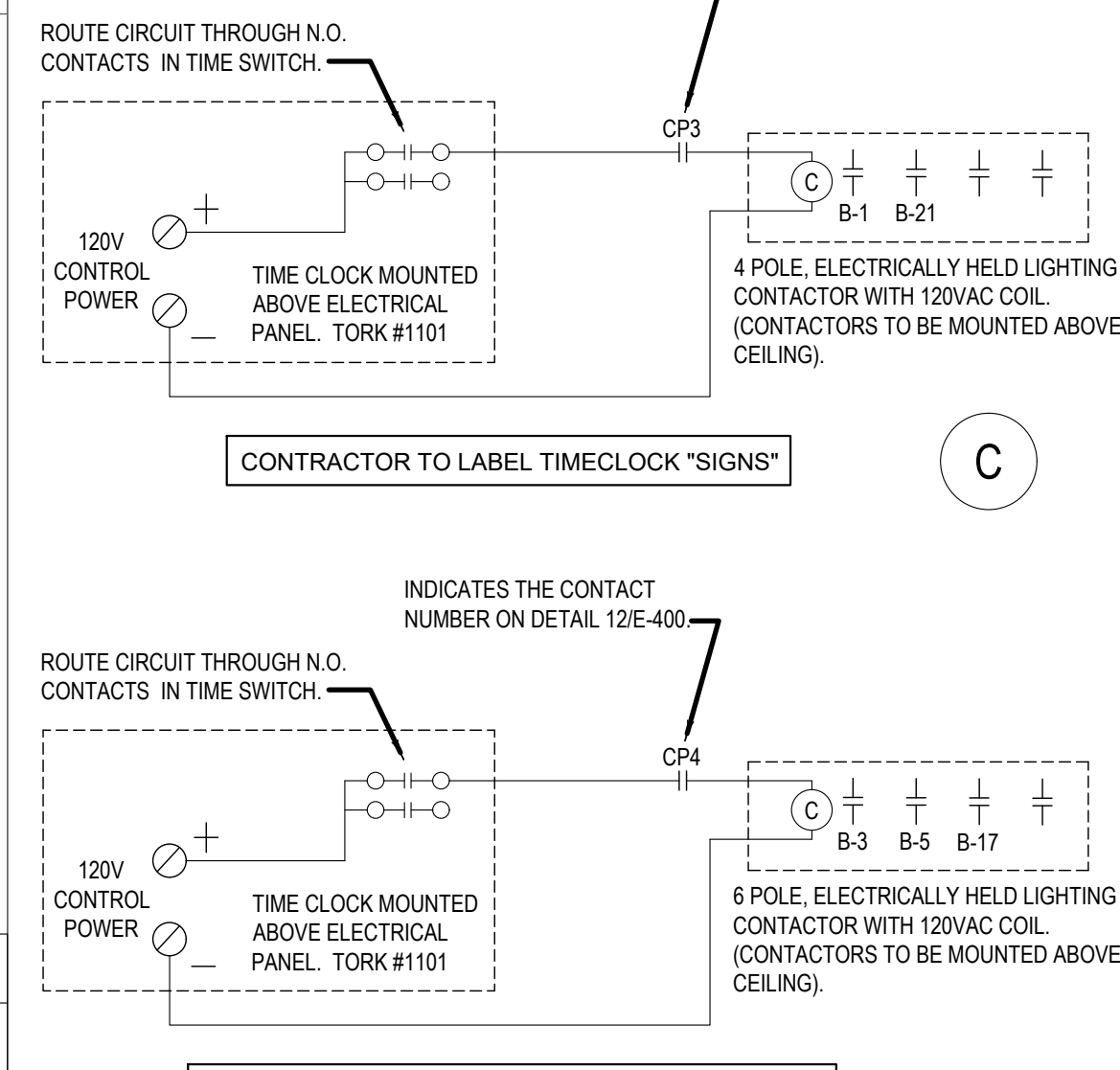
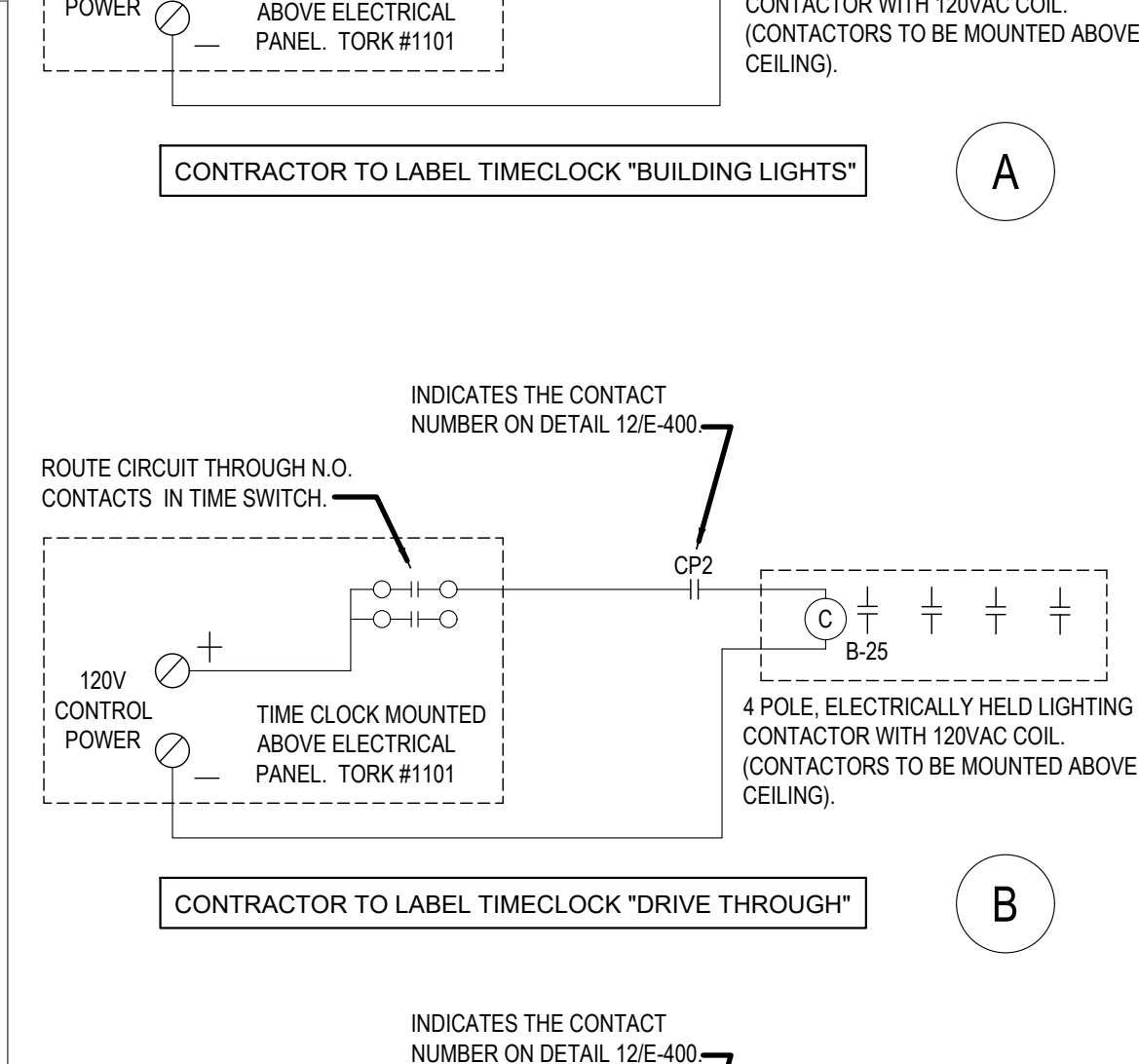
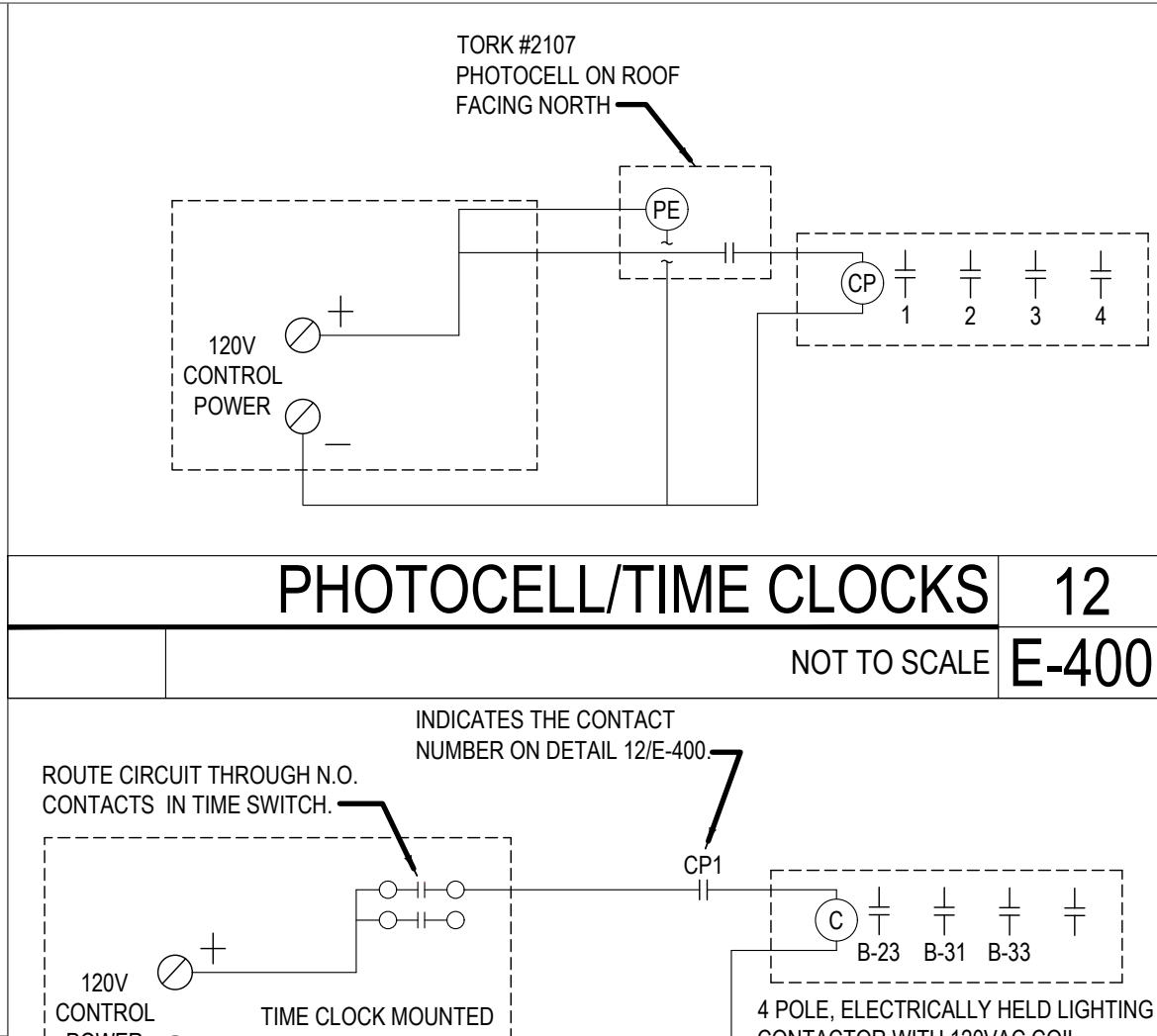
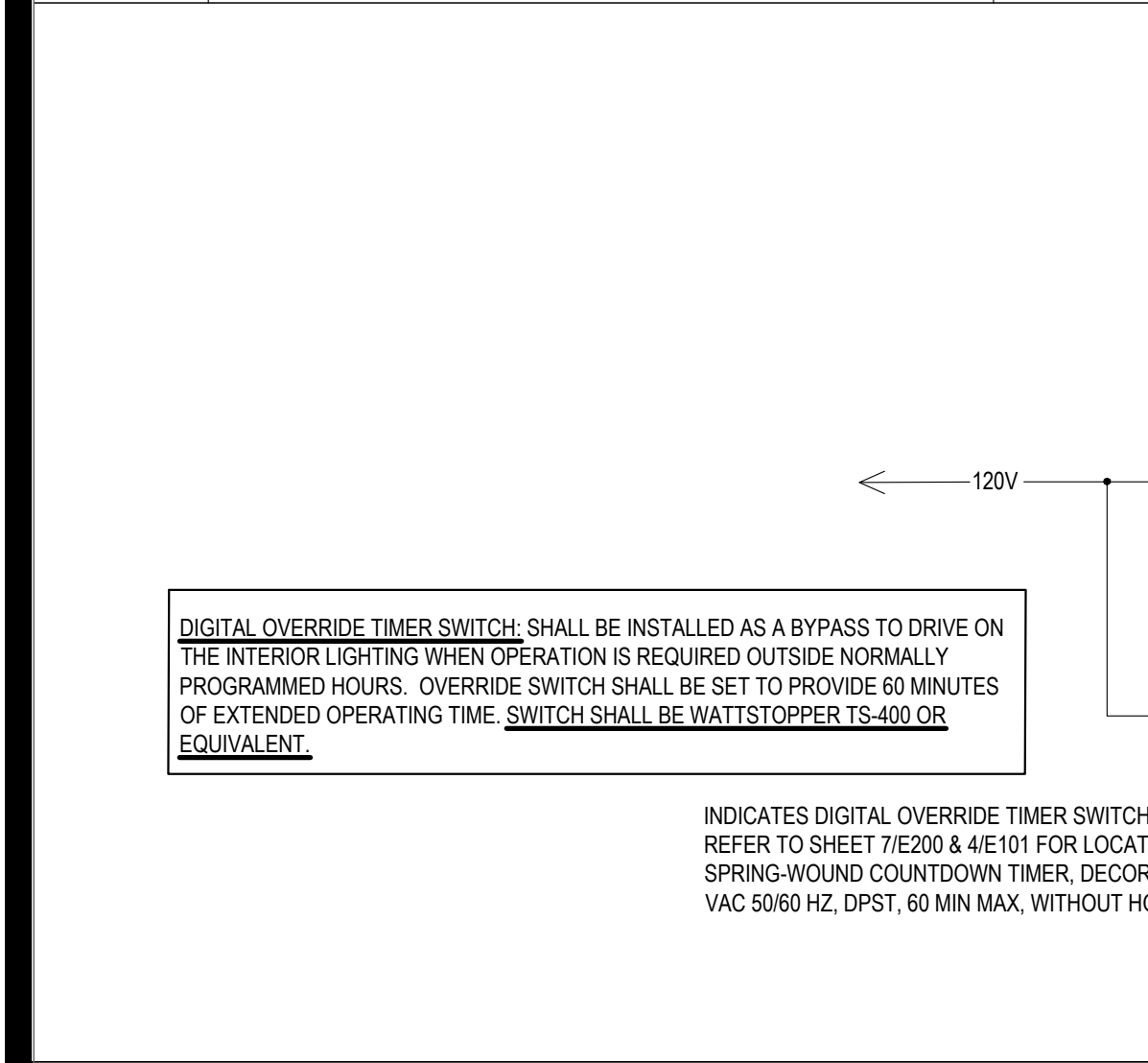
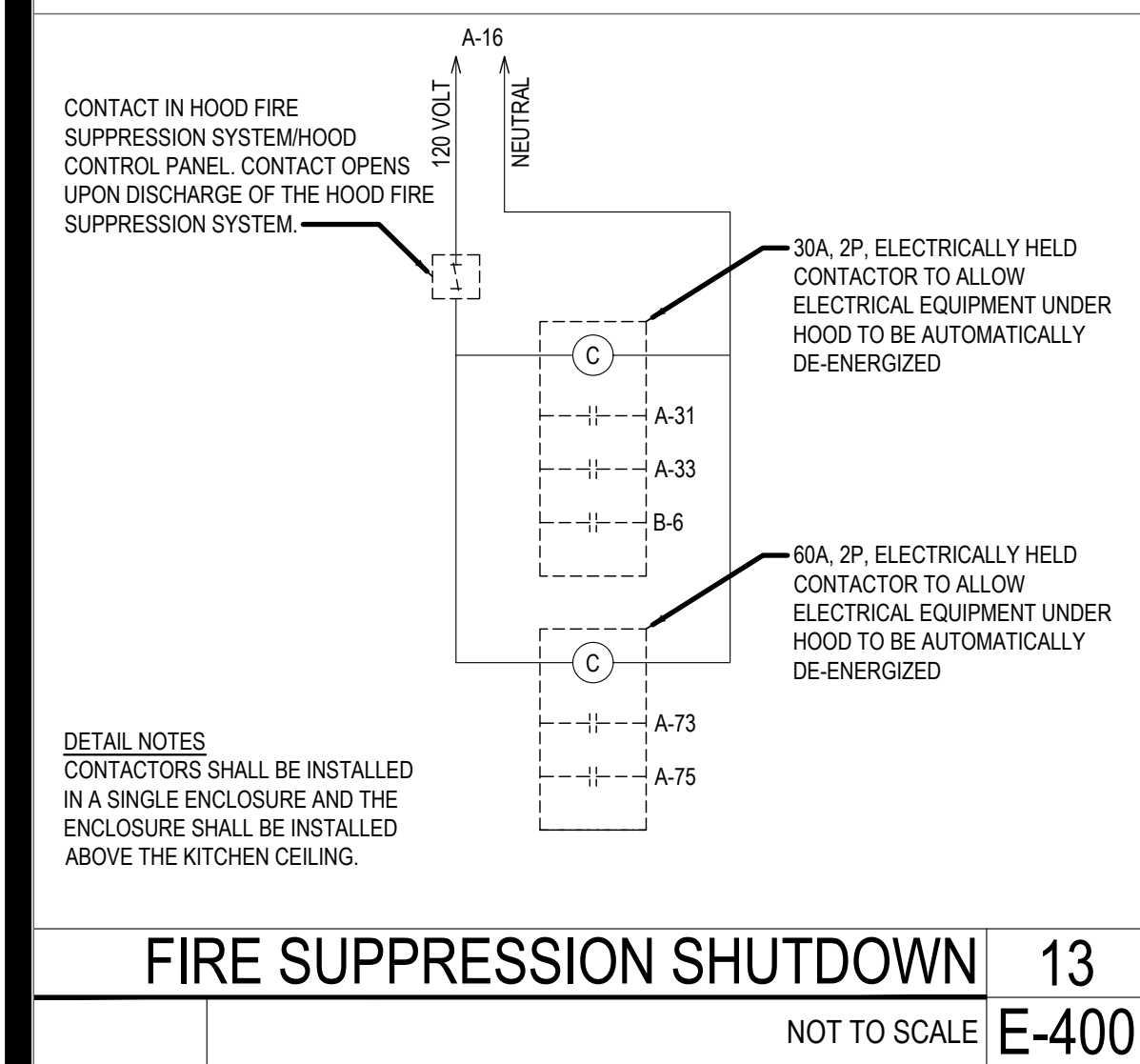


PANDA EXPRESS

PANDA HOME 2600
COUNTY ROAD 210
ST. JOHNS, FL 32259

E-200

ELECTRICAL ELEVATIONS



PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

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REVISIONS:

1	08.01.2023	ISSUE FOR PERMIT
2	08.01.2023	ISSUE FOR BID

ISSUE DATE:

1	08.01.2023	ISSUE FOR PERMIT
2	08.01.2023	ISSUE FOR BID

DRAWN BY: SP

PANDA PROJECT #: - S8-24-D25584
C&P PROJECT #: - 20230301

2600 Maitland Center Parkway
Suite #200
Maitland, FL 32751
P (407) 661-9100
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c-p.com
Florida Corporate Certificate #AA 000000

08.01.2023

PANDA EXPRESS

PANDA HOME 2600
COUNTY ROAD 210
ST. JOHNS, FL 32259

E-400

HOT - MEDIUM
ELECTRICAL DETAILS, DIAGRAMS

PANDA HOME 2600 R4



PANDA EXPRESS, INC.
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91770
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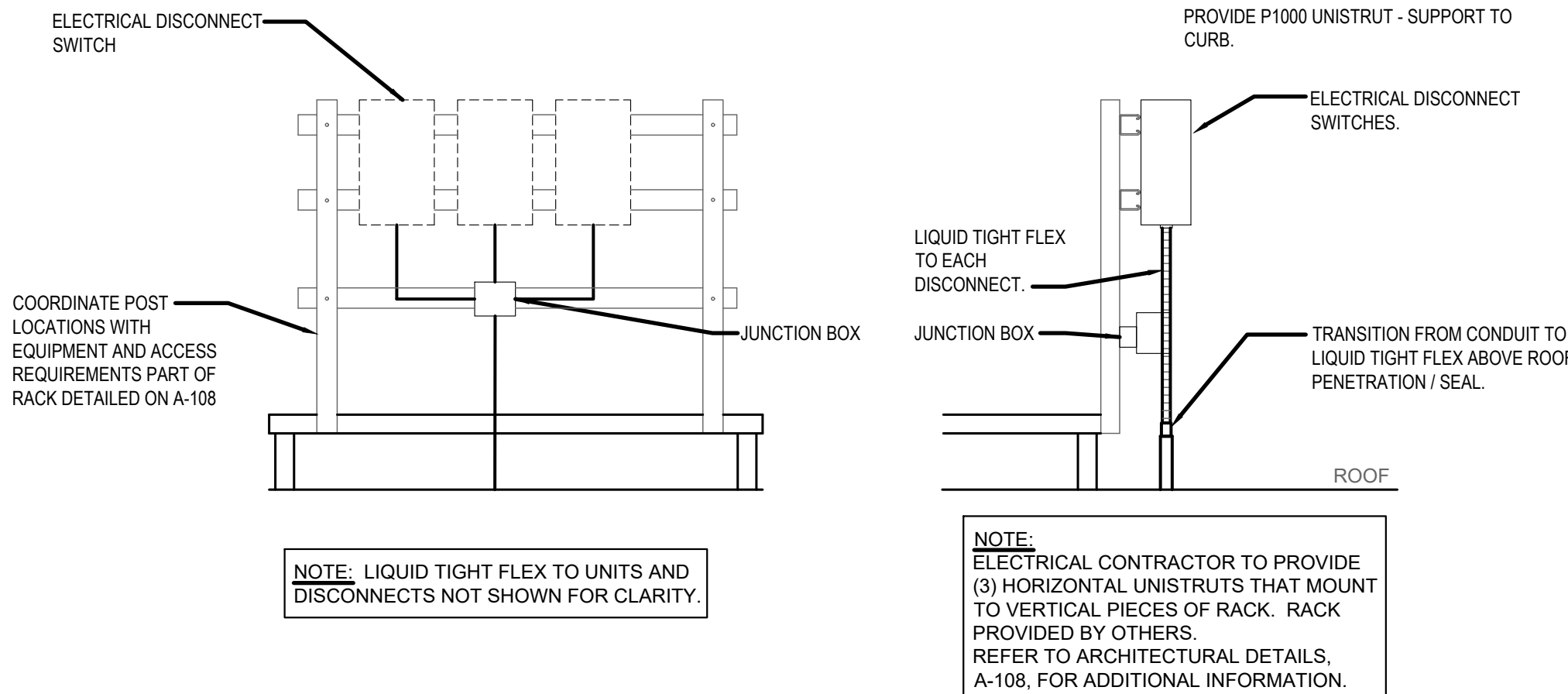
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REVISIONS:

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1	08.01.2023 ISSUE FOR PERMIT
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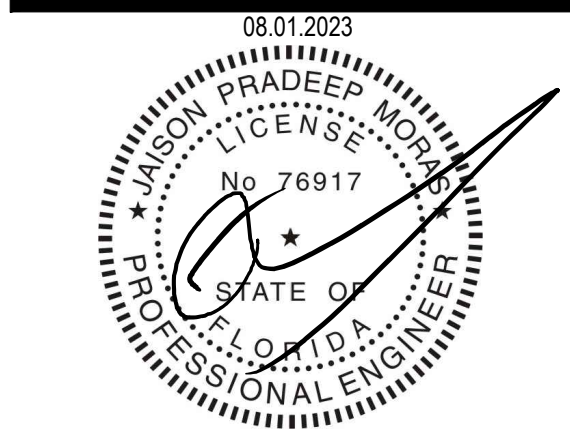
EQUIPMENT DISCONNECT SWITCH SUPPORT 2
NOT TO SCALE E-401



DRAWN BY: SP

PANDA PROJECT #: - S8-24-D25584
C&P PROJECT #: - 20230301

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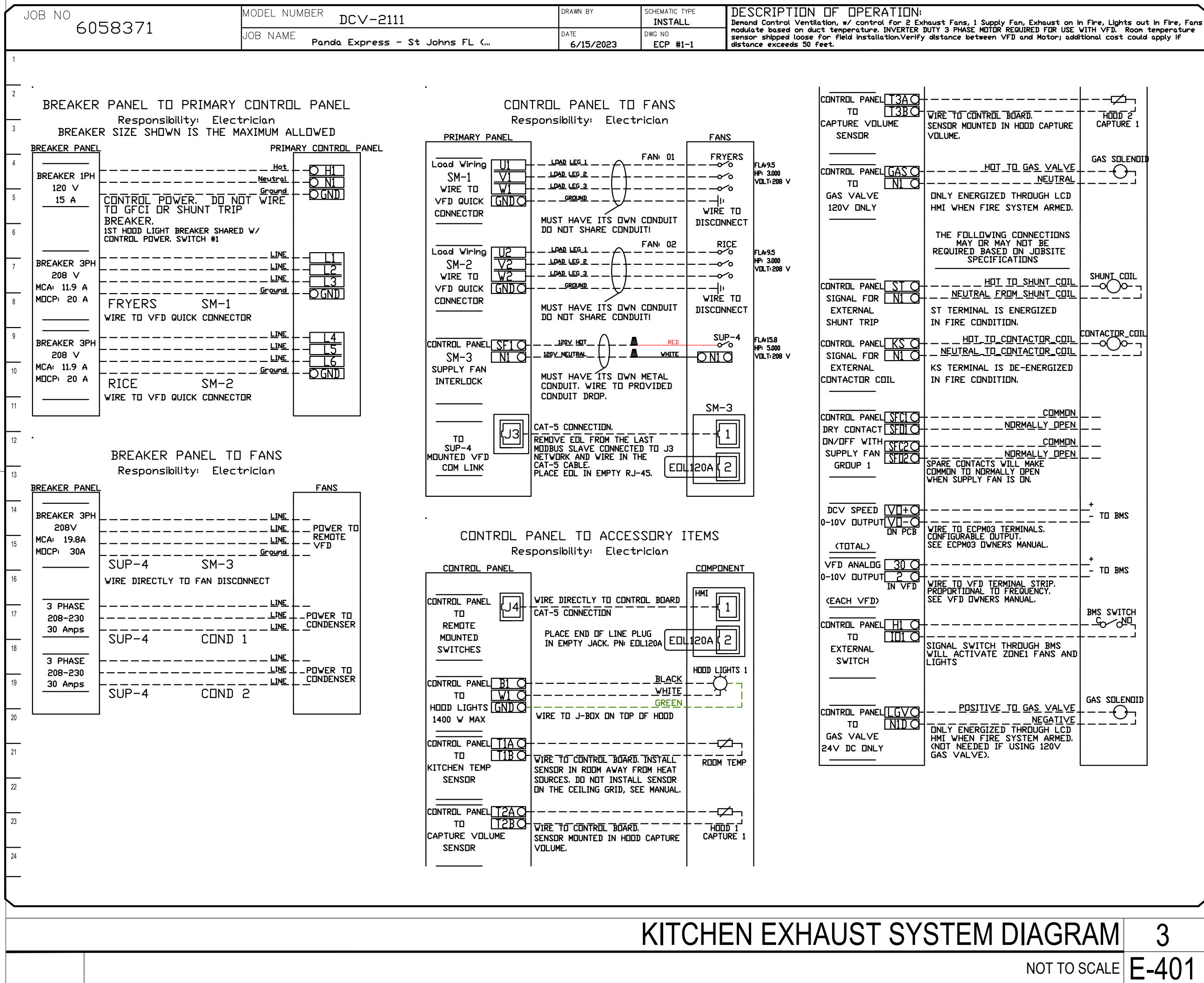


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E-401

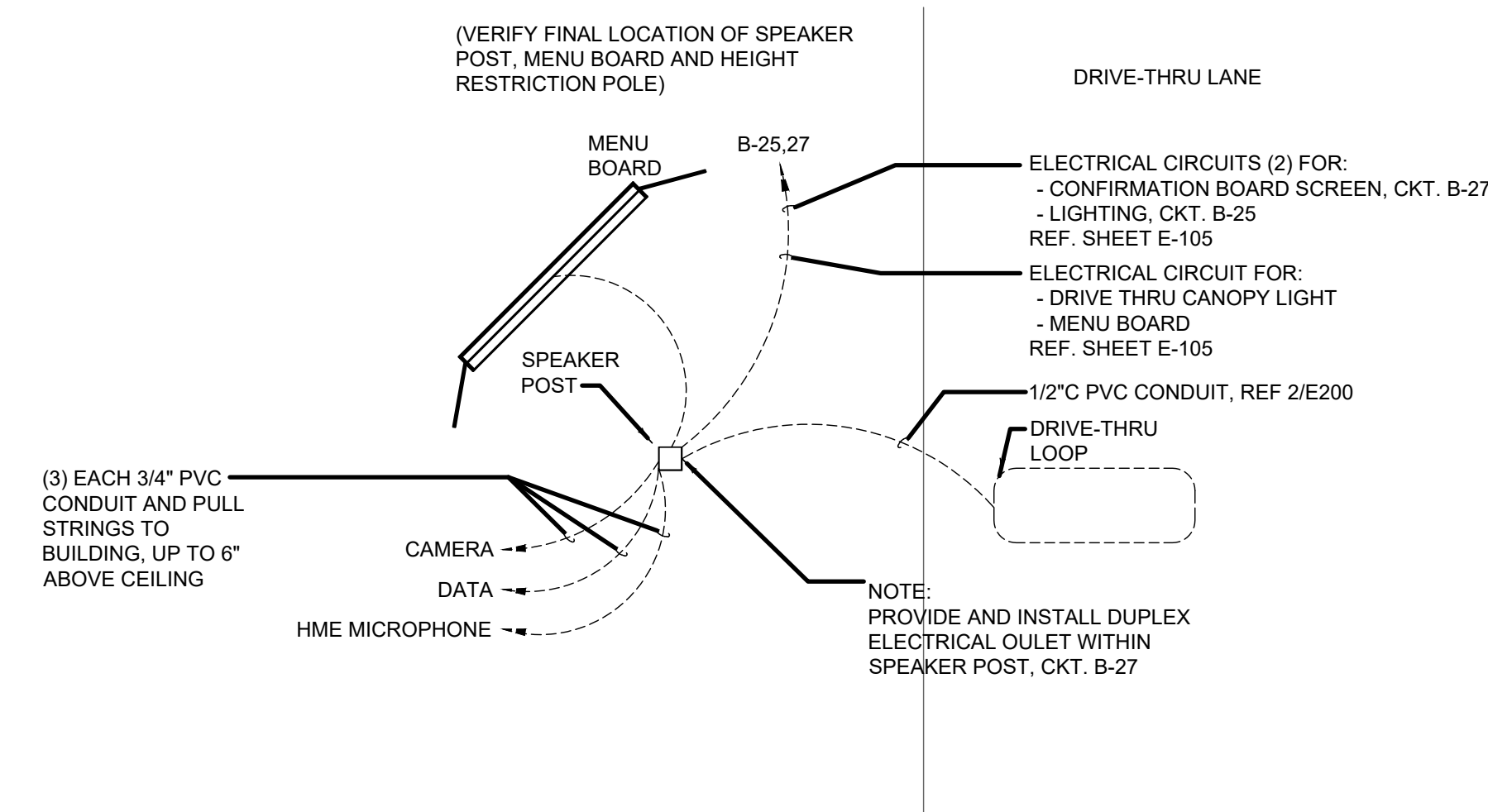
ELECTRICAL DETAILS, DIAGRAMS

PANDA HOME 2600 R4



KITCHEN EXHAUST SYSTEM DIAGRAM 3
NOT TO SCALE E-401

MENU BOARD & SENSOR LOOP 1
NOT TO SCALE E-401



PANELBOARD NOTES ()

- KITCHEN EQUIPMENT SHOWN AT 65% IN PANEL TOTALS PER NEC (KITCHEN EQUIPMENT).
- TERMINATE GROUND ON ISOLATED GROUND BUS.
- ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR, CONTROLLED BY TIMECLOCK. REFER TO DETAILS, SHEET 11/E-400.
- WIRE SIZE INCREASE DUE TO VOLTAGE DROP. SIZE EQUIPMENT GROUND CONDUCTOR PROPORTIONALLY PER NEC.
- REFER TO ONE-LINE DIAGRAM FOR WIRE SIZES.
- GFCI BREAKER
- INSTALL LOCKING DEVICE (LOCK-OFF FOR MAINTENANCE).

PANELBOARD: PNL A

BUS AMPS: 400A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

AIC RATING: REF 1-LINE
SERVES: WHOLE BUILDING
MOUNTING: RECESSED
LOCATION: ELEC. CABINET

EQUIPMENT GROUND BUS
ISOLATED GROUND BUS

NOTE NO.	CKT NO.	DESCRIPTION	VOLTAMPS/PHASE			WIRE NO.	BKR AMP	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE			DESCRIPTION	CKT NO.	NOTE NO.
			A	B	C						A	B	C			
	1	WIC DISPLAY LTS/MENUBRODLED	330			12	20	1	20	12	1,000			FAX '87; MGR 'B4C; COMP '49A'	2	
	3	HOOD CONTRL PNL 'M4'		500		12	20	1	1	20	12		600	MUSIC, VCR, MONITOR	4	
	5	SERVICE POS 94, PTR '86A' (2.6)			1,100	12	20	1	1	20	12			COMPUTER RECPT '83A' (2)	6	
	7	D THRU POS '94/PTR'S '86A' (2.6)	1,100			12	20	1	1	20	130			10J ICE MACHINE (6)	8	
	9	95-4-S3, FLY LT.CO2 (1.6)		820		12	20	1	2	20	12		1,410	CHF-25 'M10' AIR CURTAIN	10	
	11	RICE WARMER '54A' (1.4)			110	12	20	1					1,410		12	
	13	REF. PREP TABLE '340' (1)	1,800			12	20	1	1	20	12	1,180		REAR DOOR - FLY FAN 'M8A'	14	
	15	REF. PREP TABLE '340' (1)		1,080		12	20	1	1	20	12		100	FIRE SUPPRESS SHUTDOWN	16	
	17	UNDER CTR FRZR '30L' (1.4)			1,080	10	20	1	1	20	12		1,180	SIDE DOOR - FLY FAN 'M8C'	18	
	19	BEV. DISP. '44B' (1)	1,120			12	20	1	1	20	10		1,300	INDUCT WELL 3F, 3G (1.4.6)	20	
	21	SERVING COUNTER		100		12	20	1	1	20	10		1,300	INDUCT WELL 3F, 3G (1.4.6)	22	
	23	ICE TEA BREWER '90D'			1,780	12	20	1	1	20	10		1,300	INDUCT WELL 3F, 3G (1.4.6)	24	
	25	FOOD PROCESSOR '53'	1,200			12	20	1	1	20	10		1,300	INDUCT WELL 3F, 3G (1.4.6)	26	
	27	ELEC. DOOR EQUIPMENT		720			20	1	1	20	10		1,300	INDUCT WELL 3F, 3G (1.4.6)	28	
	29	WALK-IN COOLER COIL '31M' (1)			240	12	20	1	1	20	10		1,300	INDUCT WELL 3F, 3G (1.4.6)	30	
	31	RICE HOLD CABINET '24H' (1.4.6)	1,780			10	20	1	1	20	12		1,300	INDUCT WELL 3F, 3G (1.4.6)	32	
	33	FUTURE CONTROLS (1.6)		200		12	20	1	1	20	12		840	RAD TOP HEATER 'IS281' (1)	34	
	35	TIMECLOCK			100	12	20	1	1	20	12			RAD TOP HEATER 'IS282' (1)	36	
	37	4B' BOOSTER OUTLET (6)	860			12	20	1	1	20	12		1,100	RAD TOP HEATER 'IS282' (1)	38	
	39	HEATWRAP '32-S7' (4)		500		12	20	1	1	20	12			SPARE	40	
	41	FLY LIGHT (6)			180	12	20	1	2	20	12			THAWING CABINET	42	
	43	DUCT DETECTORS				12	20	1					1,520		44	
	45	LTG-FOOD PREPREF-3 (4)	200	1,130		20	20	1	1	20	12		500	SPARE	46	
	47	LTG - DINING AREA			250	12	20	1	2	15	12		1,400	MICROWAVE - 55A (1)	48	
	49	SHOW WINDOW RECPTS	900			12	20	1					1,400		50	
	51	GENERAL RECPTS		720		12	20	1	1	20	12		180	FUTURE EQUIPMENT	52	
	53	EXTERIOR RECPTS			360	12	20	1	1	20	12		360	SPARE	54	
	55	GREASE REMOVAL	180				20	1	1	20	12		1,230	ICE MACHINE COND. '10J-S' (1)	56	
	57	10J ICE MACHINE (6)				12	20	1					1,230		58	
	59	GAS WATER HEATER - P2, GFCI (6)			960	12	20	1	2	40	8		3,120	WALK IN FRZR COND. '32-S1' (1,7)	60	
	61	ICE TEA BREWER '90D' (1.4)	1,780			10	20	1					3,120		62	
	63	LIGHTING - RESTROOMS		70		12	20	1	2	35	10		3,640	WALK IN COOL COND '31-S' (1)	64	
	65	SPARE					20	1					5,520		66	
	67	DT WINDOW 'M9A' AIR CURTAIN	500			12	20	1					5,520		68	
	69	DRIVE THRU HOT WELL CABINET		2,200	2,200	6	50	2	3	50	6		5,520	RTU-3 (LENNOX)	70	
	71												5,520		72	
	73	ELECTRIC GRIDDLE - '23E' (1.6)	3,790			6	50	2					5,520		74	
	75			3,790					3	50	6		5,520	RTU-2 (LENNOX)	76	
	77	SPARE					20	1					5,520		78	
	79	SPACE						1					3,840		80	
	81	SPACE						1	3	45	6		3,840	RTU-1 (LENNOX)	82	
	83	SPACE						1					3,840		84	

SUBTOTAL						SUBTOTAL		
TOTAL PHASE A - VA	45,000	LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
AMPS	375	COOLING	44,640	1.00	REFRIGERATION	13,760	1.00	
TOTAL PHASE B - VA	37,810	HEATING		0	SIGN/DISPLAY		1.25	
AMPS	315	LIGHTING	1,450	1.25	KITCHEN	45,130	0.65	
TOTAL PHASE C - VA	40,070	RECEPTACLES	2,620	1.0/5	EXISTING		1.00	
AMPS	334	MOTORS	1,180	1.00	LARGE MOTOR		1.25	TOTAL DEMAND
TOTAL PNLBD - VA	122,880	SUPP HEAT	1,460	1.00	SHOW WINDOW	900	1.25	107,802 VA
AMPS	341	MISC EQUIP	11,870	1.00	LTG TRACK		1.00	299 A

PANELBOARD NOTES

- FED FROM: FEED THRU CONNECTION: (2) Sets of #3/0
- INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS NOT ALLOWED.
 - PROVIDE AN ARC FLASH WARNING SIGN PER NEC 110.16.

PANELBOARD: PNL B

BUS AMPS: 225A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120V, 3PH, 4W
SECTION: 1

AIC RATING: REF 1-LINE
SERVES: WHOLE BUILDING
MOUNTING: RECESSED
LOCATION: ELEC CABINET

EQUIPMENT GROUND BUS

NOTE NO.	CKT NO.	DESCRIPTION	VOLTAMPS/PHASE			WIRE NO.	BKR AMP	P	BKR AMP	WIRE NO.	VOLTAMPS/PHASE			DESCRIPTION	CKT NO.	NOTE NO.
			A	B	C						A	B	C			
	1	LOGO 'S2/I.D. SIGN 'S1' (3)	1,200			12	20	1	2	20	10	1,230		ICE MACHINE COND. '10J-S1' (4)	2	
	3	EXTERIOR LIGHTING - POLE (3.4)		590		10	20	1				1,230			4	
	5	EXTERIOR LIGHTING - POLE (3.4)			590	10	20	1	1	20	12		900	21G MJ345 FRYER (1.6)	6	
	7	TICKET PRINTER	220			12	20	1				5,640			8	
	9	BEV. DISPENSER 4AB (1.4)		1,120		10	20	1	3	60	6	5,640		POT WASHER	10	
	11	SECURITY/POS MONITORS				12	20	1					5,640		12	
	13	HYPERACTIVE TIMER SYS.	100			12	20	1	1	20	12	100		MENUBOARD (3.4)	14	
	15	SIGN DISPLAYS		260		12	20	1	1	20	12		1,500	DR THRU ORDER SCREEN (4)	16	
	17	EXTERIOR POLE MOUNT LTG(3.4)			300	12	20	1	1					SPACE	18	
	19	COKE CARBONATOR	200			12	20	1				2,570			20	
	21	MONUMENT SIGN (3.4)		500		10	20	1	3	30	10	2,570		CU-2	22	
	23	BUILDING LTS/SEM (3)	1,500			12	20	1					2,570		24	
	25	MENUBOARD (3.4)				12	20	1				710			26	
	27	DR THRU ORDER SCREEN (4)		1,000		12	20	1	3	15	12		710	EF-1	28	
	29	RTU'S CONVENIENT RECPTS			540	12	20	1					710		30	
	31	CANOPY LIGHTS (3)		130		12	20	1							32	
	33	CANOPY LIGHTS (3)		130		12	20	1	3	15	12		710	EF-2	34	
	35	EXTERIOR MOTION SECURITY LED				12	20	1					710		36	
	37		2,570												38	
	39	CU-1		2,570		10	30	3	3	45	8	2,400		MAU-1	40	
	41				2,570								2,400		42	

SUBTOTAL						SUBTOTAL		
TOTAL PHASE A - VA	19,280	LOAD	CONN. VA	DF	LOAD	CONN. VA	DF	
AMPS	161	COOLING	15,420	1.00	REFRIGERATION	2,460	1.00	
TOTAL PHASE B - VA	20,930	HEATING		0	SIGN/DISPLAY	1,200	1.25	
AMPS	174	LIGHTING	2,650	1.25	KITCHEN	2,020	1.00	
TOTAL PHASE C - VA	17,840	RECEPTACLES	540	1.0/5	EXISTING		1.00	
AMPS	149	MOTORS	11,460	1.00	LARGE MOTOR		1.25	TOTAL DEMAND
TOTAL PNLBD - VA	58,050	SUPP HEAT		1.00	SHOW WINDOW		1.25	59,013 VA
AMPS	161	MISC EQUIP	22,300	1.00	LTG TRACK		1.00	164 A

PANELBOARD NOTES

- FED FROM:
- INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS NOT ALLOWED.
 - PROVIDE AN ARC FLASH WARNING SIGN PER NEC 110.16.

- UNLESS NOTED, ALL DEVICES AND TERMINATIONS 100 AMPS AND LESS TO BE RATED FOR 60°C WIRE, OVER 100 AMPS, 75°C WIRE.
- CONTRACTOR TO SUBMIT SERVICE ENTRANCE GEAR SHOP DRAWINGS TO SERVING UTILITY COMPANY FOR APPROVAL.
- ALL WIRE #8 AND SMALLER TO BE THWN/THHN CU.; #6 AND LARGER TO BE XHHW CU.
- THE DESIGN PROFESSIONAL HAS PERFORMED ALL REQUIRED LOAD CALCULATIONS AND VERIFIES THAT ALL UPSTREAM PANELS AND EQUIPMENT ARE NOT OVERLOADED.
- E.C. SHALL PROVIDE GROUNDING PER NEC ARTICLE 250, RE: 1/E400 FOR ADDITIONAL INFORMATION.

SINGLE LINE DIAGRAM GENERAL NOTES

3

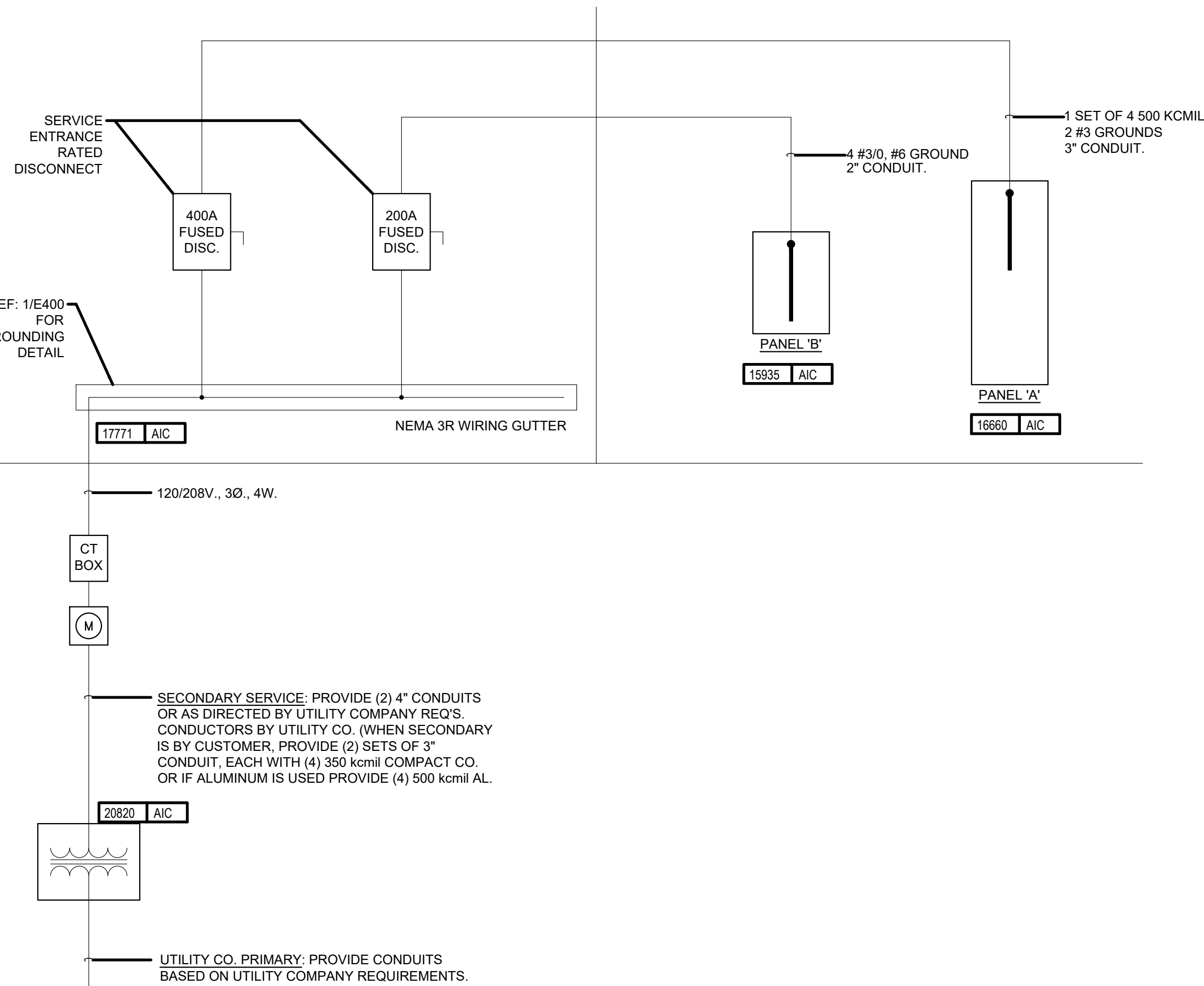
NOT TO SCALE E-601

- ENTIRE INSTALLATION TO COMPLY WITH N.E.C. 110.22 AND 240.86(B).
- NO DESIGN CHANGES MAY BE MADE TO THE SYSTEM WITHOUT THE PRIOR APPROVAL OF THE DESIGN ELECTRICAL ENGINEER AND THE ELECTRICAL INSPECTOR.
- A TWO TIER 65000/10000 AIC SERIES RATING SYSTEM IS SPECIFIED BETWEEN THE SES MAINS FUSES AND THE PANEL BRANCH CIRCUIT BREAKERS, NO SUBSTITUTIONS - UNLESS A FULLY RATED SYSTEM IS PROVIDED.
- MOTOR CONTRIBUTION TO THE FAULT CURRENT IS LESS THAN 1% OF THE INTERRUPTING RATING OF THE DOWNSTREAM CIRCUIT BREAKER(S).
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE LABELS AT ALL COMPONENTS OF THE SERIES PROTECTED SYSTEM; AT PANEL 'A' STATING "CAUTION - 65/10 SERIES COMBINATION SYSTEM RATED 21,572 AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED", AT PANEL 'B' STATING "CAUTION - 65/10 SERIES COMBINATION SYSTEM RATED 20,985 AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED". IDENTIFIED REPLACEMENT COMPONENTS REQUIRED"
- EQUIPMENT SUPPLIER TO PROVIDE CUT SHEETS OF ALL SERIES RATED COMPONENTS (I.E. FUSES, CIRCUIT BREAKERS) HI-LIGHTING EACH ITEM AND THE SPECIFIC LISTING/TESTING OF EACH ITEM'S SERIES RATING WITH THE OTHER.
- POST THIS INFORMATION ON THE JOB-SITE WITH PERMIT FOR CITY ELECTRICAL INSPECTOR'S REVIEW/APPROVAL.

SERIES RATING NOTES

4

NOT TO SCALE E-601



PANEL SCHEDULES

1

NOT TO SCALE E-601

ELECTRICAL SERVICE ENTRANCE COORDINATION

NEW SERVICE REQUIRED: 600A, 120/208V, 3 PHASE, 4 WIRE				UTILITY COMPANY: XXXXXXXXXXXXXXXXXX			
SERVICE TO BUILDING ROUTED: TBD				NAME OF CONTACT: XXXXXXXXXXXXXXXXXX			
AVAILABLE FAULT CURRENT: TBD				PHONE: (XXX)-XXX-XXXX			
METERING LOCATION: EXTERIOR BUILDING				EMAIL: XXXXXXXXXXXX@XXXXX.com			