

| ELECTRICAL SPECIFICATIONS  |  |  | GENERAL NOTES           |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
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| <div><div>PART 1 - GENERAL</div><div>1.01 COORDINATION OF TRADES: SCHEDULE AND COORDINATE WORK WITH THAT OF OTHER DIVISIONS AND SECTIONS.</div><div>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.</div><div>PART 2 - PRODUCTS</div><div>2.01 MATERIALS AND EQUIPMENT</div><div>A. MATERIAL FURNISHED UNDER THIS CONTRACT, UNLESS OTHERWISE NOTED, SHALL BE NEW, FREE FROM DEFECTS AND SHALL CONFORM WITH THE STANDARDS OF UL.</div><div>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.</div><div>C. THE DRAWINGS GENERALLY INDICATE 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.</div><div>2.02 RACEWAYS</div><div>A. GALVANIZED RIGID CONDUIT (GRC); INCLUDING ELBOWS AND COUPLINGS.</div><div>B. INTERMEDIATE METAL CONDUIT (IMC); INCLUDING ELBOWS AND COUPLINGS.</div><div>C. ELECTRIC METALLIC TUBING (EMT) WITH FITTINGS OF PRESSED STEEL OR MALLEABLE IRON, COMPRESSION TYPE (IN WET AREAS ONLY) WITH INSULATED THROATS.</div><div>D. RIGID NON-METALLIC CONDUIT: (PVC) U.L. LABELED SCHEDULE 40 P.V.C.; SCHEDULE 80 WHERE SUBJECT TO PHYSICAL DAMAGE.</div><div>2.03 DEVICE AND JUNCTION BOXES: INCLUDE PLASTER RINGS, COVERS, AND KO SEALS AS REQUIRED.</div><div>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.</div><div>2.05 ADDED PANELS TO BE PANELBOARDS - LOAD CENTERS ARE NOT ACCEPTABLE UNLESS SPECIFICALLY APPROVED.</div><div>2.06 SERVICE ENTRANCE AND DISTRIBUTION GEAR BY G.E., SQUARE "D", CUTLER HAMMER/SIEMENS ONLY. INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS NOT ALLOWED.</div><div>2.07 SWITCHBOARDS: COPPER BUSSING WITH FULL CAPACITY NEUTRAL. ALUMINUM ALLOWED WHEN APPROVED BY ENGINEER.</div><div>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.</div><div>2.13 SAFETY SWITCHES: FUSED, HEAVY DUTY, HORSEPOWER RATED.</div><div>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 MANUFACTURER'S RECOMMENDATIONS. AMBIENT COMPENSATE ALL HEATERS EXPOSED TO HIGH TEMPERATURE OR INSTALLATION OUTSIDE.</div><div>2.16 NAMEPLATES: PROVIDE BLACK LAMICOID NAMEPLATES WITH 3/16" HIGH WHITE ENGRAVED LETTERS ON PANELS, SWITCHBOARDS, MAINS AND SUBMANS, DISTRIBUTION EQUIPMENT, REMOTE SAFETY SWITCHES, CIRCUIT BREAKERS, TIME SWITCHES, CONTACTORS, AND STARTERS.</div><div>2.17 WIRING DEVICES</div><div>A. HUBBELL OR COMPARABLE LEVITON OR BRYANT: WHITE AND GREY IN COLOR - AS NOTED ON DRAWINGS. 15 AMP DEVICES ALLOWED ONLY WHEN SPECIFICALLY DENOTED ON ELECTRICAL CONSTRUCTION DRAWINGS.</div><div>B. TOGGLE SWITCHES: SINGLE POLE - HUBBELL 1221-20A, 120/277V, THREE WAY - HUBBELL 1223-20A, 120/277V, FOUR WAY - HUBBELL 1224-20A, 120/277V.</div><div>C. RECEPTACLES: DUPLEX GROUNDING TYPE, SPECIFICATION GRADE, 125 VOLT, 20 AMPERES, SINGLE PHASE, HUBBELL NO. 5262 OR COMPARABLE.</div><div>D. GROUND FAULT INTERRUPTER TYPE RECEPTACLE: DUPLEX GROUNDING TYPE, SPECIFICATION GRADE, 125 VOLT, 20 AMPERES, SINGLE PHASE, 5 mA GROUND TRIP, FEED THROUGH CONSTRUCTION.</div><div>2.18 DEVICE PLATES: LEXAN (STA-KLEEN), SMOOTH FINISH IN STAINLESS STEEL AND WHITE - AS NOTED ON PLANS. MULTI-GANG OUTLET PLATES SHALL BE USED FOR MULTI-GANG BOXES.</div><div>2.19 NOT USED.</div><div>2.20 LIGHTING FIXTURES</div><div>A. PROVIDE FIXTURES PER SCHEDULE WITH ALL PARTS INCLUDING PLASTER FRAMES FOR RECESSED FIXTURES AND FITTINGS NECESSARY TO COMPLETELY AND PROPERLY INSTALL FIXTURES.</div><div>B. LAMPS: INCANDESCENT LAMPS BY G.E., SYLVANIA, OR WESTINGHOUSE, 130 VOLT, EXTENDED LIFE LAMPS. LED LAMPS BY G.E., SYLVANIA, PHILLIPS, OR WESTINGHOUSE. MINIMUM CRI OF 80. WATTAGE AND TYPES AS REQUIRED BY FIXTURE.</div><div>PART 3 - EXECUTION</div><div>3.01 GENERAL INSTALLATION</div><div>A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN A NEAT, APPROVED, FINISHED, AND SAFE MANNER.</div><div>B. INSPECT AND MAKE TIGHT ALL CONNECTIONS FOR ALL EQUIPMENT, INCLUDING FACTORY CONNECTIONS. TORQUE ALL CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS.</div><div>C. LIGHTING FIXTURES INSTALLED AND USED FOR LIGHTING DURING CONSTRUCTION SHALL BE RELAMPED WITH NEW LAMPS JUST PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.</div><div>D. INSTALL SEISMIC RESTRAINT DEVICES FOR ALL CEILING MOUNTED EQUIPMENT, I.E. LED LAY-IN FIXTURES. PROVIDE GRID CLIPS AND #12 SLACK WIRES FROM FIXTURE CORNERS TO STRUCTURE.</div><div>3.02 RACEWAYS</div><div>A. INSTALL COMPLETE RACEWAY SYSTEMS FOR ALL ELECTRICAL CONDUCTORS INCLUDING TELEPHONE, SIGNAL, CONTROL, AND OTHER SYSTEMS.</div><div>B. UNLESS OTHERWISE NOTED, INSTALL ALL RACEWAYS CONCEALED. WHERE IT IS NOT FEASIBLE TO CONCEAL RACEWAYS, INSTALL AS DIRECTED BY ARCHITECT.</div><div>C. INSTALL EXPOSED RACEWAYS TO RUN PARALLEL OR AT RIGHT ANGLES TO STRUCTURAL BUILDING LINES WITH NEAT BENDS AND NEATLY OFFSET INTO TERMINATIONS.</div><div>D. IN EMPTY RACEWAY PROVIDE AND INSTALL A NO. 14 NYLON DRAG LINE.</div><div>E. INSTALL RACEWAYS WITH APPROVED HEAVY DUTY SUPPORTS, STRAPS, HANGERS, CONNECTORS, AND COUPLINGS AS REQUIRED TO MAINTAIN AN APPROVED INSTALLATION.</div><div>F. DO NOT INSTALL CONDUIT RACEWAYS IN CONCRETE SLABS.</div><div>H. MINIMUM CONDUIT SIZE TO BE 3/4" U.N.O.</div><div>3.03 GALVANIZED RIGID CONDUIT (GRC) ALL RACEWAYS SHALL BE GRC EXCEPT AS NOTED OR SHOWN. CONDUIT, ELBOWS, 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.</div><div>3.04 INTERMEDIATE METAL CONDUIT (IMC) IMC RACEWAY AND APPROVED FITTINGS WHERE PERMITTED BY APPLICABLE CODES AND REGULATIONS MAY BE USED IN LIEU OF RIGID STEEL CONDUIT, WHERE INSTALLED ABOVE FINISH GRADE AND ABOVE CONCRETE SLABS ON GRADE.</div><div>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.</div><div>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.</div><div>3.07 RIGID NONMETALLIC CONDUIT PVC MAY BE INSTALLED FOR DIRECT BURIAL RACEWAYS WHERE INSTALLED WITH MINIMUM COVERAGE PER NEC TABLE 300-5.</div><div>3.08 OUTLET, PULL AND JUNCTION BOXES</div><div>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.</div><div>B. WALL SWITCHES: 44".</div><div>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.</div><div>3.09 CONDUCTORS (COPPER ONLY)</div><div>A. USE SPECIFIED COLOR SCHEDULE FOR WIRING. WHERE LARGE CONDUCTORS ARE NOT AVAILABLE IN COLORS, IDENTIFY WITHPERMANENT COLORED TAPE AT TERMINATIONS, JUNCTION BOXES, ETC. COLOR CODING PER NEC.</div><div>B. MAKE TAPS, JOINTS, SPLICES, AND OTHER CONNECTIONS WITH FIXTURE CONNECTORS.</div><div>C. DO NOT INSTALL WIRING OR PULL WIRES IN RACEWAYS UNTIL RACEWAY SYSTEM IS COMPLETE, CLEAN AND DRY AND FREE OF ALL FOREIGN MATERIALS. LUBRICATE AS REQUIRED WITH SPECIFIED LUBRICANT.</div><div>D. MINIMUM CONDUCTOR SIZE TO BE #12 CU. THWN.</div><div>3.10 LIGHTING FIXTURES</div><div>A. LEAVE FIXTURES AND LAMPS CLEAN OF ALL DIRT, DUST, GREASE SPOTS AND DEBRIS AND ALL GLASS, PLASTIC AND OTHER COMPONENTS, UNSCRATCHED AND UNBROKEN.</div><div>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.</div><div>C. FIXTURES WITH FINISH TRIM OR LENS FRAMES SHALL BE GASKETED AND BAFFLED TO PREVENT LIGHT LEAKS. INSTALL SO THAT NOLIGHT LEAKS EXIST.</div><div>D. FIXTURES MOUNTED DIRECTLY ON COMBUSTIBLE LOW-DENSITY CEILINGS SHALL BE UL APPROVAL FOR THIS CONDITION AND BE PLAINLY MARKED SO INDICATING.</div><div>3.11 GROUNDING</div><div>A. GROUNDING FOR DISTRIBUTION EQUIPMENT, EQUIPMENT AND MATERIALS WITH ELECTRICAL CONNECTIONS, ELECTRIC MOTOR FRAMES, ELECTRIC RACEWAY AND RELATED EQUIPMENT, SHALL BE EFFECTIVELY AND PERMANENTLY GROUNDED IN ACCORDANCE WITH PERTINENT SECTIONS OF ARTICLE 250 OF NEC. RESISTANCE TO GROUND SHALL NOT EXCEED 25 OHMS.</div><div>B. ALL RACEWAYS SHALL HAVE AN APPROVED SIZED, INSULATED, STRANDED COPPER GROUNDING TYPE CONDUCTOR.</div><div>C. WHERE RACEWAYS CONNECT TO A CO-CENTRIC K.O. PROVIDE GROUNDINGS LOCKNUT OR BUSHING AND BOND WIRE EXTENDED AND BONDED TO ENCLOSURE, SIZE PER NEC.</div><div>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.</div><div>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.</div><div>3.14 FINAL INSPECTION TESTS: TEST SYSTEM FOR SHORTS AND GROUNDS. FAULTY WIRING SHALL BE REMOVED AND REPLACED. AFTER SYSTEM IS CONNECTED COMPLETE, 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 ENGINEER.</div><div>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 INDICATE THE SERVING PANEL AND CIRCUIT ORIGIN.</div></div> <div><div>1. THE ELECTRICAL DRAWINGS, SPECIFICATIONS AND GENERAL NOTES DESCRIBE THE RECOMMENDED 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.</div><div>2. BRANCH CONTROL 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).</div><div>3. ELECTRICAL INSTALLATION SHALL COMPLY WITH THE LOCALLY ADOPTED, AS NATIONAL ELECTRICAL CODE ADAPTED BY THE JURISDICTION AND ANY LOCAL SUPPLEMENTS.</div><div>4. EQUIPMENT SHOWN IS NEW, CONTRACTOR FURNISHED AND INSTALLED, UNLESS OTHERWISE NOTED. IF CONTRACTOR PROPOSED TO SUBSTITUTE SPECIFIC EQUIPMENT SPECIFIED, HE SHALL SUBMIT REQUEST FOR CONSIDERATION 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. THE CONTRACTOR SHALL BE RESPONSIBLE AT OWN EXPENSE FOR ANY CHANGE RESULTING FROM PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF OWN WORK, OR SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS OWN WORK OR THE WORK OF OTHER CONTRACTORS.</div><div>5. THE ELECTRICAL DRAWINGS, CONDUIT RUNS, WIRING AND ELECTRICAL INFORMATION ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR OUTLETS.</div><div>6. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES, CEILING MOUNTED OUTLETS AND EQUIPMENT.</div><div>7. ALL DEVICE MOUNTING HEIGHTS AND EXACT LOCATIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND ELEVATIONS PRIOR TO ROUGH-IN.</div><div>8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY TYPES OF CEILING SYSTEM. FIXTURES LOCATED IN DAMP OR WET LOCATIONS SHALL BE LISTED AND LABELED FOR USE IN SUCH LOCATIONS.</div><div>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.</div><div>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, DRIVERS, J-BOXES, ETC. SHALL BE ACCESSIBLE FROM FIXTURE OPENING.</div><div>11. WIRING AND ELECTRICAL EQUIPMENT INSTALLED FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE IN ACCORDANCE WITH MECHANICAL AND PLUMBING SPECIFICATIONS AND ASSOCIATED DRAWINGS. CONTRACTOR SHOULD OBTAIN THE REQUIRED MECHANICAL AND PLUMBING DRAWINGS AND PROVIDE ALL EQUIPMENT, RACEWAYS, WIRING, ETC., AS INDICATED THEREON AS PROVIDED UNDER THE ELECTRICAL WORK.</div><div>12. 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.</div><div>13. THE CONTRACTOR SHALL VERIFY THE LOAD INPUT VOLTAGE OF ALL EQUIPMENT PRIOR TO INSTALLATION. ACCEPTING ANY EQUIPMENT RESULTING IN A LOAD INCREASE SHALL BE THE RESPONSIBILITY OF CONTRACTOR.</div><div>14. ELECTRICAL OUTLETS ON OPPOSITE SIDES OF FIRE RATED WALLS AND PARTITIONS MUST BE SEPARATED BY DISTANCE OF 24 IN. HORIZONTALLY, IN ACCORDANCE WITH FBC SEC. 714.3.2. EXCEPTION 1.1 OPENINGS IN FIRE RATED WALLS GREATER THAN 16 SQ. IN. MUST BE FIRE STOPPED.</div><div>15. PROVIDE AN ADDITIONAL JUNCTION BOX (SIZE AS REQUIRED) WHERE THE NUMBER OF CONDUCTORS EXCEEDS THE MAXIMUM ALLOWED FOR A GIVEN JUNCTION POINT OR OUTLET.</div><div>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 TABLE 310.15 (B) (2) (a) AND ELSEWHERE IN CODE.</div><div>17. LED DRIVERS AND LAMPS SHALL BE CALIFORNIA ENERGY COMMISSION(CEC) CERTIFIED ENERGY SAVING TYPE.</div><div>18. DO DRILLING, CUTTING, CHANNELING AS REQUIRED FOR ELECTRICAL WORK AND INDICATED OR HEREIN SPECIFIED, HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT EXPOSED ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES AND FITTING TO MATCH IN COLOR TO ADJACENT SURFACES IN FINISHED AREAS. (PROTECT UL LISTINGS LABELS FROM PAINT).</div><div>19. SEAL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC., TO MAINTAIN THE FIRE RATING. FURNISH AND INSTALL FIRE RATED ENCLOSURE FOR EQUIPMENT PENETRATING INTO FIRE RATED ENVELOPS, SPACES ETC.</div><div>20. EMERGENCY LIGHTING SHALL BE PROVIDED AND SHALL BE DESIGNED TO PROVIDE MINIMUM REQUIRED FOOTCANDLES AND LUMENS. PROVIDE ADDITIONAL EMERGENCY ILLUMINATION AS REQUIRED BY AHJ.</div><div>21. ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA.</div><div>FIXED EQUIPMENT ON GRADE: 33% OF OPERATING WEIGHT</div><div>FIXED EQUIPMENT ON STRUCTURE: 50% OF OPERATING WEIGHT</div><div>EMERGENCY POWER AND COMMUNICATION &amp; EQUIPMENT ON GRADE: 50% OF OPERATING WEIGHT</div><div>EMERGENCY POWER AND COMMUNICATION ON STRUCTURE: 75% OF OPERATING WEIGHT</div><div>FOR FLEXIBLE MOUNTED EQUIPMENT USE 2 X THE ABOVE VALUES.</div><div>SIMULTANEOUS VERTICAL FORCE - USE 1/3 X HORIZONTAL FORCE.</div><div>CONDUIT, BUSDUCT, CABLE TRAY, WIREWAYS, ETC., SHALL BE BRACED IN ACCORDANCE WITH "GUIDELINES", PUBLISHED BY SMACNA AND PPIC.</div><div>NOTICE</div><div>THESE DRAWINGS ARE SUBJECT TO APPROVAL BY THE BUILDING DEPARTMENT, FIRE MARSHAL, UTILITY COMPANY AND OTHER AGENCIES AUTHORITY HAVING JURISDICTION (AHJ), BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK, THE CONTRACTOR HAS REVIEWED THE PLANS THOROUGHLY AND ACCEPTS FULL RESPONSIBILITY OF PLAN CORRECTIONS AND ASSOCIATED CONSTRUCTION COSTS REQUIRED BY AHJ.</div></div> <div><div>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".</div><div>ELECTRICIAN TO PROVIDE STAINLESS STEEL COVER PLATES FOR ALL LOW VOLTAGE JUNCTION BOXES.</div><div>NO UNDER SLAB ELECTRICAL WORK ALLOWED UNLESS OTHERWISE NOTED ON PLAN.</div></div> <table><tr><th colspan="3">ELECTRICAL SYMBOLS LIST</th></tr><tr><td colspan="3">NOTE: ALL DIMENSIONS GIVEN ARE TO DEVICE CENTERLINES. CONTRACTOR TO COORDINATE ALL INSTALLATIONS.</td></tr><tr><th>POWER DISTRIBUTION</th><th colspan="2">RECEPTACLES &amp; COMMUNICATIONS OUTLETS</th></tr><tr><td> SINGLE-POLE SWITCH, MANUAL MOTOR STARTER</td><td colspan="2"> FACELESS GFCI TEST/RESET DEVICE.</td></tr><tr><td> J-BOX (WITH FLEX CONNECTION TO EQUIPMENT.)</td><td colspan="2"> DUPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O.</td></tr><tr><td> DISCONNECT SWITCH, WITH RATING AS SHOWN ON PLANS</td><td colspan="2"> SIMPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O.</td></tr><tr><td> COMBINATION DISCONNECT SWITCH / MOTOR STARTER FURNISHED BY ELECTRICAL CONTRACTOR.</td><td colspan="2"> DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPLASH OR APPROXIMATELY 44" A.F.F.</td></tr><tr><td> BRANCH CIRCUITRY CONCEALED IN WALL OR CEILING WITH ADDITIONAL #12 INSULATED GND. U.N.O. HATCHES INDICATE NUMBER OF CURRENT CARRYING CONDUCTORS. 'X' INDICATES ADDITIONAL INSULATED, ISOLATED GROUND CONDUCTORS.</td><td colspan="2"> GFCI DUPLEX CONVENIENCE OUTLET, 20A, 125V, 5 mA TRIP, MTD @ 18" A.F.F. U.N.O.</td></tr><tr><td> BRANCH CIRCUIT HOMERUN TO PANEL AS NOTED ON PLANS</td><td colspan="2"> GFCI DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPLASH OR APPROXIMATELY 44" A.F.F.</td></tr><tr><td> INDICATES EXTERIOR UNDERGROUND WIRE RUNS.</td><td colspan="2"> TELEPHONE OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O. W/ 1" CONDUIT W/ PULL WIRE TO MANAGER'S STATION. 'W' SUBSCRIPT INDICATES WALL PHONE AT 54" AFF.</td></tr><tr><th>LIGHTING &amp; LIGHTING CONTROLS</th><td colspan="2"> DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION.</td></tr><tr><td> LIGHTING FIXTURE. SUBSCRIPT LETTER DENOTES FIXTURE TYPE AS DESCRIBED IN LIGHT FIXTURE SCHEDULE.</td><td colspan="2"> COMBINATION TEL/DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION.</td></tr><tr><td> SINGLE-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 300V. 20A.</td><td colspan="2"> T.V. SYSTEM DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION. WHEN SHOWN ADJACENT RECEPTACLE, MOUNT AT RECEPTACLE HEIGHT. REFER TO RECEPTACLE FOR MOUNTING HEIGHT.</td></tr><tr><td> TWO-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 300V. 20A.</td><td colspan="2"> SPECIAL PURPOSE RECEPTACLE MTD. @ 18" A.F.F. U.N.O., AMPERAGE AND PHASE AS NOTED ON PLANS, NEMA CONFIGURATION AS REQ'D.</td></tr><tr><td> SINGLE-POLE LIGHT SWITCH WITH PILOT LIGHT @ 44" A.F.F. U.N.O. 300V. 20A.</td><td colspan="2"> ISOLATED GROUND DUPLEX CONVENIENCE OUTLET (ORANGE), 20A., 125V., MTD @ +18" A.F.F.</td></tr><tr><td> OCCUPANCY SENSOR SWITCH WITH OFF CONTROL, AND ADJUSTABLE SETTINGS FOR TIME OFF DELAY, FOOTCANDLE LEVEL, AND MASKING. WATTSTOPPER OR EQUAL, MOUNT AT 44" A.F.F. U.N.O. USE PW-100 FOR OFFICES/CONF/ETC., WI-200 FOR CLASSROOMS/LARGE ROOMS/ETC.</td><td colspan="2"> DOUBLE DUPLEX CONVENIENCE OUTLETS UNDER COMMON COVER</td></tr><tr><td> CEILING MOUNT DUAL TECHNOLOGY ULTRASONIC / P.I.R. MOTION SENSOR TO CONTROL POWER TO ROOM SWITCHES - WATTSTOPPER #DT-300 (WITH POWER PACK) OR EQUAL.</td><td colspan="2"> ISOLATED DOUBLE DUPLEX CONVENIENCE OUTLETS (ORANGE) 20A., 125V.</td></tr><tr><td colspan="2">ABBREVIATIONS</td><td>FIRE ALARM</td></tr><tr><td>A AMPERES</td><td>M.C.B. MAIN CIRCUIT BREAKER</td><td> MANUAL PULL STATION WITH KEYED RESET. MOUNT UNIT AT 44" A.F.F. ALIGN WITH LIGHT SWITCH IF APPLICABLE.</td></tr><tr><td>AL ALUMINUM</td><td>M.L.O. MAIN LUGS ONLY</td><td> XENON STROBE UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER). MUST MEET OR EXCEED A.D.A. REQUIREMENTS.</td></tr><tr><td>A.F.F. ABOVE FINISHED FLOOR</td><td>MTD. MOUNTED</td><td> COMBINATION XENON STROBE AND HORN/CHIME UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER). UNIT MUST MEET OR EXCEED A.D.A. REQUIREMENTS.</td></tr><tr><td>A.F.G. ABOVE FINISHED GRADE</td><td>P. POLE</td><td> FIRE ALARM CONTROL PANEL. MOUNT TOP OF UNIT AT 72" A.F.F.</td></tr><tr><td>C CONDUIT</td><td>SW SWITCH</td><td> FIRE ALARM ANNUNCIATION PANEL. MOUNT TOP OF UNIT AT 72" A.F.F.</td></tr><tr><td>C/B CIRCUIT BREAKER</td><td>T.M.B. TELEPHONE MOUNTING BOARD</td><td> PHOTO ELECTRIC TYPE SMOKE DETECTOR.</td></tr><tr><td>CU COPPER</td><td>TYP. TYPICAL</td><td> DUCT MOUNTED PHOTO ELECTRIC SMOKE DETECTOR.</td></tr><tr><td>DISC. DISCONNECT</td><td>U.N.O. UNLESS NOTED OTHERWISE</td><td> RATE OF RISE HEAT DETECTOR.</td></tr><tr><td>F FUSE</td><td>V VOLTS</td><td></td></tr><tr><td>GFCI GROUND FAULT CURRENT INTERRUPTER</td><td>W. WIRE</td><td></td></tr><tr><td>G.GND. GROUND</td><td>W.P. WEATHERPROOF TRANSFORMER</td><td></td></tr><tr><td>H.P. HORSE POWER</td><td>XFMR PHASE</td><td></td></tr><tr><td>K 1000</td><td></td><td></td></tr></table> |  |  | ELECTRICAL SYMBOLS LIST |  |  | NOTE: ALL DIMENSIONS GIVEN ARE TO DEVICE CENTERLINES. CONTRACTOR TO COORDINATE ALL INSTALLATIONS. |  |  | POWER DISTRIBUTION | RECEPTACLES & COMMUNICATIONS OUTLETS |  | SINGLE-POLE SWITCH, MANUAL MOTOR STARTER | FACELESS GFCI TEST/RESET DEVICE. |  | J-BOX (WITH FLEX CONNECTION TO EQUIPMENT.) | DUPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O. |  | DISCONNECT SWITCH, WITH RATING AS SHOWN ON PLANS | SIMPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O. |  | COMBINATION DISCONNECT SWITCH / MOTOR STARTER FURNISHED BY ELECTRICAL CONTRACTOR. | DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPLASH OR APPROXIMATELY 44" A.F.F. |  | BRANCH CIRCUITRY CONCEALED IN WALL OR CEILING WITH ADDITIONAL #12 INSULATED GND. U.N.O. HATCHES INDICATE NUMBER OF CURRENT CARRYING CONDUCTORS. 'X' INDICATES ADDITIONAL INSULATED, ISOLATED GROUND CONDUCTORS. | GFCI DUPLEX CONVENIENCE OUTLET, 20A, 125V, 5 mA TRIP, MTD @ 18" A.F.F. U.N.O. |  | BRANCH CIRCUIT HOMERUN TO PANEL AS NOTED ON PLANS | GFCI DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPLASH OR APPROXIMATELY 44" A.F.F. |  | INDICATES EXTERIOR UNDERGROUND WIRE RUNS. | TELEPHONE OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O. W/ 1" CONDUIT W/ PULL WIRE TO MANAGER'S STATION. 'W' SUBSCRIPT INDICATES WALL PHONE AT 54" AFF. |  | LIGHTING & LIGHTING CONTROLS | DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION. |  | LIGHTING FIXTURE. SUBSCRIPT LETTER DENOTES FIXTURE TYPE AS DESCRIBED IN LIGHT FIXTURE SCHEDULE. | COMBINATION TEL/DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION. |  | SINGLE-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 300V. 20A. | T.V. SYSTEM DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION. WHEN SHOWN ADJACENT RECEPTACLE, MOUNT AT RECEPTACLE HEIGHT. REFER TO RECEPTACLE FOR MOUNTING HEIGHT. |  | TWO-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 300V. 20A. | SPECIAL PURPOSE RECEPTACLE MTD. @ 18" A.F.F. U.N.O., AMPERAGE AND PHASE AS NOTED ON PLANS, NEMA CONFIGURATION AS REQ'D. |  | SINGLE-POLE LIGHT SWITCH WITH PILOT LIGHT @ 44" A.F.F. U.N.O. 300V. 20A. | ISOLATED GROUND DUPLEX CONVENIENCE OUTLET (ORANGE), 20A., 125V., MTD @ +18" A.F.F. |  | OCCUPANCY SENSOR SWITCH WITH OFF CONTROL, AND ADJUSTABLE SETTINGS FOR TIME OFF DELAY, FOOTCANDLE LEVEL, AND MASKING. WATTSTOPPER OR EQUAL, MOUNT AT 44" A.F.F. U.N.O. USE PW-100 FOR OFFICES/CONF/ETC., WI-200 FOR CLASSROOMS/LARGE ROOMS/ETC. | DOUBLE DUPLEX CONVENIENCE OUTLETS UNDER COMMON COVER |  | CEILING MOUNT DUAL TECHNOLOGY ULTRASONIC / P.I.R. MOTION SENSOR TO CONTROL POWER TO ROOM SWITCHES - WATTSTOPPER #DT-300 (WITH POWER PACK) OR EQUAL. | ISOLATED DOUBLE DUPLEX CONVENIENCE OUTLETS (ORANGE) 20A., 125V. |  | ABBREVIATIONS |  | FIRE ALARM | A AMPERES | M.C.B. MAIN CIRCUIT BREAKER | MANUAL PULL STATION WITH KEYED RESET. MOUNT UNIT AT 44" A.F.F. ALIGN WITH LIGHT SWITCH IF APPLICABLE. | AL ALUMINUM | M.L.O. MAIN LUGS ONLY | XENON STROBE UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER). MUST MEET OR EXCEED A.D.A. REQUIREMENTS. | A.F.F. ABOVE FINISHED FLOOR | MTD. MOUNTED | COMBINATION XENON STROBE AND HORN/CHIME UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER). UNIT MUST MEET OR EXCEED A.D.A. REQUIREMENTS. | A.F.G. ABOVE FINISHED GRADE | P. POLE | FIRE ALARM CONTROL PANEL. MOUNT TOP OF UNIT AT 72" A.F.F. | C CONDUIT | SW SWITCH | FIRE ALARM ANNUNCIATION PANEL. MOUNT TOP OF UNIT AT 72" A.F.F. | C/B CIRCUIT BREAKER | T.M.B. TELEPHONE MOUNTING BOARD | PHOTO ELECTRIC TYPE SMOKE DETECTOR. | CU COPPER | TYP. TYPICAL | DUCT MOUNTED PHOTO ELECTRIC SMOKE DETECTOR. | DISC. DISCONNECT | U.N.O. UNLESS NOTED OTHERWISE | RATE OF RISE HEAT DETECTOR. | F FUSE | V VOLTS |  | GFCI GROUND FAULT CURRENT INTERRUPTER | W. WIRE |  | G.GND. GROUND | W.P. WEATHERPROOF TRANSFORMER |  | H.P. HORSE POWER | XFMR PHASE |  | K 1000 |  |  |
| ELECTRICAL SYMBOLS LIST  |  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| NOTE: ALL DIMENSIONS GIVEN ARE TO DEVICE CENTERLINES. CONTRACTOR TO COORDINATE ALL INSTALLATIONS.  |  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| POWER DISTRIBUTION   | RECEPTACLES & COMMUNICATIONS OUTLETS   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| SINGLE-POLE SWITCH, MANUAL MOTOR STARTER   | FACELESS GFCI TEST/RESET DEVICE.   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| J-BOX (WITH FLEX CONNECTION TO EQUIPMENT.)   | DUPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O.  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| DISCONNECT SWITCH, WITH RATING AS SHOWN ON PLANS   | SIMPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O.   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| COMBINATION DISCONNECT SWITCH / MOTOR STARTER FURNISHED BY ELECTRICAL CONTRACTOR.  | DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPLASH OR APPROXIMATELY 44" A.F.F.   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| BRANCH CIRCUITRY CONCEALED IN WALL OR CEILING WITH ADDITIONAL #12 INSULATED GND. U.N.O. HATCHES INDICATE NUMBER OF CURRENT CARRYING CONDUCTORS. 'X' INDICATES ADDITIONAL INSULATED, ISOLATED GROUND CONDUCTORS.  | GFCI DUPLEX CONVENIENCE OUTLET, 20A, 125V, 5 mA TRIP, MTD @ 18" A.F.F. U.N.O.  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| BRANCH CIRCUIT HOMERUN TO PANEL AS NOTED ON PLANS  | GFCI DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPLASH OR APPROXIMATELY 44" A.F.F.  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| INDICATES EXTERIOR UNDERGROUND WIRE RUNS.  | TELEPHONE OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O. W/ 1" CONDUIT W/ PULL WIRE TO MANAGER'S STATION. 'W' SUBSCRIPT INDICATES WALL PHONE AT 54" AFF.   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| LIGHTING & LIGHTING CONTROLS   | DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION.  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| LIGHTING FIXTURE. SUBSCRIPT LETTER DENOTES FIXTURE TYPE AS DESCRIBED IN LIGHT FIXTURE SCHEDULE.  | COMBINATION TEL/DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION.   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| SINGLE-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 300V. 20A.   | T.V. SYSTEM DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION. WHEN SHOWN ADJACENT RECEPTACLE, MOUNT AT RECEPTACLE HEIGHT. REFER TO RECEPTACLE FOR MOUNTING HEIGHT. |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| TWO-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 300V. 20A.  | SPECIAL PURPOSE RECEPTACLE MTD. @ 18" A.F.F. U.N.O., AMPERAGE AND PHASE AS NOTED ON PLANS, NEMA CONFIGURATION AS REQ'D.  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| SINGLE-POLE LIGHT SWITCH WITH PILOT LIGHT @ 44" A.F.F. U.N.O. 300V. 20A.   | ISOLATED GROUND DUPLEX CONVENIENCE OUTLET (ORANGE), 20A., 125V., MTD @ +18" A.F.F.   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| OCCUPANCY SENSOR SWITCH WITH OFF CONTROL, AND ADJUSTABLE SETTINGS FOR TIME OFF DELAY, FOOTCANDLE LEVEL, AND MASKING. WATTSTOPPER OR EQUAL, MOUNT AT 44" A.F.F. U.N.O. USE PW-100 FOR OFFICES/CONF/ETC., WI-200 FOR CLASSROOMS/LARGE ROOMS/ETC.   | DOUBLE DUPLEX CONVENIENCE OUTLETS UNDER COMMON COVER   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| CEILING MOUNT DUAL TECHNOLOGY ULTRASONIC / P.I.R. MOTION SENSOR TO CONTROL POWER TO ROOM SWITCHES - WATTSTOPPER #DT-300 (WITH POWER PACK) OR EQUAL.  | ISOLATED DOUBLE DUPLEX CONVENIENCE OUTLETS (ORANGE) 20A., 125V.  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| ABBREVIATIONS  |  | FIRE ALARM   |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| A AMPERES  | M.C.B. MAIN CIRCUIT BREAKER  | MANUAL PULL STATION WITH KEYED RESET. MOUNT UNIT AT 44" A.F.F. ALIGN WITH LIGHT SWITCH IF APPLICABLE.  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| AL ALUMINUM  | M.L.O. MAIN LUGS ONLY  | XENON STROBE UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER). MUST MEET OR EXCEED A.D.A. REQUIREMENTS.                                 |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| A.F.F. ABOVE FINISHED FLOOR  | MTD. MOUNTED   | COMBINATION XENON STROBE AND HORN/CHIME UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER). UNIT MUST MEET OR EXCEED A.D.A. REQUIREMENTS. |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| A.F.G. ABOVE FINISHED GRADE  | P. POLE  | FIRE ALARM CONTROL PANEL. MOUNT TOP OF UNIT AT 72" A.F.F.  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| C CONDUIT  | SW SWITCH  | FIRE ALARM ANNUNCIATION PANEL. MOUNT TOP OF UNIT AT 72" A.F.F.   |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| C/B CIRCUIT BREAKER  | T.M.B. TELEPHONE MOUNTING BOARD  | PHOTO ELECTRIC TYPE SMOKE DETECTOR.  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| CU COPPER  | TYP. TYPICAL   | DUCT MOUNTED PHOTO ELECTRIC SMOKE DETECTOR.  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| DISC. DISCONNECT   | U.N.O. UNLESS NOTED OTHERWISE  | RATE OF RISE HEAT DETECTOR.  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| F FUSE   | V VOLTS  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| GFCI GROUND FAULT CURRENT INTERRUPTER  | W. WIRE  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| G.GND. GROUND  | W.P. WEATHERPROOF TRANSFORMER  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| H.P. HORSE POWER   | XFMR PHASE   |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |
| K 1000   |  |  |                         |  |  |   |  |  |                    |                                      |  |  |                                  |  |  |   |  |  |  |  |   |  |  |   |   |  |   |   |  |   |  |  |                              |   |  |   |  |  |  |  |  |   |   |  |  |  |  |  |  |  |   |   |  |               |  |            |           |                             |   |             |                       |  |                             |              |  |                             |         |   |           |           |  |                     |                                 |                                     |           |              |   |                  |                               |                             |        |         |  |                                       |         |  |               |                               |  |                  |            |  |        |  |  |

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| ELECTRICAL SPECIFICATIONS |              | GENERAL NOTES |              | ELECTRICAL SYMBOLS |              |
|                           | 3            |               | 2            |                    | 1            |
|                           | NOT TO SCALE |               | NOT TO SCALE |                    | NOT TO SCALE |
|                           | E-000        |               | E-000        |                    | E-000        |

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| 2           | PERMIT SET | 03-15-21 |
| 3           | BID SET    | 04-02-21 |
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DRAWN BY: KTF / EJP

PANDA PROJECT #: S4-21-D7864

ARCH PROJECT #: P7350

Plans Prepared by: **cph Design, Inc.**  
500 West Fulton St.  
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Ph: 407.322.6841  
State of Virginia Licenses:  
Engineer No. 407006317  
Surveyor No. N/A  
Architect No. 407006317  
Landscape No. 407006317

PANDA EXPRESS  
END CAP - TENANT BUILD OUT  
4501 S LABURNUM AVE  
RICHMOND VA, 23231

E-000  
ELECTRICAL SYMBOLS  
SPECIFICATIONS, NOTES

ELECTRICAL SPECIFICATIONS3

NOT TO SCALEE-000

GENERAL NOTES2

NOT TO SCALEE-000

ELECTRICAL SYMBOLS1

NOT TO SCALEE-000



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DRAWN BY: KTF / EJP

PANDA PROJECT #: S4-21-D7864

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E-000

ELECTRICAL SYMBOLS SPECIFICATIONS, NOTES







1. VERIFY ALL HVAC & KITCHEN EQUIPMENT PRIOR TO ROUGH IN.
2. TELEPHONE/DATA/TV CABLES AND WIRES, 0TERMINATIONS, AND ALL REQUIRED CABLE AND JACKS WILL BE INSTALLED BY THIRD PARTY.
3. POWER SUPPLY FOR COMPUTER, CASH REGISTER (86A & 94) SHALL BE ON THE SAME CIRCUIT BREAKER. W/ISOLATED GROUND & ORANGE RECEPTACLE.
4. CIRCUITRY SHOWN WITHOUT TICKS SHALL HAVE (2) WIRES PLUS EQUIPMENT GROUNDING CONDUCTOR.
5. ALL MULTI-WIRE BRANCH CIRCUITS SHALL HAVE SEPARATE NEUTRALS TO MEET THE REQUIREMENTS OF NEC 210.4(B).
6. TRANSFORMERS SHALL BE MOUNTED ABOVE CEILING BELOW TRUSSES WITH LOW VOLTAGE WIRING FEEDING TO ALL EXTERIOR LIGHTS.

## POWER PLAN GENERAL NOTES

2

NOT TO SCALE

E-100

1. CIRCUITRY/CONDUIT FOR FRONT LINE EQUIPMENT TO BE ROUTED IN CASEWORK TO J-BOX IN WALL AND CONCEAL IN WALL.
2. PROVIDE SEALS AND EXPANSION COUPLINGS ON ALL CONDUITS ENTERING / LEAVING AREA OF TEMPERATURE DIFFERENCE.
3. PROVIDE (2) 1-1/2" CONDUITS WITH PULL STRINGS FROM CASH REGISTER TO MANAGER STATION.
4. SEE 'MANAGER STATION ELEVATION' 1 / E-200 FOR ADDITIONAL OUTLETS AND J-BOXES.
5. ANSUL PULL STATION. REFER TO DETAIL, SHEET 2 / E-400.
6. REFER TO 'LTG AND DOOR HEATER' WIRING DIAGRAM, SHEET 10 / E-400.
7. REFER TO 'COOLER EVAPORATOR COIL' WIRING DIAGRAM, SHEET 8 / E-400.
8. SHOW WINDOW RECEPTACLE SHALL BE CONTROLLED VIA SWITCH "1". REFER TO LIGHTING SWITCHBANK SCHEDULE, SHEET 4 / E-101. RECEPTACLE SHALL BE MOUNTED IN WALL AS CLOSE TO TOP OF STRUCTURAL HEADER AS POSSIBLE.
9. W.P. J-BOX FOR SIGNAGE PROVIDED BY LANDLORD. COORDINATE LOCATION WITH ARCHITECT / OWNER / SIGN PACKAGE. SIGN DISCONNECT PROVIDED BY SIGN CONTRACTOR.
11. NOT USED
12. NOT USED
13. GAS WATER HEATER: FEED RECEPTACLE WITH 2 #12, 1 #12 GROUND, 3/4" CONDUIT. FURNISH AND INSTALL RECEPTACLE AND CORD AND PLUG. COORDINATE THE EXACT CONFIGURATION WITH THE WATER HEATER SUPPLIER.
14. HOOD CONTROL PANEL / ANSUL SYSTEM CABINET. MOUNT CABINET DIRECTLY BELOW T-BAR CEILING.
15. PROVIDE 2-GANG J-BOX @ 48" AFF FOR HOOD CONTROL SWITCHES. REFER TO M-400, M-401 AND M-402.
16. 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.
17. ROUTE CABLING / CIRCUITRY THROUGH CONDUIT IN SLAB (KEYED NOTE #16).
18. UTILIZE SEAL TIGHT CONDUIT FOR ALL WIRING INCLUDED ALONG LOW WALL PANEL.
19. ALL DEVICES UNDER HOOD TO BE CONNECTED THROUGH SHUNT-TRIPPED CONTACTOR REFER TO 13/E-400 AND COOKLINE ELECTRICAL ELEVATIONS, 6 / E-200.
20. SIMPLEX RECEPTACLE TO BE CONNECTED TO BACK-OF-HOUSE LIGHTING CIRCUITRY/CONTROL. CONTRACTOR TO PROVIDE PIGTAIL FROM CIRCULATION PUMP.
21. PROVIDE WEATHERPROOF GFI RECEPTACLE FOR HEAT TAPE. COORDINATE FINAL LOCATION WITH REFRIGERATION INSTALLER.
22. ELECTRIC GRILL '23E' FEED WITH (2) #6, (1) #10 GROUND, 3/4" CONDUIT. REFER TO DETAIL, SHEET 4 / E-200.
23. NOT USED
24. FURNISH AND INSTALL (2) HUBBELL GFSTBF20 FACELESS GFCI (OR EQUIVALENT) (1) FOR EACH CIRCUIT FEEDING EQUIPMENT BENEATH THE KITCHEN HOOD WHICH UTILIZES SIMPLEX 120V RECEPTACLES. INSTALL IN AN ACCESSIBLE LOCATION IN THIS GENERAL AREA, OR AS DIRECTED BY THE OWNER, ARCHITECT OR ENGINEER. PROVIDE ADDITIONAL OUTLETS AS REQUIRED TO FEED ALL SUCH LOADS BENEATH HOOD. FASTEN A PLASTIC LABEL STATING CIRCUIT AND EQUIPMENT SERVED FOR EACH OUTLET.
25. PROVIDE WP-IN-USE COVER, RED DOT #CKSUV.
26. CONTRACTOR TO ENSURE THAT ELECTRICAL OUTLET SHOWN FALLS BENEATH TABLE TOP. REFER TO ARCHITECTURAL FURNITURE PLAN FOR EXACT LOCATION.
27. NOT USED
28. SEE DRINK STATION ELEVATIONS, SHEET 5 / E-200.
29. W.P. J-BOX FOR LIGHT FIXTURES PROVIDED BY LANDLORD. COORDINATE IN FIELD FOR EXACT LOCATION FOR J-BOX AND ANY ADDITIONAL REQUIREMENTS PRIOR TO STARTING ANY WORK AND INCLUDE ALL ASSOCIATED COSTS IN THE BID.
30. SEE P.O.S. AND SERVICE LINE ELEVATIONS, SHEET 3 / E-200.
31. NOT USED
32. NOT USED
33. NOT USED
34. REFER TO SHEET 9 / E-200 FOR INSTALLATION OF CO2 MONITOR.
35. SEE SWITCH BANK ELEVATION , SHEET 7 / E-200.
36. CONTRACTOR SHALL PROVIDE CONTROL WIREING FOR EVAPORATOR COIL SERVICE SWITCH TO CONDENSOR ON ROOF TO SHUT DOWN SIMUTANEOUSLY WITH EVAPORATOR WHEN INTERIOR EVAPORATOR, BLOWER, FANS ARE BEING SERVICED OR CLEANED. COORDINATE WITH EQUIPMENT MANUFACTURER PRIOR TO START OF WORK.
37. FLY LIGHT RECEPTACLE SHALL BE INSTALLED WITH A RECESSED CLOCK OUTLET. TYP. OF 3 LOCATIONS. PROVIDE GFCI IN KITCHEN AREAS. REFER TO DETAIL 10/E-200.
38. SEE SECURITY KEY PAD ELEVATION 1 / E-200.
39. CONNECT HEAT LAMPS TO COUNTER-MOUNTED SWITCH PROVIDED AND INSTALLED BY CONTRACTOR. REFER TO PLAN FOR LOCATIONS AND QUANTITIES.
40. 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.
41. NOT USED
42. NOT USED
43. NOT USED

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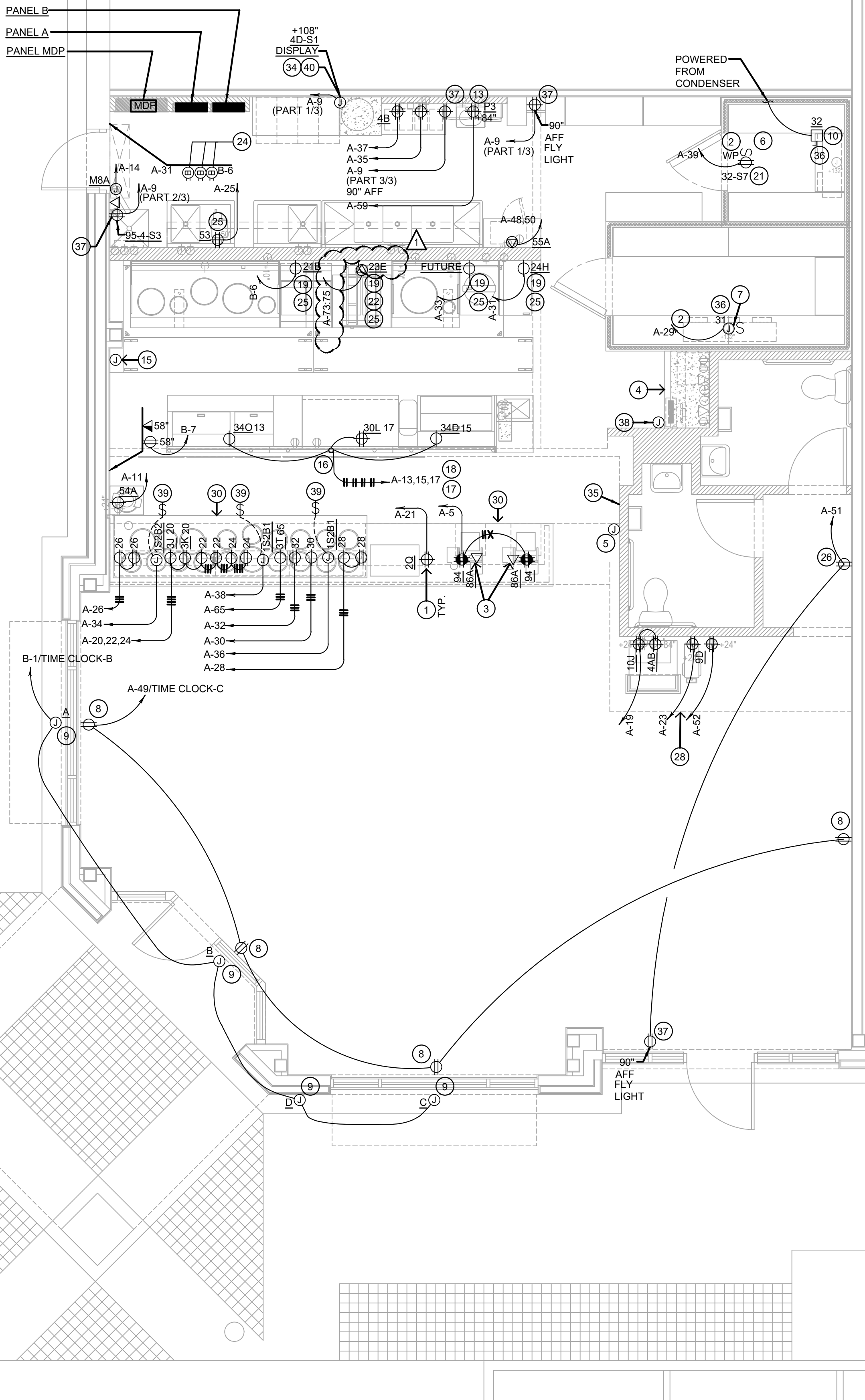
## POWER PLAN KEYED NOTES

3

NOT TO SCALE

E-100

NO UNDER SLAB ELECTRICAL WORK ALLOWED UNLESS OTHERWISE NOTED ON PLAN.



ALL 120 VOLT, 20 AMP RECEPTACLES LOCATED UNDER COUNTERS WITHIN SERVING AREA 101, DRIVE-THRU 102, AND KITCHEN 103 TO BE SERVED FROM GFCI-TYPE CIRCUIT BREAKERS PER NEC 210.8 (B) (2). ALL OTHER KITCHEN 120 VOLT RECEPTACLES SHALL PROVIDE GFCI RECEPTACLES.

## POWER FLOOR PLAN

1

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

E-100



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### REVISIONS:

| 1 | COMMENTS/OWNER REV | 04-07-21 |
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DRAWN BY: KTF / EJP

PANDA PROJECT #: S4-21-D7864

ARCH PROJECT #: P7350



## PANDA EXPRESS

END CAP - TENANT BUILD OUT  
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RICHMOND VA, 23231

# E-100

POWER FLOOR PLAN



1. ALL FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS WITH 20% OR LESS THD.
2. CONTRACTOR SHALL PROVIDE ALL REQUIRED HARDWARE, BRACKETS, ETC. FOR A COMPLETE INSTALLATION.
3. ALL LIGHTING FIXTURES SHALL BE SUPPORTED PER NEC 410-36(B). SEE DETAIL, SHEET 4 / E-4.00.
4. CONTRACTOR SHALL INSTALL ALL LIGHTING FIXTURES INCLUDING OWNER-FURNISHED FIXTURES.
5. ALL FIXTURE BALLASTS SHALL BE U.L. LISTED.
6. G.C. SHALL INSTALL OWNER SUPPLIED LED & CUT TO PROPER LENGTH
7. MULTIPLE CIRCUITS IN SAME CONDUIT SHALL HAVE SEPARATE NEUTRALS.
8. ALL FLUORESCENT FIXTURES SHALL HAVE INTEGRAL DISCONNECTING MEANS PER NEC 410.130(G)(1).
9. ALL CIRCUITRY SHOWN WITHOUT TICKS SHALL HAVE (2) WIRES PLUS EQUIPMENT GROUNDING CONDUCTOR.
10. 'NL' DESIGNATION INDICATES NIGHT LIGHT UNSWITCHED ON CIRCUIT.
11. CONTRACTOR TO ENSURE THAT LEFT OVER DISTANCE FOR EXTERIOR FIXTURES SHALL BE EQUAL ON BOTH SIDES; AND SHALL NOT HAVE ANY GAP BETWEEN THE LIGHTING FIXTURES.
12. ALL EXTERIOR EMERGENCY LIGHTING TO BE INSTALLED JUST BELOW CANOPY.
13. CONTRACTOR SHALL PROVIDE THE BUILDING OWNER WITH AN OPERATING MANUAL AND MAINTENANCE MANUAL. THESE MANUALS SHALL COMPLY AND INCLUDE EVERYTHING SPECIFIED IN THE 2015 VIRGINIA ENERGY CONSERVATION CODE SECTION C408.3.2.
14. CONTRACTOR SHALL PROVIDE THE BUILDING OWNER WITH DOCUMENTATION THAT CERTIFIES THE INSTALLED LIGHTING CONTROLS MEET DOCUMENTED PERFORMANCE CRITERIA OF SECTION C405 IN THE 2015 VIRGINIA ENERGY CONSERVATION CODE. CONTRACTOR TO PROVIDE THIS DOCUMENTATION TO THE OWNER WITHIN 90 DAYS FROM THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
15. CONTRACTOR SHALL GET THE REGISTERED DESIGN PROFESSIONAL TO PROVIDE EVIDENCE THAT THE LIGHTING CONTROL SYSTEMS HAVE BEEN TESTED TO ENSURE THAT THE CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURERS INSTRUCTIONS. FUNCTIONAL TESTING SHALL BE IN ACCORDANCE WITH SECTIONS 2015 VIRGINIA ENERGY CONSERVATION CODE C408.3.1.1 AND C408.3.1.2 FOR THE APPLICABLE CONTROL TYPE.

**LIGHTING GENERAL NOTES** **2**

NOT TO SCALE **E-101**

1. SWITCHBANK 'A'. REFER TO SCHEDULE THIS SHEET (4 / E-101).
2. ROUTE CIRCUITS THROUGH CONTACTOR (SWITCH LEGS AS NOTED IN LOWER CASE). REFER TO WIRING DIAGRAM (1 / E-400) FOR MORE INFORMATION.
3. ROUTE THROUGH CONTACTS IN HOOD CONTROL PANEL 'M4' FOR CIRCUIT POWER. REFER TO DETAILS, SHEETS 3 / E-401.
4. PROVIDE SEPARATE UNSWITCHED HOT CONDUCTOR (SAME CIRCUIT, NOT CONTROLLED BY LIGHTING CONTROLS) TO EMERGENCY FIXTURE BATTERY TRIGGER LEADS.
5. DUPLEX RECEPTACLE AT SOFFIT FOR LED ROPE. INSTALL ON BACK OF BULKHEAD ABOVE CEILING. REFER TO DETAILS, SHEET A-403 FOR MORE INFORMATION.
6. WALK-IN COOLER LIGHT FIXTURES AND PILOT LIGHT SWITCH PROVIDED WITH COOLER. REFER TO 'COOLER EVAPORATOR COIL' WIRING DIAGRAM, SHEET 8 / E-400.
7. WALK-IN FREEZER LIGHT FIXTURE AND PILOT LIGHT SWITCH PROVIDED WITH FREEZER. REFER TO 'FREEZER LTG AND DOOR HEATER WIRING DIAGRAM', SHEET 10 / E-400.
8. REFER TO 'EXHAUST FAN CONTROL DIAGRAM', SHEET 5 / E-400, FOR MORE INFORMATION.
9. FIXTURES THIS ROOM SHALL BE LOCALLY SWITCHED.
10. LIGHTING INVERTER TO BE MOUNTED ABOVE THE ELECTRICAL PANELS, NEXT TO CEILING.
11. LED TRANSFORMER LOCATION, MOUNT ABOVE CEILING PER MANUFACTURE'S RECOMMENDATIONS.
12. NOT USED
13. DAYLIGHT HARVESTING IS NOT REQUIRED PER 2015 VIRGINIA ENERGY CONSERVATION CODE C405.2.3(1) EXCEPTION 4. BUILDING IS AN A-2 OCCUPANCY.
14. LOCATION OF MANAGER'S SWITCH BANK. REFER TO DETAIL 4/E-101 ON THIS SHEET FOR ADDITIONAL INFORMATION.
15. SEE SHEET E-100 FOR SHOW WINDOW RECEPTACLES.
16. PER 2015 VIRGINIA MECHANICAL CODE M403.3.1.1(g) TABLE, PROVIDE PLAQUE 15. (FAN SHALL REMAIN 'ON' WHEN BUILDING IS OCCUPIED.)
17. COOLER/FREEZER LIGHTING FIXTURE SHALL HAVE AN EFFICIENCY OF NOT LESS THAN 40 LUMENS PER WATT, ACCORDING TO 2015 VIRGINIA ENERGY CONSERVATION CODE SECTION C403.2.16 (11).
18. THE OVERRIDE SWITCH IS INTENDED TO OVERRIDE THE TIME CLOCK DURING AFTER-HOURS WORK TO TURN ON THE INTERIOR LIGHTS FOR NOT MORE THAN 2 HOURS ACCORDING TO 2015 VIRGINIA ENERGY CONSERVATION CODE SECTION C405.2.2.1.

**# LIGHTING KEYED NOTES** **3**

NOT TO SCALE **E-101**

- NOTE:
- CONTRACTOR TO INSTALL (2) 5 GANG SWITCH BOXES AS SHOWN BELOW. DO NOT INSTALL SEPERATE/INDIVIDUAL BOXES FOR EACH SWITCH.
  - KIT MEANS KITCHEN
  - CONTRACTOR SHALL LABEL SWITCHES WITH IDENTIFICATION BELOW SWITCH. LETTER TAGS ABOVE SWITCH ARE TAGS ONLY AND ARE NOT TO BE USED AS LABELS.
  - FIXTURES TO BE ROUTED VIA TIME CLOCKS ARE SHOWN ON DETAIL 11/E400.
  - DIMMING SWITCH TO COMPLY WITH SECTION C405.2.2.2 OF 2015 VIRGINIA ENERGY CONSERVATION CODE.

|                          |                              |                                    |                       |                                      |
|--------------------------|------------------------------|------------------------------------|-----------------------|--------------------------------------|
| (a)                      | (b)                          | (c)                                | (d)                   | (e)                                  |
| \$                       | \$                           | \$                                 | \$                    | \$                                   |
| KIT. & RR EX. FANS       | KIT. LTG                     | WALK-IN, MENU LED ACCENTS (DIMMER) | SERVING LINE (DIMMER) | DINING PENDANTS (DIMMER)             |
| (f)                      | (g)                          | (h)                                | (i)                   | (j)                                  |
| \$                       | \$                           | \$                                 | \$                    | \$                                   |
| INTERIOR DINING (DIMMER) | DECORATIVE LIGHTING (DIMMER) | INTERIOR DINING (DIMMER)           | SHOW WINDOW RECEPS    | INTERIOR LIGHTING SHUT DOWN OVERRIDE |

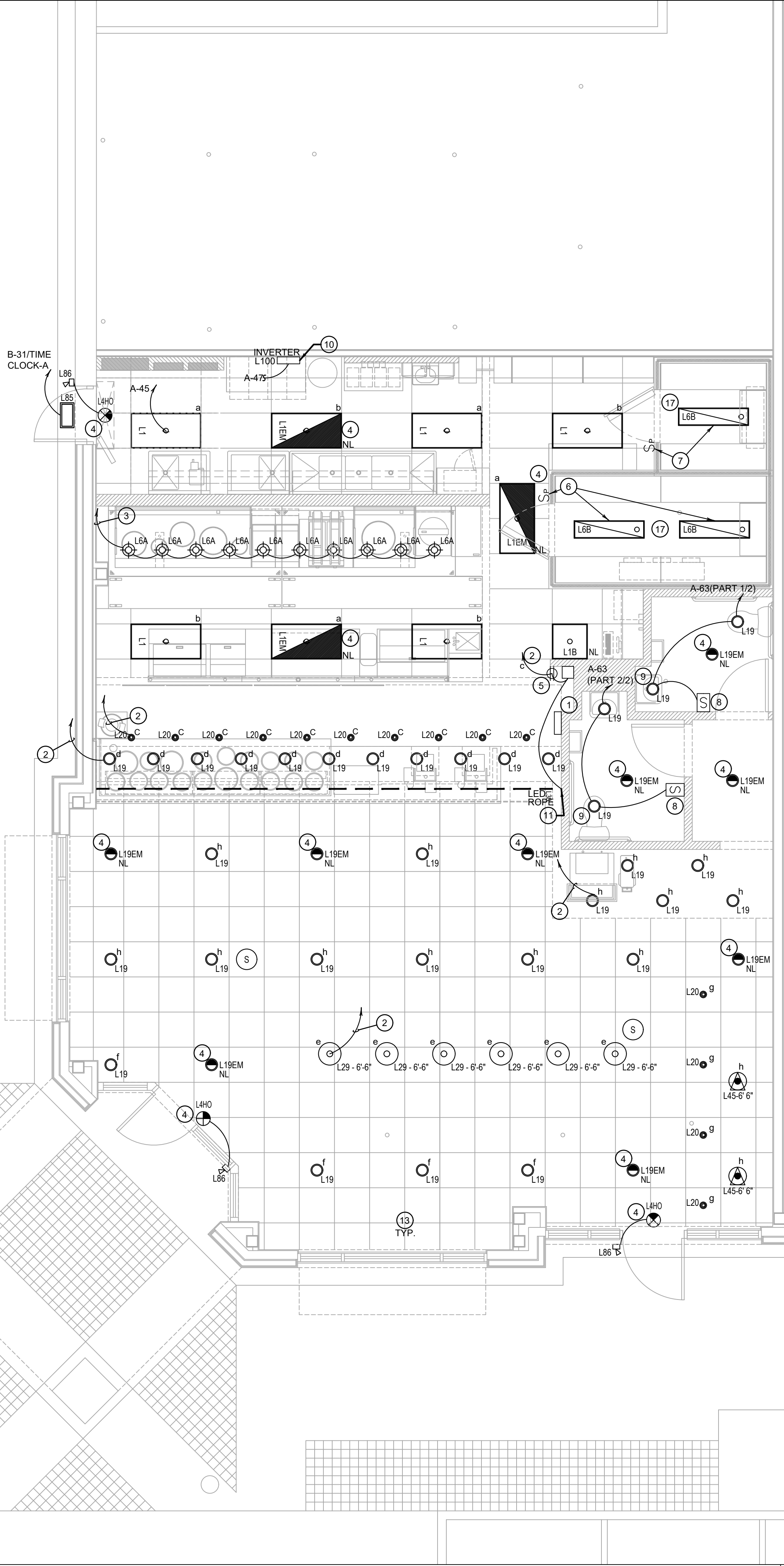
NOTE:

- TAGS SHOWN ABOVE ARE ONLY FOR DESIGN PURPOSES ONLY, AND NOT TO BE USED FOR LABELS.

| SWITCHBANK SCHEDULE 'A' |               |                             |                      |        |
|-------------------------|---------------|-----------------------------|----------------------|--------|
| TAG                     | SWITCH TYPE   | AREA SERVED / SWITCH LABEL  | CIRCUIT              | LOAD   |
| a                       | TOGGLE SWITCH | KITCHEN / RR FANS           | A- 45 / TIME CLOCK-E | 530 VA |
| b                       | TOGGLE SWITCH | KITCHEN                     | A- 45 / TIME CLOCK-E | 180 VA |
| c                       | TOGGLE SWITCH | WALK-INS, MENU, LED ACCENTS | A- 1 / TIME CLOCKE   | 275 VA |
| d                       | TOGGLE SWITCH | SERVING LINE SOFFIT         | A- 1 / TIME CLOCK-E  | 180 VA |
| e                       | TOGGLE SWITCH | DINING PENDANTS             | A- 47 / TIME CLOCK-E | 108 VA |
| f                       | TOGGLE SWITCH | INTERIOR DINING             | A- 47 / TIME CLOCKE  | 144 VA |
| g                       | TOGGLE SWITCH | DECORATIVE LIGHTING         | A- 47 / TIME CLOCKE  | 350 VA |
| h                       | TOGGLE SWITCH | INTERIOR DINING             | A- 47 / TIME CLOCK-E | 414 VA |
| i                       | TOGGLE SWITCH | SHOW WINDOW RECEP           | A- 49 / TIME CLOCK-C | 720 VA |
| j                       | TOGGLE SWITCH | 2HRS OVERRIDE               |                      |        |

**LIGHTING SWITCHBANK SCHEDULE** **4**

NOT TO SCALE **E-101**



**LIGHTING FLOOR PLAN** **1**

Scale: 1/4"=1'-0" **E-101**



PANDA RESTAURANT GROUP INC.

1683 Walnut Grove Ave.  
Rosemead, California  
91770

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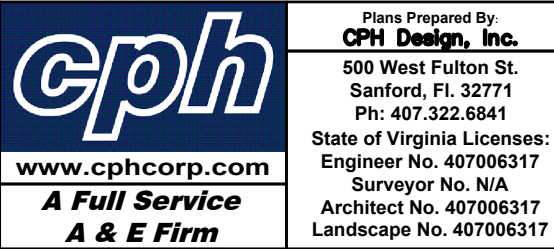
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| 2 | PERMIT SET | 03-15-21 |
| 3 | BID SET    | 04-02-21 |

DRAWN BY: KTF / EJP

PANDA PROJECT #: S4-21-D7864

ARCH PROJECT #: P7350



**PANDA EXPRESS**

END CAP - TENANT BUILD OUT  
4501 S LABURNUM AVE  
RICHMOND VA, 23231

**E-101**

LIGHTING FLOOR PLAN





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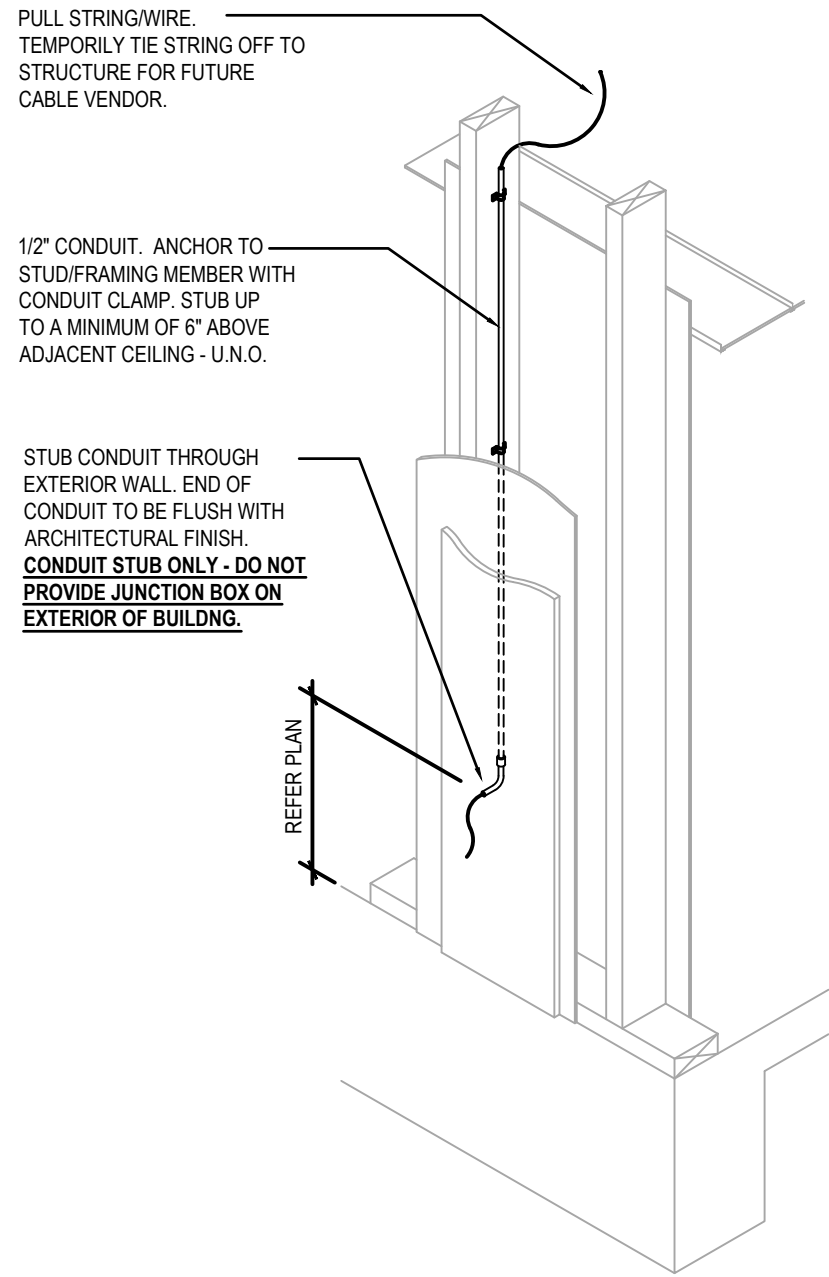
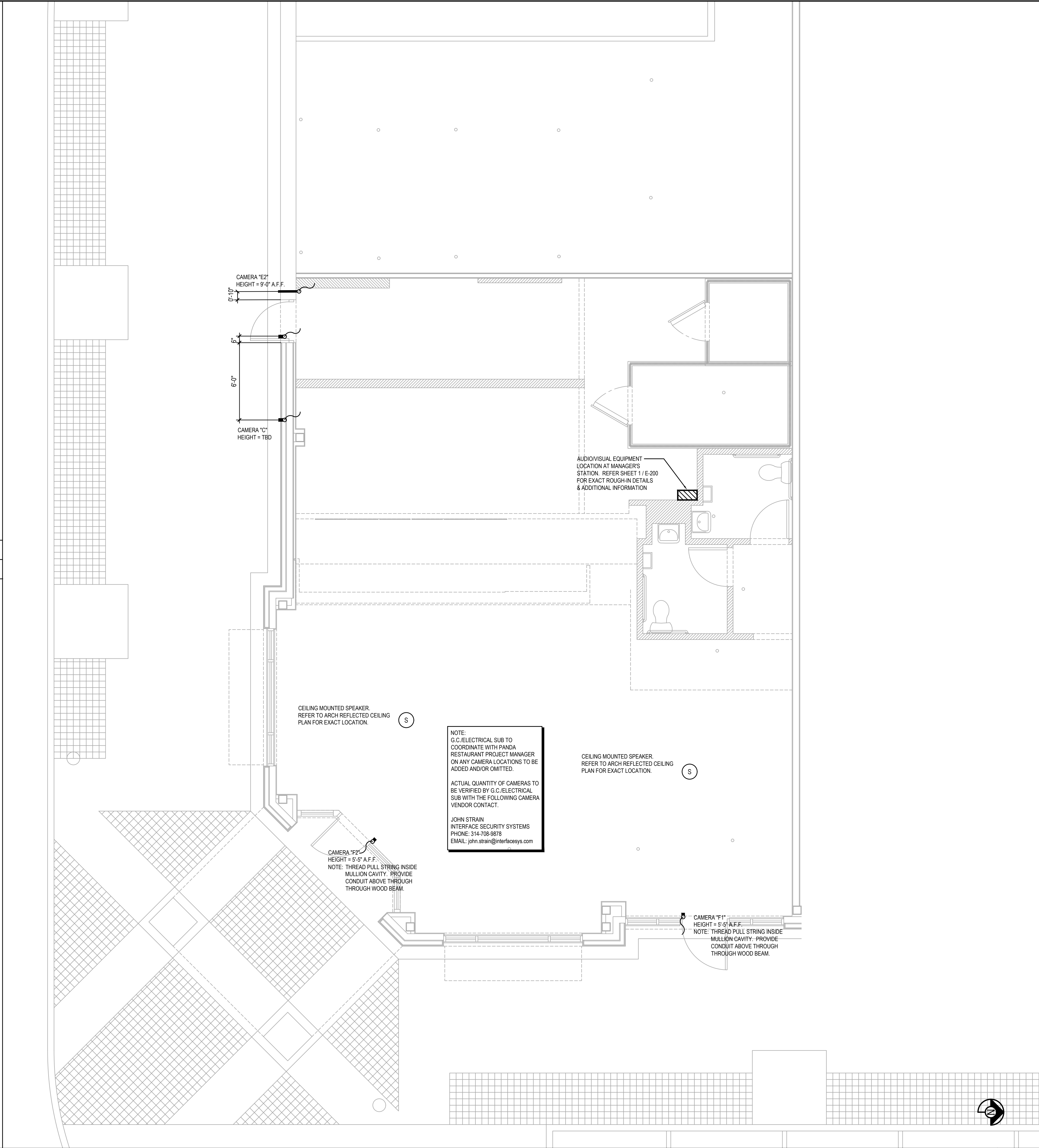
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ARCH PROJECT #: P7350

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Architect No. 407006317  
Landscape No. 407006317

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|                         |                    |
|-------------------------|--------------------|
| NOT USED                | 3                  |
|                         | NOT TO SCALE E-102 |
| CONDUIT ROUGH-IN DETAIL | 2                  |
|                         | NOT TO SCALE E-102 |
| SECURITY CAMERA PLAN    |                    |
| Scale= 1/4" = 1'-0"     |                    |
| E-102                   |                    |



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E-104

ROOF POWER PLAN

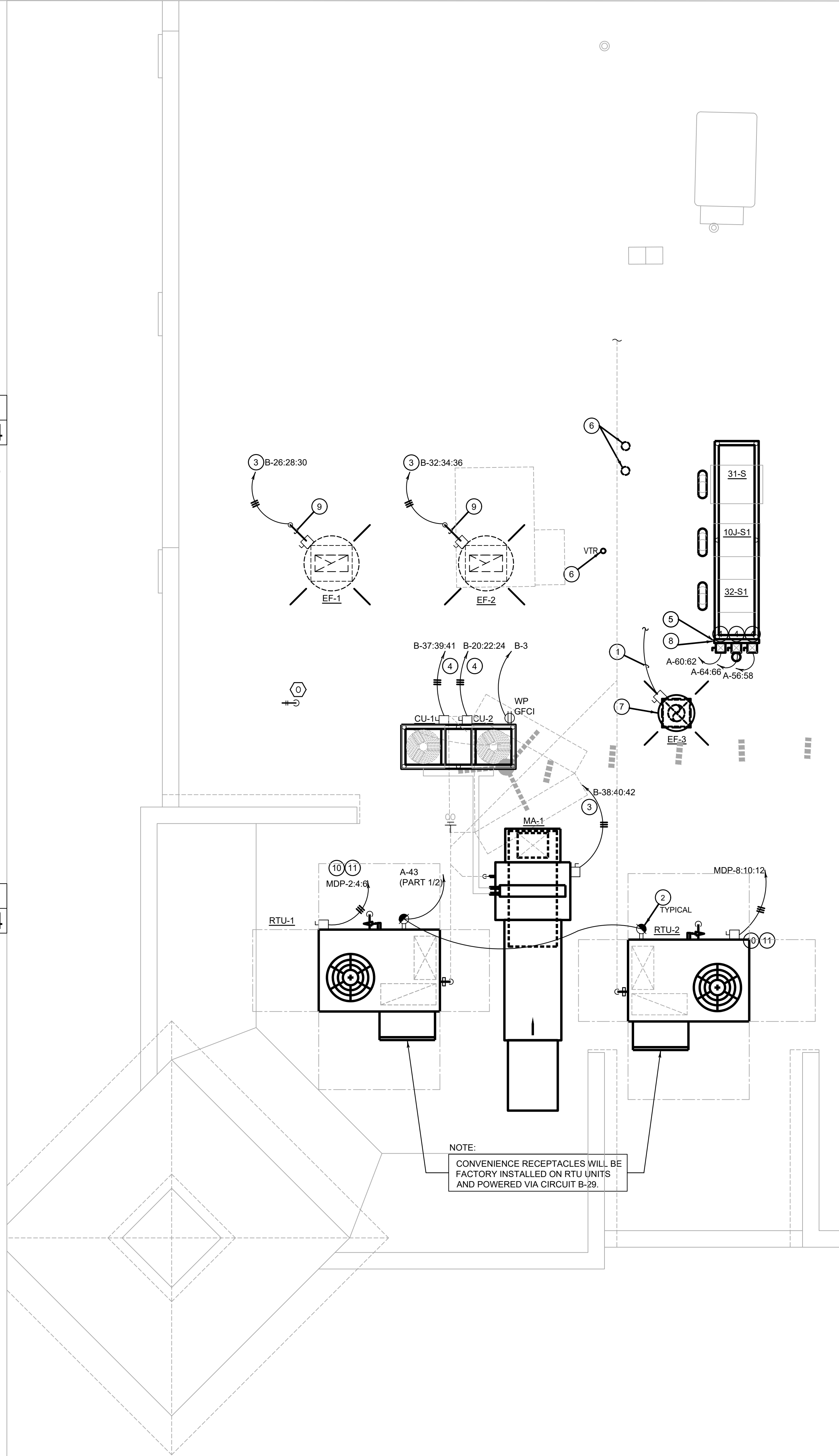
- ALL ROOF MOUNTED EQUIPMENT SHALL BE IN NEMA-3R ENCLOSURES.
- ALL CONDUIT RUNS SHOWN ON THE ROOF SHALL BE RUN BELOW IN THE CEILING SPACE WHERE AMBIENT TEMPERATURE WILL BE BELOW 30° C. FINAL CONNECTIONS TO THE ROOF EQUIPMENT IS LIMITED TO 5'-0" OF DIRECT SOLAR EXPOSURE.
- NOT USED.
- VERIFY ALL FUSE SIZES AND TYPES WITH THE AIR CONDITIONING EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
- REVIEW THE MECHANICAL PLANS FOR THE AIR CONDITIONING 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.
- 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.
- G.C. COORDINATE ELECTRICAL, MECHANICAL, FIRE ALARM (IF REQUIRED) FOR INTERLOCK SEQUENCE.
- RESTROOM EXHAUST FAN TO BE POWERED FROM BACK OF HOUSE LIGHTING CIRCUIT. SEE DETAIL 5 / E-400 FOR ADDITIONAL INFORMATION.

| ROOF PLAN GENERAL NOTES  |              | 2     |
|--|--------------|-------|
|  | NOT TO SCALE | E-104 |
|  |              |       |
| 1. ROUTE HOMERUN THROUGH BACK OF HOUSE LIGHTING CIRCUIT. REFER TO LIGHTING PLAN, SHEET 1 / E-101. FAN TO BE CONTROLLED BY SWITCH FOR BACK OF HOUSE LIGHTING.   |              |       |
| 2. DUCT SMOKE DETECTOR, FURNISHED BY MECHANICAL/FACORY, WIRED BY ELECTRICAL / FIRE ALARM CONTRACTOR. FURNISH AND INSTALL ALL RACEWAY, WIRING, AND ADDITIONAL ACCESSORIES REQUIRED FOR CODE COMPLIANCE AND UNIT SHUTDOWN. |              |       |
| 3. CIRCUIT FEEDS FROM PANELBOARD - THROUGH HOOD CONTROL PANEL - UP TO ROOF. REFER TO DETAIL, SHEET 3 / E-401 & KITCHEN HOOD SUBMITTAL DATA.  |              |       |
| 4. REFER TO CONDENSING UNIT WIRING DIAGRAM, SHEET 7 / E-400.   |              |       |
| 5. STRUT RACK SUPPORT FOR EQUIPMENT DISCONNECT SWITCHES. REFER TO DETAIL, SHEET 2 / E-401.   |              |       |
| 6. PROVIDE AND INSTALL 2-1/2" DIA GALVANIZED RIGID METAL CONDUIT AND WEATHERHEAD AS SHOWN. CONDUIT TO BE STRAPPED TO CLOSEST JOIST TO THE MANAGER'S STATION (FULL DEPTH). SEE DETAIL 2/A-108.                            |              |       |
| 7. DO NOT INSTALL UNTIL BACK DRAFT DAMPER INSTALLATION IS COMPLETE. UTILIZE FACTORY KNOCKOUTS FOR ELECTRICAL RUN FOR THIS FAN. REFER TO SHEET M-402.   |              |       |
| 8. MOUNT PHOTOCELL ON CONDENSER RACK ON THE ROOF FACING NORTH. CONNECT TO LIGHTING CONTROL PANEL.  |              |       |
| 9. 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.  |              |       |
| 10. ROUTE POWER FEEDS VIA FACTORY PROVIDED THRU-BASE CONNECTION AREA. COORDINATE WITH MECHANICAL.  |              |       |
| 11. 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          |     | 26   | 480V.3Ø | 3 #8, #8 GND., 1" C.     |               | AT UNIT | 30A. 3P. 3F. WP | ①④   |
| RTU2                       | A/C UNIT          |     | 26   | 480V.3Ø | 3 #8, #8 GND., 1" C.     |               | AT UNIT | 30A. 3P. 3F. WP | ①④   |
|                            |                   |     |      |         |                          |               |         |                 |  |
| CU-1                       | CONDENSING UNIT   |     | 21.4 | 208V.3Ø | 3 #10, #10 GND., 1" C.   |               | AT UNIT | 30A. 3P. 3F. WP | ①  |
| CU-2                       | CONDENSING UNIT   |     | 21.4 | 208V.3Ø | 3 #10, #10 GND., 1" C.   |               | AT UNIT | 30A. 3P. 3F. WP | ①  |
| MA-1                       | MAKE-UP AIR UNIT  | 5.0 | 17.5 | 208V.3Ø | 3 #10, #10 GND., 1" C.   |               | AT UNIT |                 | ①④   |
|                            |                   |     |      |         |                          |               |         |                 |  |
| EF-1                       | EXHAUST FAN       | 2.0 | 7.8  | 208V.3Ø | 3 #12, #12 GND., 3/4" C. |               | AT UNIT |                 | ①  |
| EF-2                       | EXHAUST FAN       | 2.0 | 7.8  | 208V.3Ø | 3 #12, #12 GND., 3/4" C. |               | AT UNIT |                 | ①  |
| EF-3                       | EXHAUST FAN       | 1/4 | 5.8  | 120V.1Ø | 2 #12, #12 GND., 3/4" C. |               | AT UNIT | 30A. 2P. 1F. WP | ①④   |
|                            |                   |     |      |         |                          |               |         |                 |  |
| 31-S                       | W/I COOLER COND.  | 1.5 | 15.0 | 208V.1Ø | 2 #12, #12 GND., 3/4" C. |               | AT UNIT |                 | ②③   |
| 32-S1                      | W/I FREEZER COND. | 1.5 | 10.1 | 208V.1Ø | 2 #12 #12 GND., 3/4" C.  |               | AT UNIT |                 | ②③   |
| 10J-S1                     | ICE MACHINE COND. |     | 13   | 208V.1Ø | 2 #12, #12 GND., 3/4" C. |               | AT UNIT |                 | ②③   |

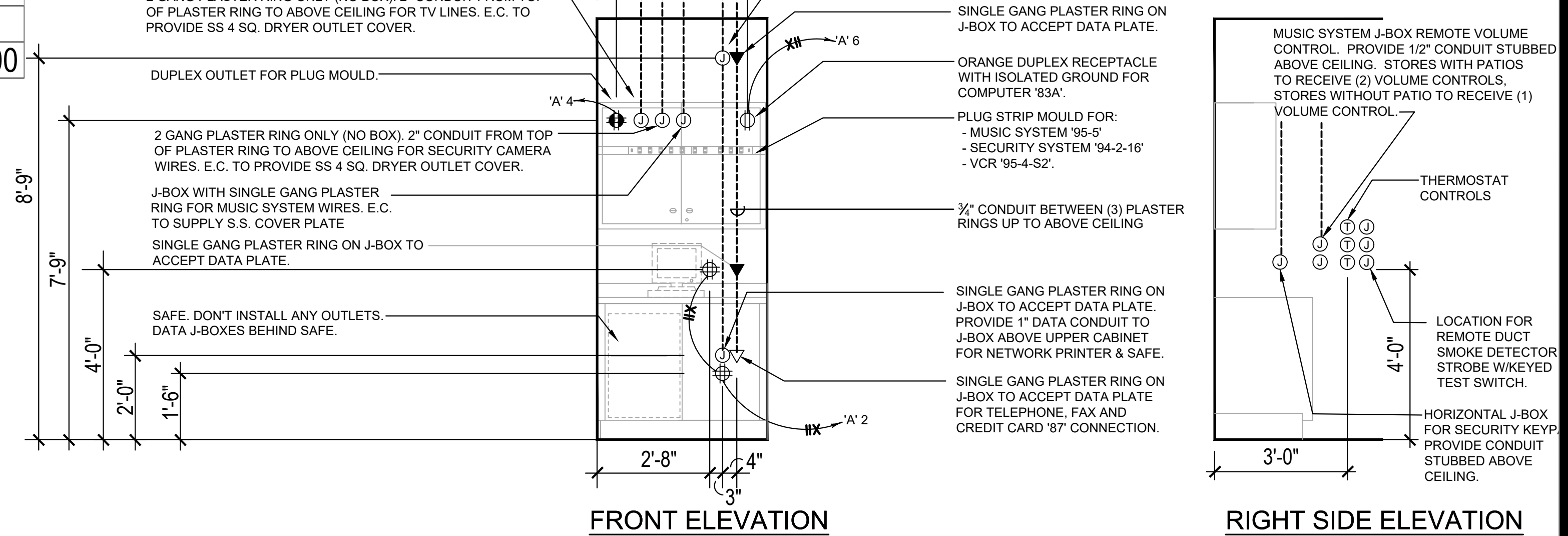
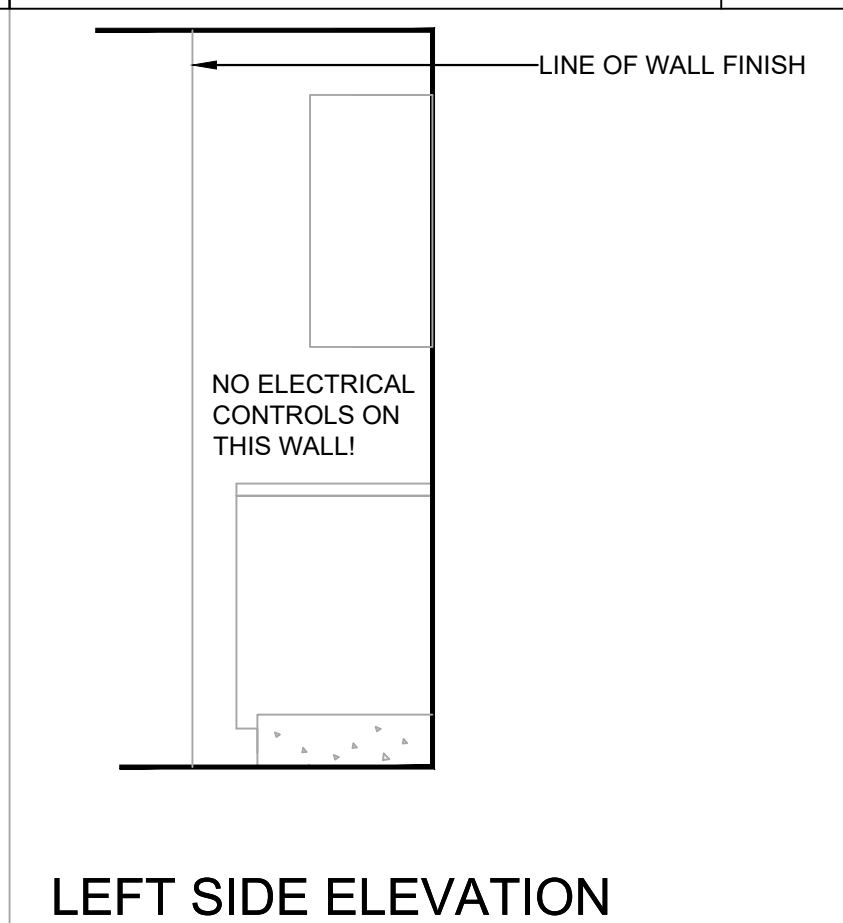
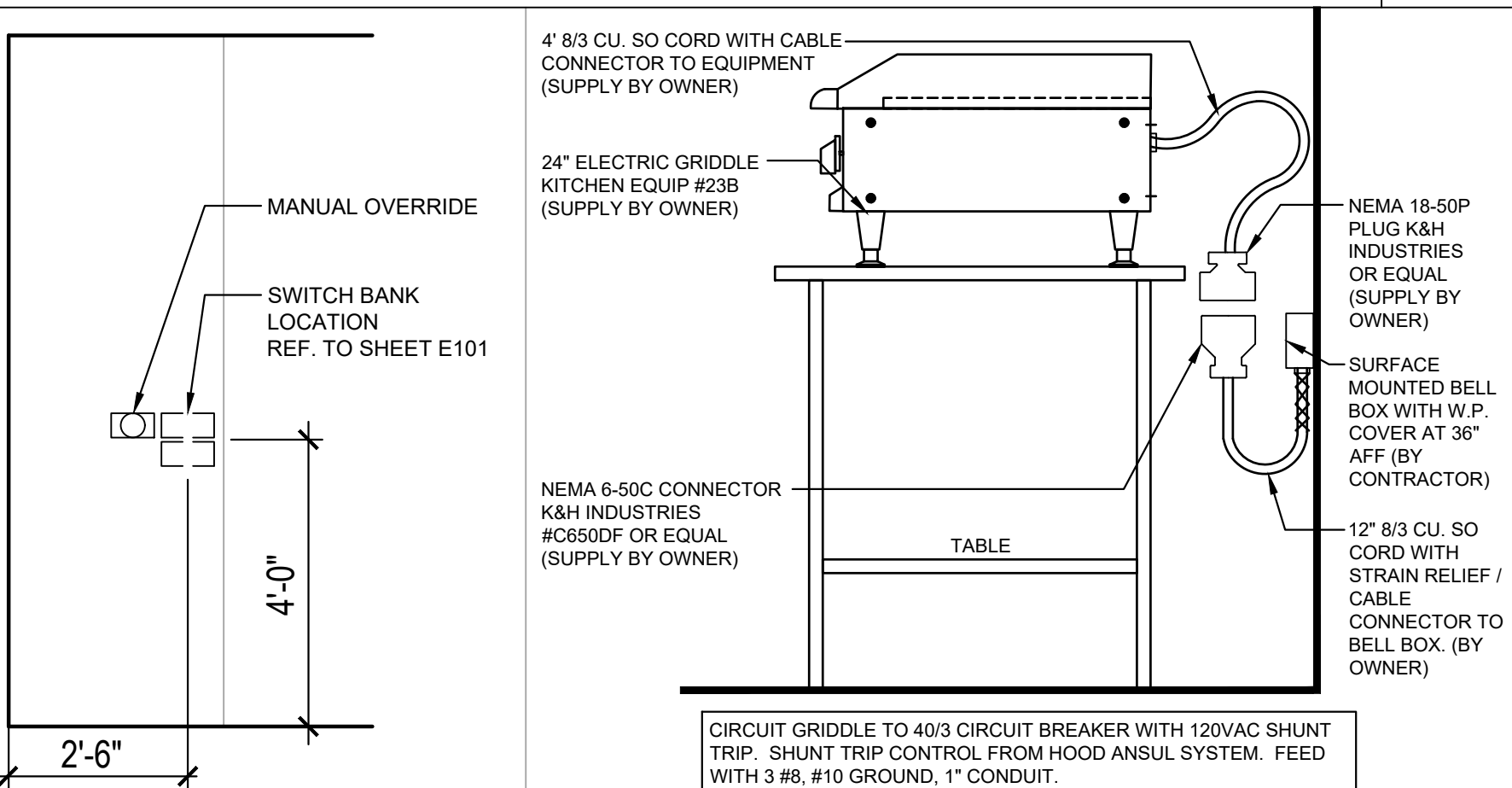
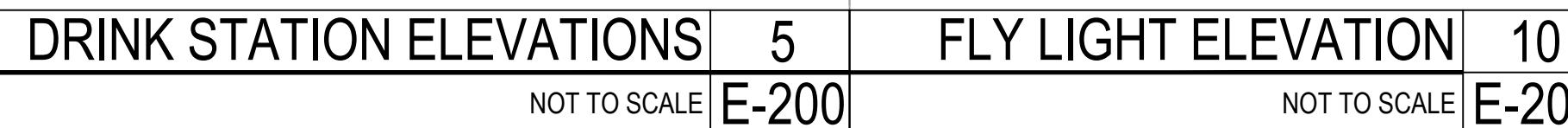
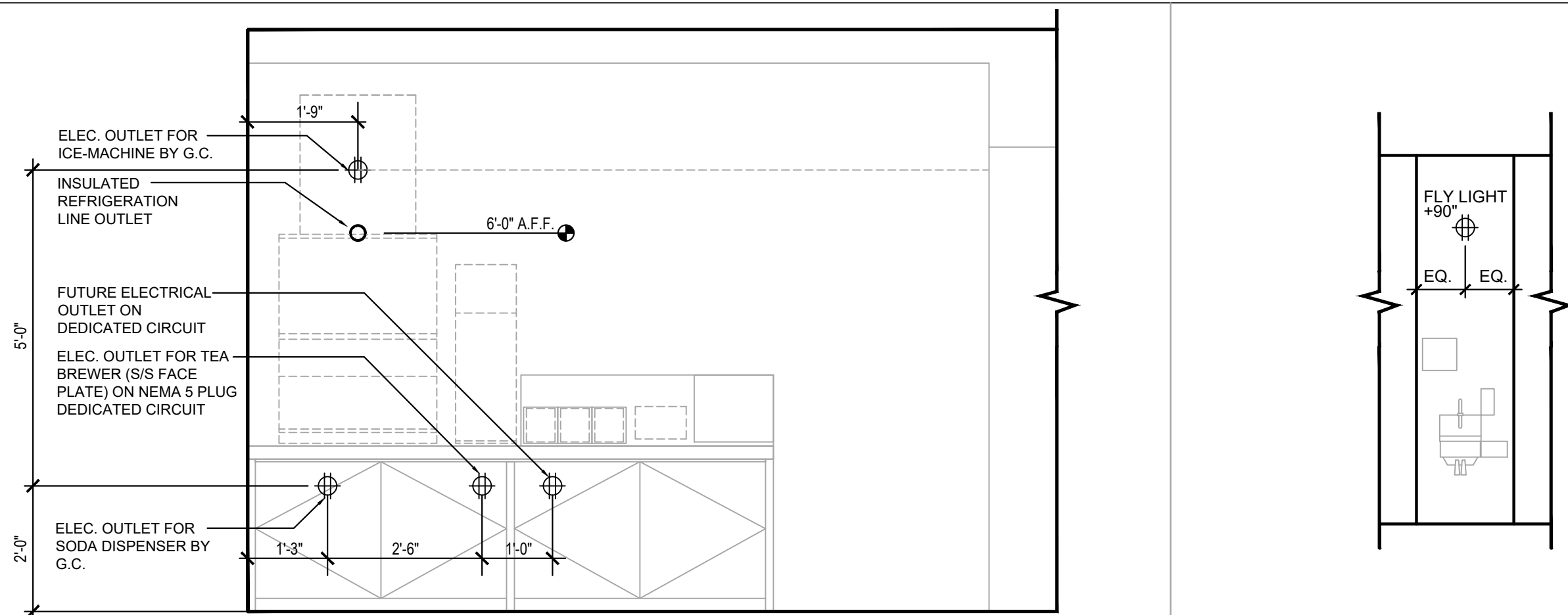
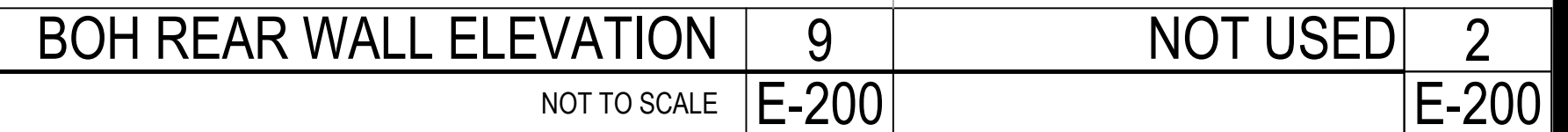
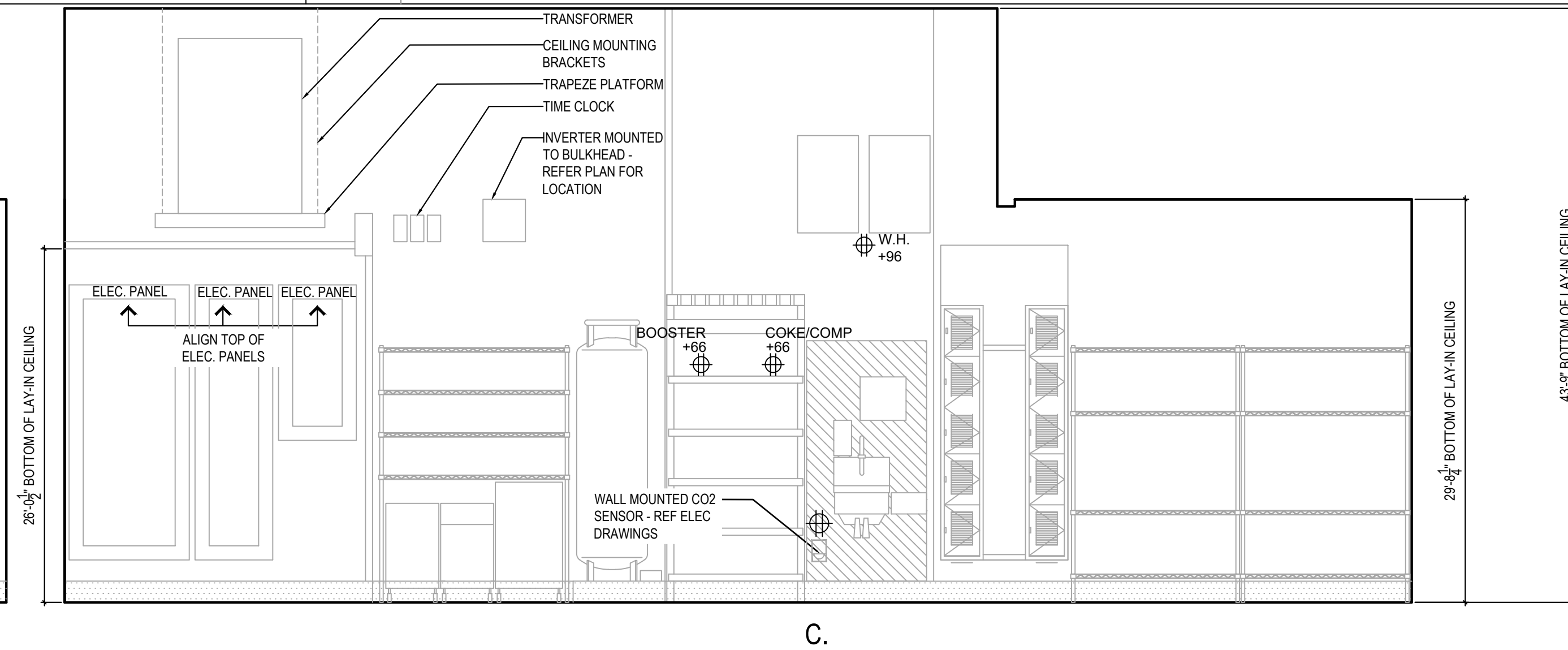
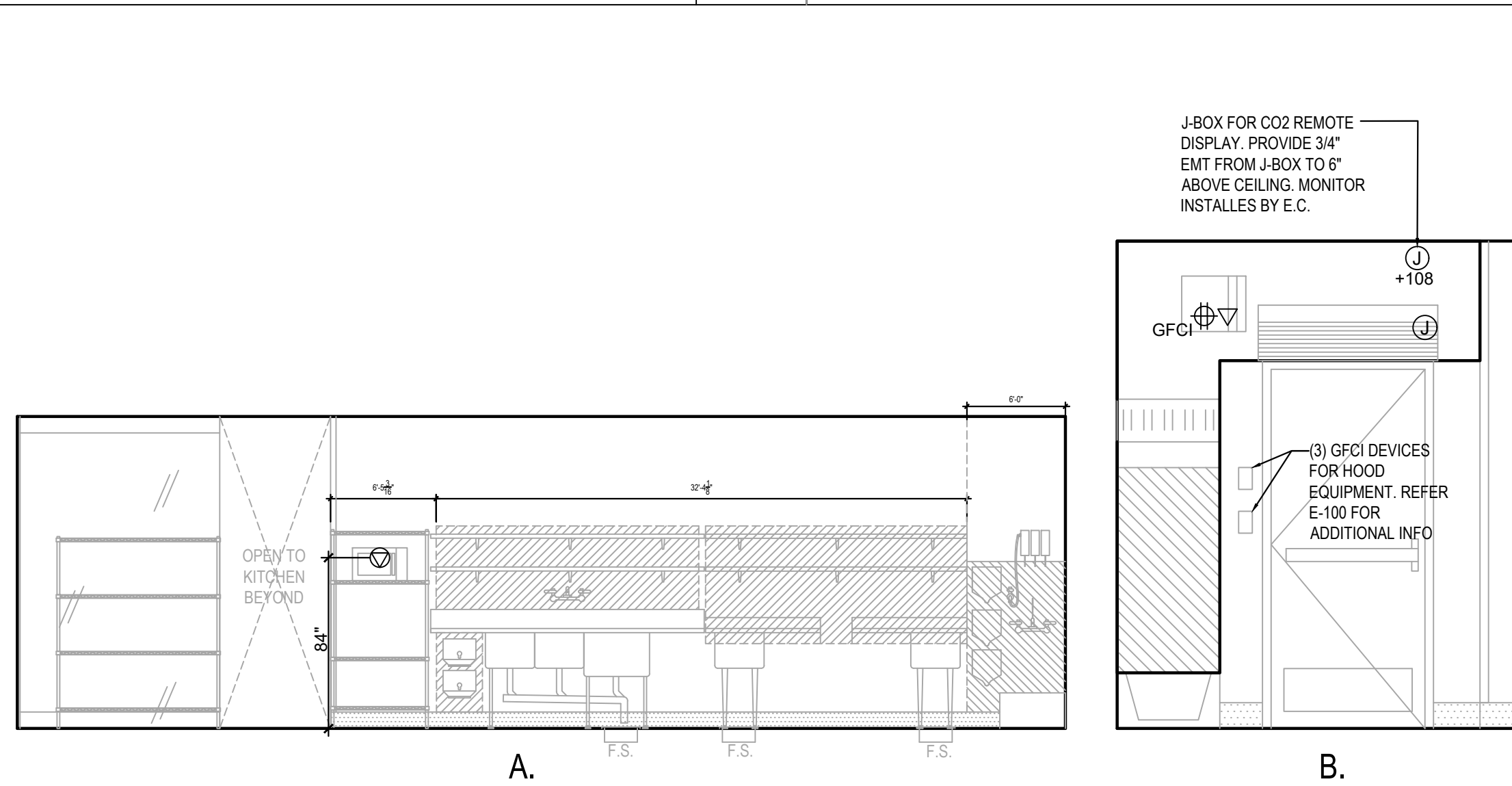
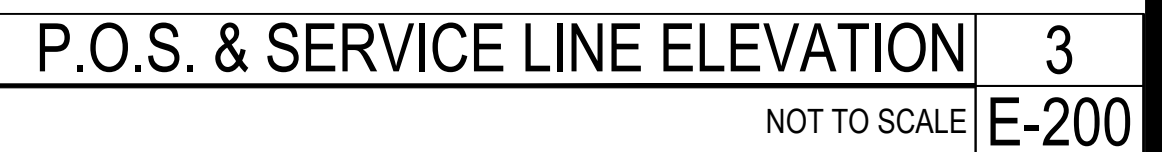
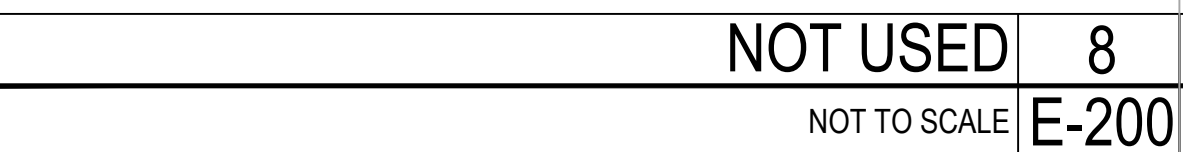
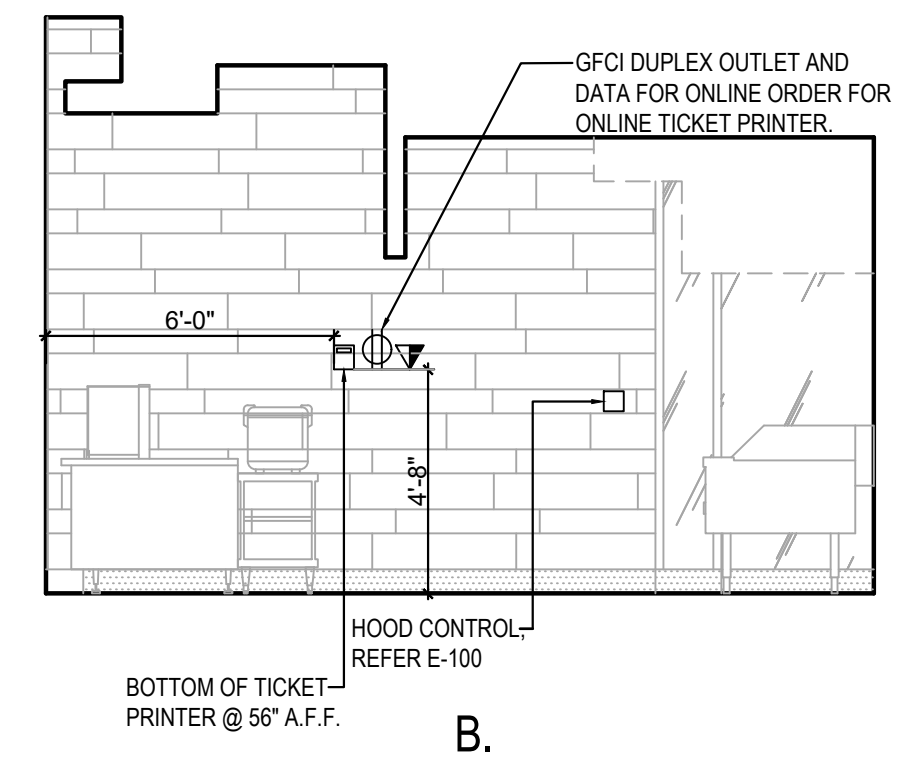
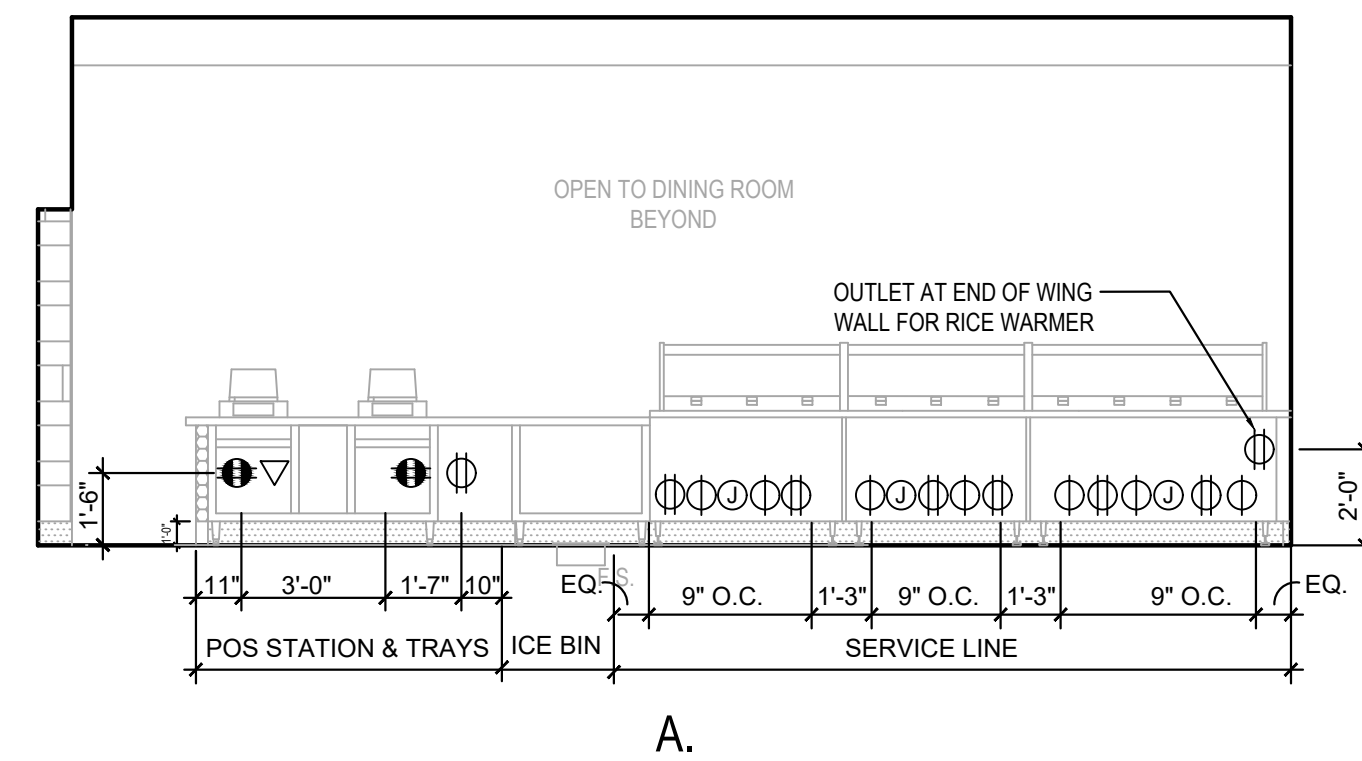
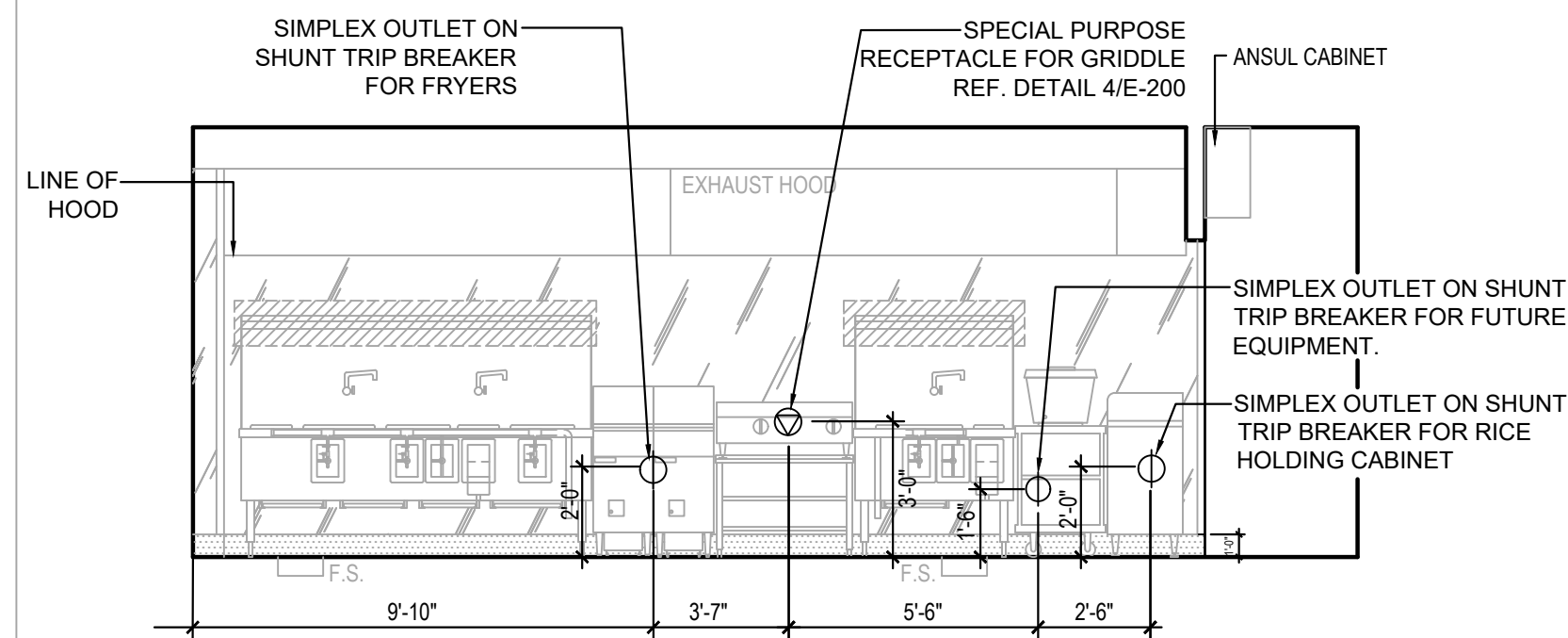
- ① DISCONNECT SWITCH PROVIDED WITH UNIT.
- ② COMBINATION 30A. 2P. 2F. WP DISCONNECT SWITCH WITH RK5 FUSES PER MANUFACTURER RECOMMENDATION.
- ③ COMBINE CIRCUITRY IN 1" CONDUIT FROM J-BOX ON EQUIPMENT DISCONNECT SWITCH SUPPORT. REFER TO DETAIL 2 / E-401.
- ④ ELECTRICAL FEEDS SHALL BE ROUTED FROM PLENUM 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 |





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| 3 | BID SET    | 04-02-21 |

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PANDA PROJECT #: S4-21-D7864  
ARCH PROJECT #: P7350



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RICHMOND VA, 23231

# E-200

ELECTRICAL ELEVATIONS









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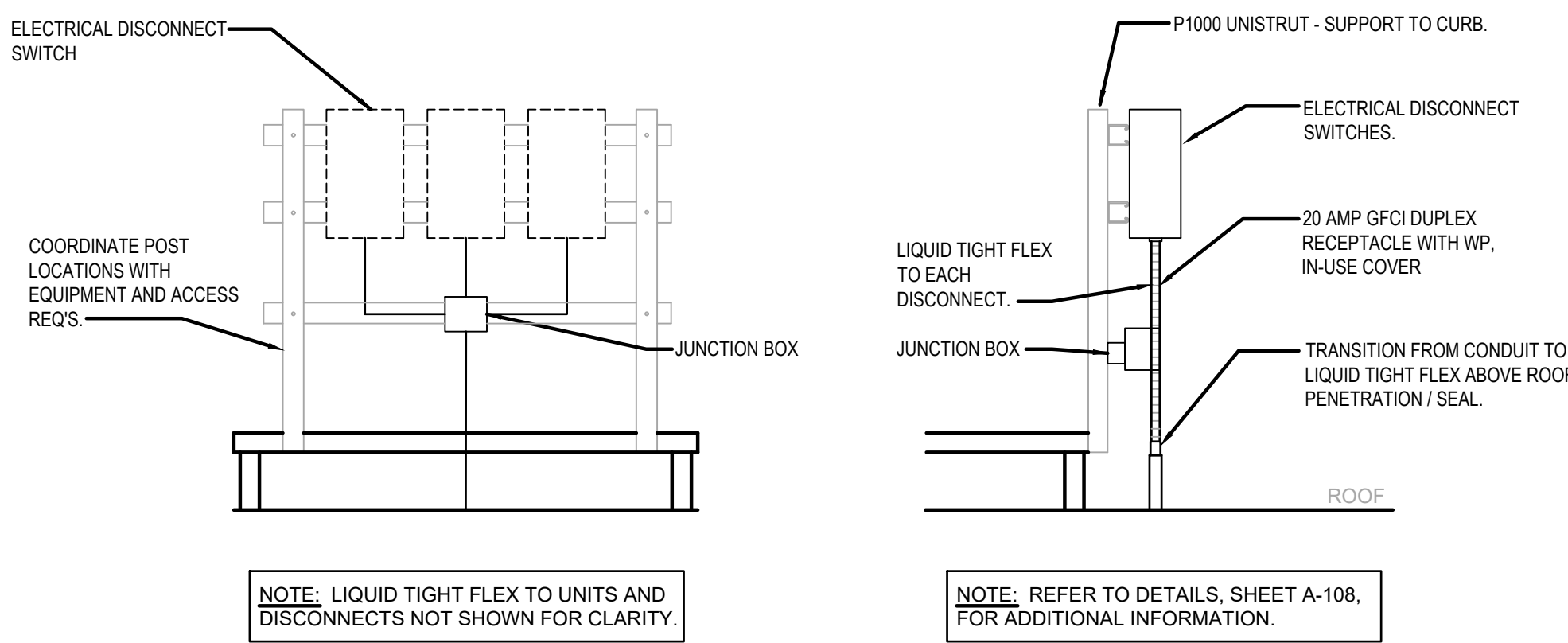
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ARCH PROJECT #: P7350



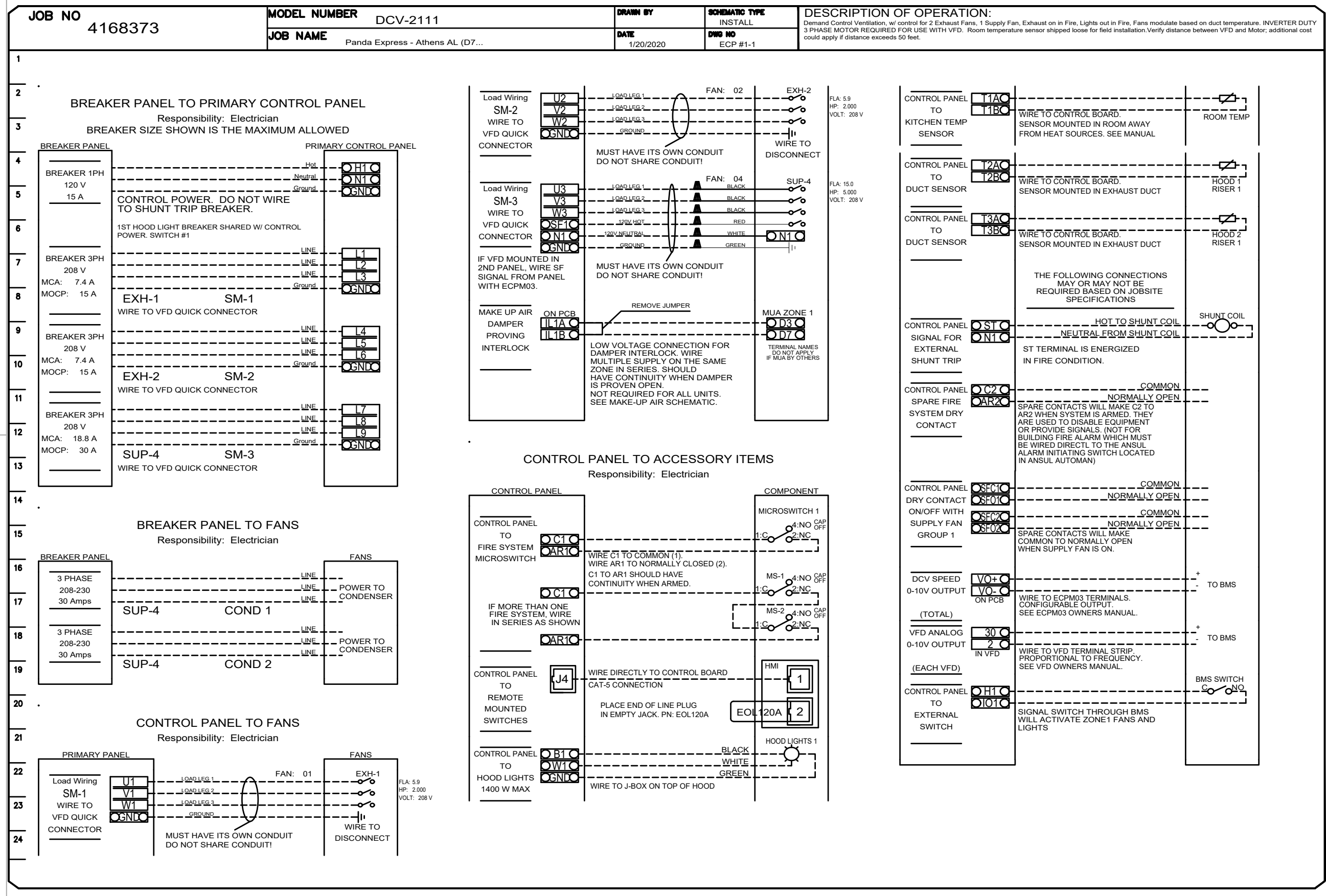
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**A Full Service A & E Firm**

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PANDA EXPRESS  
END CAP - TENANT BUILD OUT  
4501 S LABURNUM AVE  
RICHMOND VA, 23231



EQUIPMENT DISCONNECT SWITCH SUPPORT 2  
NOT TO SCALE E-401



KITCHEN EXHAUST SYSTEM DIAGRAM 3  
NOT TO SCALE E-401



PROVIDE AN ARC FLASH WARNING SIGN PER NEC 110.16.

| PNL A  |                                 |      |      | PANELBOARD   |        |        |        | 208Y/120V, 3PH, 4W<br>400A M.C.B.<br>SERIES RATED 22/10K A.I.C.<br>GROUND BUS<br>ISOLATED GROUND |      |      |                                |                                |
|--|---------------------------------|------|------|--|--------|--------|--------|--|------|------|--------------------------------|--------------------------------|
| MOUNTING: FLUSH<br>LOCATION: ELEC. CABINET<br>TYPE: BOLT ON W/GROUND BUS<br>NEMA RATING: 1 |                                 |      |      | INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS NOT ALLOWED |        |        |        |  |      |      |                                |                                |
| DESCRIPTION  |                                 | WIRE | BRKR | PL   | KVA    |        |        | PL   | BRKR | WIRE | DESCRIPTION                    |                                |
|  |                                 |      |      |  | A      | B      | C      |  |      |      |                                |                                |
| 1  | WIC DISPLAY LTS/MENUBRD/LED     | 12   | 20   | 1  | 0.61   | 1.00   |        | 1  | 20   | 12   | FAX '87, MGR '84C', COMP '49A' |                                |
| 3  | HOOD CONTL PNL 'M4'             | 12   | 20   | 1  |        | 0.50   | 0.60   | 1  | 20   | 12   | MUSIC, VCR, MONITOR            |                                |
| 5  | SERVICE POS 94, PTR '86A'(2,6)  | 12   | 20   | 1  |        |        | 1.10   | 0.50   | 1    | 20   | COMPUTER RECEP '83A' (2)       |                                |
| 7  | SPACE                           | —    | —    | —  |        |        |        |  | —    | —    | SPACE                          |                                |
| 9  | 95-4-S3,FLY LT,C02 (1)          | 12   | 20   | 1  |        | 0.91   | 1.41   |  | 2    | 20   | CHF-25 AIR CURTAIN             |                                |
| 11   | RICE WARMER '54A' (1,4)         | 12   | 20   | 1  |        |        | 0.11   | 1.41   |      | 20   |                                |                                |
| 13   | REF. PREP TABLE '34A' (1)       | 12   | 20   | 1  | 1.44   | 0.36   |        |  | 1    | 20   | 12                             | REAR DOOR — FLY FAN 'M8A'      |
| 15   | REF. PREP TABLE '34D' (1)       | 12   | 20   | 1  |        | 1.08   | 0.0    |  | 1    | 20   | 12                             | SPARE                          |
| 17   | UNDER CTR FRZR '33K' (1,4)      | 12   | 20   | 1  |        |        | 1.08   |  |      | 20   | 12                             | SPACE                          |
| 19   | BEV,4AB, ICE MAC. '10J' (1)     | 12   | 20   | 1  | 0.31   | 1.8    |        |  | 1    | 20   | 10                             | INDUCT WELL 3J, 3K-GFI (1,4,6) |
| 21   | SERVING COUNTER '20'            | 12   | 20   | 1  |        | 1.80   | 1.8    |  | 1    | 20   | 10                             | INDUCT WELL 3J, 3K-GFI (1,4,6) |
| 23   | ICE TEA BREWER '9D'             | 12   | 20   | 1  |        |        | 1.78   | 1.80   | 1    | 20   | 10                             | INDUCT WELL 3J, 3K-GFI (1,4,6) |
| 25   | FOOD PROCESSOR '53'             | 12   | 20   | 1  | 0.34   | 1.80   |        |  | 1    | 20   | 10                             | INDUCT WELL 3J, 3K-GFI (1,4,6) |
| 27   | SPACE                           | —    | —    | —  |        | 1.80   |        |  | 1    | 20   | 10                             | INDUCT WELL 3J, 3K-GFI (1,4,6) |
| 29   | WALK-IN COOLER COIL '31M'(1)    | 12   | 20   | 1  |        |        | 1.78   | 1.80   | 1    | 20   | 10                             | INDUCT WELL 3J, 3K-GFI (1,4,6) |
| 31   | RICE HOLD CABINET '24H' (1,4,6) | 10   | 20   | 1  | 1.78   | 1.80   |        |  | 1    | 20   | 10                             | INDUCT WELL 3J, 3K-GFI (1,4,6) |
| 33   | FUTURE CONTROLS (1,6)           | 12   | 20   | 1  |        | 0.2    | 1.10   |  | 1    | 20   | 12                             | RAD TOP HEATER '1S2B2' (1)     |
| 35   | COKE/COMP OUTLET                | 12   | 20   | 1  |        |        | 0.50   | 0.84   | 1    | 20   | 12                             | RAD TOP HEATER '1S2B1' (1)     |
| 37   | 4B' BOOSTER OUTLET (6)          | 12   | 20   | 1  | 0.86   | 1.10   |        |  | 1    | 20   | 12                             | RAD TOP HEATER '1S2B2' (1)     |
| 39   | HEAT WRAP '32-S7' (4)           | 12   | 20   | 1  |        | 0.50   | —      |  | —    | —    | —                              | SPACE                          |
| 41   | FLY LIGHT                       | 12   | 20   | 1  |        |        | 0.18   | —  | —    | —    | —                              | SPACE                          |
| 43   | DUCT DETECTORS                  | 12   | 20   | 1  | 0.20   | —      |        |  | —    | —    | —                              | SPACE                          |
| 45   | LTG-FOOD PREP/EM., EF-3 (4)     | 10   | 20   | 1  |        | 0.8    |        |  | —    | —    | —                              | SPACE                          |
| 47   | LTG DINING AREA                 | 12   | 20   | 1  |        |        | 1.17   | 1.40   | 2    | 20   | 12                             | MICROWAVE — 55A (1)            |
| 49   | SHOW WINDOW RECEPS              | 12   | 20   | 1  | 0.72   | 1.40   |        |  | 1    | 20   | 12                             | FUTURE EQUIPMENT               |
| 51   | GENERAL RECEPS                  | 12   | 20   | 1  |        | 0.54   | 0.18   |  | —    | —    | —                              | SPACE                          |
| 53   | EXTERIOR RECEPS                 | 12   | 20   | 1  |        |        | 0.36   | —  | —    | —    | —                              | SPACE                          |
| 55   | SPACE                           | —    | —    | —  | 0.0    | 1.23   |        |  | 2    | 20   | 12                             | ICE MACHINE COND. '10J-S1' (1) |
| 57   | SEC. MONITOR/HME — RECEPTS      | 12   | 20   | 1  |        | 0.50   | 1.23   |  | 2    | 20   | 12                             | WALK IN FRZR COND.'32-S1'(1,7) |
| 59   | GAS WATER HEATER — P.3, (6)     | 12   | 20   | 1  |        |        | 0.96   | 2.08   | 2    | 20   | 12                             |                                |
| 61   | ICE TEA BREWER '9D' (1,4)       | 10   | 20   | 1  | 1.78   | 2.08   |        |  | 2    | 20   | 12                             | WALK IN COOL COND. '31-S' (1)  |
| 63   | LIGHTING-RRs & EF-3             | 12   | 20   | 1  |        | 0.70   | 1.56   |  |      |      |                                |                                |
| 65   | INDUC DR WELL 3J,3K-GFI(1,4,6)  | 10   | 20   | 1  |        |        | 1.30   | 1.56   |      |      |                                |                                |
| 67   | SPACE                           | —    | —    | —  |        |        |        |  |      |      |                                | SPACE                          |
| 69   | SPACE                           | —    | —    | —  |        |        |        |  |      |      |                                | SPACE                          |
| 71   | SPACE                           | —    | —    | —  |        |        |        |  |      |      |                                | SPACE                          |
| 73   | ELECTRIC GRILL "23E" (1,6)      | 6    | 50   | 2  | 3.6    |        |        |  |      |      |                                | SPACE                          |
| 75   | SPACE                           | —    | —    | —  |        | 3.6    |        |  |      |      |                                | SPACE                          |
| 77   | SPACE                           | —    | —    | —  |        |        |        |  |      |      |                                | SPACE                          |
| 79   | SPACE                           | —    | —    | —  |        | 13.79  |        |  | 3    | 200  |                                | SUB-PANEL B                    |
| 81   | SPACE                           | —    | —    | —  |        |        | 12.06  |  |      |      |                                | SPACE                          |
| 83   | SPACE                           | —    | —    | —  |        |        |        | 12.51  |      |      |                                | SPACE                          |
| TOTAL  |                                 |      |      |  | 38.34  | 32.67  | 33.72  | KVA  |      |      |                                |                                |
| PER NEC ARTICLE 220  |                                 |      |      |  | 319.5  | 272.25 | 281.00 | AMPS   |      |      |                                |                                |
| TOTAL LOAD   |                                 |      |      |  | 104.73 | KVA    | 290.92 | AMPS   |      |      |                                |                                |
| FEEDER LOAD  |                                 |      |      |  | 89.20  | KVA    | 247.80 | AMPS   |      |      |                                |                                |

- WIRE SIZE SHALL BE MINIMUM #12 AWG, THWN SOLID COPPER UNLESS OTHERWISE NOTED. PROVIDE GROUND WIRE WHERE REQUIRED BY CODE. INCREASE WIRE SIZE TO COMPENSATE FOR VOLTAGE DROP WHERE TOTAL LENGTH OF ANY BRANCH EXCEEDS 100 FEET.

| PANEL BOARD GENERAL NOTES |  | 5     |
|---------------------------|--|-------|
| NOT TO SCALE              |  | E-601 |

- 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.

| 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:  
A. PANEL 'MDP' STATING "CAUTION - 65/10 SERIES COMBINATION SYSTEM RATED XXXX AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED"  
B. PANEL 'A' STATING "CAUTION - 65/10 SERIES COMBINATION SYSTEM RATED XXXX AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED"  
C. PANEL 'B' STATING "CAUTION - 22/10 SERIES COMBINATION SYSTEM RATED XXXX AMPERES. 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 |

| PANELBOARD NOTES ( )   |  |
|--|--|
| (1) KITCHEN EQUIPMENT SHOWN AT 65% IN PANEL TOTALS PER NEC (KITCHEN EQUIPMENT).                          |  |
| (2) TERMINATE GROUND ON ISOLATED GROUND BUS.   |  |
| (3) ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR, CONTROLLED BY TIMECLOCK. REFER TO DETAILS, SHEET 11/E-400. |  |
| (4) WIRE SIZE INCREASE DUE TO VOLTAGE DROP. SIZE EQUIPMENT GROUND CONDUCTOR PROPORTIONALLY PER NEC.      |  |
| (5) REFER TO ONE-LINE DIAGRAM FOR WIRE SIZES.  |  |
| (6) GFCI BREAKER   |  |
| (7) INSTALL LOCKING DEVICE (LOCK-OFF FOR MAINTENANCE).   |  |

MDP

SWITCHBOARD

480/277V, 3PH, 4W  
400A M.L.O.  
65,000 AIC  
GROUND BUS  
ISOLATED GROUND

MOUNTING: SURFACE  
LOCATION: INSIDE IN NEMA 1 ENCLOSURE

(NEW)

51.92      51.92      51.92

|                     | DESCRIPTION | WIRE | BRKR | PL   | KVA    |       |        | PL   | BRKR | WIRE | DESCRIPTION |    |
|---------------------|-------------|------|------|------|--------|-------|--------|------|------|------|-------------|----|
|                     |             |      |      |      | A      | B     | C      |      |      |      |             |    |
| 1                   | TRANSFORMER | 200  | 3    | 37.5 | 7.21   |       |        | 3    | 30   | 8    | RTU-1       | 2  |
| 3                   |             |      |      |      | 37.5   | 7.21  |        |      |      |      |             | 4  |
| 5                   |             |      |      |      |        | 37.5  | 7.21   |      |      |      |             | 6  |
| 7                   | SPACE       |      |      |      | 7.21   |       |        | 3    | 30   | 8    | RTU-2       | 8  |
| 9                   |             |      |      |      |        | 7.21  |        |      |      |      |             | 10 |
| 11                  |             |      |      |      |        |       | 7.21   |      |      |      |             | 12 |
| 13                  | SPACE       |      |      |      |        |       |        |      |      |      | SPACE       | 14 |
| 15                  |             |      |      |      |        |       |        |      |      |      |             | 16 |
| 17                  |             |      |      |      |        |       |        |      |      |      |             | 18 |
| TOTAL               |             |      |      |      | 51.92  | 51.92 | 51.92  | KVA  |      |      |             |    |
| PER NEC ARTICLE 220 |             |      |      |      | 187.4  | 187.4 | 187.4  | AMPS |      |      |             |    |
| TOTAL LOAD          |             |      |      |      | 155.76 | KVA   | 187.44 | AMPS |      |      |             |    |
| FEEDER LOAD         |             |      |      |      | 137.00 | KVA   | 164.86 | AMPS |      |      |             |    |

Total VA per system

1) General Receptacles - 1st 10,000VA

= 5,060

x 1.00

= 5,060

2) General Receptacles - over 10,000VA

= 37,473

x 0.65

= 24,358

3) Kitchen Equipment

= 9,030

x 1.25

= 11,288

5) HVAC

= 44,460

x 1.25

= 55,575

6) Refrigeration

= 34,413

x 0.65

= 22,369

7) Continuous

= 2,310

x 1.25

= 2,888

8) Non-Continuous

= 8,943

x 1.00

= 8,943

9) Spare

=

x 1.00

=

Total VA per system

= 155,760

137,000

Panelboard voltage

= 831

831

Total Connected Load (amperes)

= 187.44

Total Diversified Load (amperes)

= 164.86

PROVIDE AN ARC FLASH WARNING SIGN PER NEC 110.16.

PNL B

PANELBOARD

208Y/120V, 3PH, 4W  
225A M.L.O.  
SERIES RATED 22/10K A.I.C.  
GROUND BUS

MOUNTING: FLUSH  
LOCATION: ELEC. CABINET  
TYPE: BOLT ON W/GROUND BUS  
NEMA RATING: 1

INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS NOT ALLOWED

| DESCRIPTION |                              | WIRE | BRKR | PL | KVA    |        |        | PL   | BRKR | WIRE | DESCRIPTION                    |    |
|-------------|------------------------------|------|------|----|--------|--------|--------|------|------|------|--------------------------------|----|
|             |                              |      |      |    | A      | B      | C      |      |      |      |                                |    |
| 1           | LOGO 'S2'/I.D. SIGN 'S1' (3) | 12   | 20   | 1  | 1.00   | 1.23   |        | 2    | 20   | 10   | ICE MACHINE COND. '10J-S1' (4) | 2  |
| 3           | ROOF RECEPTACLES             | 12   | 20   | 1  |        | 0.54   | 1.23   |      | 1    | 20   | 12                             | 4  |
| 5           | SPACE                        | —    | —    | —  |        |        | —      | 0.96 | 1    | 20   | 12                             | 6  |
| 7           | TICKET PRINTER               | 12   | 20   | 1  | 0.22   |        |        |      | —    | —    | —                              | 8  |
| 9           | BEV. DISPENSER4AB (1,4)      | 12   | 20   | 1  |        | 1.12   | 0.05   |      | 1    | 20   | 12                             | 10 |
| 11          | SECURITY/POS MONITORS        | 12   | 20   | 1  |        |        | 0.36   | 0.00 | 1    | 20   | 12                             | 12 |
| 13          | HYPERACTIVE TIMER SYS.       | 12   | 20   | 1  | 0.36   |        |        |      |      |      |                                | 14 |
| 15          | SPACE                        | —    | —    | —  |        |        |        |      |      |      |                                | 16 |
| 17          | SPACE                        | —    | —    | —  |        |        |        |      |      |      |                                | 18 |
| 19          | SPACE                        | —    | —    | —  | —      | 2.57   |        |      | 3    | 30   | 10                             | 20 |
| 21          | SPACE                        | —    | —    | —  |        |        | 2.57   |      |      |      |                                | 22 |
| 23          | BUILDING LTG/EM (3)          | 12   | 20   | 1  |        |        | 1.53   | 2.57 |      |      |                                | 24 |
| 25          | MENUBOARD (3,4)              | 12   | 20   | 1  | 1.50   | 0.94   |        |      | 3    | 30   | 12                             | 26 |
| 27          | SPARE                        | 12   | 20   | 1  |        | 0.00   | 0.94   |      |      |      |                                | 28 |
| 29          | RTU CONVENIENCE OUTLETS      | 12   | 20   | 1  |        |        | 0.54   | 0.94 |      |      |                                | 30 |
| 31          | EX. LIGHTING                 | 12   | 20   | 1  | 0.36   | 0.94   |        |      | 3    | 20   | 12                             | 32 |
| 33          | SPACE                        | —    | —    | —  |        |        | 0.94   |      |      |      |                                | 34 |
| 35          | SPACE                        | —    | —    | —  |        |        |        | 0.94 |      |      |                                | 36 |
| 37          | CU-1                         | 10   | 30   | 3  | 2.57   | 2.10   |        |      | 3    | 30   | 10                             | 38 |
| 39          |                              |      |      |    |        | 2.57   | 2.10   |      |      |      |                                | 40 |
| TOTAL       |                              |      |      |    | 13.79  | 12.06  | 12.51  | KVA  |      |      |                                |    |
|             |                              |      |      |    | 114.92 | 100.50 | 104.25 | AMPS |      |      |                                |    |
| TOTAL LOAD  |                              |      |      |    | 38.36  | KVA    | 106.60 | AMPS |      |      |                                |    |
| FEEDER LOAD |                              |      |      |    | 40.00  | KVA    | 111.20 | AMPS |      |      |                                |    |

PER NEC ARTICLE 220