

GENERAL

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE AND ALL APPLICABLE LOCAL CODES AS ADOPTED AND MODIFIED BY THE LOCAL CODE AUTHORITY. REFER TO THE ARCHITECTURAL DOCUMENTS FOR ADDITIONAL CODE AND LOCAL CODE AUTHORITY REQUIREMENTS. ALL TRADES SHALL COORDINATE ON PLACEMENT OF NEW EQUIPMENT. REFER TO THE TENANT GENERAL NOTES AND TENANT DEMOLITION NOTES FOR ADDITIONAL REQUIREMENTS.
- ANY BASE BUILDING WORK LETTER, TENANT SPECIFICATIONS, OR ARCHITECTURAL GENERAL CONDITIONS SHALL GOVERN ALL PRODUCTS AND THE EXECUTION OF WORK.
- ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY; REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS, DIMENSIONS, AND METHOD OF MOUNTING FOR LIGHTING FIXTURES, FIRE ALARM DEVICES, CEILING DEVICES, RECEPTACLES, SWITCHES, EXIT SIGNS, TELEPHONE, AND DATA OUTLETS.
- CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO DETERMINE EXACT SCOPE OF WORK.
- ALL WORK SHALL BE PERFORMED IN SUCH A MANNER TO CREATE MINIMAL POWER OUTAGES FOR THE OWNER. ALL SUCH OUTAGES SHALL BE CAREFULLY COORDINATED WITH THE OWNER SO THAT POWER TO ESSENTIAL SERVICES CAN BE MAINTAINED.
- CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND ALL MATERIALS AND EQUIPMENT FOR A PERIOD OF ONE YEAR IN WRITING COMMENCING UPON ACCEPTANCE OF INSTALLATION BY OWNER.
- CONTRACTOR SHALL MAINTAIN ACCESS, SAFETY, AND CLEANLINESS IN AREA THAT AFFECTS THE FLOW OF PEDESTRIAN TRAFFIC IN THE BUILDING, DUE TO RENOVATION.
- THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES, OBTAIN ALL PERMITS AND PAY ALL GOVERNMENT SALES TAXES, FEES, AND OTHER COSTS, INCLUDING UTILITY CONNECTIONS OR EXTENSIONS, IN CONNECTION WITH HIS WORK; FILE ALL NECESSARY PLANS, PERMITS, AND ALL DOCUMENTS AND OBTAIN ALL NECESSARY APPROVALS OF ALL GOVERNMENT DEPARTMENTS HAVING JURISDICTION; OBTAIN ALL REQUIRED CERTIFICATES OF INSPECTION OF HIS WORK AND DELIVER SAME TO THE ARCHITECT BEFORE REQUEST FOR ACCEPTANCE AND FINAL PAYMENT FOR WORK.
- ELECTRICAL CONTRACTOR SHALL REFER TO MECHANICAL, PLUMBING, & OTHER DISCIPLINE DRAWINGS FOR LOCATION OF PLUMBING, & OTHER DISCIPLINE EQUIPMENT. ELECTRICAL CONTRACTOR SHALL COORDINATE AND VERIFY VOLTAGE/PHASE INDICATED ON ELECTRICAL DRAWINGS WITH PLUMBING, & OTHER DISCIPLINE EQUIPMENT TO BE PROVIDED PRIOR TO INSTALLING ELECTRICAL SERVICE. SHOULD A DISCREPANCY BE NOTED BETWEEN EQUIPMENT TO BE SUPPLIED AND WHAT IS INDICATED ON THE DRAWINGS, CONTRACTOR SHALL OBTAIN WRITTEN DIRECTIONS FROM ENGINEER BEFORE PROCEEDING WITH WORK.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL, PLUMBING, FIRE PROTECTION, & OTHER DISCIPLINE CONTRACTORS ON ANY REQUIRED CONTROL CIRCUITS INCLUDING "LINE" AND "LOW" VOLTAGE POWER REQUIREMENTS. THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ANY NECESSARY "LINE" OR "LOW" VOLTAGE WIRING AND CONDUIT NOT PROVIDED UNDER THE OTHER DISCIPLINE SCOPE.
- CONTRACTOR SHALL PROVIDE BRANCH CIRCUIT WIRING, CONDUIT, AND OVERCURRENT PROTECTION MEETING SUBMITTED AND APPROVED EQUIPMENTS RESPECTIVE NAMEPLATE DATA AT NO ADDITIONAL COST (MAXIMUM OVERCURRENT PROTECTION (MOP) AND MINIMUM CIRCUIT AMPACITY (MCA)).
- PIPING, DUCTWORK, LIGHTING FIXTURES, CABLE TRAYS, CONDUIT, CABLES, WIRING, RACEWAYS, DISTRIBUTION BOXES, INSULATION, AND OTHER ITEMS LOCATED WITHIN THE RETURN AIR CEILING PLENUM SHALL BE REARRANGED AND INSTALLED TO NOT OBSTRUCT OR OTHERWISE ADVERSELY AFFECT THE FLOW OF RETURN AIR FROM THE OCCUPIED SPACE, THROUGH THE RETURN AIR PATH, BACK TO THE RESPECTIVE HVAC UNIT. IN ALL AREAS OF THE RETURN AIR CEILING PLENUM, INCLUDING CONGESTED AREAS OF THE CEILING PLENUM, THE RETURN AIR VELOCITY SHALL NOT EXCEED 500 FPM. REFER TO THE MECHANICAL DRAWINGS FOR ADDITIONAL RETURN AIR PATH REQUIREMENTS.
- ELECTRICAL EQUIPMENT REQUIRING ACCESS SUCH AS J-BOXES OR CONNECTIONS TO EQUIPMENT SHALL NOT BE INSTALLED ABOVE INACCESSIBLE CEILINGS OR BEHIND WALLS UNLESS DIRECTED OTHERWISE BY THE ARCHITECT. CONTRACTOR SHALL REROUTE ANY EXISTING CONDUIT AND J-BOXES INCLUDING CONNECTIONS TO ELECTRICAL EQUIPMENT TO AN ACCESSIBLE LOCATION WHETHER INDICATED ON THE DRAWINGS OR NOT. EXISTING CONDUIT AND J-BOXES ABOVE INACCESSIBLE CEILINGS/WALLS WHICH CANNOT BE RELOCATED SHALL BE ABANDONED WITH ALL WIRING REMOVED.
- CONTRACTOR IS TO X-RAY SLABS PRIOR TO PENETRATING STRUCTURE. X-RAYS, CONCRETE CUTTING, AND CORE DRILLING SHALL TAKE PLACE AFTER REGULAR BUSINESS HOURS AND SCHEDULED WITH BUILDING ENGINEER.
- AFTER FINAL INSTALLATION, CONTRACTOR WILL BE RESPONSIBLE FOR FILLING ALL VOIDS AROUND CONDUIT PENETRATIONS AND OTHER CORE DRILLS/OPENINGS IN SLAB AND WALLS WITH A FIRE SAFING REMEDIATION MORTAR SHALL EQUAL FIRE RATINGS OF ORIGINAL CONCRETE AND BE COMPATIBLE WITH CONSTRUCTION MATERIALS. F AND T RATINGS SHALL BE PER THE REQUIREMENT OF THE LOCAL AHJ.
- CONTRACTOR SHALL DETERMINE THE NUMBER AND SIZE OF CORE DRILLS NECESSARY FOR INDICATED WORK AND SHALL DETERMINE RECOMMENDED LOCATION AND PROVIDE TO STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING WORK.
- CONTRACTOR SHALL MAINTAIN INTEGRITY OF VAPOR BARRIER AND INSULATION FOR ALL ELECTRICAL WORK AND DEVICES ON EXTERIOR AND PERIMETER WALLS.
- FURRING DEPTH ON COLUMNS, SHAFT WALLS, AND FIRE-RATED WALLS IS LIMITED. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF COLUMN AND WALL MOUNTED EQUIPMENT/DEVICES WITH AVAILABLE MOUNTING DEPTH AND WITH THE REQUIREMENTS OF FIRE-RATED WALLS AND SHAFT ENCLOSURES. THE CONTRACTOR SHALL ADJUST THE POSITION OF THE EQUIPMENT/DEVICE TO AN ALTERNATE WALL OR SIDE OF THE SAME COLUMN AS REQUIRED TO ACCOMMODATE JOB SITE CONDITIONS AT NO ADDITIONAL COST.
- BASE OF DESIGN FOR THE ELECTRICAL DISTRIBUTION SYSTEM IS SIEMENS. APPROVED EQUAL MANUFACTURERS WILL BE CONSIDERED IF THE CONTRACTOR CAN PROVIDE DOCUMENTATION SHOWING THAT THE EQUIPMENT CAN FIT WITHIN THE PHYSICAL LIMITATIONS OF THE PROJECT.
- SUBMITTALS SHALL INCLUDE PANELBOARDS, CIRCUIT BREAKERS, FUSED AND NONE FUSED DISCONNECTS, WIRING DEVICES, CONTACTORS, PDU'S, UPS'S, LIGHTING FIXTURES, TRANSFORMERS, CONDUCTORS, RELAY PANELS, AND FIRE ALARM SYSTEM. SUBMITTAL DATA SHALL CONTAIN ONLY INFORMATION RELEVANT TO THE PARTICULAR EQUIPMENT OR MATERIALS TO BE FURNISHED FOR THIS SPECIFIC PROJECT. CATALOG SHEETS WHICH DESCRIBE SEVERAL DIFFERENT TYPES IN ADDITION TO THOSE ITEMS TO USE SHALL NOT BE SUBMITTED UNLESS RELEVANT INFORMATION IS CLEARLY MARKED. SIMILAR EQUIPMENT SHALL BE SUBMITTED IN ONE COMPLETE SUBMITTAL PACKAGE (E.G. ALL PANELBOARDS, ALL LIGHTING FIXTURES, ETC.). TOTAL NUMBER OF SUBMITTALS SHALL BE KEPT TO A MINIMUM.
- AFTER COMPLETION OF WORK, CONTRACTOR SHALL OPEN (REMOVE AND REINSTALL COVERS UPON INSPECTION) ALL ELECTRICAL EQUIPMENT THAT WAS AFFECTED BY WORK OF THIS PROJECT FOR VISUAL INSPECTION TO INCLUDE BUT NOT LIMITED TO VISUALLY CONFIRM TERMINATIONS, CLEANLINESS, COLOR CODING, CIRCUIT IDENTIFICATION, GROUNDING, AND WIRING.
- CONTRACTOR SHALL VACUUM CLEAN ALL DIRT AND DEBRIS FROM ELECTRICAL EQUIPMENT (E.G., OUTLETS, SWITCHES, DISCONNECTS, MOTOR STARTERS, PANELBOARDS, TRANSFORMERS, ETC.).
- DURING THE PROGRESS OF THE WORK AND UPON COMPLETION, TESTS SHALL BE MADE AS SPECIFIED HEREIN AND AS REQUIRED BY AUTHORITIES INCLUDING INSPECTORS, OWNER, ARCHITECT, AND ENGINEER. TESTS SHALL BE CONDUCTED BY THE CONTRACTOR AS PART OF THE WORK OF THIS DIVISION AND SHALL INCLUDE THE SERVICES OF QUALIFIED PERSONNEL AS WELL AS ALL EQUIPMENT, APPARATUS, AND SERVICES REQUIRED. TESTS SHALL INCLUDE CONDUCTOR INSULATION RESISTANCE OF CONDUCTOR #8 AWG AND LARGER, OPERATION OF FIRE ALARM SYSTEM, OPERATION OF ANY ENERGY MANAGEMENT SYSTEM, OPERATION OF ALL MOTORS WITH DEMONSTRATION OF CONTROLS AND INTERLOCKS, OPERATION OF ALL ELECTRICAL EQUIPMENT AND FOOD SERVICE APPLIANCES, OPERATION OF STANDBY LIGHTING, OPERATION OF ALL DRY TYPE TRANSFORMERS BY RECORDING SECONDARY VOLTAGE TO ASSURE PROPER TAP SETTINGS, AND OPERATION OF ANY DIMMING SYSTEM.
- CONTRACTOR SHALL PROVIDE ALTERNATE PRICE TO THERMOGRAPHIC TEST USING AN INFRARED TEMPERATURE SCANNING UNIT ALL ELECTRICAL EQUIPMENT AFFECTED BY WORK OF PROJECT TO TENANT'S REPRESENTATIVE. SCOPE SHALL INCLUDE CORRECTING ANY DEFICIENCIES AND PROVIDING REPORT TO TENANT'S REPRESENTATIVE.
- WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING AN UPDATED SINGLE LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLANS IDENTIFYING THE LOCATION AND AREA SERVED FOR ALL DISTRIBUTION. AN OPERATING MANUAL AND MAINTENANCE MANUAL SHALL BE PROVIDED TO THE BUILDING OWNER INCLUDING, AT A MINIMUM, SUBMITTAL DATA IDENTIFYING THE RATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE WITH REQUIRED ROUTINE MAINTENANCE ACTIONS CLEARLY IDENTIFIED, NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY, AND A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE. WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER INCLUDING, AT A MINIMUM, THE LOCATION, LUMINAIRE IDENTIFIER, CONTROL, AND CIRCUITING OF EACH PIECE OF LIGHTING EQUIPMENT. ADDITIONALLY AN OPERATING AND MAINTENANCE MANUAL FOR ALL LIGHTING EQUIPMENT SHALL BE PROVIDED TO THE BUILDING OWNER INCLUDING, AT A MINIMUM, SUBMITTAL DATA IDENTIFYING ALL SELECTED OPTIONS FOR EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING CONTROLS, OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF LIGHTING EQUIPMENT AND LIGHTING CONTROLS WITH ROUTINE MAINTENANCE CLEARLY IDENTIFIED INCLUDING RECOMMENDED RELAMPING PROGRAMS AND A SCHEDULE FOR INSPECTING AND RECALIBRATING ALL LIGHTING CONTROLS, AND A COMPLETE NARRATIVE OF HOW EACH LIGHTING CONTROL SYSTEM IS INTENDED TO OPERATE INCLUDING RECOMMENDED SETTINGS.

RACEWAYS AND CONDUCTORS

- ALL CONDUCTORS SHALL BE COPPER. ALL CONDUCTORS #8 AWG AND LARGER SHALL BE STRANDED. CONDUCTOR SIZES #10 AWG, #12 AWG, AND #14 AWG SHALL BE SOLID. ALL CONDUCTORS SHALL BE STANDARD CODE TYPE "THW", "THHN", "THWN" OR "XHHW" INSULATED EXCEPT AS REQUIRED OTHERWISE PER THE NEC. ALL CONDUCTORS SHALL BE DURABLY MARKED ON THE SURFACE TO INDICATE RATED VOLTAGE, INSULATION CODE, USE, MANUFACTURER, AND AWG SIZE. THE COLOR CODING SHALL BE CONTINUOUS AND SHALL EXTEND TO PANELS AND MOTORS. WHERE INSULATION COLOR CODING IS NOT AVAILABLE FOR CONDUCTORS #8 AWG AND LARGER, USE COLOR CODED PLASTIC TAPE AT EACH CONDUCTOR TERMINATION. ALL #8 AWG AND SMALLER CONDUCTORS SHALL BE SPLICED WITH PREINSULATED SPRING CONNECTORS. CONNECTORS SHALL BE SCOTCHLOCK TYPE P/PP, OR APPROVED EQUAL. ALL #6 AWG AND LARGER COPPER CONDUCTORS TERMINATED ON LUGS OF PANELBOARDS SHALL BE TERMINATED WITH COPPER UL LISTED COMPRESSION CONNECTORS SUCH AS THOMAS & BETTS #54100 OR #54200 SERIES CONNECTORS. ALL #6 AWG AND LARGER COPPER CONDUCTOR TWO WAY SPLICES SHALL BE MADE WITH BARREL CONNECTORS REQUIRING COMPRESSION ON EACH END. ALL #6 AWG AND LARGER COPPER CONDUIT TAPPING SHALL BE MADE USING "C" TYPE COMPRESSION TAPS SUCH AS THOMAS AND BETTS #54700 SERIES CONNECTORS. CONNECTOR SHALL BE UL LISTED FOR TYPE OF CONDUCTORS TO BE TAPPED. THE MANUFACTURERS RECOMMENDED INSTALLING TOOLS WITH REQUIRED NUMBER OF COMPRESSIONS SHALL BE USED FOR ALL TERMINATIONS.
 - AT THE CONTRACTOR'S OPTION, ALUMINUM CONDUCTORS MAY BE USED IN LIEU OF COPPER CONDUCTORS FOR ALL CIRCUITS PROTECTED BY 100 AMPS AND GREATER OVER CURRENT PROTECTION DEVICES EXCEPT FOR MOTOR LOADS INCLUDING BUT NOT LIMITED TO PUMPS, FANS, AND AIR HANDLING UNITS OR AS INDICATED ON THE DRAWINGS. ALL CIRCUITS PROTECTED BY OVER CURRENT PROTECTION DEVICES LESS THAN 100 AMPS ARE REQUIRED TO BE COPPER. THE USE OF ALUMINUM FOR CIRCUITS PROTECTED BY OVER CURRENT PROTECTION DEVICES LESS THAN 100 AMPS WILL NOT BE ACCEPTABLE. IF THIS OPTION IS SELECTED BY THE CONTRACTOR, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE ADDITIONAL WORK AND SPACE REQUIRED FOR THE LARGER OR ADDITIONAL PARALLEL SETS OF CONDUIT AND CONDUCTORS REQUIRED TO MEET THE COPPER CONDUCTOR BASIS OF DESIGN CURRENT CARRYING CAPACITY. IN ADDITION, THE CONTRACTOR SHALL PROVIDE ALL THE NECESSARY ADDITIONAL HANGERS, CORE DRILLS, SLEEVES, FIRE PROOFING, ETC. REQUIRED TO ACCOMMODATE THE OPTIONAL ALUMINUM CONDUCTORS AND BussING AS INDICATED ON THE OPTIONAL ELECTRICAL DISTRIBUTION DIAGRAM SYSTEM UTILIZING ALUMINUM CONDUCTORS. ALL ALUMINUM CONDUCTORS SHALL BE TERMINATED WITH ALUMINUM UL LISTED COMPRESSION CONNECTORS. THE SMALLEST ALLOWABLE ALUMINUM CONDUCTOR FOR THE OPTIONAL ALUMINUM SYSTEM SHALL BE #1/0 AWG.
 - WHERE EVER "MC" CABLE IS USED IT SHALL BE PROVIDED WITH TWO GREEN INSULATED COPPER GROUND WIRES FOR ANY INDICATED ISOLATED GROUND CIRCUITS/RECEPTACLES. WHERE "AC" CABLE IS ALLOWED, A SEPARATE GREEN INSULATED COPPER GROUND WIRE (HOSPITAL GRADE) SHALL BE PROVIDED FOR ANY INDICATED ISOLATED GROUND CIRCUITS/RECEPTACLES. THE "AC" CABLE COMBINATION METAL JACKET/BLEED WIRE SHALL BE UL LISTED AS A GROUNDING MEANS. "MC" CABLE MUST BE USED IN LIEU OF "AC" FOR ALL BRANCH CIRCUIT WIRING IN "PLACES OF ASSEMBLY" INTENDED FOR OCCUPANCIES OF 100 PERSONS OR MORE. EXCEPT IN THE DISTRICT OF COLUMBIA WHICH SHALL BE ANY SPACES WITH OCCUPANCIES OF 50 OR MORE.
 - ALL WIRE SIZES INDICATED ARE BASED ON DIRECT PATHS WITH 90° BENDS AS NECESSARY FROM THE OUTLET/UTILIZATION EQUIPMENT TO THE PANELBOARD, WITH A MAXIMUM 2% VOLTAGE DROP ON FEEDER CONDUCTORS AND A MAXIMUM VOLTAGE DROP OF 3% FOR BRANCH CIRCUIT CONDUCTORS. WHERE FIELD CONDITIONS DO NOT ALLOW, OR IF FOR ANY REASON THE ROUTE SELECTED IS DIFFERENT, THE WIRE SIZE (AND CONDUIT IF NECESSARY) SHALL BE INCREASED TO MAINTAIN THESE MINIMUM VOLTAGE DROP REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER. REGARDLESS, ALL 20 AMP, 120 VOLT HOMERUNS SHALL BE A MINIMUM #12 AWG UNLESS LENGTHS EXCEED 60', THEN CONDUCTORS SHALL BE A MINIMUM #10 AWG. ALL 20 AMP, 277 VOLT HOMERUNS SHALL BE A MINIMUM #12 AWG UNLESS LENGTHS EXCEED 165'; HEN CONDUCTORS SHALL BE A MINIMUM #10 AWG.
 - RECEPTACLE NEUTRAL CONDUCTOR(S) SHALL BE A MINIMUM #10 AWG AT POINT WHERE MORE THAN ONE 20 AMP PHASE CONDUCTOR IS CONNECTED TO A COMMON NEUTRAL BACK TO PANELBOARD. #10 "AC" CABLE SHALL BE USED FOR ALL PHASES AND NEUTRAL FOR "AC" CABLE INSTALLATIONS AT CONNECTION POINT OF COMMON NEUTRAL.
 - THE ACTUAL NUMBER OF WIRES REQUIRED MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON THE DRAWINGS OR NOT AT NO ADDITIONAL COST.
 - TELEPHONE, DATA, AND CONTROL CABLES INSTALLED IN THE RETURN AIR PLENUM SHALL BE PLENUM RATED OR INSTALLED IN CONDUIT.
 - ALL RIGID, EMT AND FLEXIBLE CONDUIT SHALL BE UL LISTED. ALL CONDUIT SHALL BE SUITABLE FOR THE INTENDED SERVICE AND LOCATION. ANY MATERIALS LOCATED WITHIN ENVIRONMENTAL AIR PLENUMS SHALL BE UL LISTED FOR THE APPLICATION OR APPROVED IN WRITING BY ALL APPLICABLE LOCAL CODE AUTHORITIES. THE CONTRACTOR SHALL COORDINATE ALL RACEWAY SYSTEM COMPONENTS AND LOCATIONS WITH ALL NEW WORK. CONTRACTOR SHALL COORDINATE WITH WORK OF OTHER TRADES. CONTRACTOR SHALL COORDINATE WITH ALL EQUIPMENT, ARCHITECTURAL AND STRUCTURAL ELEMENTS, PLENUM AND CHASE LIMITATIONS AND REQUIREMENTS OF DRAWINGS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR TIMELY PLACEMENT OF SLEEVES, CUTTING AND PATCHING OF NEW CONSTRUCTION TO FIT WORK OF THIS SECTION, LOCATION OF CHASE SPACE FOR VERTICAL ROUTING OF RACEWAY SYSTEMS AND LOCATION OF PLENUM SPACE FOR HORIZONTAL ROUTING OF RACEWAY SYSTEMS. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. DRAWINGS ARE NOT TO BE SCALED. IN PREPARATION OF THE DRAWINGS, A REASONABLE EFFORT TO COORDINATE RACEWAY SYSTEMS HAVE BEEN MADE. HOWEVER, SPACE REQUIREMENTS, EQUIPMENT ARRANGEMENTS, AND SITE CONDITIONS VARY, AND THE RESPONSIBILITY FOR ACCESS, LOCATION, PROPER FIT AND TIMELY COMPLETION RESTS WITH THE CONTRACTOR.
- EXTERIOR:**
ALL EXTERIOR CONDUIT SHALL BE HOT DIPPED GALVANIZED STEEL OR ALUMINUM EMT WITH GALVANIZED COMPRESSION CONNECTORS, UNLESS EXPOSED TO STRIKING OR HARM AND THEN CONDUIT SHALL BE RIGID STEEL.
- MOTORS:**
ALL CONNECTIONS TO MOTORS SHALL BE UL LISTED LIQUID TIGHT FLEX FOR EXTERIOR APPLICATIONS AND FLEXIBLE METALLIC CONDUIT FOR INTERIOR APPLICATIONS (MINIMUM 24" LONG).
- EXPOSED INTERIOR:**
ALL EXPOSED INTERIOR WIRING SHALL BE IN GALVANIZED STEEL OR ALUMINUM EMT USING STEEL SET SCREW CONNECTORS.
- CABLE:**
BRANCH CIRCUIT WIRING CONCEALED IN A WALL OR CEILING CONNECTING RECEPTACLES AND LIGHTS MAY BE "AC" OR "MC" CABLE.
- METALLIC CONDUIT WITH CONDUCTORS SHALL BE USED IN LIEU OF CABLE IN ALL VISIBLE PUBLIC AREA AND BACK OF HOUSE LOCATIONS, UNLESS AN OPEN CEILING (INDUSTRIAL LOOK) TYPE SYSTEMS ARE BEING DESIGNED BY THE ARCHITECT. THEN CABLES USAGE SHALL BE DEFERRED TO RECEIVE FINAL APPROVAL FROM THE ARCHITECT. "AC"/"MC" CABLE SHALL NOT BE TERMINATED AT PANELBOARDS. CABLE SHALL TERMINATE OUTSIDE OF ELECTRICAL CLOSETS AND ROOMS WITH GUTTERS. CONDUIT SHALL BE USED TO CONNECT GUTTERS TO PANELS.
 - ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FT. SHALL BE PROVIDED WITH A PULL WIRE OR FISH TAPE/CORD SECURELY FASTENED AT BOTH ENDS WITH OPPOSITE ENDS IDENTIFIED. IDENTIFICATION TAGS SHALL BE TYPED; HANDWRITTEN TAGS SHALL NOT BE ACCEPTABLE.
 - ALL CONDUIT SHALL BE RIGIDLY SUPPORTED TIGHT TO THE BUILDING STRUCTURE. MAXIMUM SPACING OF SUPPORTS, 10'-0" FOR VERTICAL, AND 8'-0" FOR HORIZONTAL RUNS. COUPLINGS AND FITTINGS FOR EMT SHALL BE OF STEEL (CAST POT METAL IS NOT ACCEPTABLE) AND SHALL BE OF THE COMPRESSION OR SET STEEL SCREW TYPE. NOT MORE THAN THE EQUIVALENT OF FOUR QUARTER BENDS SHALL BE USED IN ANY RUN BETWEEN TERMINALS AND CABINETS, OR BETWEEN OUTLETS AND JUNCTION OR PULL BOXES. CONTRACTOR SHALL PROVIDE THE NECESSARY NEC SIZED JUNCTION OR PULL BOXES TO MEET THIS REQUIREMENT DUE TO SITE CONDITIONS. CONDUITS SHALL NOT IMPEDE OR REQUIRED ACCESS AND CLEARANCE REQUIREMENTS FOR ALL EQUIPMENT.
 - CABLES AND CONDUITS ON THIS PROJECT SHALL BE NEATLY ROUTED PARALLEL AND PERPENDICULAR TO BUILDING LINES. CABLES THAT ARE BUNDLED TOGETHER FOR SUPPORT SHALL NOT EXCEED TEN (10) IN QUANTITY IN ANY ONE LOCATION. MULTIPLE BUNDLES NEATLY INSTALLED AND SEPARATED BY PHYSICAL SPACE SHALL BE USED WHERE CABLE QUANTITIES EXCEED TEN.
 - RACEWAYS SHALL BE PROVIDED WITH EXPANSION FITTINGS AT BUILDING EXPANSION JOINTS AND OTHER AREAS WHERE NECESSARY TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION. FURNISH AND INSTALL O-Z/ Z/ GEDNEY TYPE "EX" OR "TX" EXPANSION FITTINGS WITH BONDING JUMPER WHERE CONDUITS CROSS BUILDING EXPANSION JOINTS.
 - ALL CONDUIT SHALL BE TERMINATED WITH INSULATED THROAT CONNECTORS FOR 1/2" THROUGH AND INCLUDING 1" AND FOR GREATER THAN 1" WITH INSULATED BUSINGS AND LOCKNUTS.
 - FURNISH JUNCTION AND PULL BOXES WHERE REQUIRED BY THE CODE OR WHERE INDICATED OR REQUIRED TO FACILITATE PULLING WIRES REGARDLESS OF WHETHER SHOWN ON THE DRAWINGS OR NOT AT NO ADDITIONAL COST. BOXES SHALL BE STEEL, HOT-DIPPED GALVANIZED AFTER FABRICATION, AND SHALL HAVE INDUSTRY STANDARD KNOCKOUTS NECESSARY TO ACCOMMODATE THE CONDUITS AT POINT OF INSTALLATION. SECTIONALIZED BOXES SHALL BE USED WHERE POSSIBLE TO GROUP ADJACENT DEVICES UNDER A SINGLE PLATE. ALL BOXES SHALL HAVE LUGS OR EARS INSIDE TO SECURE COVERS. OUTLET BOXES SHALL BE DEEP TYPE, FOUR INCH SQUARE, AND HAVE DEVICE COVERS WITH CENTER OPENINGS AS REQUIRED. OUTLET BOXES FOR EXPLOSED SWITCHES, RECEPTACLES, AND PULL BOXES SHALL BE DEEP TYPE CAST ALUMINUM "CONDUIT" TYPE, CRUSH-RESISTANT, STONCO OR EQUAL. EXPOSED SHALL BE DEFINED AS LOCATED IN VIEW OF A PERSON WITHIN OR OUTSIDE OCCUPABLE SPACE NOT CONCEALED WITHIN PLENUM OR WALL SPACES. EXPOSED SHALL INCLUDE BOTH INTERIOR AND EXTERIOR LOCATIONS WHERE SURFACE MOUNTING OR CONDUIT SUPPORTED STAND ALONE BOXES ARE REQUIRED. OUTLET BOXES IN OUTDOOR OR WET LOCATIONS SHALL ALSO HAVE GASKETED WEATHERPROOF ALUMINUM CAST- METAL COVERS WITH INDIVIDUAL GASKETED SPRING-LATCHED HINGED OUTLET BOXES. FOR 20 AMP/RES 120 VOLT OR 277 VOLT CIRCUITS SHALL HAVE A GREEN INSULATED #12 AWG SOLID COPPER CONDUCTOR GROUNDING PIGTAIL WITH GROUND SCREW.

DISTRIBUTION EQUIPMENT AND OVERCURRENT PROTECTION

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING AND BALANCING THE CIRCUITS IN THE PANELBOARDS. PROVIDE CIRCUITS WITH DEDICATED NEUTRAL CONDUCTORS AS INDICATED ON THE DRAWINGS. PROVIDE CIRCUITS WITH SHARED NEUTRAL CONDUCTORS AS INDICATED ON THE DRAWINGS. NEUTRAL CONDUCTORS SHALL NOT BE COMBINED/SHARED WHERE NOT INDICATED ON THE DRAWINGS. WHERE NEUTRAL CONDUCTORS ARE INDICATED TO BE SHARED, THE PHASE CONDUCTORS SHALL BE ON OPPOSITE PHASES. PROVIDE JUNCTION BOXES AS REQUIRED FOR THE QUANTITY OF WIRES, CONNECTORS, AND DEVICES CONTAINED THEREIN WHERE COMBINING HOMERUNS.
 - EACH MOTOR STARTER SHALL BE PROPERLY DESIGNED AND COORDINATED TO SUIT THE CHARACTERISTICS OF THE MOTOR AND CONTROLS AND THE DRIVEN EQUIPMENT. STARTERS PROVIDED WITH AUTOMATIC CONTROLS SHALL BE CAPABLE OF MAKING AS MANY FREQUENT STARTS AND STOPS AS THE CONTROL DEVICES MAY DEMAND. THE HORSEPOWER RATING OF EACH STARTER SHALL NOT BE LESS THAN THE RATING OF THE MOTOR IT CONTROLS. STARTERS SHALL NOT BE IN ACCORDANCE WITH NEMA STANDARDS. ALL CONTROLLERS SHALL BE MOLDED CASE (TWO POLE FOR SINGLE PHASE) MAGNETIC ONLY CIRCUIT BREAKERS OR DISCONNECT SWITCHES IN COMBINATION WITH MOTOR STARTERS AS SHOWN ON THE DRAWINGS. INTERRUPTING RATING OF COMBINATIONS SHALL BE A MINIMUM OF 22,000 AMPERES RMS SYMMETRICAL. FUSED SWITCH COMBINATION STARTERS SHALL BE SUPPLIED FOR MOTORS WHERE REQUIRED BY MANUFACTURER, INSPECTING AUTHORITY, AND/OR FUSE PROTECTION IS INDICATED ON MOTOR NAMEPLATE. WHERE INDICATED ON THE DRAWINGS FOR MAGNETIC MOTOR STARTERS ONLY, REQUIREMENTS SPECIFIED HEREIN SHALL APPLY. HOWEVER, WITHOUT CIRCUIT BREAKER OR DISCONNECT. EACH MOTOR CONTROLLER CIRCUIT BREAKER/DISCONNECT SHALL BE CAPABLE OF BEING PADLOCKED IN THE "OFF" POSITION WITH UP TO THREE PADLOCKS. MOTOR CONTROLLER ENCLOSURES SHALL BE NEMA TYPE 1 GENERAL PURPOSE UNLESS EXPOSED TO THE WEATHER. MOTOR CONTROLLERS EXPOSED TO WEATHER SHALL BE NEMA TYPE 4 WATERIGHT. GENERALLY, HOLDING COILS IN FULL VOLTAGE MAGNETIC MOTOR CONTROLLERS SHALL BE SUITABLE FOR USE ON 120 VOLT, AC CONTROL VOLTAGE. EACH CONTROLLER SUPPLYING LOADS ABOVE 120 VOLTS NOMINAL SHALL HAVE A CONTROL POWER TRANSFORMER WITH PRIMARY FUSES AND ONE SECONDARY FUSE IN THE UNDERCONTROL POWER TRANSFORMER SHALL BE PROPERLY SIZED TO MEET THE REQUIREMENTS OF THE MECHANICAL/PLUMBING/FIRE PROTECTION EQUIPMENT SERVED. ALL SINGLE PHASE FULL VOLTAGE MAGNETIC MOTOR CONTROLLERS SHALL HAVE OVERLOAD PROTECTION IN UNGROUNDED PHASES. ALL INTERNAL WIRING SHALL BE COPPER. EACH MOTOR CONTROLLER SHALL BE EQUIPPED WITH A 120 VOLT RATED MAIN CIRCUIT BREAKER AND A HAND-OFF CIRCUIT BREAKER. ALL REQUIREMENTS OF THE MECHANICAL/PLUMBING/FIRE PROTECTION CONTRACTORS AND AUTOMATIC OPERATIONAL CONTROL SEQUENCES OF THEIR RESPECTIVE DIVISIONS SHALL BE MET. PILOT LIGHTS WILL BE OPERATED BY AN INTERLOCK ON THE MOTOR CONTROLLER AND NOT PLACED ACROSS THE OPERATING COIL. IN ADDITION TO THE "HOLDING INTERLOCK AND PILOT LIGHT INTERLOCKS", EACH MOTOR CONTROLLER SHALL HAVE TWO EXTRA INTERLOCK CONTACTS WHICH SHALL BE FIELD CONVERTIBLE TO NORMALLY OPEN OR NORMALLY CLOSED. TERMINAL TERMINAL BLOCKS SHALL BE PROVIDED FOR REMOTE CONTROL FUNCTIONS AS REQUIRED BY THE FIRE ALARM SUBCONTRACTOR AND AUTOMATIC TEMPERATURE CONTROL SUBCONTRACTOR.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER SIZING OF ALL MOTOR OVERLOAD DEVICES (HEATERS) IN STARTERS BASED ON ACTUAL NAMEPLATE RATINGS ON THE MOTORS BEING INSTALLED.
 - MOLDED CASE CIRCUIT BREAKERS SHALL BE OPERATED BY A TOGGLE-TYPE HANDLE AND SHALL HAVE A QUICK-MAKE, QUICK-BREAK, OVER-CENTER SWITCHING MECHANISM THAT IS GENERAL PURPOSE UNLESS EXPOSED TO THE WEATHER. MOTOR CONTROLLERS SHALL BE NORMALLY OPEN CIRCUIT BREAKERS AND SHALL BE FIELD CONVERTIBLE TO NORMALLY CLOSED. CIRCUIT BREAKERS SHALL BE CLOSED AGAINST SHORT CIRCUITS AND ABNORMAL CURRENTS. TRIPPING DUE TO OVERLOAD OR SHORT CIRCUIT SHALL BE CLEARLY INDICATED BY THE HANDLE AUTOMATICALLY ASSUMING A POSITION MIDWAY BETWEEN THE MANUAL ON AND OFF POSITIONS. ALL LATCH SURFACES SHALL BE GROUND AND POLISHED. POLES SHALL BE SO CONSTRUCTED THAT THEY CAN OPEN, CLOSE AND TRIP SIMULTANEOUSLY. BREAKERS SHALL BE COMPLETELY ENCLOSED IN A MOLDED CASE WITH THE AMPERE RATINGS CLEARLY VISIBLE. CONTACTS SHALL BE NON-WELDING SILVER ALLOY. BREAKERS SHALL BE UL LISTED FOR USE WITH 75°C AND 90°C INSULATED WIRE. CIRCUIT BREAKER RATINGS, MODIFICATIONS, ETC. SHALL BE AS INDICATED ON THE DRAWINGS. MOLDED-CASE CIRCUIT BREAKERS SHALL BE AS FOLLOWS:
 - THERMAL MAGNETIC TYPE THAT PROVIDES INVERSE TIME-DELAY OVERLOAD AND INSTANTANEOUS SHORT CIRCUIT PROTECTION BY MEANS OF A THERMAL MAGNETIC ELEMENT.
 - AMBIENT COMPENSATED STANDARD THAT PROVIDES INVERSE TIME-DELAY OVERLOAD AND INSTANTANEOUS SHORT CIRCUIT PROTECTION BY MEANS OF A THERMAL MAGNETIC ELEMENT. COMPENSATION SHALL ALLOW THE BREAKER TO CARRY RATED CURRENT BETWEEN 25°C AND 50°C WITH TRIPPING CHARACTERISTICS THAT ARE APPROXIMATELY THE SAME THROUGHOUT THIS TEMPERATURE RANGE.
 - MULTI-POLE BREAKERS SHALL BE OF THE COMMON TRIP TYPE HAVING A SINGLE OPERATING HANDLE, EXCEPT THAT 240- AND 480-VOLT BREAKERS WITH 50-AMPERES MAY CONSIST OF FACTORY-CONNECTED, SINGLE-POLE BREAKERS WITH A COMMON TRIP HANDLE.
 - ALL CIRCUIT BREAKERS SHALL BE FULL SIZE AND BOLT-ON.
 - WHERE POSSIBLE, MOLDED CASE CIRCUIT BREAKERS WITH PANELBOARDS SHALL BE INSTALLED IN THE ORDER INDICATED IN THE PANEL SCHEDULES.
 - ALL FUSES SHALL BE DUAL-ELEMENT LOW PEAK CLASS RK1 AS MANUFACTURED BY BUSSMAN OR LITTEL FUSE. FUSE VOLTAGE RATING SHALL BE 250 VOLT FOR 120/208 VOLT SYSTEM AND 600 VOLT FOR 277/480 VOLT SYSTEM.
- ## LIGHTING
- IT WILL BE THE CONTRACTORS RESPONSIBILITY TO CONFIRM LIGHTING FIXTURE BUILDING STANDARDS PRIOR TO PURCHASE OF ANY FIXTURES AND LAMPS. CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND BUILDING OWNER ANY FIXTURES OR LAMPS INDICATED ON THE CONTRACT DOCUMENTS WHICH MAY DIFFER FROM BUILDING STANDARD FOR ACCEPTABILITY PRIOR TO ORDER. ALL LIGHTING FIXTURES WITHIN THE TENANT RENOVATION SHALL BE LEANED AND COMPLETELY REMOVED AT THE TIME OF FINAL ACCEPTANCE. PROVIDE THE PROPER FIXTURE TYPE FOR THE TYPE OF CEILING OR WALL CONSTRUCTION IN WHICH THE FIXTURE IS TO BE INSTALLED. REGARDLESS OF FIXTURE NUMBERS GIVEN IN THE FIXTURE SCHEDULE, THE FIXTURES SUPPLIED SHALL HAVE THE PROPER TRIM, FIXTURES, MOUNTING DEVICES, CONFIGURATION AND ACCESSORIES GREATLY IMPROVING THE APPEARANCE AND ENERGY EFFICIENCY OF THE LIGHTING. NUMBERS OF FIXTURES IN THE FIXTURE SCHEDULE ARE TO ESTABLISH A TYPE OF FIXTURE AND NOT TO DETERMINE A METHOD OF MOUNTING. THE LIGHTING FIXTURES SHALL BE SUPPORTED BY A TIE WIRE FROM EACH CORNER TO THE STRUCTURE ABOVE OR AS REQUIRED BY THE LOCAL AUTHORITY. ALL BALLASTS LOCATED IN FIXTURES EXPOSED TO FREEZING TEMPERATURES SHALL BE RATED FOR ZERO-FREEZE OPERATION. ALL BALLASTS SHALL BE ELECTRONIC, ENERGY SAVING, LESS THAN 20% THD, HIGH POWER FACTOR, "A" SOUND RATED, TYPE "P", AUTOMATIC RESET TYPE, RATED FOR THE LAMP IT OPERATES AND MANUFACTURED BY GE, ADVANCE, MAGNETEK, LUTRON, OR MOTOROLA. LIGHTING FIXTURES, REMOTE BALLASTS, REMOTE TRANSFORMERS, AND ACCESSORIES, WHETHER INDICATED IN THE LIGHTING FIXTURE SCHEDULE OR NOT AND LOCATED IN A DAMP OR WET LOCATION AS DEFINED BY THE NEC, SHALL BE UL LISTED FOR DAMP OR WET LOCATION ACCORDINGLY. CONTRACTOR SHALL PROVIDE EQUIVALENT LOW HEIGHT LIGHTING FIXTURES OR RELOCATE EXISTING LIGHTING FIXTURES AS DIRECTED WHERE INADEQUATE PLENUM SPACE EXISTS DUE TO SITE CONDITIONS OR WHERE STATIC LIGHTING FIXTURES ARE NOT SPECIFIED. EXISTING LIGHTING FIXTURES SHALL BE RETURN AIR (OR AIR HANDLING UNIT) AND SEAT EXTRACT TYPE WITH AIR CONTROL DAMPER BLADES, CLOSURES, OR STRIPS TO ENABLE OR DISABLE THE RETURN AIR FUNCTION BY MANUALLY OPENING OR CLOSING THE DAMPERS/STRIPS/CLOSURES IN THE FIELD. THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR ON WIRING TO CLOSURES AND WHICH FIXTURES TO OPEN THE DAMPERS/STRIPS/CLOSURES THROUGHOUT THE PROJECT. TYPICALLY ALL FIXTURES WITHIN ENCLOSED PERIMETER OFFICES OR WITHIN 15 FEET OF THE PERIMETER WALL FOR OPEN OFFICE AREAS SHALL HAVE THEIR DAMPERS/STRIPS/CLOSURES CLOSED TO DISABLE THE RETURN AIR FUNCTION WHEN COMBINATION SUPPLY AND RETURN AIR SLOT DIFFUSERS ARE USED ALONG THE PERIMETER WALL.
 - CONNECT (2#10, 1/2") ALL EMERGENCY EGRESS, STANDBY AND EXIT LIGHTING TO A STANDBY POWER CIRCUIT IN ACCORDANCE WITH APPLICABLE CODE. CONTRACTOR SHALL CONFIRM STANDBY POWER SOURCE WITH ARCHITECT, ENGINEER, AND BUILDING OWNER PRIOR TO MAKING CONNECTIONS. THESE REQUIREMENTS SHALL BE IN ADDITION TO WHAT IS SHOWN ON THE TENANT ELECTRICAL DRAWINGS. CONTRACTOR SHALL CONFIRM THE TOTAL CONNECTED AMPERAGE DOES NOT EXCEED 16 AMPERES.
 - RECESSED DOWNLIGHT TYPE LIGHTING FIXTURES INSTALLED IN CEILINGS SHALL BE SUPPORTED BY MEANS OF HANGER BARS EXTENDING ACROSS THE MAIN CEILING SUPPORT MEMBER. SUPPORTED WIRES SHALL BE IN QUANTITY TO SUPPORT THE LIGHTING FIXTURES SHALL BE SUPPORTED BY WIRES AT ALL FOUR CORNERS. THE FOUR WIRES SHALL BE INDEPENDENT TO THE STRUCTURE ABOVE. ALL OTHER TYPE LIGHTING FIXTURES IN CEILINGS SHALL HAVE THE OUTLET BOX RIGIDLY SUPPORTED FROM THE BUILDING STRUCTURAL SYSTEM. EACH FIXTURE SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING GRID. ALL DOWNLIGHT TYPE LIGHTING FIXTURES SHALL BE SUPPORTED BY WIRES AT ALL FOUR CORNERS. THE FOUR WIRES SHALL BE INDEPENDENT TO THE STRUCTURE ABOVE. ALL OTHER TYPE LIGHTING FIXTURES CONNECTED TO THE BUILDING STRUCTURE. PROVIDE REMOVABLE CLIPS TO SECURELY FASTEN LIGHTING FIXTURES IN PLACE TO THE CEILING CONSTRUCTION; HOWEVER, THE LOCAL CODE SHALL BE VIA THE TIE WIRES. IN ADDITION TO ABOVE SUPPORT METHODS, ALL SUPPORT CODE AUTHORITY REQUIREMENTS SHALL BE ADHERED TO. SUPPORT MEANS AND METHODS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE LOCAL CODE AUTHORITY SEISMIC REQUIREMENTS.

- LIGHTING FIXTURES IN AREAS WHERE THERE IS EXPOSED FOOD, CLEAN EQUIPMENT, UTENSILS, LINENS, OR UNWRAPPED SINGLE SERVICE AND SINGLE USE ARTICLES SHALL BE LENSED OR PROVIDED WITH SHATTER RESISTANT LAMPS IN COMPLIANCE WITH THE MOST CURRENT FDA FOOD CODE AND OTHER ADDED CODES.
- THE CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.
- WHERE DIMMING IS INDICATED, CONTRACTOR SHALL PROVIDE AND CONFIRM COMPATIBILITY BETWEEN THE RESPECTIVE LIGHT'S DIMMING BALLAST, LAMP TYPE, AND DIMMER. PROVIDE THE NECESSARY QUANTITY OF CONDUCTORS BETWEEN COMPONENTS AND ACCESSORIES FOR A COMPLETE DIMMING SYSTEM.
- FURNISH AND INSTALL OCCUPANCY SENSORS WHERE REQUIRED PER ADOPTED CODES AND AS INDICATED ON THE DRAWINGS. OCCUPANCY SENSORS SHALL BE PROVIDED IN QUANTITIES TO ADEQUATELY COVER THE INTENDED AREAS. ALL DEVICES SHALL BE LOCATED PER THE MANUFACTURER'S RECOMMENDATIONS WITH APPROVAL OF THE ARCHITECT. UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS, OCCUPANCY SENSORS SHALL BE MANUFACTURED BY WATTS/TOPPER, HUBBELL, LEVITON, NOVITAS, OR LUTRON COMBINATION TECHNOLOGY (CTO) MAY BE USED AS RECOMMENDED. PASIVE INFRARED OR DUAL TECHNOLOGY (PASSIVE INFRARED AND ULTRASONIC) SENSORS SHALL BE SIMILAR TO WATTS/TOPPER DW-100 SERIES; SENSOR SHALL BE SET FOR PUSH BUTTON ON AND VACANCY OFF. CEILING MOUNTED ULTRASONIC SENSORS SHALL BE SIMILAR TO WATTS/TOPPER WT SERIES FOR INTENDED AREA COVERAGE. IN AREAS WHERE NO ARCHITECTURAL CEILING IS PROVIDED FOR AUTO-ON OPERATIONS, DEVICES SHALL BE MOUNTED SUCH THAT THE BOTTOM OF THE SENSOR LENS IS AT THE SAME HEIGHT AS THE LIGHTING FIXTURES AND OTHER OVERHEAD DEVICES IN THE AREA. SHOULD THE MOUNTING HEIGHT OF THE ULTRASONIC SENSOR EXCEED THE MANUFACTURER'S RECOMMENDATIONS, AN ALTERNATE TECHNOLOGY (PASSIVE INFRARED OR COMBINATION TECHNOLOGY) MAY BE USED AS RECOMMENDED. ULTRASONIC SENSORS SHALL BE SIMILAR TO WATTS/TOPPER BZ-150. POWER PACKS FOR ENCLOSED AREAS WILL TYPICALLY BE PROVIDED WITH A SINGLE POLE LINE VOLTAGE SWITCH FOR MANUAL OVERRIDE. WHERE INDICATED, LOW VOLTAGE MOMENTARY OVERRIDE SWITCHES SHALL BE SIMILAR TO WATTS/TOPPER BZ SERIES. OCCUPANCY SENSORS SHALL BE FIELD SET. ALL DEVICES SHALL BE CONFIRMED WITH ARCHITECT, DEVICE VOLTAGE AND LOAD CAPACITY SHALL BE APPROPRIATE FOR INTENDED CIRCUIT. PROVIDE ALL ACCESSORIES TO INCLUDE BUT NOT LIMITED TO POWER PACKS, CONTROL AND POWER WIRING, CONDUIT, RELAYS, COVER PLATES, JUNCTION BOXES, BACKBOXES, ETC. FOR A COMPLETE AND OPERATIONAL OCCUPANCY SENSOR SYSTEM. EQUIPMENT LOCATED WITHIN PLENUMS SHALL BE PLENUM RATED FOR INTENDED SPACE. CONTRACTOR SHALL, IN COMMISSION, SET, AND CONFIRM ALL ADJUSTABLE SETTINGS AND SENSOR PLACEMENT PER MANUFACTURER'S RECOMMENDATIONS TO ENSURE A TROUBLE FREE OCCUPANCY BASE LIGHTING CONTROL SYSTEM.
- THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATIONS OF LIGHTING FIXTURES WITHIN MECHANICAL ROOMS AND OTHER BACK OF HOUSE AREAS WITH THE INSTALLED EQUIPMENT, DUCTWORK, PIPING, ETC. TO PROVIDE ADEQUATE ILLUMINATION FOR SERVICES AND MAINTENANCE.
- ALL LIGHTING CONTACTORS SHALL BE SIMILAR OR EQUAL TO ASCO #917 SERIES, NEMA '1' ENCLOSURE.
- WHERE CONFLICTS OR DISCREPANCIES EXIST BETWEEN THE LIGHT FIXTURE SCHEDULES ON THE ENGINEERS PLANS AND THE ARCHITECT, INTERIOR DESIGNER, OR LIGHTING CONSULTANT PLANS, THE SPECIFICATIONS ON THE ARCHITECT, INTERIOR DESIGNER, AND/OR LIGHTING CONSULTANT PLANS SHALL BE USED FOR AESTHETIC REQUIREMENTS INCLUDING LAMP COLOR TEMPERATURE, FINISHES, TRIM TYPE, ETC. THE ENGINEERS PLANS SHALL TAKE PRECEDENCE WITH REGARDS TO VOLTAGE AND WATTAGE. REGARDLESS, BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO PROCEEDING WITH PURCHASING.

ELECTRICAL DRAWING INDEX	
E-001	ELECTRICAL COVERSHEET
E-101	ELECTRICAL GROUND FLOOR PLAN
E-102	ELECTRICAL ROOF PLAN
E-501	ELECTRICAL SYMBOLS, ABBREVIATIONS & DETAILS
E-502	ELECTRICAL DETAILS
E-601	ELECTRICAL POWER RISER
E-602	ELECTRICAL PANELSCHEDULES
E-603	ELECTRICAL LIGHTING FIXTURE SCHEDULES & COMPLIANCE CERTIFICATE

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SEAL & SIGNATURE:

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME OR UNDER MY CLOSE PERSONAL SUPERVISION AND PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
EXPIRES: 01/31/2025
OWNER:

PRINCE GEORGE'S COUNTY
REDEVELOPMENT
AUTHORITY

PROJECT NAME:	SUITLAND RETAIL KIOSK PRINCE GEORGE'S COUNTY, MD		SHEET TITLE:
NO.	DESCRIPTION	DATE	
PROJECT NO: HRE.001.0030			Author
DRAWN BY: [Blank]			Checker
CHECKED BY: [Blank]			Plotter
PLOT DATE: 9/1/2023 11:12:52 PM			
FILE NAME:			

E-001

SPECIFIC NOTES:


- 1 FOR CONNECTION TO MOTORIZED DOOR.
- 2 PROVIDE OPEN POSITION MEANS, PERMANENT LOCK-OFF TYPE, FOR THE CIRCUIT BREAKER FEEDING THIS WATER HEATER PER THE REQUIREMENTS OF THE AHJ.
- 3 FOR WALL HEATER WH-10 CONNECTION; 208V, 1PH. HEATER PROVIDED WITH A FACTORY MOUNTED DISCONNECT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH THE MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- 4 FOR CONNECTION TO AIR CURTAIN (ECR-10). COORDINATE EXACT LOCATION AND POWER REQUIREMENTS WITH THE MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- 5 FOR CONNECTION TO GAS FRYER. COORDINATE EXACT LOCATION WITH CONTRACTOR PRIOR TO INSTALLATION.
- 6 FOR CONNECTION TO RESTAURANT RANGE. COORDINATE EXACT LOCATION WITH CONTRACTOR PRIOR TO INSTALLATION.
- 7 ALL WALL MOUNTED RECEPTACLES IN SEATING AREA SHALL BE TAMPER RESISTANT PER ART. 406.12(6) AND 518.2 OF THE NEC.

GENERAL NOTES:

1. THE CONTRACTOR SHALL REFER TO ALL THE ELECTRICAL CONTRACT DOCUMENTS, NOTES, DETAILS, SCHEDULES, RISERS, OTHER DISCIPLINE CONTRACT DOCUMENTS FOR A COMPLETE SCOPE OF WORK.
2. WIRE ALL LIFE SAFETY ILLUMINATION (EMERGENCY LIGHTS AND EXIST LIGHTS) AHEAD OF ALL CONTROLS (SWITCHES, OCCUPANCY SENSORS, PHOTO CELLS, ETC.) SO THAT THEY ARE ENERGIZED ALL THE TIME.
3. REFER TO THE LATEST ARCHITECTURAL AND/OR INTERIOR DESIGNER DRAWINGS FOR DIMENSIONS AND FINAL LOCATION AND MOUNTING INFORMATION FOR KITCHEN EQUIPMENT AND LIGHTS FIXTURES.
4. REFER TO THE LATEST MECHANICAL AND PLUMBING DRAWINGS FOR THE FINAL LOCATION AND MOUNTING INFORMATION OF MECHANICAL AND PLUMBING EQUIPMENT. REFER TO THE PROCURED EQUIPMENT MANUFACTURER'S LITERATURE FOR THE VOLTAGE RATING RECOMMENDED WIRE SIZE AND OVER CURRENT PROTECTION DEVICE RATING.

A/E/P 21-356

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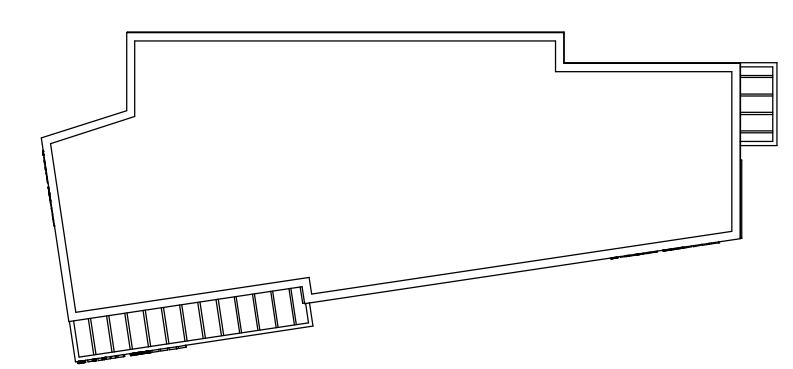
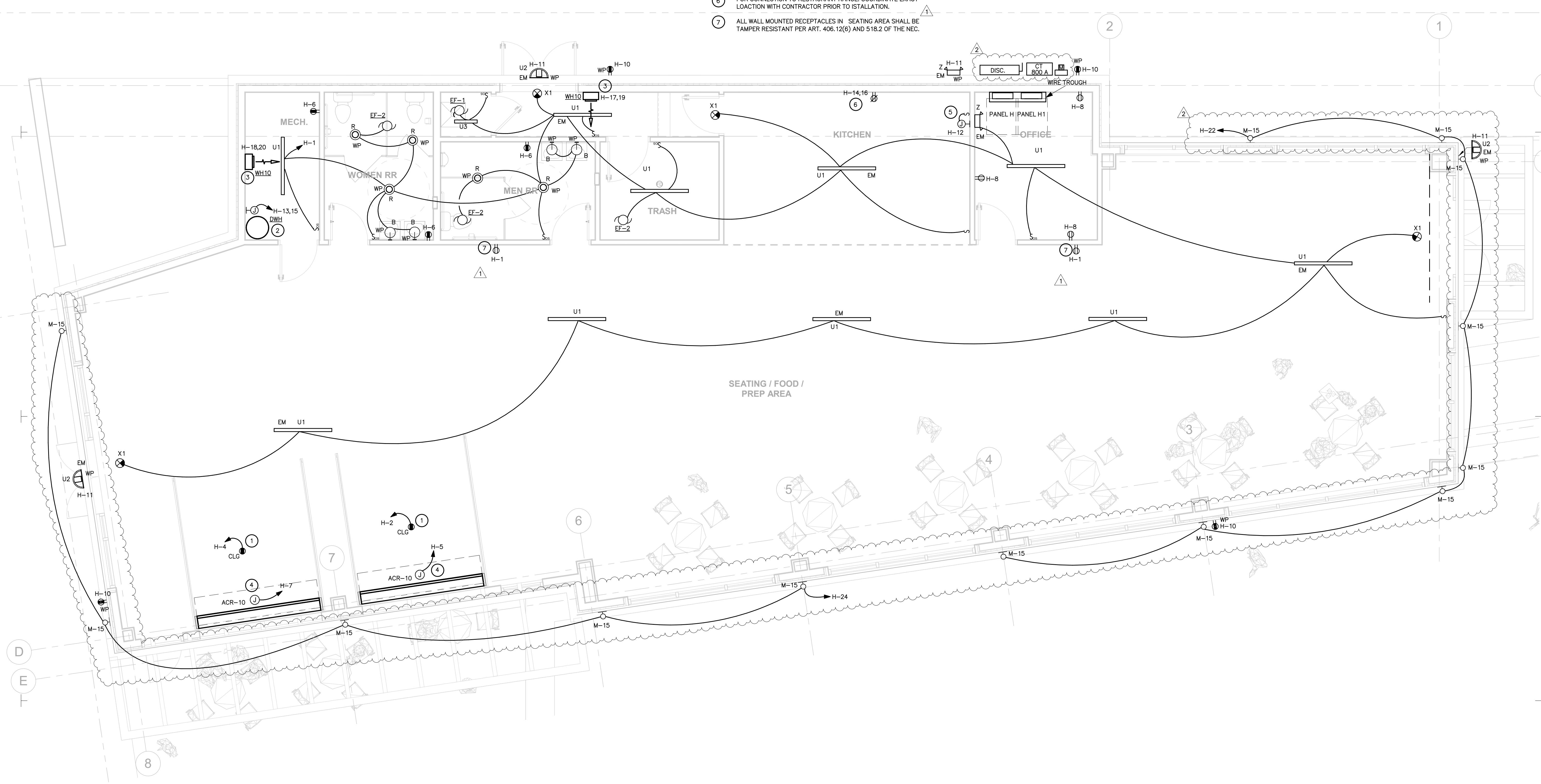
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 LICENSE NUMBER: 48027
 EXPIRATION DATE: 03/29/2025
 OWNER:
PRINCE GEORGE'S COUNTY REDEVELOPMENT AUTHORITY

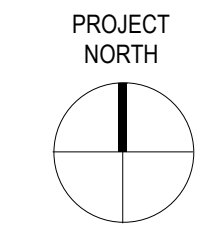
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SUITLAND RETAIL KIOSK
 PRINCE GEORGE'S COUNTY, MD
 SHEET TITLE:
ELECTRICAL GROUND FLOOR PLAN

NO.	DESCRIPTION	DATE
2	REVISION 2 - RFI RESPONSE	09/01/2023
1	PERMIT COMMENTS	04/05/2023

PROJECT No: HRE.001.003D
 DRAWN BY: Author
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 PLOT DATE: 9/2/2023 1:10:24 AM
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KEY PLAN



1 ELECTRICAL GROUND FLOOR PLAN
 E-101 SCALE: 1/4" = 1'-0"
 0 4'-0" 8'-0" 16'-0"
 SCALE: 1/8" = 1'-0"

SPECIFIC NOTES:

- ① 120V, 20A, GFCI, WP, SERVICE RECEPTACLE.
- ② ROOF TOP UNIT (RTU-1). PROVIDE 200A, 3-POLE, 208V, NEMA-3R DISCONNECT FUSED AT 175A. COORDINATE EXACT LOCATION AND POWER REQUIREMENT WITH THE MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- ③ EF-1 120V, 1 POLE. PROVIDE WEATHERPROOF LOCAL DISCONNECT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MECHANICAL CONTRACTOR.

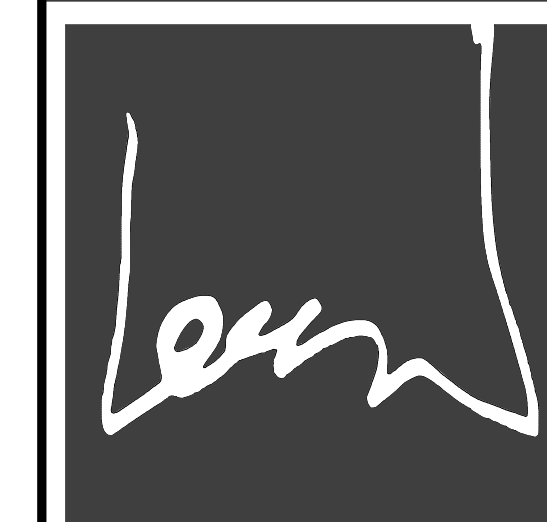
GENERAL NOTES:

1. THE CONTRACTOR SHALL REFER TO ALL THE ELECTRICAL CONTRACT DOCUMENTS, NOTES, DETAILS, SCHEDULES, RISERS, OTHER DISCIPLINE CONTRACT DOCUMENTS FOR A COMPLETE SCOPE OF WORK.
2. REFER TO THE LATEST MECHANICAL AND PLUMBING DRAWINGS FOR THE FINAL LOCATION AND MOUNTING INFORMATION OF MECHANICAL AND PLUMBING EQUIPMENT. REFER TO THE PROCURED EQUIPMENT MANUFACTURER'S LITERATURE FOR THE VOLTAGE RATING RECOMMENDED WIRE SIZE AND OVER CURRENT PROTECTION DEVICE RATING.



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 EXPIRATION DATE: 03/29/2025

OWNER:

**PRINCE GEORGE'S COUNTY
 REDEVELOPMENT
 AUTHORITY**

PROJECT NAME:
**SUITLAND RETAIL KIOSK
 PRINCE GEORGE'S COUNTY, MD**

SHEET TITLE:
ELECTRICAL ROOF PLAN

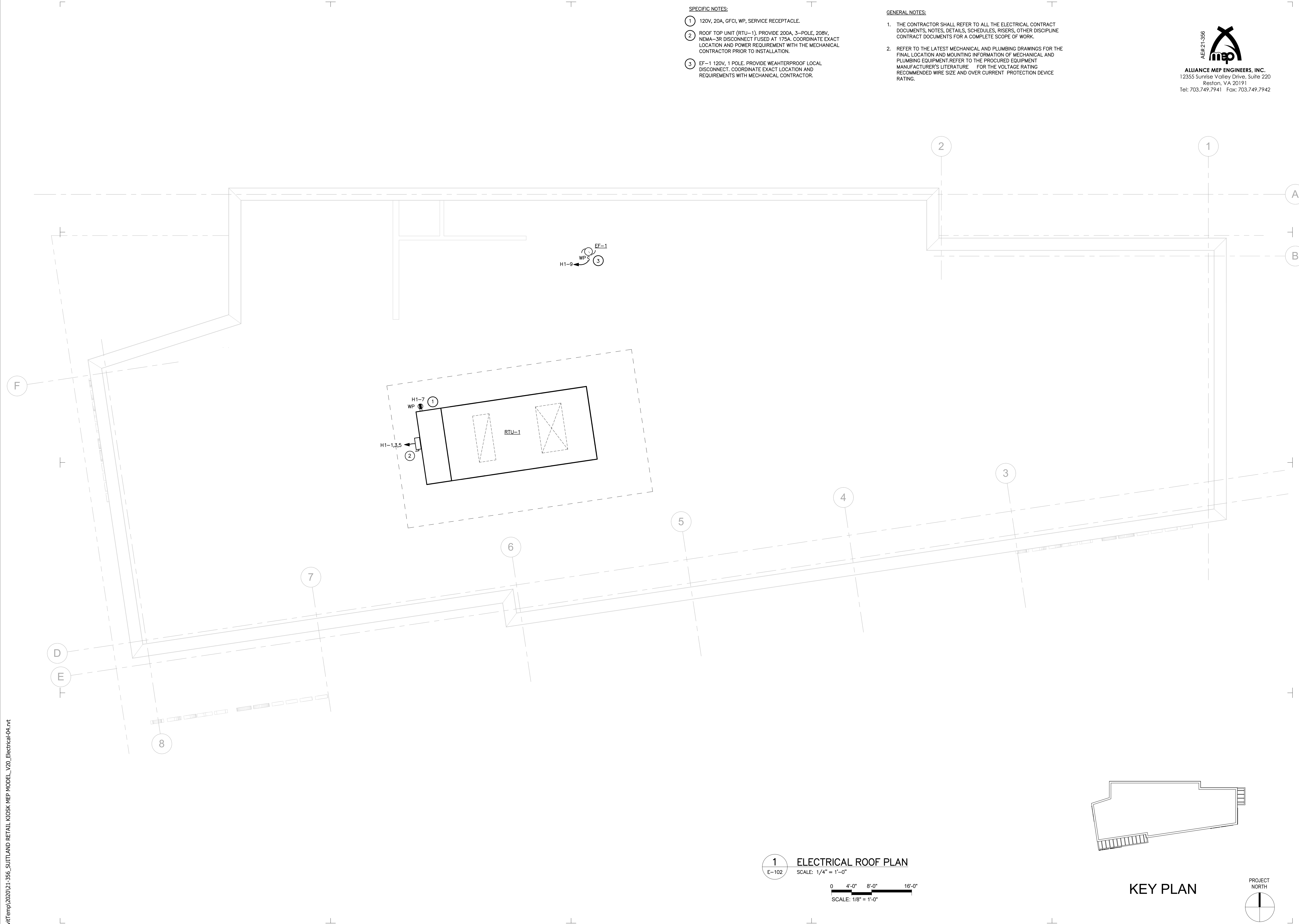
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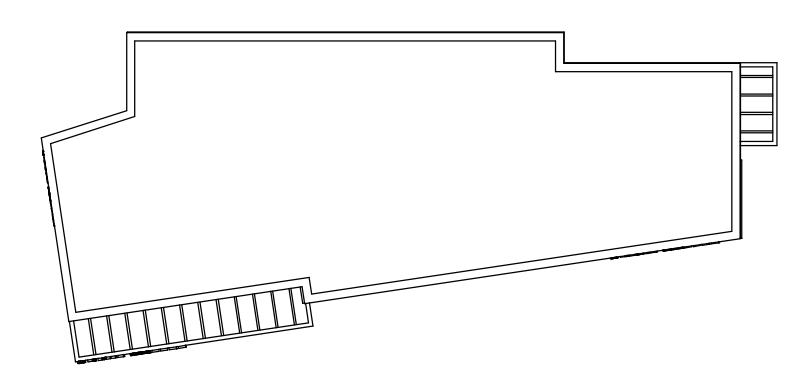
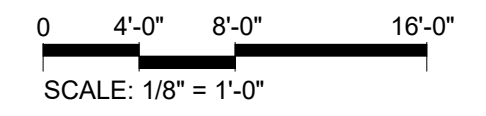
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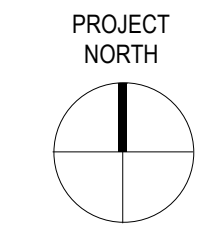
E-102



1 ELECTRICAL ROOF PLAN
 E-102 SCALE: 1/4" = 1'-0"



KEY PLAN

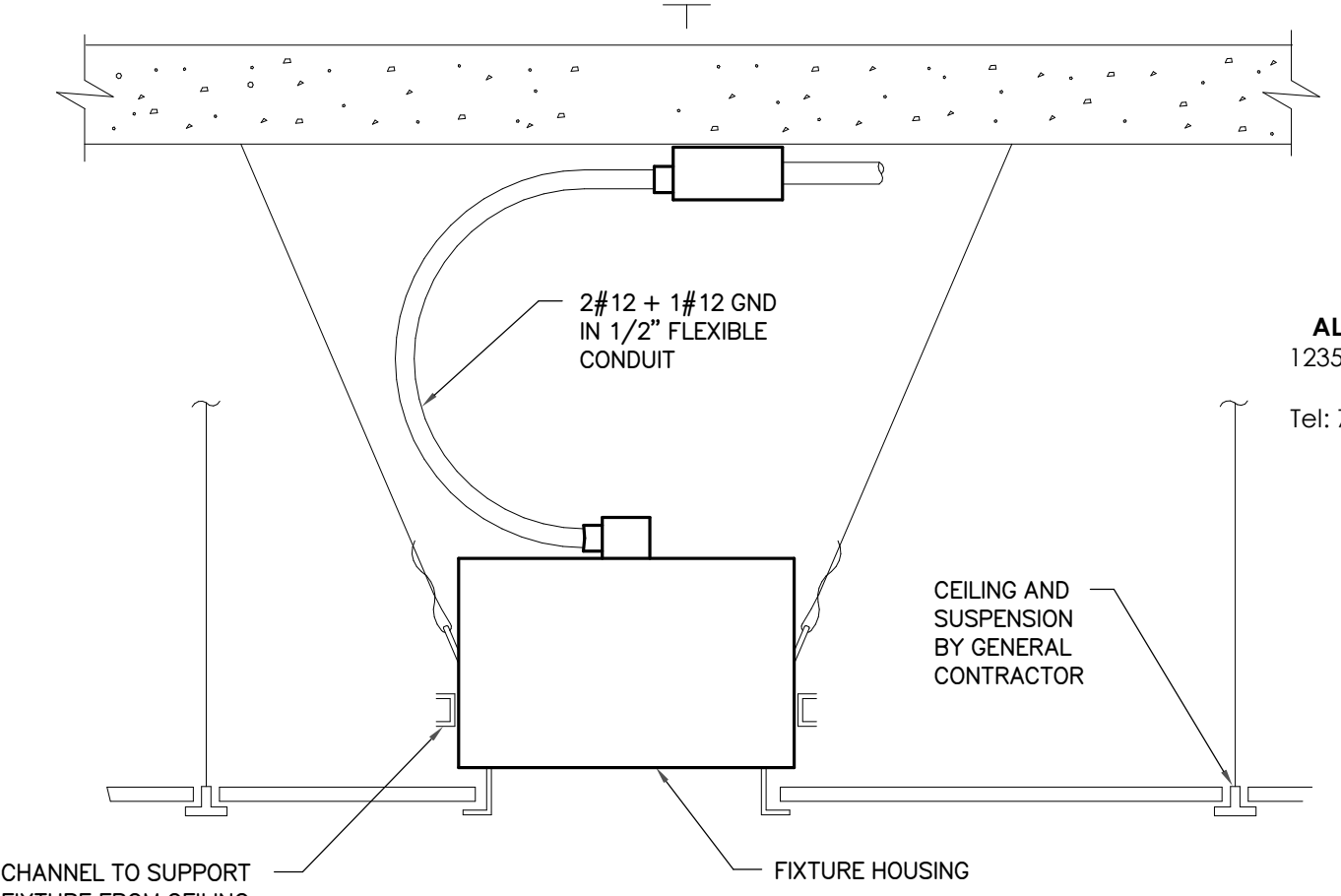


ELECTRICAL SYMBOLS

- CEILING MOUNTED LIGHT FIXTURE, SURFACE OR RECESSED MOUNTED. REFER TO SCHEDULE FOR TYPE AND DESCRIPTION, LETTER OR NUMBER INDICATES TYPE.
- CEILING MOUNTED LIGHT FIXTURE, SURFACE OR RECESSED MOUNTED. REFER TO SCHEDULE FOR TYPE AND DESCRIPTION, LETTER OR NUMBER INDICATES TYPE.
- WALL MOUNTED LIGHT FIXTURE, RECESSED MOUNTED. REFER TO SCHEDULE FOR TYPE AND DESCRIPTION, LETTER OR NUMBER INDICATES TYPE.
- CEILING MOUNTED LIGHT FIXTURE, SURFACE OR RECESSED MOUNTED. REFER TO SCHEDULE FOR TYPE AND DESCRIPTION, LETTER OR NUMBER INDICATES TYPE.
- Ⓞ EXIT LIGHT, CEILING OR WALL MOUNTED. SHADED QUADRANTS INDICATE LETTERED FACE(S), ARROWS INDICATE DIRECTION.
- S SINGLE POLE SWITCH, DECORA TYPE OR AS SPECIFIED BY THE ARCHITECT.
- S₃ THREE-WAY SWITCH, DECORA TYPE OR AS SPECIFIED BY THE ARCHITECT.
- S_D DIMMER SWITCH, DECORA TYPE OR AS SPECIFIED BY THE ARCHITECT. COORDINATE TYPE WITH DIMMED LOAD AND/OR DRIVER TYPE.
- S_{OS} OCCUPANCY SENSOR, WALL MOUNTED. WATTSTOPPER #DSW-100, OR AS REQUIRED FOR PROPER AREA COVERAGE.
- M CEILING MOUNTED LINE VOLTAGE MOTION SENSOR, WATTSTOPPER #DT-355, OR AS REQUIRED FOR PROPER AREA COVERAGE.
- M_o CEILING MOUNTED LOW VOLTAGE MOTION SENSOR, WATTSTOPPER #DT-305, OR AS REQUIRED FOR PROPER AREA COVERAGE.
- ⊕ DUPLEX, 125V, 2P, 3W GROUNDING RECEPTACLE.
- ⊕ COMBINATION DEVICE, TAMPER PROOF DUPLEX 125V, 2P, 3W GROUNDING RECEPTACLE AND A MINIMUM 2 USB FAST CHARGING PORTS.
- ⊕ SINGLE, NEMA RECEPTACLE, REFER TO PANEL SCHEDULE FOR VOLTAGE AND AMPERAGE.
- ⊕ DUPLEX, 125V GROUND FAULT INTERRUPTER, MOUNTED ABOVE COUNTER.
- ⊕ DUPLEX, 125V GROUND FAULT INTERRUPTER.
- WP DUPLEX 125V, 2P, 3W GROUNDING RECEPTACLE WITH WEATHERPROOF COVER WHILE IN-USE, MOUNTED @ 24" A.F.F.
- ⊕ CLG DUPLEX 125V, 2P, 3W GROUNDING RECEPTACLE, CEILING MOUNTED.
- JUNCTION BOX.
- DISCONNECT SWITCH, RATING = DISCONNECT AMPS/FUSE AMPS: EX: 30/30
- SUPPLY/EXHAUST FAN.
- WALL MOUNTED SUPPLY/EXHAUST FAN.
- MOTOR CONNECTION
- BASE BUILDING PANELBOARD

ABBREVIATIONS

- | | |
|-----------------------------------|--|
| A AMP AMPERE | J JUNCTION BOX |
| AC ALTERNATING CURRENT | KCMIL THOUSAND CIRCULAR MILS (MCM) |
| AF AMPERE FRAME | KV KILOVOLTS |
| AFB ABOVE FINISHED CEILING | KVA KILOVOLT-AMPERE |
| AFG ABOVE FINISHED GRADE | KVAR KILOVOLT-AMPERE REACTIVE |
| AHJ AUTHORITY HAVING JURISDICTION | KW KILOWATT |
| AHU AIR HANDLING UNIT | KWH KILOWATT-HOUR |
| AIC AMPERE INTERRUPTING CAPACITY | LF LINEAR FOOT |
| AL ALUMINUM | LV LOW VOLTAGE |
| AM AMMETER | MCB MAIN CIRCUIT BREAKER |
| ATS AUTOMATIC TRANSFER SWITCH | MCC MOTOR CONTROL CENTER |
| AWG AMERICAN WIRE GAUGE | MD MOTORISED DAMPER |
| BKR BREAKER | MLO MAIN LUGS ONLY |
| C CONDUIT | MH MANHOLE |
| CATV CENTRAL ANTENNA TELEVISION | N NEW WORK |
| CB CIRCUIT BREAKER | N NEUTRAL |
| CCTV CLOSED CIRCUIT TELEVISION | NAC NOTIFICATION APPLIANCE CIRCUIT |
| CKT CIRCUIT | NEC NATIONAL ELECTRICAL CODE |
| CLG CABINET UNIT HEATER | NF NON-FUSED |
| CONT CONTINUE, CONTINUED | NIC NOT IN CONTRACT |
| DB DOOR BELL | NL NIGHT LIGHT |
| DC DIRECT CURRENT | NTS NOT TO SCALE |
| DN DOWN | PE PHOTO ELECTRIC |
| DWG DRAWING | PF POWER FACTOR |
| D/W DISHWASHER | PH PHASE |
| (E) EXISTING TO REMAIN | PBL PANELBOARD |
| EBH ELECTRIC BASEBOARD HEATER | PVC POLYVINYL CHLORIDE CONDUIT (SCHEDULE 40) |
| EC ELECTRICAL CONTRACTOR | (R) REMOVE |
| EDH ELECTRIC DUCT HEATER | (RE) RELOCATE EXISTING |
| EF EXHAUST FAN | REC. RECEPTACLE |
| ECC EQUIPMENT GROUNDING CONDUCTOR | RMC RIGID METAL CONDUIT |
| EH ELECTRIC HEATER | SEC SECONDARY |
| EMERG/EM EMERGENCY | SF SUPPLY FAN |
| EMT ELECTRICAL METALLIC TUBING | SLC SIGNAL LINE CIRCUIT (ADDRESSABLE LOOP) |
| (ER) EXISTING TO BE RELOCATED | SQ. FT. SQUARE FOOT |
| EUH ELECTRIC UNIT HEATER | SW SWITCH |
| EWC ELECTRIC WATER COOLER | SWBD SWITCHBOARD |
| EWV ELECTRIC WATER VALVE | TBD TO BE DETERMINED |
| FA FIRE ALARM | TEL TELEPHONE |
| FACP FIRE ALARM CONTROL PANEL | TV TELEVISION |
| FCU FAN COIL UNIT | TYP TYPICAL |
| FLR FLOOR | UC UTILITY COMPANY |
| FLUOR FLUORESCENT | UH UNIT HEATER |
| G/D GARBAGE DISPOSAL | UON UNLESS OTHERWISE NOTED |
| GFI GROUND FAULT INTERRUPTING | UPS UNINTERRUPTIBLE POWER SUPPLY |
| GND GROUND | V VOLTS |
| GEC GROUNDING ELECTRODE CONDUCTOR | VA VOLT-AMPERE |
| HID HIGH INTENSITY DISCHARGE | VFD VARIABLE FREQUENCY DRIVE |
| HQA HAND-OFF-AUTOMATIC | W WIRE OR WATTS |
| HP HORSEPOWER | WP WEATHER PROOF |
| | XFMR TRANSFORMER |



AEF21-356
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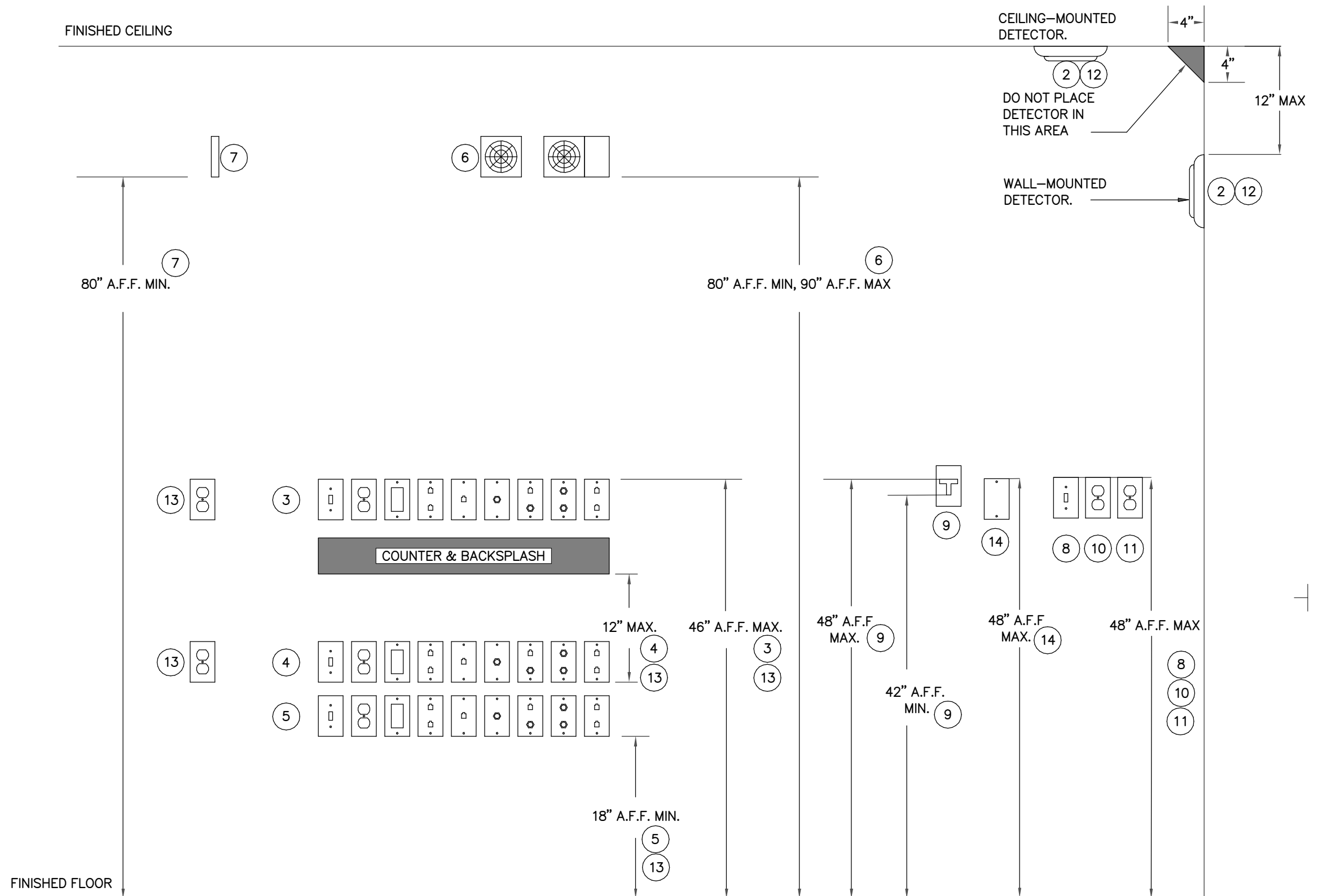
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RECESSED DOWNLIGHT MOUNTING DETAIL 2

SCALE: N.T.S.

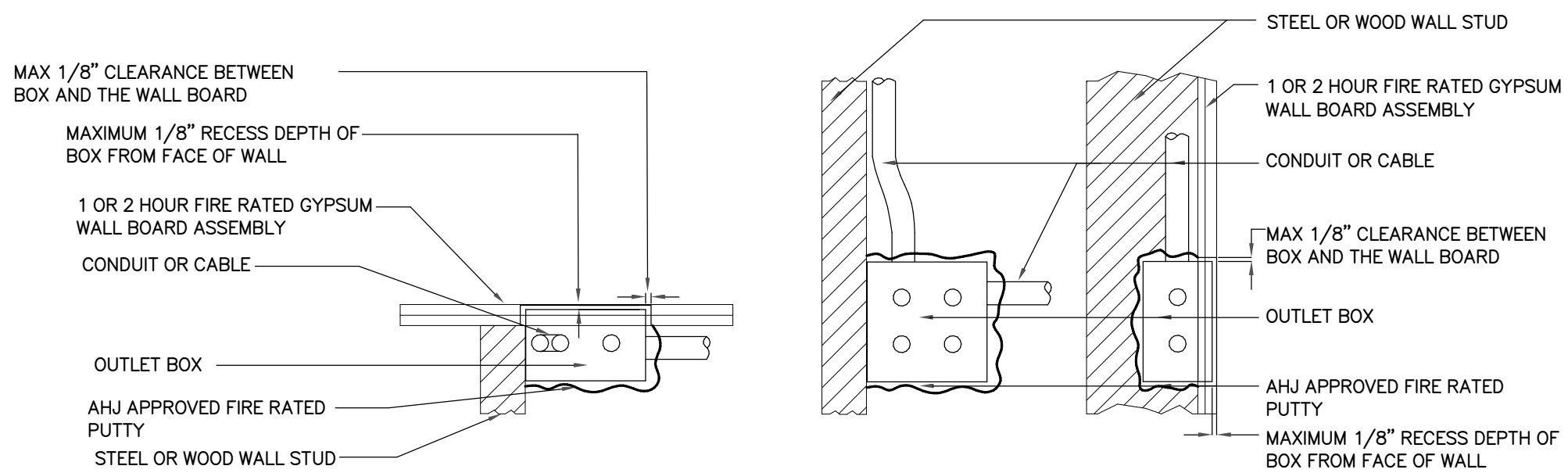
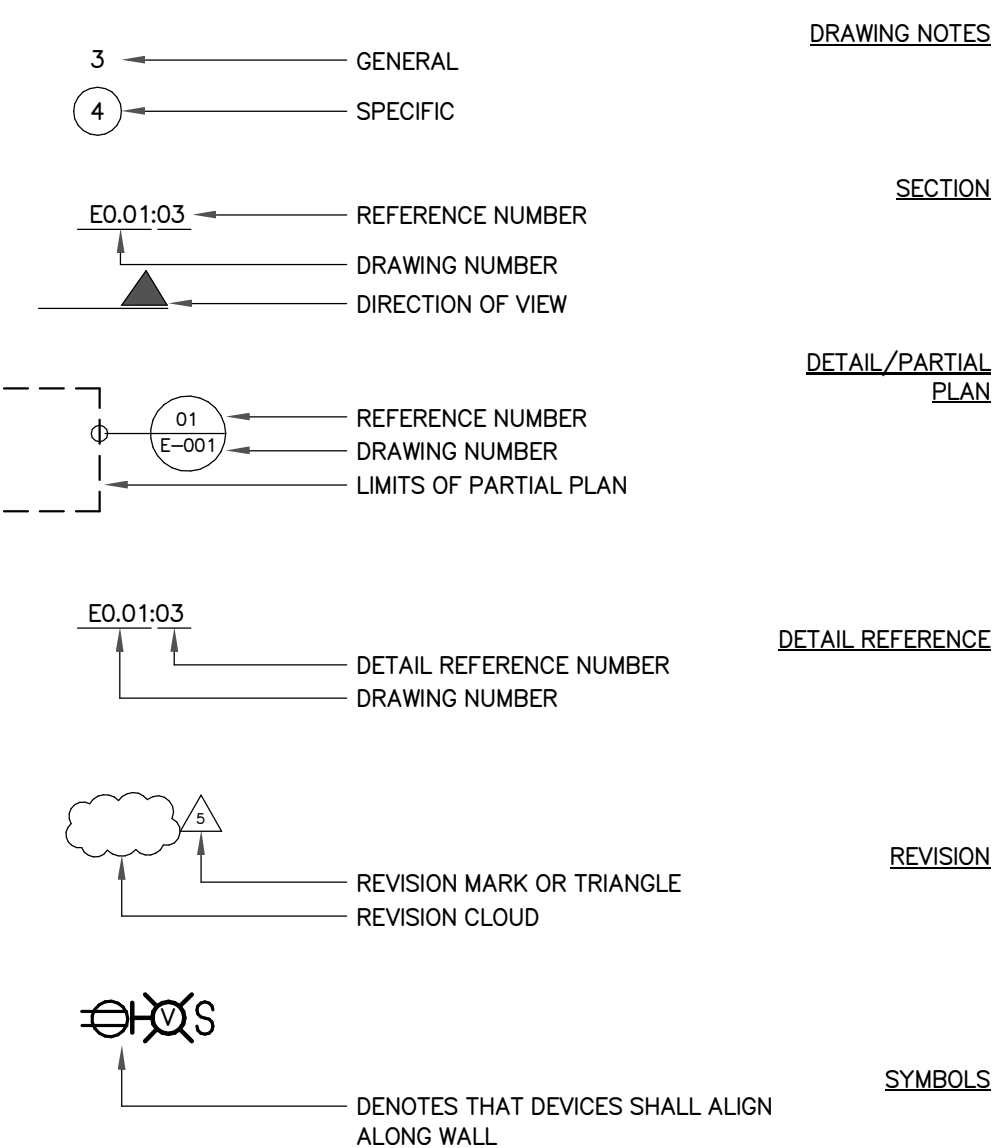


DEVICE MOUNTING DETAIL 1

SCALE: N.T.S.

- NOTES:**
- VERIFY ALL DEVICES LOCATIONS AND MOUNTING WITH THE ARCHITECT AND THE INTERIOR DESIGNER. REFER TO THE ARCHITECTURAL AND INTERIOR DESIGNER DOCUMENTS AND ELEVATIONS FOR SPECIAL CONDITIONS. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY CONFLICTS.
 - CEILING OR WALL MOUNTED DETECTOR MIN. 4" FROM WALL OR CEILING EDGE, MIN. 36" FROM SUPPLY AND RETURN AIR TERMINALS, EDGE OF FAN BLADES, AND BATHROOM DOORS IN DWELLING UNITS. MIN. 10"-0" FROM COOKING EQUIPMENT IN DWELLING UNITS, AND MAX. 21"-0" FROM THE CENTER LINE OF A SLEEPING SPACE/AREA OR THE FURTHEST ELEVATOR DOOR.
 - ABOVE-COUNTER POWER AND COMMUNICATION OUTLETS AND SWITCHES, BOTTOM OF PLATE 2" MIN. ABOVE COUNTERTOP/BACKSPLASH OR 46" A.F.F. FROM THE TOP OF COVER-PLATE, WHICHEVER IS LOWER.
 - BELOW-COUNTER POWER AND COMMUNICATION OUTLETS AND SWITCHES, 12" MAX. BELOW COUNTERTOP FROM THE BOTTOM OF COVER-PLATE BUT NOT LESS THAN 18" A.F.F. FROM THE BOTTOM OF THE COVER-PLATE.
 - WALL MOUNTED POWER, COMMUNICATION, AND SYSTEM FURNITURE OUTLETS, 18" A.F.F. FROM THE BOTTOM OF COVER-PLATE.
 - WALL MOUNTED FIRE ALARM VISUAL, AUDIO, OR COMBINATION AUDIO/VISUAL SMOKE ALARM OR DETECTOR, 80" A.F.F. MIN. AND 90" A.F.F. MAX. FROM BOTTOM OF SPEAKER (AUDIO) OR LENSE (AUDIO/VISUAL OR VISUAL).
 - EXIT SIGN, 80" A.F.F. MIN. FROM THE BOTTOM OF EXIT SIGN. SHALL NOT BE INSTALLED WHERE THE LINE OF SIGHT TO THE EXIT SIGN IS BROKEN.
 - LIGHT SWITCH, 48" A.F.F. MAX. FROM THE TOP OF FACEPLATE.
 - FIRE ALARM MANUAL PULL STATION, 42" A.F.F. MIN, 48" MAX, FROM THE TOP OF HANDLE.
 - WASHING MACHINE, OR DRYER, OR LAUNDRY RECEPTACLE, 48" A.F.F. MAX FROM THE TOP OF THE FACEPLATE.
 - REFRIGERATOR RECEPTACLE, 48" A.F.F. MAX FROM THE TOP OF THE FACEPLATE.
 - IN MULTI UNIT OCCUPANCIES WHERE FOSSIL FUEL BURNING APPLIANCES/EQUIPMENT OR AN ATTACHED GARAGE IS PRESENT, COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE PROVIDED AT MINIMUM AT EVERY HABITABLE FLOOR AND WITHIN 21 FEET TO THE DOOR OF EVERY SLEEPING AREA/SPACE.
 - IN ALL DWELLING UNITS, AT LEAST ONE 20A GFCI PROTECTED OUTLET SHALL BE INSTALLED WITHIN 36 INCHES FROM THE OUTSIDE EDGE OF A BASIN, PER NEC 210.52.D.
 - FIREMAN'S PHONE, 48" MAXIMUM A.F.F. FROM THE TOP OF THE DEVICE.

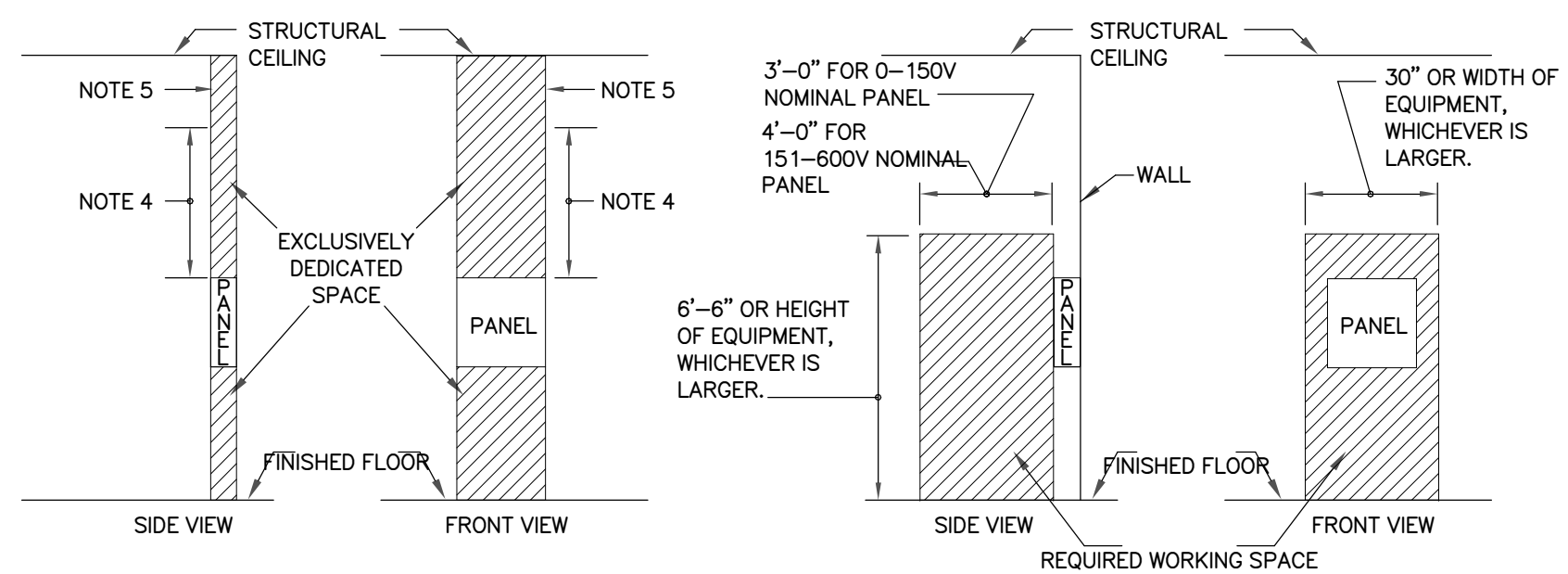
DRAWING REFERENCE SYMBOLS



ELECTRICAL OUTLET PUTTY INSTALLATION 4

SCALE: N.T.S.

- NOTES:**
- ELECTRICAL BOXES SHALL NOT BE INSTALLED BACK TO BACK.
 - PUTTY PACKS NOT APPLICABLE TO ELECTRICAL BOXES LARGER THAN 4".
 - CONTRACTOR SHALL PROVIDE DOCUMENTATION THAT THE SPECIFIC ELECTRICAL BOX BEING INSTALLED WITHIN A SPECIFIC WALL IS APPROVED FOR USE WITHIN THE SPECIFIC U.L. WALL ASSEMBLY WITHOUT THE USE OF FIRE RATED PUTTY. IF THEY ARE NOT, APPROVED FIRE RATED PUTTY SHALL BE INSTALLED PER THE MANUFACTURER'S PREDOMINATIONS IN ORDER TO MAINTAIN THE FIRE RATING OF THE WALL. ALL MEANS AND METHODS SHALL BE AHJ APPROVED.



TYPICAL PANEL REQUIRED WORKING SPACE (CLEARANCE) 3

SCALE: N.T.S.

- NOTES:**
- ELECTRICAL PANELS IN THE DWELLING UNITS SHALL BE INSTALLED SO THAT THE HEIGHT OF THE CIRCUIT BREAKER(S) IN THE HIGHEST POSITION IS NOT MORE THAN 48" ABOVE THE FINISHED FLOOR.
 - ELECTRICAL PANELS IN OTHER THAN DWELLING UNITS SHALL BE INSTALLED SO THAT THE HEIGHT OF THE CIRCUIT BREAKER(S) IN THE HIGHEST POSITION IS NOT MORE THAN 6'-7" ABOVE THE FINISHED FLOOR.
 - THE COLOR AND FINISH OF THE PANEL SHALL RECEIVE FINAL APPROVAL FROM THE ARCHITECT PRIOR TO INSTALLATION.
 - 6'-0" OR STRUCTURAL CEILING (WHICHEVER IS LESS) NO FOREIGN OBJECTS ALLOWED.
 - FOREIGN OBJECTS ALLOWED 6'-0" ABOVE PANEL ONLY AS ALLOWED BY PER NEC 110.26.E.1.B.

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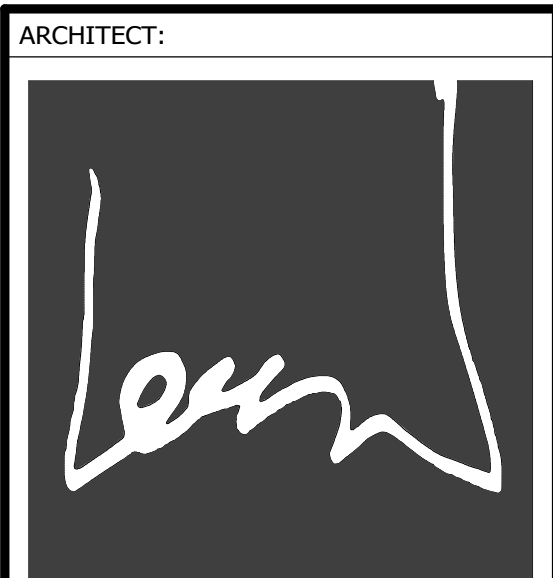
SHEET TITLE:
 ELECTRICAL SYMBOLS, ABBREVIATIONS & DETAILS

NO.	DESCRIPTION	DATE
PROJECT No:	HRE.001.003D	
DRAWN BY:	Author	
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PLOT DATE:	9/1/2023 11:12:58 PM	
FILE NAME:		

E-501



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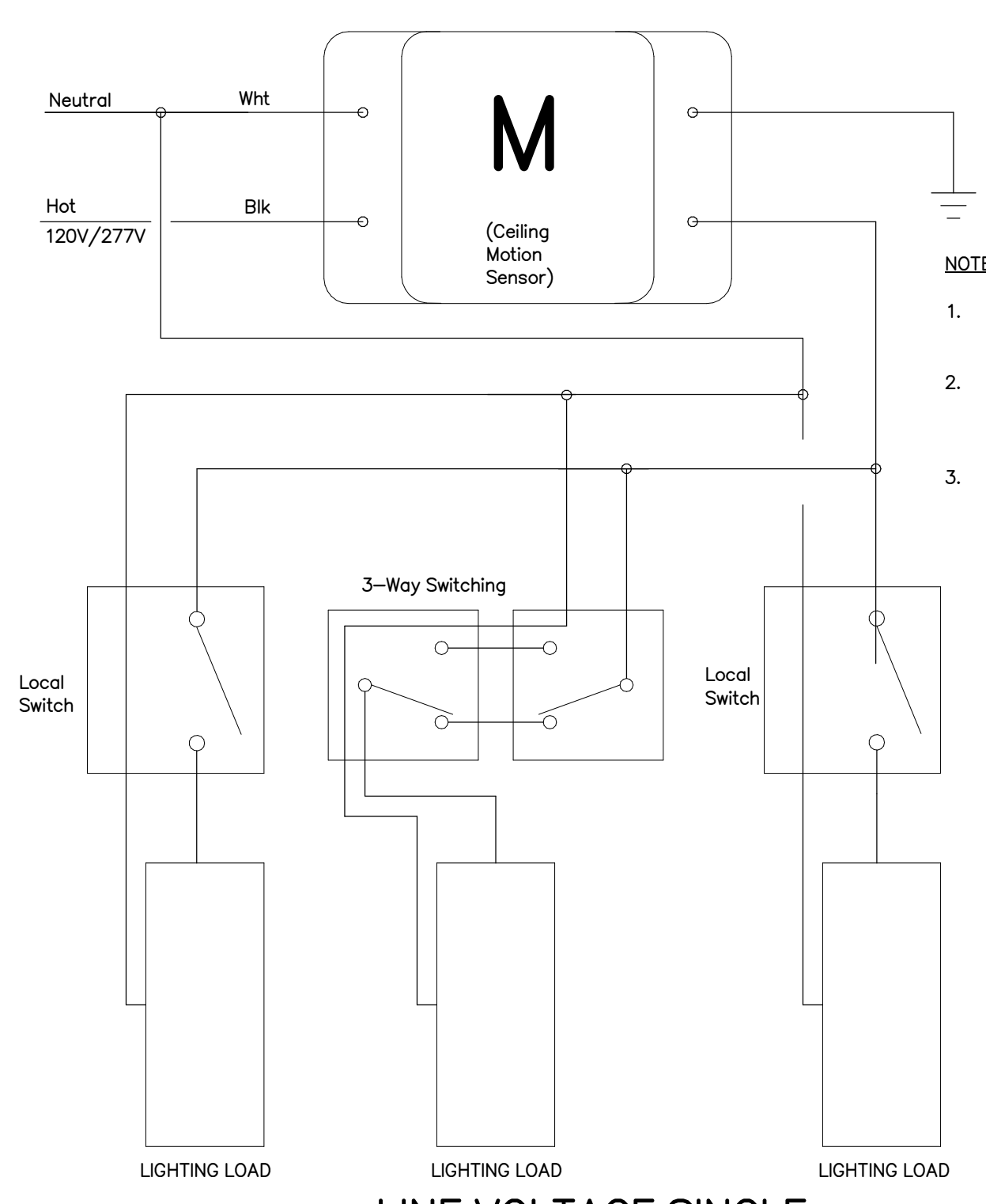
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NUMBER: 4802
EXPIRATION DATE: 03/25/2025

OWNER:

PRINCE GEORGE'S COUNTY
REDEVELOPMENT
AUTHORITY

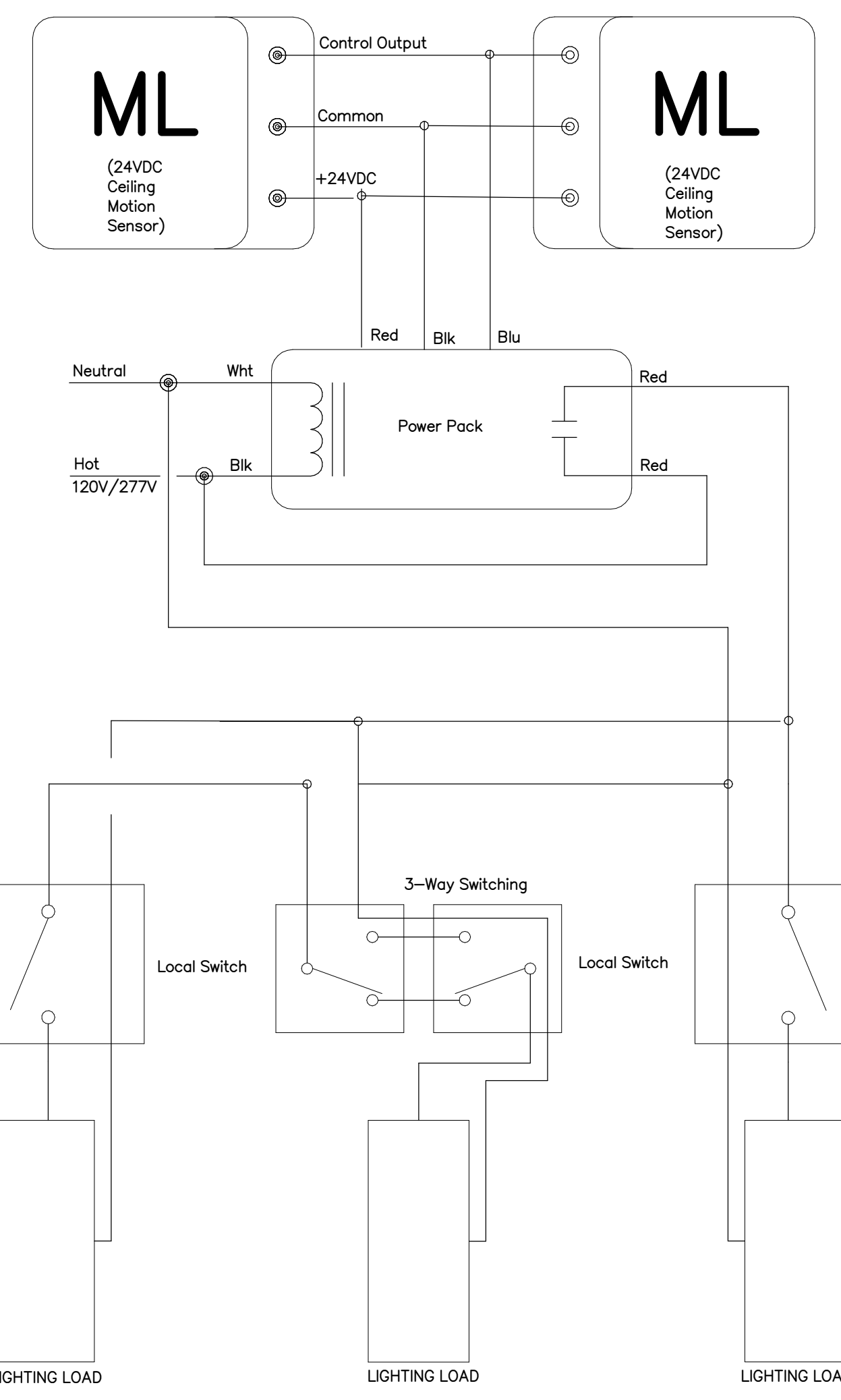
SUITLAND RETAIL KIOSK
PRINCE GEORGE'S COUNTY, MD
ELECTRICAL DETAILS

PROJECT NAME:
SHEET TITLE:



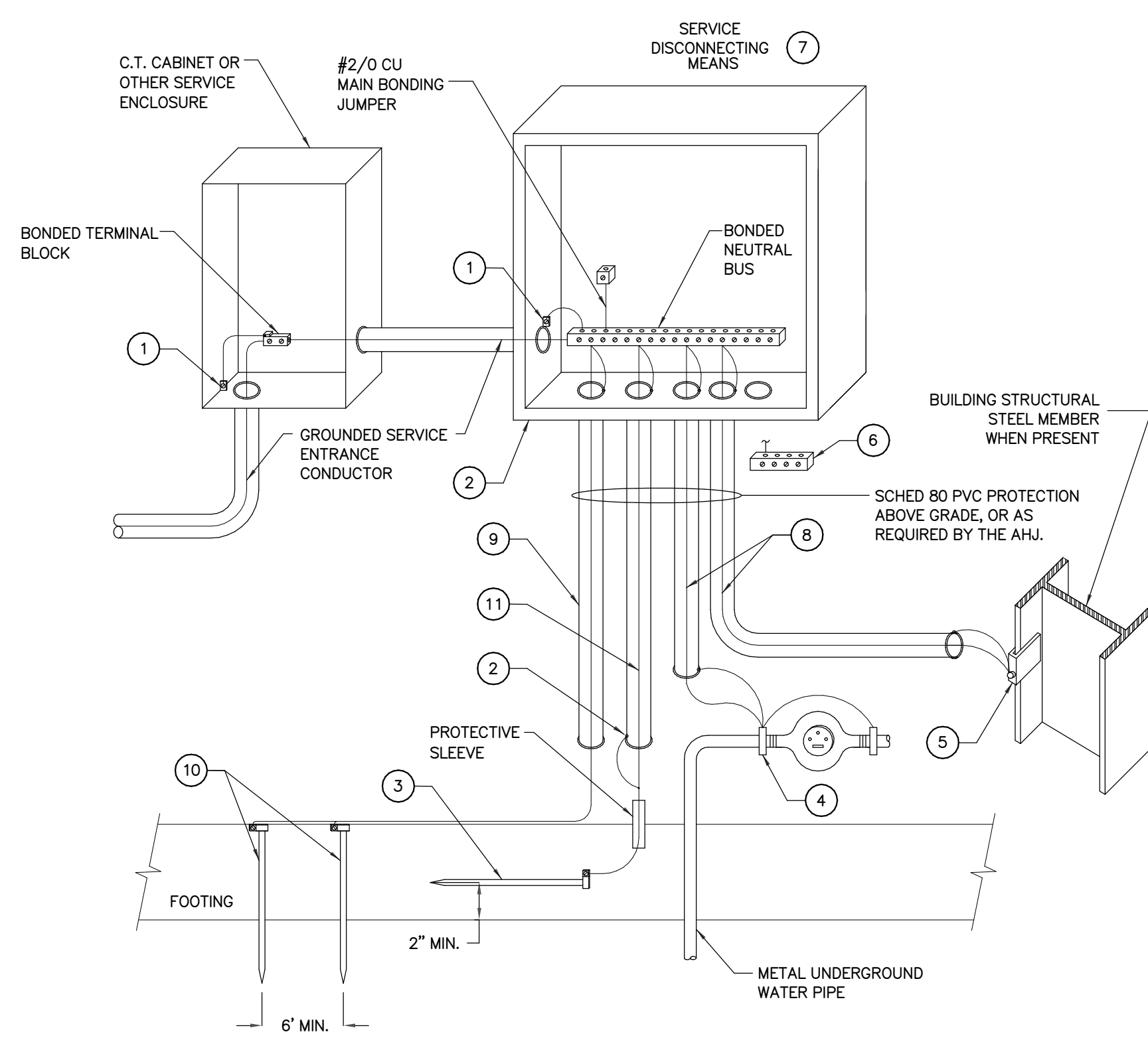
- NOTES:
1. ALL WORK SHALL BE PER THE REQUIREMENT OF THE NEC, THE AHJ, AND THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
 2. ADDITIONAL LOCAL SWITCHES FOR INDIVIDUAL CONTROL OF POWERED ON SAME SENSORS AS NECESSARY. REFER TO THE CONTRACT DOCUMENTS FOR MORE INFORMATION.
 3. LAYOUT AND QUANTITIES SHALL BE PER THE REQUIREMENTS OF THE PROCURED MANUFACTURER FOR PROPER AREA OF COVERAGE, LOAD PER POWER PACK, ETC.

LINE VOLTAGE SINGLE
CIRCUIT MOTION SENSOR DETAIL
SCALE: N.T.S. 6



- NOTES:
1. ALL WORK SHALL BE PER THE REQUIREMENT OF THE NEC, THE AHJ, AND THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
 2. ADDITIONAL LOCAL SWITCHES FOR INDIVIDUAL CONTROL OF POWERED ON SAME SENSORS AS NECESSARY. REFER TO THE CONTRACT DOCUMENTS FOR MORE INFORMATION.
 3. LAYOUT AND QUANTITIES SHALL BE PER THE REQUIREMENTS OF THE PROCURED MANUFACTURER FOR PROPER AREA OF COVERAGE, LOAD PER POWER PACK, ETC.

LOW VOLTAGE SINGLE CIRCUIT MOTION SENSOR DETAIL
SCALE: N.T.S. 5



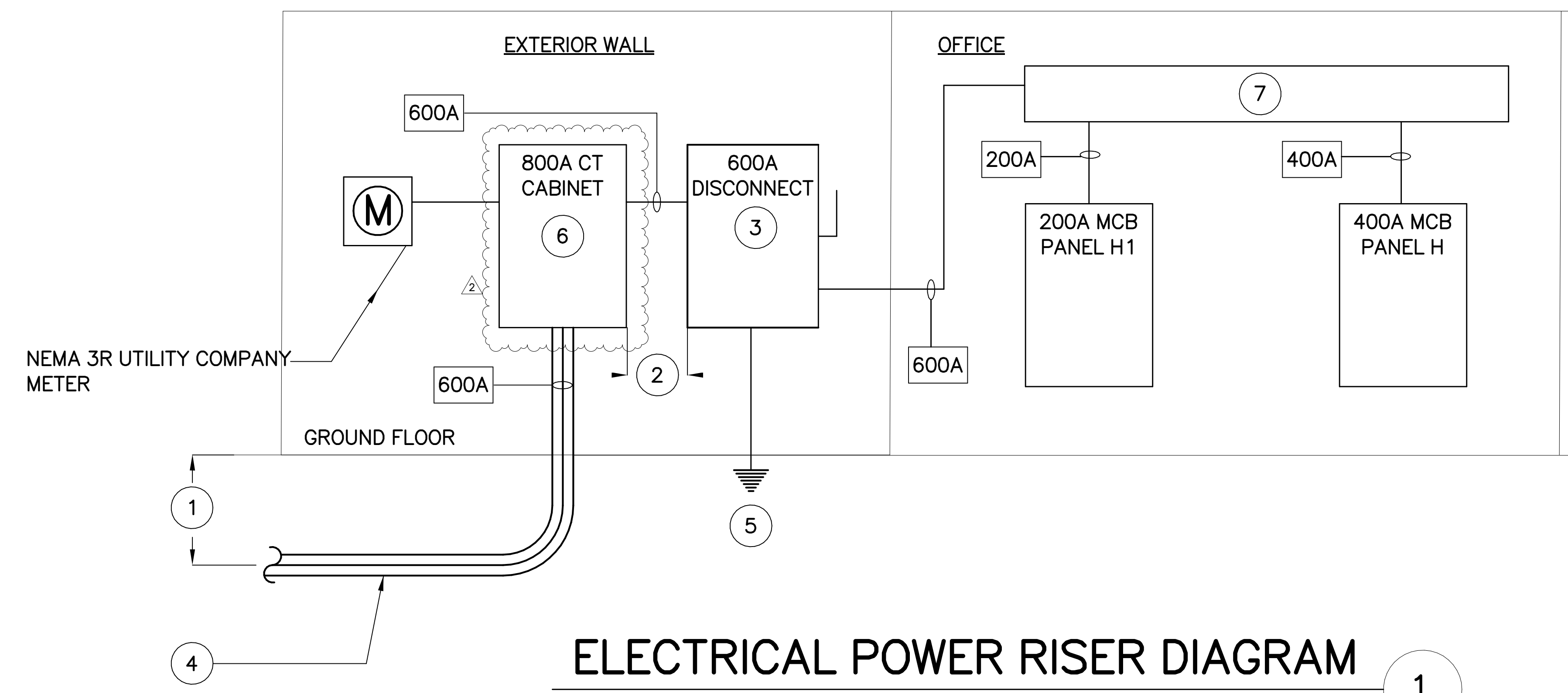
GROUNDING DIAGRAM
SCALE: N.T.S. 7

- NOTES:
- 1 ALL METAL CONDUITS ENCLING ANY SERVICE SHALL BE FITTED WITH A "BONDING BUSHING".
 - 2 ALL METAL CONDUITS ENCLING ANY GROUNDING ELECTRODE CONDUCTOR SHALL BE FITTED WITH A "BONDING BUSHING" AT EACH END.
 - 3 PROVIDE GROUNDING ELECTRODE PER NEC. ELECTRODE SHALL BE IN THE FORM OF A 20'-0" x 1/2" COPPER CLAD GROUND ROD LAID AT LEAST 2" OFF THE BOTTOM OF A CONCRETE FOOTING. SECURE THE GROUND ROD TO THE REBAR WITH STEEL TIE WRAPS. IF THE REBAR BEING USED IN THE FOOTING IS SMALLER THAN 1/2" (#4), THEN USE 20' OF BARE SOLID #4 COPPER WIRE IN PLACE OF THE GROUND ROD. IN REMODEL PROJECTS THAT WILL NOT HAVE NEW FOOTINGS INSTALLED, THIS SUPPLEMENTAL ELECTRODE SHALL BE PER NOTE #4 BELOW OR OTHER ELECTRODE PER NEC 250.52.
 - 4 FOR CONNECTION TO COLD WATER MAIN, CONNECT WITHIN 5 FT. OF CONTACT OF EARTH.
 - 5 IF STRUCTURAL STEEL MEMBER OR REBARS ARE AVAILABLE, BOND IT TO THE SERVICE USING A UL LISTED IRREVERSIBLE CLAMP OR WELDING LUG.
 - 6 PROVIDE AN INTERSYSTEM BONDING TERMINATION PER NEC 250.94. INTERSYSTEM BONDING TERMINATION SHALL:
 - 6.1. BE ACCESSIBLE FOR CONNECTION AND INSPECTION.
 - 6.2. CONSIST OF A SET OF TERMINALS (LISTED AS GROUNDING AND BONDING EQUIPMENT) WITH THE CAPACITY OF NOT LESS THAN THREE INTERSYSTEM BONDING CONDUCTORS.
 - 6.3. BE SECURELY MOUNTED AND ELECTRICALLY CONNECTED TO SERVICE EQUIPMENT, METER ENCLOSURE, OR EXPOSED NON METALLIC SERVICE RACEWAY, OR BE MOUNTED ON ONE OF THESE ENCLOSURES AND BE CONNECTED TO THE ENCLOSURE OR GROUNDING ELECTRODE CONDUCTOR WITH A MINIMUM #6 CU CONDUCTOR.
 - 6.4. BE SECURELY MOUNTED TO THE BUILDING'S DISCONNECTING MEANS, OR BE MOUNTED AT THE DISCONNECTING MEANS AND BE CONNECTED TO THE METALIC ENCLOSURE OR GROUNDING ELECTRODE CONDUCTOR WITH A MINIMUM #6 CU CONDUCTOR.
 - 7 ALL BRANCH CIRCUIT AND FEEDER CONDUITS ARE TO HAVE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR REGARDLESS OF THE CONDUIT MATERIAL.
 - 8 #2/0 COPPER GROUNDING ELECTRODE CONDUCTOR.
 - 9 #6 COPPER GROUNDING ELECTRODE CONDUCTOR.
 - 10 INSTALL #6 CU TO TWO 5/8" x 8' MIN. GROUND RODS AS SHOWN.
 - 11 #4 COPPER GROUNDING ELECTRODE CONDUCTOR.

NO.	DESCRIPTION	DATE

PROJECT No: HRE.001.003D
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E-502



ELECTRICAL POWER RISER DIAGRAM

SCALE: N.T.S

GENERAL NOTES:

1. THE CONTRACTOR SHALL REFER TO ALL THE ELECTRICAL CONTRACT DOCUMENTS, NOTES, DETAILS, SCHEDULES, RISERS, OTHER DISCIPLINE CONTRACT DOCUMENTS FOR A COMPLETE SCOPE OF WORK.

NOTES:

- 1 24" BELOW FINISHED GRADE, OR AS REQUIRED BY THE AHJ AND/OR THE UTILITY COMPANY.
- 2 4'-0" MAXIMUM, OR AS REQUIRED BY THE UTILITY COMPANY AND/OR THE AHJ, BEFORE A DISCONNECT IS REQUIRED AHEAD OF THE PANEL.
- 3 SERVICE DISCONNECT SWITCH, 208/120V, 3-POLE 600A FUSED AT 600A, NEMA 3R, AS REQUIRED BY THE UTILITY COMPANY AND/OR THE AHJ.
- 4 UTILITY COMPANY SECONDARY SERVICE LINE FROM THE UTILITY TRANSFORMER. CONDUCTORS AND CONDUITSIZES AS REQUIRED BY THE AHJ AND/OR THE UTILITY COMPANY.
- 5 REFER TO E-502:07 FOR MORE INFORMATION REGARDING THE GROUNDING SYSTEM.
- 6 120/208V, 3-PHASE, 800A NEMA 3R CT CABINET, PER THE REQUIREMENTS OF THE UTILITY COMPANY AND AHJ.
- 7 12"H x 12"D WIRE TROUGH RATED FOR 600A, 208V.

FEEDER SCHEDULE

BASED ON 75°C TYPE THHW INSULATED CABLE

CONDUIT TAG	CU OR AL	# OF SETS	# OF CONDUCTORS	EGC	GEC	MIN. PVC CONDUIT SIZE	MIN. EMT CONDUIT SIZE
200	CU	1	4 #3/0	#1	#4	2 1/2"	2 1/2"
	AL	1	4 #250MCM	#2/0	#2	3"	2 1/2"
400	CU	1	4 #600MCM	#1	#1/0	4"	3 1/2"
	AL	2	4 #250MCM	#2/0	#1/0	3"	2 1/2"
600	CU	2	4 #350MCM	#1	#2/0	3"	3"
	AL	2	4 #500MCM	#2/0	#4/0	3 1/2"	3"

SUITLAND RETAIL KIOSK
 PRINCE GEORGE'S COUNTY, MD

ELECTRICAL POWER RISER

PROJECT NAME:

SHEET TITLE:

2	REVISION 2 - RFI RESPONSE	09/01/2023
1	PERMIT COMMENTS	04/05/2023
NO.	DESCRIPTION	DATE
PROJECT No: HRE.001.003D		
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SEAL & SIGNATURE:

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NUMBER: 49007
EXPIRATION DATE: 03/25/2025

OWNER:
PRINCE GEORGE'S COUNTY REDEVELOPMENT AUTHORITY

SUITLAND RETAIL KIOSK
PRINCE GEORGE'S COUNTY, MD

PROJECT NAME:
SHEET TITLE:

NO.	DESCRIPTION	DATE
2	REVISION 2 - RFI RESPONSE	09/01/2023

PROJECT No: HRE.001.003D
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FILE NAME:

E-602

PANEL H1																
MOUNTING	MAIN	SUPPLIED FROM			VOLTAGE	LOCATION										
SURFACE	200A BREAKER	ELECTRICAL THROUGH			120/208V, 3PH	OFFICE										
NEW	NORMAL				3 PHASE, 4 WIRE											
NEUTRAL	SOLID				AIC RATING	65,000										
Load Description	kVA	Wire Size	Cond. Size	Brk	P	Ckt #	A	B	C	Ckt #	P	Brk	Cond. Size	Wire Size	kVA	Load Description
RTU-1	46.0	X	X	175	3	1	*	-	-	2	X	X	X	X	X	PFF
---	---	---	---	---	---	3	-	*	-	4	X	X	X	X	X	PFF
---	---	---	---	---	---	5	-	*	-	6	X	X	X	X	X	PFF
ROOFTOP RECEPTICAL	0.2	12	1/2	20	1	7	*	-	-	8	X	X	X	X	X	PFF
EF-1 ROOF	0.1	12	1/2	20	1	9	-	*	-	10	X	X	X	X	X	PFF
PFF	X	X	X	X	X	11	-	*	-	12	X	X	X	X	X	PFF
PFF	X	X	X	X	X	13	*	-	-	14	X	X	X	X	X	PFF
PFF	X	X	X	X	X	15	-	*	-	16	X	X	X	X	X	PFF
PFF	X	X	X	X	X	17	-	*	-	18	X	X	X	X	X	PFF
PFF	X	X	X	X	X	19	*	-	-	20	X	X	X	X	X	PFF
PFF	X	X	X	X	X	21	-	*	-	22	X	X	X	X	X	PFF
PFF	X	X	X	X	X	23	-	*	-	24	X	X	X	X	X	PFF
PFF	X	X	X	X	X	25	*	-	-	26	X	X	X	X	X	PFF
PFF	X	X	X	X	X	27	-	*	-	28	X	X	X	X	X	PFF
PFF	X	X	X	X	X	29	-	*	-	30	X	X	X	X	X	PFF
PFF	X	X	X	X	X	31	*	-	-	32	X	X	X	X	X	PFF
PFF	X	X	X	X	X	33	-	*	-	34	X	X	X	X	X	PFF
PFF	X	X	X	X	X	35	-	*	-	36	X	X	X	X	X	PFF
PFF	X	X	X	X	X	37	*	-	-	38	X	X	X	X	X	PFF
PFF	X	X	X	X	X	39	-	*	-	40	X	X	X	X	X	PFF
PFF	X	X	X	X	X	41	-	*	-	42	X	X	X	X	X	PFF

Load Summary For All Sections			
	Connected	Demand Factor	Demand kVA
Lighting:	0.0	125%	0.0
Receptacles:	0.2	10 + 50% > 10	0.2
Largest Motor Load:	0.0	125%	0.0
Motor Loads:	0.0	100%	0.0
Miscellaneous:	46.1	100%	46.1
Kitchen Equipment:	0.0	100%	0.0
---	0.0	0%	0.0
TOTAL CONNECTED kVA =	46.3		46.3 = TOTAL DEMAND kVA
			128.5 = TOTAL DEMAND AMPS

PANEL H																
MOUNTING	MAIN	SUPPLIED FROM			VOLTAGE	LOCATION										
SURFACE	400A BREAKER	ELECTRICAL THROUGH			120/208V, 3PH	OFFICE										
NEW	NORMAL				3 PHASE, 4 WIRE											
NEUTRAL	SOLID				AIC RATING	65,000										
Load Description	kVA	Wire Size	Cond. Size	Brk	P	Ckt #	A	B	C	Ckt #	P	Brk	Cond. Size	Wire Size	kVA	Load Description
SEATING AREA REC	1.0	12	1/2	20	1	1	*	-	-	2	1	20	1/2	12	1.2	MOTORIZED DOOR CELING REC-1
SEATING AREA LIGHTING	0.4	12	1/2	20	1	3	-	*	-	4	1	20	1/2	12	1.2	MOTORIZED DOOR CELING REC-2
AIR CURTAIN ACR-10 CIRCUIT-1	1.7	12	1/2	20	1	5	-	*	-	6	1	20	1/2	12	0.4	REST ROOM REC
AIR CURTAIN ACR-10 CIRCUIT-2	1.7	12	1/2	20	1	7	*	-	-	8	1	20	1/2	12	0.6	OFFICE AND MECH ROOM REC
PFF	X	X	X	X	X	9	-	*	-	10	1	20	1/2	12	0.5	EXTERIOR REC
EXTERIOR LIGHTS NOTE(1)	0.4	12	1/2	20	1	11	-	*	-	12	1	20	1/2	12	1.4	GAS FRYER
DWH ^{note(2)}	4.5	10	3/4	25	2	13	*	-	-	14	2	30	3/4	10	6.0	RANGE
---	---	---	---	---	---	15	-	*	-	16	-	-	-	-	-	---
WH10	1.0	12	1/2	20	2	17	-	*	-	18	2	20	1/2	12	1.0	WH10
---	---	---	---	---	---	19	*	-	-	20	-	-	-	-	-	---
PFF	X	X	X	X	X	21	-	*	-	22	1	20	1/2	12	0.2	EXTERIOR WALL SCONCE LIGHTS CKT 1 NOTE(1)
PFF	X	X	X	X	X	23	-	*	-	24	1	20	1/2	12	0.1	EXTERIOR WALL SCONCE LIGHTS CKT 2 NOTE(1)
PFF	X	X	X	X	X	25	*	-	-	26	X	X	X	X	X	PFF
PFF	X	X	X	X	X	27	-	*	-	28	X	X	X	X	X	PFF
PFF	X	X	X	X	X	29	-	*	-	30	X	X	X	X	X	PFF
PFF	X	X	X	X	X	31	*	-	-	32	X	X	X	X	X	PFF
PFF	X	X	X	X	X	33	-	*	-	34	X	X	X	X	X	PFF
PFF	X	X	X	X	X	35	-	*	-	36	X	X	X	X	X	PFF
PFF	X	X	X	X	X	37	*	-	-	38	X	X	X	X	X	PFF
PFF	X	X	X	X	X	39	-	*	-	40	X	X	X	X	X	PFF
PFF	X	X	X	X	X	41	-	*	-	42	X	X	X	X	X	PFF

Load Summary For All Sections			
	Connected	Demand Factor	Demand kVA
Lighting:	1.1	125%	1.4
Receptacles:	4.9	10 + 50% > 10	4.9
Largest Motor Load:	0.0	125%	0.0
Motor Loads:	0.0	100%	0.0
Miscellaneous:	17.3	100%	17.3
Kitchen Equipment:	0.0	100%	0.0
---	0.0	0%	0.0
TOTAL CONNECTED kVA =	23.3		23.6 = TOTAL DEMAND kVA
			65.5 = TOTAL DEMAND AMPS

Notes:
-1 CIRCUIT SHALL BE CONTROLLED VIA ASTRONOMICAL TIME-CLOCK OR PHOTOCELL.
-2 CIRCUIT BREAKER SHALL HAVE A PERMANENT LOCK-OFF TYPE DEVICE.

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MEP SPECIFIED BACK OF HOUSE AND SOME COMMON AREA LIGHT FIXTURE SCHEDULE

TYPE	SYMBOL	MANUFACTURER AND CATALOG NO.	DESCRIPTION	LAMPS	VOLTAGE	WATTS	MOUNTING	REMARKS
U1		LITHONIA ZL1N L48 5000LM L/LENS MVOLT 35K 80CRI WH	STRIP LIGHT	(1) 34W LED	120V	34W	CEILING	RESTURANT
U1(EM)		LITHONIA ZL1N L48 5000LM L/LENS MVOLT 35K 80CRI WH	STRIP LIGHT	(1) 34W LED	120V	34W	CEILING	RESTURANT
U2		LITHONIA WSR LED 40K SR2 120 PE E20WC	EMERGENCY WALL SCONCE	(20) LED	120V	47W	WALL	EMERGENCY BATTERY BACKUP
U3		LITHONIA ZL1N L24 5000LM L/LENS MVOLT 35K 80CRI WH	STRIP LIGHT	(1) 34W LED	120V	15W	CEILING	RESTURANT
R		EATON SLD6 12827WHUNVJB SLD6TRMWH	ULTRA-LOW PROFILE SURFACE MOUNTING LUMINAIRE	(1) 14.8W LED	120V	14.8W	SURFACE	COMMON AREAS
B		LITHONIA IMVVBZ BZ	(2) LED FITTERS BULLET	(2) 9W LED	120V	18W	WALL	BATH VANITY
X1		LITHONIA LIGHTING LOM S W 3 R 120/277 EL N	INTERIOR EXIT SIGN	(1) 3W LED	120V	3W	WALL OR CEILING	NOTE 11 & 18
Z		LITHONIA ELM6L LLH LTP	CONTEMPORARY COMMERCIAL EMERG. LIGHT	(2) 5.3W LED	120V	10.6W	WALL OR CEILING	90 MINUTE EMERGENCY LIGHT

NOTES:

- SOME FIXTURES IN THIS SCHEDULE MAY NOT BE USED. REFER TO THE PLANS FOR THE SCOPE.
- CONTRACTOR TO PROVIDE EXIT SIGNS WITH THE INDICATED NUMBER OF FACES, CHEVRONS, AND EMERGENCY LIGHTS AS SHOWN ON THE PLANS, COLOR AS REQUIRED BY THE AHJ (I.E.: RED, GREEN, ETC.).
- CONTRACTOR TO PROVIDE CORNER SUPPORTS TO STRUCTURAL CEILING ABOVE FOR ALL RECESSED FIXTURES AND/OR AS REQUIRED BY THE MANUFACTURER, THE NEC AND THE AHJ.
- REFER TO ARCHITECTURAL AND/OR INTERIOR DESIGNER REFLECTED CEILING PLAN AND FINISH SCHEDULE FOR EXACT LOCATIONS OF ALL FIXTURES AND VERIFY COMPATIBILITY WITH CEILING TYPES.
- ALL FIXTURES PROVIDED SHALL HAVE ALL PROVISIONS FOR MOUNTING HARDWARE IN ORDER TO PROVIDE A PROPER INSTALLATION.
- ALL FIXTURES SHALL BE ENERGY STAR RATED.
- PROVIDE LOW TEMPERATURE BALLASTS FOR ALL GARAGE FIXTURES AND OTHER FIXTURES EXPOSED TO THE EXTERIOR CONDITIONS OR LOW TEMPERATURES.
- ALL EXTERIOR FIXTURES SHALL BE U.L. LISTED FOR THE ENVIRONMENT THEY SERVE.
- PROVIDE FIRE RATED AND IC RATED LIGHT FIXTURES AS REQUIRED BY THE AHJ.
- FOR PROPER LIGHTING DISTRIBUTION, INSTALL BELOW BEAMS, CEILING EQUIPMENT, AND CEILING MOUNTED OBJECTS (BOTTOM OF LIGHT FIXTURE SHALL BE ABOVE MINIMUM HEIGHT REQUIRED BY THE AHJ).
- FOR PROPER LINE OF SIGHT, INSTALL BELOW BEAMS, CEILING EQUIPMENT, AND CEILING MOUNTED OBJECTS (BOTTOM OF EXIT SIGN SHALL BE AT ABOVE MINIMUM HEIGHT REQUIRED BY THE AHJ).
- COORDINATE MOUNTING WITH ARCHITECT AND/OR INTERIOR DESIGNER. ANY ALTERNATE FIXTURES SUBMITTED AS A SUBSTITUTE TO TYPE "U6" MUST ATTACH DEMONSTRATION THAT THEY CAN ACHIEVE THE CODE REQUIRED FOOT CANDLE LEVELS AT THE FLOOR OF THE ELEVATOR DOOR SILL (TYPICALLY 10 FC OR AS REQUIRED BY THE AHJ).
- ANY ALTERNATE FIXTURES SUBMITTED AS A SUBSTITUTE TO TYPE "U2" MUST OFFER DUAL LIGHT ENGINES WIRED IN PARALLEL SO THAT BOTH ENGINES OPERATE IN EMERGENCY MODE AND PROVIDE ADDITIONAL COMPONENT REDUNDANCY TO ACHIEVE NEC 700.18 OR AS REQUIRED BY THE AHJ.
- ALL LIGHT FIXTURES RECESSED OR PENETRATING A FIRE RATED CEILING OR ASSEMBLY SHALL BE RATED TO HAVE THE SAME FIRE RATING OF THAT CEILING OR ASSEMBLY IT PENETRATES PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ. WHERE A FIXTURE THAT IS RATED TO HAVE THE SAME FIRE RATING OF THAT CEILING OR ASSEMBLY IT PENETRATES, THE CONTRACTOR SHALL INCLUDE IN THEIR BID PROVISIONS FOR ENCLOSURES OR OTHER MEANS AND METHODS THAT ARE APPROVED PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ WHEN PENETRATING FIRE RATED CEILING AND ASSEMBLIES.
- ALL LIGHT FIXTURES SHOWN WITH AN "EM" DESIGNATION NEXT TO THEM SHALL HAVE AN INTEGRAL EMERGENCY BATTERY BACKUP PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ. WHERE A FIXTURE THAT IS SHOWN WITH AN "EM" DESIGNATION NEXT TO THEM IS NOT AVAILABLE WITH AN INTEGRAL EMERGENCY BATTERY BACKUP, THE CONTRACTOR SHALL INCLUDE IN THEIR BID PROVISIONS FOR REMOTE EMERGENCY BATTERY BACKUP AND ANY REQUIRED ACCESS OR ANY OTHER MEANS AND METHODS THAT ARE APPROVED PER THE REQUIREMENTS OF APPLICABLE CODES AND THE AHJ. SUCH PROVISIONS AND MEANS AND METHODS SHALL ALSO BE SUITABLE FOR THE ENVIRONMENT THEY SERVE (COLD, DAMP, ETC.).
- PROVIDE INTEGRAL MOTION SENSOR NES7.
- PROVIDE PHOTO SENSOR PE.
- THE CONTRACTOR SHALL CONFIRM WHICH EXIT SIGN COLOR (I.E.: RED, GREEN, ETC.) IS ALLOWED BY THE AHJ PRIOR TO PROCUREMENTS/INSTALLATION.
- LIGHT FIXTURES IN CONTACT WITH INSULATION SHALL BE IC RATED OR SHALL BE PROVIDED WITH MEANS AND METHODS (DRY WALL ENCLOSURES, HATS, ETC.) APPROVED BY THE AHJ FOR SUCH AN INSTALLATION.

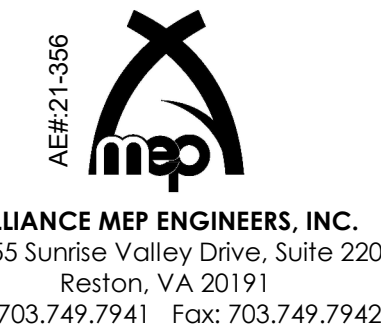
ARCH. AND/OR ID SPECIFIED LIGHT FIXTURE SCHEDULE

TYPE	SYMBOL	MANUFACTURER AND CATALOG NO.	DESCRIPTION	LAMPS	VOLTAGE	WATTS	MOUNTING	REMARKS
M-15		WAC LIGHTING DC-WD06-U8358-BK	WALL SCONCE	LED	120V	22W	WALL MOUNTED	EXTERIOR PERIMETER

NOTES:

- SOME FIXTURES IN THIS SCHEDULE MAY NOT BE USED. REFER TO OTHER DISCIPLINE PLANS FOR THE SCOPE.
- CONTRACTOR TO PROVIDE CORNER SUPPORTS TO STRUCTURAL CEILING ABOVE FOR ALL RECESSED FIXTURES AND/OR AS REQUIRED BY THE MANUFACTURER, THE NEC AND THE AHJ.
- REFER TO ARCHITECTURAL AND/OR INTERIOR DESIGNER REFLECTED CEILING PLAN AND FINISH SCHEDULE FOR EXACT LOCATIONS OF ALL FIXTURES AND VERIFY COMPATIBILITY WITH CEILING TYPES.
- ALL FIXTURES PROVIDED SHALL HAVE ALL PROVISIONS FOR MOUNTING HARDWARE IN ORDER TO PROVIDE A PROPER INSTALLATION.
- ALL FIXTURES SHALL BE ENERGY STAR RATED.
- PROVIDE LOW TEMPERATURE BALLASTS FOR ALL GARAGE FIXTURES AND OTHER FIXTURES EXPOSED TO THE EXTERIOR CONDITIONS OR LOW TEMPERATURES.
- ALL EXTERIOR FIXTURES SHALL BE U.L. LISTED FOR THE ENVIRONMENT THEY SERVE.

FIXTURES LAYOUT, MOUNTING, COORDINATION WITH OTHER DISCIPLINES, AND SPECIFICATION NOT BY ALLIANCE MEP.



ALLIANCE MEP ENGINEERS, INC.
12355 Sunrise Valley Drive, Suite 220
Reston, VA 20191
Tel: 703.749.7941 Fax: 703.749.7942

COMcheck Software Version 4.1.5.1 Interior Lighting Compliance Certificate

Project Information
Energy Code: 2018 IECC
Project Title: SUITLAND TOWN CENTER RETAIL KIOSK
Project Type: New Construction

Construction Site: SUITLAND CITY, PRINCE GEORGE'S COUNTY, MD
Owner/Agent: LESSARD DESIGN, INC. 8251 Leesburg Pike Suite 700 Vienna, VA 22182 571.830.1800
Designer/Contractor: ALLIANCE MEP ENGINEERS, INC. 12355 Sunrise Valley Drive Suite 220 Reston, VA 20191 703.749.7941

Additional Efficiency Package(s)
Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft²)	C Allowed Watts / ft²	D Allowed Watts (B X C)
1-Retail	3776	0.85	3602
Total Allowed Watts =			3602

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps / Fixture	C # of Fixtures	D Watt. (C X D)	E (C X D)
1-Retail				
LED 1: U1: Other:	1	9	34	306
LED 2: B: Other:	2	4	18	72
LED 3: R: Other:	1	5	15	74
LED 4: Z: Other:	1	2	11	21
Total Proposed Watts =			473	

Interior Lighting PASSES: Design 87% better than code

Interior Lighting Compliance Statement
Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title _____ Signature _____ Date _____

Project Title: SUITLAND TOWN CENTER RETAIL KIOSK Report date: 09/01/23
Data filename: E:\Projects\21-Projects\21-356\02 AMEP 21-356\07 Calculations AMEP\01 Electrical\02 ComCheck\Untitled2.cck Page 1 of 7

ARCHITECT:



lessard DESIGN

8521 Leesburg Pike | Suite 700 | Vienna, VA 22182
P: 571.830.1800 | F: 571.830.1801
www.Lessarddesign.com

SEAL & SIGNATURE:

HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NUMBER: 48007 EXPIRATION DATE: 03/29/2025

OWNER:

PRINCE GEORGE'S COUNTY REDEVELOPMENT AUTHORITY

SUITLAND RETAIL KIOSK
PRINCE GEORGE'S COUNTY, MD

PROJECT NAME:

SHEET TITLE:
ELECTRICAL LIGHTING FIXTURE SCHEDULES & COMPLIANCE CERTIFICATE

NO.	DESCRIPTION	DATE
2	REVISION 2 - RFI RESPONSE	09/01/2023

PROJECT No: HRE.001.003D
DRAWN BY: Author
CHECKED BY: Checker
PLOT DATE: 9/2/2023 1:07:31 AM
FILE NAME:

E-603