

DESIGN CRITERIA

DESIGN CODES: INTERNATIONAL BUILDING CODE: IBC 2018

RISK CATEGORY II

DEAD LOAD: SELF WEIGHT COLLATERAL LOAD 5 PSF

LIVE LOAD: ROOF LIVE LOAD 20 PSF FLOOR LIVE 100 PSF

SNOW LOAD: GROUND SNOW P_G 20 PSF FLAT ROOF SNOW P_F 12.6 PSF SNOW EXPOSURE FACTOR C_E 0.9 SNOW IMPORTANCE FACTOR I_S 1.0 THERMAL FACTOR C_T 1.0 SNOW DRIFT P_D 39.6 PSF DRIFT WIDTH W 6'-6"

WIND DATA: WIND SPEED V_U_L_T 109 MPH WIND SPEED V_A_S_D 84 MPH RISK CATEGORY II WIND EXPOSURE C 1.0 INTERNAL PRESSURE COEF. 0.18 COMPONENTS & CLADDING PRESSURE Q_Z XX PSF

EARTHQUAKE DATA: RISK CATEGORY II SEISMIC IMPORTANCE FACTOR 1.0 MAPPED SPECTRAL RESPONSE ACCELERATION S_s 0.088 S_d_s 0.106 S_d_1 0.109 SEISMIC DESIGN CATEGORY C BASIC SFRS STEEL BRACE FRAME - NOT SPECIFICALLY DETAILED DESIGN BASE SHEAR 12.0K SEISMIC RESPONSE COEF. CS 0.035 RESPONSE MODIFICATION FACTOR 3 EQUIVALENT LATERAL FORCE PROCEDURE

GEOTECHNICAL INFORMATION: SOIL BEARING PRESSURE 3,000 PSF FRICTION COEFFICIENT 0.33

SPECIAL LOADS: NONE DEFLECTION REQUIREMENTS: PER IBC TABLE 1604.3

FOUNDATIONS

- 1. THE FOUNDATIONS ARE DESIGNED USING PRESUMPTIVE SOIL BEARING PRESSURE OF 1,500 PSF. 2. ALL SOIL SURROUNDING AND UNDER FOOTINGS SHALL BE PROTECTED FROM FROST ACTION AND FREEZING DURING THE COURSE OF CONSTRUCTION. 3. NOTIFY STRUCTURAL ENGINEER OF ANY UNUSUAL SOIL CONDITIONS THAT ARE IN VARIANCE WITH THE GEOTECHNICAL REPORT. 4. FOOTING EXCAVATIONS SHOULD BE MADE TO THE REQUIRED LINES AND GRADES AS RAPIDLY AS POSSIBLE. FOOTING EXCAVATIONS BE LEFT OPEN FOR A MINIMUM OF TIME TO PREVENT DISTURBANCE TO THE FOUNDATION SOILS. FOOT TRAFFIC SHOULD BE PREVENTED ON THE BASE OF THE FOOTING EXCAVATIONS IF DISTURBANCE IS NOTED. HAND CLEANING, IF REQUIRED AND SETTING OF REINFORCING STEEL SHOULD THEN BE ACCOMPLISHED FROM THE SIDES OF THE EXCAVATION.

MASONRY

- 1. ALL DETAILS SHOWN SHALL BE CONSIDERED TYPICAL. 2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI. 3. MORTAR FOR MASONRY OPERATIONS SHALL COMPLY WITH ASTM C270, TYPE "M" OR TYPE "S". 4. GROUT FOR MASONRY OPERATIONS SHALL COMPLY WITH ASTM C475 AND HAVE A MINIMUM 2500 PSI AT 28 DAYS USING ASTM C1019 TEST METHODS. 5. INFILL CONCRETE COMPRESSIVE STRENGTH - 4000 PSI MINIMUM AT 28 DAYS. 6. ALL BLOCK SHALL BE FILLED. MAXIMUM INFILL LIFTS SHALL BE 4 FEET. 7. MINIMUM REINFORCEMENT FOR VERTICAL WALLS SHALL BE #5 REBAR @ 32" O.C. SPACING NLESS OTHERWISE NOTED. 8. HORIZONTAL JOINT REINFORCEMENT SHALL BE REQUIRED. 9. WET STICKING OF DOWELS SHALL NOT BE PERMITTED.

CAST-IN-PLACE CONCRETE

- 1. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI301, "SPECIFICATION FOR STRUCTURAL CONCRETE" AND ACI302, "GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION", ACI305 "SPECIFICATION FOR HOT WEATHER CONCRETING" AND ACI306, "STANDARD SPECIFICATION FOR COLD WEATHER CONCRETING", UNLESS NOTED OTHERWISE FOR THE YEAR REFERENCED IN THE BUILDING CODE NOTED. 2. A LICENSED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF KANSAS, SHALL DEVELOP CONCRETE MIX DESIGNS. SUBMIT CONCRETE MIX AND TEST DATA FOR INFORMATION. ACCEPTANCE AND PROPORTIONING CRITERIA INDICATED PER ACI-318. 3. STRUCTURAL CONCRETE SHALL HAVE 28 DAY STRENGTH (F'c) AS FOLLOWS: A. SLABS AND FLOOR FRAMING: 4000 PSI B. SLAB ON GRADE: 4000 PSI C. CAPS: 4000 PSI D. CASSONS: 4000 PSI E. GRADE BEAMS: 4000 PSI F. COLUMNS & SHEAR WALLS 4000 PSI 4. ALL DETAILING AND PLACING OF REINFORCING BARS, UNLESS OTHERWISE NOTED, SHALL CONFORM TO ACI318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", ACI117, "SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS", AND THE LATEST ACI DETAILING MANUAL. 5. ALL PIPE SLEEVE OPENINGS THROUGH CONCRETE SLABS SHALL BE FORMED WITH STANDARD STEEL PIPE. 6. NO ELECTRICAL CONDUIT SHALL BE PLACED ABOVE THE WELDED WIRE FABRIC OR TOP REINFORCING OF SLAB. 7. ALL ALUMINUM IN CONTACT WITH CONCRETE OR DISSIMILAR METALS SHALL BE COATED WITH TWO COATS OF COAL TAR EPOXY, APPROVED BY THE ENGINEER, UNLESS OTHERWISE NOTED. 8. CONCRETE SHALL BE DISCHARGED AT THE SITE WITHIN 1 1/2 HOURS AFTER WATER HAS BEEN ADDED TO THE CEMENT AND AGGREGATES. ADDITION OF WATER TO THE MIX AT THE PROJECT SITE WILL NOT BE PERMITTED. ALL WATER MUST BE ADDED AT THE BATCH PLANT. SLUMP MAY BE ADJUSTED ONLY THROUGH THE USE OF ADDITIONAL WATER REDUCING ADMIXTURES OR HIGH RANGE WATER REDUCING ADMIXTURE. 9. ALL CONCRETE SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS, EXCEPT WHERE SPECIFICALLY NOTED. 10. ALL EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED 3/4" UNLESS SHOWN OTHERWISE. 11. SEE ARCHITECTURAL DRAWINGS FOR CONCRETE FINISHES, MASONRY ANCHORS, AND FOR MISCELLANEOUS PLATES, BOLTS, ANCHORS, ANGLES, ETC. 12. THE PLACEMENT OF SLEEVES, OUTLET BOXES, BOX-OUTS NOT COVERED BY TYPICAL DETAILS IN THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED FOR APPROVAL. 13. REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60, NO TACK WELDING FOR REINFORCING IN THE FIELD WILL BE PERMITTED. 14. REINFORCING BARS FOR WELDED APPLICATIONS SHALL CONFORM TO ASTM A706, 60 KSI YIELD STRENGTH 15. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185 AND BE FURNISHED IN FLAT SHEETS AND INSTALLED ON CHAIRS 16. WIRE BAR SUPPORTS SHALL BE FURNISHED FOR ALL REINFORCING WITHIN SLABS, INCLUSIVE OF WELDED WIRE FABRIC. BOTTOM BARS IN SLABS-ON-GRADE MAY BE SUPPORTED BY OTHER SUITABLE SUPPORTS. REINFORCING SHALL BE PROPERLY POSITIONED PRIOR TO CONCRETE PLACEMENT AND MAY NOT BE RE-POSITIONED ONCE CONCRETE OPERATIONS HAVE BEGUN. WIRE BAR AND OTHER TYPES OF SUPPORTS SHALL BE IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE MANUAL OF STANDARD PRACTICE. 17. REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE NOTED ON DRAWINGS. 18. ALL HOOKS SHOWN ON DRAWINGS SHALL BE STANDARD HOOKS, UNLESS OTHERWISE NOTED. 19. WHERE CONTINUOUS BARS ARE CALLED FOR, THEY SHALL RUN CONTINUOUSLY AROUND CORNERS AND BE LAPPED AT NECESSARY SPLICES. LAP LENGTHS SHALL BE AS GIVEN IN THE SPLICE AND DEVELOPMENT TABLE. 20. PROVIDE ADDITIONAL REINFORCING AT THE SIDE AND CORNERS OF ALL OPENINGS IN CONCRETE IN ACCORDANCE WITH TYPICAL DETAILS. MINIMUM ADDITIONAL REQUIREMENTS ARE AS FOLLOWS. A. (2)-#5 TOP AND BOTTOM IN SLABS B. (2)-#5 EACH FACE IN WALLS C. (2)-#5 X 4'-0" LONG DIAGONALLY EACH CORNER OF OPENING 21. EXTDND BARS A MINIMUM OF 2'-0" BEYOND OPENINGS, HOOK WHERE EXTENSION IS NOT POSSIBLE. 22. IN REINFORCED CONCRETE WALLS, GRADE BEAMS AND TRENCH FOOTING PROVIDE CORNER DOWELS OF SAME SIZE AND SPACING AS HORIZONTAL REINFORCING. DOWELS SHALL LAP WITH HORIZONTAL REINFORCING IN EACH DIRECTION. 23. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT, UNLESS OTHERWISE NOTED. A. EARTH FORMED AND CAST DIRECTLY AGAINST SOIL- 3" B. CAST AGAINST FORMS BUT EXPOSED TO EARTH AND WEATHER a. #6 AND LARGER- 2" b. #5 AND SMALLER- 1 1/2" C. SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER- 3/4" D. OTHERS- 2"

STRUCTURAL STEEL

- 1. DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC SPECIFICATIONS AND STANDARD CODE OF PRACTICE FOR THE YEAR REFERENCED IN THE BUILDING CODE NOTED, EXCEPT AS MODIFIED BY THESE NOTES AND THE PROJECT SPECIFICATIONS. 2. STEEL SHAPES SHALL CONFORM TO THE FOLLOWING GRADES UNLESS NOTED OTHERWISE: A. WIDE FLANGE (W) SHAPES ASTM A992 GR. 50 B. ANGLES, CHANNELS, S & M SHAPES ASTM A36 C. HP SHAPES ASTM A572 GR. 50 D. STRUCTURAL HSS TUBING ASTM A500 GR. C (FY=50 KSI) E. STRUCTURAL HSS PIPE ASTM A500 F. PLATES ASTM A572 GR. 50 G. THREADED RODS ASTM A36 3. STEEL MATERIAL OF FASTENERS AND WELDS SHALL CONFORM TO THE FOLLOWING UNLESS NOTED OTHERWISE: A. COLUMN/BEAM CONNECTION BOLTS ASTM F3125 GR. A325 B. ANCHOR RODS ASTM F1554 C. NUT D. WASHER ASTM F436 E. HEAVY HEX NUT ASTM A563 GR. A563 F. PLATE WASHER ASTM A572 GR. 50 G. WELDING ELECTRODES E70XX 4. ALL BOLTS SHALL BE TYPE N UNLESS NOTED OTHERWISE. 5. AT LONG-SLOTTED, SHORT-SLOTTED, OR OVERSIZED HOLES WASHERS SHALL BE PROVIDED, WHERE A490 BOLTS HAVE A DIAMETER > 1" USE EXTRA THICK WASHER. 6. WHERE LONG SLOTTED HOLES ARE REQUIRED PLATE WASHERS SHALL BE PROVIDED. PLATE WASHER THICKNESS MUST BE 5/16" AT ALL A325 BOLT DIAMETERS AND A490 BOLTS WITH DIAMETER <= 1". WHERE A490 BOLTS WITH A DIAMETER >1" USE 3/8" PLATE WASHER. 7. ALL BOLTS IN A SLIP CRITICAL CONNECTION SHALL USE COMPRESSIBLE-WASHER-TYPE DIRECT TENSION INDICATOR MEETING ASTM F959 8. SLIP CRITICAL, BOLTS SHALL BE CONSIDERED BEARING AND TIGHTENED TO A SNUG TIGHT CONDITION AND INSPECTED BY A TESTING AGENCY FOR CONFORMANCE WITH RCSC. 9. ALL WELDING SHALL BE CONFORM TO THE LATEST AWS D1.1. 10. CONNECTIONS OR SPLICES OF STRUCTURAL MEMBERS NOT CLEARLY INDICATED IN THE DRAWINGS ARE PROHIBITED WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. 11. ALL ANCHOR RODS/BOLTS SHALL BE SET IN CONCRETE WITH A TEMPLATE AND BE FURNISHED WILL DOUBLE NUTS. 12. FABRICATE ALL BEAMS WITH THE MILL CAMBER UP 13. ALL STEELS EXPOSED TO WEATHER AND NOT FULLY WITHIN A CONDITIONED SPACE ARE TO BE HOT DIPPED GALVANIZED PER ASTM A123 UNLESS OTHER WEATHER PROOFING METHODS HAVE BEEN SPECIFIED PER THE ARCHITECT. 14. WHEN WELDING PAINTED OR GALVANIZED STEEL AWS METHODS MUST BE FOLLOWED. DO NOT FIELD WELD GALVANIZED OR PAINTED STEEL UNLESS INDICATED ON DRAWINGS. 15. WHERE GALVANIZED SURFACES HAVE BEEN DAMAGED REPAIR THE SURFACE ACCORDING TO ASTM A780. 16. WHERE PAINTED SURFACES HAVE BEEN DAMAGED PAINT IS TO BE REAPPLIED.

METAL DECK

- 1. ALL METAL FLOOR DECK AND METAL ROOF DECK SHALL BE IN A 3-SPAN CONTINUOUS CONFIGURATION UNLESS NOTED OTHERWISE. WHERE 3-SPAN CONDITIONS CAN NOT BE MET THE STRUCTURAL ENGINEER IS TO BE NOTIFIED. 2. AT SUPPORTS PARALLEL TO THE DECK SPAN, RAISE SUPPORTS AND PROVIDE SHIMS AT CONNECTIONS IF THE DECK DOES NOT ENGAGE THE SUPPORT. 3. ALL MISCELLANEOUS ACCESSORIES (POUR STOPS, COLUMN CLOSURES, ETC.) WILL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND THE STEEL DECK INSTITUTE. 4. MEP EQUIPMENT OR OTHER TYPES OF REQUIRED ITEMS SHALL NOT BE SUSPENDED/HUNG FROM ANY METAL ROOF DECK. ALL ITEMS REQUIRING THESE TYPES OF ATTACHMENTS ARE TO BE SUPPORTED BY AT THE STRUCTURAL STEEL FRAMING. 5. VERIFY MINIMUM BEARING PER MANUFACTURER'S REQUIREMENTS. 6. FLOOR DECK A. DECK OVER JOIST: 1" FLOOR DECK (22 GAGE), TYPE 1.0 FD, FY=60 KSI B. SUPPORT FASTENER: 3/8" EFF. DIAM. ARC SPOT WELD AT 36/10 PATTERN C. SIDE LAP FASTENER: (1) #10 SCREW PER SPAN 7. FLOOR DECK (BREAK ROOM) A. DECK OVER CMU WALL: 1.5" FLOOR DECK (22 GAGE), TYPE 1.5 FD, FY=60 KSI B. SUPPORT FASTENER: #12 SCREWS WITH 36/7 PATTERN C. SIDE LAP FASTENER: (1) #10 SCREW PER SPAN 8. ROOF DECK (FRONT CHASE) A. DECK OVER JOIST: TYPE 1.5B (22 GAGE), FY=40 KSI MIN. B. SUPPORT FASTENER: #12 SCREWS WITH 36/4 PATTERN C. SIDE LAP FASTENER: (1) #10 SCREW PER SPAN

GENERAL

- 1. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND ENSURE THE SAFETY OF THE CONSTRUCTION PERSONNEL, PUBLIC, BUILDING AND ITS COMPONENTS PARTS, AND ADJACENT BUILDINGS AND PROPERTIES. THIS INCLUDES THE ADDITION OF WHATEVER TEMPORARY OR PERMANENT SHORING, BRACING, NEEDLING, UNDERPINNING, OR SHEET PILING, ETC. THAT MAY BE NECESSARY TO BRACE NEW CONSTRUCTION, ADJACENT BUILDINGS, SO THAT THE STRUCTURE IS BRACED FOR WIND, SEISMIC, GRAVITY, CONSTRUCTION LOADS, ETC. AND THAT NO HORIZONTAL OR VERTICAL SETTLEMENT OR ANY DAMAGE OCCURS TO THE ADJACENT EXISTING STRUCTURE. TEMPORARY SUPPORTS SHALL BE MAINTAINED IN PLACE UNTIL PERMANENT SUPPORTS AND, OR SHORING AND BRACING ARE INSTALLED. 2. FALL PROTECTION FROM PERIMETER COLUMNS OR WALLS SHALL BE PROVIDED IN ACCORDANCE WITH OSHA REQUIREMENTS AS REQUIRED SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER THE COMPLETION OF THE PROJECT. 3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENFORCE ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF CONSTRUCTION. 4. THE CONTRACTOR SHALL PERFORM ALL CONSTRUCTION FOR THE PROJECT IN A MANNER AND SEQUENCE THAT ARE BASED ON ACCEPTED INDUSTRY STANDARDS THAT RECOGNIZED THE INTERACTION OF THE COMPONENTS THAT COMPRISE THE STRUCTURE, WITHOUT CAUSING DISTRESS, UNANTICIPATED MOVEMENTS, OR IRREGULAR LOAD PATHS AS A RESULT OF THE CONSTRUCTION MEANS AND METHODS EMPLOYED. 5. CONSTRUCTION LOADS SHALL NOT EXCEED DESIGN LIVE LOADS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DESIGN REQUIRED TO SUPPORT CONSTRUCTION EQUIPMENT USED IN CONSTRUCTING THIS PROJECT. SHORING AND RESHORING IS THE RESPONSIBILITY OF THE CONTRACTOR. 6. PRINCIPAL OPENINGS THROUGH THE FRAMING ARE SHOWN ON THESE DRAWINGS. THE GENERAL CONTRACTOR SHALL EXAMINE THE STRUCTURAL AND MECHANICAL DRAWINGS FOR THE REQUIRED OPENINGS AND SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH THE MECHANICAL CONTRACTOR, PROVIDING ALL OPENINGS REQUIRED BY THE MECHANICAL, ELECTRICAL, PLUMBING, OR OTHER TRADES SHALL BE PART OF THE GENERAL CONTRACT, WHETHER OR NOT SHOWN IN THE STRUCTURAL DRAWINGS. ANY DEVIATION FROM THE OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION FOR REVIEW. 7. ALL CONTRACTORS ARE REQUIRED TO EXAMINE THE DRAWINGS AND SPECIFICATIONS CAREFULLY, VISIT THE SITE AND FULLY INFORM THEMSELVES AS TO ALL EXISTING CONDITIONS AND LIMITATIONS, PRIOR TO AGREEING TO PERFORM THE WORK. FAILURE TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND LIMITATIONS WILL IN NO WAY RELIEVE THE CONTRACTOR FROM FURNISHING ANY MATERIALS OR PERFORMING ANY WORK IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS WITHOUT ADDITIONAL COST TO THE OWNER. 8. DETAILS LABELED "TYPICAL DETAILS" ON DRAWINGS APPLY TO SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILS. SUCH DETAILS APPLY WHETHER OR NOT DETAILS ARE REFERENCED AT EACH LOCATION. NOTIFY ENGINEERING OF CLARIFICATION REGARDING APPLICABILITY OF "TYPICAL DETAILS". 9. WORK THESE DRAWINGS WITH ARCHITECTURAL, CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS. 10. DO NOT SCALE DRAWINGS. 11. SHOULD ANY OF THE GENERAL NOTES CONFLICT WITH ANY DETAILS OR INSTRUCTIONS ON PLANS, THE STRICTEST PROVISION SHALL GOVERN. 12. SHOP DRAWINGS AND SUBMITTALS: A. THESE DRAWINGS SHALL BE CHECKED AND COORDINATED WITH OTHER MATERIALS AND CONTRACTS BY THE GENERAL CONTRACTOR AND SHOP DRAWINGS AND SUBMITTALS SHALL BEAR THE CONTRACTOR'S REVIEW STAMP WITH THE CHECKER'S INITIALS BEFORE BEING SUBMITTED TO THE ARCHITECT FOR APPROVAL. B. WHEN FABRICATOR HAS BEEN AUTHORIZED TO USE THE ARCHITECT AND ENGINEER'S DRAWINGS AS ERECTION DRAWINGS, THE FABRICATOR MUST REMOVE ALL TITLE BLOCKS, PROFESSIONAL SEALS AND ANY OTHER REFERENCE TO THE ARCHITECT AND ENGINEER FROM THAT ERECTION DRAWING. THE FABRICATOR'S NAME AND TITLE SHALL BE PLACED ON THE ERECTION DRAWING.

EXISTING WORK

- 1. EXISTING CONDITIONS SHOWN OR NOTED ON THE DRAWINGS WERE OBTAINED FROM FIELD MEASUREMENTS OR WERE ASSUMED. IF CONDITIONS OTHER THAN THOSE SHOWN EXIST, IMMEDIATELY NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK AT THAT LOCATION. IF CONDITIONS OTHER THAN THOSE SHOWN EXIST, ALTERNATE METHODS OF CONSTRUCTION MAY NEED TO BE USED. 2. WHERE SPECIFICALLY NOTED ON THE DRAWINGS THAT EXISTING CONSTRUCTION BE VERIFIED, NOTIFY THE ENGINEER IN WRITING OF THE FINDINGS. VERIFICATION SHALL TAKE PLACE PRIOR TO PREPARATION OF SHOP DRAWINGS AND SHOP DRAWINGS SHALL SHOW ALL FIELD VERIFIED EXISTING CONDITIONS. MODIFICATIONS TO THE DETAILS MAY BE REQUIRED SHOULD ACTUAL CONDITION SIGNIFICANTLY DIFFER FROM THOSE PRESUMED. ANY REQUIRED MODIFICATIONS WILL BE MADE DURING THE REVIEW OF THE SHOP DRAWINGS. 3. USE APPROPRIATE CONSTRUCTION METHODS AND EQUIPMENT AS NECESSARY TO SUPPORT EXISTING STRUCTURES AND TO AVOID OVER STRESSING THE EXISTING STRUCTURE. 4. EXISTING FRAMING IS ASSUMED TO BE IN ORIGINAL CONDITION. IF DETERIORATION HAS OCCURRED NOTIFY THE ENGINEER IN WRITING OF THE FINDINGS. FOR EXAMPLE, SOME TYPES OF DETERIORATION ARE AS FOLLOWS: ROTTEN WOOD, BROKEN OR CRACKED MASONRY, AND BROKEN WOOD MEMBERS.



1627 MAIN STREET, SUITE 600 KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100 KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300 KANSAS CITY, MO 64108

KC - LEE'S SUMMIT REGIONAL LEE'S SUMMIT, MISSOURI

GENERAL AVIATION TERMINAL CITY PROJECT NO. - 17932172



10/25/24

LEES SUMMIT MUNICIPAL AIRPORT AUTHORITY LEES SUMMIT, MO

MARK DATE DESCRIPTION

PROJECT NO.: 24KC50013 CAD DWG FILE: Lee's Summit - Hangar 2.rvt DESIGNED BY: JDH & BLL DRAWN BY: JDH CHECKED BY: BLL APPROVED BY: COPYRIGHT 2023

SHEET TITLE

GENERAL NOTES

S-001

PRECAST CONCRETE

- DESIGN, FABRICATE, TRANSPORT AND ERECT PRECAST MEMBERS ACCORDING TO THE LATEST ACI AND PCI BUILDING CODES, HANDBOOKS AND MANUALS.
- SPECIFIED PRECAST CONCRETE 28 DAY MINIMUM CONCRETE COMPRESSIVE STRENGTH:
 - PRECAST HOLLOW CORE PLANKS 6,000 PSI
 - PRECAST BEAMS 5,000 PSI
 - PRECAST COLUMNS 7,000 PSI
 - PRECAST WALL PANELS 6,000 PSI
- ALL MEMBERS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI FOR THE SPANS AND LOADING CONDITIONS AS INDICATED ON THE STRUCTURAL PLANS AND ARCHITECTURAL LAYOUTS AND ELEVATIONS. THE PRECAST CONTRACTOR IS RESPONSIBLE FOR PICK-UP POINT LOCATIONS AND INSERTS, AND SPECIAL PICK-UP REINFORCING AND STRONG-BACKS FOR ALL PICK-UP AND PLACING OPERATIONS. THE PRECAST CONTRACTOR SHALL DESIGN ALL CONNECTIONS TO THE STRUCTURE AND BETWEEN PRECAST MEMBERS. ALL DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ARCHITECT FOR REVIEW AND RECORD PRIOR TO THE START OF FABRICATION.
- ROOF PLANKS SHALL BE DESIGNED FOR CONCENTRATED POINT LOADS AS SHOWN ON PLANS IN ADDITION TO LOADS STATED UNDER DESIGN CRITERIA.
- SUBMIT DETAILED SHOP DRAWINGS SHOWING ALL STRUCTURAL ELEMENTS, DETAILS, CONNECTIONS AND STRUCTURAL TOPPING (IF REQUIRED) TO THE STRUCTURAL ENGINEER AND ARCHITECT FOR REVIEW PRIOR TO THE START OF FABRICATION.
- ALL PRECAST MEMBERS SHALL BE ADEQUATELY BRACED UNTIL ALL CONNECTIONS ARE COMPLETED AND THE LATERAL LOAD RESISTING SYSTEM IS IN PLACE AS DESIGNED, AND THE GROUT AT DESIGN STRENGTH. BRACING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI.
- PRECAST MANUFACTURER SHALL INCLUDE IN FABRICATION EMBEDDED CONNECTION HARDWARE FOR TEMPORARY BRACING FOR ALL PRECAST MEMBERS.
- DRILLING THROUGH PRECAST HOLLOW CORE PLANKS SHALL BE BY ROTARY DRILL ONLY. DO NOT USE A HAMMER DRILL. LOCATE CORE VOIDS FOR DRILLING. DO NOT DRILL INTO "NO-DRILL" ZONES WHERE PRE-STRESSING STRANDS ARE LOCATED.

COLD FORMED STEEL CONNECTIONS

- ALL FASTENERS ARE TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. DO NOT SUBSTITUTE FASTENERS WITHOUT WRITTEN PERMISSION FROM ENGINEER.
- PAF POINT MUST PENETRATE THROUGH FULL BASE STEEL THICKNESS. NOTIFY PAF MANUFACTURER FOR INSTRUCTIONS WHERE FULL PENETRATION IS NOT ACHIEVED.
- IF REQUIRED, ALL WELDED CONNECTIONS ARE TO BE PERFORMED IN ACCORDANCE WITH THE LATEST VERSION OF AWS D1.3-98 SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES. CONSULT AWS D19.0 WELDING ZINC COATED STEEL & ANSI STANDARD Z49.1 FOR INFORMATION REGARDING SAFE WELDING PROCEDURES.
- MINIMUM WELD THROAT THICKNESS (T) MUST MATCH OR EXCEED THE BASE STEEL THICKNESS OF THE THINNEST CONNECTED PART UNLESS NOTED OTHERWISE.
- IN WELDING, THE ZINC COATING ON STEEL FRAMING WILL BE BURNED AWAY; THEREFORE, A ZINC RICH PAINT MUST BE APPLIED TO THE WELD AREA TO PROVIDE CORROSION RESISTANCE.
- ALL SCREW CONNECTIONS ARE BASED ON NASPEC SECTION E4, WHICH OUTLINES THE AISI SPECIFICATION PROVISIONS FOR SCREW CONNECTIONS.
- FOR SCREWS, A MINIMUM OF 1.5 X SCREW DIAMETER CLEARANCE MUST BE MAINTAINED FROM ALL EDGES OF THE STEEL MEMBERS. A MINIMUM OF 3.0 X SCREW DIAMETER ON-CENTER SPACING MUST BE MAINTAINED BETWEEN ADJACENT SCREWS.
- POWER DRIVEN FASTENER SYSTEMS, EXPANSION ANCHOR SYSTEMS, MASONRY SCREW SYSTEMS, & ADHESIVE ANCHOR SYSTEMS CONNECTIONS ARE BASED ON LITERATURE FOR FASTENER REQUIREMENTS (E.G. SPACING, EDGE DISTANCE, BASE MATERIAL THICKNESS, ETC.). ALTERNATIVE MANUFACTURER'S FASTENERS OF COMPARABLE SPECIFICATIONS & LOAD CAPACITIES ARE ACCEPTABLE.
- ALL TRACKS SHALL BE FASTENED TO EACH STUD WITH #8 SCREWS AT EACH FLANGE.
- ALL PAFS SHALL BE HILTI 0.157"Ø X-U AND CONFORM TO THE FOLLOWING:
 - PAF'S INTO STEEL SHALL HAVE ½" MINIMUM EDGE DISTANCE AND 1" MINIMUM SPACING.
 - PAF'S INTO CONCRETE AT EXTERIOR WALLS SHALL HAVE 1-1/2" PENETRATION, 3" EDGE DISTANCE AND 2-1/2" MINIMUM SPACING.
 - PAF'S INTO CONCRETE AT INTERIOR WALLS SHALL HAVE 3/4" PENETRATION, 3" EDGE DISTANCE AND 2-1/2" MINIMUM SPACING.
 - SEE SHEAR WALL SCHEDULE FOR SPECIFIC REQUIREMENTS AT THESE LOCATIONS.

COLD FORMED STEEL STRUCTURAL FRAMING

- ANY DIMENSIONAL INFORMATION SHOWN INCLUDED FOR ENGINEERING PURPOSES ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BUILDING DIMENSIONS WITH THE A/E AND MEP DRAWINGS AND TO COMPLY WITH ALL OTHER REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- SHOP DRAWINGS MUST BE SUBMITTED FOR ALL COLD FORMED STRUCTURAL STUD FRAMING.
- ALL MATERIAL PROPERTIES, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE THE LATEST EDITION OF THE AISI "SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STRUCTURAL MEMBERS."
- ANY PROPRIETARY CONNECTORS SHOWN HAVE BEEN SELECTED BASED ON SPECIFICATIONS AND CAPACITIES PUBLISHED BY THE MANUFACTURER. WELD DESIGN VALUES HAVE BEEN BASED ON THE LATEST EDITION OF THE AISI "SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STRUCTURAL MEMBERS." ANY DEVIANCE FROM THE BRAND, TYPE, SIZE OR QUANTITY OF CONNECTORS INDICATED ON THESE DRAWINGS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY OR AT AN ANGLE TO FIT SQUARELY AGAINST ABUTTING MEMBERS. SPlicing OF AXIALLY LOADED MEMBERS SHALL NOT BE PERMITTED. MEMBERS SHALL BE HELD FIRMLY IN PLACE UNTIL PROPERLY FASTENED. ATTACHMENTS OF SIMILAR COMPONENTS SHALL BE BY WELDING, SCREW ATTACHMENT, OR BOLTING. WIRE TYING OF COMPONENTS IS NOT PERMITTED.
- MEMBERS SHALL NOT BE SPLICED OTHER THAN AT THE LOCATIONS INDICATED ON THE DRAWINGS. ALL SPLICES SHALL CONFORM TO THE DETAILS IN THE DRAWINGS.
- CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF STRUCTURAL COMPONENTS WHERE MEMBERS ATTACH.
- ALL LOAD BEARING JOISTS SHALL HAVE BLOCKING WITH A MAXIMUM SPACING OF 8'-0" ON CENTER, ATTACHED PER DETAILS.
- TEMPORARY BRACING SHALL BE PROVIDED & REMAIN IN PLACE UNTIL WORK IS COMPLETELY STABILIZED.
- NO NOTCHING OR COPING OF STUDS IS ALLOWED, UNLESS STATED WITHIN THIS DRAWING PACKAGE.
- DESIGN ASSUMES CONDITIONS TO BE STABILIZED AND IN FINAL LOCATION. TEMPORARY BRACING (BY OTHERS) OR OTHER MEANS OF STABILIZATION MAY BE REQUIRED UNTIL FRAMING IS IN ITS STABLE & FINAL CONDITION.
- PER AISI STANDARD, THE MAXIMUM ALLOWABLE GAP (MEASURED BETWEEN THE WEB OF THE STUD AND OF THE TRACK) FOR A STUD SEATED IN A TRACK IS 1/4" FOR NON-AXIAL LOAD BEARING CONDITIONS AND 1/8" FOR AXIAL LOAD BEARING CONDITIONS (U.N.O.) PRESSURE SHOULD BE APPLIED TO NEST THE STUDS INTO THE TRACKS UNTIL THE TOLERANCES LISTED ABOVE ARE ACHIEVED. FAILURE TO DO SO COULD RESULT IN SERVICEABILITY PROBLEMS IN THE FUTURE.

SPECIAL INSPECTIONS

- THE OWNER SHALL BE RESPONSIBLE FOR THE COSTS OF ALL REQUIRED SPECIAL INSPECTIONS. ALL SPECIAL INSPECTIONS ARE TO BE SCHEDULED AND COORDINATED BY THE CONTRACTOR. SPECIAL INSPECTORS SHALL BE A QUALIFIED PERSON(S) WITH DEMONSTRATED COMPETENCE FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS AND FURNISH COPIES TO THE ENGINEER OF RECORD UNLESS OTHERWISE NOTED. INSPECTIONS SHALL BE PERFORMED AS INDICATED BELOW AND/OR PRIOR TO THAT PORTION OF CONSTRUCTION BEING CONCEALED IN THE CASE OF PERIODIC INSPECTIONS.
 - CONCRETE PLACING
 - CONCRETE REINFORCING
 - STEEL BOLTING
 - STEEL WELDING
 - BOLTS EMBEDDED IN CONCRETE / POST-INSTALLED ANCHORS
 - ANCHOR RODS
 - ROOF DIAPHRAM ATTACHMENT
 - SOIL VERIFICATION
 - STEEL FRAME
- THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.

SUBMITTALS

- ALL SHOP DRAWINGS AND SUBMITTALS MUST BE REVIEWED AND APPROVED BY THE CONTRACTOR PRIOR TO SUBMITTAL. ENGINEER'S REVIEW OF THE SHOP DRAWINGS IS LIMITED TO CHECKING FOR GENERAL CONFORMANCE WITH DESIGN DRAWINGS AND STRENGTH OF COMPONENTS AND MATERIALS. CONTRACTOR IS RESPONSIBLE FOR ANY CHANGES FROM THE DESIGN DRAWINGS, QUANTITIES, DIMENSIONAL ERRORS, OR OMISSIONS IN THE SHOP DRAWINGS.
- ALL SHOP DRAWINGS MUST BE ORIGINAL DOCUMENTS AND SHALL NOT BE REPRODUCTIONS OF THESE CONTRACT DOCUMENTS.
- SIGNED AND SEALED DRAWINGS AND CALCULATIONS ARE TO BE PREPARED UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF MISSOURI FOR THE FOLLOWING DELEGATED DESIGN ITEMS.
 - STEEL FRAMING CONNECTIONS.
 - LIGHT GAGE METAL FRAMING AND CONNECTIONS.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE FOLLOWING ITEMS.
 - CONCRETE MIX DESIGN AND MATERIALS.
 - CONCRETE REINFORCING STEEL.
 - STRUCTURAL STEEL.
 - LIGHT GAGE METAL FRAMING.
- PROVIDE A FINAL "FOR CONSTRUCTION" SET OF ALL SHOP DRAWINGS TO THE ENGINEER OF RECORD PRIOR TO FABRICATION OR CONSTRUCTION OF THOSE ITEMS.



1627 MAIN STREET, SUITE 600
KANSAS CITY, MO 64108

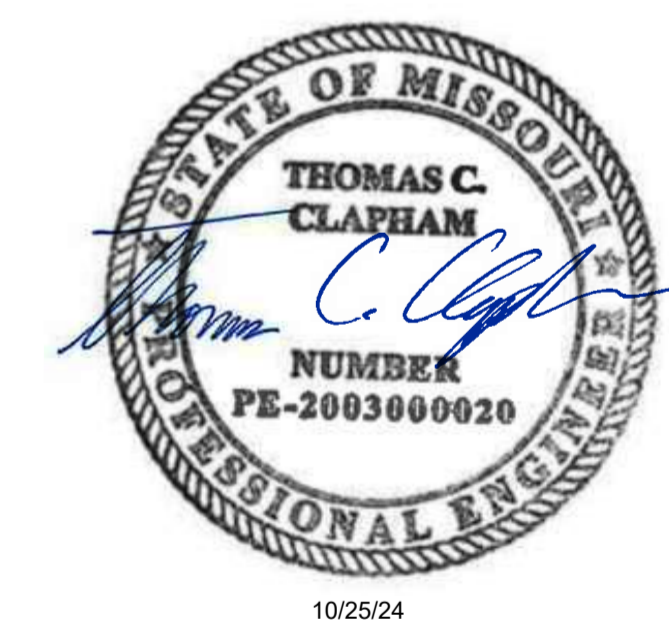


1627 MAIN STREET, SUITE 100
KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300
KANSAS CITY, MO 64108

KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



10/25/24

LEES SUMMIT MUNICIPAL AIRPORT AUTHORITY
LEES SUMMIT, MO

MARK DATE DESCRIPTION

PROJECT NO:	24KC50013
CAD DWG FILE:	Lee's Summit - Hangar 2.rvt
DESIGNED BY:	JDH & BLL
DRAWN BY:	JDH
CHECKED BY:	BLL
APPROVED BY:	
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SHEET TITLE

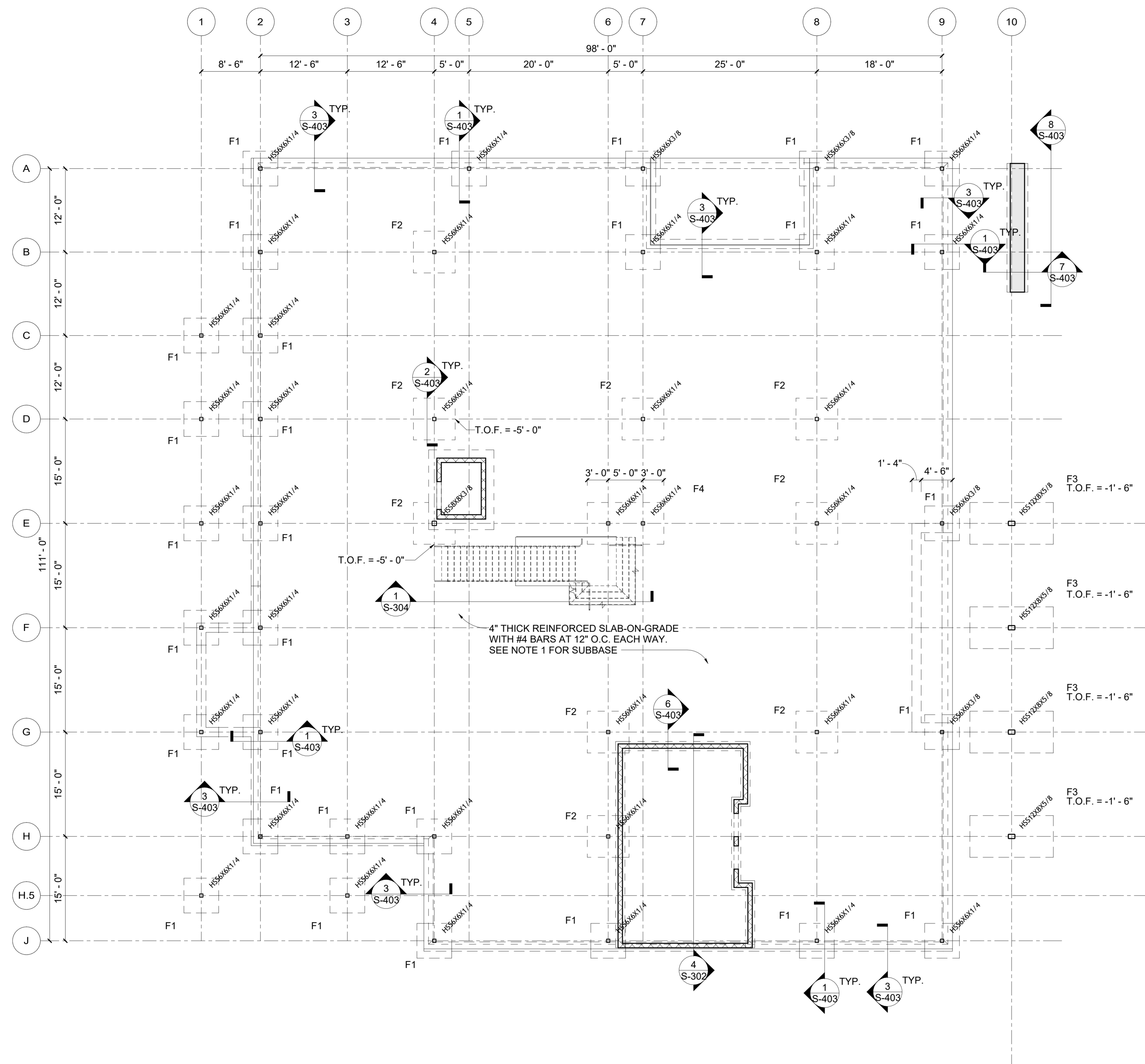
GENERAL NOTES

S-002

KC - LEE'S SUMMIT REGIONAL
 LEE'S SUMMIT, MISSOURI
 GENERAL AVIATION TERMINAL
 CITY PROJECT NO. - 17932172

SPREAD FOOTING							
ID	QTY.	DIMENSIONS			REINF.		COMMENTS
		WIDTH	LENGTH	THICKNESS	TOP	BOT	
F1	30	5'-0"	5'-0"	2'-6"	-	#5 @ 12" O.C. E.W.	
F2	9	6'-0"	6'-0"	1'-4"	-	#5 @ 10" O.C. E.W.	
F3	4	6'-0"	12'-0"	2'-6"	5 - #8 LONG. 10 - #8 TRANS.	5 - #8 LONG. 10 - #8 TRANS.	
F4	1	11'-0"	6'-0"	1'-4"	-	#5 @ 10" O.C. E.W.	

- NOTES:
- SLAB ON GRADE TO BE PLACED OVER 15-MIL VAPOR BARRIER OVER 4" CLEAN ROCK, OVER 12" CRUSHED LIMESTONE SCREENINGS PER GEOTECH REPORT
 - TOP OF FOOTING = -1'-3" (UNLESS NOTED OTHERWISE)



1 Foundation Plan
 1/8" = 1'-0"



LEES SUMMIT MUNICIPAL AIRPORT AUTHORITY
 LEES SUMMIT, MO

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SHEET TITLE
FOUNDATION PLAN

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GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



10/25/24

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LEES SUMMIT, MO

MARK	DATE	DESCRIPTION

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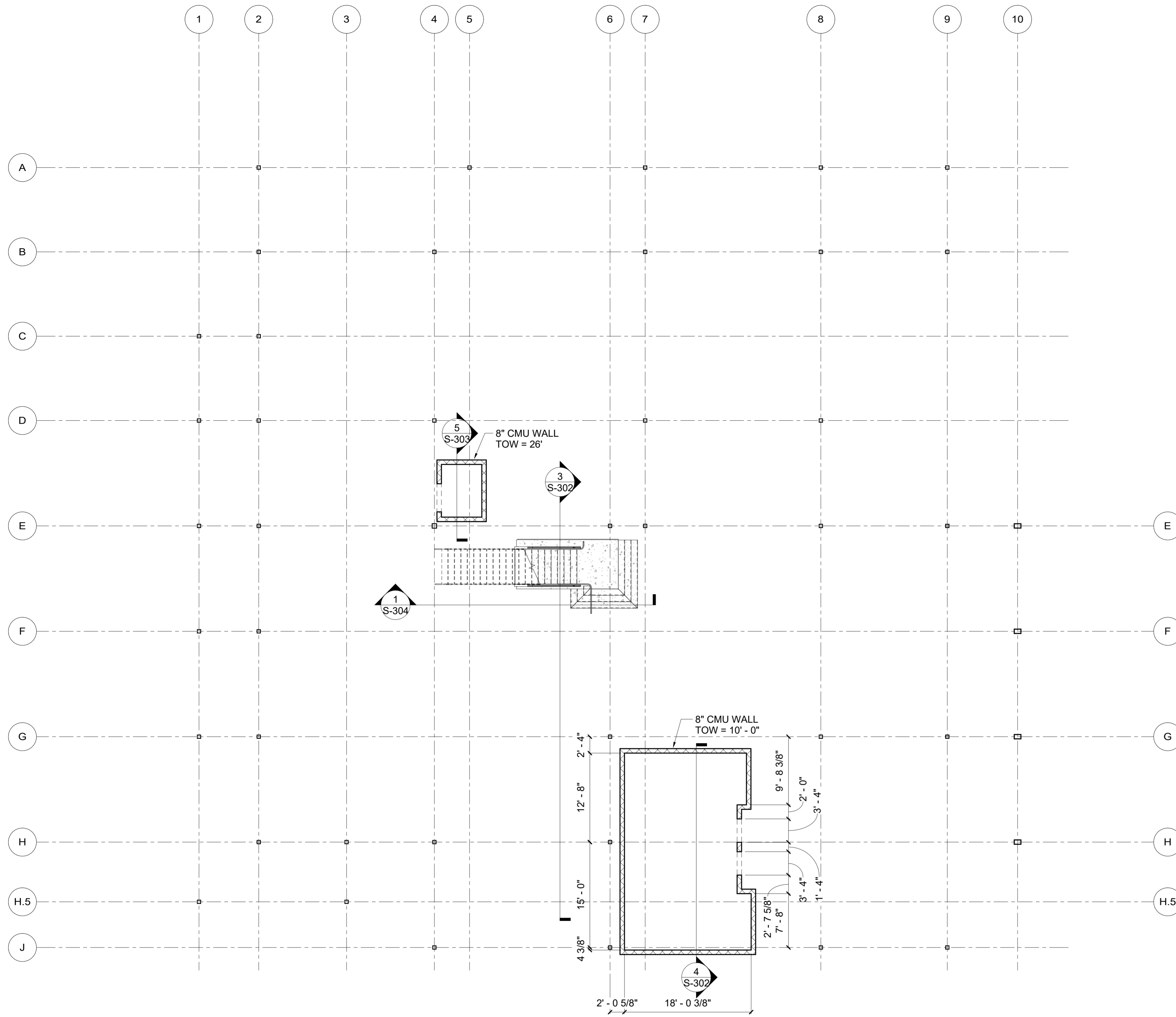
SHEET TITLE

WALL FRAMING PLAN

S-102

NOTES:

1. CMU WALLS SHALL BE 8" NOMINAL REINFORCED W/ #5 VERTS @ 24" O.C. BOND BEAMS W/ 2 - #4 @ 48" O.C. MAX CONTINUOUS W/ 1.7 JOINT REINFORCEMENT @ 16" O.C.



1 WALL FRAMING PLAN
1/8" = 1'-0"

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**GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172**



10/25/24

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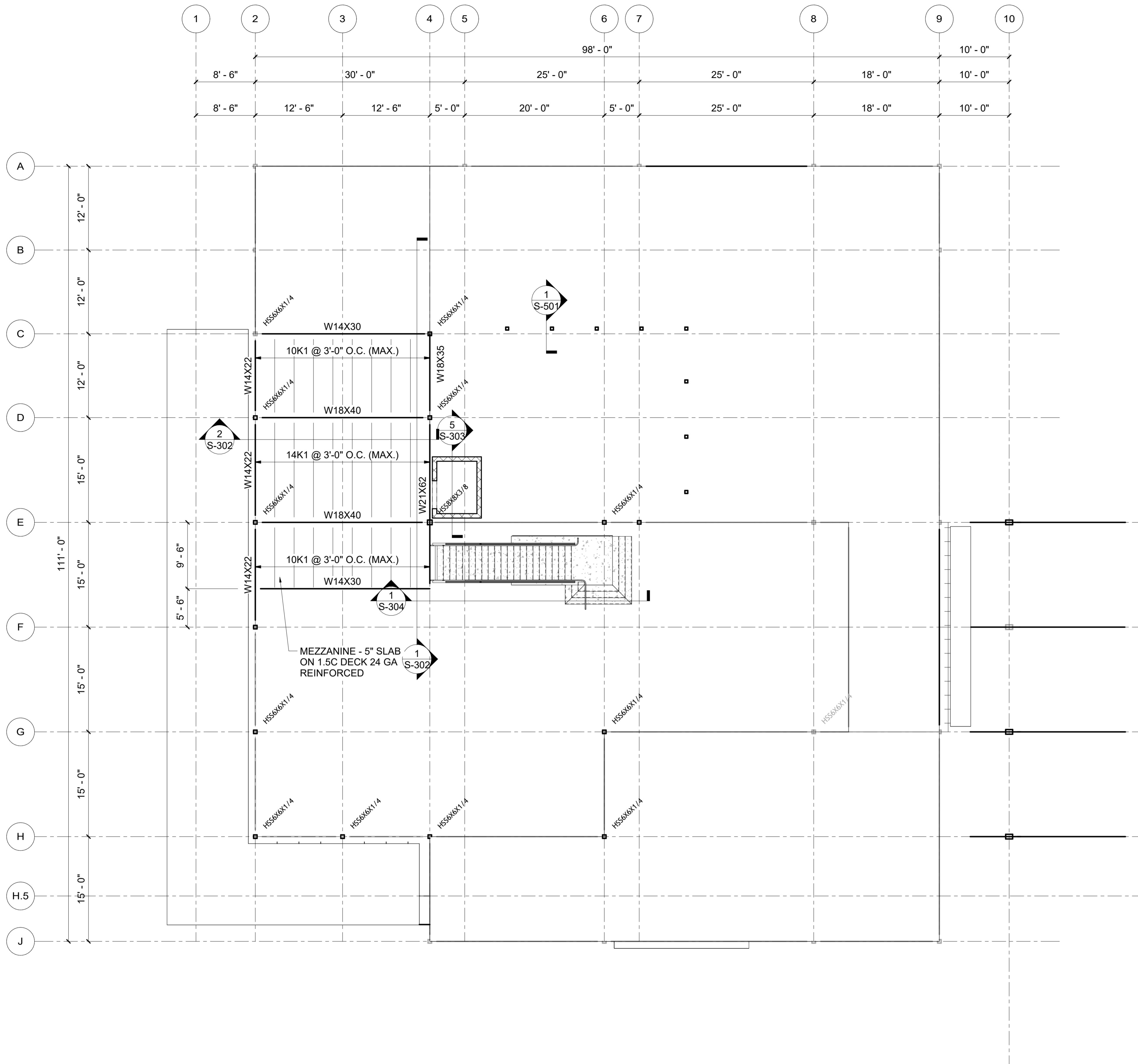
MARK	DATE	DESCRIPTION

PROJECT NO: 24KC50013
CAD DWG FILE: Lee's Summit - Hangar 2.rvt
DESIGNED BY: JDH & BLL
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SHEET TITLE
**MEZZANINE FRAMING
PLAN**

S-201

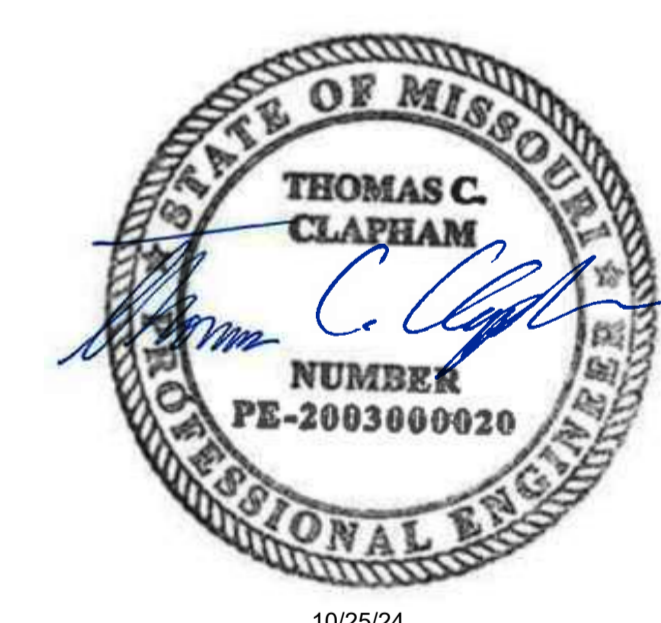
- NOTES:
- USE 1.5C DECK 24 GA 80KSI MIN G60.
 - ATTACH DECK AS SHOWN BELOW:
STRUCTURAL #12 - 36/4
SIDELAP #10 - 2 PER SPAN
EDGE #12 - 12" O.C.
 - PUDDLE WELDS MAY BE SUBSTITUTED FOR #12 SDS
 - PAF (POWER ACTUATED FASTENERS) MAY BE SUBSTITUTED FOR #10 AND #12
 - MINIMUM DECK BEARING IS 1 1/2" FOR END BEARING AND 3" FOR INTERMEDIATE BEARING.
 - ALL CONNECTIONS NOT DETAILED ON THESE PLANS SHALL BE STANDARD AISC CONNECTIONS, AND SHALL BE DETAILED BY THE STEEL FABRICATOR.



1 FRAMING PLAN - MEZZANINE
1/8" = 1'-0"

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**GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172**



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LEES SUMMIT, MO

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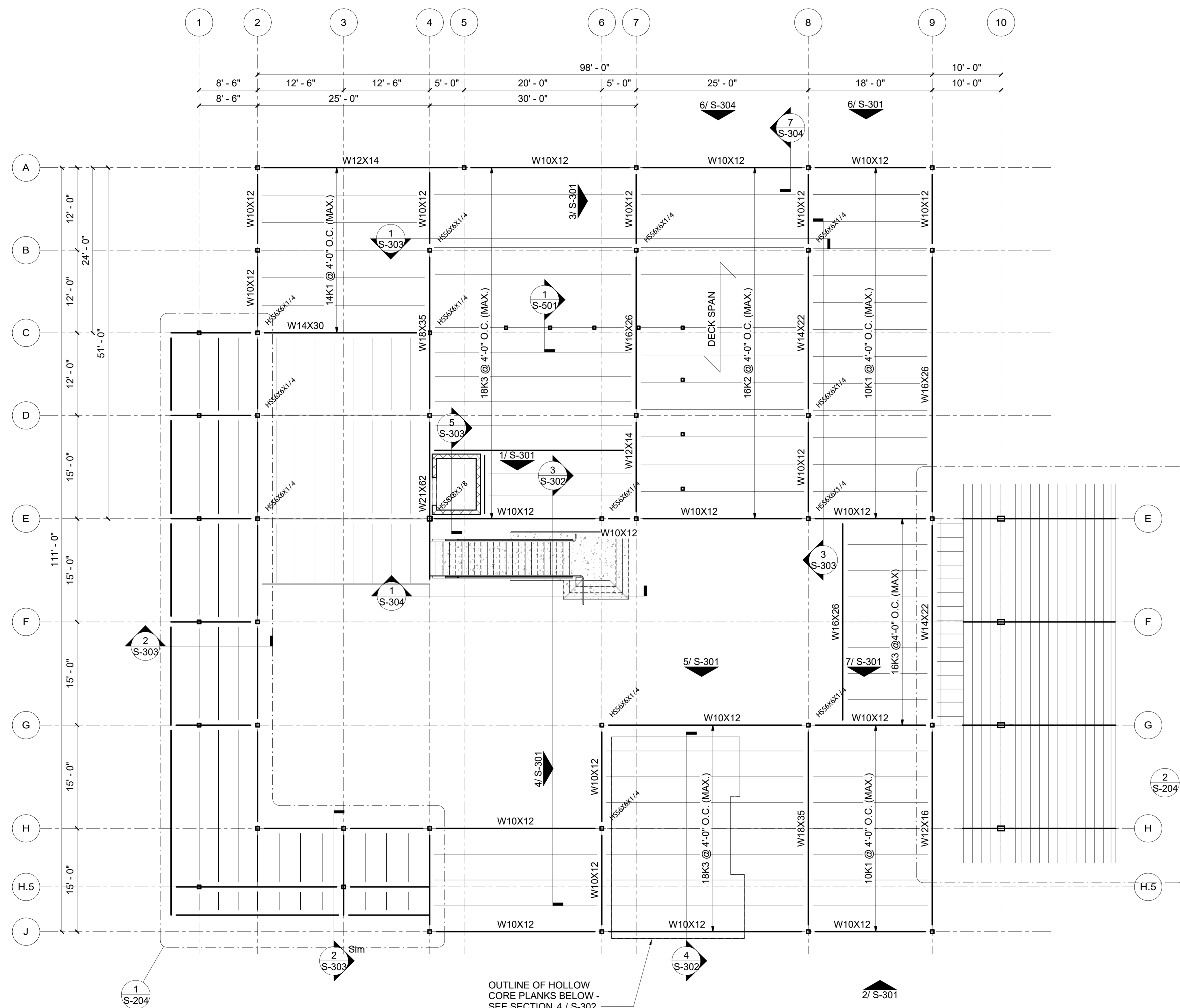
PROJECT NO: 24KC50013
CAD DWG FILE: Lee's Summit - Hangar 2.rvt
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SHEET TITLE

**LOW ROOF FRAMING
PLAN**

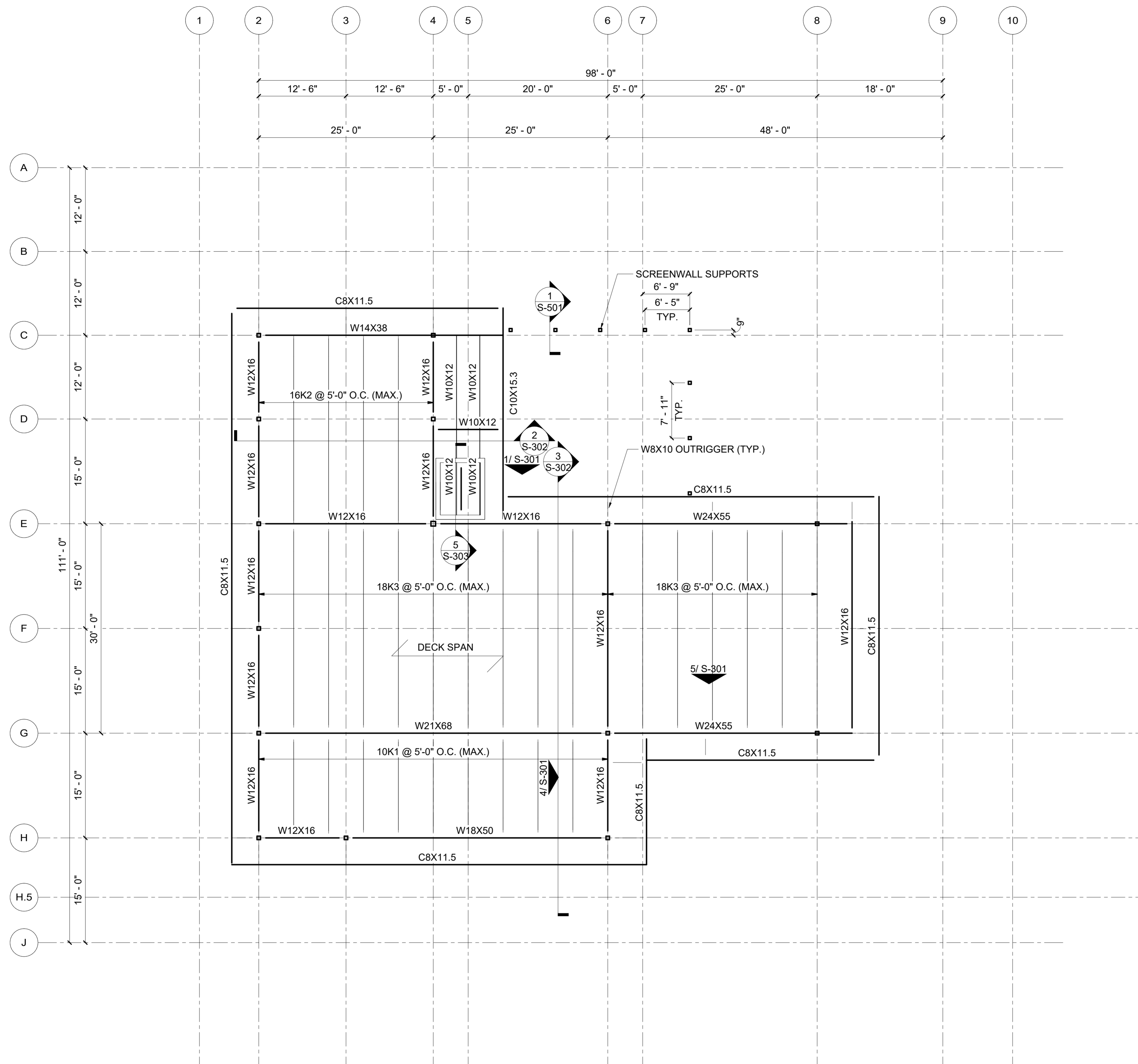
S-202

- NOTES:**
- USE 1.58 DECK 22 GA 80KSI MIN G60.
 - ATTACH DECK AS SHOWN BELOW:
STRUCTURAL #12 - 36/4
SIDELAP #10 - 2 PER SPAN
EDGE #12 - 12" O.C.
 - PUDDLE WELDS MAY BE SUBSTITUTED FOR #12 SDS
 - PAF (POWER ACTUATED FASTENERS) MAY BE SUBSTITUTED FOR #10 AND #12
 - MINIMUM DECK BEARING IS 1 1/2" FOR END BEARING AND 3" FOR INTERMEDIATE BEARING.
 - ALL CONNECTIONS NOT DETAILED ON THESE PLANS SHALL BE STANDARD AISC CONNECTIONS, AND SHALL BE DETAILED BY THE STEEL FABRICATOR.



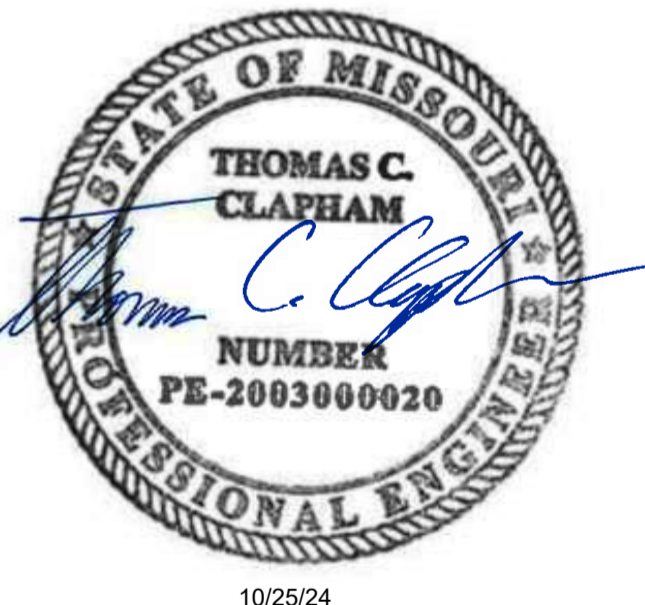
1 FRAMING PLAN - LOW ROOF
1/8" = 1'-0"

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GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



- NOTES:**
1. USE 1.5B DECK 24 GA 80KSI MIN G60.
 2. ATTACH DECK AS SHOWN BELOW:
STRUCTURAL #12 - 36/4
SIDELAP #10 - 2 PER SPAN
EDGE #12 - 12" O.C.
 3. PUDDLE WELDS MAY BE SUBSTITUTED FOR #12 SDS
 4. PAF (POWER ACTUATED FASTENERS) MAY BE SUBSTITUTED FOR #10 AND #12
 5. MINIMUM DECK BEARING IS 1 1/2" FOR END BEARING AND 3" FOR INTERMEDIATE BEARING.
 6. ALL CONNECTIONS NOT DETAILED ON THESE PLANS SHALL BE STANDARD AISC CONNECTIONS, AND SHALL BE DETAILED BY THE STEEL FABRICATOR.

1 FRAMING PLAN - HIGH ROOF
1/8" = 1'-0"



LEES SUMMIT MUNICIPAL AIRPORT AUTHORITY
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION

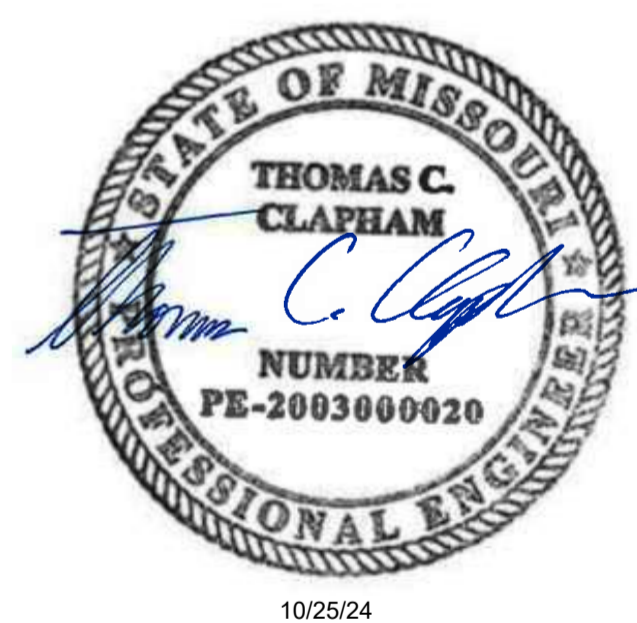
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CAD DWG FILE: Lee's Summit - Hangar 2.rvt
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SHEET TITLE
HIGH ROOF FRAMING PLAN

S-203

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CITY PROJECT NO. - 17932172**



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LEES SUMMIT, MO

MARK DATE DESCRIPTION

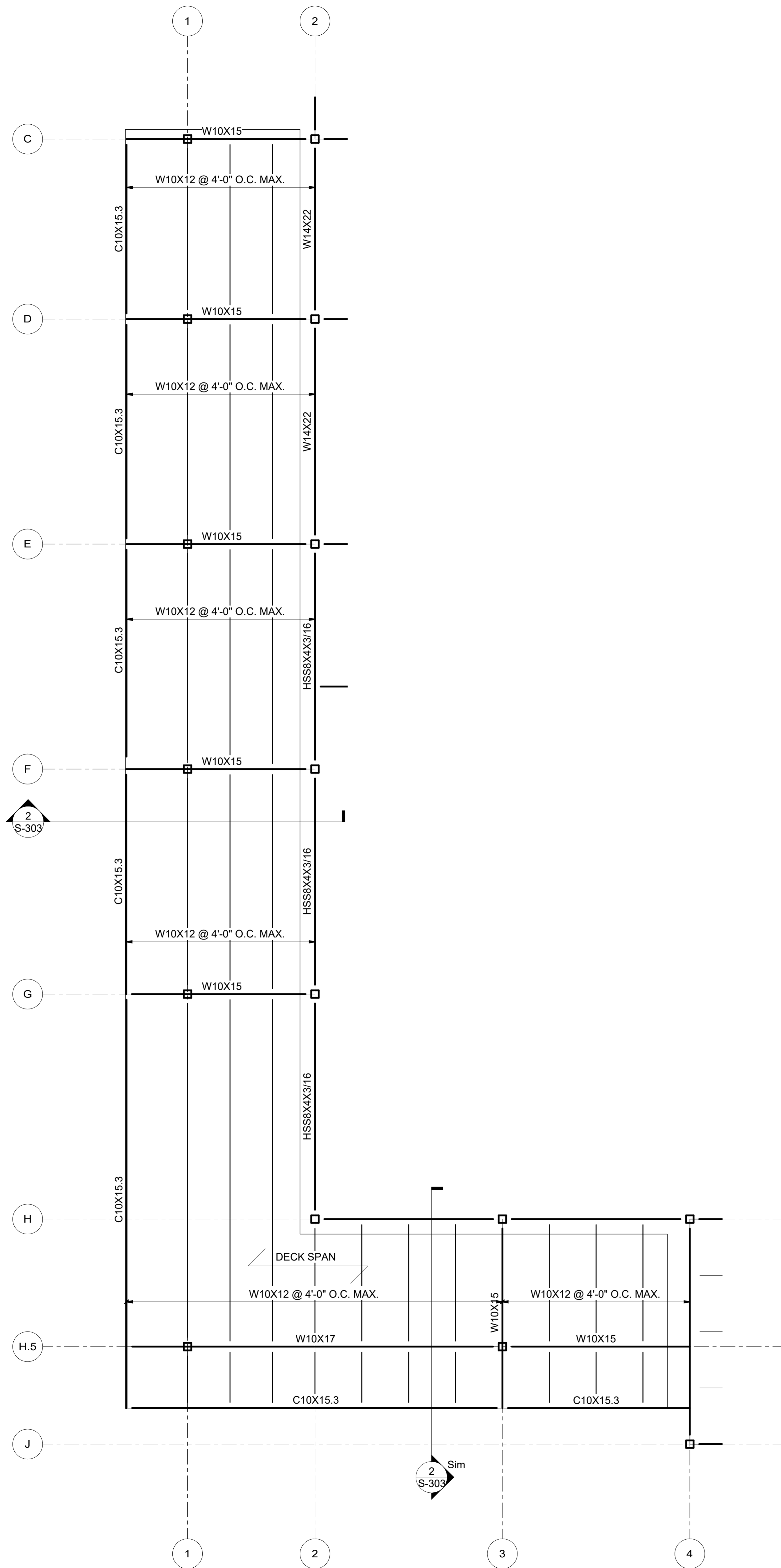
PROJECT NO: 24KC50013
CAD DWG FILE: Lee's Summit - Hangar 2.rvt
DESIGNED BY: JDH & BLL
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SHEET TITLE

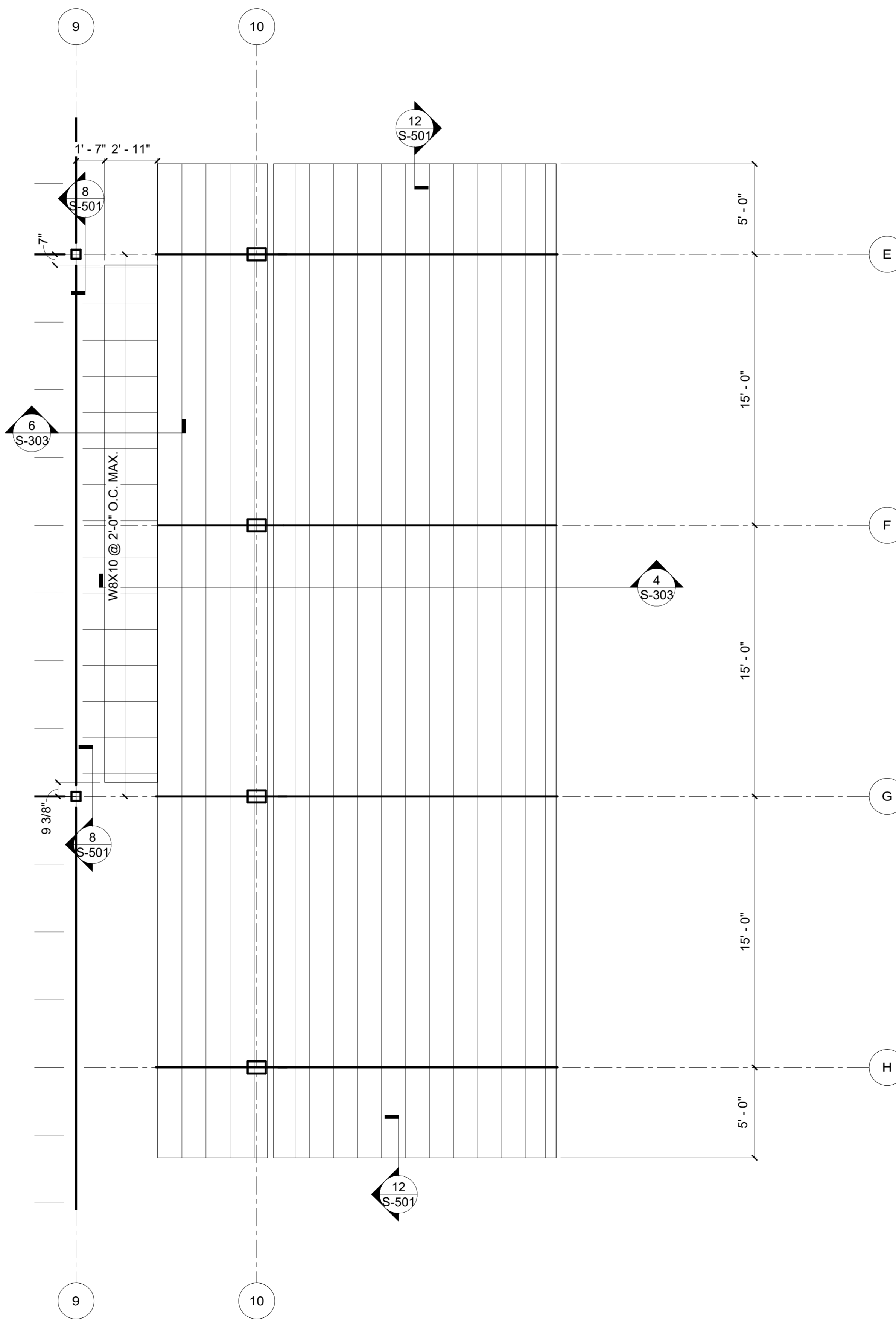
ENLARGED PLANS

S-204

- NOTES:
- USE 1.58 DECK 24 GA 80KSI MIN G60.
 - ATTACH DECK AS SHOWN BELOW:
STRUCTURAL #12 - 36/4
SIDELAP #10 - 2 PER SPAN
EDGE #12 - 12" O.C.
 - PUDDLE WELDS MAY BE SUBSTITUTED FOR #12 SDS
 - PAF (POWER ACTUATED FASTENERS) MAY BE SUBSTITUTED FOR #10 AND #12
 - MINIMUM DECK BEARING IS 1 1/2" FOR END BEARING AND 3" FOR INTERMEDIATE BEARING.
 - ALL CONNECTIONS NOT DETAILED ON THESE PLANS SHALL BE STANDARD AISC CONNECTIONS, AND SHALL BE DETAILED BY THE STEEL FABRICATOR.

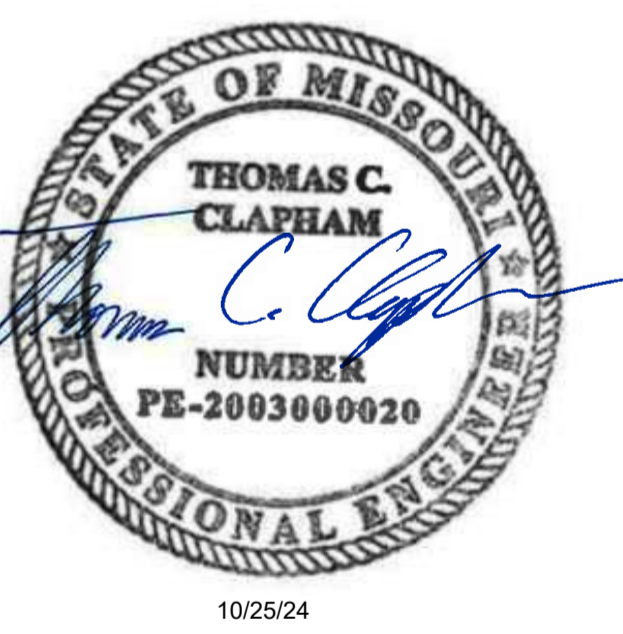


1 AIR SIDE CANOPY
1/4" = 1'-0"



2 PARK SIDE CANOPY
1/4" = 1'-0"

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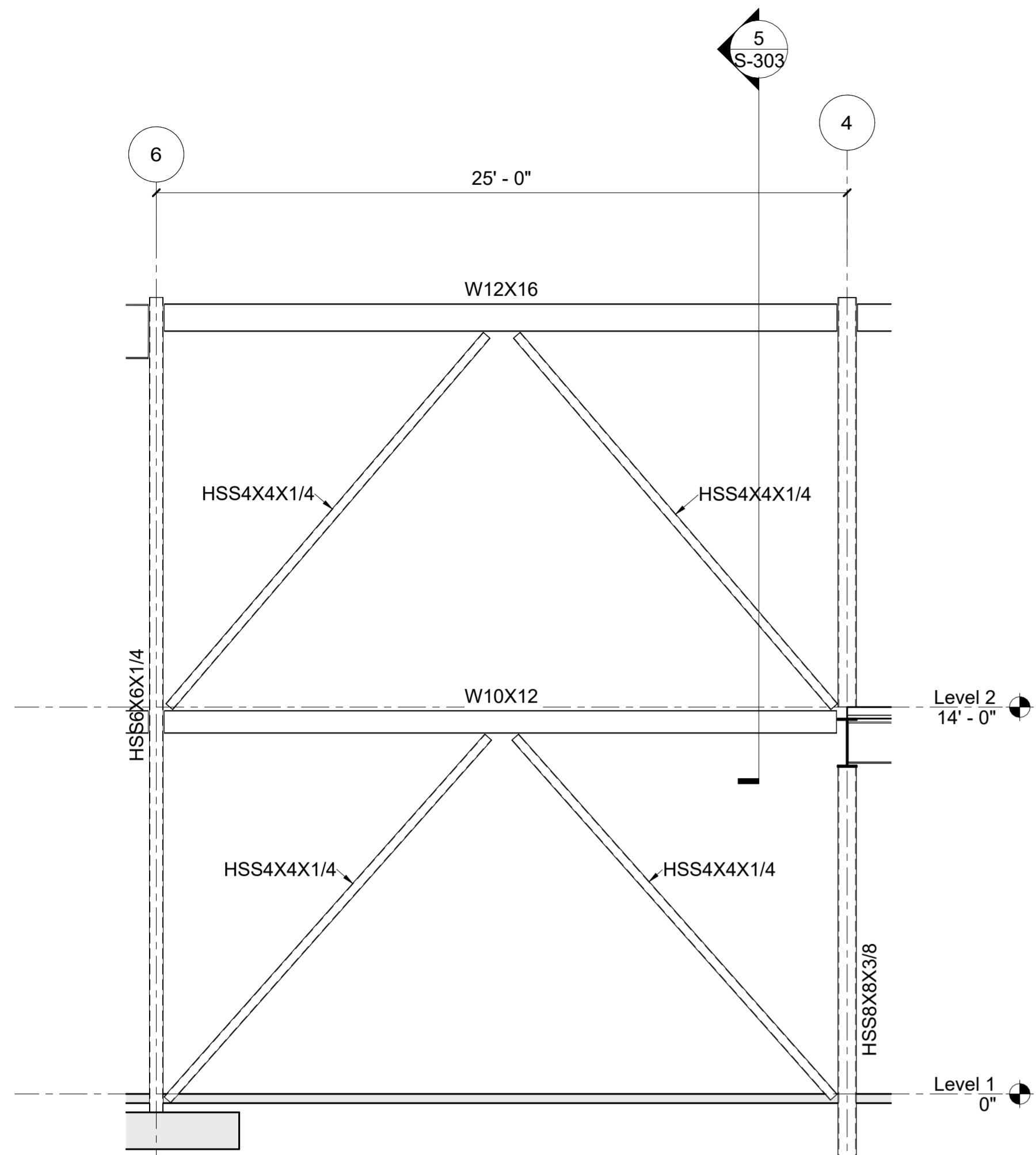
LEES SUMMIT MUNICIPAL AIRPORT AUTHORITY
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION

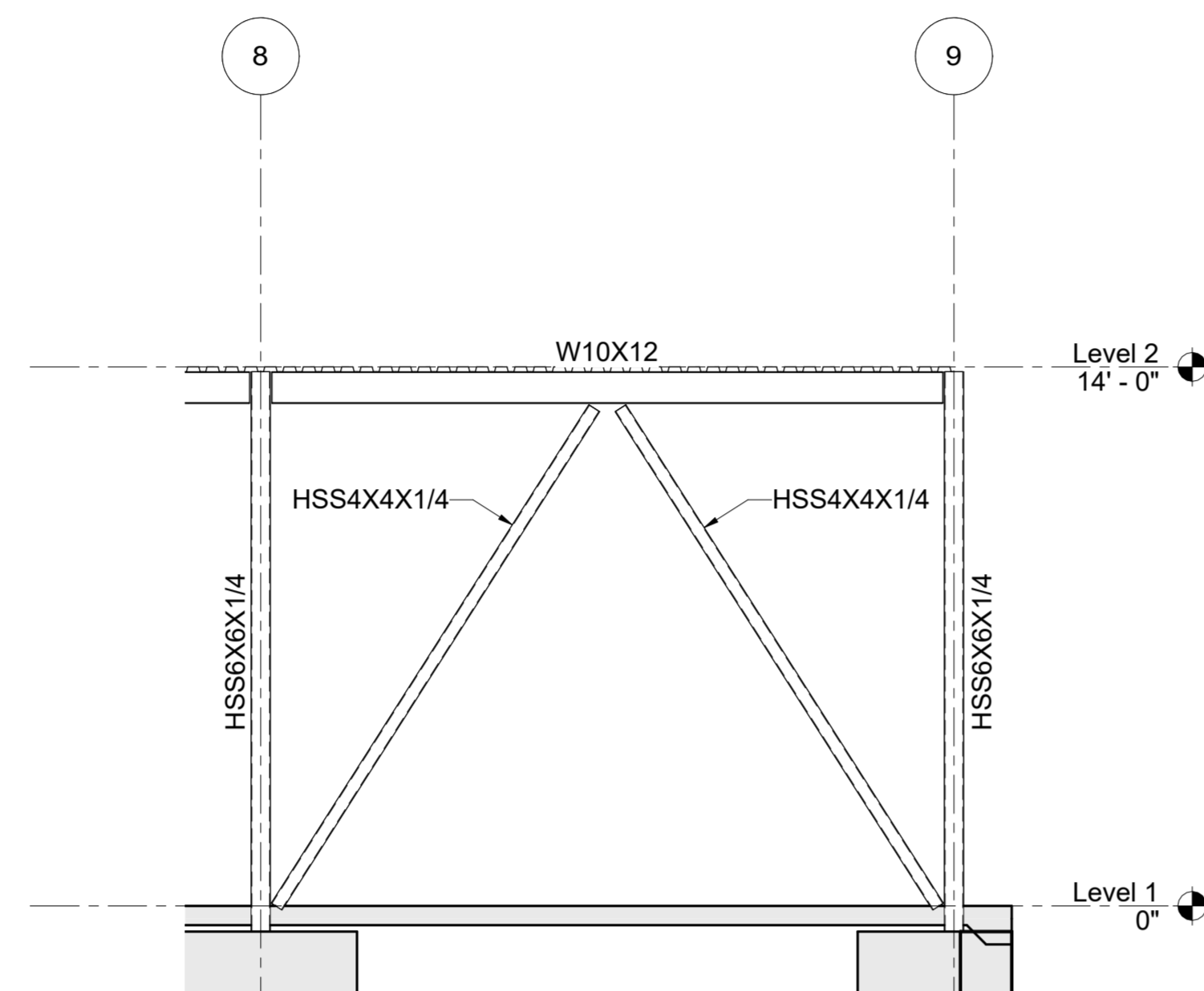
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SHEET TITLE
**BRACE BAY
SECTIONS**

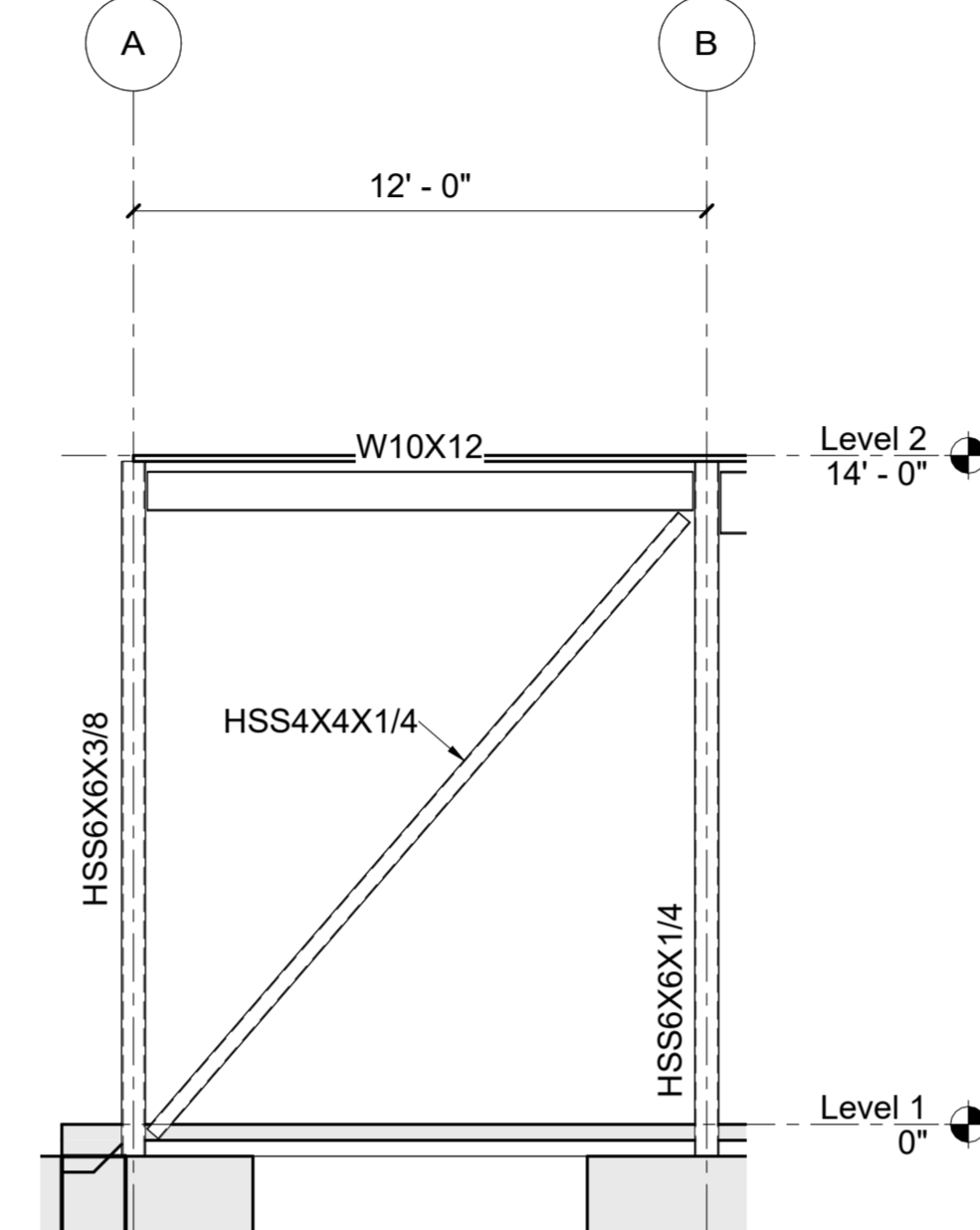
S-301



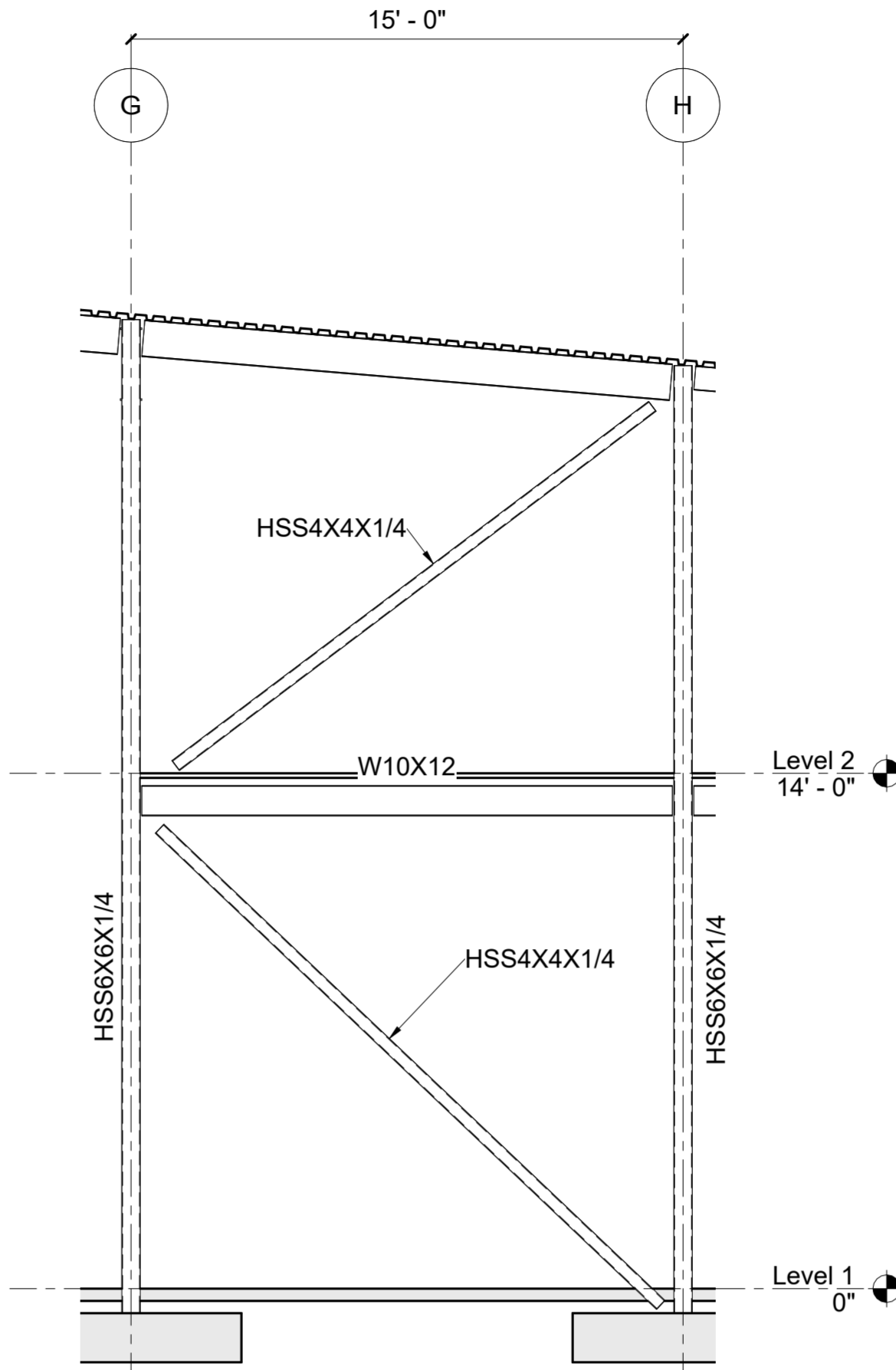
1 Brace Bay 4-6/E
1/4" = 1'-0"



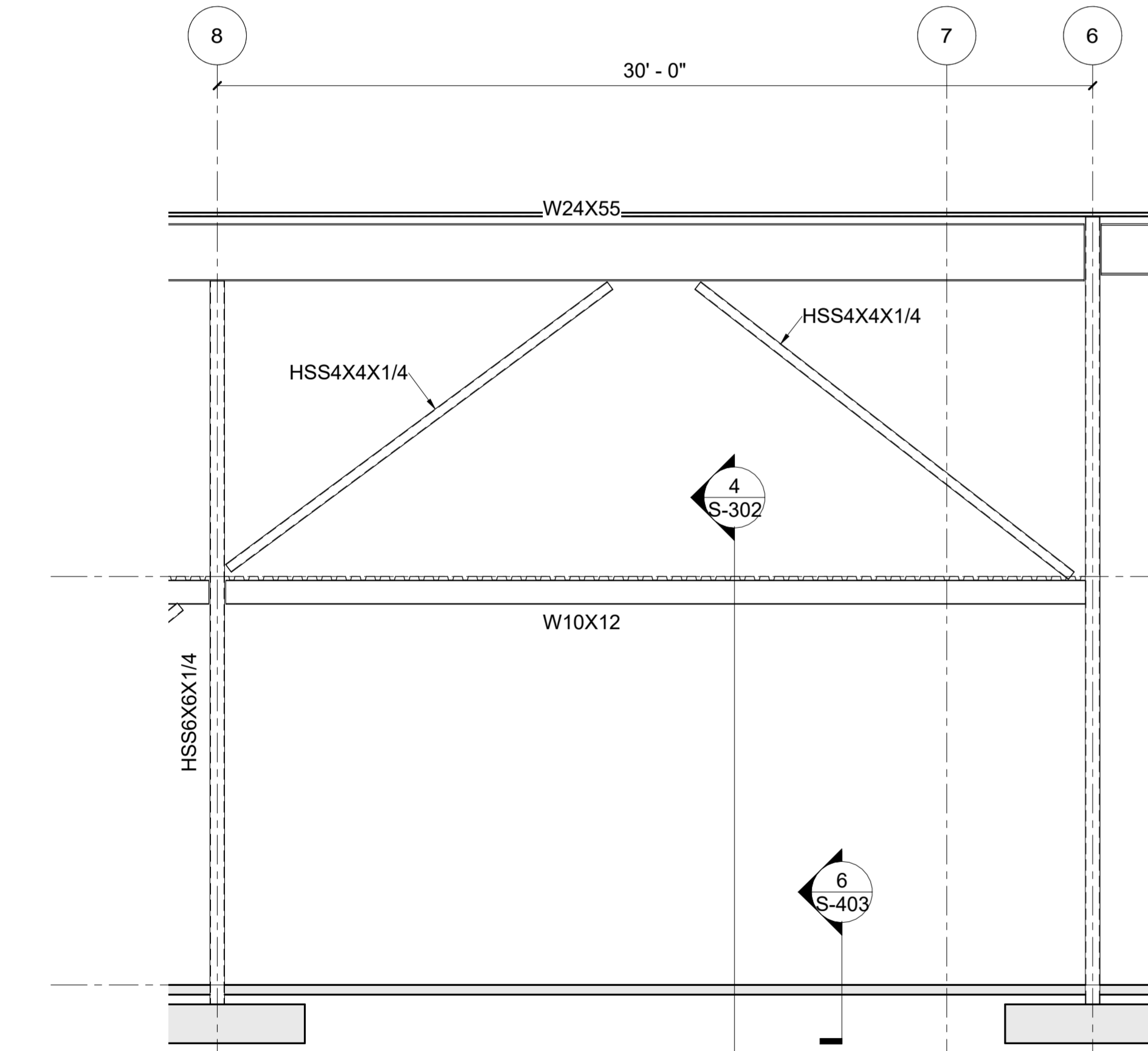
2 Brace Bay 8-10/J
1/4" = 1'-0"



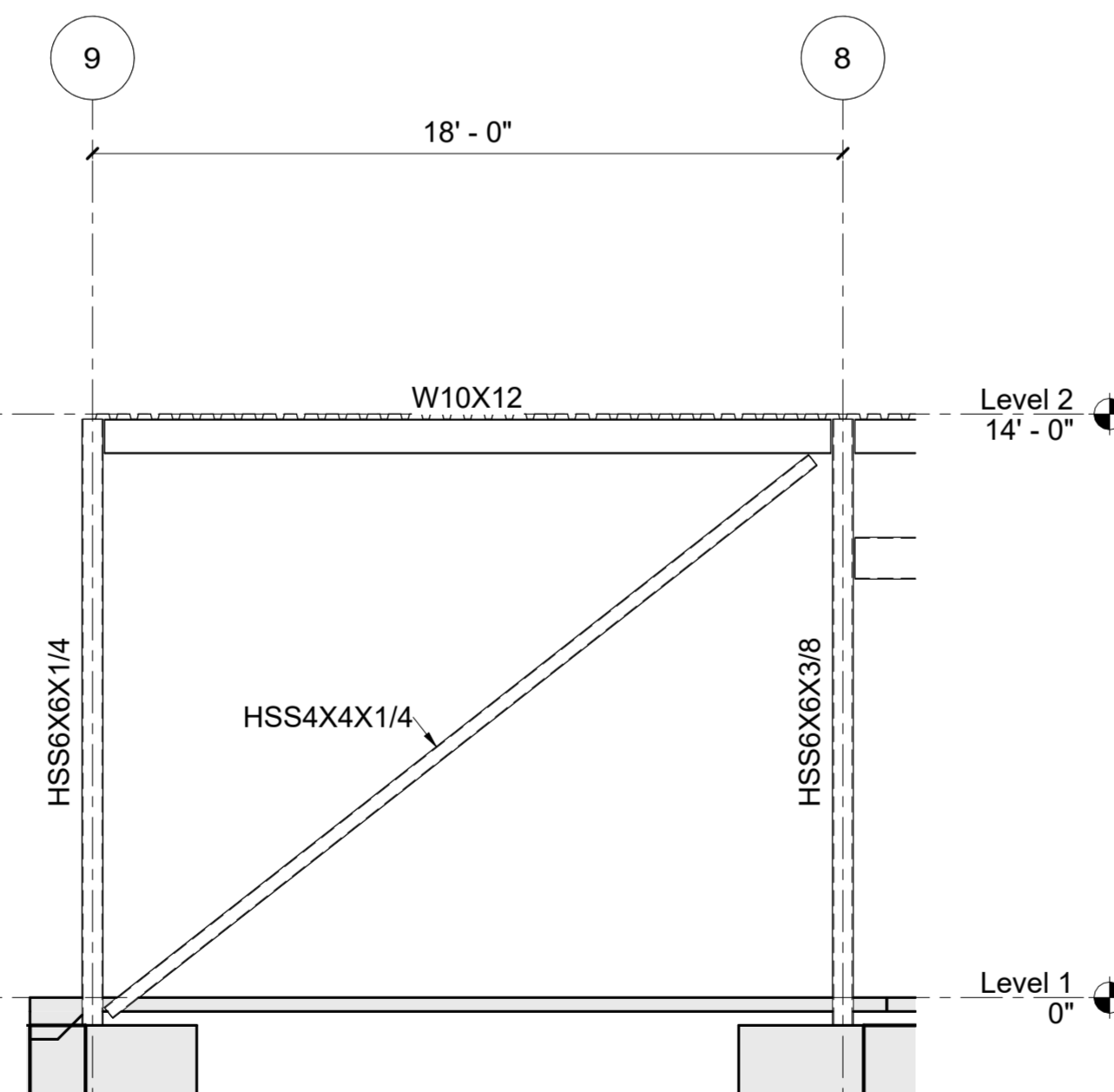
3 Brace Bay 7/A-B
1/4" = 1'-0"



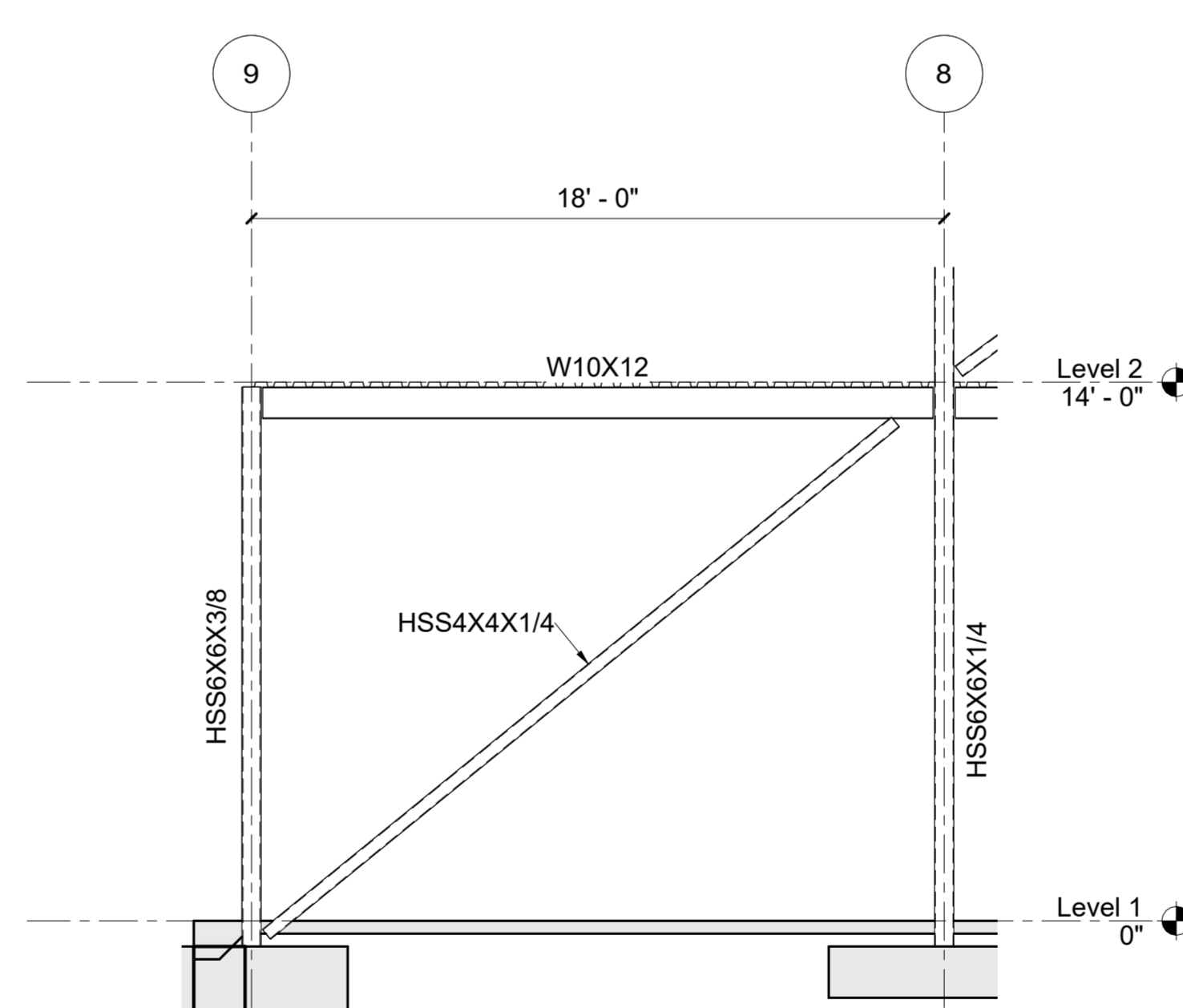
4 Brace Bay 6/G-H
1/4" = 1'-0"



5 Brace Bay 7-8/G
1/4" = 1'-0"

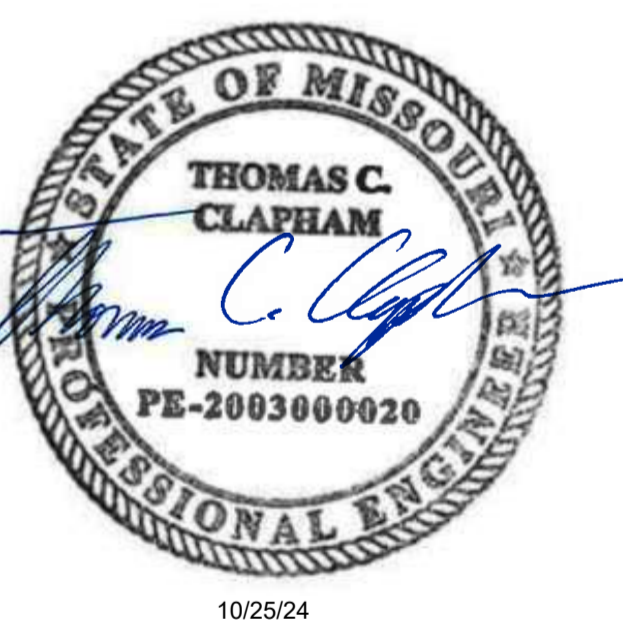


6 Brace Bay 8-10/A
1/4" = 1'-0"



7 Brace Bay 8-10/G
1/4" = 1'-0"

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**GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172**



10/25/24

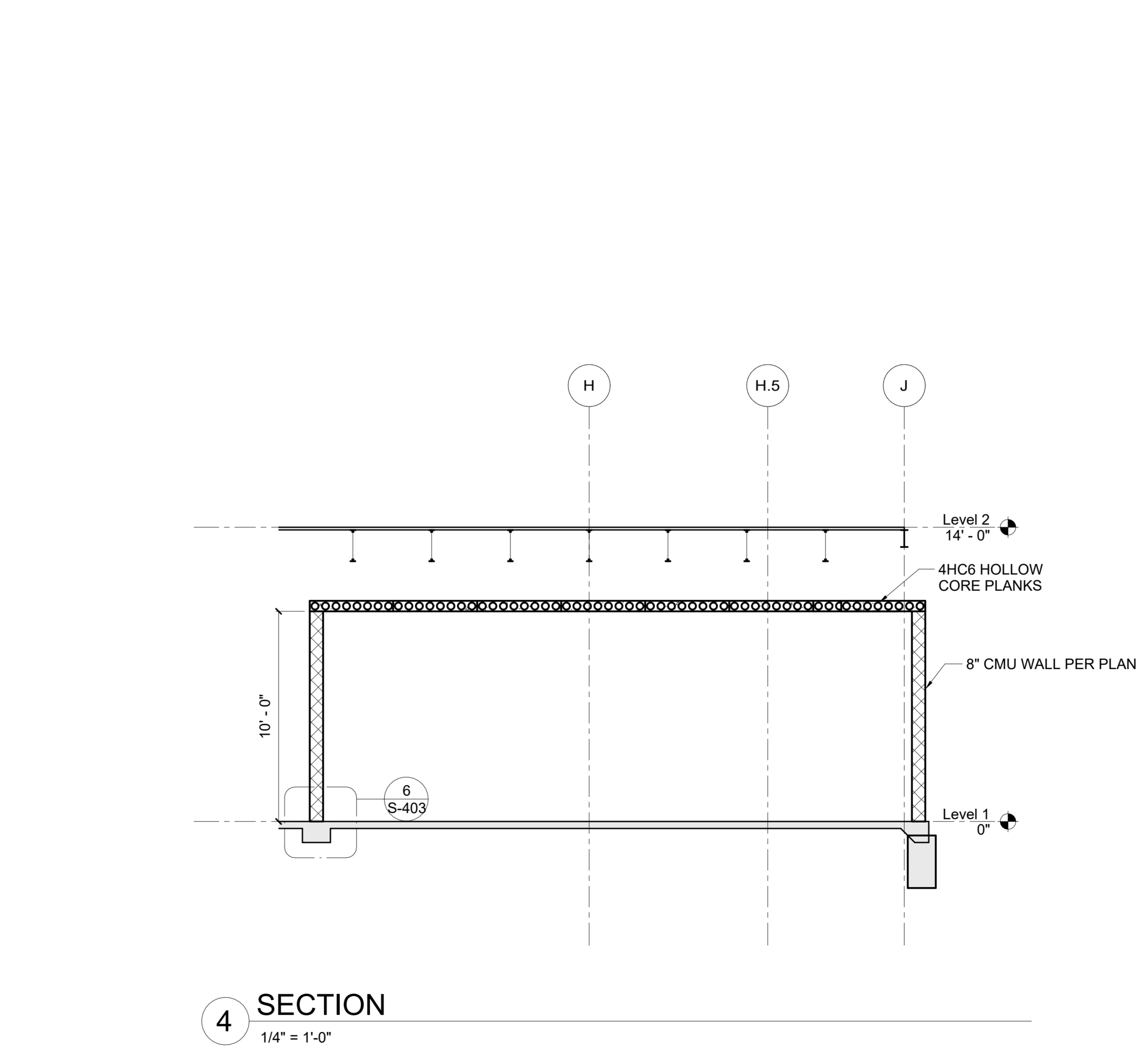
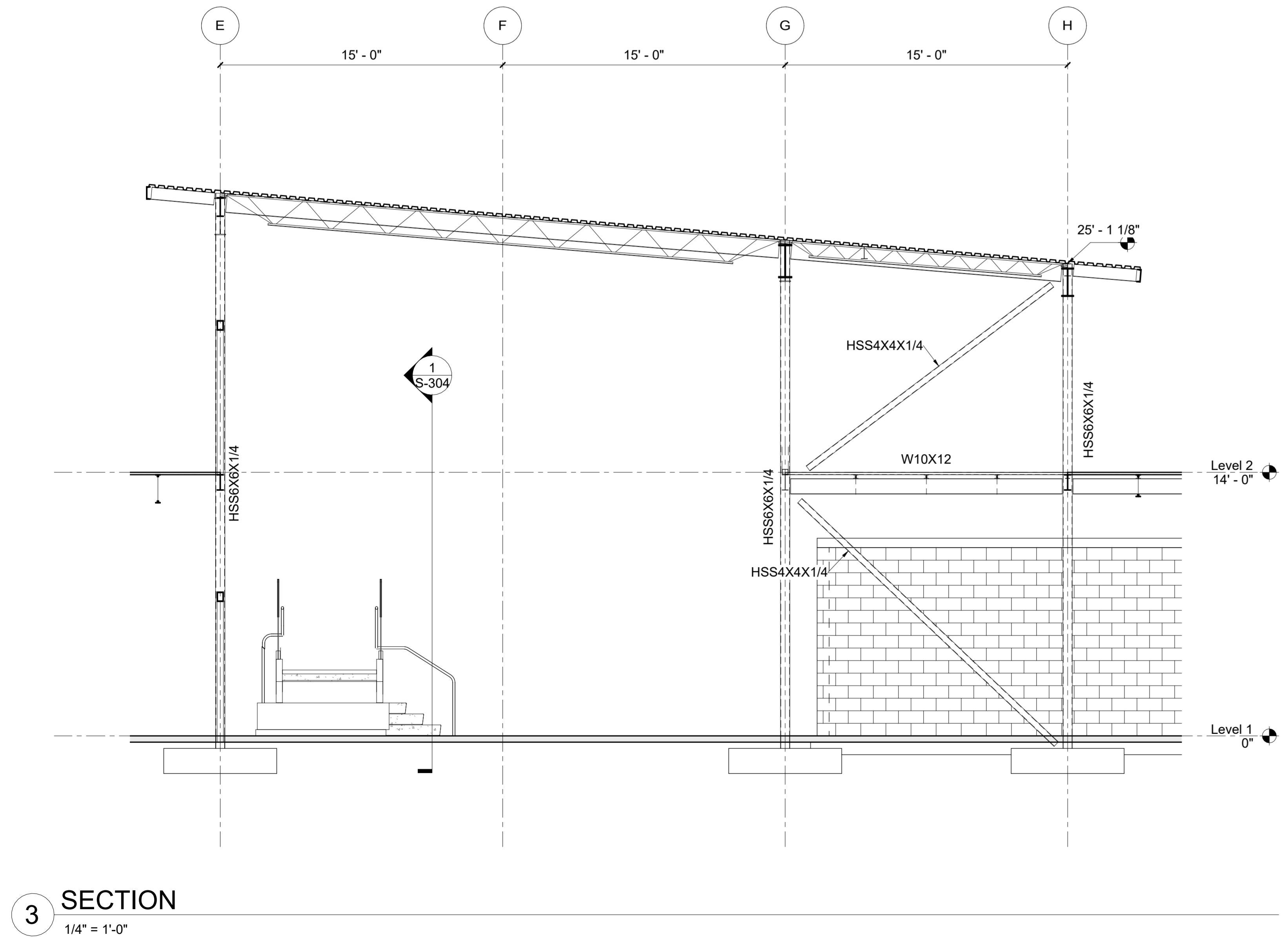
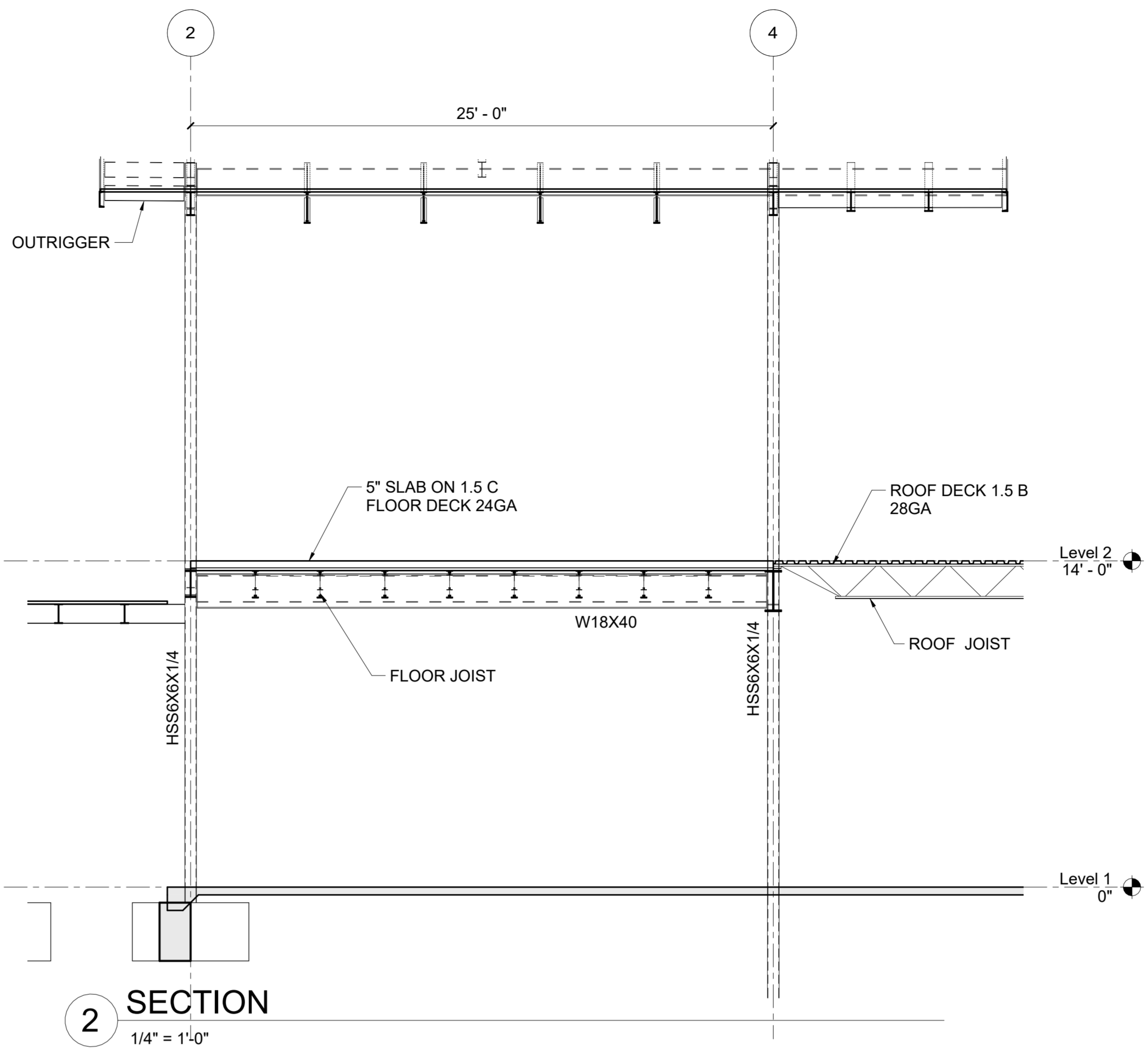
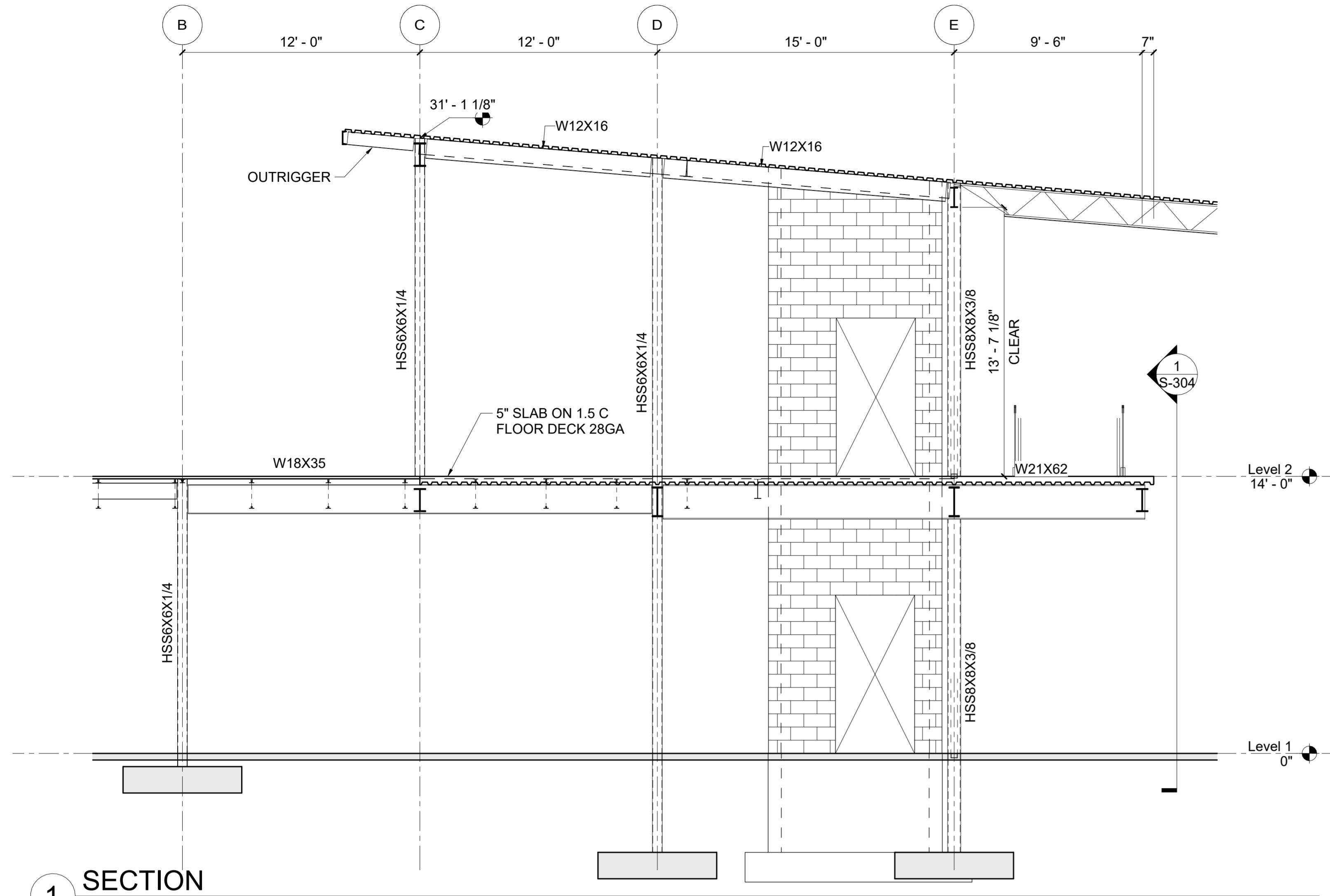
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LEES SUMMIT, MO

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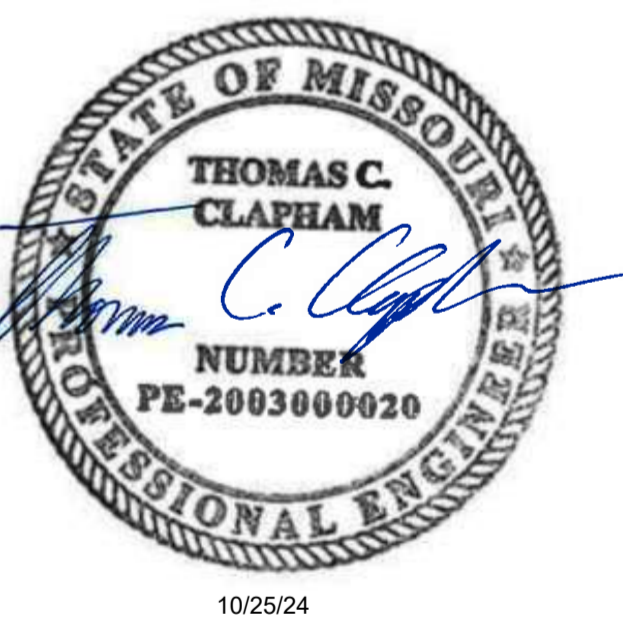
SHEET TITLE
BUILDING SECTIONS

S-302



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CITY PROJECT NO. - 17932172**



10/25/24

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LEES SUMMIT, MO

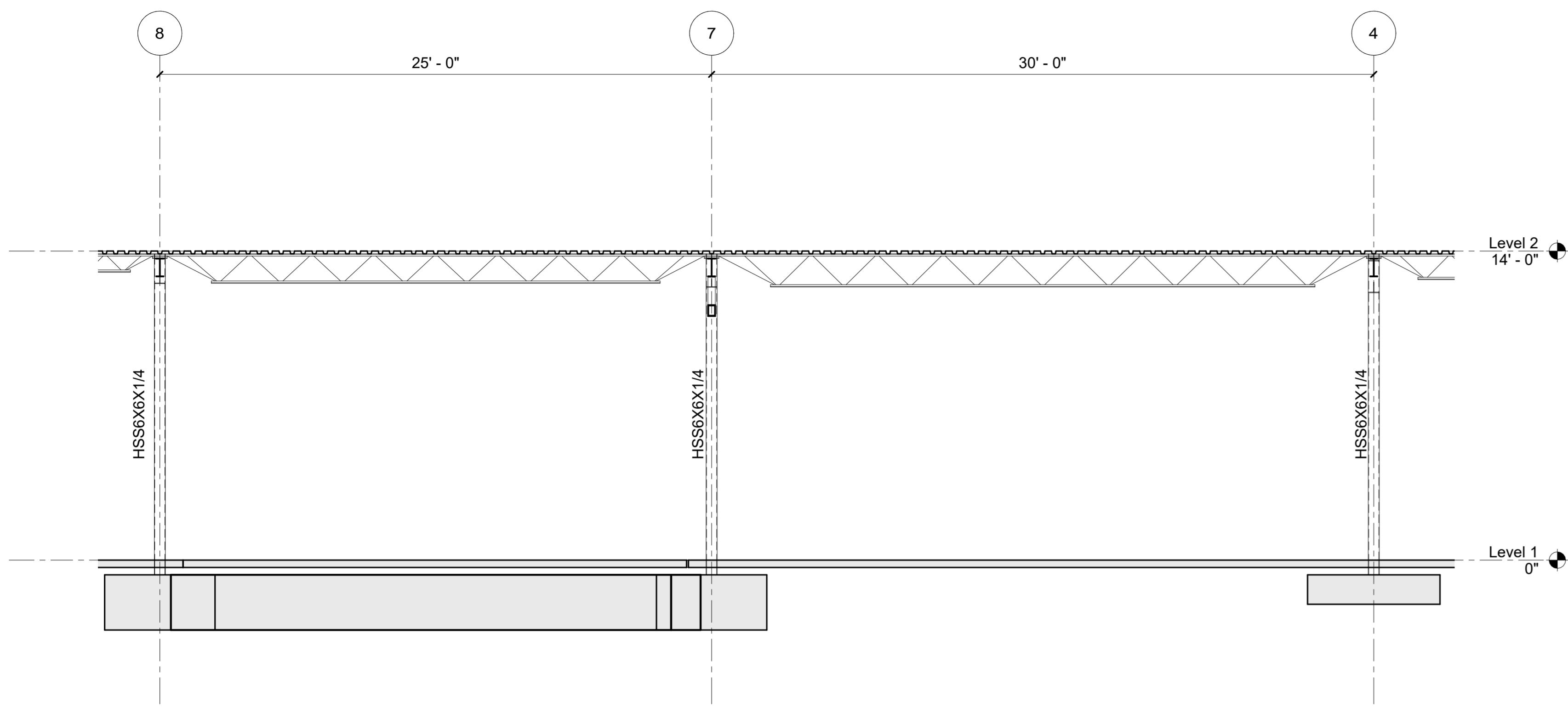
MARK DATE DESCRIPTION

PROJECT NO:	24KC50013
CAD DWG FILE:	Lee's Summit - Hangar 2.rvt
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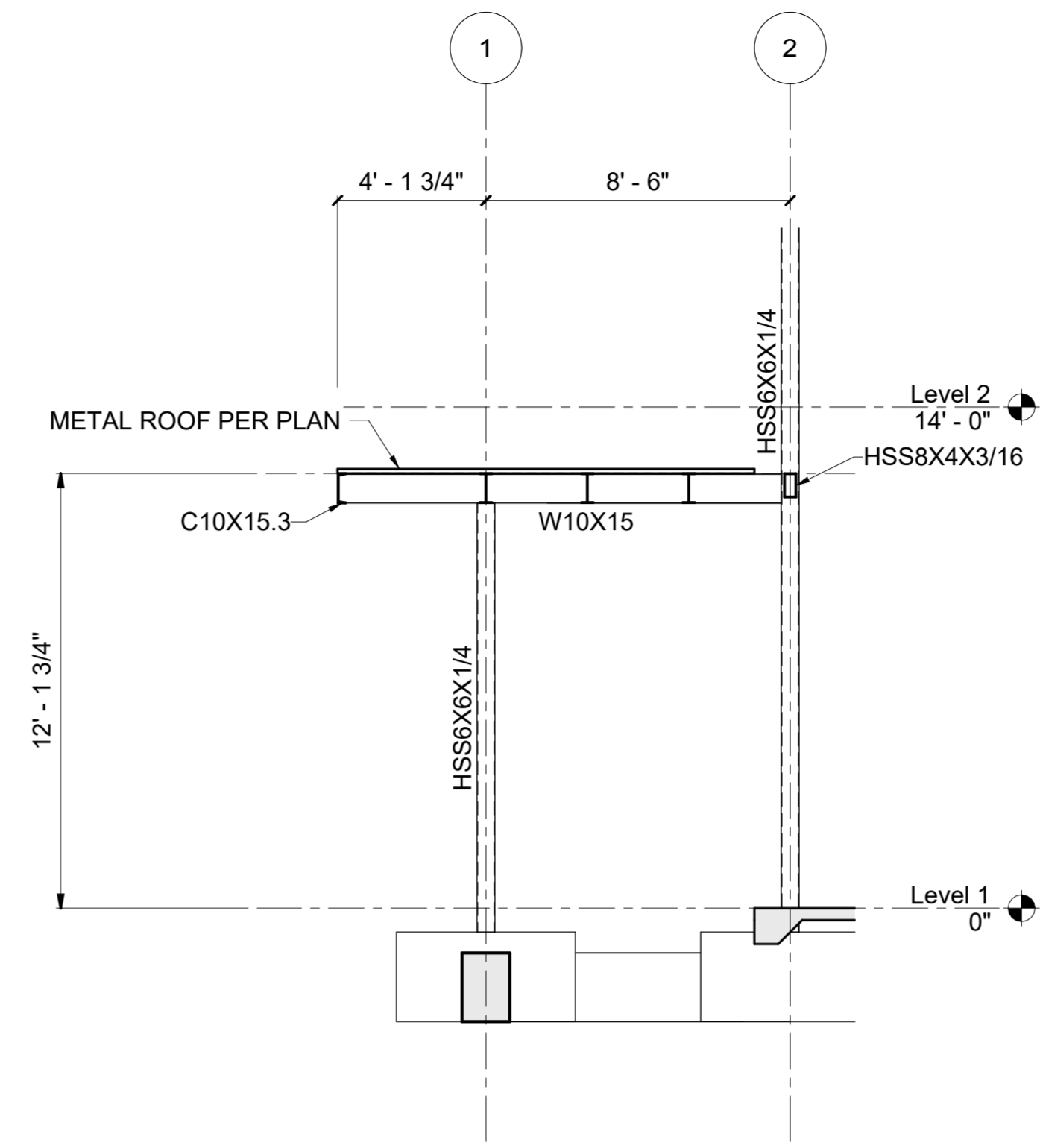
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BUILDING SECTIONS

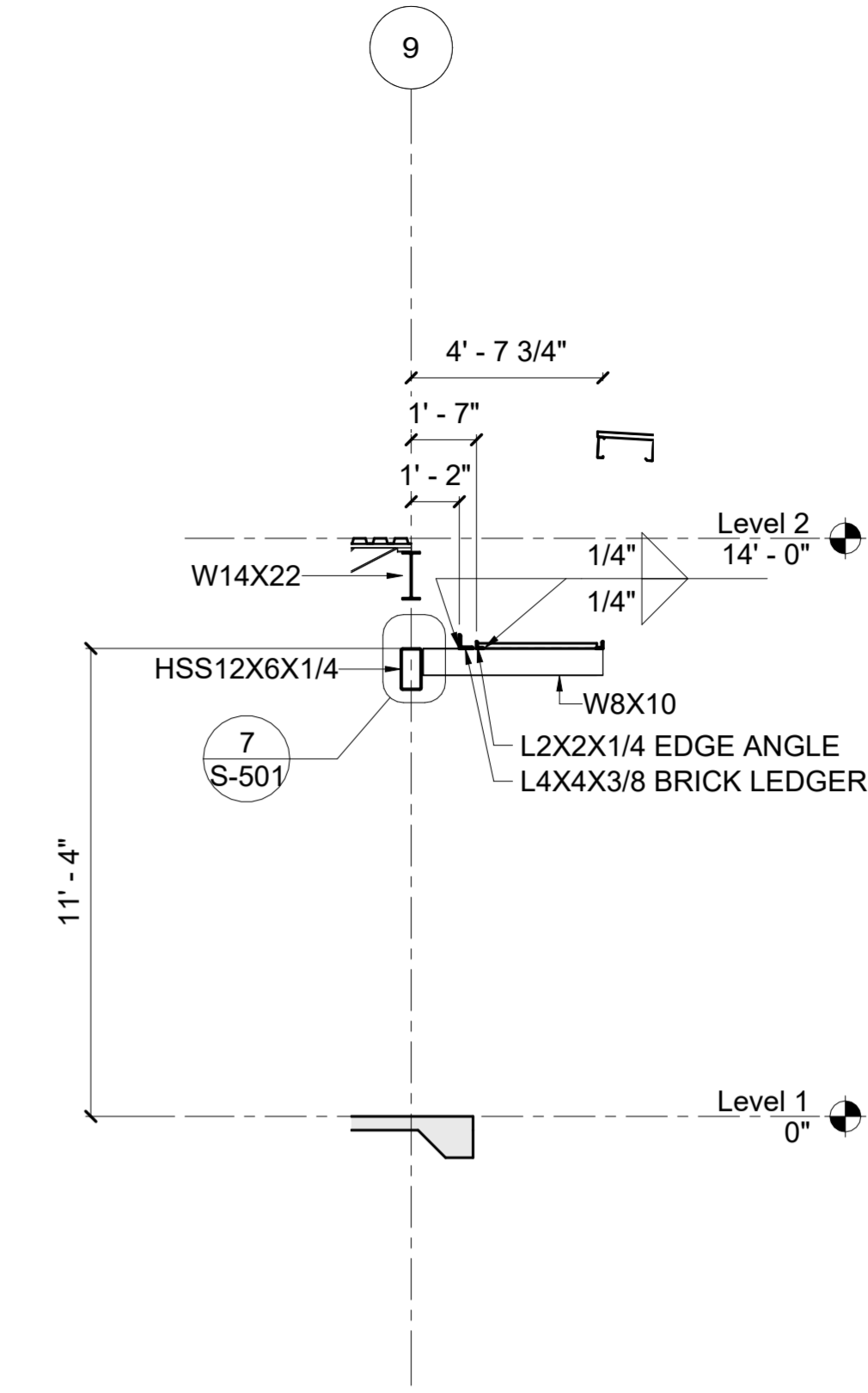
S-303



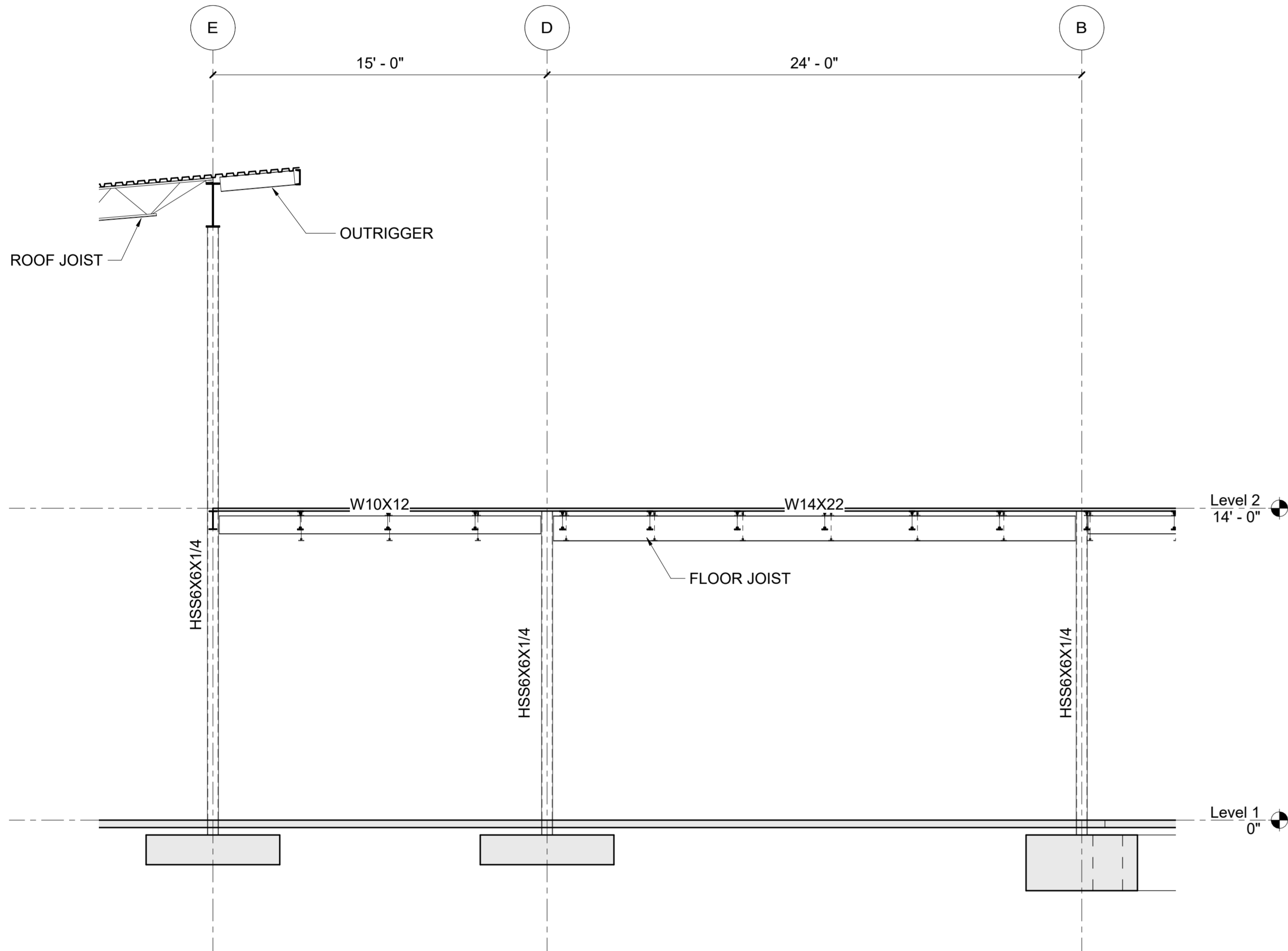
1 SECTION
1/4" = 1'-0"



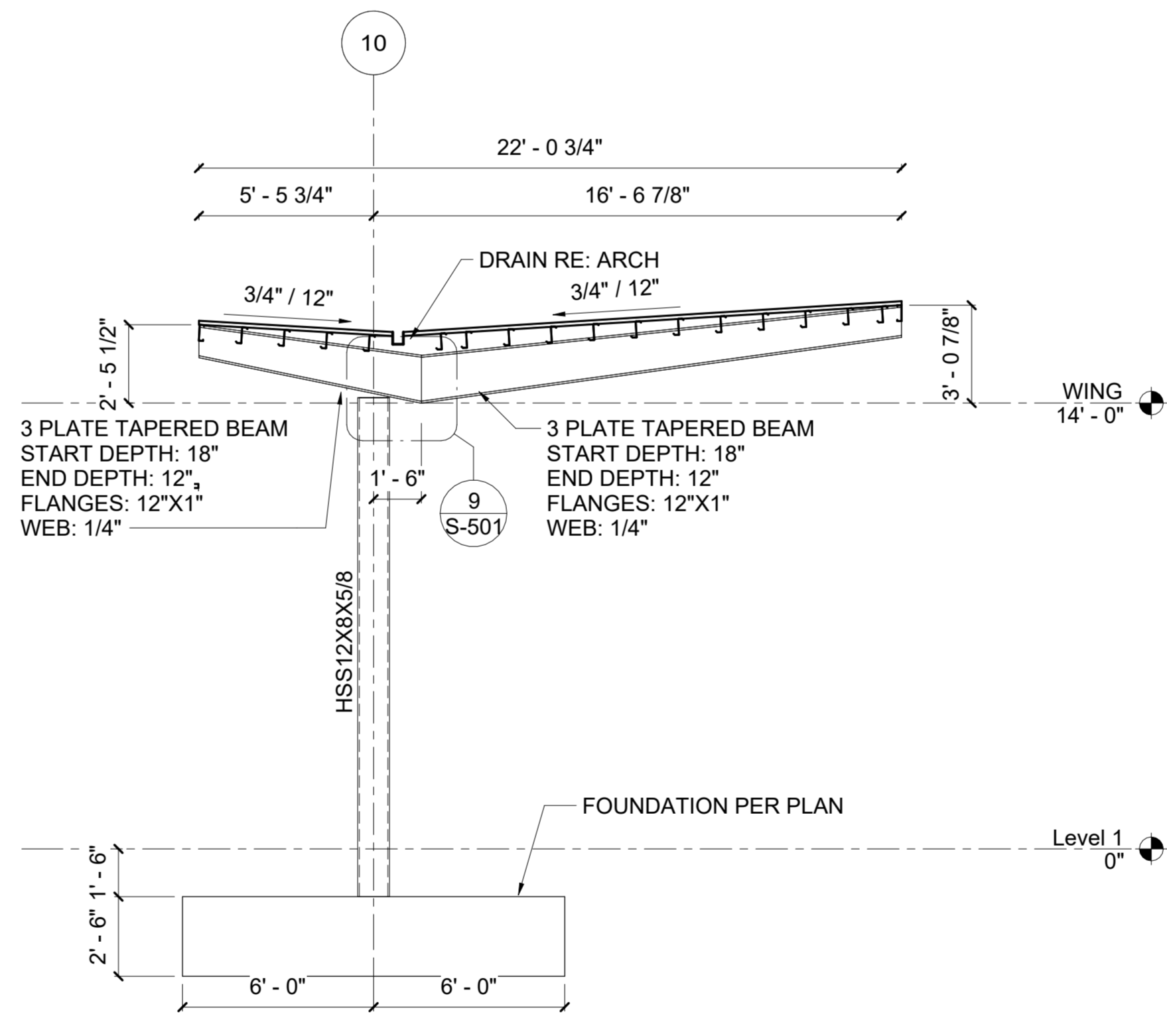
2 SECTION
1/4" = 1'-0"



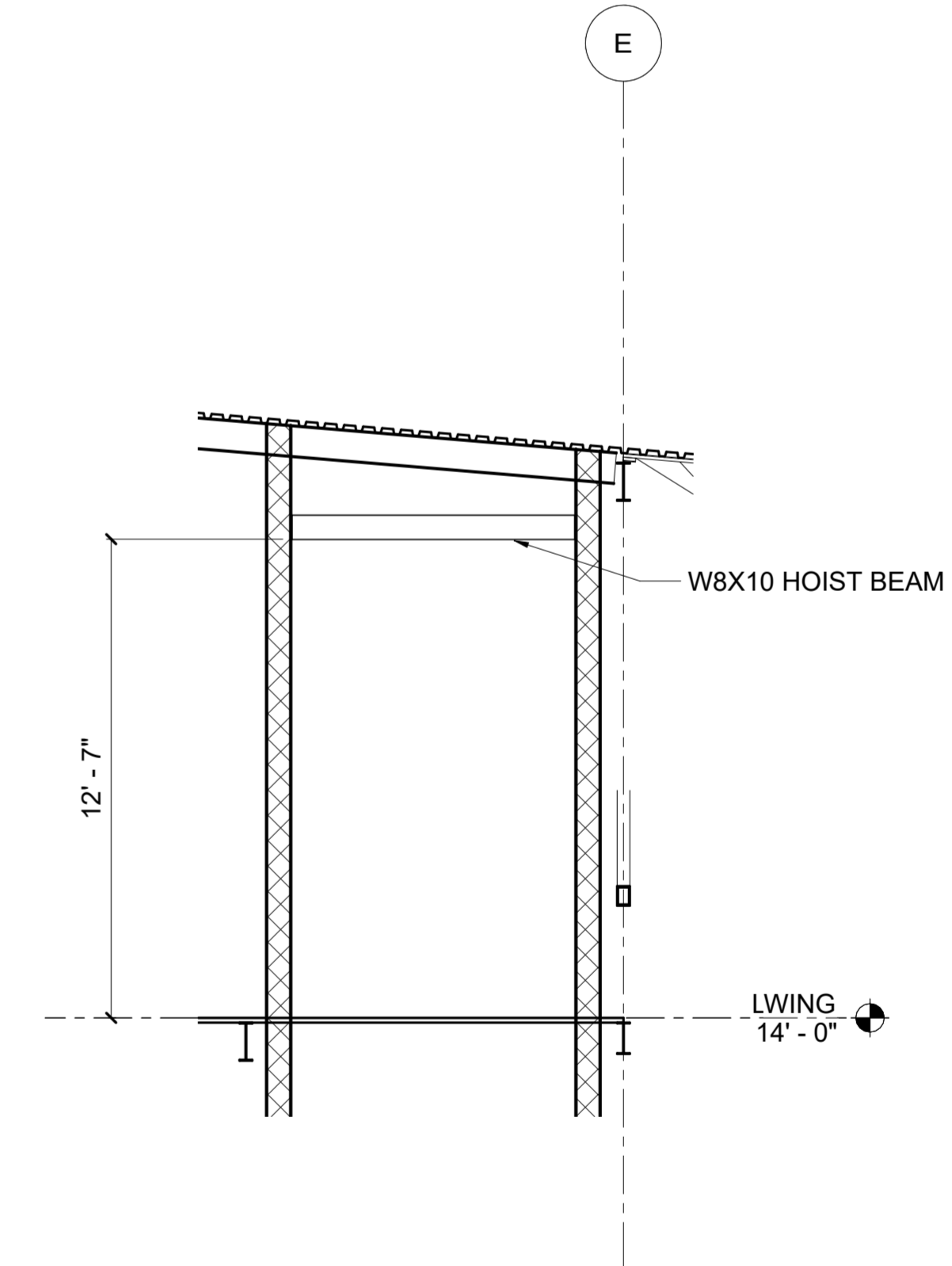
6 SECTION
1/4" = 1'-0"



3 SECTION
1/4" = 1'-0"



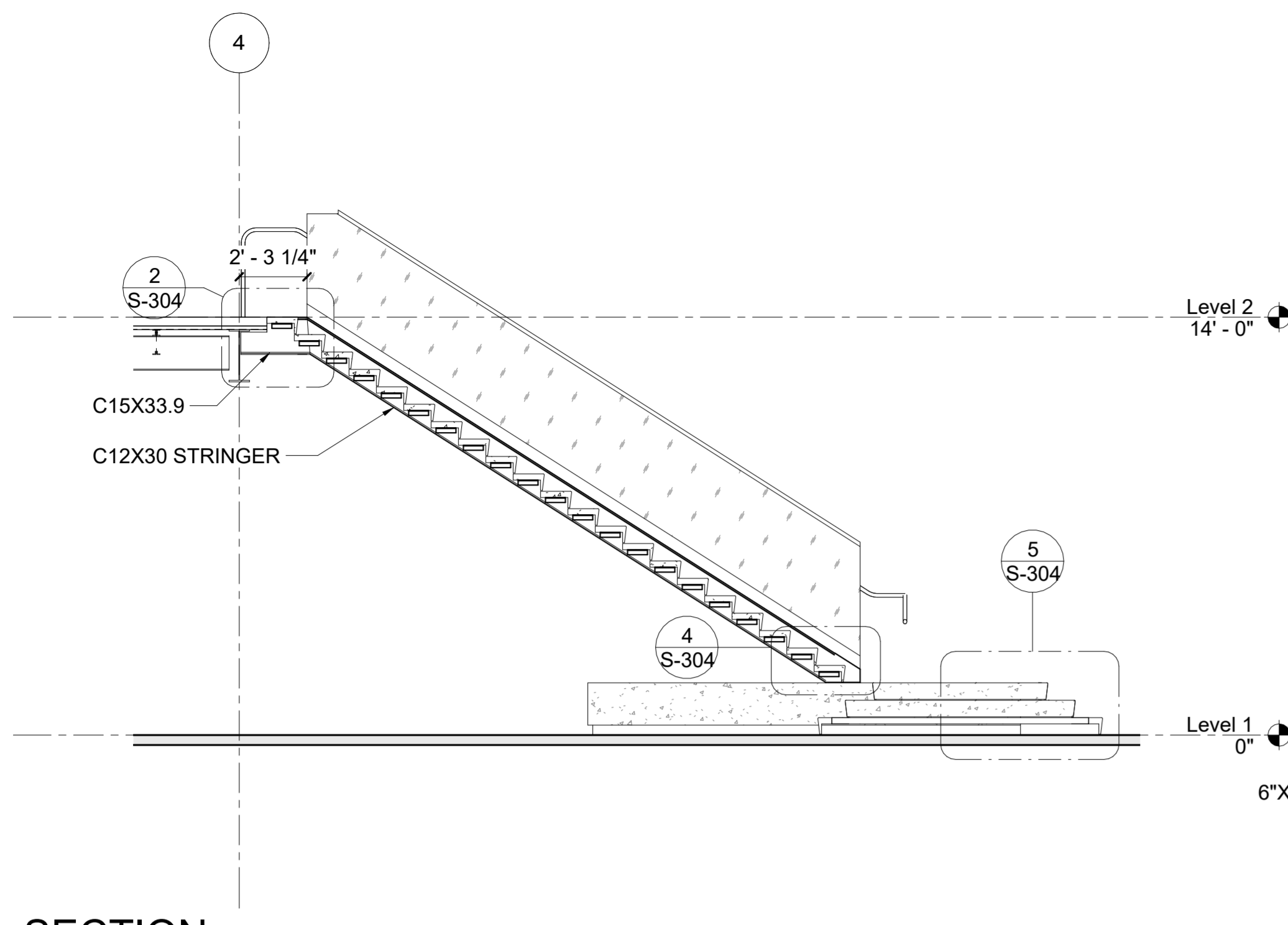
4 SECTION
1/4" = 1'-0"



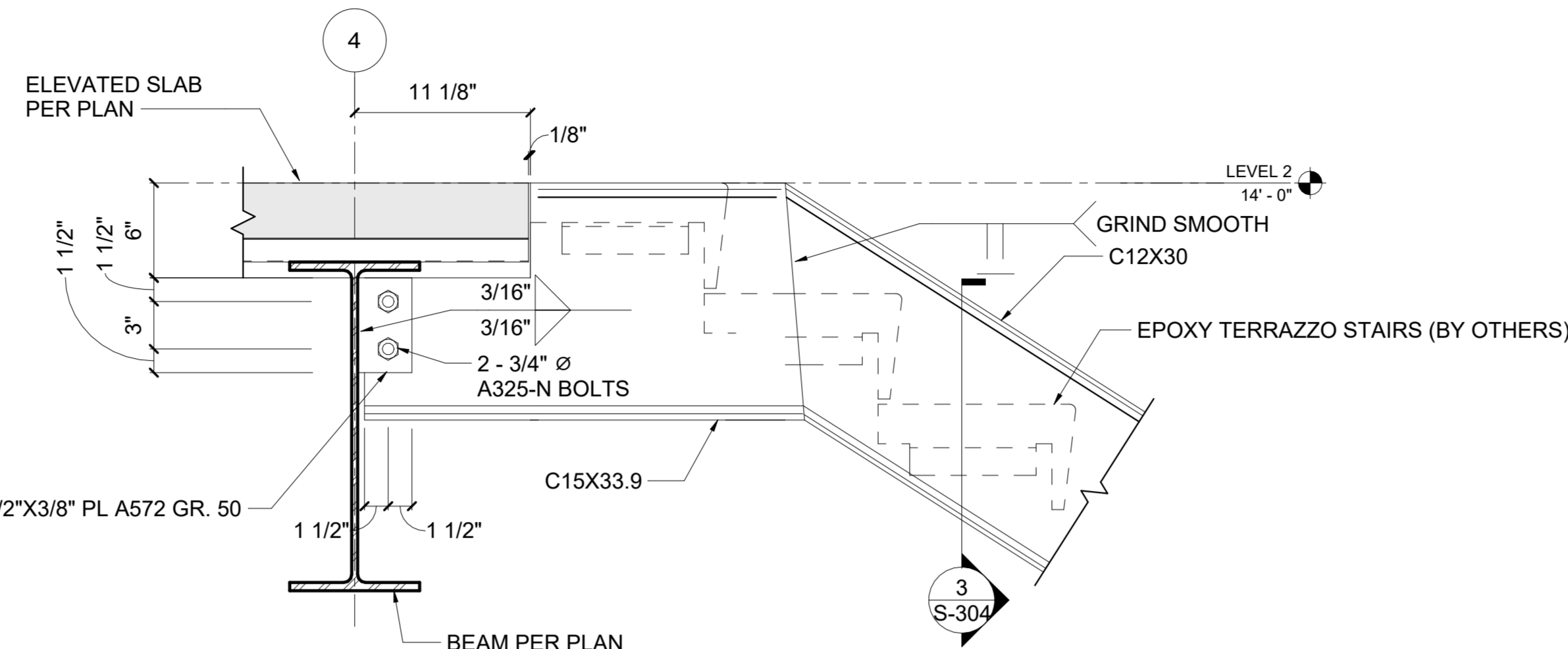
5 SECTION
1/4" = 1'-0"

**KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI**

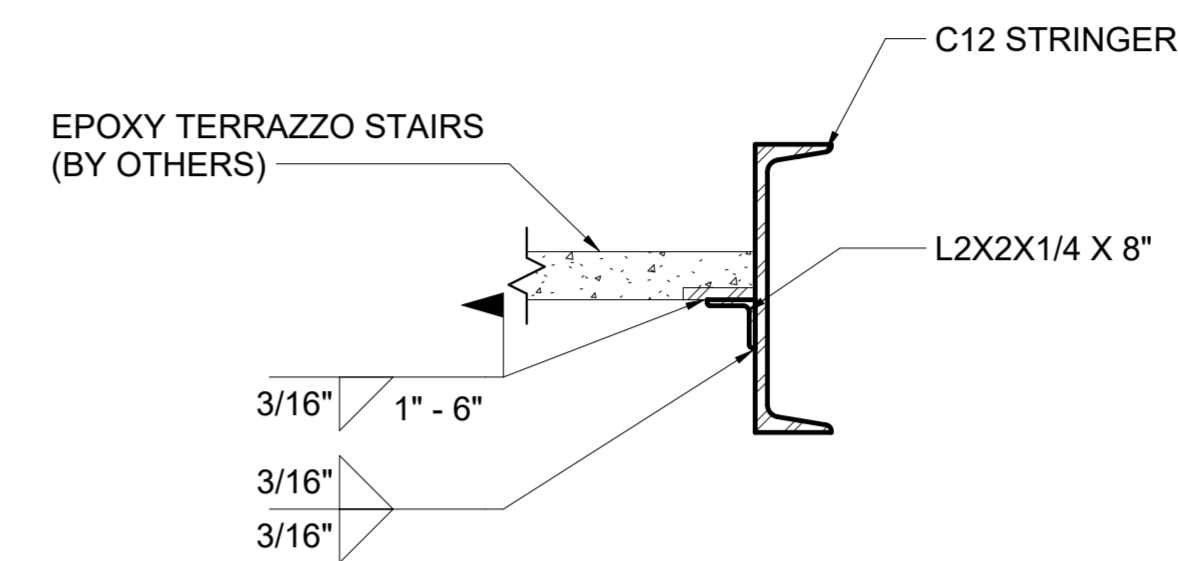
**GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172**



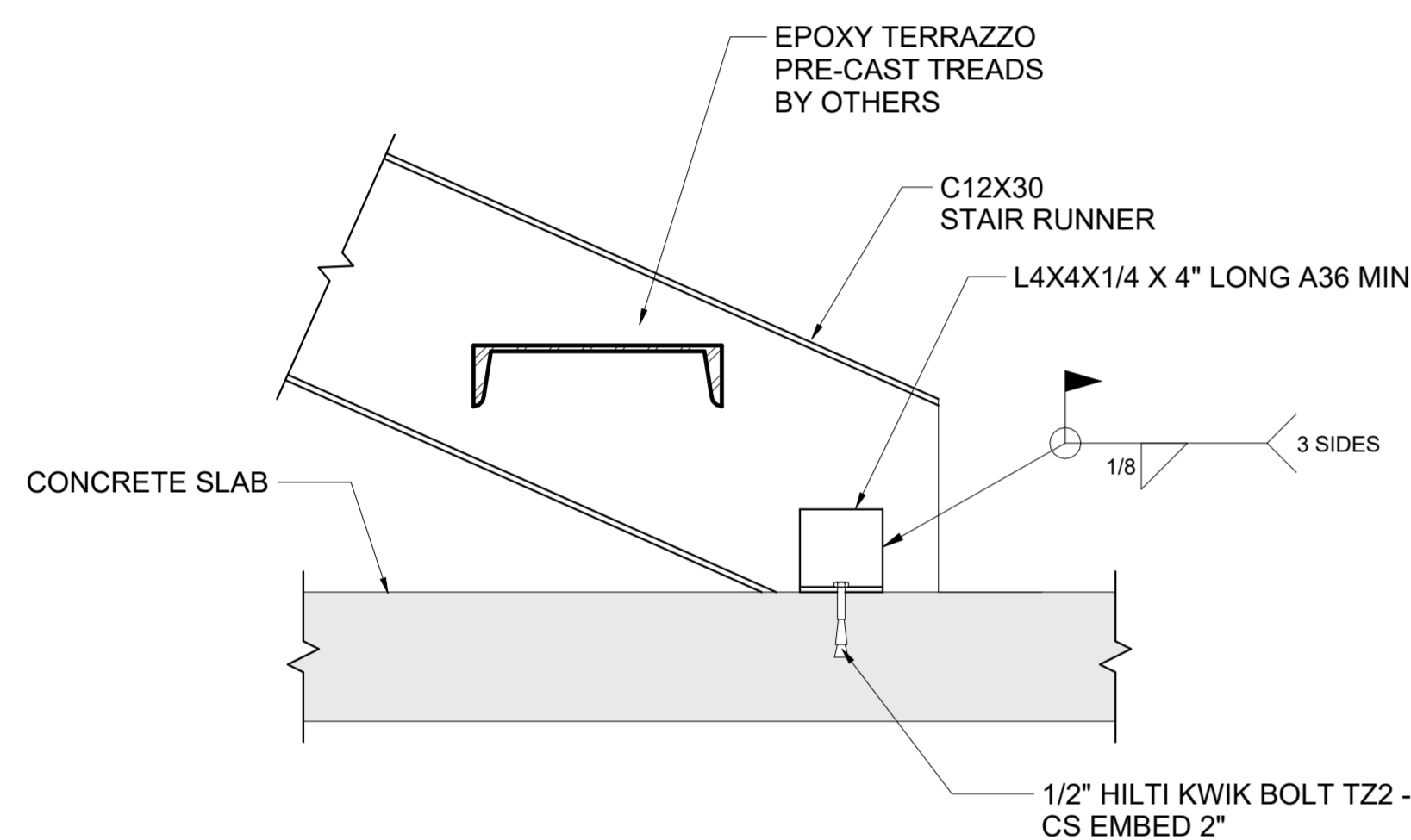
1 SECTION
1/4" = 1'-0"



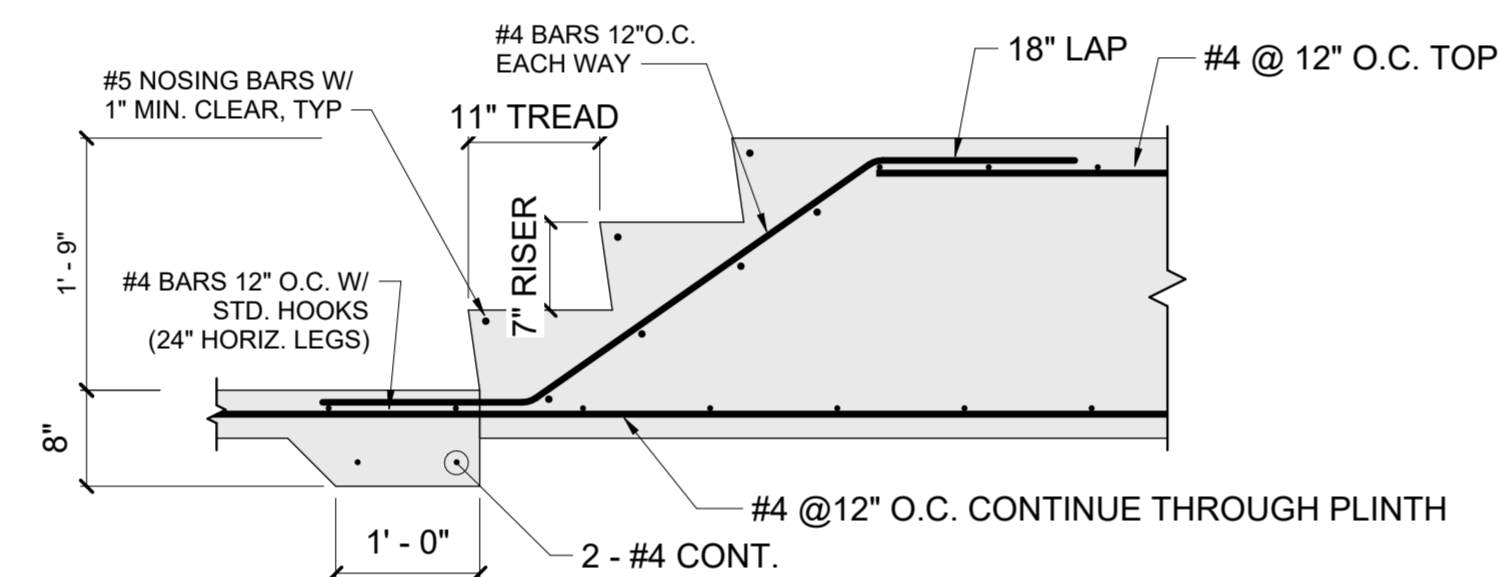
2 DETAIL
1 1/2" = 1'-0"



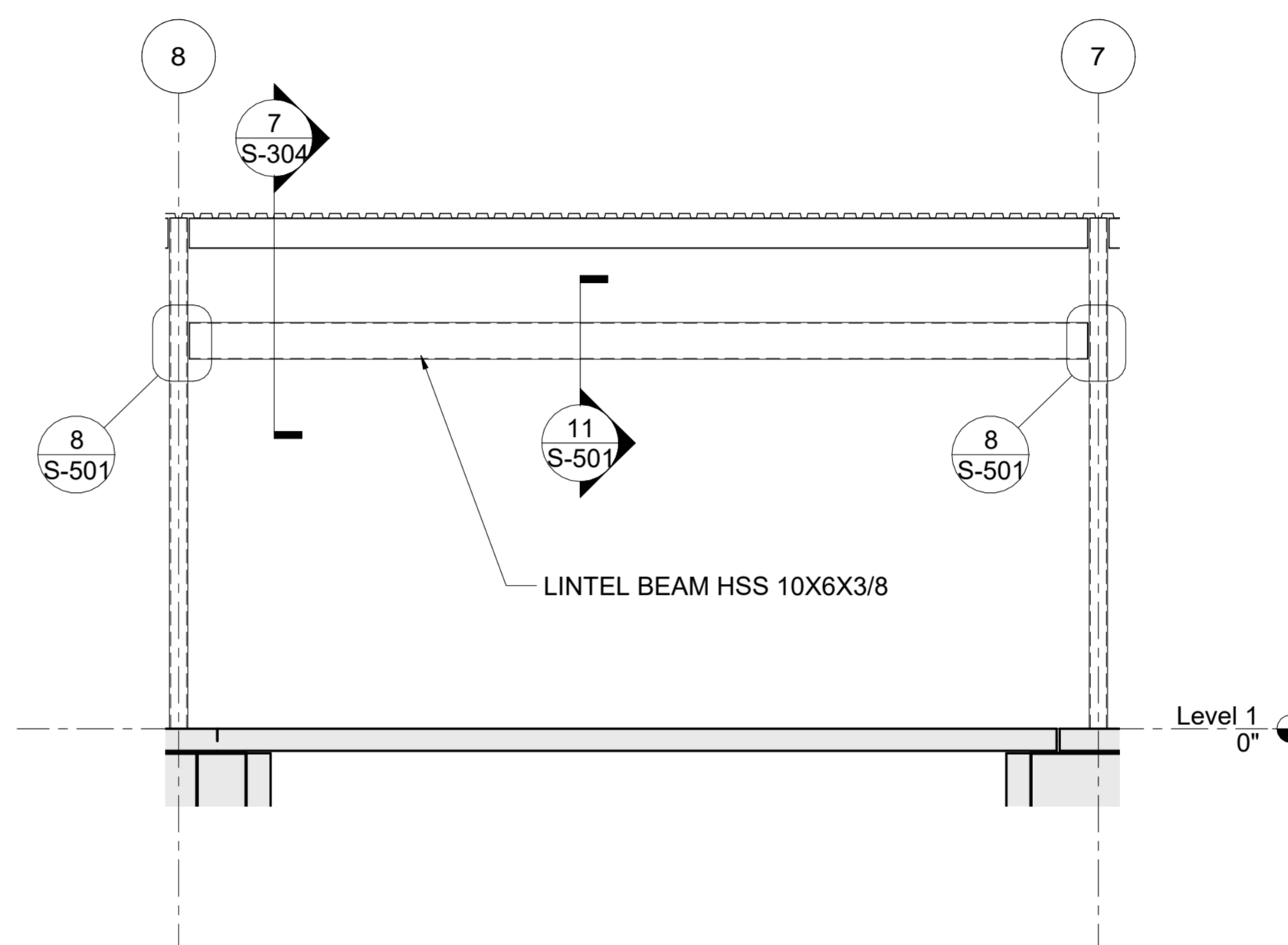
3 DETAIL
1 1/2" = 1'-0"



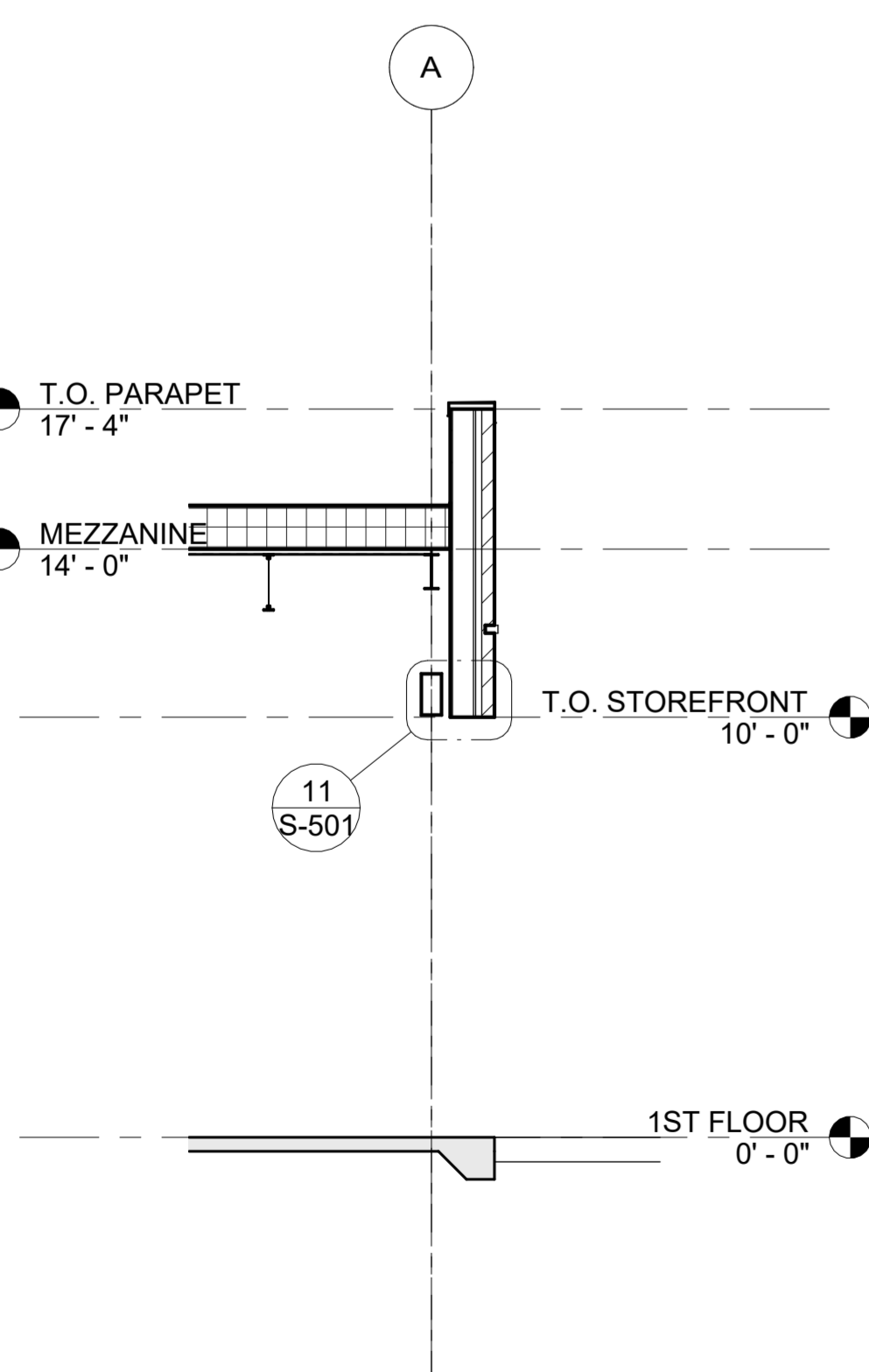
4 DETAIL
1 1/2" = 1'-0"



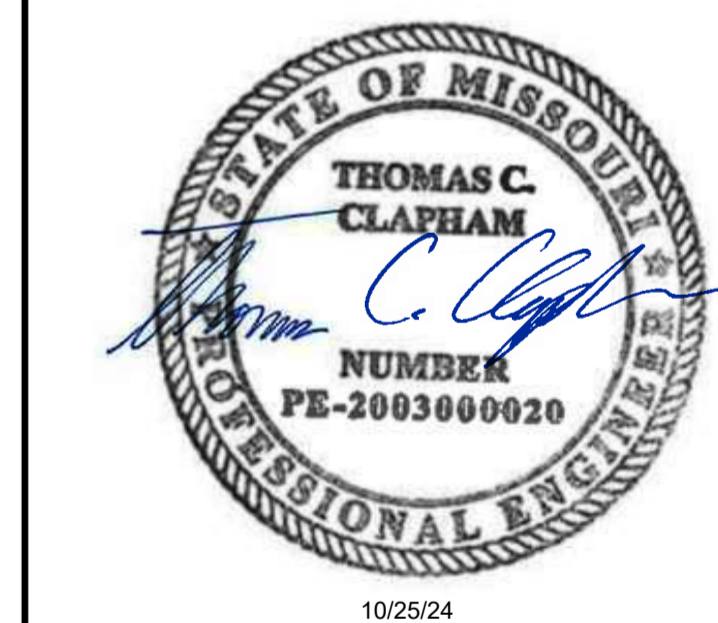
5 CONCRETE STAIRS AT PLINTH
3/4" = 1'-0"



6 ELEVATION AT LINTEL
1/4" = 1'-0"



7 LINTEL
1/4" = 1'-0"



LEES SUMMIT MUNICIPAL AIRPORT AUTHORITY
LEES SUMMIT, MO

MARK DATE	DESCRIPTION
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CHECKED BY:	BLL
APPROVED BY:	Approver
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BUILDING SECTIONS

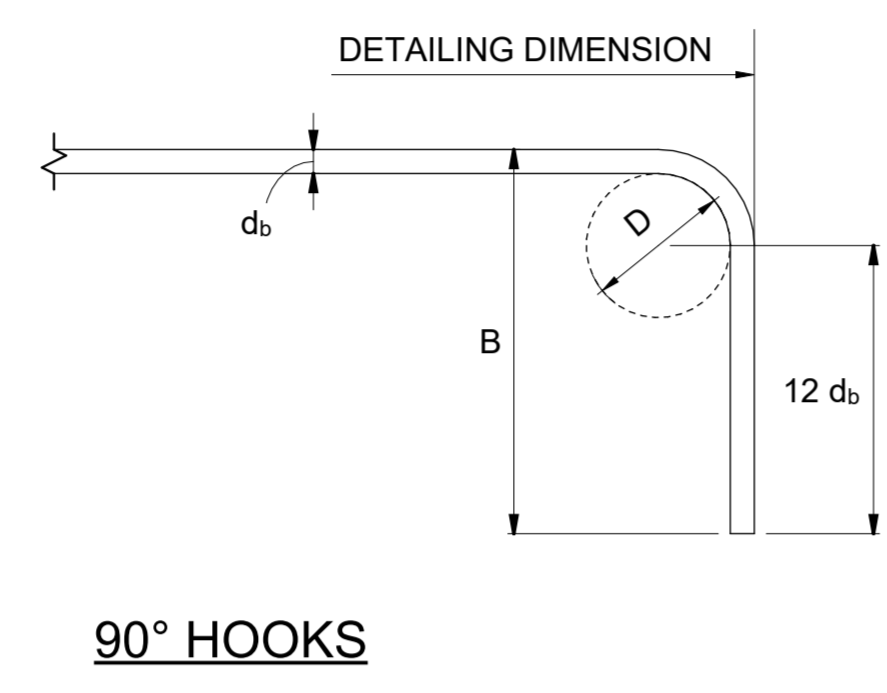
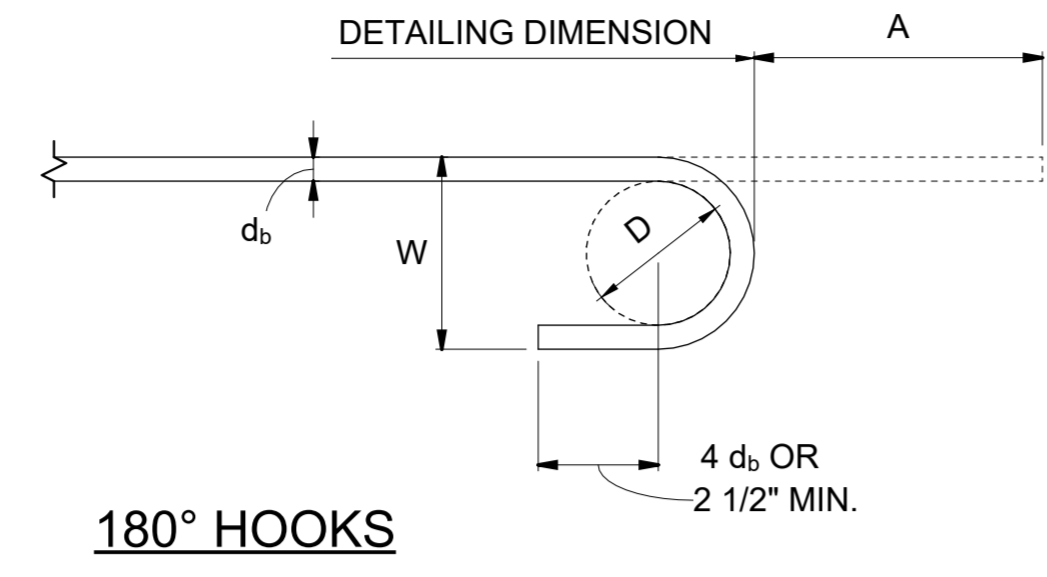
S-304

KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

TYPICAL LAP SPLICE LENGTHS IN INCHES, PER ACI 318

BAR SIZE	LAP CLASS	f'c = 3,000 psi		f'c = 4,000 psi		f'c = 4,500 psi		f'c = 5,000 psi	
		CAT. 1	CAT. 2	CAT. 1	CAT. 2	CAT. 1	CAT. 2	CAT. 1	CAT. 2
#4	A	22	33	19	28	18	27	17	25
	B	28	43	25	37	24	35	22	33
#5	A	27	41	24	36	23	34	21	32
	B	36	53	31	46	30	44	28	41
#6	A	33	49	28	43	27	41	25	38
	B	43	64	37	55	36	53	33	50
#7	A	48	72	42	62	40	59	37	56
	B	62	93	54	81	51	77	48	72
#8	A	55	82	47	71	45	68	42	64
	B	71	106	61	92	58	88	55	83
#9	A	62	92	53	80	51	76	48	72
	B	80	120	69	104	66	99	62	93
#10	A	70	105	61	91	57	86	54	81
	B	91	136	79	118	74	111	71	106

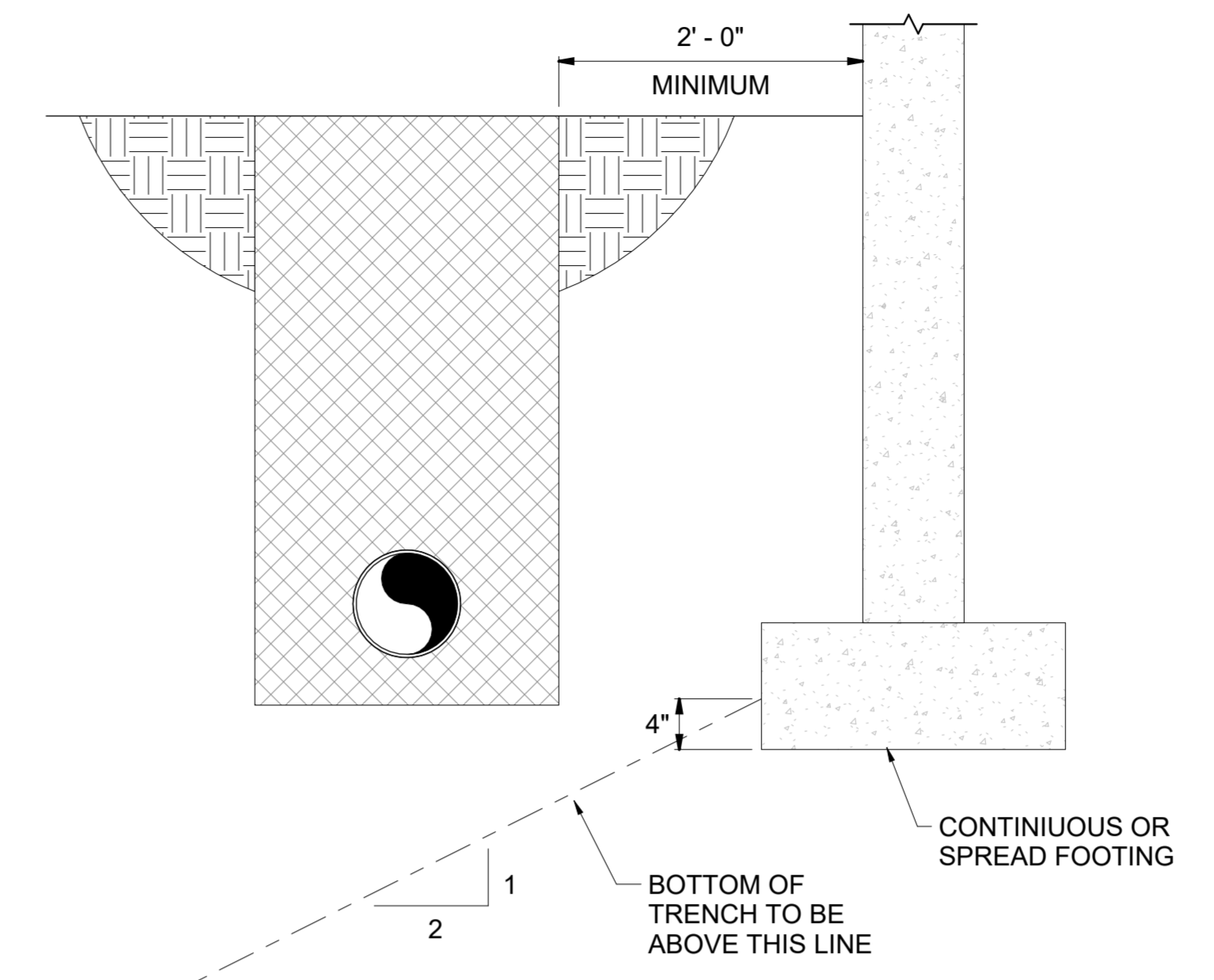
- NOTES:**
- FOR GRADE 60 REINFORCING STEEL BARS.
 - ALL LAP SPLICES SHALL BE CLASS B, UNLESS OTHERWISE NOTED.
 - LENGTH TO BE SELECTED BY CATEGORY OF BARS BEING SPLICED:
 - CATEGORY 1: CLEAR COVER $\geq d_b$ AND CLEAR SPACING $\geq d_b$, AND STIRRUPS OR TIES THROUGHOUT L_d ARE PROVIDED.
 - CATEGORY 2: CLEAR COVER $\geq d_b$ AND CLEAR SPACING $\geq 2d_b$.
 - CATEGORY 3: CLEAR COVER $>< d_b$ OR CLEAR SPACING $< 2d_b$.
 - FOR TOP BARS, MULTIPLY LAP LENGTH LISTED BY 1.30. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BARS.
 - FOR EPOXY COATED BARS, LAP LENGTHS SHALL BE MULTIPLIED BY 1.20.



TYPICAL HOOK DIMENSIONS

BAR SIZE	D	180° HOOKS		90° HOOKS	
		A	W	B	
#3	2 1/4"	5"	3"	6"	
#4	3"	6"	4"	8"	
#5	3 3/4"	7"	5"	10"	
#6	4 1/2"	8"	6"	12"	
#7	5 1/4"	10"	7"	14"	
#8	6"	11"	8"	16"	
#9	9 1/2"	15"	11 3/4"	19"	
#10	10 3/4"	17"	13 1/4"	22"	
#11	12"	19"	14 3/4"	24"	

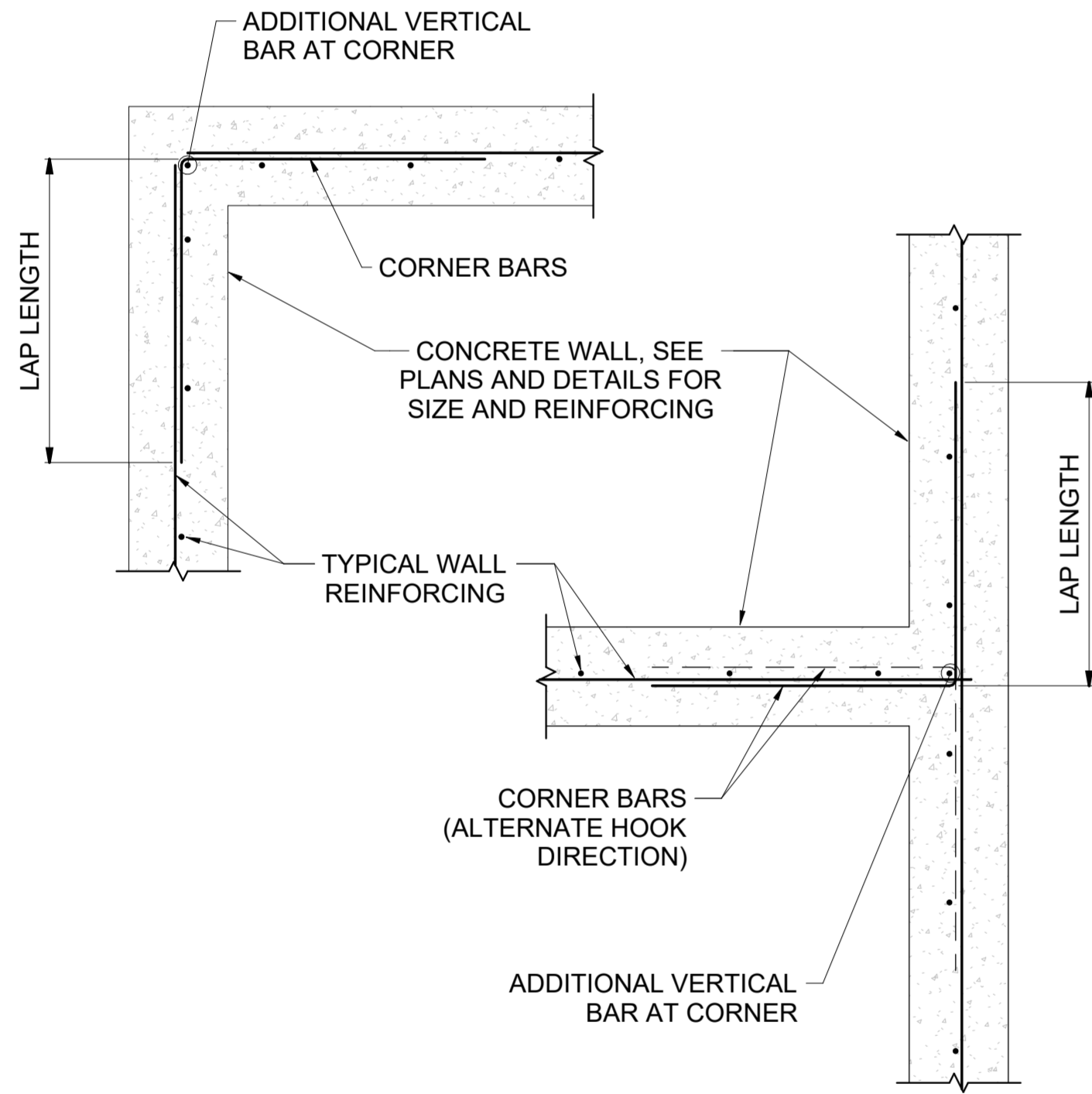
- NOTES:**
- d_b = NOMINAL BAR DIAMETER
 - D = FINISHED INSIDE BEND DIAMETER
 - MINIMUM D = $6d_b$, FOR #3 TO #8 BARS.
 - MINIMUM D = $8d_b$, FOR #9 TO #11 BARS.
 - MINIMUM D = $10d_b$, FOR #14 TO #18 BARS.



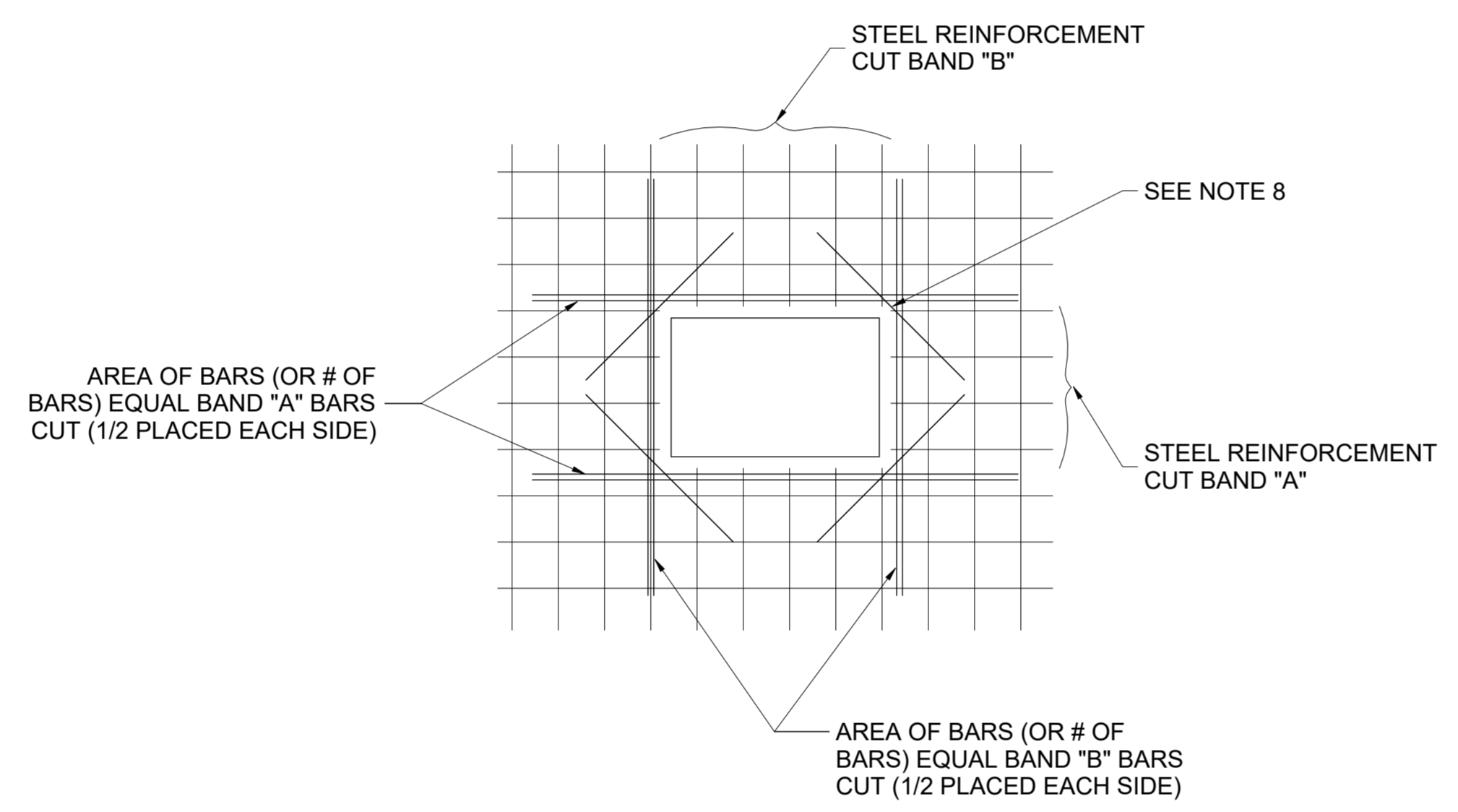
1 Typical Lap Splice Lengths in Inches

2 Typical Rebar Hooks

3 Pipe Parallel to Footing

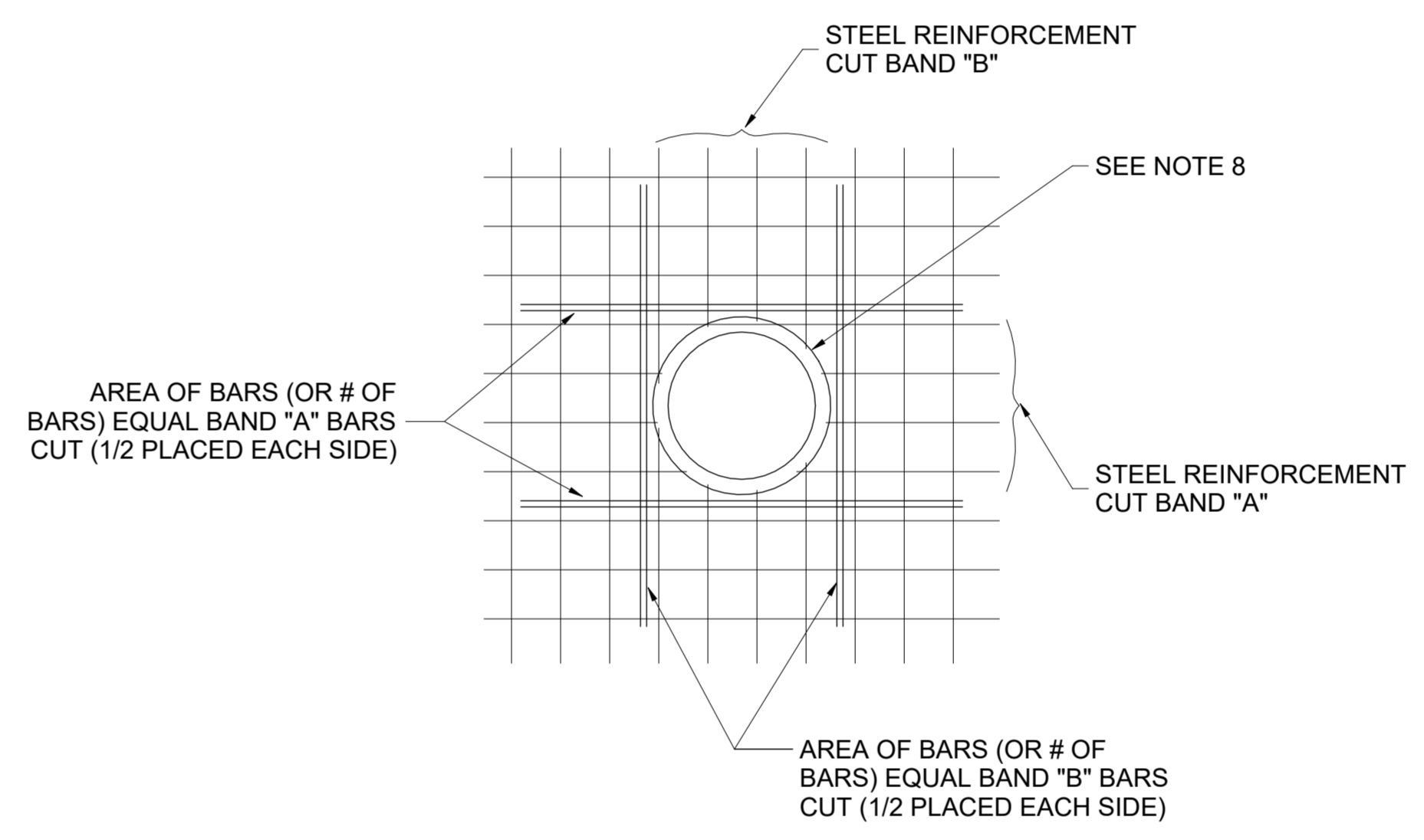


4 Corner Reinforcement for Concrete Walls - Single Mat



- NOTES:**
- TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS INDICATED OTHERWISE ON PLANS.
 - COORDINATE PLACEMENT OF ALL PIPING AND REINFORCING STEEL SO THAT NO CONTACT EXISTS BETWEEN TWO METALS.
 - DO NOT WELD REINFORCEMENT TO PIPE SLEEVES, INSERTS OR EMBEDMENTS.
 - PROVIDE A MINIMUM OF TWO (2) "A" BARS AND TWO (2) "B" BARS EACH SIDE OF OPENING (ONE EACH FACE).
 - SPACE BARS AT 3 BAR DIAMETERS (OR 3" MIN.) ON CENTER.
 - IF OPENING REINFORCING TERMINATES AT THE EDGE OF THE SLAB PROVIDE A STANDARD HOOK ON THE "EDGE" SIDE OF THE REINFORCING.
 - CONTINUE SPLICE REINFORCEMENT THROUGH ON SPAN LENGTH PLUS REQUIRED EMBEDMENT LENGTH.
 - PROVIDE DIAGONAL BARS ACCORDING TO THE FOLLOWING:
 - OPENINGS UP TO 30" WIDE: (1) #5 x 4'-0" AT EACH CORNER, EACH FACE.
 - OPENINGS GREATER THAN 30" WIDE: (1) #5 x 6'-0" AT EACH CORNER, EACH FACE.

5 Typical Opening Reinforcement - Rectangular



- NOTES:**
- TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS AND SLABS UNLESS INDICATED OTHERWISE ON PLANS.
 - COORDINATE PLACEMENT OF ALL PIPING AND REINFORCING STEEL SO THAT NO CONTACT EXISTS BETWEEN TWO METALS.
 - DO NOT WELD REINFORCEMENT TO PIPE SLEEVES, INSERTS OR EMBEDMENTS.
 - PROVIDE A MINIMUM OF TWO (2) "A" BARS AND TWO (2) "B" BARS EACH SIDE OF OPENING (ONE EACH FACE).
 - SPACE BARS AT 3 BAR DIAMETERS (OR 3" MIN.) ON CENTER.
 - IF OPENING REINFORCING TERMINATES AT THE EDGE OF THE SLAB PROVIDE A STANDARD HOOK ON THE "EDGE" SIDE OF THE REINFORCING.
 - CONTINUE SPLICE REINFORCEMENT THROUGH ON SPAN LENGTH PLUS REQUIRED EMBEDMENT LENGTH.
 - PROVIDE HOOP BARS ACCORDING TO THE FOLLOWING:
 - OPENINGS UP TO 30" DIAMETER: (1) #4 BAR, DIAMETER OF OPENING + 8" WITH 12" LAP, EACH FACE.
 - OPENINGS GREATER THAN 30" DIAMETER: (1) #5 BAR, DIAMETER OF OPENING + 8" WITH 18" LAP, EACH FACE.
 - AT CIRCULAR OPENING PIPE PENETRATIONS, CONTRACTOR SHALL CAST PIPE IN SEEP RING.

6 Typical Opening Reinforcement - Circular



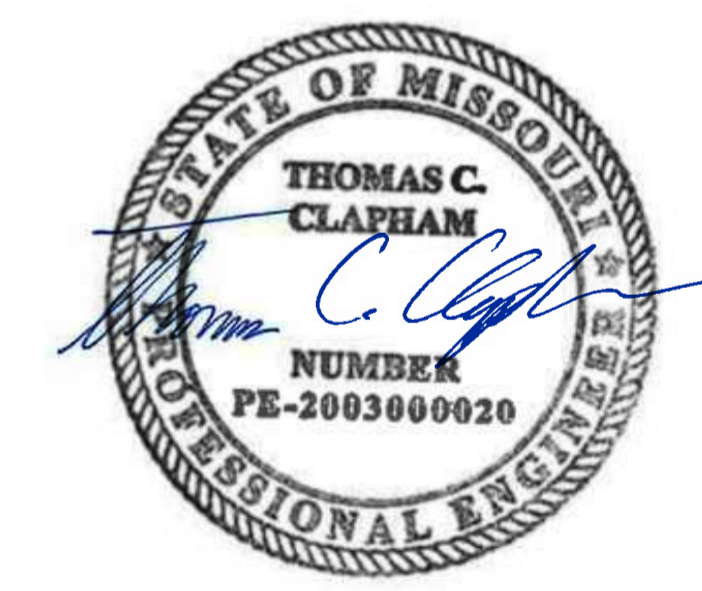
LEES SUMMIT MUNICIPAL AIRPORT AUTHORITY
LEES SUMMIT, MO

MARK DATE	DESCRIPTION
PROJECT NO:	24KC50013
CAD DWG FILE:	Lee's Summit - Hangar 2.rvt
DESIGNED BY:	JDH & BLL
DRAWN BY:	JDH
CHECKED BY:	BLL
APPROVED BY:	
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STANDARD DETAILS

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GENERAL AVIATION TERMINAL
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LEES SUMMIT, MO

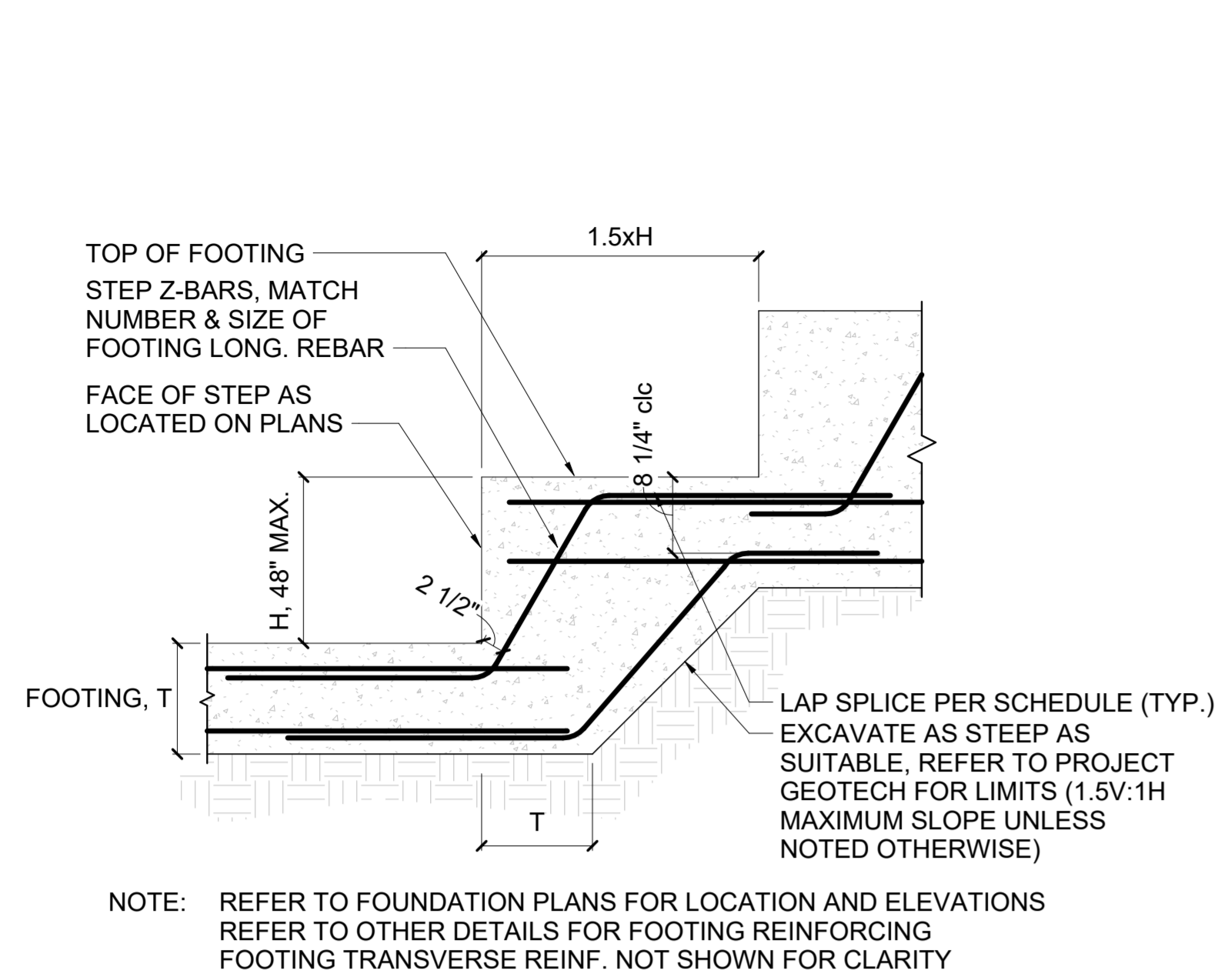
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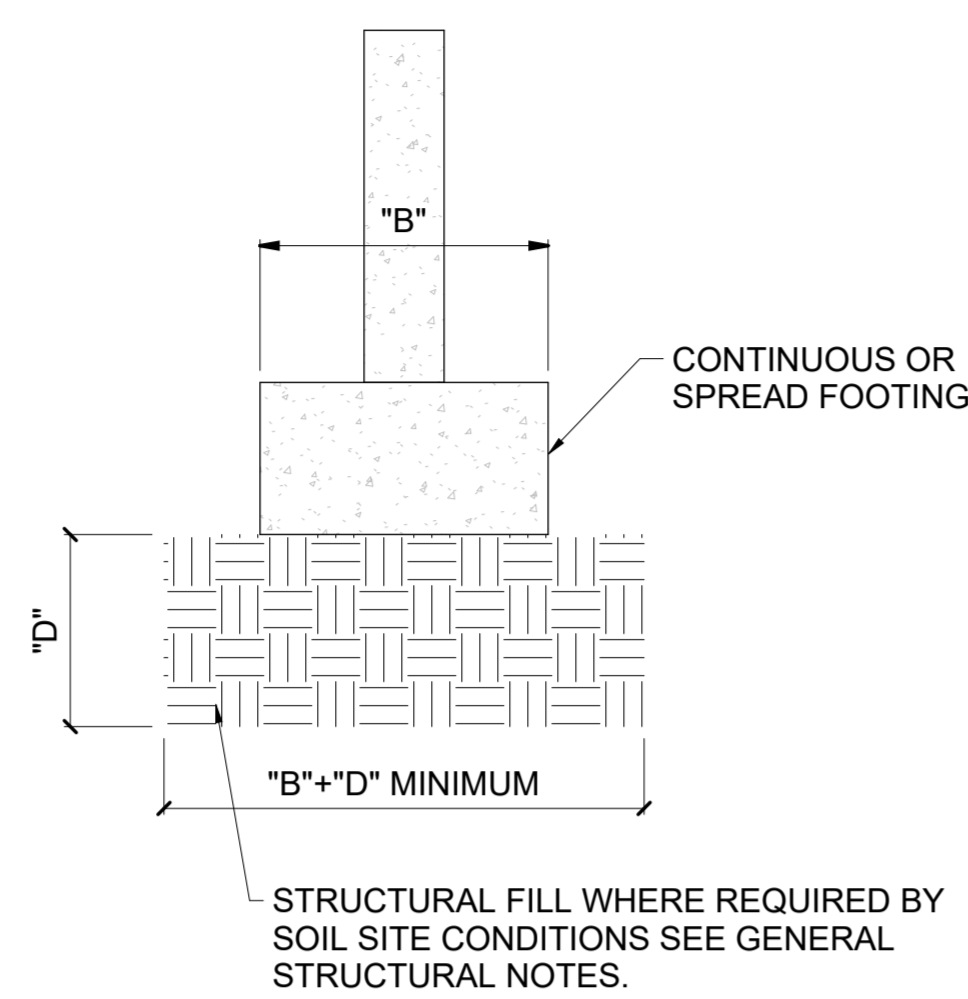
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STANDARD DETAILS

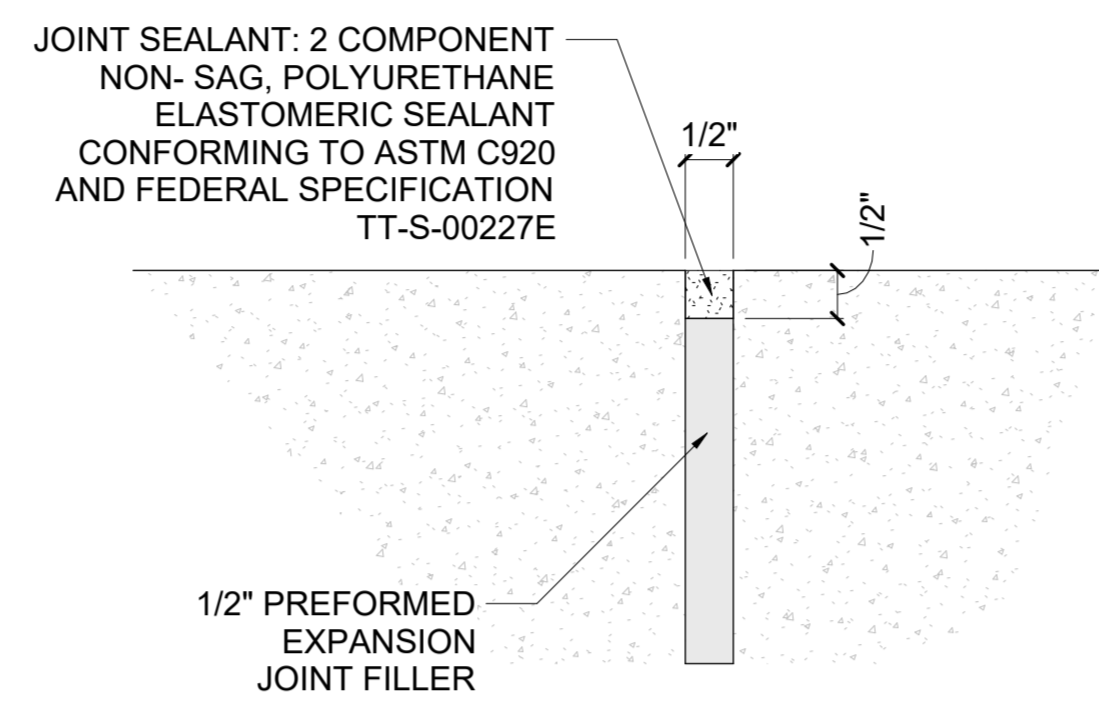
S-402



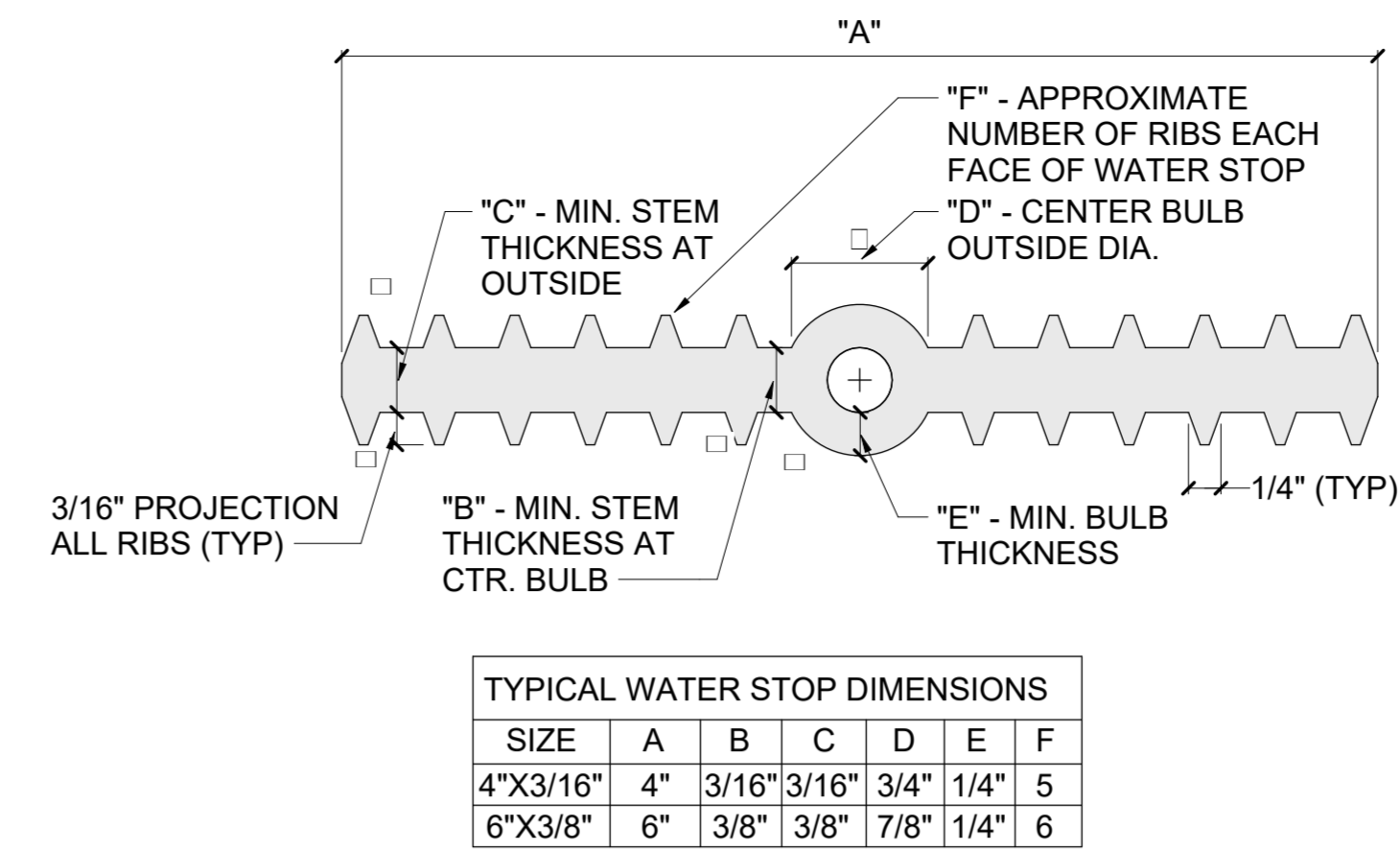
1 Typical Stepped Footing



2 Structural Fill



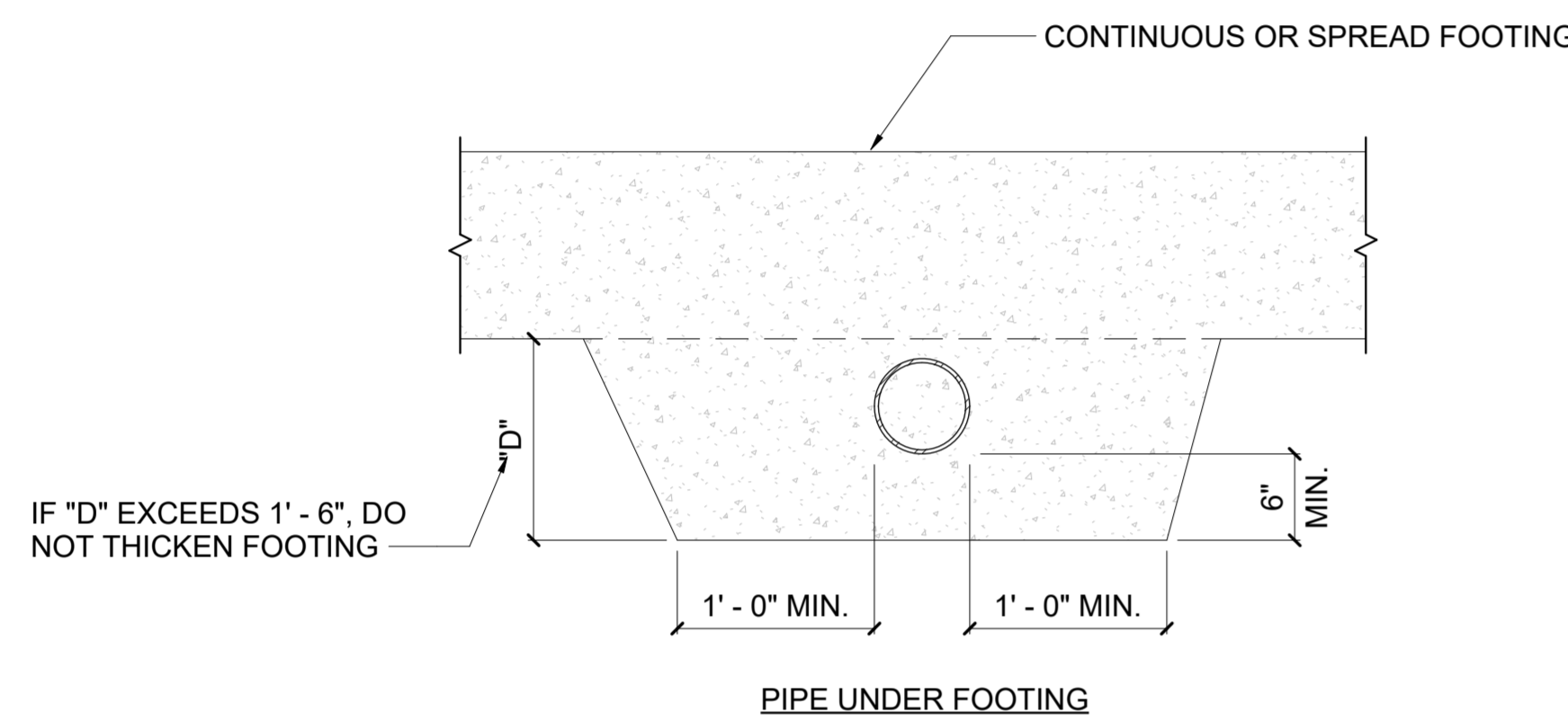
3 Expansion Joint Sealant



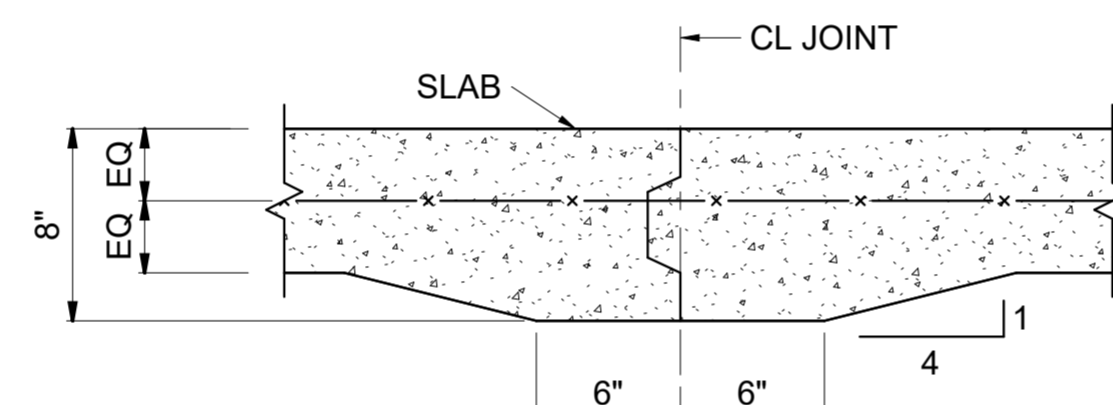
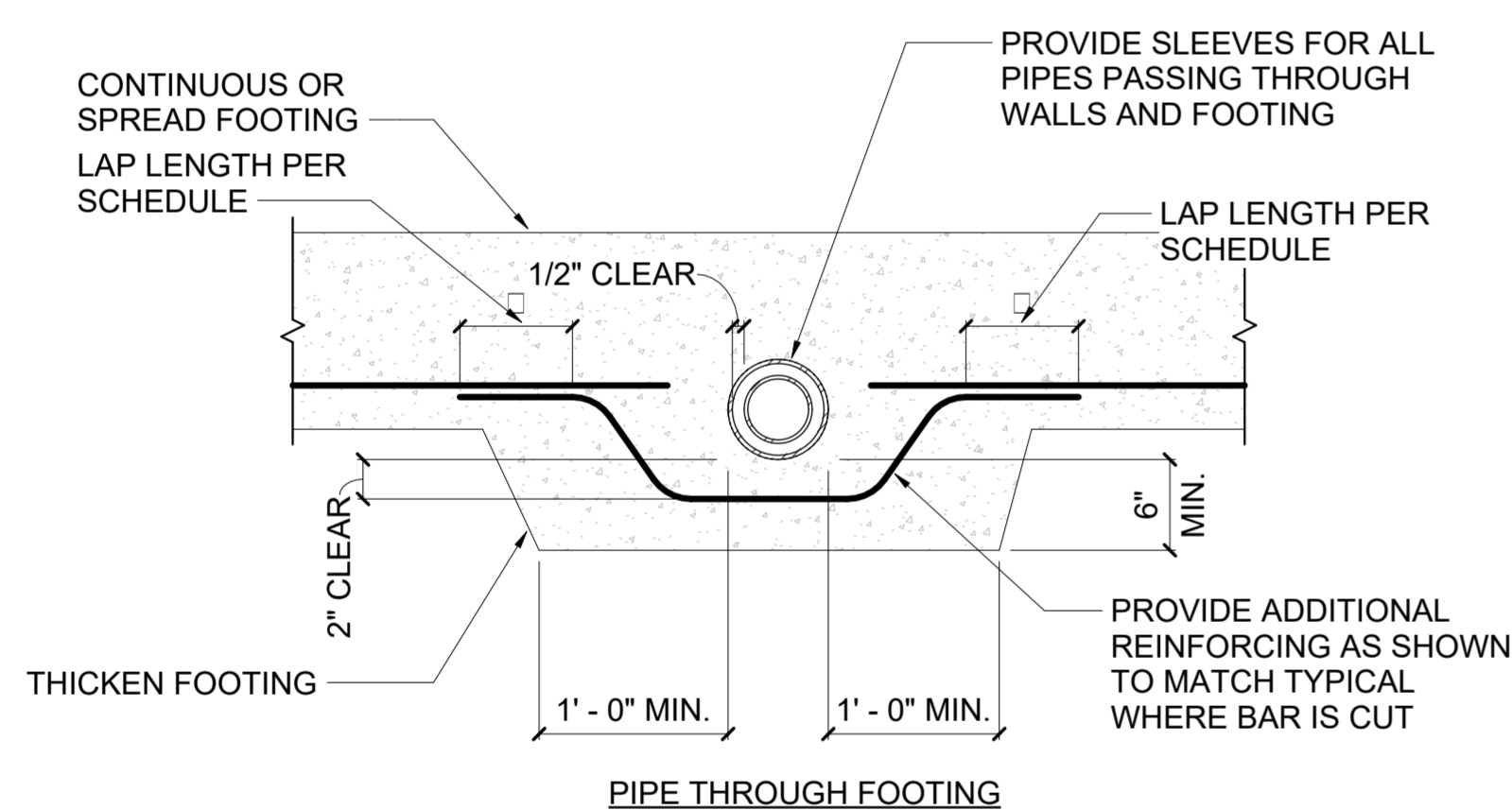
NOTES:

- PROVIDE PREFABRICATED INTERSECTION PIECES AND FULLY WELD ALL WATER STOP PIECES TOGETHER AT INTERSECTIONS PER MANUFACTURER'S REQUIREMENTS.
- INSTALL WATER STOP PER MANUFACTURER'S RECOMMENDATIONS. WATER STOP SHALL BE ENVELOPED WITH CONCRETE FREE OF AIR POCKETS AND DEBRIS. PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL DEMONSTRATE THE METHOD OF PLACEMENT OF THE CONCRETE AROUND THE WATER STOP TO THE ENGINEER.
- SEE THE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL WATER STOP REQUIREMENTS.

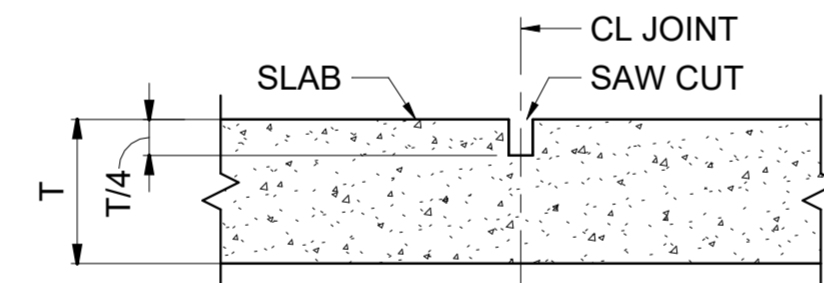
4 PVC Water Stop



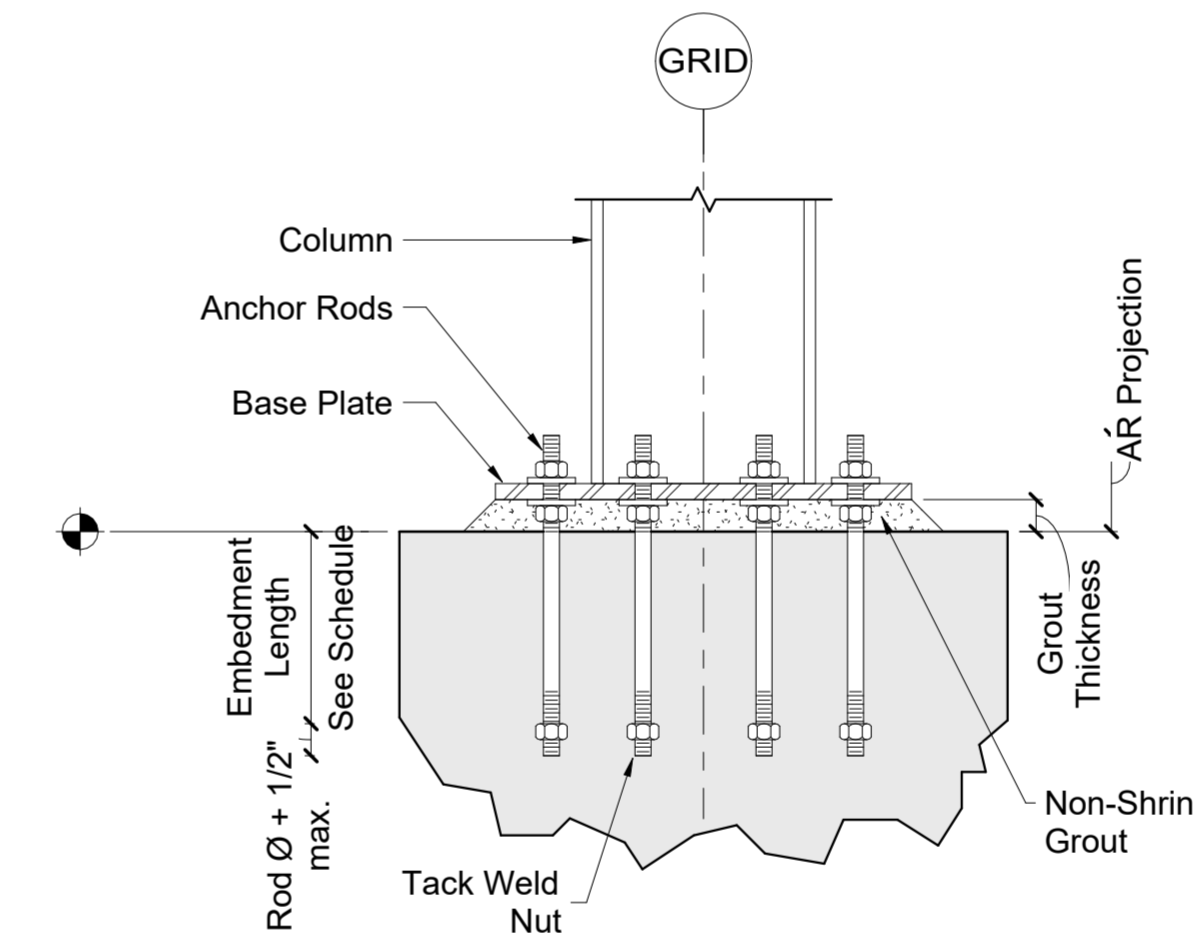
5 Pipe Perpendicular to Footing



6 Typical Construction Joint
1 1/2" = 1'-0"



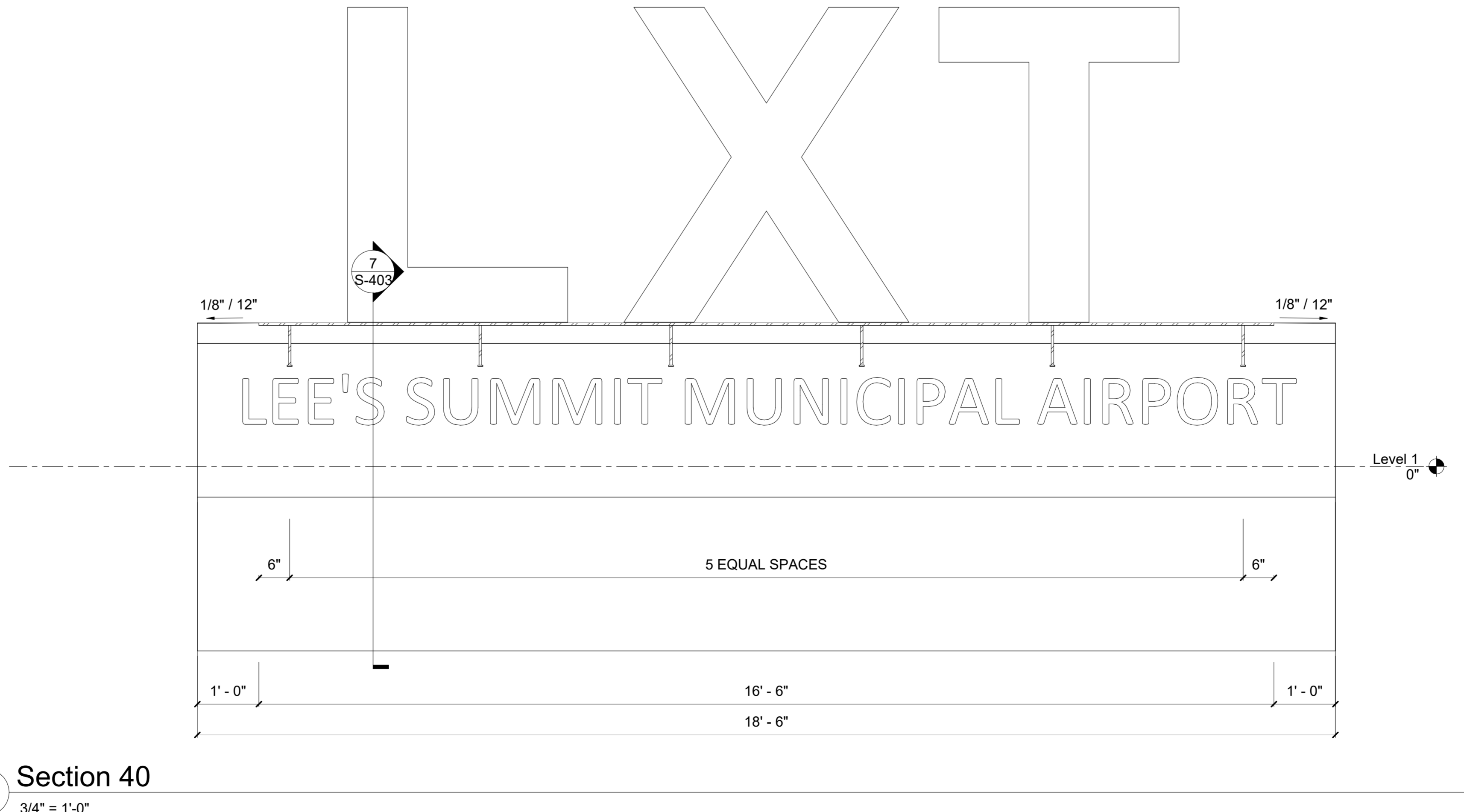
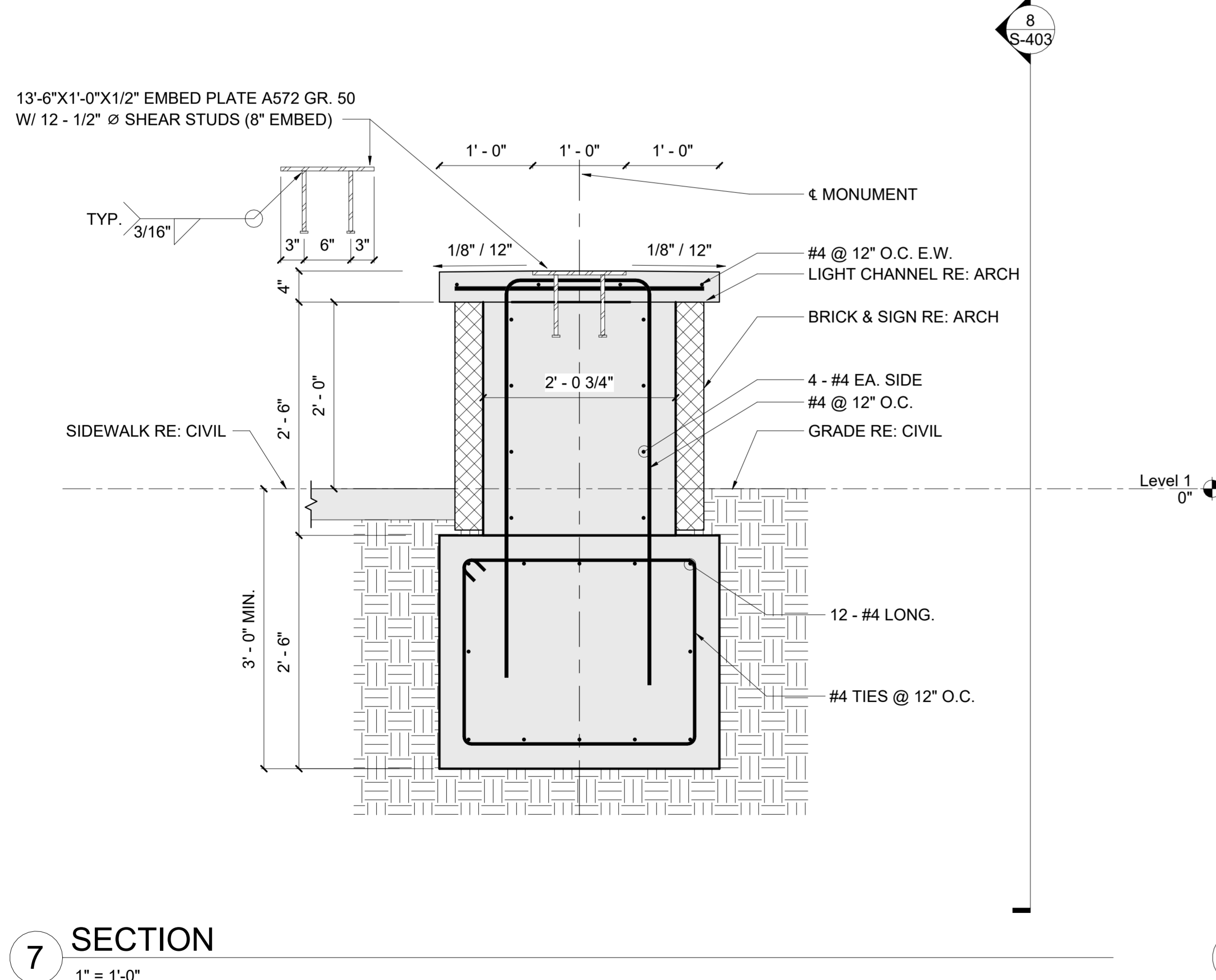
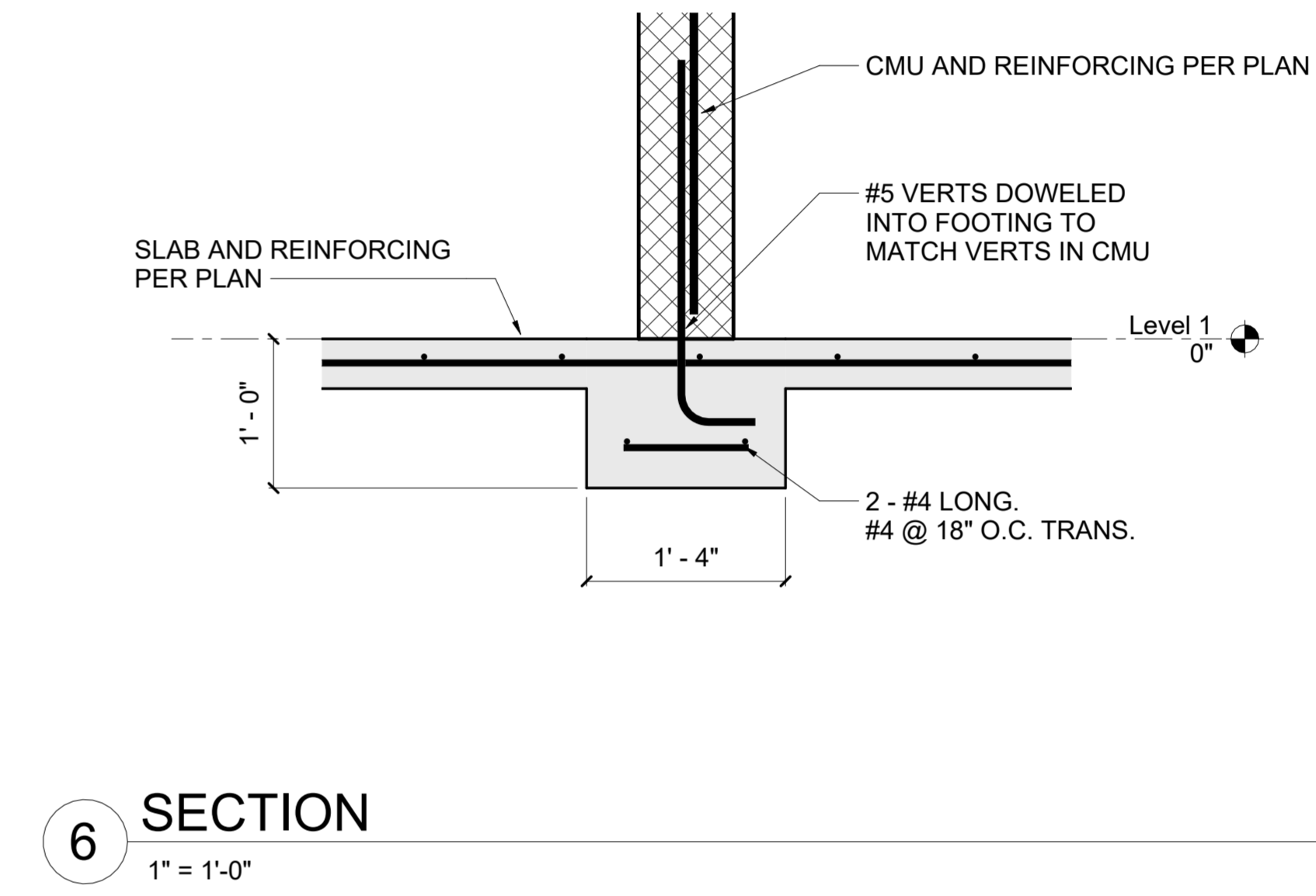
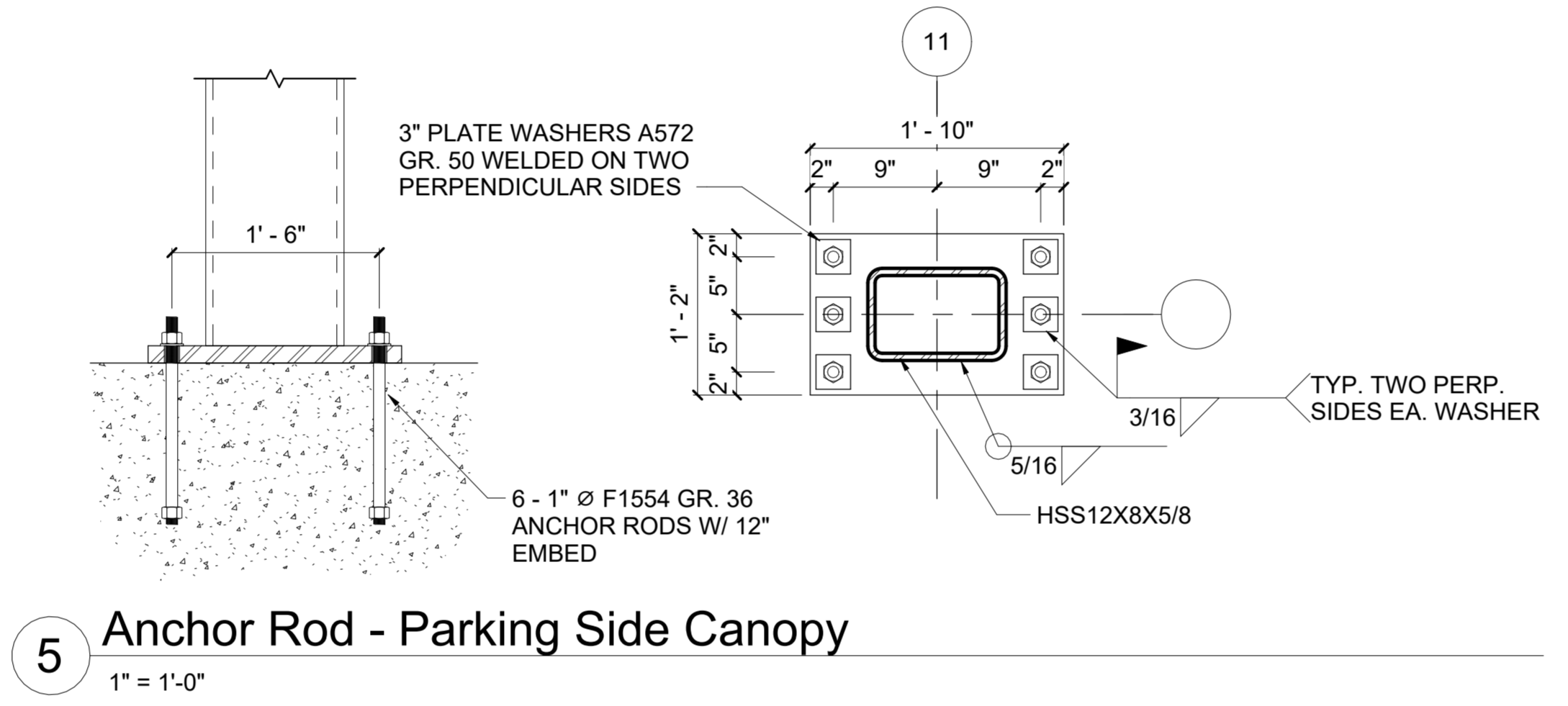
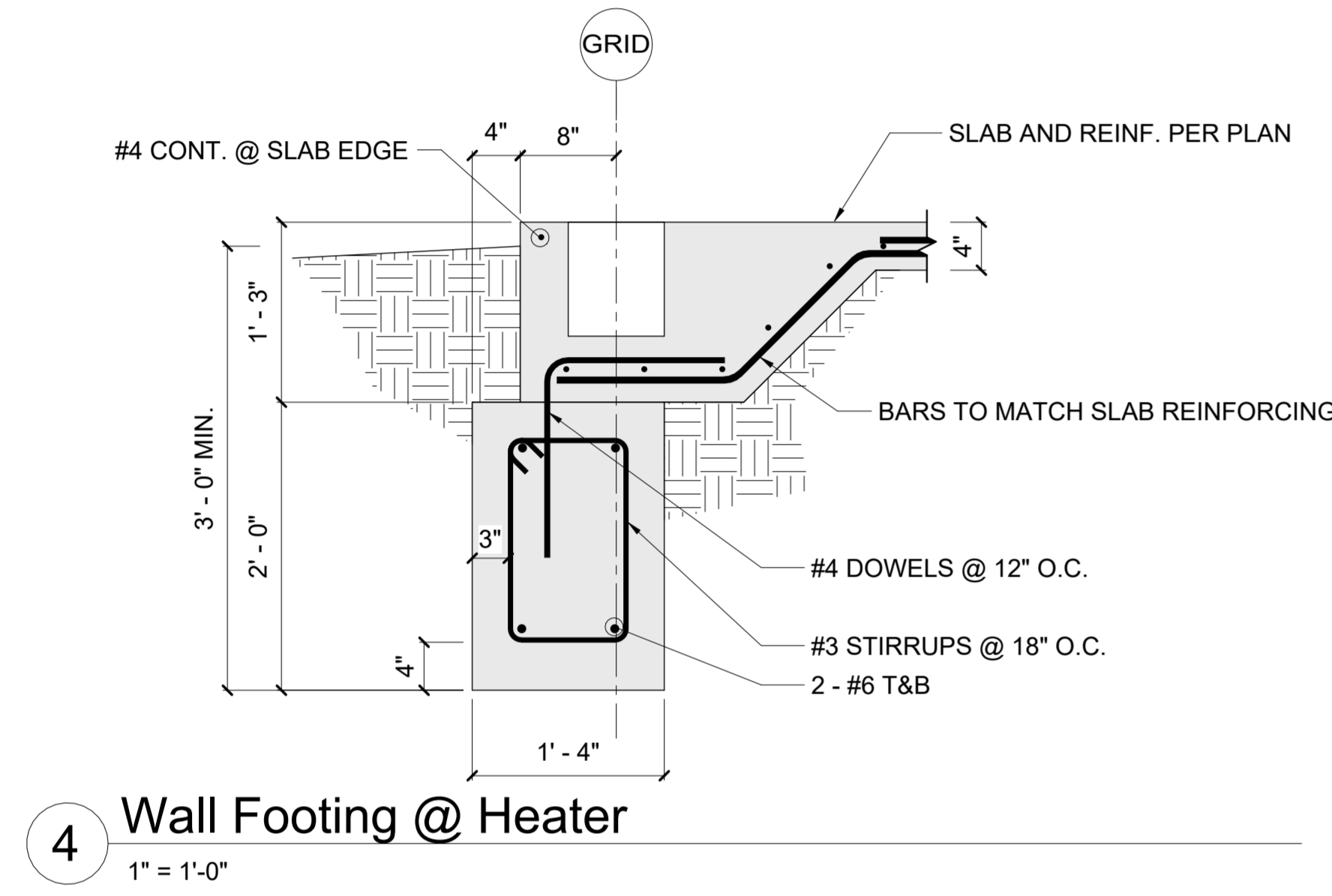
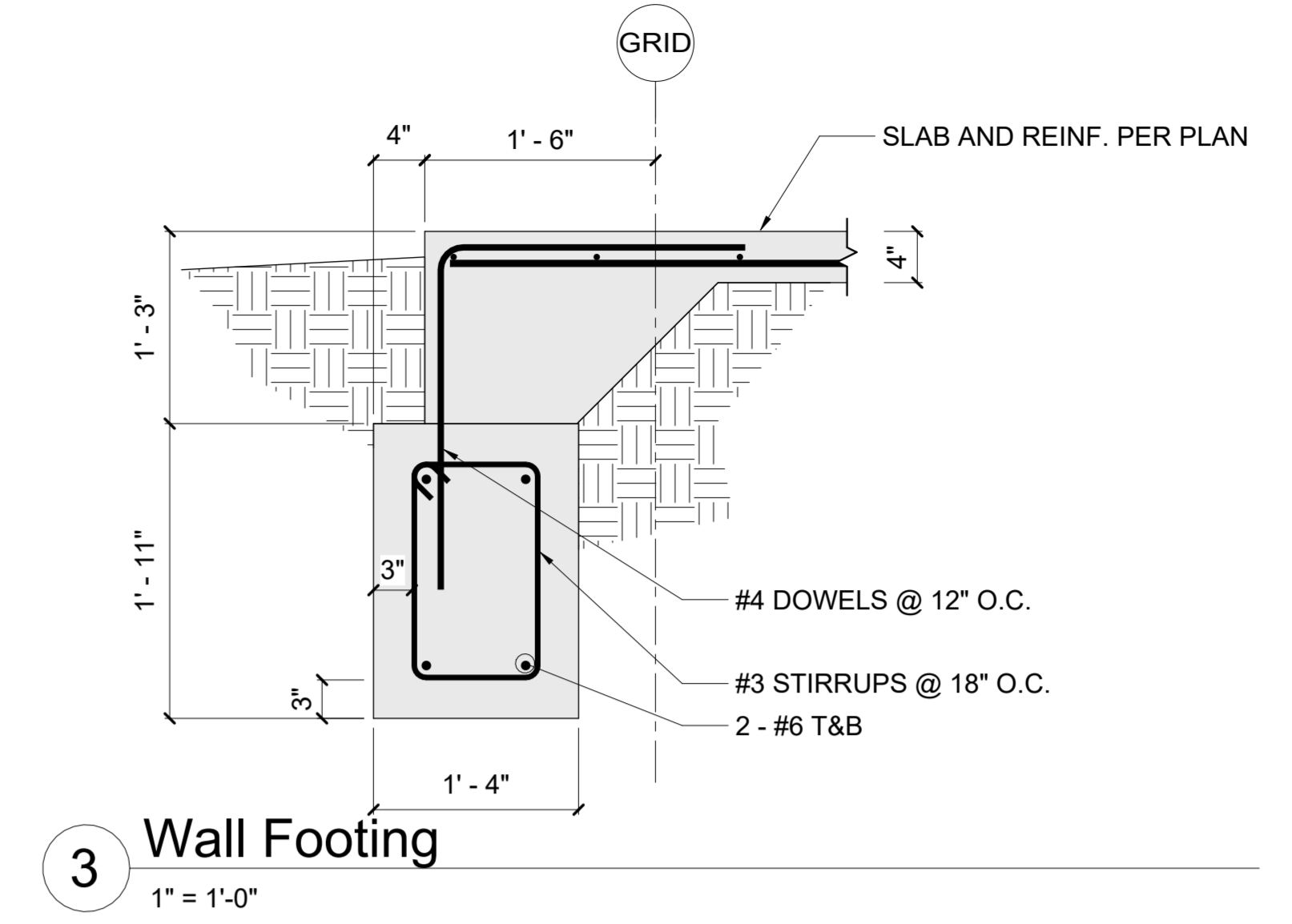
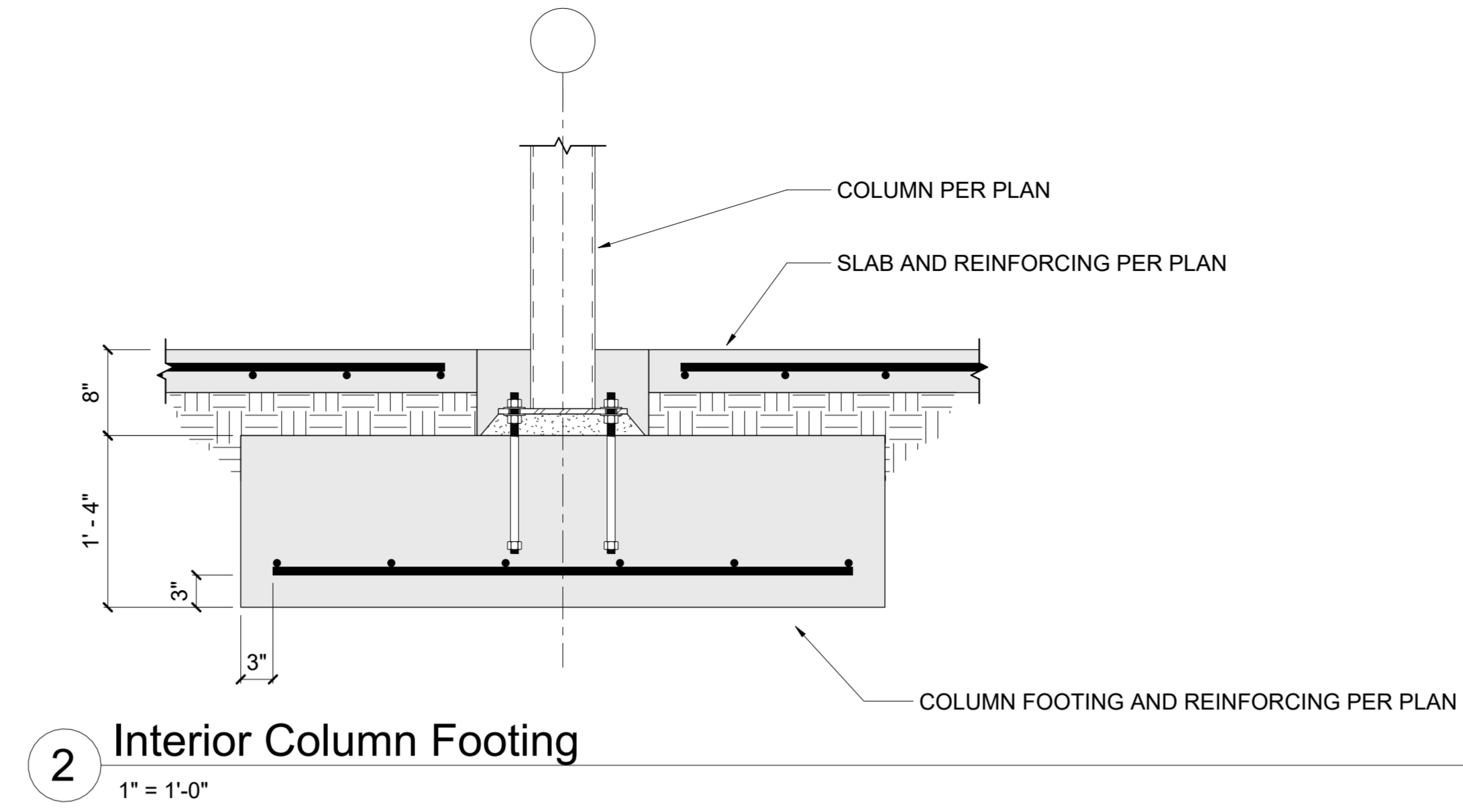
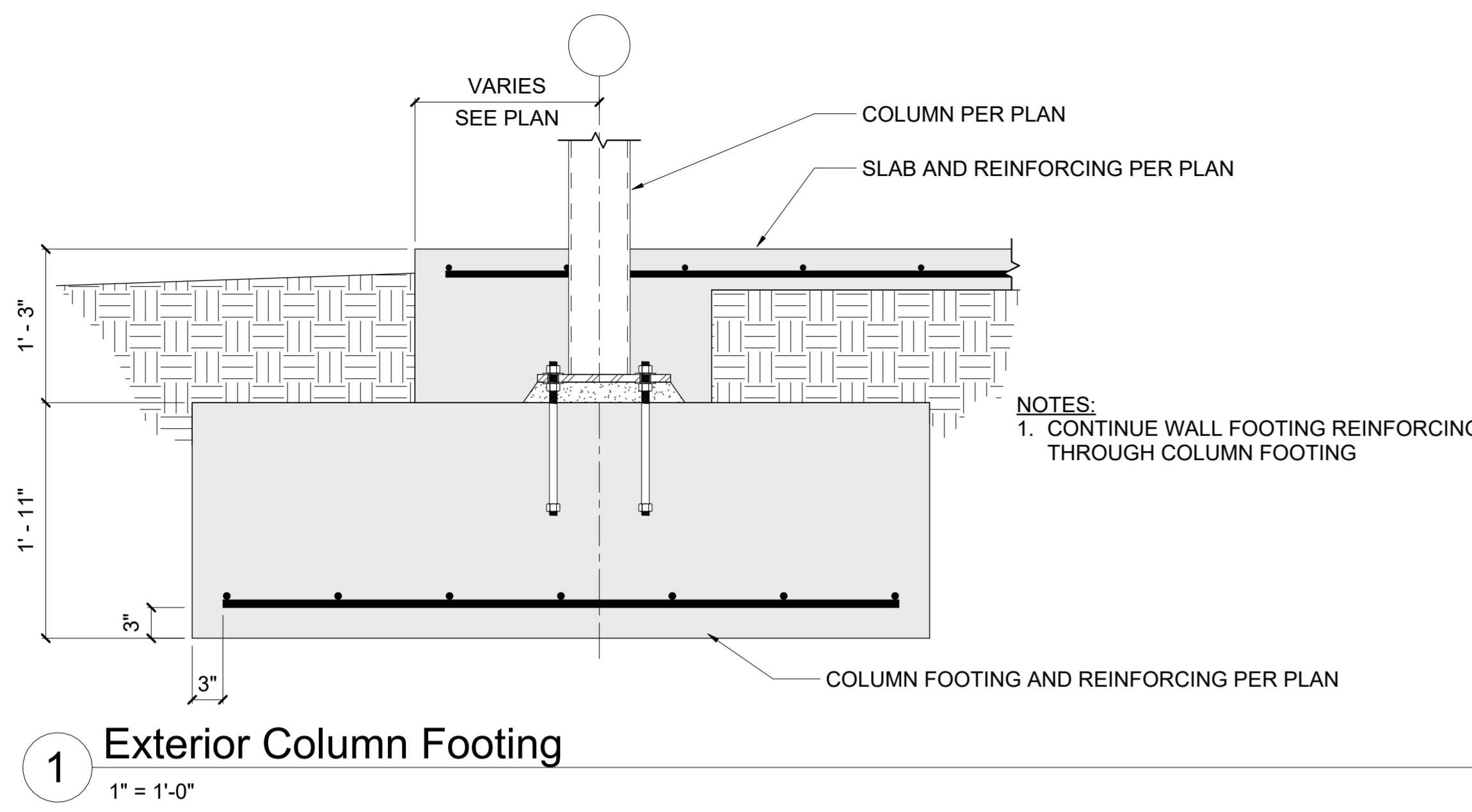
7 Typical Contraction Joint
1 1/2" = 1'-0"



8 Anchor Rod Detail
1" = 1'-0"

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LEES SUMMIT, MO

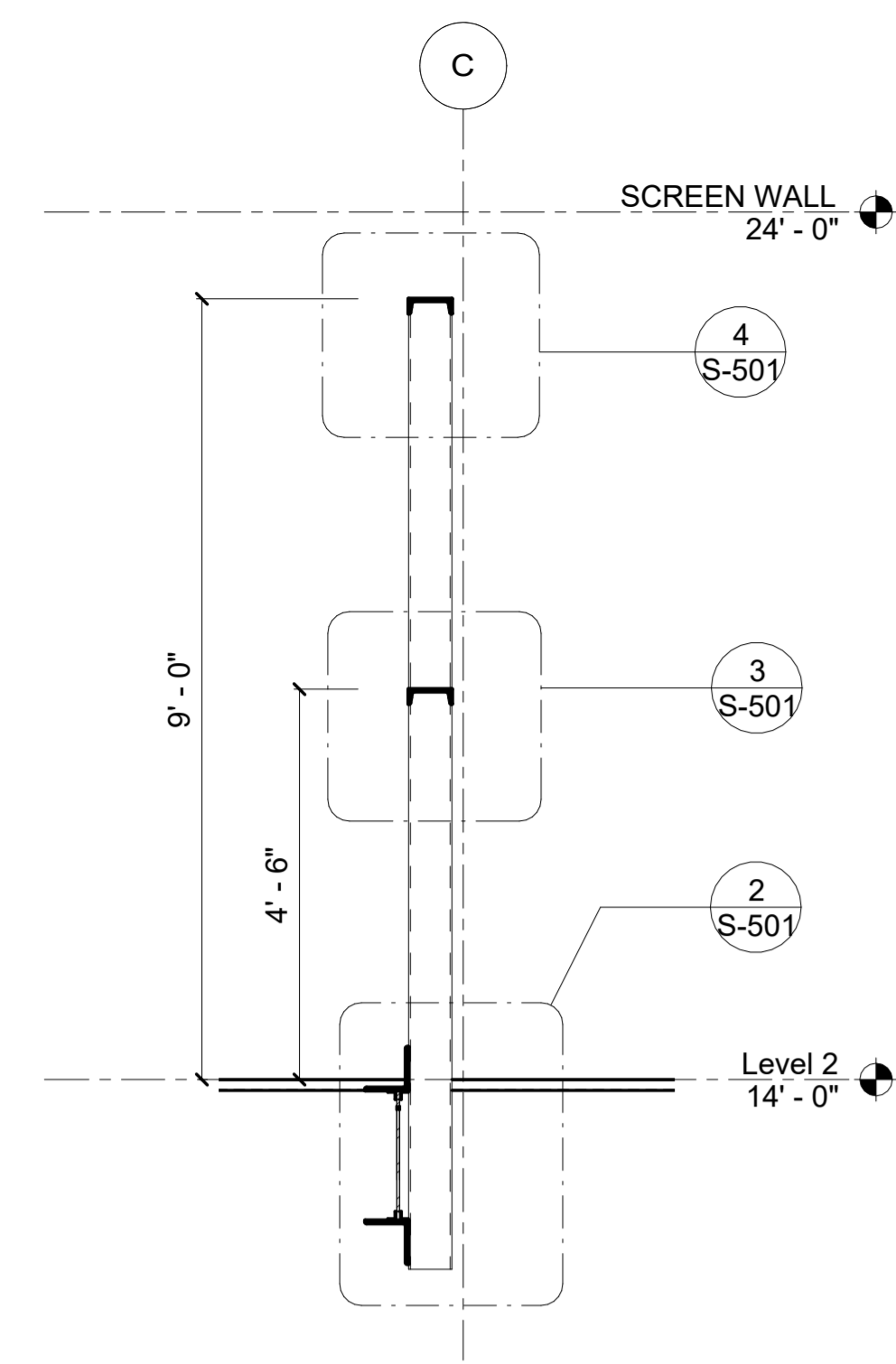
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FOUNDATION DETAILS

S-403

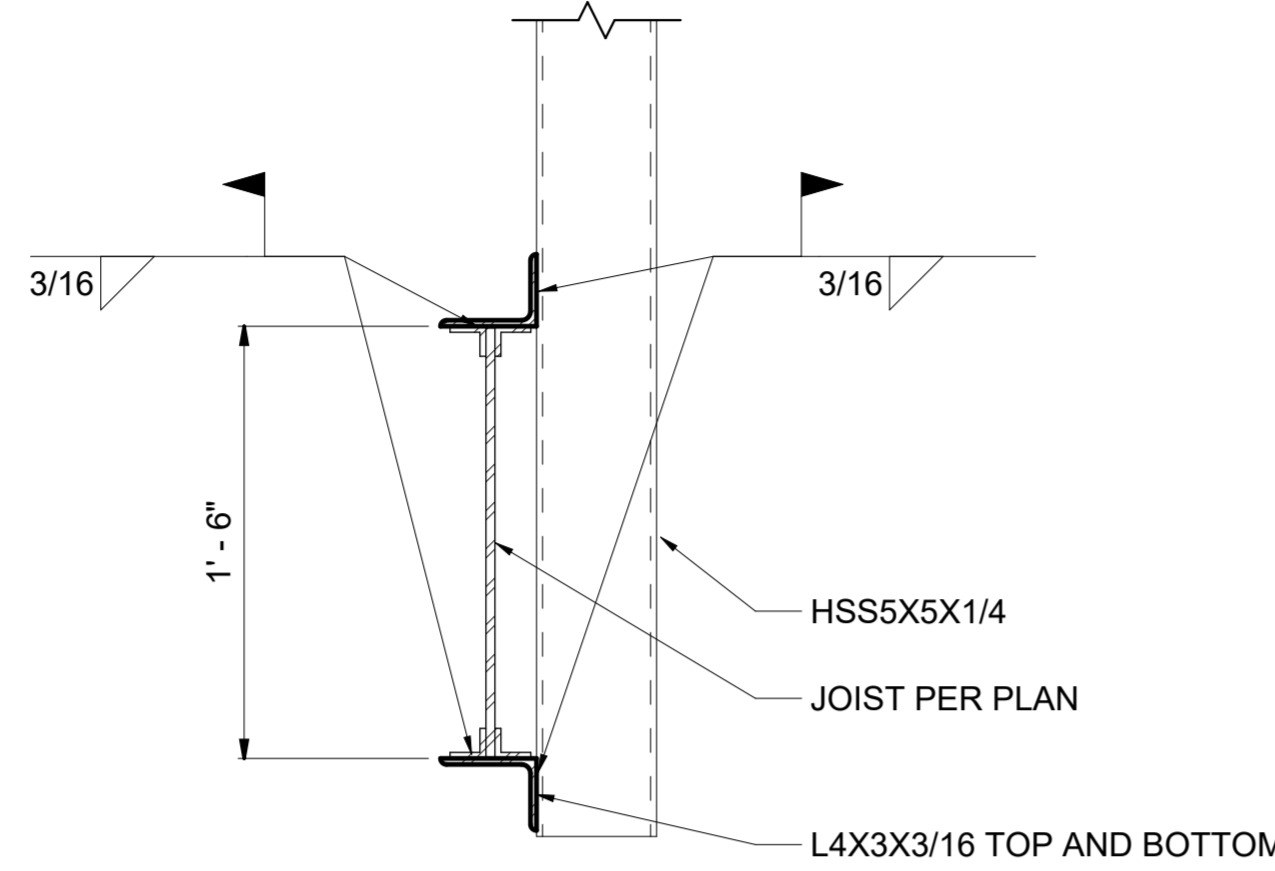
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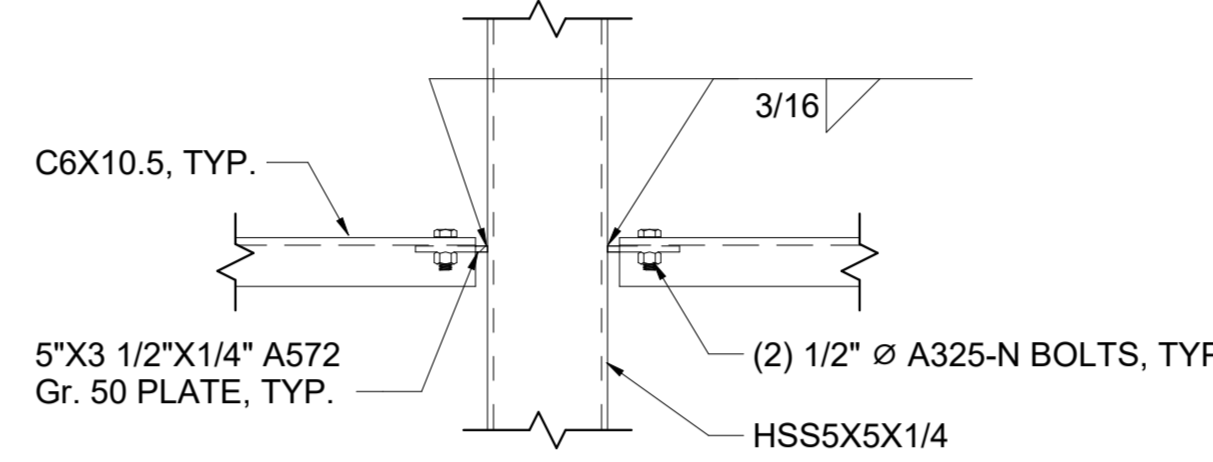


1 SECTION
1/2" = 1'-0"

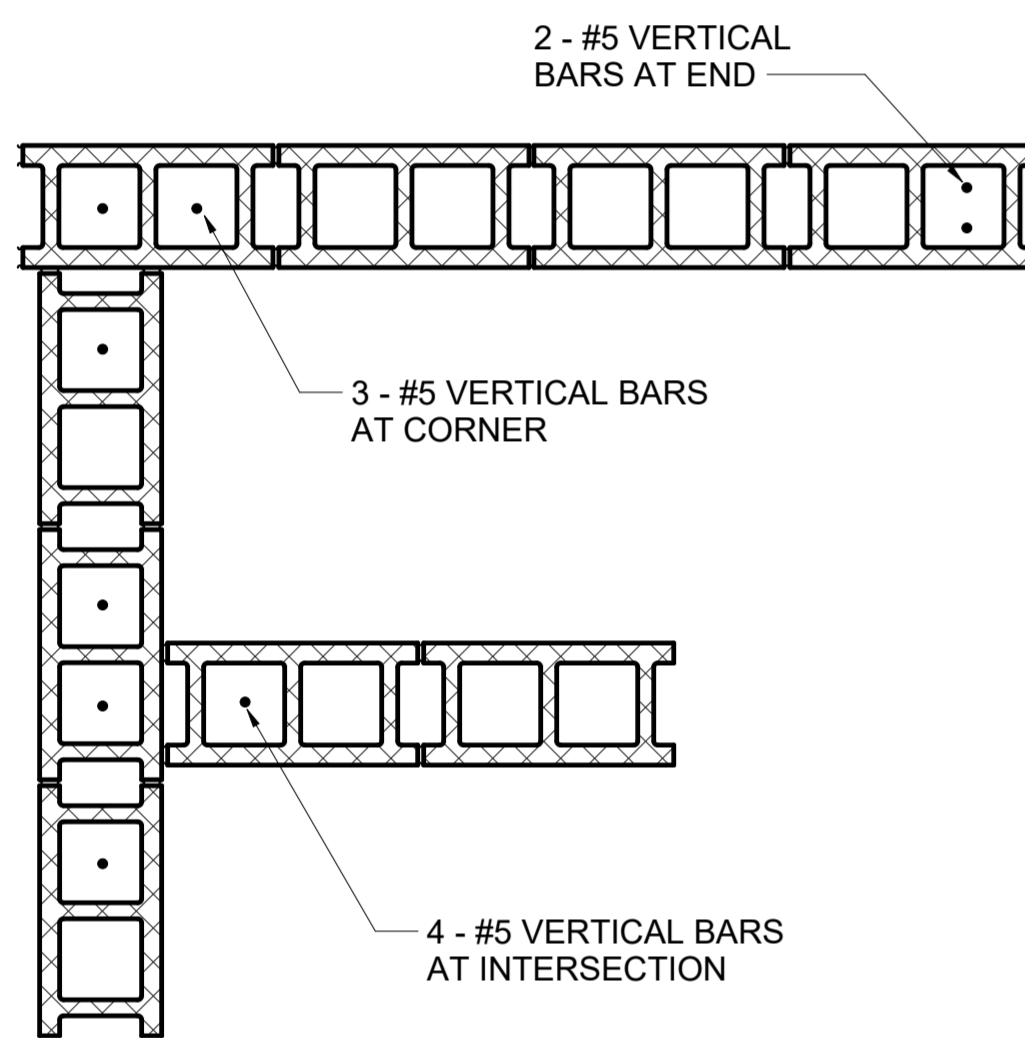
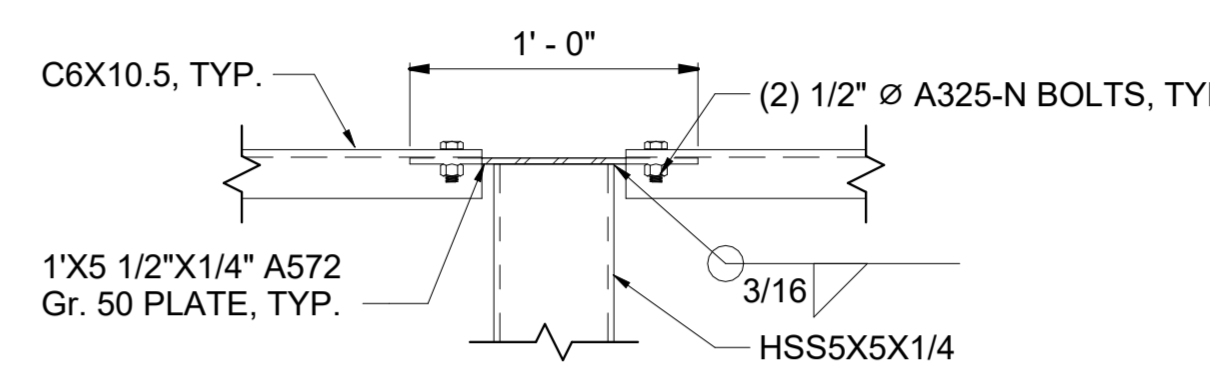
2 Screenwall Support - Joist Connection
1 1/2" = 1'-0"



3 Screenwall Support - Mid Connection
1 1/2" = 1'-0"

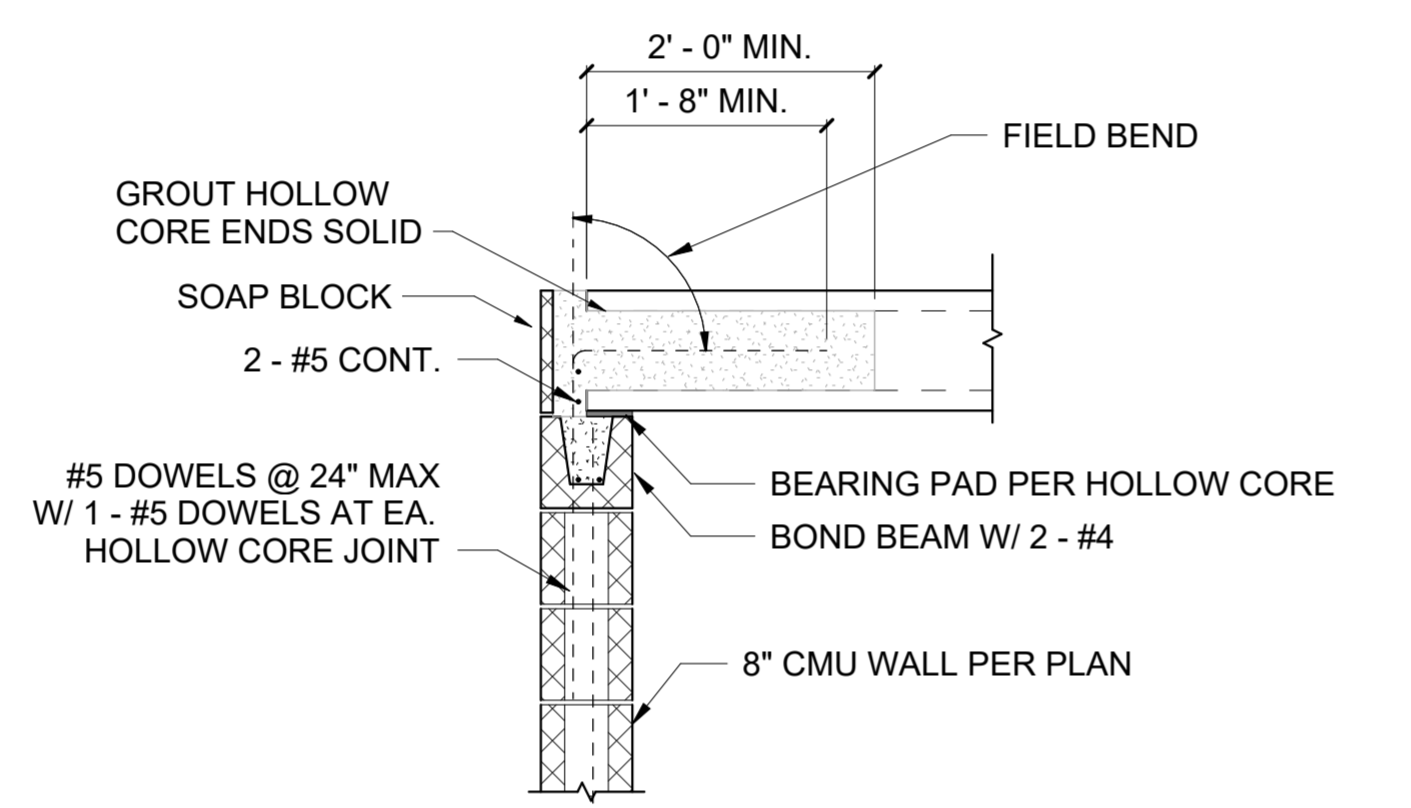


4 Screenwall Support - Top Connection
1 1/2" = 1'-0"

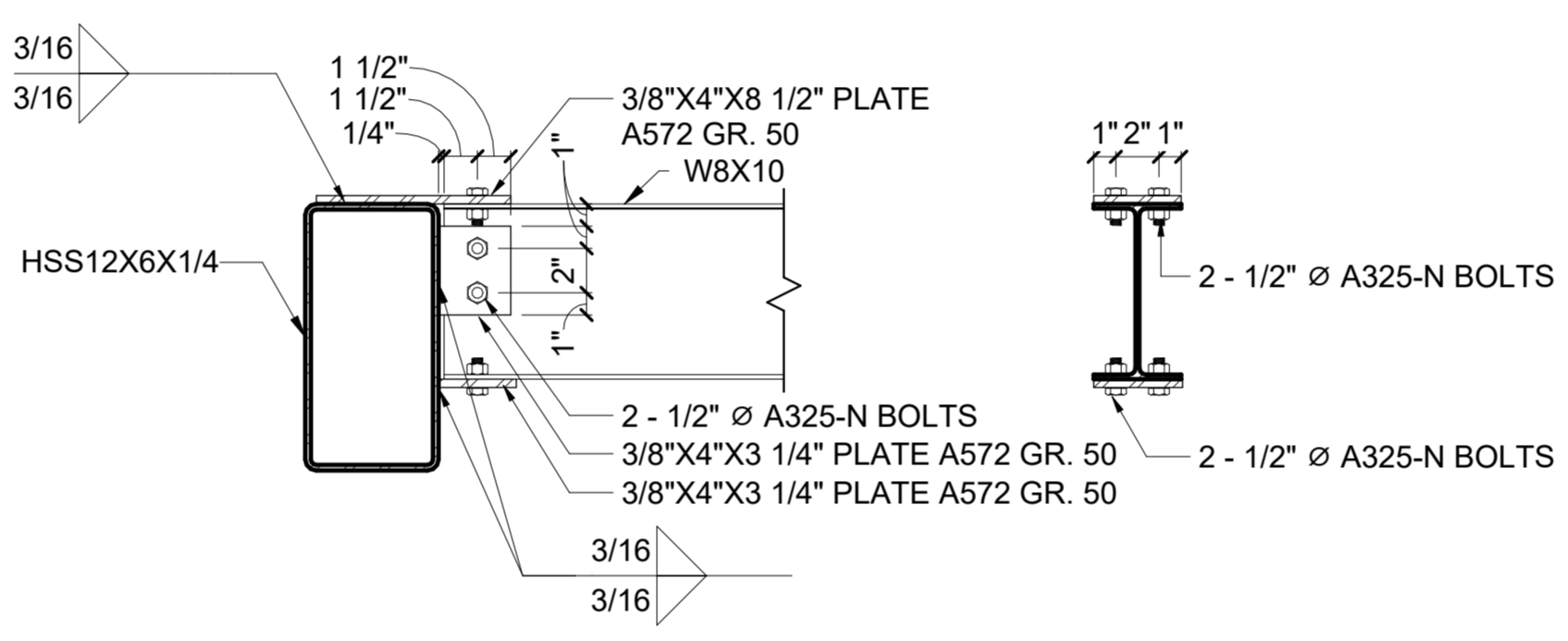


5 CMU VERTICAL BARS
1" = 1'-0"

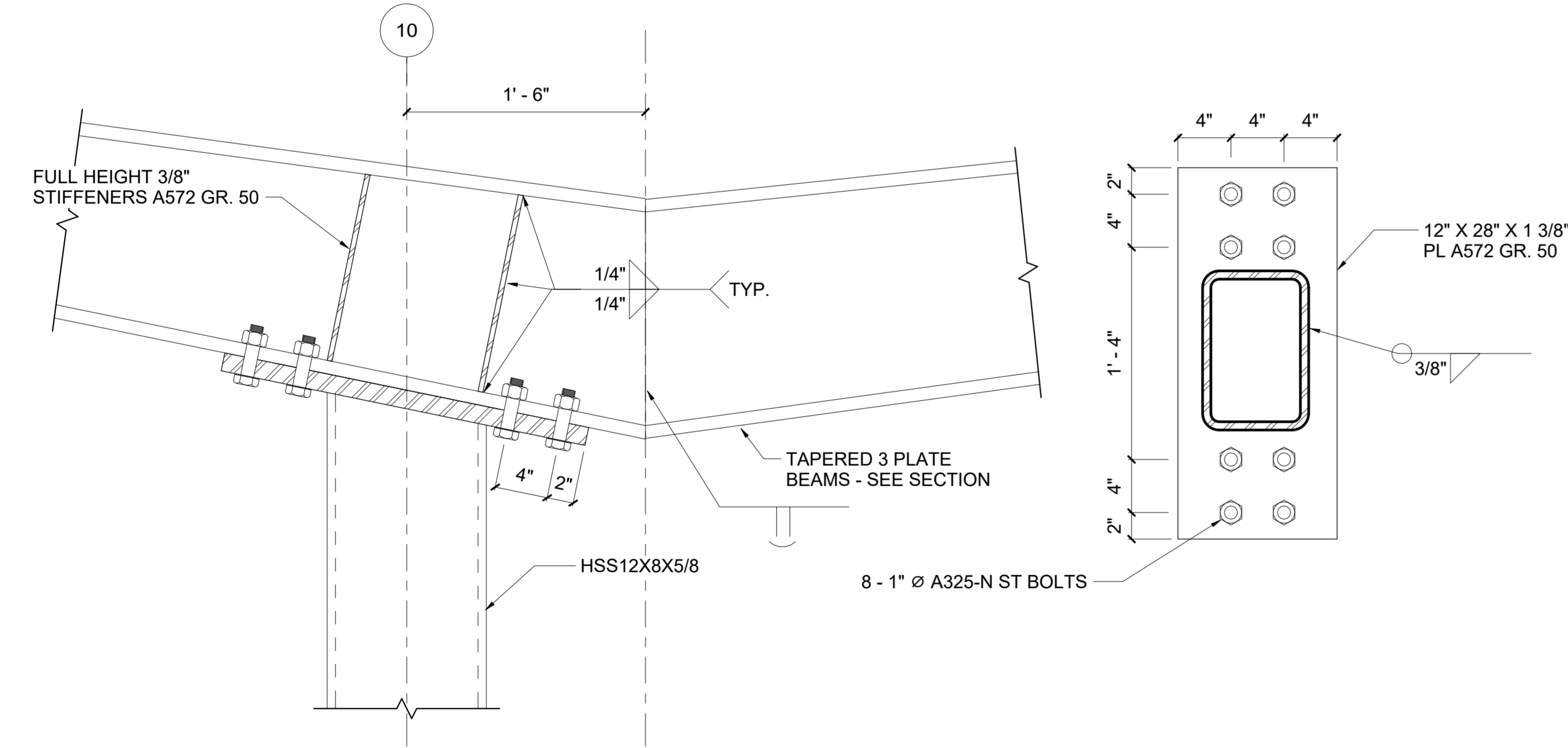
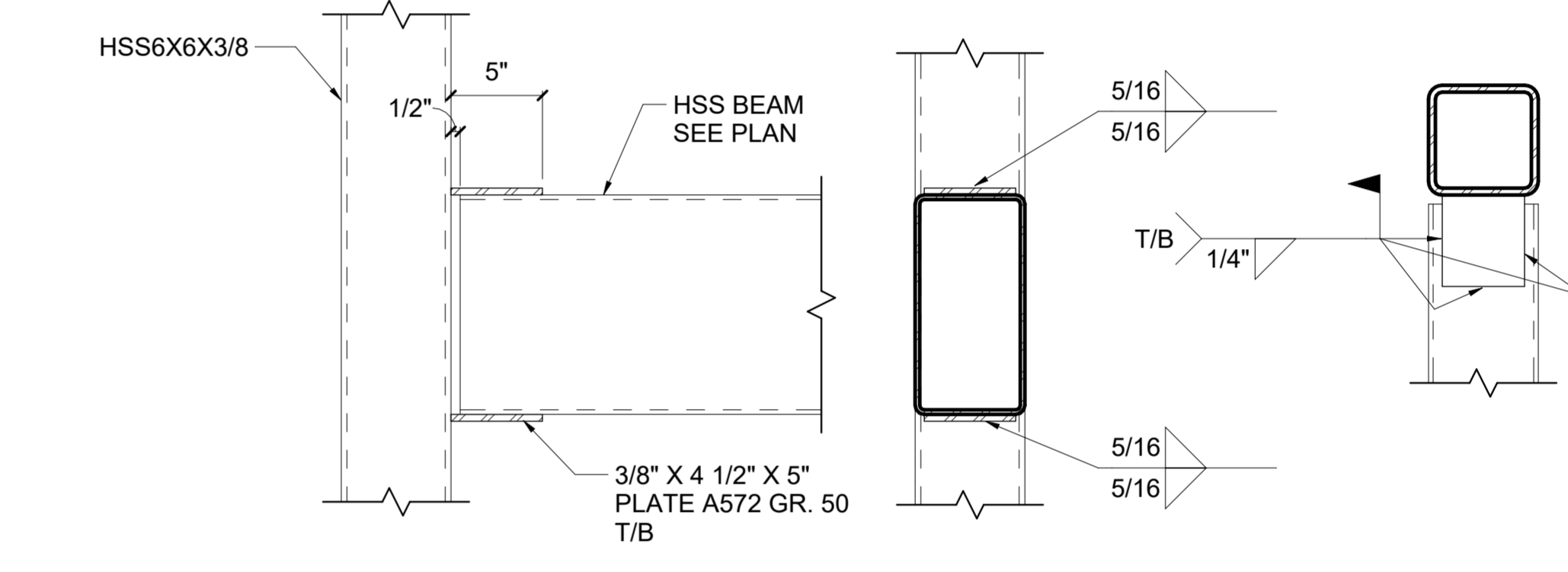
6 TYPICAL HOLLOW CORE BEARING AT CMU
3/4" = 1'-0"



7 DETAIL
1 1/2" = 1'-0"

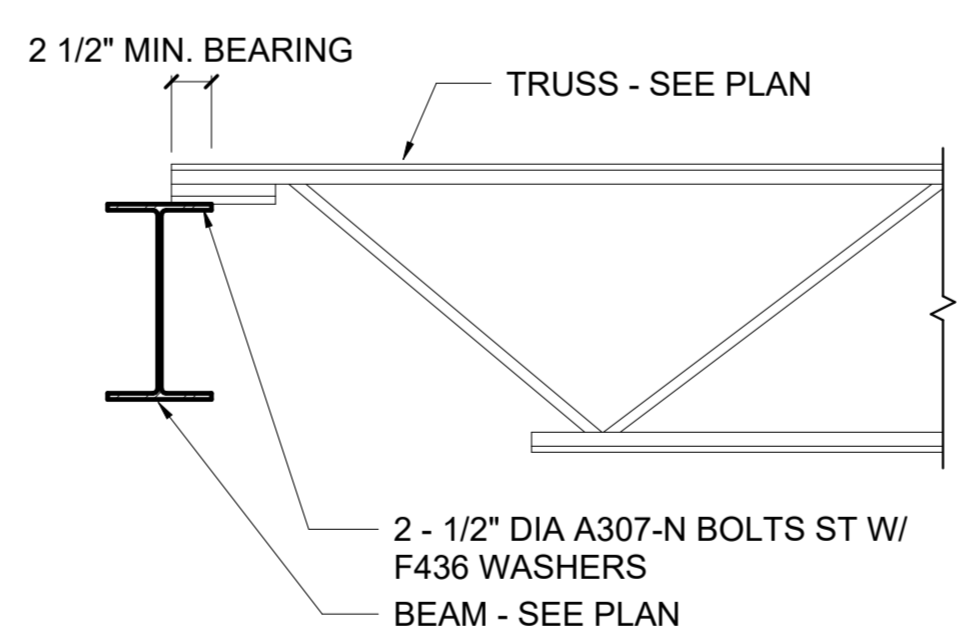


8 DETAIL
1 1/2" = 1'-0"

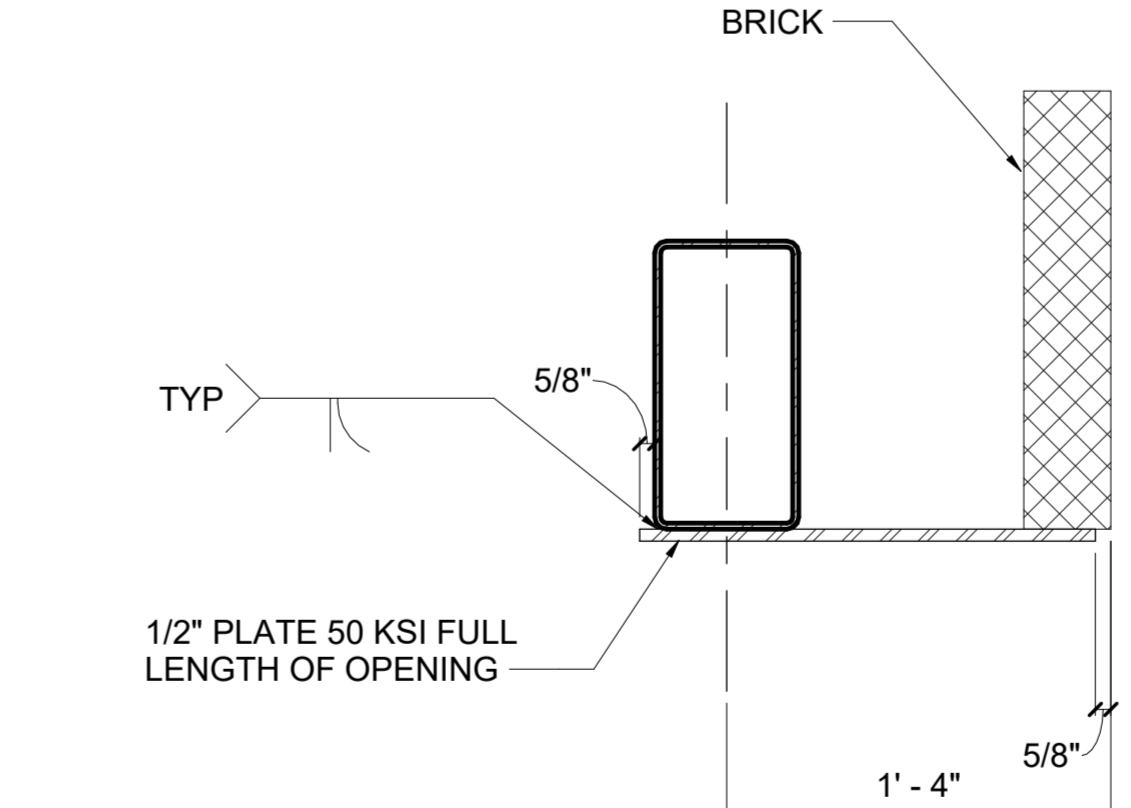


9 DETAIL
1 1/2" = 1'-0"

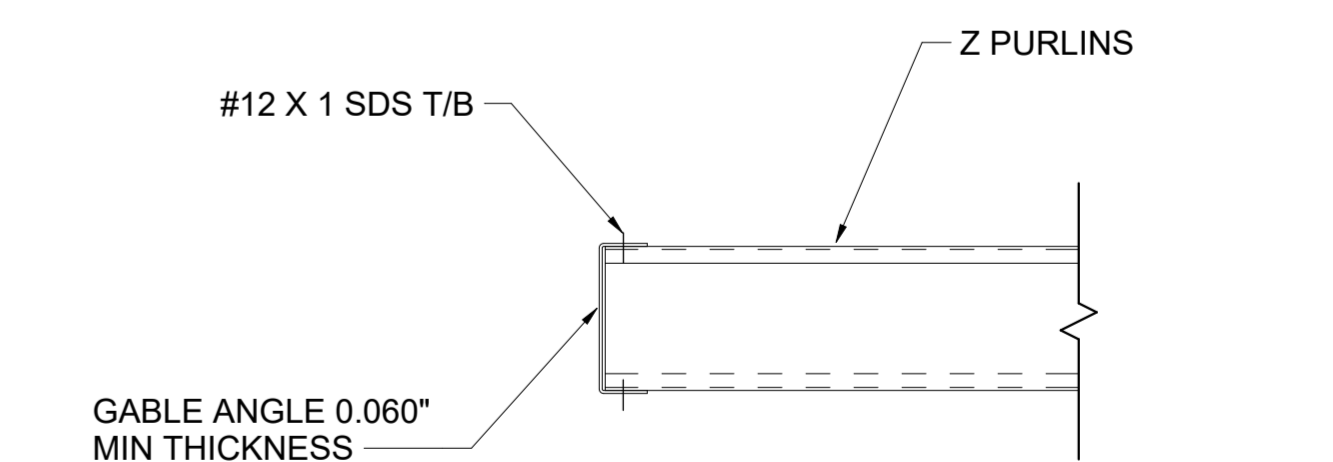
10 TRUSS TO BEAM
1" = 1'-0"



11 LINTEL SUPPORT
1 1/2" = 1'-0"



12 GABLE ANGLE
1 1/2" = 1'-0"



LEES SUMMIT MUNICIPAL AIRPORT AUTHORITY
LEES SUMMIT, MO

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DESIGNED BY:	JDH & BLL
DRAWN BY:	JDH
CHECKED BY:	BLL
APPROVED BY:	
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FRAMING DETAILS

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LEE'S SUMMIT, MISSOURI**
**GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172**

DUCTWORK		PIPING/PLUMBING		ELECTRICAL			
<p>SYMBOLS</p> <p>EXISTING DUCTWORK</p> <p>DUCTWORK TO BE REMOVED</p> <p>NEW DUCTWORK SIZE AS INDICATED</p> <p>90° ELBOW DOWN</p> <p>90° ELBOW UP</p> <p>SOUND ATTENUATOR, SIZE AS INDICATED</p> <p>FLEXIBLE CONNECTION</p> <p>LINED DUCTWORK</p> <p>FLEXIBLE DUCTWORK</p> <p>RECTANGULAR ECCENTRIC DUCT TRANSITION</p> <p>RECTANGULAR CONCENTRIC DUCT TRANSITION</p> <p>SQUARE TO ROUND DUCT TRANSITION</p> <p>SUPPLY AIR</p> <p>RETURN AIR</p> <p>TURNING VANES</p> <p>CONTROL DAMPER</p> <p>BACKDRAFT DAMPER</p> <p>FIRE DAMPER</p> <p>COMBINATION FIRE/SMOKE DAMPER</p> <p>MANUAL VOLUME DAMPER</p> <p>MOTOR OPERATED DAMPER</p> <p>DEVICE</p> <p>WALL MOUNTED DEVICE</p> <p>DUCT MOUNTED SMOKE DETECTOR</p> <p>ACCESS DOOR, SIZE AS INDICATED</p> <p>DEVICE TYPE INLET SIZE FLOW</p> <p>DEVICE TYPE DEVICE SIZE</p> <p>THERMOSTAT</p>		<p>VALVES</p> <p>ANGLE VALVE</p> <p>BACKFLOW PREVENTER</p> <p>BALL VALVE</p> <p>BALANCING VALVE (2-1/2" & SMALLER)</p> <p>BALANCING VALVE (3" & LARGER)</p> <p>BUTTERFLY VALVE</p> <p>CHECK VALVE (2-1/2" & SMALLER)</p> <p>CHECK VALVE (3" & LARGER)</p> <p>CONTROL VALVE (THREE-WAY, PNEUMATIC)</p> <p>CONTROL VALVE (TWO-WAY, PNEUMATIC)</p> <p>CONTROL VALVE (TWO-WAY, MOTORIZED)</p> <p>CONTROL VALVE (THREE-WAY, MOTORIZED)</p> <p>FLEXIBLE CONNECTION (BELLOW TYPE)</p> <p>FLEXIBLE CONNECTION (CONVOLUTE TYPE)</p> <p>FLEXIBLE CONNECTION (BRADED SS TYPE)</p> <p>GAS COCK</p> <p>GATE VALVE (2-1/2" & SMALLER)</p> <p>GATE VALVE (3" & LARGER)</p> <p>GLOBE VALVE (2-1/2" & SMALLER)</p> <p>GLOBE VALVE (3" & LARGER)</p> <p>PLUG VALVE</p> <p>PRESSURE REDUCING VALVE (WATER)</p> <p>PRESSURE RELIEF VALVE</p> <p>SOLENOID VALVE</p> <p>STRAINER (2-1/2" & SMALLER)</p> <p>STRAINER (3" & LARGER)</p> <p>TRIPLE DUTY VALVE</p> <p>STEAM TRAP (INVERTED BUCKET)</p> <p>STEAM TRAP (FLOAT & THERMOSTATIC)</p> <p>PRESSURE REDUCING VALVE (STEAM)</p> <p>TRIPLE DUTY BALANCING VALVE</p> <p>BALL VALVE</p> <p>BUTTERFLY VALVE</p> <p>CHECK VALVE</p> <p>DIAPHRAGM VALVE</p> <p>GATE VALVE</p> <p>GAUGE COCK</p> <p>GLOBE VALVE</p> <p>NEEDLE VALVE</p> <p>PLUG VALVE</p> <p>3-WAY VALVE</p> <p>PRESSURE/TEMPERATURE RELIEF VALVE</p> <p>ANGLE VALVE</p> <p>RUPTURE DISC FOR PRESSURE/VACUUM RELIEF</p> <p>BACKFLOW PREVENTER WITH DRAIN</p> <p>AUTOMATIC AIR VENT</p> <p>MANUAL AIR VENT</p> <p>VACUUM BREAKER</p>		<p>CONTROL VALVES</p> <p>PRESSURE REGULATOR</p> <p>PRESSURE REDUCING VALVE</p> <p>SOLENOID ACTUATOR</p> <p>MOTORIZED ACTUATOR</p> <p>PNEUMATIC OPERATED ACTUATOR (CYLINDER/PISTON TYPE)</p> <p>PNEUMATIC OPERATED ACTUATOR (DIAPHRAGM TYPE)</p> <p>DIAPHRAGM VALVE PNEUMATIC OPERATED ACTUATOR</p> <p>WYE PNEUMATIC OPERATED ACTUATOR (DIAPHRAGM TYPE)</p> <p>PANEL MOUNTED SOLENOID VALVE</p> <p>REFER TO INSTRUMENT LOGIC SYMBOLS FOR TRANSDUCER TYPE</p> <p>FITTINGS & ACCESSORIES</p> <p>FLANGED CONNECTION/BLIND FLANGE</p> <p>FLUSH SANITARY FITTING</p> <p>PIPE CAP</p> <p>PIPE DROP/PIPE RISE</p> <p>BOTTOM OUTLET TEE</p> <p>TOP OUTLET TEE</p> <p>UNION</p> <p>SANITARY CLAMP</p> <p>HIGH PRESSURE SANITARY CLAMP</p> <p>SCREWED CONNECTION</p> <p>RESTRICTIVE ORIFICE PLATE</p> <p>QUICK CONNECT/DISCONNECT</p> <p>COMPRESSION FITTING</p> <p>ECCENTRIC REDUCER</p> <p>INSULATED FITTING</p> <p>BEVEL SEAT FITTING</p> <p>HOSE BARB FITTING</p> <p>FLEXIBLE CONNECTOR</p> <p>CONCENTRIC REDUCER</p> <p>SPRAY BALL</p> <p>STRAINER ("Y" TYPE)</p> <p>STRAINER ("Y" TYPE) WITH BLOWDOWN</p> <p>MUFFLER/SILENCER</p> <p>THERMOMETER</p> <p>SANITARY THERMOWELL</p> <p>LOCALLY MOUNTED PRESSURE (PI) OR TEMPERATURE (TI) GAUGE</p> <p>SANITARY STEAM TRAP</p> <p>THERMOSTATIC STEAM TRAP</p> <p>FLOAT & THERMOSTATIC STEAM TRAP</p> <p>INVERTED BUCKET STEAM TRAP</p> <p>PRESSURE POWERED PUMP</p> <p>FILTER</p>		<p>WIRING</p> <p>GROUND</p> <p>HOT</p> <p>NEUTRAL</p> <p>"LP1" 2</p> <p>2.4 INDICATES TWO SEPARATE CIRCUITS, 2.4 INDICATES A SINGLE 2-POLE CIRCUIT. HOMERUN WITHOUT TICK MARKS INDICATES (2#12 & 1#12G IN 0.75" C).</p> <p>CONCEALED CONDUIT (BELOW FLOOR), CONTINUOUS LINE IS INDICATIVE OF CONDUIT TO BE RUN OVERHEAD.</p> <p>"J" HOOK RACEWAY</p> <p>CABLE TRAY AS DESCRIBED ON DRAWINGS</p> <p>CONDUIT UP</p> <p>CONDUIT DOWN</p> <p>POWER</p> <p>60/3</p> <p>60/40/3</p> <p>1</p> <p>1</p> <p>NON-FUSED DISCONNECT SWITCH, ### INDICATES AMPACITY AND # OF POLES, PHYSICAL SIZE AS SHOWN ON PLAN.</p> <p>FUSED DISCONNECT SWITCH, 60/40/3 INDICATES FRAME AMPACITY/FUSE AMPACITY/POLES, PHYSICAL SIZE AS SHOWN ON PLAN.</p> <p>MAGNETIC MOTOR STARTER, 1 INDICATES NEMA STARTER RATING.</p> <p>COMBINATION DISCONNECT SWITCH AND MOTOR STARTER, 1 INDICATES NEMA STARTER RATING.</p> <p>DUPLX GROUNDING TYPE RECEPTACLE OUTLET - RATED 20-AMP.</p> <p>DOUBLE DUPLEX GROUNDING TYPE RECEPTACLE OUTLET</p> <p>DEVICE MOUNTED 6" ABOVE COUNTER (TYPICAL SYMBOL FOR ALL RECEPTACLE SYMBOLS)</p> <p>DUPLX GROUNDING TYPE RECEPTACLE OUTLET WITH WEATHERPROOF COVER.</p> <p>DUPLX GROUND FAULT INTERRUPTER CIRCUIT TYPE RECEPTACLE OUTLET</p> <p>DUPLX RECEPTACLE OUTLET - "C" INDICATES CEILING MOUNTED</p> <p>DUPLX RECEPTACLE OUTLET FOR TELEVISION, MOUNTING HEIGHT AS NOTED ON PLANS.</p> <p>SIMPLEX 125-V., 2-POLE, 3-WIRE RECEPTACLE OUTLET - WALL OR FLOOR MOUNTED</p> <p>SAME AS ABOVE - EXPLOSION PROOF</p> <p>SPECIAL-PURPOSE RECEPTACLE, AMPERAGE AND VOLTAGE AS INDICATED ON PLANS. VERIFY NEMA CONFIGURATION WITH EQUIPMENT MANUFACTURER.</p> <p>SURFACE RACEWAY WITH OUTLETS AND MOUNTING AS INDICATED ON PLANS.</p> <p>JUNCTION BOX.</p> <p>FLOOR OR CEILING MOUNTED JUNCTION BOX.</p> <p>OUTLET BOX WITH BLANK COVER PLATE</p> <p>THERMOSTAT ROUGH-IN JUNCTION BOX</p> <p>MOTOR</p> <p>NEW PANELBOARD</p> <p>EXISTING PANELBOARD</p> <p>NEW TRANSFORMER, SIZE AS INDICATED ON PLANS.</p> <p>EXISTING TRANSFORMER, SIZE AS INDICATED ON PLANS.</p> <p>POKE THROUGH DEVICE, "TP" INDICATES POWER, "D" INDICATES DATA, "T" INDICATES TELEPHONE, INSTALL AS DESCRIBED ON PLANS.</p> <p>VARIABLE FREQUENCY DRIVE</p> <p>WALL MOUNTED CLOCK</p> <p>LIGHTING</p> <p>2x4 FLUORESCENT LIGHTING FIXTURE, 'A' INDICATES FIXTURE TYPE</p> <p>EMERGENCY FIXTURE - TYPICAL OF ALL CROSSHATCHED FIXTURES</p> <p>1x4 FLUORESCENT LIGHTING FIXTURE, 'A' INDICATES FIXTURE TYPE</p> <p>2x2 FLUORESCENT LIGHTING FIXTURE, 'A' INDICATES FIXTURE TYPE</p> <p>6"x48" FLUORESCENT LINEAR</p> <p>RECESSED DOWNLIGHT</p> <p>WALL WASH FIXTURE</p> <p>WALL MOUNTED FIXTURE</p> <p>FLUORESCENT STRIP LIGHT FIXTURE, 'A' INDICATES FIXTURE TYPE</p> <p>PENDANT FIXTURE, CHAIN OR STEM MOUNTED</p> <p>EMERGENCY BUGEYE FIXTURE</p> <p>CEILING MOUNTED EXIT LIGHT (EMERGENCY POWER)</p> <p>WALL MOUNTED EXIT LIGHT (EMERGENCY POWER)</p> <p>FIRE DETECTION/PROTECTION</p> <p>MH</p> <p>SMOKE DETECTOR (ION, P, EL)</p> <p>DUCT SMOKE DETECTOR</p> <p>FIRE ALARM PULL STATION</p> <p>FIRE AUDIBLE DEVICE</p> <p>FIRE AUDIBLE/VISUAL COMBINATION</p> <p>CANDELA NUMBER DESIGNATION (TYP. FOR ALL STROBES)</p> <p>FIRE ALARM VISUAL DEVICE</p> <p>FIRE ALARM WITH OUTLETS AND MOUNTING AS INDICATED ON PLANS.</p> <p>CEILING MOUNTED STROBE</p> <p>CEILING MOUNTED HORN</p> <p>FIRE ALARM CONTROL PANEL</p> <p>REMOTE ANNUNCIATOR PANEL</p> <p>SPECIAL SYSTEMS</p> <p>WALL MOUNTED TELEPHONE OUTLET</p> <p>COMBINATION TELEPHONE/DATA DEVICE</p> <p>DATA JACK</p> <p>DEVICE MOUNTED 6" ABOVE COUNTER</p> <p>WIRELESS ACCESS POINT</p> <p>TELEVISION OUTLET - COAX JACK AND DUPLEX RECEPTACLE</p> <p>CEILING MOUNTED SPEAKER</p> <p>WALL MOUNTED SPEAKER</p> <p>INTERCOM STATION, "M" INDICATES MASTER.</p> <p>COAXIAL TV JACK WITH J-BOX, FACEPLATE AND CABLING</p> <p>CEILING MOUNTED PROJECTOR WITH DUPLEX RECEPTACLE, AV J-BOX, WITH FACEPLATE</p> <p>SECURITY</p> <p>CARD READER</p> <p>KEYPAD</p> <p>DOOR CONTACT</p> <p>MAGNETIC LOCK</p> <p>ELECTRIC STRIKE</p> <p>EXIT REQUEST</p> <p>BIOMETRIC READER</p> <p>CEILING MOUNTED DOME STYLE SECURITY CAMERA</p> <p>CEILING MOUNTED AISLE STYLE SECURITY CAMERA</p> <p>MOTION SENSOR</p> <p>EMERGENCY CALL STATION</p> <p>COMBINATION CAMERA / INTERCOM</p> <p>SWITCHES</p> <p>S SINGLE-POLE, SINGLE-THROW WALL SWITCH</p> <p>S2 DOUBLE-POLE, SINGLE-THROW WALL SWITCH</p> <p>S3 THREE-WAY WALL SWITCH</p> <p>S4 FOUR-WAY WALL SWITCH</p> <p>S5 SINGLE-POLE SWITCH WITH PILOT LIGHT</p> <p>S6 LOW VOLTAGE SCENE SWITCH</p> <p>S61 LOW VOLTAGE 1 BUTTON DIMMING SWITCH</p> <p>S611 LOW VOLTAGE 1 BUTTON SWITCH</p> <p>S61X LOW VOLTAGE SWITCH WHERE X INDICATES # OF BUTTONS</p> <p>S6M MOTOR SWITCH WITH THERMAL OVERLOAD PROTECTION</p> <p>S6K SINGLE-POLE KEYSWITCH</p> <p>S6PROJ PROJECTOR SCREEN RAISE/LOWER SWITCH</p> <p>S6OC OCCUPANCY SENSOR SWITCH</p> <p>S6PC PHOTO CELL</p> <p>S6OS CEILING MOUNTED OCCUPANCY SENSOR</p> <p>S6LC LIGHTING RELAY ROOM CONTROLLER</p> <p>S6LD DIMMING LIGHTING RELAY ROOM CONTROLLER</p> <p>GENERAL</p> <p>NOTE DESIGNATION - DEMOLITION (ALL)</p> <p>NOTE DESIGNATION - MECHANICAL NEW WORK</p> <p>NOTE DESIGNATION - ELECTRICAL NEW WORK</p> <p>NOTE DESIGNATION - PIPING/PLUMBING NEW WORK</p> <p>REVISION FROM ORIGINAL DOCUMENT</p> <p>EQUIPMENT TAG DESIGNATION</p> <p>SECTION CUT DESIGNATION</p> <p>REFERENCE DESIGNATION</p> <p>CONNECT TO EXISTING</p> <p>PIPE SPECIFICATION CHANGE</p> <p>DOUBLE CONTAINMENT PIPE</p> <p>INSULATED EQUIPMENT # = THICKNESS</p> <p>INSULATED PIPE # = THICKNESS</p> <p>INSULATED PIPE WITH ELECTRIC HEAT TRACING # = THICKNESS</p> <p>PIPE SLEEVE/PIPE PENETRATION THRU WALL</p> <p>CONNECT TO EXISTING, OPTIONAL NUMBER DESIGNATION</p> <p>FLOW ARROW</p> <p>DIRECTION OF DOWNWARD SLOPE</p> <p>LIQUID OR AIR FLOW RATE</p> <p>LINE TYPES</p> <p>MAIN PROCESS OR UTILITY LINE</p> <p>FUTURE LINEWORK</p> <p>ASSEMBLY BOUNDARY</p> <p>SKID OR PACKAGE BOUNDARY</p> <p>SOFTWARE</p> <p>DEMOLITION</p> <p>MATCHLINE</p>	
ANNOTATION							
<p>BUILDING SYSTEMS</p> <p>CA COMPRESSED AIR PIPING</p> <p>CHWS CHILLED WATER SUPPLY PIPING</p> <p>CHWR CHILLED WATER RETURN PIPING</p> <p>CWFT CONDENSER WATER FROM TOWER</p> <p>CWTT CONDENSER WATER TO TOWER</p> <p>DR CONDENSATE DRAIN PIPING</p> <p>D DRAIN</p> <p>PCHWS PROCESS CHILLED WATER SUPPLY</p> <p>PCHWR PROCESS CHILLED WATER RETURN</p> <p>GCWS GLYCOL CHILLED WATER SUPPLY</p> <p>GCHR GLYCOL CHILLED WATER RETURN</p> <p>HPS HIGH PRESSURE STEAM</p> <p>HPC HIGH PRESSURE CONDENSATE</p> <p>HHWS HEATING HOT WATER SUPPLY</p> <p>HHWR HEATING HOT WATER RETURN</p> <p>HPS HIGH PRESSURE STEAM</p> <p>HPC HIGH PRESSURE CONDENSATE</p> <p>LPS LOW PRESSURE STEAM</p> <p>LPC LOW PRESSURE CONDENSATE</p> <p>MPS MEDIUM PRESSURE STEAM</p> <p>MPC MEDIUM PRESSURE CONDENSATE</p> <p>NG NATURAL GAS</p> <p>PG PUMPED CONDENSATE</p> <p>RV REFRIGERANT VENT</p>		<p>PLUMBING</p> <p>CW COLD WATER PIPING</p> <p>ICW INDUSTRIAL COLD WATER</p> <p>IW INDIRECT WASTE OR IRRIGATION WATER</p> <p>NPW NON-POTABLE WATER</p> <p>HW HOT WATER PIPING</p> <p>HWC HOT WATER CIRCULATING PIPING</p> <p>SWT SOFT WATER</p> <p>SW STORM WATER</p> <p>TWS TEMPERED WATER SUPPLY</p> <p>TWR TEMPERED WATER RETURN</p> <p>VAC VACUUM</p> <p>V VENT</p> <p>W WASTE</p>		<p>PROCESS</p> <p>AC ACETYLENE</p> <p>AW ACID WASTE</p> <p>AR ARGON</p> <p>CPS CLEAN IN PLACE SUPPLY PIPING</p> <p>CRP CLEAN IN PLACE RETURN PIPING</p> <p>CS CLEAN STEAM</p> <p>STMPF FILTERED STEAM</p> <p>DI DE-IONIZED WATER</p> <p>DS DISTILLED WATER</p> <p>GN GASEOUS NITROGEN</p> <p>HE HELIUM</p> <p>HY HYDROGEN</p> <p>LN LIQUID NITROGEN</p>			

Cory Wilson - MO #PE-201009876
 Certificate of Authority - MO #2024005146
 01-02-2025

LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT, MO

MARK	DATE	DESCRIPTION

PROJECT NO: 2403
CAD DWG FILE: Lee's Summit - Terminal MEP.rvt
DESIGNED BY: CMW
DRAWN BY: DM
CHECKED BY: WAI
APPROVED BY: Approver
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**MEP SYMBOLS
LEGEND**



1627 MAIN STREET, SUITE 600
KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100
KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300
KANSAS CITY, MO 64108

KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

GENERAL ABBREVIATIONS					
GENERAL ABBREVIATIONS:					
AC	AIR CONDITIONING(R)	FM	FACTORY MUTUAL	PSF	POUNDS PER SQUARE FOOT
ADON	ADDITION OR ADDITIONAL	FTM	FEET PER MINUTE	PSI	POUNDS PER SQUARE INCH
ADJ	ADJUSTABLE	FT	FEET (FOOT)	PVC	POLYVINYL CHLORIDE
ADUT	ADJACENT	FTO	FOOTING	RA	RETURN AIR
ADMIN	ADMINISTRATION	GA	GAUGE	RCP	REFLECTED CEILING PLAN
A.F.F.	ABOVE FINISHED FLOOR	GAL	GALLON	REF	REFERENCE
A.F.G.	ABOVE FINISHED GRADE	GALV	GALVANIZED	RH	RELATIVE HUMIDITY
AHU	AIR HANDLING UNIT	GCO	GRADE CLEANOUT	RHP	RADIANT HEATING PANEL
ALT	ALTERNATE	GOVT	GOVERNMENT	RM	ROOM
ALUM	ALUMINUM	GPH	GALLONS PER HOUR	RPM	REVOLUTIONS PER MINUTE
AMB	AMBIENT	GPM	GALLONS PER MINUTE	RTU	ROOFTOP UNIT
APPROX	APPROXIMATE	HOA	HANDS-OFF-AUTOMATIC	SA	SUPPLY AIR
AUTO	AUTOMATIC	HP	HORSEPOWER	SAN	SANITARY WASTE
BHP	BREAK HORSE POWER	HR	HOUR	SCW	SOFT COLD WATER
BLDG	BUILDING	HTG	HEATING	SD	SMOKE DAMPER
BLK	BLOCK	HTR	HEATER	SD	SMOKE DETECTOR
BMS	BUILDING MANAGEMENT SYSTEM	HVAC	HEATING, VENTILATING, & AIR CONDITIONING	SECT	SECTION
BOF	BOTTOM OF FOOTING	HW	DOMESTIC HOT WATER	SENS	SENSIBLE
BSMT	BASEMENT	HWC	DOMESTIC HOT WATER CIRCULATING	SF	SQUARE FOOT (FEET)
BTU	BRITISH THERMAL UNIT	HIX	HEAT EXCHANGER	SP	STATIC PRESSURE
BTUH	BRITISH THERMAL UNIT PER HOUR	HZ	HERTZ	SPEC	SPECIFICATIONS
CFH	CUBIC FEET PER HOUR	IBC	INTERNATIONAL BUILDING CODE	SQ	SQUARE
CFM	CUBIC FEET PER MINUTE	ID	INSIDE DIAMETER	SS	STAINLESS STEEL
CI	CAST IRON	IE	INVERT ELEVATION	STD	STANDARD
CIRC	CIRCULATING	IMC	INTERNATIONAL MECHANICAL CODE	STOR	STORAGE
CLG	CEILING	IN	INCH	SWP	STEAM WORKING PRESSURE
CMU	CONCRETE MASONRY UNIT	INCL	INCLUDE(ING)	T	THERMOSTAT
CN	CLEANOUT	IPC	INTERNATIONAL PLUMBING CODE	TA	TRANSFER AIR
CO2	CARBON DIOXIDE	JAN	JANITOR	TDH	TOTAL DYNAMIC HEAD
COL	COLUMN	JST	JOIST	TEMP	TEMPORARY
COHC	CONCRETE	KVA	KILOVOLT AMPERES	THK	THICKNESS
CONF	CONFERENCE	KW	KILOWATT	TOC	TOP OF CONCRETE
CONFIG	CONFIGURATION	KWH	KILOWATT-HOUR	TOF	TOP OF FOOTING
CONST	CONSTRUCTION	LAB	LABORATORY	TSP	TOTAL STATIC PRESSURE
CORR	CORRIDOR	LAT	LEAVING AIR TEMPERATURE	TYP	TYPICAL
CT	CURRENT TRANSFORMER	LB	POUND	UBC	UNIFORM BUILDING CODE
CJ	COPPER	LBS	POUNDS	UG	UNDERGROUND
CU	CONDENSING UNIT	LF	LINEAR FOOT (FEET)	UH	UNIT HEATER
CUH	CABINET UNIT HEATER	LTG	LIGHTING	UL	UNDERWRITERS LABORATORIES
CW	COLD WATER	LWT	LEAVING WATER TEMPERATURE	UNO	UNLESS NOTED OTHERWISE
DB	DRY BULB	MA	MIXED AIR	UTIL	UTILITY
DBA	DECIBEL A-SOUND LEVELS	MATL	MATERIAL	V	VOLT
DO	DIRECT DIGITAL	MAU	MAKE-UP AIR UNIT	VAV	VARIABLE AIR VOLUME
DEG	DEGREE	MAX	MAXIMUM	VCT	VINYL COMPOSITION TILE
DEPT	DEPARTMENT	MBH	THOUSAND BTU PER HOUR	VD	VOLUME DAMPER - MANUAL
DI	DUCTILE IRON	MBTUH	THOUSAND BTU PER HOUR	VEL	VELOCITY
DIA	DIAMETER	MCA	MINIMUM CIRCUIT AMPS	VERT	VERTICAL
DISC	DISCONNECT	MCC	MOTOR CONTROL CENTER	VFD	VARIABLE FREQUENCY DRIVE
DISCH	DISCHARGE	MECH	MECHANICAL	VOL	VOLUME
DISTR	DISTRIBUTION	MEZZ	MEZZANINE	VTR	VENT THROUGH ROOF
DN	DOWN	MFR	MANUFACTURER	W	WIDE, WIDTH
DTL	DETAIL	MFRG	MANUFACTURING	W	WATT
DWG	DRAWING	MIN	MINIMUM	W/O	WITHOUT
EA	EACH	MISC	MISCELLANEOUS	WB	WET BULB
EA	EXHAUST AIR	N/A	NON APPLICABLE	WC	WATER COLUMN
EAT	ENTERING AIR TEMPERATURE	NC	NORMALLY CLOSED	WCO	WALL CLEAN OUT
EEW	EMERGENCY EYEWASH	NC	NOISE CRITERIA	WH	WALL HYDRANT
EWWS	EMERGENCY EYEWASH/SHOWER	NEC	NATIONAL ELECTRIC CODE	WT	WEIGHT
EF	EXHAUST FAN	NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSN	XFMR	TRANSFORMER
EFF	EFFICIENCY	NIC	NOT IN CONTRACT	YH	YARD HYDRANT
EL	ELEVATION	NO	NORMALLY OPEN	&	AND
ELEC	ELECTRICAL	NTS	NOT TO SCALE	@	AT
ELEV	ELEVATOR	NTS	NOT TO SCALE	l.e.	THAT IS
ENCL	ENCLOSURE	OA	OUTSIDE AIR	#	NUMBER
EQUIP	EQUIPMENT	OC	ON CENTER		
ESP	EXTERNAL STATIC PRESSURE	OD	OUTSIDE DIAMETER		
EST	ESTIMATE	OPP	OPPOSITE		
EWT	ENTERING WATER TEMPERATURE	OS&Y	OUTSIDE SCREW & YOKE		
EXPL	EXPLOSION	P/T	PRESSURE/TEMPERATURE TEST		
EXT	EXTERIOR	PORT			
F	FAHRENHEIT	PCF	POUNDS PER CUBIC FOOT		
FA	FRESH AIR	PF	PRESSURE DROP	A OR AMP	AMPER(S)
FD	FIRE DAMPER	PERF	PERFORATED	AC	ALTERNATING CURRENT
FDC	FLOOR CLEANOUT	PERP	PERPENDICULAR	A.F.F.	ABOVE FINIS
FCU	FAN COIL UNIT	PH	PHASE	APPROX.	APPROXIMATELY
FDC	FIRE DEPARTMENT CONNECTION	PIC	PRESSURE INDEPENDENT	ARCH	ARCHITECT
FIG	FIGURE	CONTROL		ANG	AMERICAN WIRE GAUGE
FL	FLOOR	PIV	POST INDICATOR VALVE	BKR	BREAKER
		PLBG	PLUMBING	C	CONDUIT
		PNEU	PNEUMATIC	COMM.	COMMUNICATIONS
		PREFAB	PREFABRICATED	D	DEEP
		PRV	PRESSURE REDUCING VALVE	DISC	DISCONNECT SWITCH
				DWGS	DRAWINGS
				ELECT.	ELECTRICAL
				EMCS	ENERGY MANAGEMENT

ELECTRICAL ABBREVIATIONS:

GENERAL NOTES

ELECTRICAL GENERAL NOTES

- ELECTRICAL WORK SHALL BE IN COMPLIANCE WITH 2018 NATIONAL ELECTRIC CODE (NEC).
- INSTALL ALL WIRING IN RACEWAYS. OPEN WIRING IS PROHIBITED.
- WHERE SURFACE WIRING IS REQUIRED, SURFACE MOUNTED RACEWAY (WIREMOLD OR APPROVED EQUAL) SHALL BE USED AND PAINTED TO MATCH ADJACENT SURFACES (UNLESS SPECIFIED COLOR WAS PROVIDED). COORDINATE ALL SURFACE MOUNTED CONDUIT AND RACEWAY ROUTING WITH OWNER AND ENGINEER.
- ALL RACEWAYS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
- PROVIDE ALL MOTORS WITH A LOCAL DISCONNECT SWITCH (UNFUSED UNLESS OTHERWISE NOTED) LOCATED AT THE MOTOR OR A MAXIMUM OF 5FT AWAY, WITHIN SIGHT.
- NO MORE THAN SIX RECEPTACLES SHALL BE INSTALLED ON A SINGLE BRANCH CIRCUIT FOR GENERAL USE. GFI RECEPTACLES SHALL NOT SERVE OTHER RECEPTACLES FROM THEIR LOADSIDE TERMINALS.
- TELECOMMUNICATION OUTLET BOXES SHALL BE MINIMUM SIZE AS NEC STANDARD (PAGES 2) THAT COULD CONTAIN DUAL DUPLEX ELECTRICAL OUTLETS, RECESSED TO ALLOW EMT OR FLEXIBLE CONDUIT TO TERMINATE ON THEM.
- WALL MOUNTED JUNCTION BOXES SHALL BE EQUIPPED WITH FULL COVERED STAINLESS STEEL WALL FACEPLATES THAT SHALL COVER THE ENTIRE BOX WITHOUT TRIM RINGS ADDED.
- TELECOM BOXES SHALL EMPLOY TWO EACH MODULAR CAT 6 (OR BETTER) RJ-45 JACKS FOR VOICE/DATA. VERIFY STANDARD CABLING WITH OWNER PRIOR TO BID.
- CONTRACTOR SHALL FIELD VERIFY LOCATIONS, SIZES, AND ELEVATIONS OF MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS THAT MAY IMPACT IMPLEMENTATION OF THIS WORK PRIOR TO MAKING BIDS.
- CONTRACTOR SHALL COORDINATE AND EXPEDITE ALL WORK WITH OTHER TRADES AND OWNER.
- ALL OVERCURRENT PROTECTIVE DEVICES INSTALLED UNDER THIS CONTRACT SHALL MEET THE INTERRUPTING CAPABILITY OF THE SCHEDULED. "SERIES RATING" SHALL BE ALLOWED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ARC FLASH STUDY AND LABELS PER NEC.
- ALL WIRING TO BE CONTINUOUS WITHOUT SPLICES UNLESS OTHERWISE NOTED.
- NO POWER AND CONTROL WIRING SHALL BE RUN IN SAME CONDUIT.
- FINAL ROUTING OF CONDUITS IS TO BE DETERMINED BY THE CONTRACTOR, INFORM ENGINEER OF RECORD OF ANY MAJOR DISCREPANCY PRIOR TO PROCEEDING WITH INSTALLATION.
- PROVIDE TYPED PANEL SCHEDULES POLE AND LOAD SERVED.
- PRIOR TO BID SUBMISSION, THE CONTRACTOR SHALL VISIT THE SITE AND AREA OF WORK TO FAMILIARIZE HIM OR HERSELF WITH THE EXISTING CONDITIONS.

LIGHTING GENERAL NOTES

- PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
- COORDINATE ALL SCHEDULING, ELEVATIONS, SIZES, QUANTITIES, AND ROUTING OF WORK WITH OWNER AND OTHER TRADES.
- FIELD VERIFY SIZE, LOCATION, ELEVATION AND QUANTITY OF ALL ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PIPING EQUIPMENT AND COMPONENTS THAT MAY IMPACT IMPLEMENTATION OF THIS WORK.
- REPAIR OR REPLACE ARCHITECTURAL, MECHANICAL, ELECTRICAL, OR PLUMBING EQUIPMENT OR COMPONENTS DAMAGED WHILE EXECUTING THIS WORK. SUCH REPAIRS OR REPLACEMENTS SHALL MATCH OR EXCEED EXISTING EQUIPMENT OR COMPONENT FINISH AND QUALITY.
- ALL ELECTRICAL BOXES SHALL BE GALVANIZED STEEL. BACK BOXES MOUNTED ON GALVANIZED STUDS SHALL HAVE BETWEEN STUD MOUNTING BRACKETS EQUAL TO "CADDY" IRB518 OR #RBS24. PROVIDE 3/4" MUD RINGS WHERE LOCATED IN WALLS WITH 5/8" THICK GYPSUM WALLBOARDS.
- PROVIDE DEVICE AND EQUIPMENT LABELING PER THE SPECIFICATIONS. ALL PANELBOARDS SHALL BE PROVIDED WITH AN UPDATED TYPED CIRCUIT DIRECTORY WITH CIRCUIT NUMBERS AND EQUIPMENT SERVED.
- ALL POWER CIRCUITS SHALL HAVE A GROUNDING CONDUCTOR.
- CONFIRM THAT NO WIRING CIRCUIT EXCEEDS 1920VA (120V).
- ALL WALL OCCUPANCY SENSORS AND COVERPLATES SHALL BE GREY IN COLOR. ALL STANDARD TOGGLE SWITCHES SHALL BE GREY IN COLOR AND COVERPLATES SHALL BE STAINLESS STEEL. REFERENCE ELECTRICAL PAN SPECIFICATIONS.
- FOR ANY EMERGENCY OR NIGHT LIGHT FIXTURE, A CONSTANT HOT CONDUCTOR SHALL BE ROUTED TO FIXTURE WHETHER IT IS SHOWN OR NOT.
- EXIT LIGHT FIXTURES MOUNTED ON WALLS SHALL BE AT LEAST 8" ABOVE DOOR HEADER OR PER DRAWING ELEVATIONS.
- REFERENCE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION ON FIXTURE TYPE AND CONTROLS.

MECHANICAL GENERAL NOTES

- ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE (IMC).
- COORDINATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION AND AVOID INTERFERENCES AND CONFLICTS. BEFORE ANY PIPING, DUCTWORK, CONDUIT, ETC. IS INSTALLED, IT SHALL BE COORDINATED CAREFULLY BETWEEN ALL TRADES.
- CONTRACTOR SHALL SUBMIT HVAC SHEET METAL PLANS WITH ACTUAL FITTINGS AND LAYOUT PER THE SHOP FABRICATION.
- REFER TO EXISTING STRUCTURAL PLANS OR VERIFY IN FIELD. THE LOCATION OF ALL STRUCTURAL MEMBERS, NEW ROOF PENETRATIONS AND ROOF CURBS FOR EQUIPMENT ON ROOF ARE SHOWN SCHEMATICALLY AND SHALL BE COORDINATED WITH EXISTING STRUCTURAL MEMBERS.
- PROVIDE FLEXIBLE CONNECTION AND DUCT TRANSITIONS AT CONNECTIONS TO ALL DUCTED MECHANICAL EQUIPMENT.
- COORDINATE ROUTING OF DUCTWORK WITH ALL OTHER TRADES TO AVOID INTERFERENCES IN CEILING PLENUM.
- MAINTAIN ALL MANUFACTURERS REQUIRED CLEARANCES FOR ALL HVAC EQUIPMENT.
- COORDINATE ALL CEILING INSTALLED EQUIPMENT AND DIFFUSER, REGISTER, AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING PLANS.
- ROUND BRANCH TAKE-OFF FITTINGS TO DIFFUSERS SHALL BE BELLMOUTH TYPE EXCEPT LOCATIONS WHERE LISTED DUCT HEIGHT DOES NOT ACCOMMODATE. IN THIS CASE, PROVIDE HIGH EFFICIENCY 45 DEGREE RECTANGULAR TO ROUND (HETO) FITTING. BOTH OF THESE FITTINGS ARE REQUIRED IN ALL CIRCUMSTANCES. ALL ROUND BRANCH TAKE-OFF FITTINGS TO DIFFUSERS SHALL INCLUDE AN INTEGRAL MANUAL VOLUME DAMPER.
- BRANCH DUCTS TO DIFFUSERS SHALL BE THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE. MAXIMUM LENGTH OF FLEXIBLE DUCT ROUTING TO BE 5'-0" (NO EXCEPTIONS).
- INSTALL TEMPERATURE SENSORS/THERMOSTATS/CO2 SENSORS AT 48" AFF. COORDINATE LOCATIONS WITH LIGHT SWITCHES. THERMOSTAT BOXES AND CONDUITS TO ABOVE CEILING ARE TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.
- CONTRACTOR SHALL REPAIR OR REPLACE LAY-IN OR GYPBOARD CEILING AS NECESSARY TO INSTALL NEW DUCTWORK, PIPING AND ELECTRICAL CONDUITS.
- ALL EXISTING PLUMBING WASTE, WATER, AND VENT PIPING LOCATION AND ROUTING SHALL BE FIELD VERIFIED.
- FIRE DAMPERS SHALL BE PROVIDED WHERE DUCTWORK PENETRATES ANY RATED ASSEMBLY. REFER TO ARCHITECTURAL CODE PLAN FOR FURTHER DETAILS.

PLUMBING GENERAL NOTES

- ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE (IPC).
- COORDINATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION AND AVOID INTERFERENCES AND CONFLICTS. BEFORE ANY PIPING, DUCTWORK, CONDUIT, ETC. IS INSTALLED, IT SHALL BE COORDINATED CAREFULLY BETWEEN ALL TRADES.
- MAINTAIN MANDATORY 10'-0" SEPARATION FROM ALL VENTS/EXHAUST AND OUTSIDE AIR INTAKES. REFER TO MECHANICAL PLANS PRIOR TO ROUGH-IN.
- ALL DOMESTIC WATER, WASTE, AND VENT PIPING SHALL BE ROUTED TIGHT TO STRUCTURE. COORDINATE ROUTING WITH ALL TRADES.
- PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONS. IF ANY DISCREPANCIES OCCUR FROM THESE PLANS, CONTACT A/E IMMEDIATELY.
- UNLESS NOTED OTHERWISE, MAINTAIN MINIMUM 1/8" PER 1'-0" SLOPE ON ALL DRAINAGE PIPING.
- ALL PLUMBING PIPING SHALL BE INSULATED / JACKETED PER SPECIFICATIONS.
- ALL PLUMBING MATERIALS SHALL BE PER SPECIFICATIONS AND SCHEDULES.



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146
01-02-2025

PROJECT NO:	2403
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt
DESIGNED BY:	CMW
DRAWN BY:	DM
CHECKED BY:	WAI
APPROVED BY:	Approver
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SHEET TITLE
MEP GENERAL NOTES AND ABBREVIATIONS
ME001
SHEET 78 OF 102

GAS CONNECTED LOAD TABLE

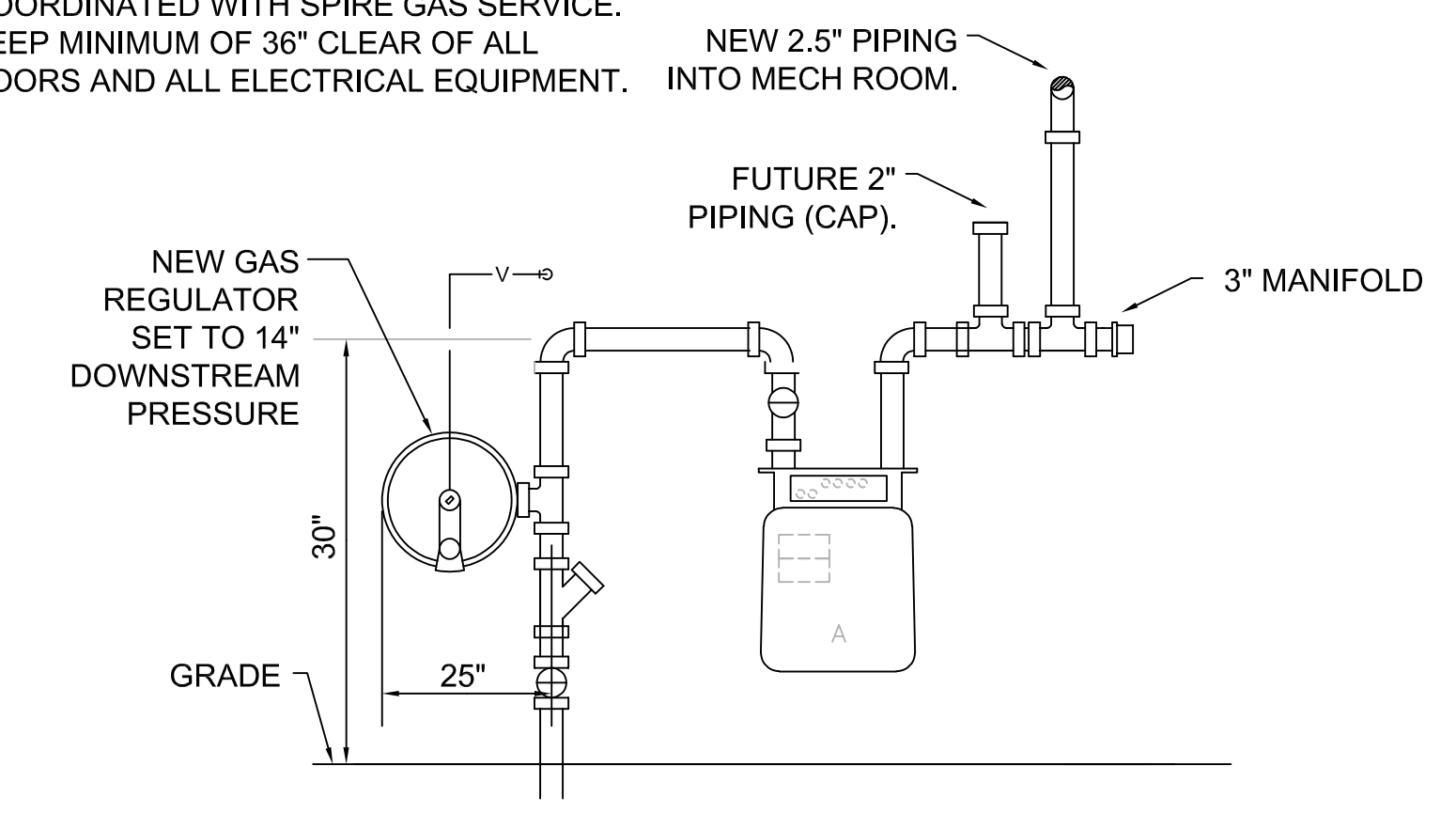
EQUIPMENT:	BTUH
TANKLESS WATER HEATERS (2)	398,000
NEW RTU-1	450,000
FUTURE	150,000
TOTAL BUILDING LOAD	998,000

CONTRACTOR SHALL CONTACT XXXX WITH SPIRE GAS SERVICE (785-XXX-XXXX) AND COORDINATE REQUIREMENTS OF NATURAL GAS SERVICE, SUPPLIED AT LOW PRESSURE (1/2-PSI), AS SHOWN ON PLANS. PROVIDE ALL NECESSARY MATERIALS FOR A COMPLETE INSTALLATION, INCLUDING NEW METER, NEW REGULATOR, ETC.

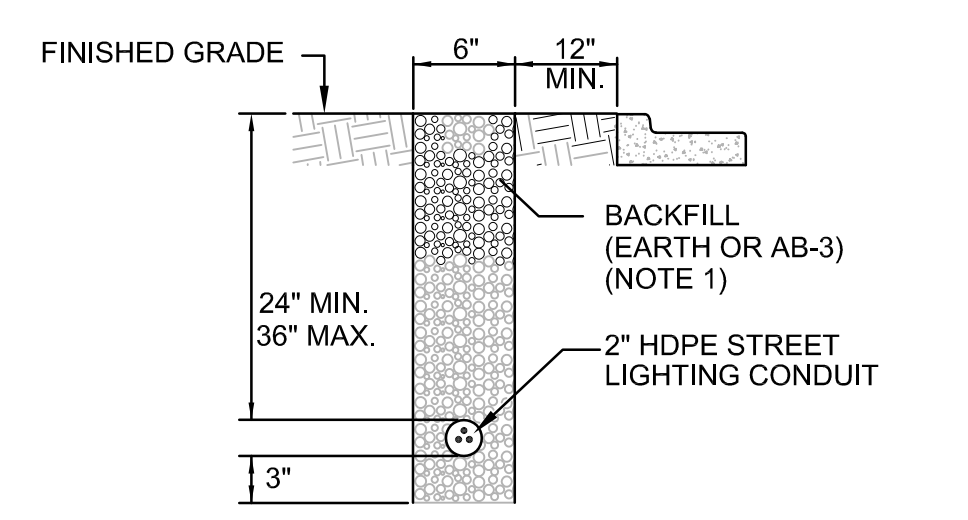
ESTIMATED GAS HEATING LOAD @ LOW PRESSURE (14"wc)

METER	CFH	SIZE
A	1000	2"

NOTE:
GAS METER LOCATION SHALL BE COORDINATED WITH SPIRE GAS SERVICE. KEEP MINIMUM OF 36" CLEAR OF ALL DOORS AND ALL ELECTRICAL EQUIPMENT.



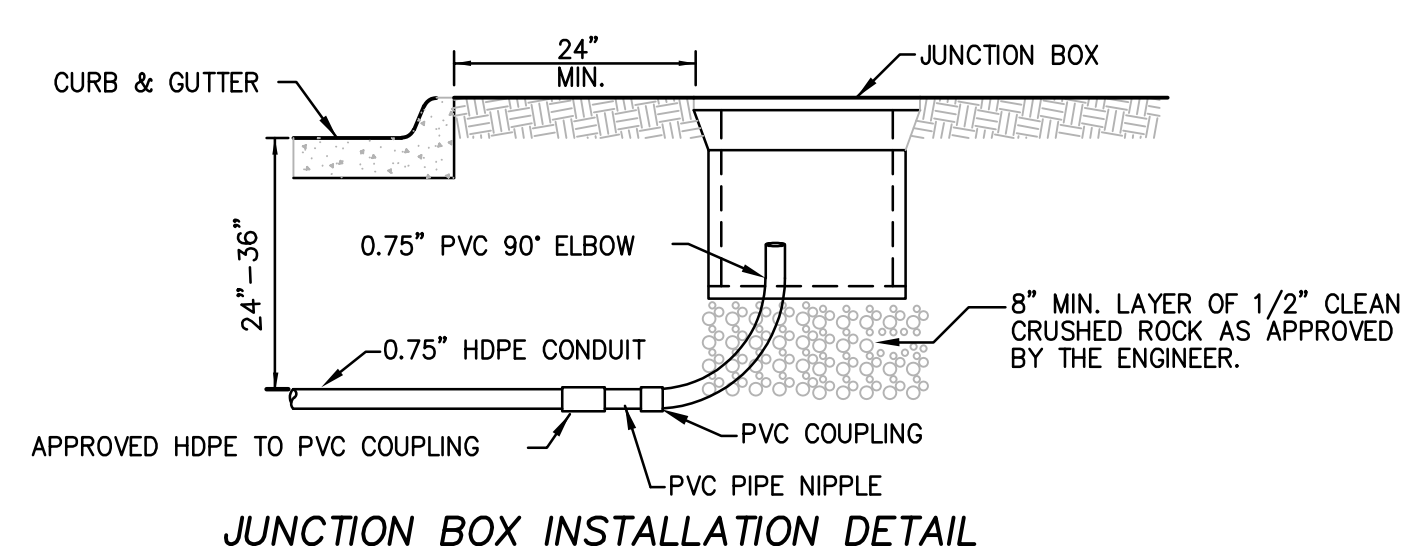
4 GAS METER ELEVATION
SCALE: NONE



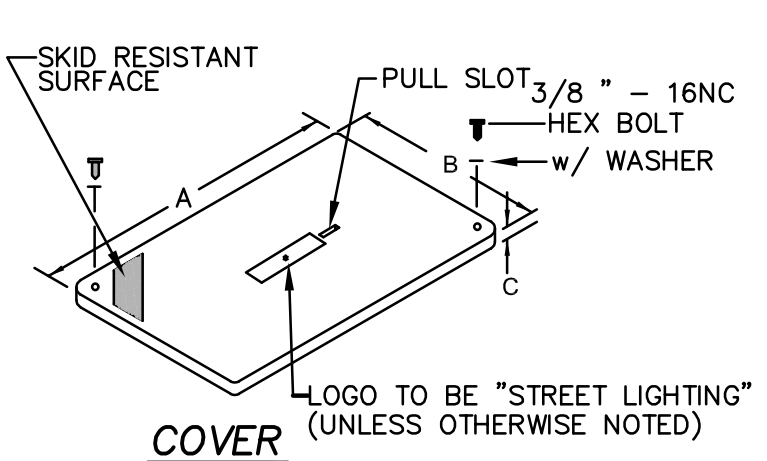
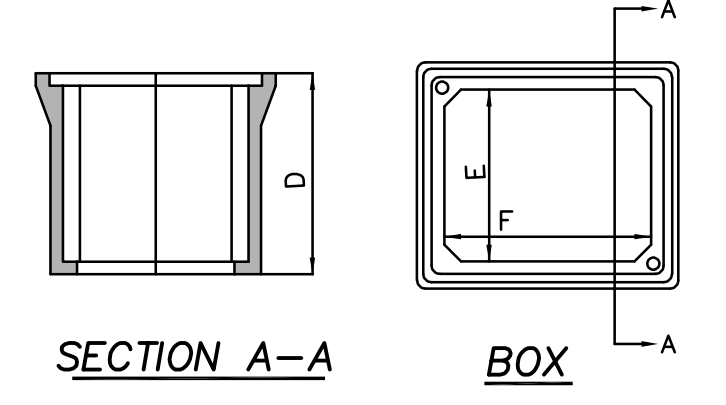
TRENCHING IN UNPAVED AREAS

NOTE:
ALL TRENCHES FOR CONDUIT UNDER PROPOSED PAVED SURFACES SHALL BE BACKFILLED WITH FLOWABLE FILL.

3 TRENCHING DETAILS
SCALE: NTS



JUNCTION BOX INSTALLATION DETAIL



TYPE	DIMENSION (IN.)					
	A	B	C	D	E	F
1-JUNCTION	12 3/8	12 3/8	3/4	12 3/4	9 3/8	10 3/8

2 EXTERIOR QUAZITE DETAIL
SCALE: NTS

SITE PLAN NOTES

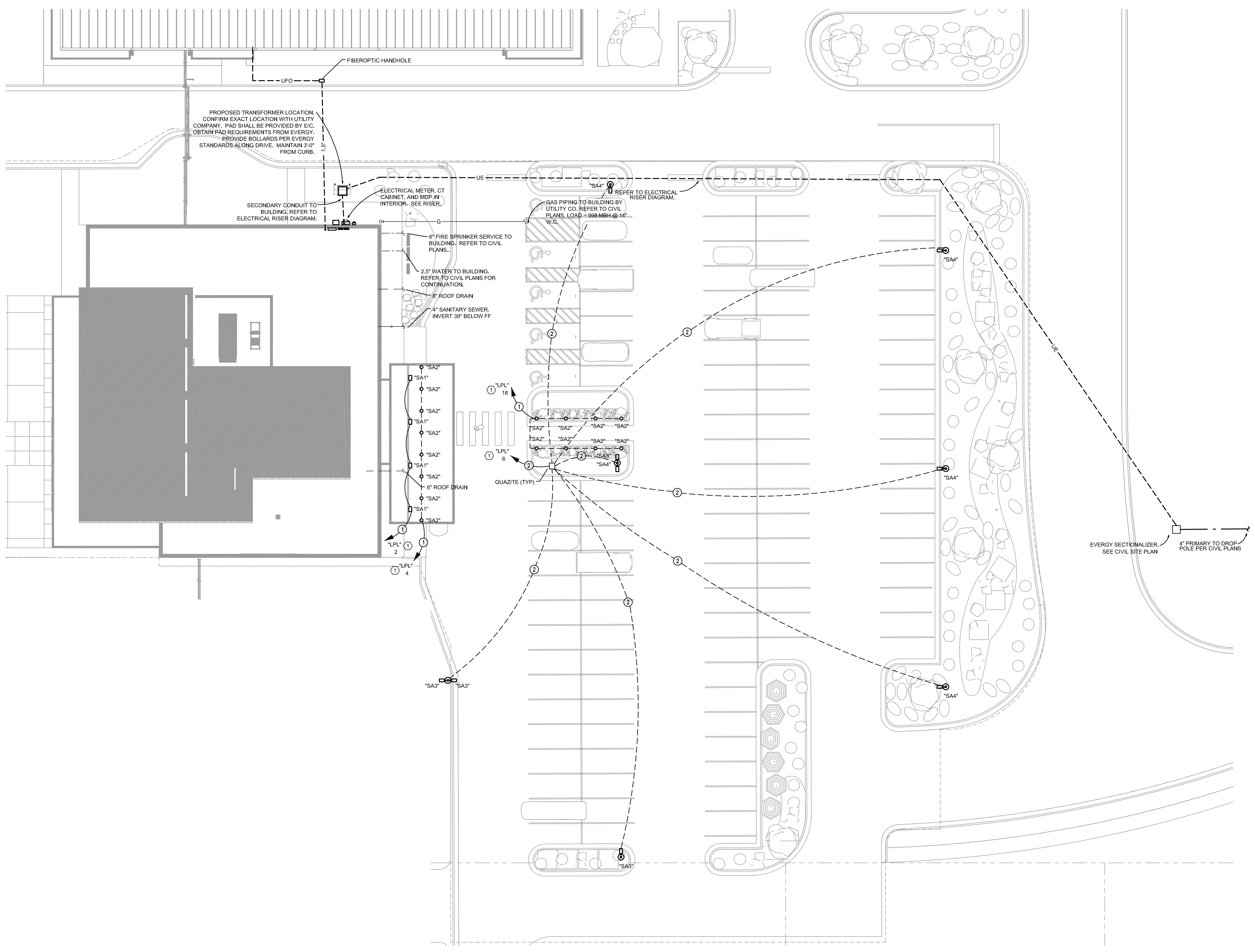
- 1. ROUTE HOMERUN VIA LIGHTING CONTROL SYSTEM "LCS1". REFER TO RELAY PANEL SCHEDULE FOR ZONE CONTROLLED BY RELAY PRIOR TO HOMERUN TO POWER PANEL. REFER TO DETAILS ON SHEET E300.

FEEDER SCHEDULE

- 1. 2 - #10 AND 1 - #10 GROUND IN 0.75" CONDUIT.
- 2. 2 - #8 AND 1 - #10 GROUND IN 0.75" CONDUIT.

GENERAL NOTES

- REFER TO CIVIL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND FOR ROUTING OF ALL UTILITIES OUTSIDE THE BUILDING.
- CONTRACTOR SHALL CONTACT LEE'S SUMMIT WATER DEPARTMENT AND ARRANGE FOR WATER SERVICE AND FIRE SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY LOCAL AUTHORITIES INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR WATER SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF LOCAL AUTHORITIES.
- CONTRACTOR SHALL CONTACT LEE'S SUMMIT PUBLIC WORKS AND ARRANGE FOR SEWER SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY LOCAL AUTHORITIES INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR SEWER SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES.
- CONTRACTOR SHALL CONTACT SPIRE GAS AND ARRANGE FOR GAS SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY UTILITY COMPANY INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR GAS SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES.
- CONTRACTOR SHALL CONTACT EVERY POWER & LIGHT AND ARRANGE FOR ELECTRIC SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY UTILITY COMPANY INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR ELECTRIC SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES.
- CONTRACTOR SHALL STUB OUT A 1.5" SUPPLY LINE FOR IRRIGATION SYSTEM FROM INTERIOR BUILDING BACKFLOW PREVENTER. REFER TO CIVIL PERFORMANCE SPECIFICATION FOR SYSTEM REQUIREMENTS.



1 MEP SITE PLAN
SCALE: 1/16"=1'-0"



1627 MAIN STREET, SUITE 600
KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100
KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300
KANSAS CITY, MO 64108

**KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI**
**GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172**



Cory Wilson - MO #PE-201009876
Certificate of Authority - MO #2024005146
01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION
PROJECT NO:	2403	
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt	
DESIGNED BY:	CMW	
DRAWN BY:	DM	
CHECKED BY:	WAI	
APPROVED BY:	Approver	
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SHEET TITLE
MEP SITE PLAN

ME002
SHEET 79 OF 102

8/11/2024 10:09:20 PM

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LEE'S SUMMIT, MISSOURI
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146
01-02-2025

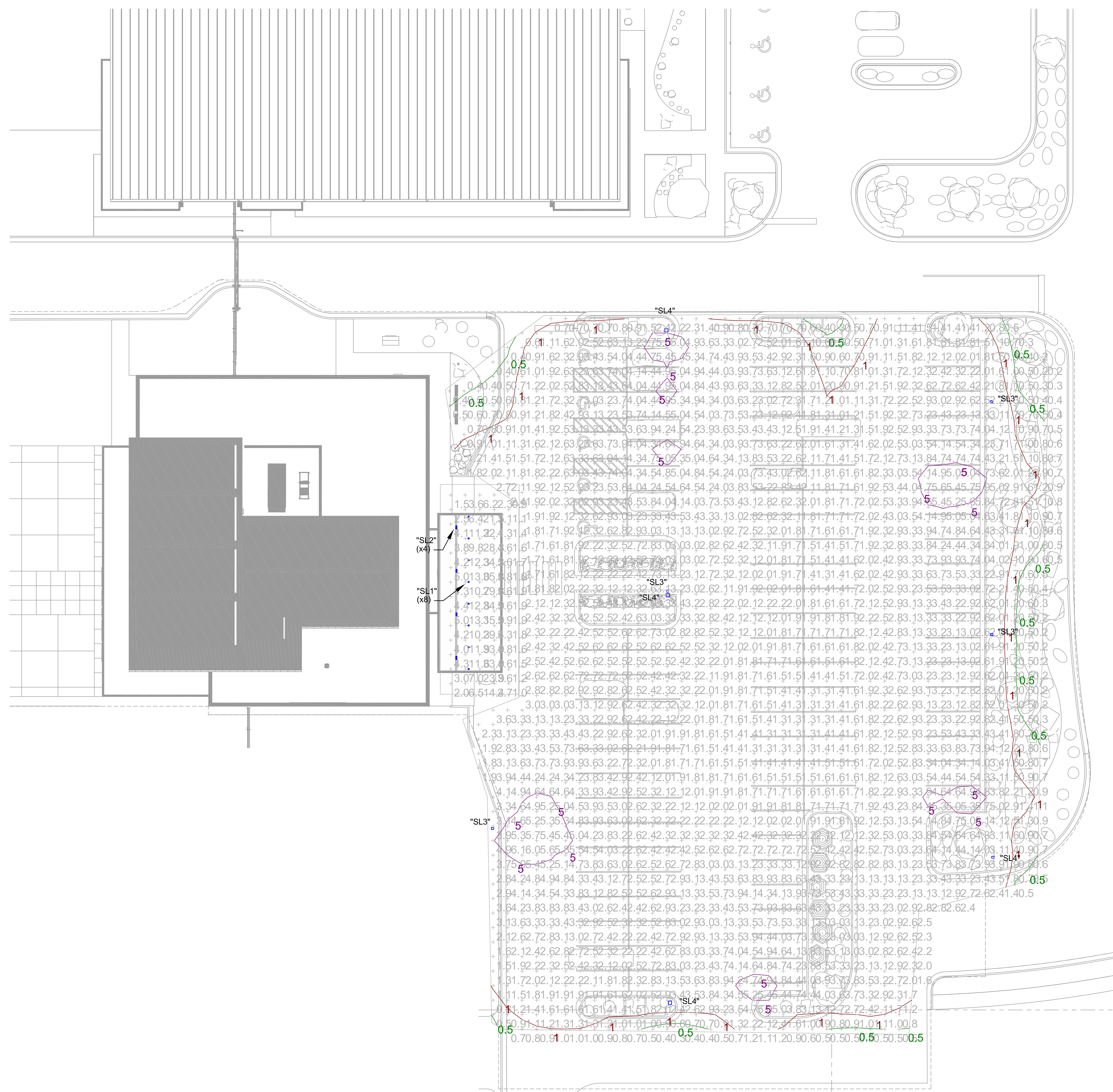
LEES SUMMIT MUNICIPAL AIRPORT LEES SUMMIT, MO	
A	01.03.25 CITY REVIEW COMMENTS
MARK	DATE DESCRIPTION
PROJECT NO:	2403
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt
DESIGNED BY:	CMW
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SHEET TITLE	
LIGHTING SITE PHOTOMETRIC PLAN	
ME003	
SHEET 80 OF 102	

EXTERIOR LIGHT FIXTURE PHOTOMETRIC SCHEDULE

Symbol	Label	Image	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power	Polar Plot
○	SL1		8	KIM LIGHTING	PA7R-CH1-12L-020-4K7	PA7R	1	1832	1	22	LOT_ELE_Exporting
□	SL2		4	KIM LIGHTING	CY2-45-4K7-2-3-3-R	CY2	1	4405	1	51.57	LOT_ELE_Exporting
□	SL3		4	KIM LIGHTING	AR2-81L-700-4K7-3	AR2	1	18588	1	171.66	LOT_ELE_Exporting
□	SL4		3	KIM LIGHTING	AR2-81L-700-4K7-4	AR2	1	19220	1	178.24	LOT_ELE_Exporting

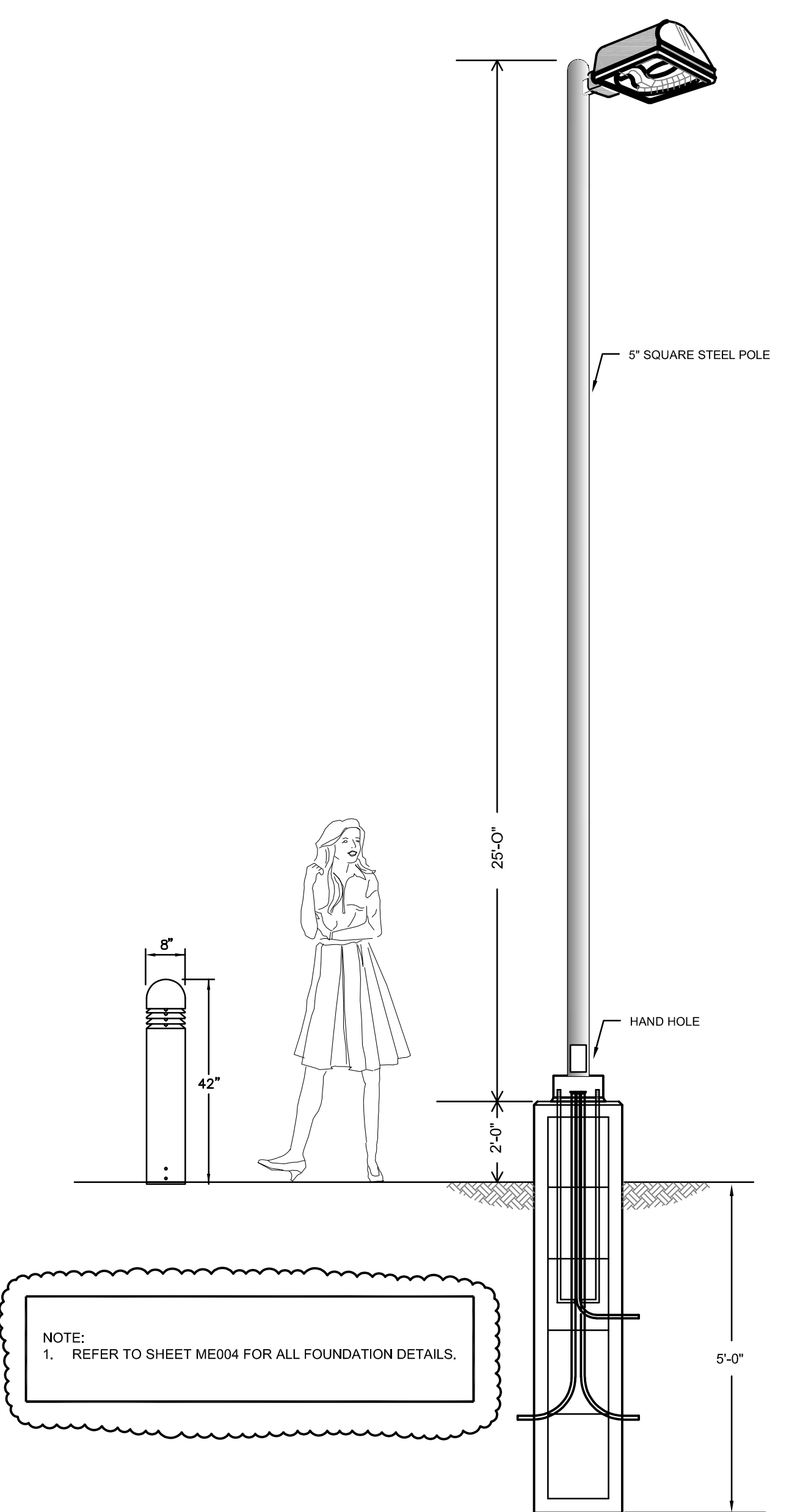
STATISTICS

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking Lot	+	2.6 fc	6.1 fc	0.2 fc	30.5:1	13.0:1
Canopy	+	9.6 fc	35.9 fc	0.9 fc	39.9:1	10.7:1



1 SITE PHOTOMETRICS PLAN
SCALE: 1/16"=1'-0"

2 LIGHT POLE DETAILS
SCALE: NTS



**KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI**
**GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172**



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146
01-02-2025

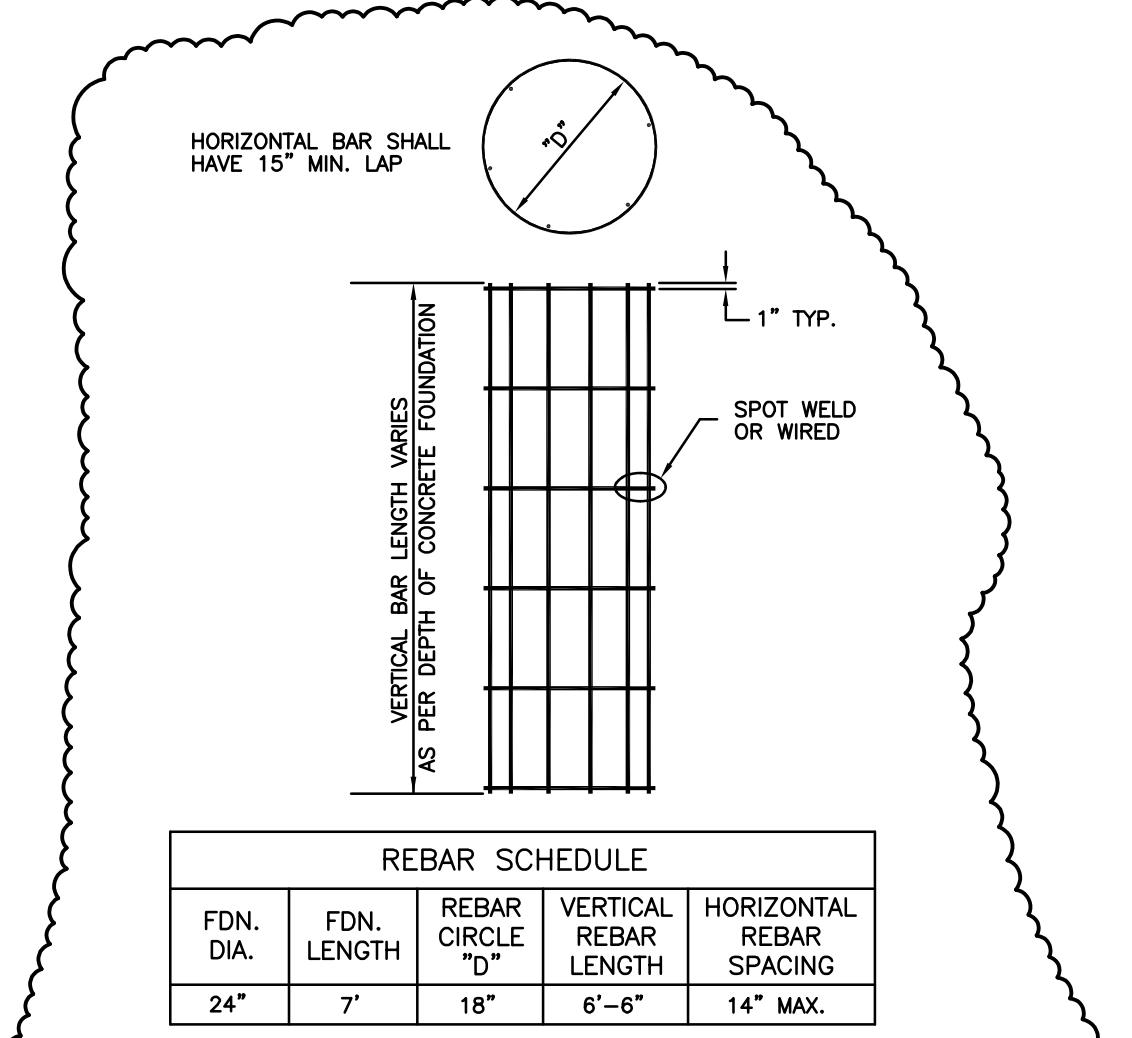
LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT, MO

A 01.03.25 CITY REVIEW COMMENTS
MARK DATE DESCRIPTION

PROJECT NO: 2403
CAD DWG FILE: Lee's Summit - Terminal MEP.rvt
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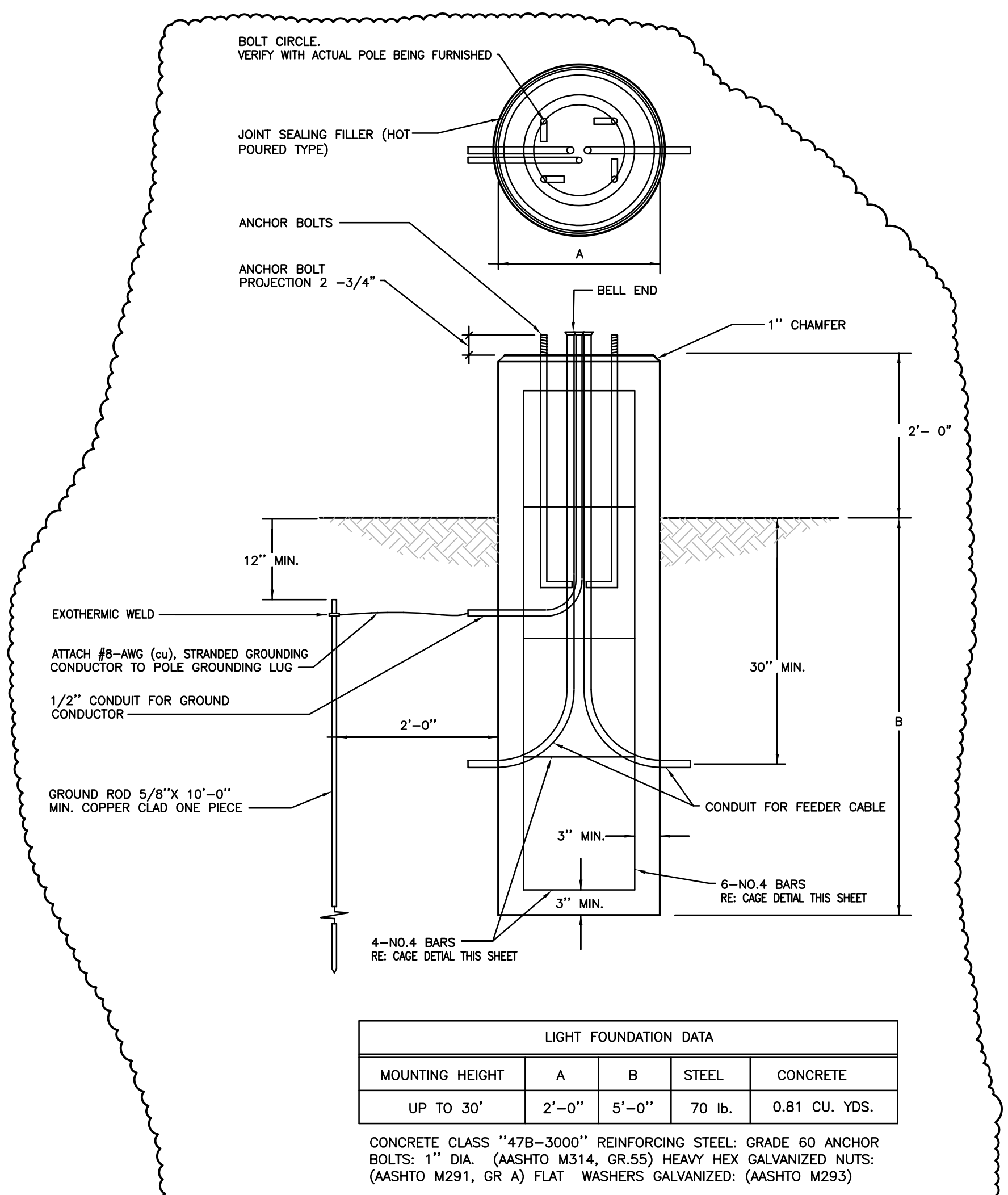
SHEET TITLE
SITE ELECTRICAL DETAILS
ME004
SHEET 98 OF 102

8/11/2024 10:09:20 PM



REBAR SCHEDULE				
FDN. DIA.	FDN. LENGTH	REBAR CIRCLE	VERTICAL REBAR LENGTH	HORIZONTAL REBAR SPACING
24"	7'	18"	6'-6"	14" MAX.

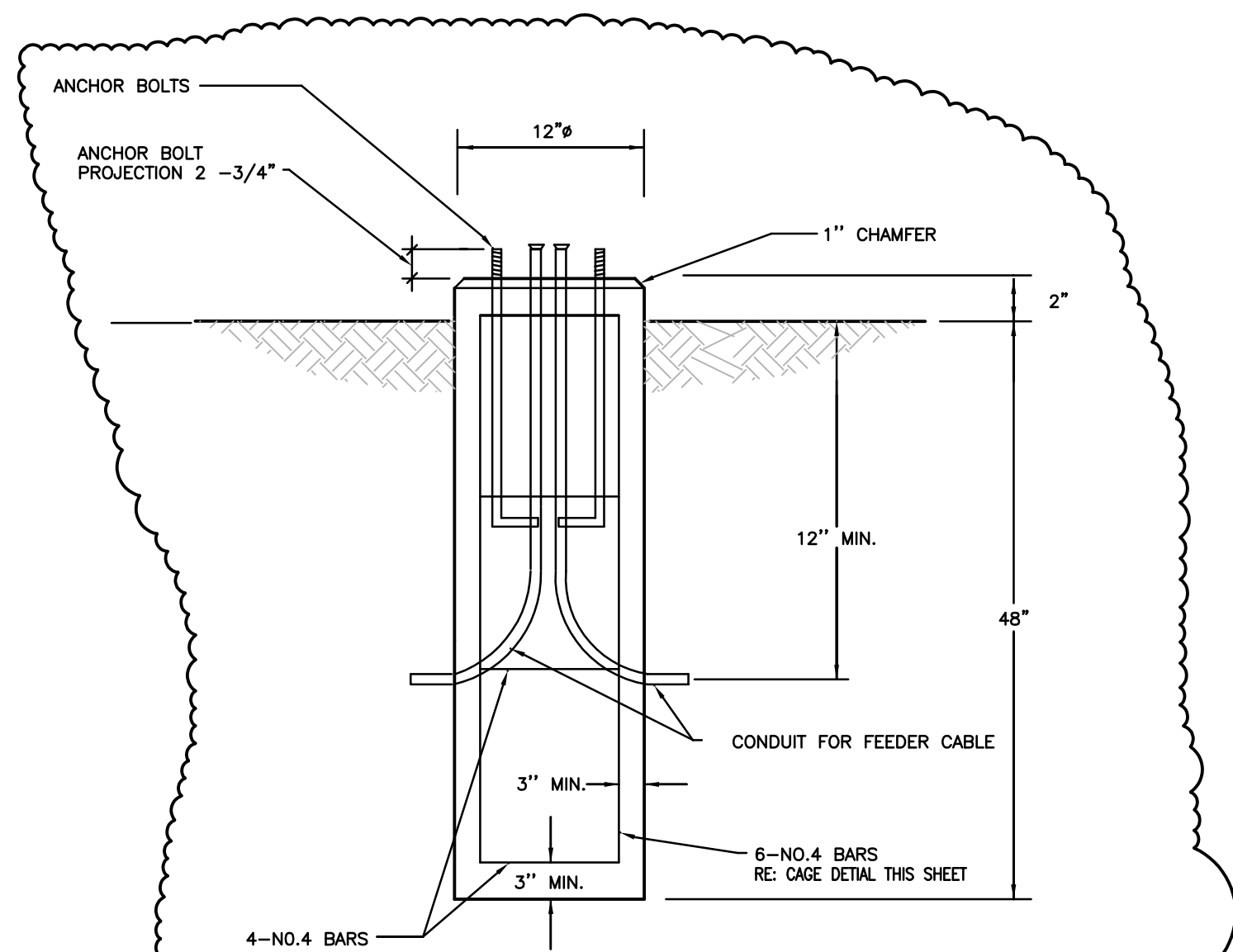
4 REBAR CAGE DETAIL
SCALE:



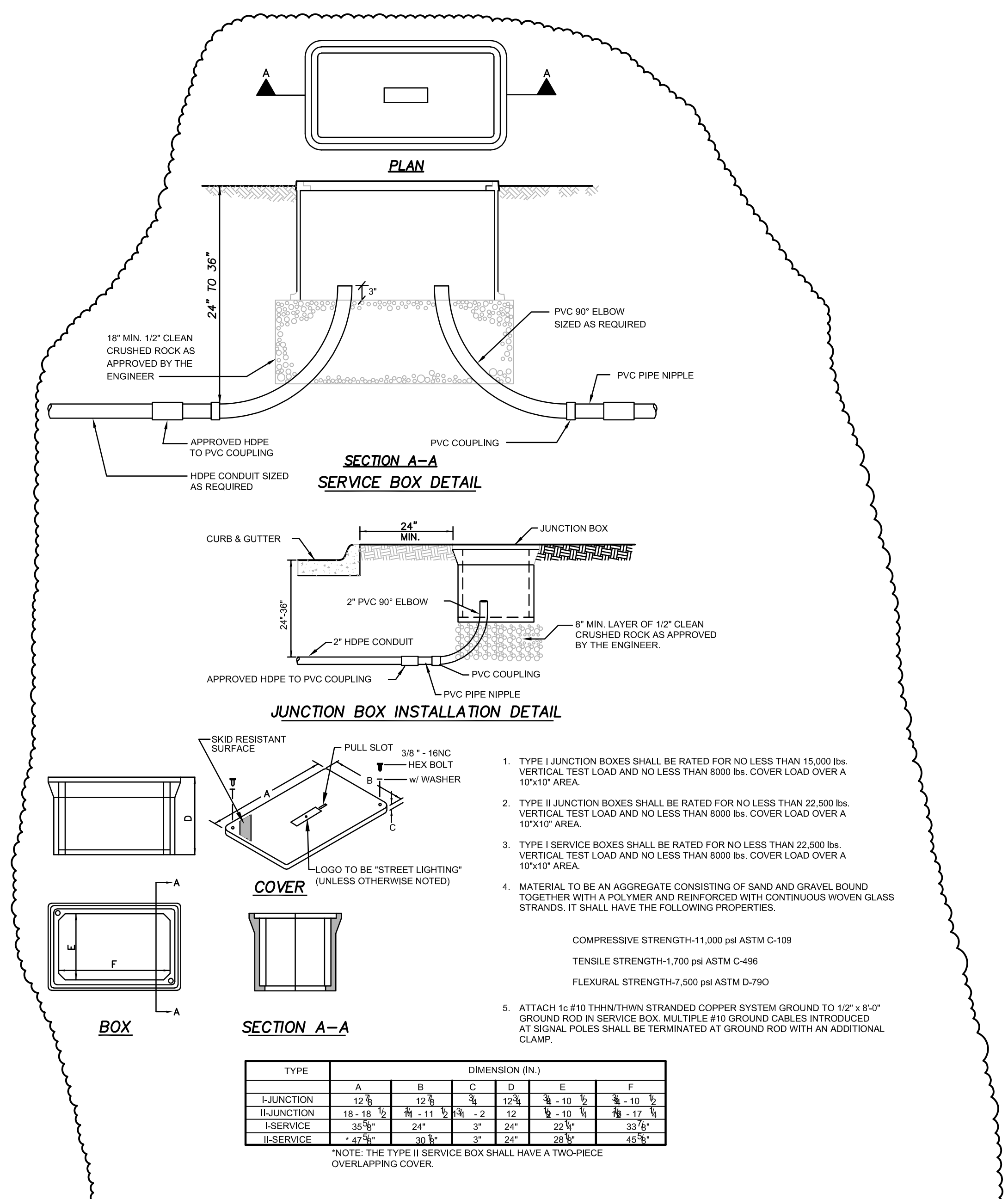
LIGHT FOUNDATION DATA				
MOUNTING HEIGHT	A	B	STEEL	CONCRETE
UP TO 30'	2'-0"	5'-0"	70 lb.	0.81 CU. YDS.

CONCRETE CLASS "478-3000" REINFORCING STEEL: GRADE 60 ANCHOR BOLTS: 1" DIA. (AASHTO M314, GR 55) HEAVY HEX GALVANIZED NUTS: (AASHTO M291, GR A) FLAT WASHERS GALVANIZED: (AASHTO M293)

3 PARKING LOT POLE FOUNDATION
SCALE:

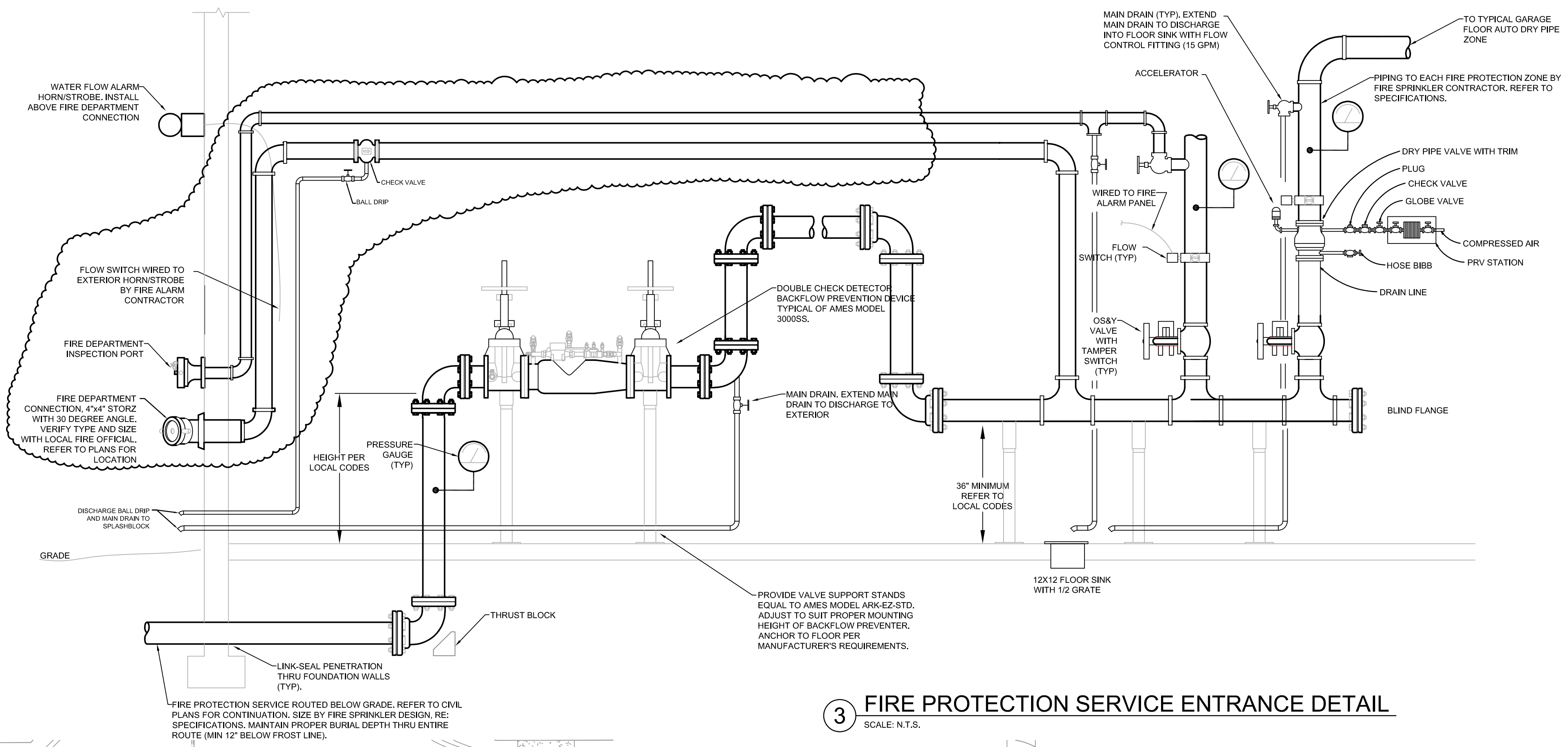


2 BOLLARD FOUNDATION DETAIL
SCALE:



TYPE	DIMENSION (IN.)					
	A	B	C	D	E	F
I-JUNCTION	12 1/2	12 1/2	12 1/2	12 1/2	10 1/2	10 1/2
II-JUNCTION	18 1/2	18 1/2	18 1/2	18 1/2	10 1/2	17 1/2
I-SERVICE	35 1/2	24	24	24	22 1/2	33 1/2
II-SERVICE	42 1/2	30 1/2	30 1/2	30 1/2	28 1/2	45 1/2

1 FIBERGLASS REINFORCED POLYMER CONCRETE JUNCTION & SERVICE BOX DETAILS
NOT TO SCALE



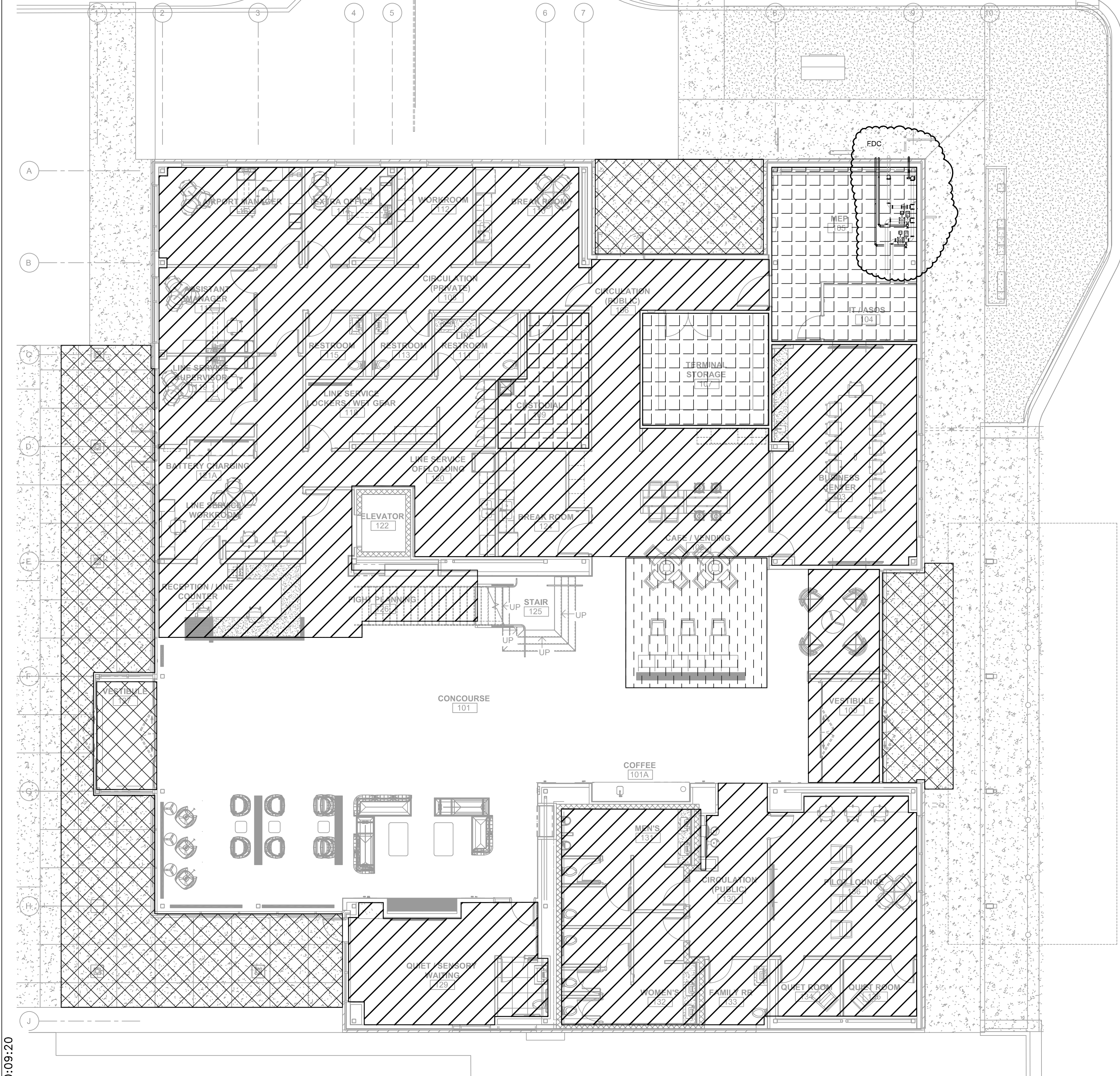
3 FIRE PROTECTION SERVICE ENTRANCE DETAIL
SCALE: N.T.S.

HATCH KEY

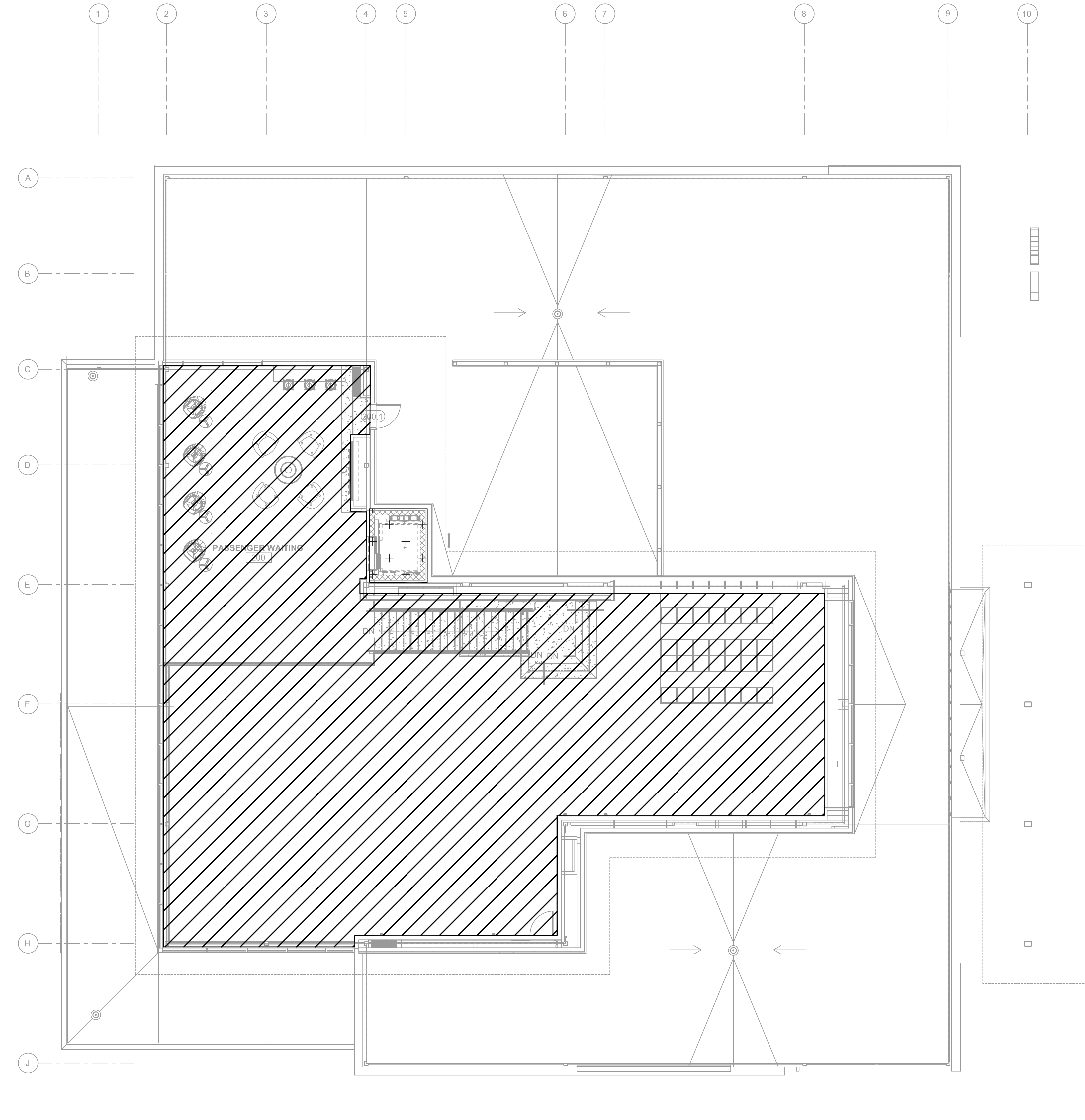
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW LIGHT HAZARD FIRE SPRINKLER COVERAGE PER NFPA 13 AND SPECIFICATION DIVISION 21
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW ORDINARY HAZARD FIRE SPRINKLER COVERAGE PER SPECIFICATION DIVISION 21
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW DRY PIPE SPRINKLER SYSTEM W/DRY FREEZING COOLER OCCUR FIRE SPRINKLER COVERAGE PER SPECIFICATION DIVISION 21
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW ORDINARY HAZARD FIRE SPRINKLER COVERAGE AT TOP OF ELEVATOR SHAFT PER SPECIFICATION DIVISION 21
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW LIGHT HAZARD FIRE SPRINKLER COVERAGE PER SPECIFICATION DIVISION 21

GENERAL NOTES

1. SPRINKLER CONTRACTOR IS RESPONSIBLE FOR VERIFYING HYDRAULIC FLOW PRIOR TO ANY DESIGN CALCULATIONS AND LAYOUTS. WHAT IS SHOWN ON THESE PLANS IS SCHEMATIC AND IS BASED UPON REDUCING FRICTION LOSS WITHOUT THE NEED OF A FIRE PUMP. FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND FOLLOWING SAME PROCEDURES.
2. THE PRESSURES GIVEN WERE APPROXIMATELY THE FOLLOWING:
2.1. 76 PS AT 113TH PLACE AND VERDE DR.
2.2. 65 PS AT 113TH PLACE & 113TH TERRACE.
3. SPRINKLER CONTRACTOR IS RESPONSIBLE FOR VERIFYING OCCUPANCY HAZARD CLASSIFICATION FOR AREAS TO BE PROVIDED WITH NEW SPRINKLER COVERAGE AS INDICATED ON PLANS.
4. THE ENTIRE DESIGN SHALL BE A MET SYSTEM FOLLOWING NFPA 13 FOR ENTIRE BUILDING EXCEPT FOR ATTIC SPACE. THIS AREA SHALL BE PROTECTED WITH A DRY PIPE SYSTEM. LOCATION OF DRY PIPE COMPONENTS, VALVE, COMPRESSOR, ETC. SHALL BE LOCATED ON 3RD FLOOR STORAGE ROOM.
5. SPRINKLER CONTRACTOR SHALL PERFORM WORK IN ACCORDANCE WITH THE REQUIREMENTS OF ALL APPLICABLE STATE AND LOCAL LAWS, CODES AND ORDINANCES, NATIONAL FIRE PROTECTION ASSOCIATION, AND THE AUTHORITY HAVING JURISDICTION.
6. CONTRACTOR SHALL COORDINATE ALL SCHEDULING, ELEVATIONS, SIZES, QUANTITIES, AND ROUTING OF WORK WITH OTHER TRADES, COORDINATE AND FIELD VERIFY SIZE, LOCATION, ELEVATION AND QUANTITY OF ALL ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PIPING EQUIPMENT AND COMPONENTS THAT MAY IMPACT IMPLEMENTATION OF THIS WORK.
7. UNLESS OTHERWISE INDICATED, ALL AREAS OF THE BUILDING SHALL BE "WET-PIPE" FIRE PROTECTION SYSTEM AS SHOWN ON PLANS.
8. PROVIDE NEW QUICK-RESPONSE SPRINKLER HEADS FOR ALL AREAS INDICATED ON PLANS. FOR AREAS WITH LAYERS OF HARD CEILING, PROVIDE SEMI-RECESSED PENDANT HEADS WITH ESCUTCHION PLATES INSTALLED IN CEILING (ALL PARTS SHALL BE POLISHED CHROME). UNLESS OTHERWISE NOTED, AREAS WITHOUT A CEILING OR ANY UNFINISHED AREA SHALL BE PROVIDED WITH BRASS, UN-PLATED, UPRIGHT PENDANT HEADS.
9. REFER TO SPECIFICATIONS FOR FURTHER FIRE PROTECTION SYSTEM REQUIREMENTS NOT STATED ON PLANS.
10. FIRE PROTECTION WORK SHALL BE INSTALLED BY A QUALIFIED CONTRACTOR (SPRINKLER FITTER OR PER JURISDICTIONAL REQUIREMENTS) WITH A MINIMUM 3 YEARS OF INSTALLATION EXPERIENCE ON PROJECTS WITH FIRE PROTECTION WORK SIMILAR TO THAT REQUIRED FOR THE PROJECT.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL FLOW INFORMATION FOR DESIGN FROM UTILITY COMPANY. VERIFY EXACT READINGS AT CLOSEST LOCATION TO BUILDING.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING HYDRAULIC CALCULATIONS FOR ENTIRE FIRE PROTECTION SYSTEM PRIOR TO BEGINNING WORK. FIRE PROTECTION PLANS SHOWING SPRINKLER HEAD LOCATIONS, HYDRAULIC CALCULATION, AND ALL NECESSARY INFORMATION SHALL BE SUBMITTED FOR APPROVAL AUTHORITY HAVING JURISDICTION. PLANS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF KANSAS.



1 FIRE PROTECTION PLAN- LEVEL 1
SCALE: 1/8"=1'-0"



1 FIRE PROTECTION PLAN - LEVEL 2
SCALE: 1/8"=1'-0"



1627 MAIN STREET, SUITE 600
KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100
KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300
KANSAS CITY, MO 64108

**KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI**
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146
01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

A	01.03.25	CITY REVIEW COMMENTS
MARK	DATE	DESCRIPTION

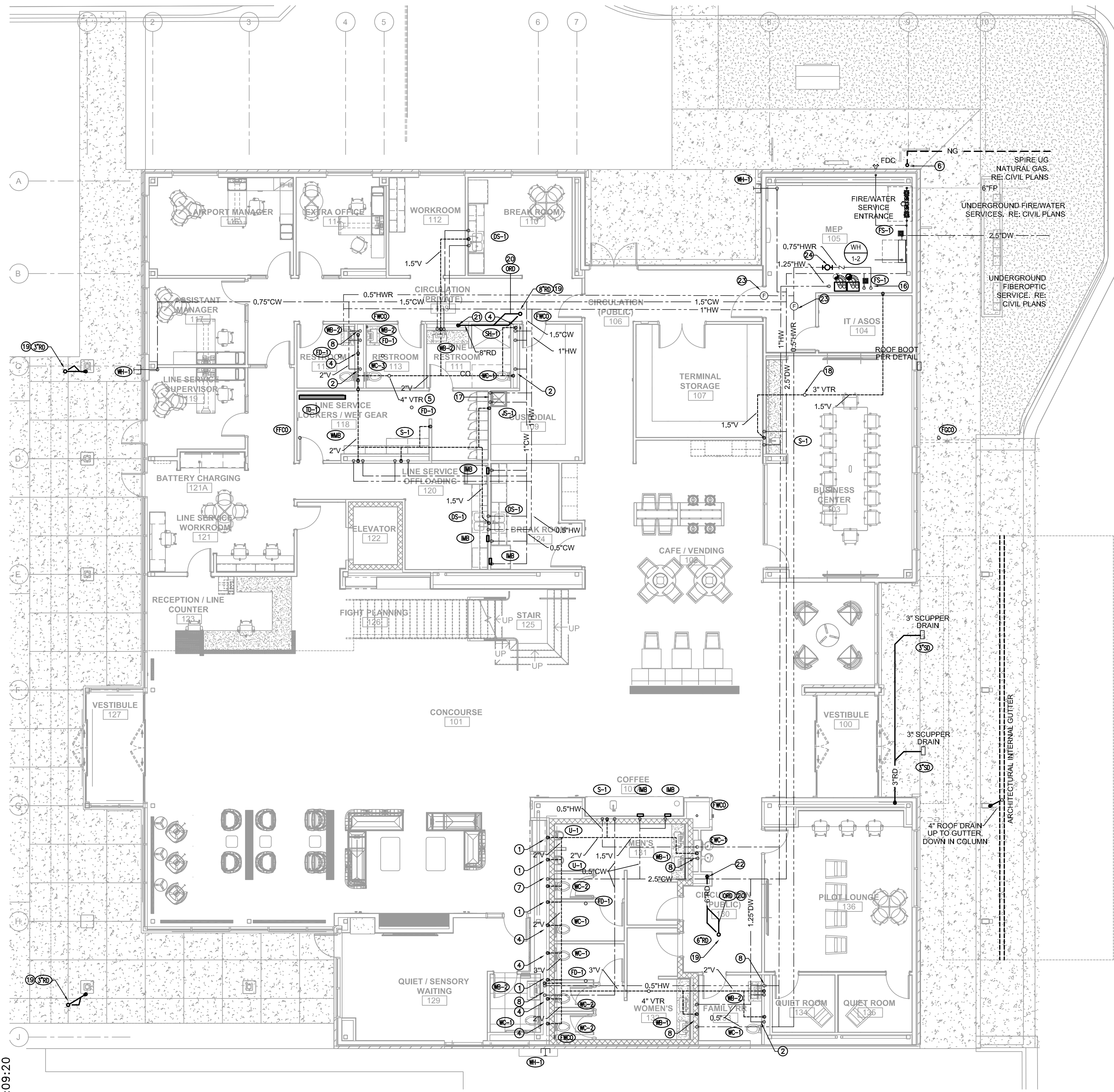
PROJECT NO: 2403
CAD DWG FILE: Lee's Summit - Terminal MEP.rvt
DESIGNED BY: CMW
DRAWN BY: DM
CHECKED BY: WAI
APPROVED BY: Approver
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SHEET TITLE
FIRE PROTECTION PLAN
FP100
SHEET 81 OF 102

PLAN NOTES - ABOVE GRADE

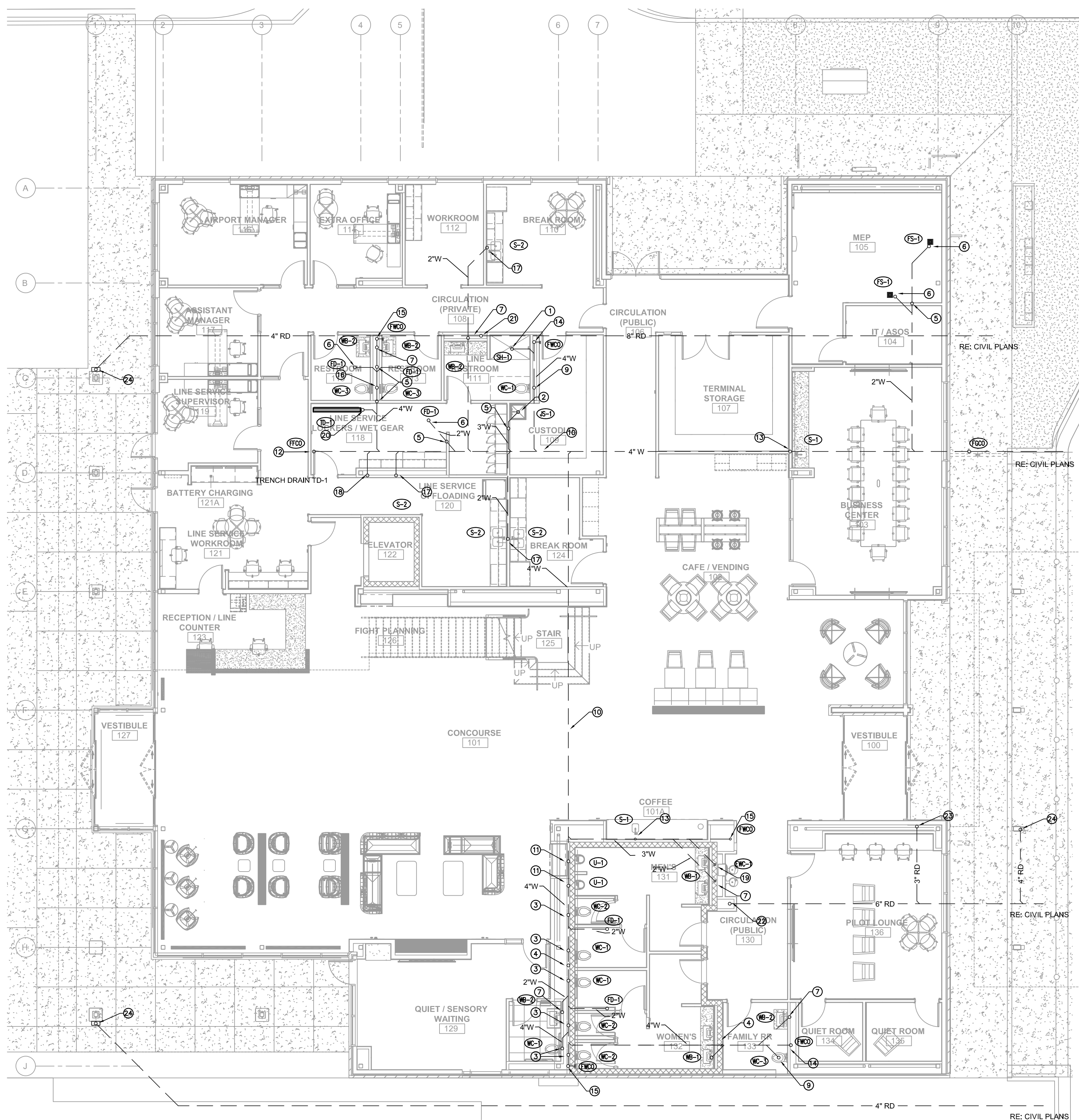
- 1 1.5" VENT DOWN.
- 2 1.25" COLD WATER DOWN TO WATER CLOSETS.
- 3 CONNECT 2" VENT UP TO 3" VENT UP THRU ROOF (VTR).
- 4 2" CIRCUIT VENT DOWN.
- 5 3" VENT UP TO 4" VENT THRU ROOF (VTR).
- 6 NEW GAS METER/REGULATOR WITH LOADS PER SCHEDULE. RE: MECH PLAN.
- 7 2.5" COLD WATER DOWN TO URINALS/WATER CLOSETS. ROUTE MAIN HORIZONTALLY LOW TO CONNECT TO ALL WATER CLOSET FLUSH VALVES (RE: RISER DIAGRAM).
- 8 ROUTE 1-1/2" VENT, 1/2" COLD AND 1/2" HOT WATER DOWN WITHIN WALL TO SERVE LAVATORIES (TEE BOTH DIRECTIONS IF DUAL LAVS).
- 9 ROUTE 1.5" VENT, 1/2" COLD AND 1/2" HOT WATER DOWN TO SINK.
- 10 NEW WALL MOUNTED INSTANTANEOUS WATER HEATER. REFER TO DETAIL FOR PIPING CONNECTIONS. INSTALL 1.25" COLD WATER MAIN AND 1.25" HOT WATER MAIN FROM MANIFOLD.
- 11 2" GAS PIPING DOWN WATER HEATERS. REFER TO WATER HEATER DETAIL.
- 12 2" GAS PIPING UP TO RTU. INSTALL ACCESSORIES AT CONNECTION, INCLUDING GAS COCK, DIRT LEG, AND UNION. TRANSITION TO MATCH CONN.
- 13 1.5" VENT, 0.5" COLD/HOT WATER DOWN TO WASHING MACHINE ROUGH-IN BOX.
- 14 0.5" COLD WATER DOWN TO ICE MAKER ROUGH-IN BOX, EQUAL TO GUY GRAY OR IPS.
- 15 0.75" COLD WATER DOWN TO NEW WALL HYDRANT. MAINTAIN FREEZELESS CONNECTION PER DETAIL. HOSE BIBB EQUAL TO WOODFORD WITH RECESSED BOX AND LOOSE TEE KEY.
- 16 NEW 1" HOT AND COLD WATER, 0.75" RECIRC DOWN TO WATER HEATER PER DETAILS.
- 17 NEW 0.5" HOT/COLD WATER DOWN TO JANITOR BASIN.
- 18 2" VENT UP TO 3" VENT THRU ROOF.
- 19 4" OR 6" or 8" PRIMARY/SECONDARY DRAINS UP TO COMBINATION ROOF DRAIN.
- 20 OVERFLOW FLOW SENSOR INSTALLED IN HORIZONTAL PRIOR TO CONNECTION INTO PRIMARY DRAIN. SEE FIXTURE SCHEDULE, BMS CONNECTION BY TCC.
- 21 8" ROOF DRAIN DOWN INTO CHASE. REFER TO UNDERGROUND PLUMBING PLAN.
- 22 6" ROOF DRAIN DOWN INTO CHASE. REFER TO UNDERGROUND PLUMBING PLAN.
- 23 AUTOMATIC FLOW VALVE SET TO 1 GPM.
- 24 INLINE ECO-CIRC PUMP PER DETAIL.

PLAN NOTES - UNDERGROUND

- 1 2" TRAPPED WASTE UP TO SHOWER BASIN DRAIN.
- 2 3" TRAPPED WASTE UP TO JANITOR BASIN.
- 3 4" WASTE FROM BELOW GRADE UP TO WATER CLOSET CARRIER, 2" VENT UP.
- 4 2" CIRCUIT VENT UP.
- 5 1.5" VENT UP.
- 6 2" TRAPPED WASTE FROM BELOW GRADE TO FLOOR DRAIN/SINK. PROVIDE FLOOR DRAIN WITH PROSET TRAP-GUARD INSERT (RE: DETAIL).
- 7 2" WASTE FROM BELOW GRADE TO LAVATORIES.
- 8 2" TRAPPED WASTE FROM BELOW GRADE TO FLOOR SINK.
- 9 4" WASTE UP TO WALL MOUNTED WATER CLOSET CARRIER, CONTINUE 2" VENT UP.
- 10 INSTALL ALL SANITARY PIPING AT 1/8" SLOPE. UPON COMPLETE INSTALLATION OF NEW BELOW GRADE PIPING, CONTRACTOR SHALL TEST PIPING AT 10 FT HEAD BEFORE MAKING CONNECTION TO EXISTING SAN SEWER.
- 11 2" WASTE UP TO URINAL.
- 12 4" WASTE UP TO FINISH FLOOR CLEANOUT.
- 13 2" WASTE UP TO NEW SINK. CONTINUE 1.5" VENT UP.
- 14 4" WASTE UP TO FINISH WALL CLEANOUT AT 18" AFF. CONTINUE 2" VENT UP.
- 15 4" WASTE UP TO FINISH WALL CLEANOUT AT 18" AFF.
- 16 4" WASTE UP TO WATER CLOSET DOUBLE CARRIER, 2" VENT UP.
- 17 2" WASTE UP TO DOUBLE COMPARTMENT SINK.
- 18 2" WASTE UP TO LAUNDRY ROUGH-IN BOX.
- 19 2" WASTE UP TO ELECTRIC WATER COOLER, CONTINUE 1.5" VENT UP.
- 20 3" TRAPPED WASTE CONNECTED TO END DISCHARGE OF TRENCH DRAIN.
- 21 8" STORM PIPING UP INTO CHASE.
- 22 6" STORM PIPING UP INTO CHASE.
- 23 3" STORM PIPING UP INTO CHASE.
- 24 4" STORM PIPING UP CONNECTING TO GUTTER TO ROUND BOOT.



1 PLUMBING PLAN - ABOVE GRADE
SCALE: 1/8"=1'-0"



1 WASTE & VENT PLAN - BELOW GRADE
SCALE: 1/8"=1'-0"



1627 MAIN STREET, SUITE 600
KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100
KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300
KANSAS CITY, MO 64108

KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146

01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION
PROJECT NO:	2403	
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt	
DESIGNED BY:	CMW	
DRAWN BY:	DM	
CHECKED BY:	WAI	
APPROVED BY:	Approver	
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SHEET TITLE

ABOVE AND
BELOW GROUND
PLUMBING PLANS
P-100

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CITY PROJECT NO. - 17932172**



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146
01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION

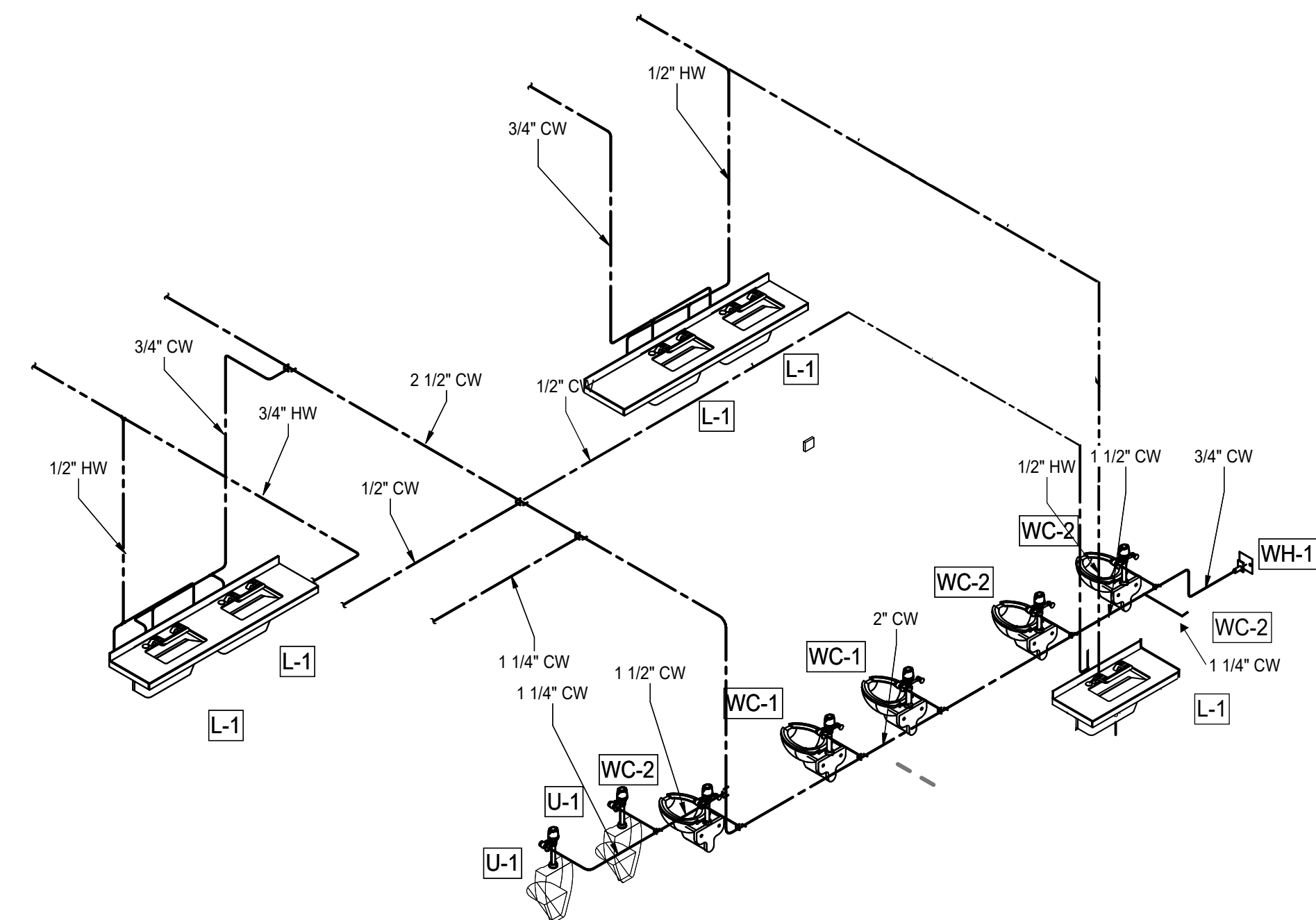
PROJECT NO:	2403
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt
DESIGNED BY:	CMW
DRAWN BY:	DM
CHECKED BY:	WAI
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**PLUMBING
DIAGRAMS**

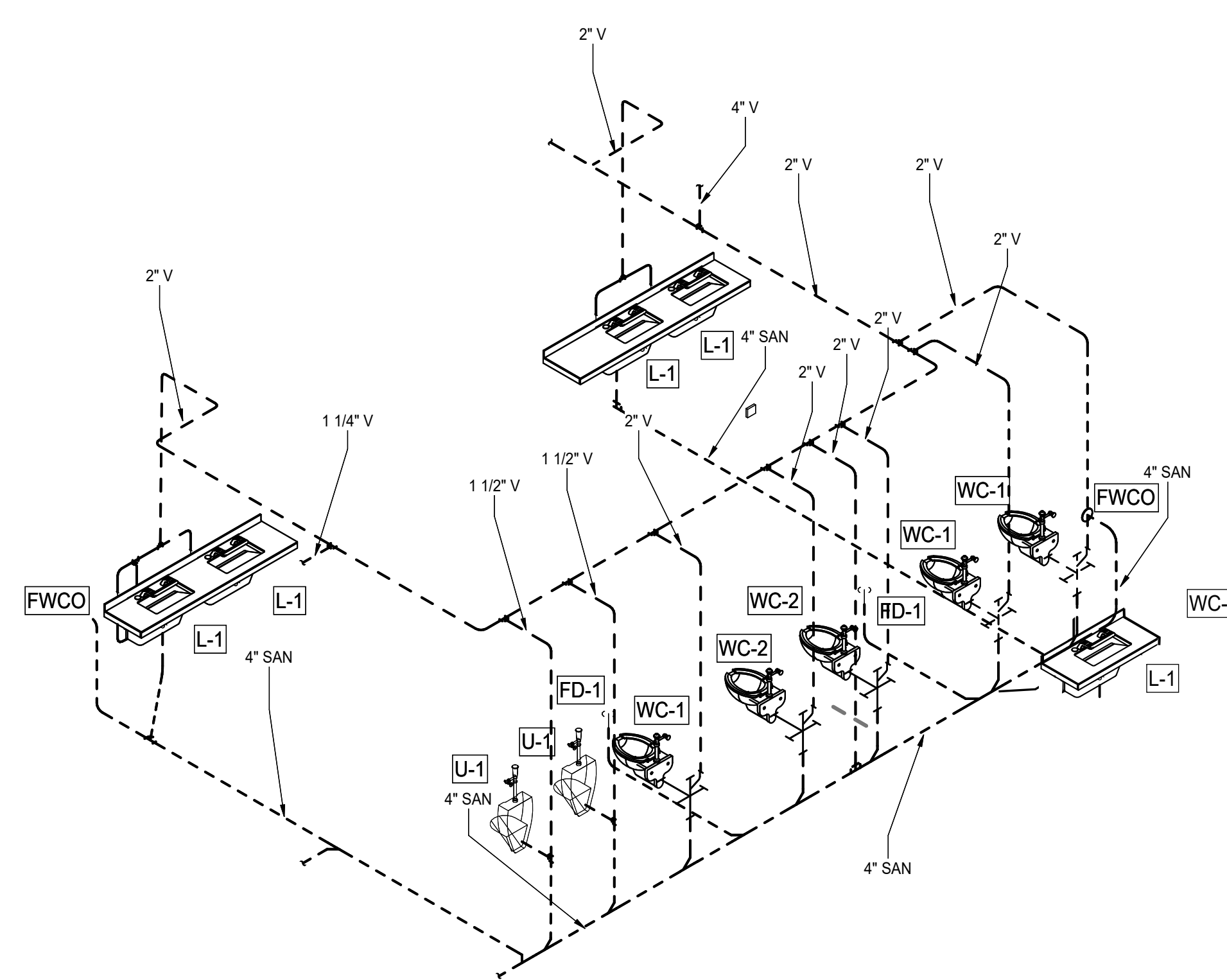
P-300

SHEET 83 OF 102



2 PARTIAL WATER PIPING DIAGRAM

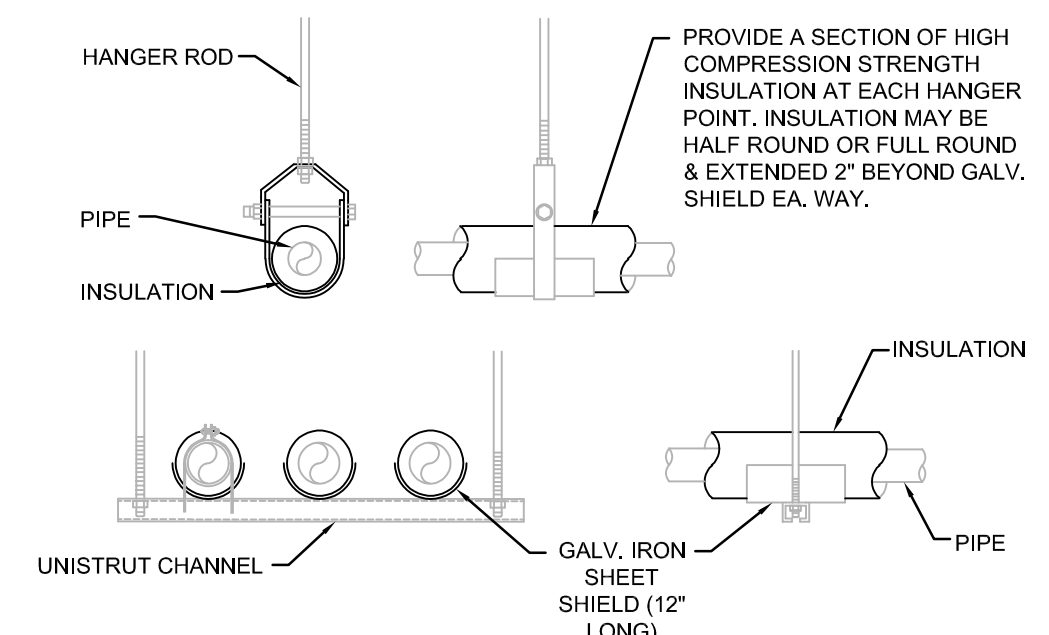
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1 PARTIAL WASTE/VENT PIPING DIAGRAM

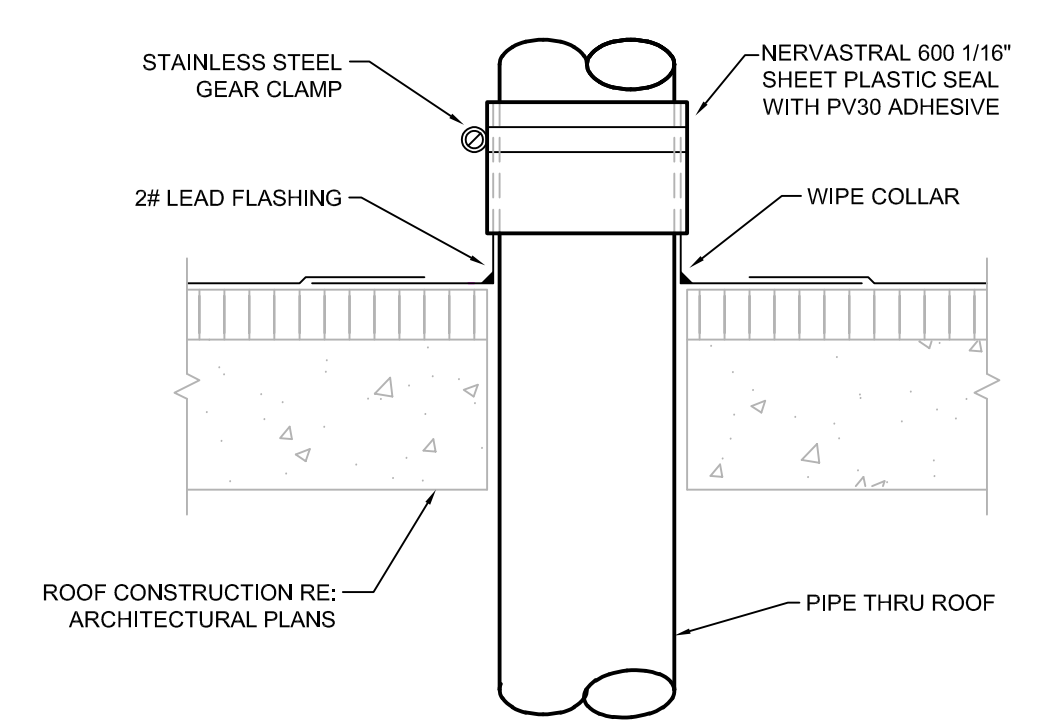
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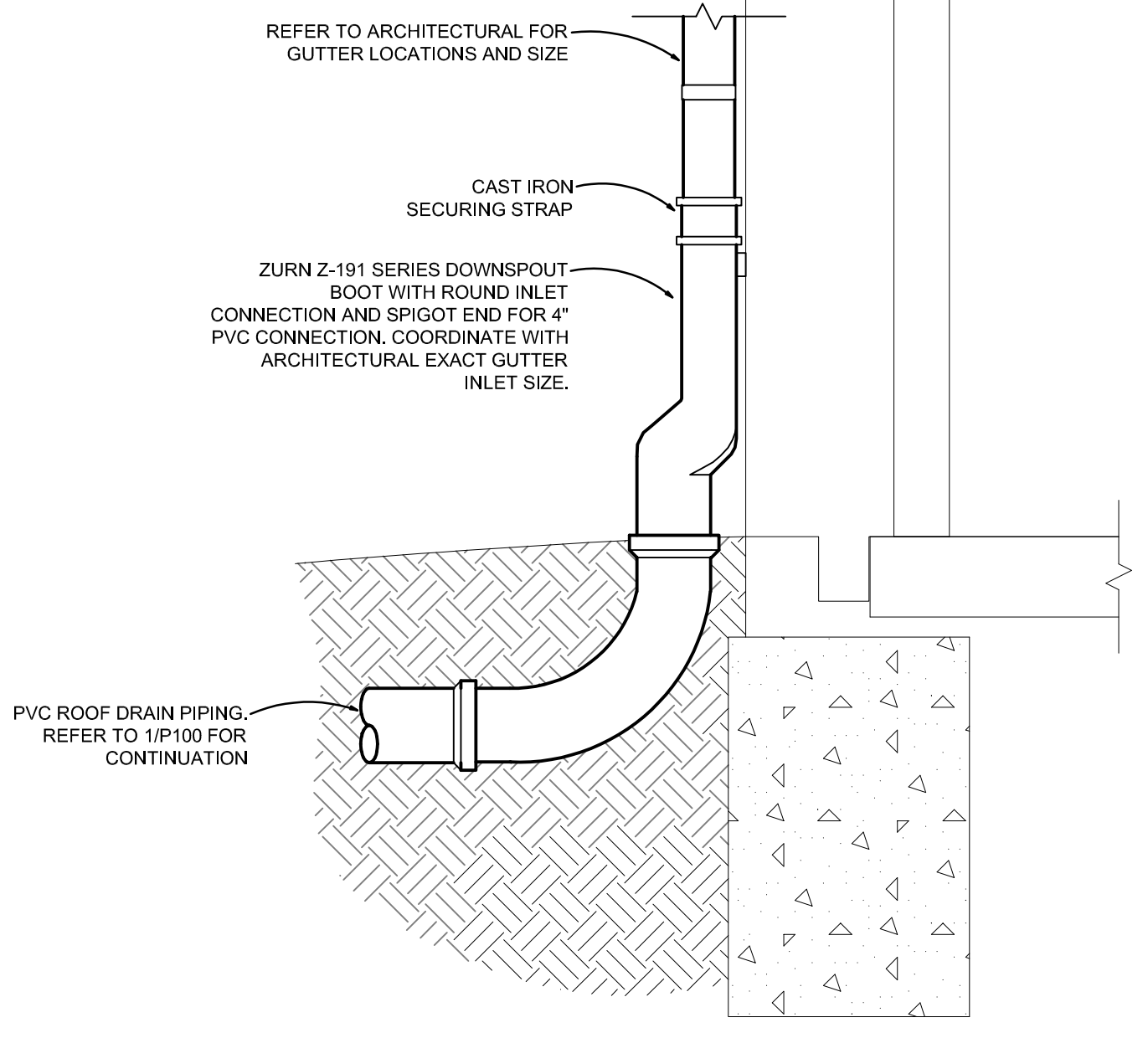


NOTES:
1. ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CORN OF JOISTS OR BEAMS.
2. PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE.

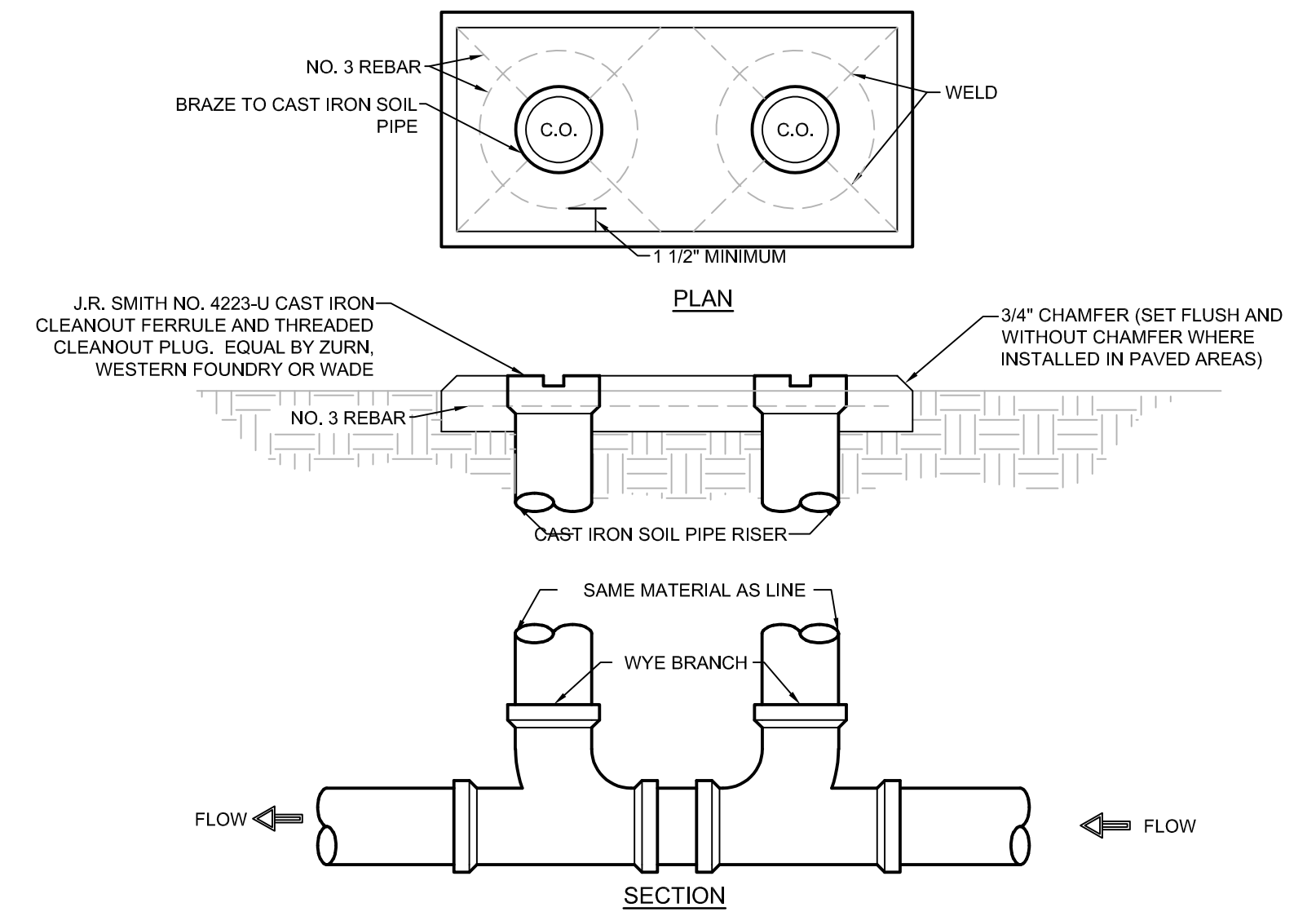
9 PIPE INSULATION DETAIL
SCALE: NONE



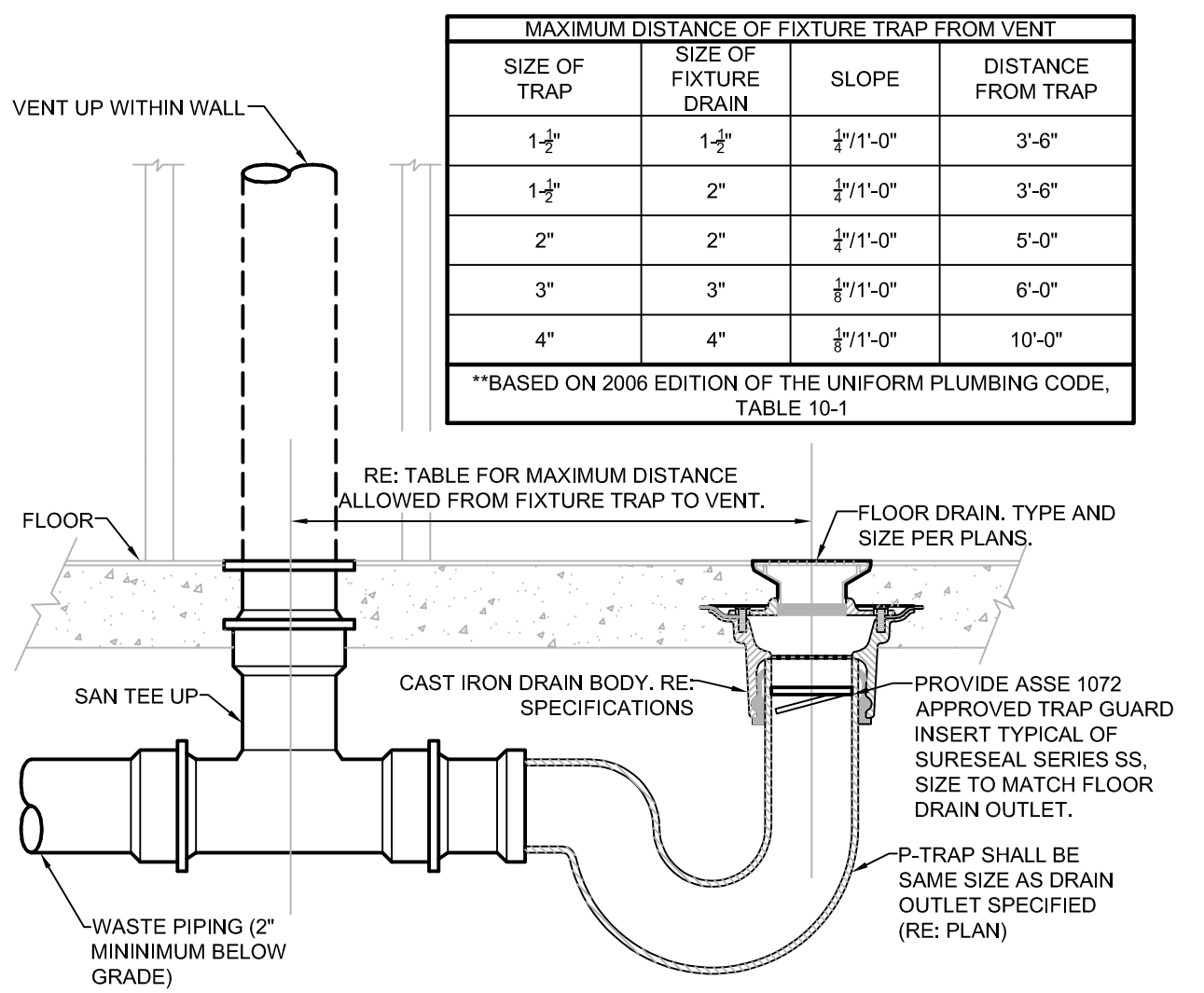
8 VENT THRU ROOF DETAIL
SCALE: NONE



7 DOWNSPOUT BOOT DETAIL
SCALE: NONE



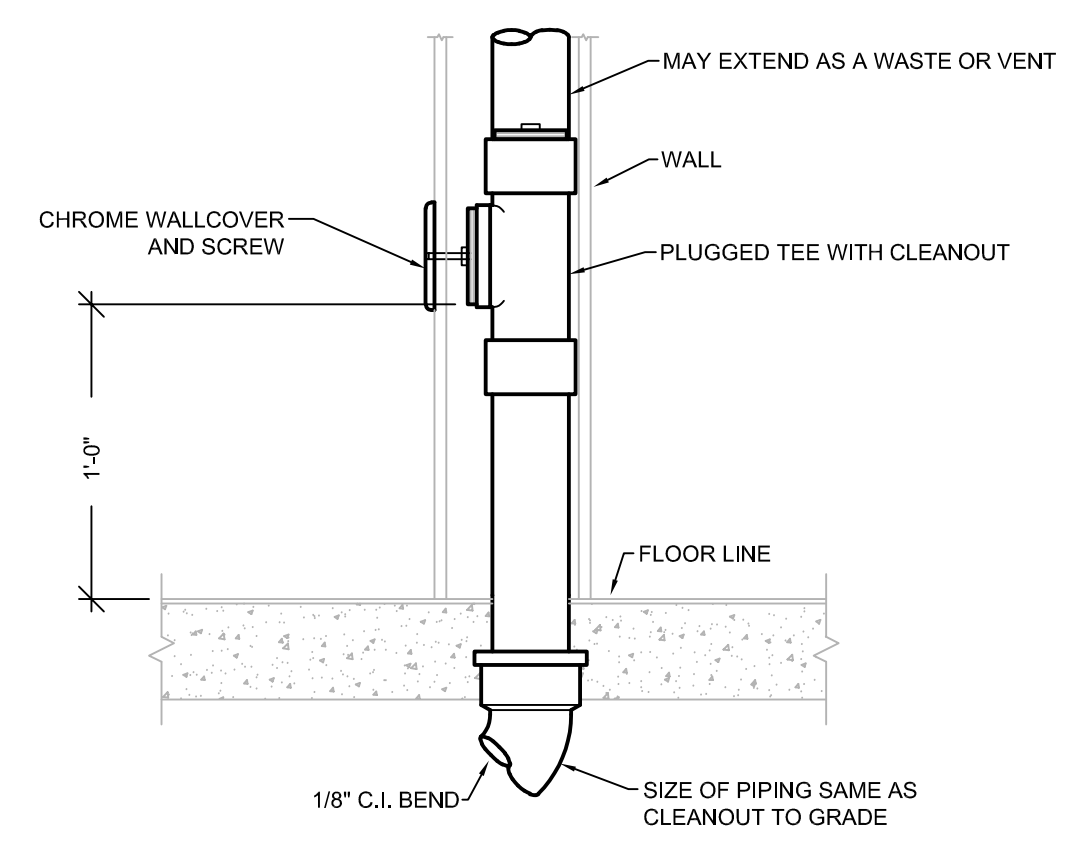
6 TWO WAY FINISHED GRADE CLEANOUT DETAIL
SCALE: NONE



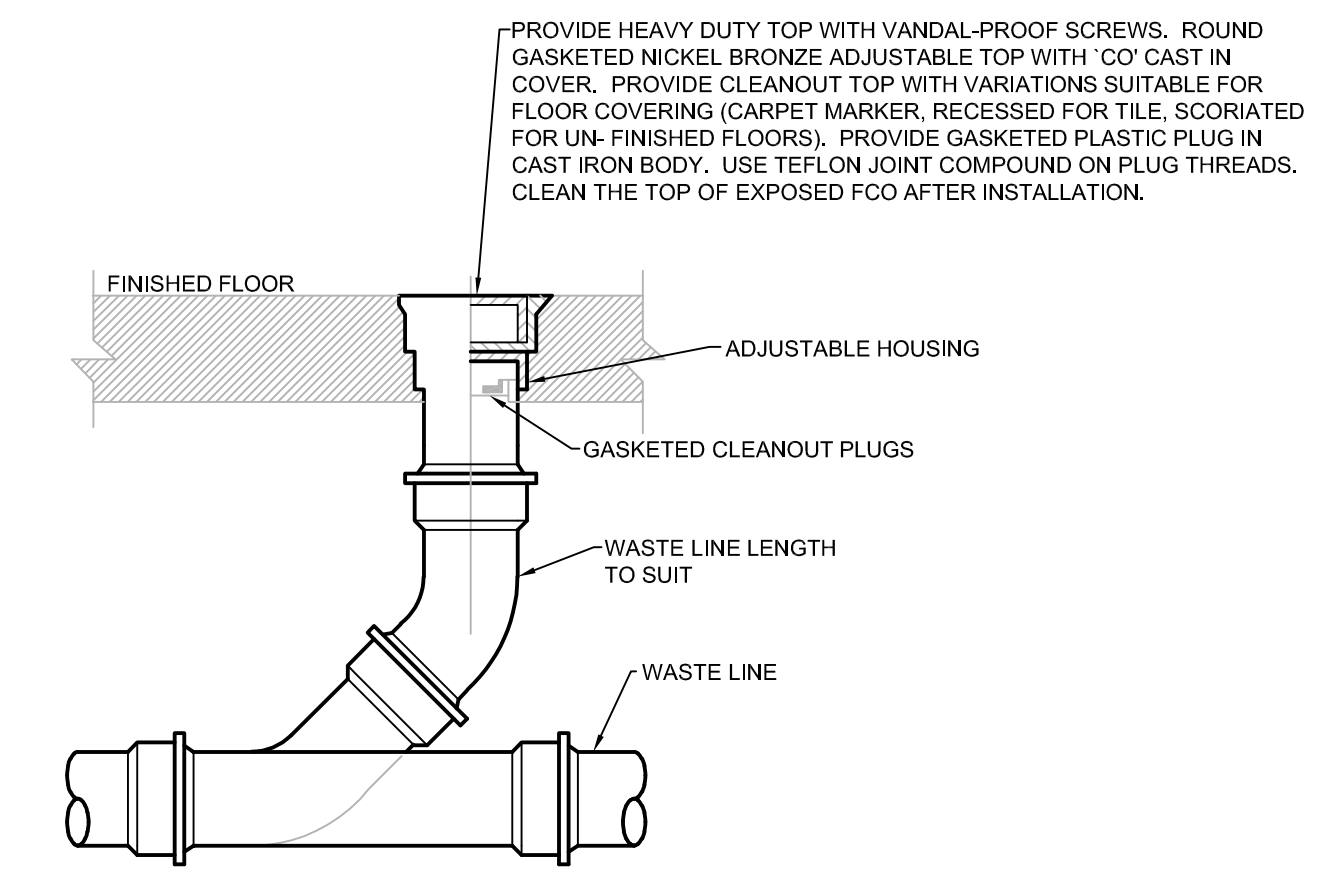
SIZE OF TRAP	SIZE OF FIXTURE DRAIN	SLOPE	DISTANCE FROM TRAP
1-2"	1-2"	1/4" x 1'-0"	3'-6"
1-2"	2"	1/4" x 1'-0"	3'-6"
2"	2"	1/4" x 1'-0"	5'-0"
3"	3"	1/4" x 1'-0"	6'-0"
4"	4"	1/4" x 1'-0"	10'-0"

**BASED ON 2008 EDITION OF THE UNIFORM PLUMBING CODE, TABLE 101.1.

5 FLOOR DRAIN DETAIL
SCALE: NONE

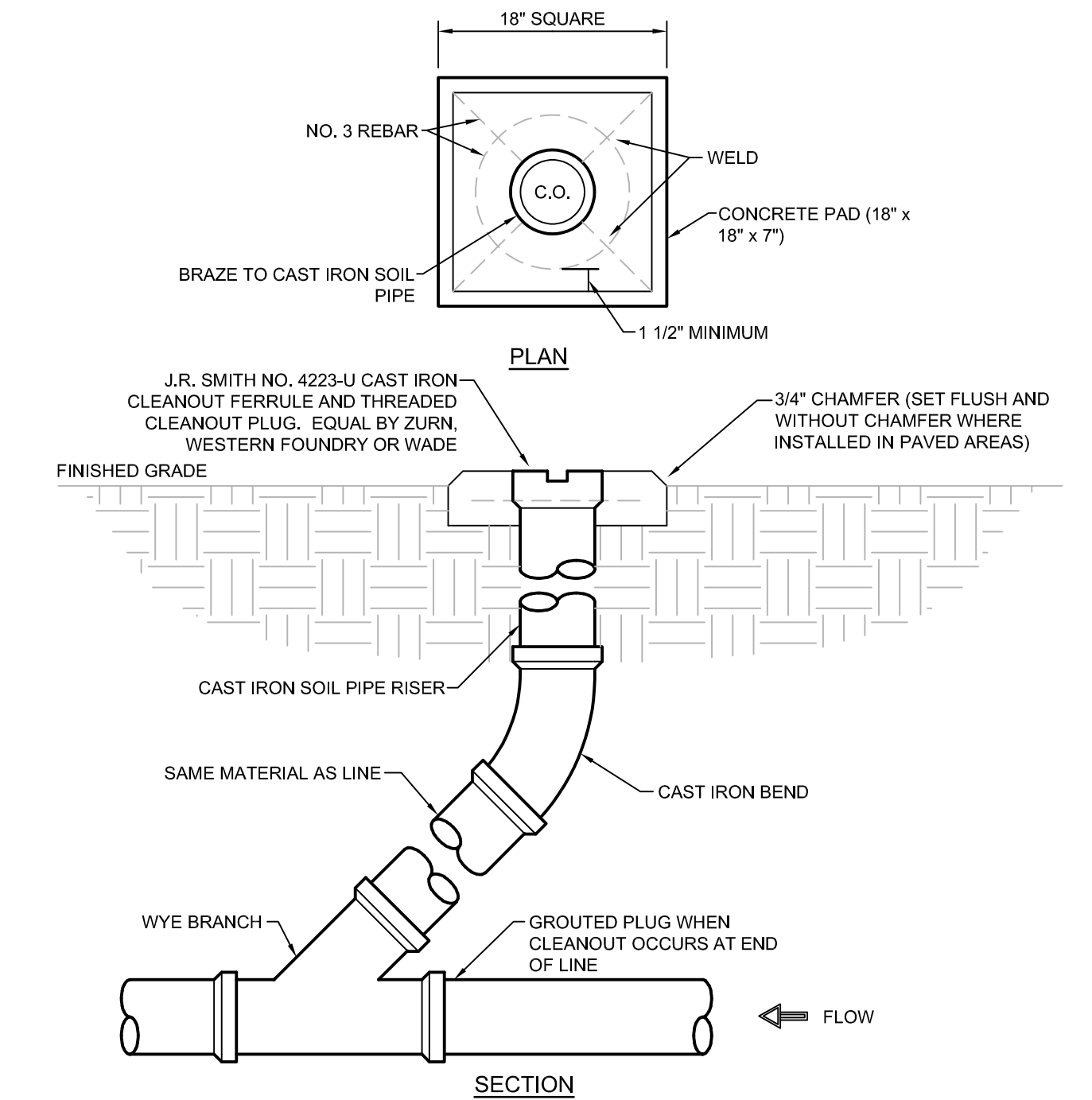


4 WALL CLEANOUT DETAIL
SCALE: NONE

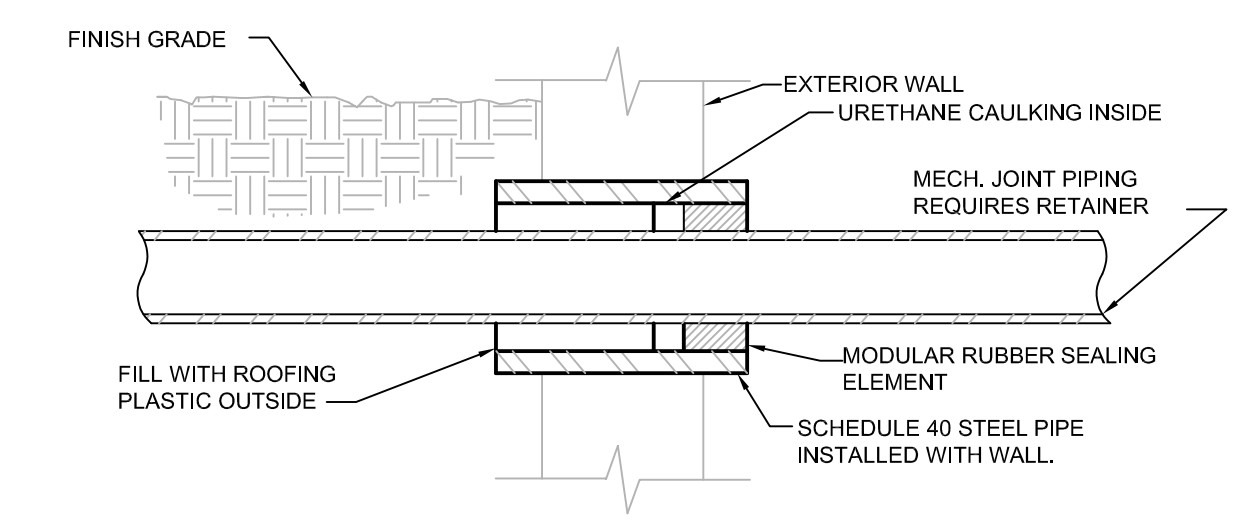


LOCATE AT BUILDING EXIT, AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT 50'-0" INTERVALS ON STRAIGHT RUNS, AND/OR WHERE SHOWN ON PLANS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE CLEANOUTS WHERE THERE IS 1'-0" CLEAR AROUND. CONSULT LOCAL CODES FOR OTHER FCQ REQUIREMENTS.

3 FLOOR CLEANOUT DETAIL
SCALE: NONE



2 FINISHED GRADE CLEANOUT DETAIL
SCALE: NONE



NOTES:
1. IF PIPE PASSES THROUGH WALL ABOVE GRADE, SLEEVE SHALL BE FLUSH WITH EXTERIOR SIDE OF WALL.

1 PIPE SLEEVE THRU EXTERIOR WALL
SCALE: NONE



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146
01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION

PROJECT NO: 2403
CAD DWG FILE: Lee's Summit - Terminal MEP.rvt
DESIGNED BY: CMW
DRAWN BY: DM
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APPROVED BY: Approver
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GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



Cory Wilson - MO #PE-201009876
Certificate of Authority - MO #2024005146

01-02-2025

LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT, MO

MARK DATE DESCRIPTION

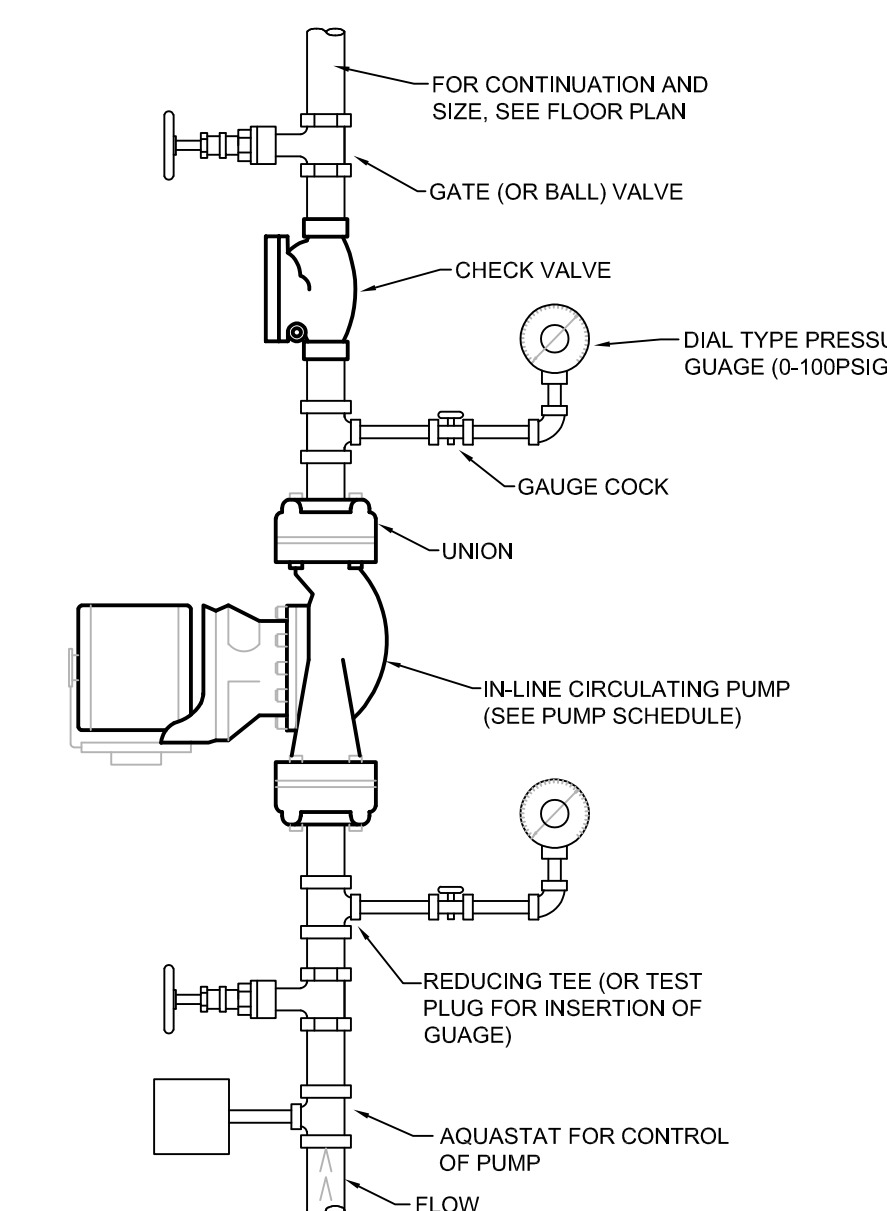
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CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt
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DRAWN BY:	DM
CHECKED BY:	WAI
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SHEET TITLE

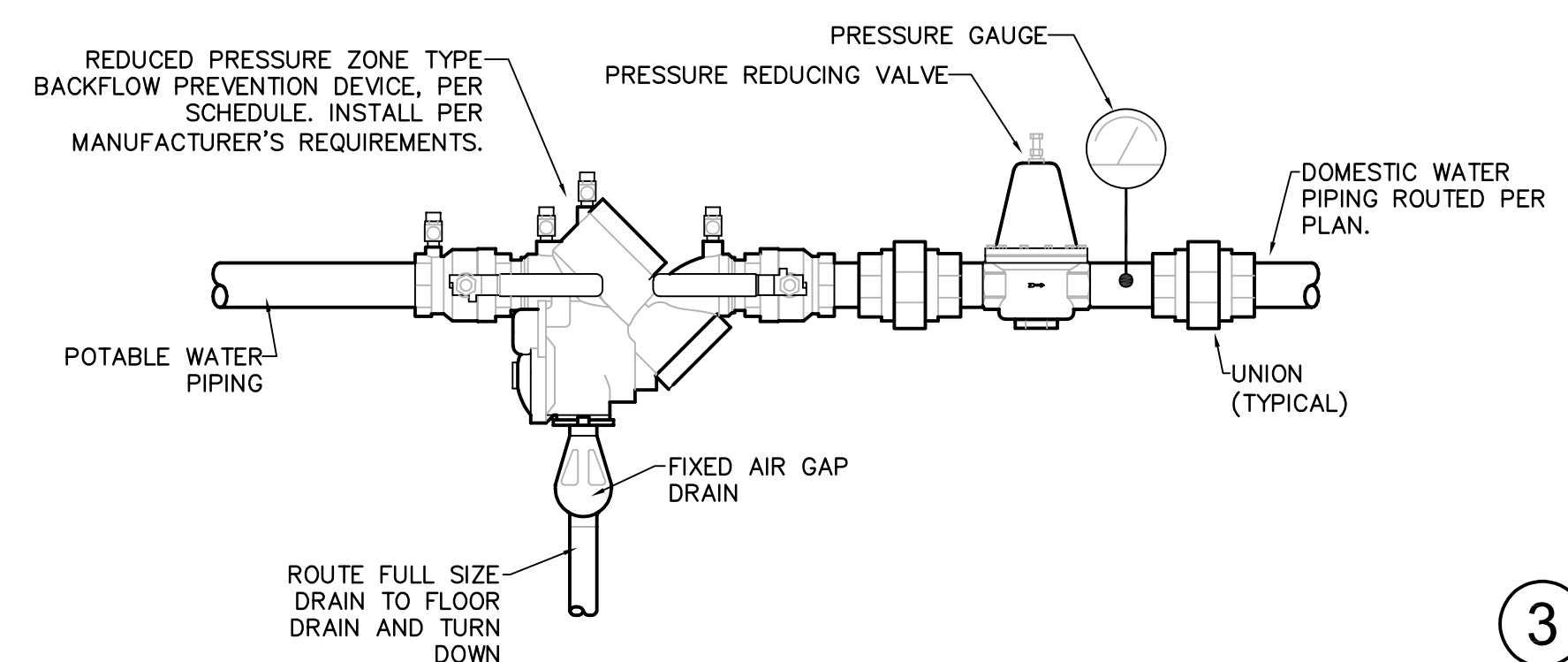
**PLUMBING
DETAILS**

P-410

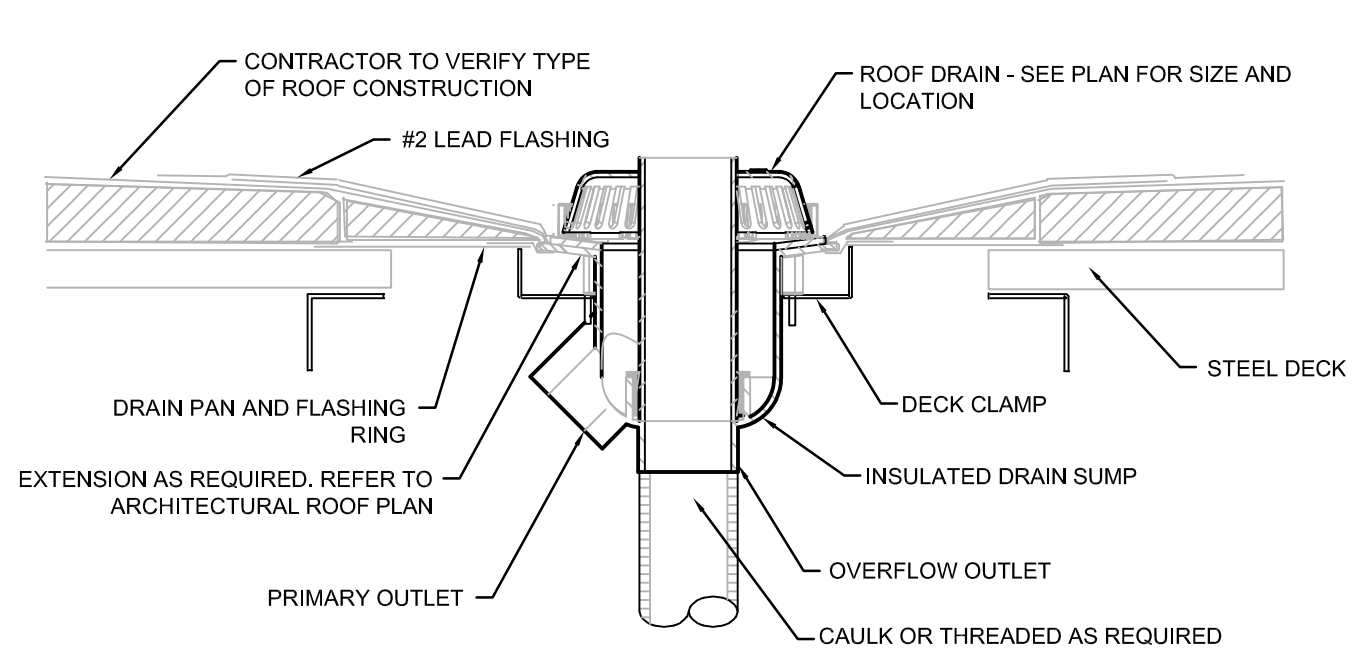
SHEET 85 OF 102



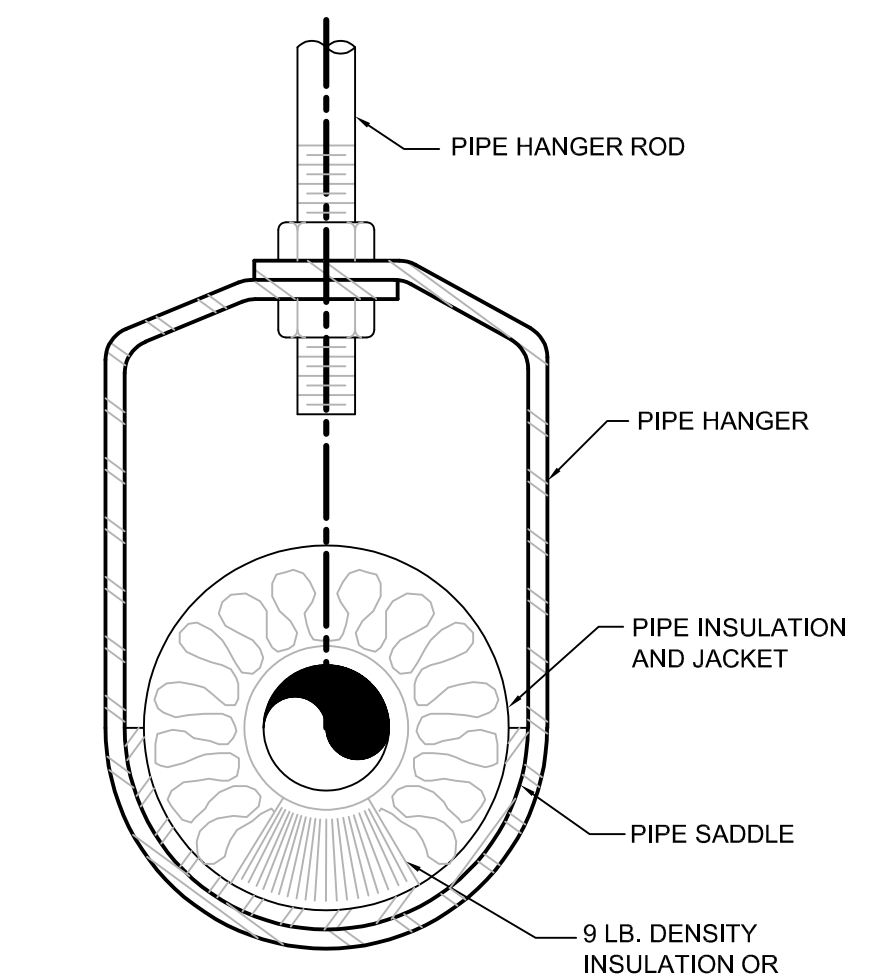
3 CIRCULATING PUMP DETAIL
SCALE: NONE



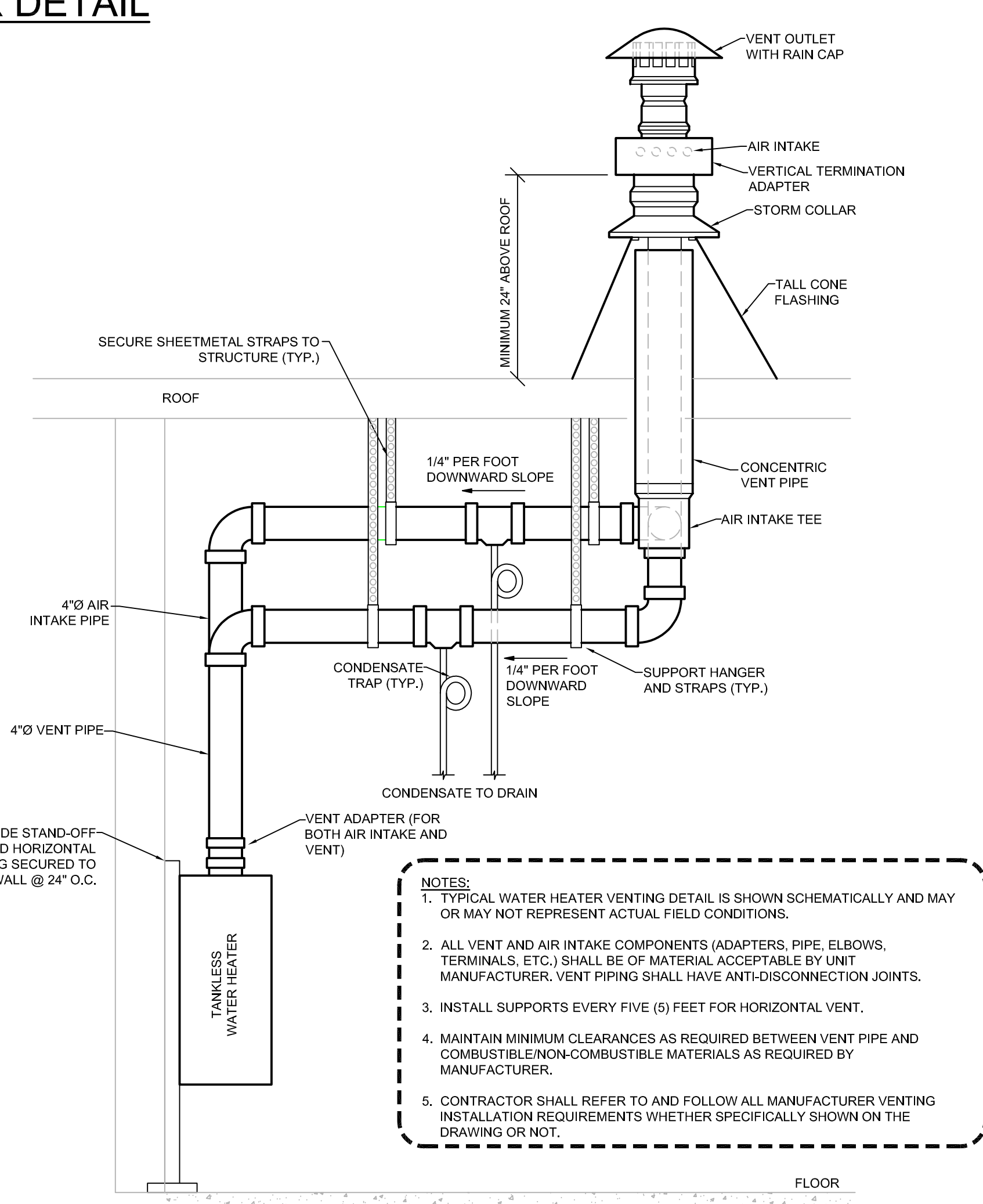
9 BACKFLOW PREVENTOR DETAIL
SCALE: NONE



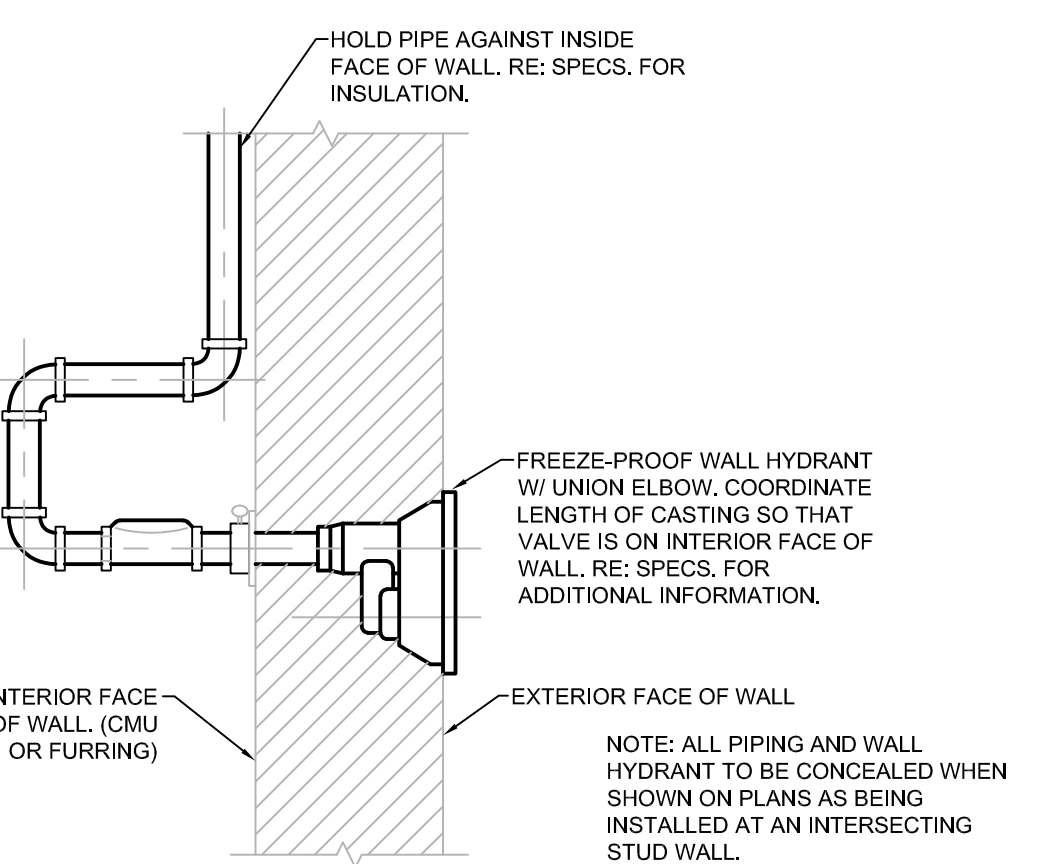
10 ROOF DRAIN DETAIL
SCALE: NONE



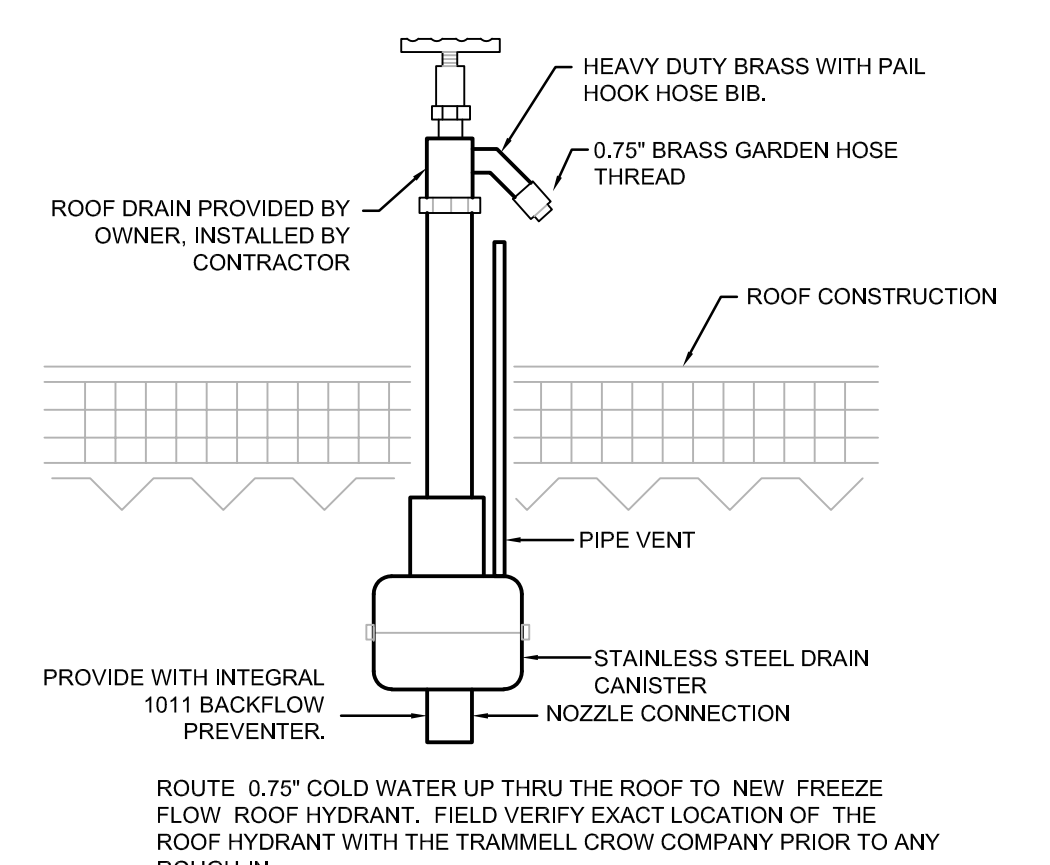
11 PIPE HANGER DETAIL
SCALE: NONE



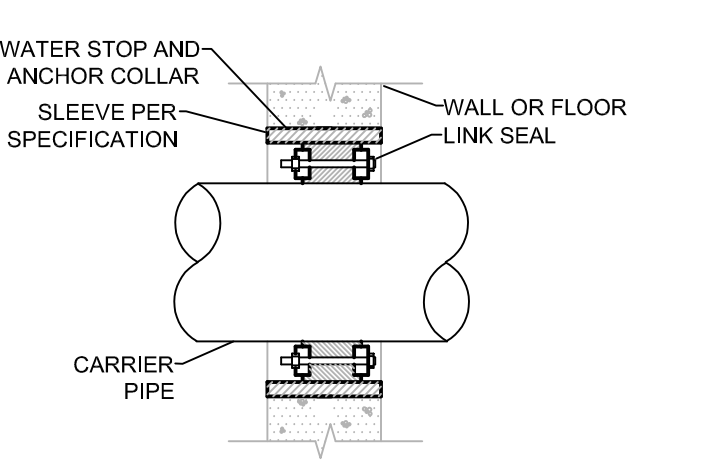
2 TANKLESS WATER HEATER VENTING DETAIL
SCALE: NONE



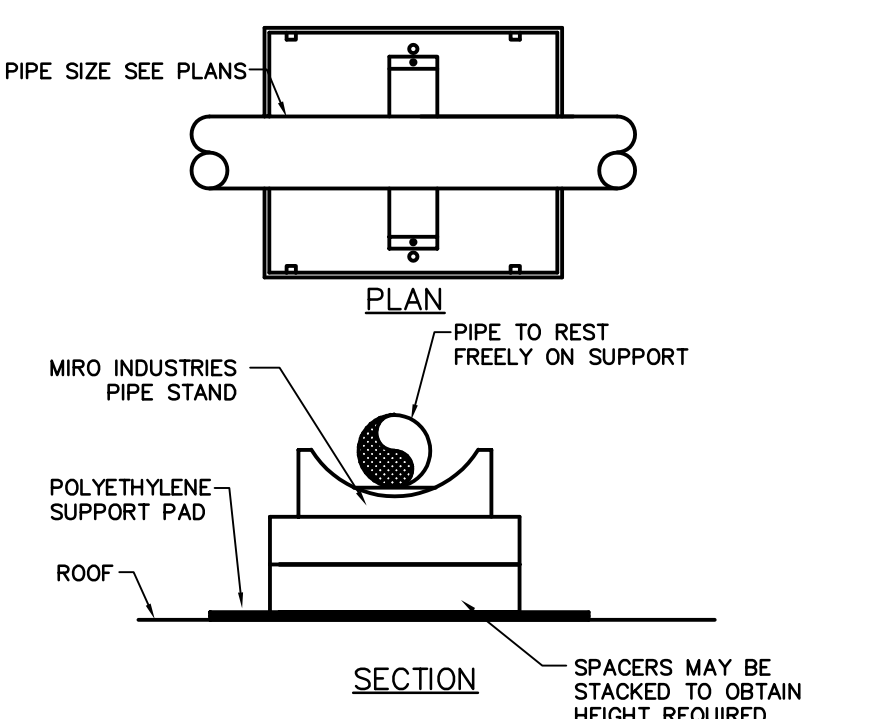
6 WALL HYDRANT DETAIL
SCALE: NONE



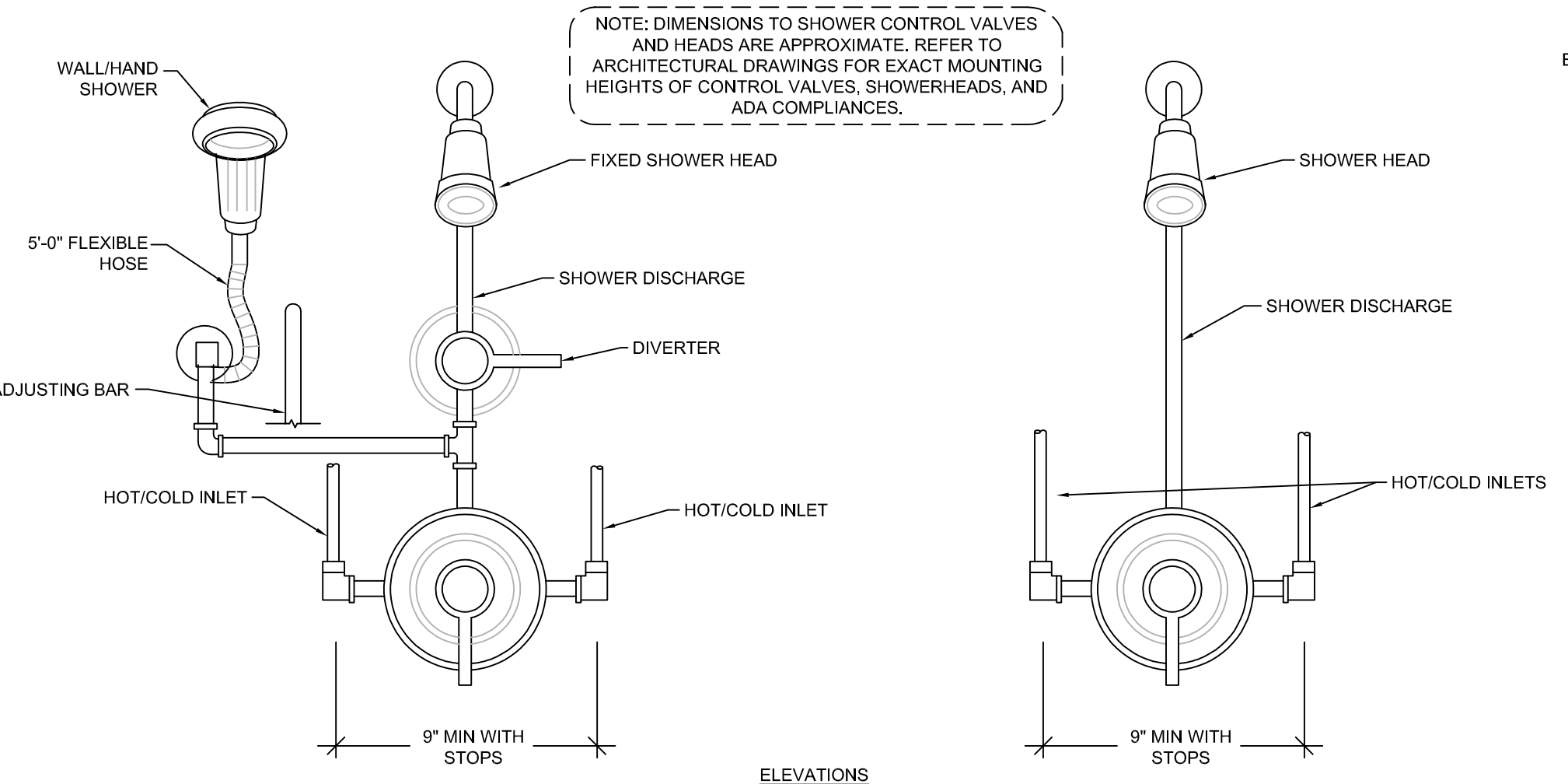
7 ROOF HYDRANT DETAIL
SCALE: NONE



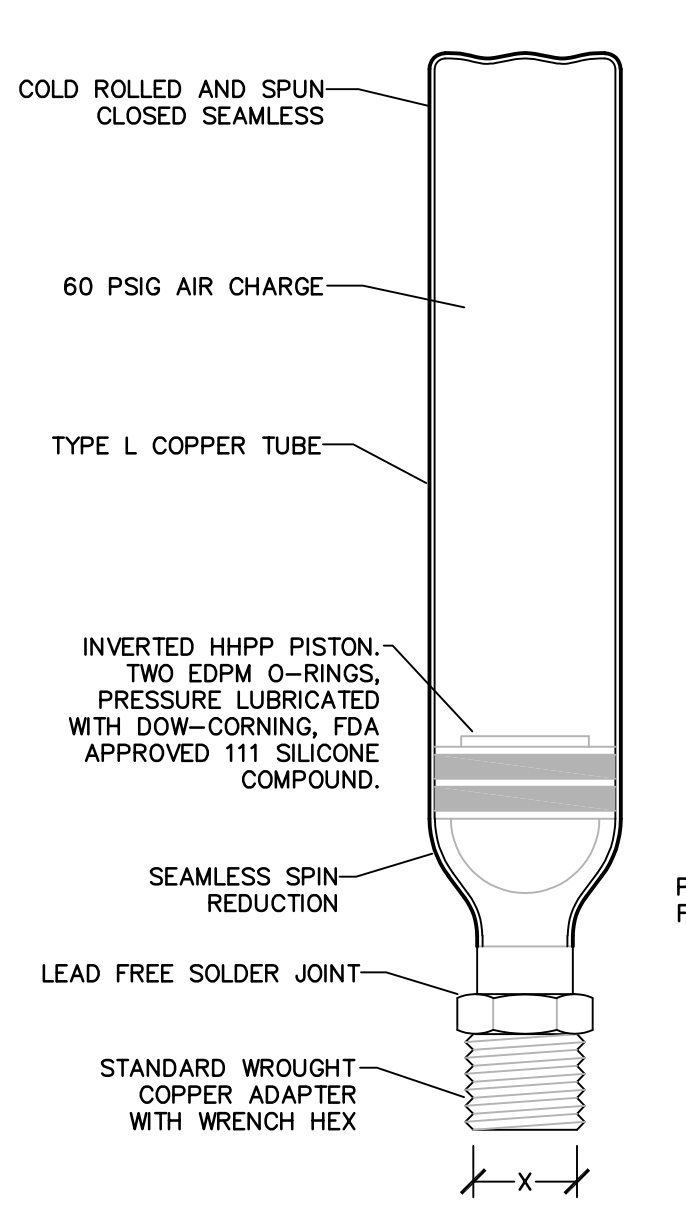
8 LINK SEAL DETAIL
SCALE: NONE



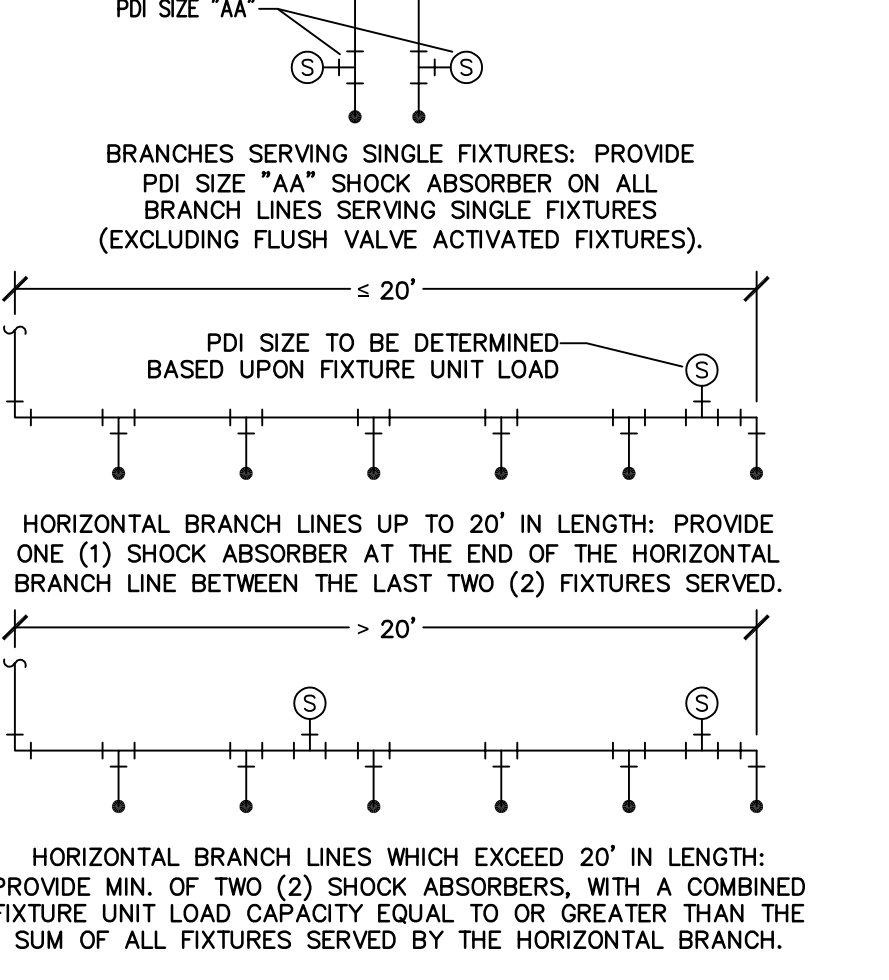
9 ROOF PIPE SUPPORT
SCALE: NONE



4 SHOWER INSTALLATION DETAIL
SCALE: NONE



PDI SIZE	PIPE SIZE (X)	FIXTURE UNIT LOAD
AA	0.5"	1-3
A	0.5"	1-11
B	0.75"	12-32
C	1"	33-60
D	1"	61-113
E	1"	114-154
F	1"	155-330



SHOCK ABSORBER LOCATIONS

FIXTURE*	SUPPLY TYPE	FIXTURE UNIT LOADS					
		TOTAL	CW	HW	TOTAL	CW	HW
WATER CLOSET	FLUSH VALVE (1.6 GPF)	8.0	8.0	--	5.0	5.0	--
WATER CLOSET	FLUSH TANK (1.6 GPF)	5.0	5.0	--	2.5	2.5	--
URINAL	FLUSH VALVE (1.0 GPF)	4.0	4.0	--	--	--	--
LAVATORY	FAUCET	2.0	1.5	1.5	1	1	1
SINK	FAUCET	2.0	1.5	1.5	1	1	1
SHOWER	MIXING VALVE	4	2	3	2	1	2
BATH/TUB	FAUCET	4	2	3	2	1.5	1.5
SERVICE SINK	FAUCET	3	3	3	--	--	--
WASHING MACHINE	AUTOMATIC (8 lb)	3	2.5	2.5	1.5	1	1

* ALL FIXTURES NOT LISTED IN TABLE SHALL HAVE FIXTURE UNIT LOAD VALUE DETERMINED BY CODE (IPC TABLE E103.3)

PROVIDE SHOCK ABSORBERS ON ALL PLUMBING BATTERIES AND SINGLE FIXTURES AS SPECIFIED. ALL SHOCK ABSORBERS SHALL BE PROVIDED, SIZED, AND INSTALLED PER PDI STANDARD WH-201.

5 SHOCK ABSORBER DETAIL
SCALE: NONE

PLUMBING FIXTURE SCHEDULE - SUPPLY FIXTURES

TAG	TYPE	MANUFACTURER	MODEL	DESCRIPTION	ACCESSORIES	CONNECTIONS ^{1,2}			
						WASTE	VENT	CW	HW
WC-1	WALL MOUNTED HIGH EFFICIENCY WATER CLOSET	TOTO	CT708EV	WALL MOUNTED, VITREOUS CHINA, ASME A112.19.2 COMPLIANT, LOW CONSUMPTION (1.28 GPF) SIPHON JET FLUSH WATER CLOSET WITH ELONGATED BOWL, 1-1/2" BACK SPUD, AND 2-1/2" TRAPWAY. REFER TO ARCHITECTURAL PLANS FOR ADA MOUNTING HEIGHT.	FINISH SHALL BE COTTON (#01). PROVIDE WITH TOTO MODEL #SC534 WHITE OPEN FRONT ELONGATED SEAT LESS COVER. PROVIDE WITH ASSE 1037 COMPLIANT, CONCEALED ECO-POWER 1.28 GPF AUTOMATIC INFRARED SENSOR ACTIVATED FLUSH VALVE TYPICAL OF TOTO MODEL TETL3N1#SS WITH 1" ANGLE STOP, 1-1/2" VACUUM BREAKER, 4"x4" STAINLESS STEEL COVER PLATE, UNIT SHALL INCLUDE A TRAP VALVE WITH STAINLESS STEEL SELF-CLEANING SOLENOID, WITH 24 HOUR MAINTENANCE FLUSH. PROVIDE WITH HEAVY DUTY FLOOR MOUNTED CARRIER COMPATIBLE WITH FIXTURE SPECIFIED, ZURN, JR SMITH, OR EQUAL.	4"	2"	1-1/4"	-
WC-2	WALL MOUNTED HIGH EFFICIENCY WATER CLOSET	TOTO	CT708EV	WALL MOUNTED, VITREOUS CHINA, ASME A112.19.2 COMPLIANT, LOW CONSUMPTION (1.28 GPF) SIPHON JET FLUSH WATER CLOSET WITH ELONGATED BOWL, 1-1/2" BACK SPUD, AND 2-1/2" TRAPWAY. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT.	FINISH SHALL BE COTTON (#01). PROVIDE WITH TOTO MODEL #SC534 WHITE OPEN FRONT ELONGATED SEAT LESS COVER. PROVIDE WITH ASSE 1037 COMPLIANT, CONCEALED ECO-POWER 1.28 GPF AUTOMATIC INFRARED SENSOR ACTIVATED FLUSH VALVE TYPICAL OF TOTO MODEL TETL3N1#SS WITH 1" ANGLE STOP, 1-1/2" VACUUM BREAKER, 4"x4" STAINLESS STEEL COVER PLATE, UNIT SHALL INCLUDE A TRAP VALVE WITH STAINLESS STEEL SELF-CLEANING SOLENOID, WITH 24 HOUR MAINTENANCE FLUSH. PROVIDE WITH HEAVY DUTY FLOOR MOUNTED CARRIER COMPATIBLE WITH FIXTURE SPECIFIED, ZURN, JR SMITH, OR EQUAL.	4"	2"	1-1/4"	-
UR-1	WALL MOUNTED HIGH EFFICIENCY URINAL	TOTO	UE906UG	WALL MOUNTED, VITREOUS CHINA, ASME A112.19.2 COMPLIANT, LOW CONSUMPTION (0.125 GPF) WASHOUT URINAL WITH CONCEALED INTEGRAL TRAP, 3/4" BACK SPUD INLET. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS.	FINISH SHALL BE COTTON (#01). PROVIDE WITH INTEGRATED FLUSH-VALVE WITH 1/2" ANGLE STOP, 1/2" VACUUM BREAKER, ECO SELF POWERED HYDROELECTRIC FLUSH VALVE AND SENSOR, AND STAINLESS STEEL DRAIN COVER (RFL30D01). UNIT SHALL INCLUDE A PISTON VALVE WITH STAINLESS STEEL SELF-CLEANING SOLENOID, WITH 12 HOUR MAINTENANCE FLUSH. PROVIDE WITH HEAVY DUTY FLOOR MOUNTED CARRIER COMPATIBLE WITH FIXTURE SPECIFIED	2"	1-1/2"	3/4"	-
WB-1	WALL MOUNTED CUSTOM WASH STATION	BRADLEY	SEE ARCH PLANS	WALL MOUNTED, DUAL BOWL, OMI-DECK WITH CUSTOM LENGTH PER ARCH PLANS, LD-3010 SERIES WITH TERREON SOLID SURFACE DECK WITH INTEGRAL RECTANGULAR BOWLS	FINISH SHALL BE COLOR AS SELECTED BY ARCHITECT (BASIS IS BRUSHED BRONZE, T8D). PROVIDE WITH TWO (2) BRADLEY WASHBAR DUO W801 WHICH INCLUDES SOAP DISPENSER AND FAUCET WITH TMV AND HAND DRYER. FURNISH ALL REQUIRED ACCESSORIES INCLUDING WALL BRACKETS, STAINLESS SHROUDS FOR COVERING SUPPLY/TRAPS, TOP FEED SOAP REFILL, BRUSH STAINLESS IN COLOR.	2"	1-1/2"	1/2"	1/2"
WB-2	WALL MOUNTED CUSTOM WASH STATION	BRADLEY	SEE ARCH PLANS	WALL MOUNTED, SINGLE BOWL, OMI-DECK WITH CUSTOM LENGTH PER ARCH PLANS (30" AND 34"). LD-3010 SERIES WITH TERREON SOLID SURFACE DECK WITH INTEGRAL RECTANGULAR BOWLS	FINISH SHALL BE COLOR AS SELECTED BY ARCHITECT (BASIS IS BRUSHED BRONZE, T8D). PROVIDE WITH ONE (1) BRADLEY WASHBAR DUO W801 WHICH INCLUDES SOAP DISPENSER AND FAUCET WITH TMV AND HAND DRYER. FURNISH ALL REQUIRED ACCESSORIES INCLUDING WALL BRACKETS, STAINLESS SHROUDS FOR COVERING SUPPLY/TRAPS, TOP FEED SOAP REFILL, BRUSH STAINLESS IN COLOR.	2"	1-1/2"	1/2"	1/2"
L-1	WALL HUNG WHEELCHAIR USERS LAVATORY	TOTO	LT308	WALL MOUNTED, ADA AND ASME A112.19.2 COMPLIANT VITREOUS CHINA LAVATORY WITH 20.5"x27" OVERALL SIZE AND 15"x15" BASIN WITH SANGLOSS CERAMIC GLAZING, FRONT OVERFLOW, AND MOUNTING KIT. COORDINATE FAUCET HOLE QUANTITY AND SPACING WITH FAUCET SPECIFIED. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHT. PROVIDE WITH PUNCHING FOR CONCEALED ARII CARRIER, AND APPROXIMATE FLOOR MOUNTED CARRIER SUPPORTS TYPICAL OF JR SMITH OR ZURN. FINISH TO BE COTTON.	PROVIDE WITH ADA COMPLIANT AUTOMATIC INFRARED, HYDRO-POWER SELF GENERATING, SENSOR OPERATED FAUCET TYPICAL OF TOTO ANOM MODEL TEL3LX1K15, 0.20 GALLON PER CYCLE SINGLE HOLE MOUNT SELF-ADJUSTING FAUCET WITH CONTROL BOX AND MOUNTING HARDWARE. PROVIDE WITH CHROME PLATED FINISH, GRID STRAINER, ANTI-SCALD FEATURE, AND "ON-DEMAND" OPERATION. COORDINATE COUNTERTOP OPENINGS WITH GENERAL CONTRACTOR. PROVIDE WITH CHROME PLATED COPPER SUPPLIES WITH QUARTER-TURN ANGLE STOPS. PROVIDE CHROME PLATED CAST-BRASS TRAP WITH CLEANOUT, TRAP ARM EXTENSION TO WALL, AND WALL ESCUTCHEON, COVER EXPOSED COLD AND HOT SUPPLIES AND WASTE PIPING WITH PROTECTIVE SHIELDING GUARD, TRUEBRO INSULATED VINYL PIPE COVERS WITH ANTI-MICROBIAL, REUSABLE FASTENERS, AND STOP VALVE LOCKING ACCESS COVER.	2"	1-1/2"	1/2"	1/2"
DS-1	STAINLESS STEEL DOUBLE COMPARTMENT UNDERMOUNT SINK	ELKAY	ECTRY321719-LTR8 (CROSSTOWN)	UNDERCOUNTER MOUNTED, ASME A112.19.3 COMPLIANT, TYPE 304 (18-8) NICKEL BEARING STAINLESS STEEL DOUBLE BOWL SINK (60x40) WITH SATIN FINISH ON EXPOSED SURFACES AND SOUND DAMPENING UNDERCOUNTER MOUNTED TO CONCEALED SURFACES. SINK SHALL HAVE 9" BOWL DEPTH, RADIUS CORNERS, REAR SETBACK DRAIN OPENINGS, AND MOUNTING CLIPS. COORDINATE COUNTERTOP CUTOUTS WITH GENERAL CONTRACTOR TO PROVIDE A 1/2" REVEAL INSTALLATION PROFILE.	PROVIDE WITH ELKAY MODEL LKAV2061 AVADO KITCHEN SINK BASE FAUCET WITH ADA COMPLIANT LEVER HANDLE AND PULL-OUT COIL SPRAY - FAUCET SHALL BE ASME A112.18.1 AND NSF 61 COMPLIANT. FAUCET TO INCLUDE ALL BRASS CONSTRUCTION, BRASS VALVE BODIES, QUARTER TURN WASHERLESS CERAMIC DISK VALVES, 21" MULTI-SWIVEL SWING SPOUT, AND 1.8 GPM AERATOR. PROVIDE 1-1/2" LUSTROUS STEEL CAST-BRASS TRAP WITH CLEANOUT AND WALL ESCUTCHEON. FAUCET TO BE LUSTROUS STEEL FINISH ON ALL PARTS 1/2" CHROME-PLATED SUPPLIES WITH QUARTER-TURN STOPS AND WALL ESCUTCHEON. PROVIDE WITH GRID STRAINER DRAIN.	2" (2)	1-1/2"	1/2"	1/2"
S-1	STAINLESS STEEL SINGLE COMPARTMENT SINK	ELKAY	ELUH491916	UNDERCOUNTER MOUNTED, ASME A112.19.3 COMPLIANT, TYPE 304 (18-8) NICKEL BEARING STAINLESS STEEL SINGLE BOWL SINK WITH SATIN FINISH ON EXPOSED SURFACES AND SOUND DAMPENING UNDERCOUNTER MOUNTED TO CONCEALED SURFACES. SINK SHALL HAVE 5-1/2" BOWL DEPTH, RADIUS CORNERS, REAR SETBACK DRAIN OPENINGS, AND MOUNTING CLIPS. COORDINATE COUNTERTOP CUTOUTS WITH GENERAL CONTRACTOR TO PROVIDE A 1/2" REVEAL INSTALLATION PROFILE.	PROVIDE WITH KOHLER MODEL K-7776-K-CP KITCHEN SINK BASE FAUCET WITH K-18012-4 ADA COMPLIANT LEVER HANDLES - FAUCET SHALL BE ASME A112.18.1 AND NSF 61 COMPLIANT. FAUCET TO INCLUDE ALL BRASS CONSTRUCTION, BRASS VALVE BODIES, QUARTER TURN WASHERLESS CERAMIC DISK VALVES, 8" MULTI-SWIVEL SWING SPOUT, AND 1.6 GPM AERATOR. PROVIDE 1-1/2" CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT AND WALL ESCUTCHEON. PROVIDE WITH GRID STRAINER DRAIN.	2"	1-1/2"	1/2"	1/2"
DF-1	NO-LEAD DUAL LEVEL SWIRL-FLO DRINKING FOUNTAIN WITH INTEGRAL BOTTLE FILLING STATION	ELKAY	LZWS-LRPB26K	HEAVY DUTY, FULLY EXPOSED, NSF-61 COMPLIANT, DUAL-LEVEL DRINKING FOUNTAIN WITH 18 GAUGE TYPE 300 STAINLESS STEEL BASIN AND 18 GAUGE TYPE 300 TUBULAR STAINLESS STEEL SUPPORT ARMS. FOUNTAIN SHALL BE NSF-61 COMPLIANT. PROVIDE WITH FRONT PUSH BUTTON ACTUATORS, VANDAL RESISTANT BUBBLERS, SURFACE MOUNTING PLATE, AND IN-WALL SUPPORT LEGS.	DRINKING FOUNTAIN TO BE PROVIDED WITH CANE APRON FOR ADA COMPLIANCE. FRONT ACCESS PANELS ON TOP AND BOTTOM OF UNIT. BOTTLE FILLER SHALL BE SENSOR ACTIVATED, 1.5 GPM FILL RATE. DRAIN SYSTEM TO ELIMINATE STANDING WATER, VISUAL USER INTERFACE, AUTO SHUTOFF, AND ANTI-MICROBIAL PROTECTION. PROVIDE WITH INTEGRAL WATER CHILLER CAPABLE OF 6 GPM AND 50°F DRINKING WATER BASED ON 90°F AMBIENT. COORDINATE ELECTRICAL REQUIREMENTS WITH E.C. PROVIDE WITH ELKAY MODEL EWF 172 LEAD REDUCATION WATER FILTRATION KIT, WITH (1) SPARE REPLACEMENT FILTER FOR EACH KIT PROVIDED.	2"	1-1/2"	1/2"	1/2" CHILLED DOMESTIC WATER TO BOTTLE FILLER
SH-1	SHOWER VALVE AND TRIM	TOTO	TSST	THERMOSTATIC MIXING VALVE WITH SHAPE MEMORY ALLOY. INTEGRATED SERVICE STOPS, 1/2" NPT CONNECTIONS, AND CORROSION RESISTANCE. UNIT SHALL BE COMPLIANT WITH ASME A112.18.1.	PROVIDE WITH VALVE TRIM TYPICAL OF TOTO LEGATO MODEL TS624T - SOLID BRASS TEMPERATURE CONTROL TRIM WITH ANTI-SCALD SAFETY STOP LEVER HANDLE, AND POLISHED CHROME FINISH. TRIM SHALL BE ASME A112.18.1 AND ADA COMPLIANT. PROVIDE WITH SINGLE SPRAY SHOWERHEAD TYPICAL OF TOTO LEGATO MODEL TS624A - SOLID BRASS SHOWERHEAD WITH 2.5 GPM MAX FLOW RATE, 7.6"x6" SPRAY FACE WITH RUBBER NOZZLES TO PREVENT LIMESCALE BUILDUP, AND PROVIDED COMPLETE WITH SHOWER ARM AND WALL ESCUTCHEON. REFER TO ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS OF ALL COMPONENTS.	-	-	1/2"	1/2"
JS-1	FLOOR MOUNTED TERRAZZO MOP SERVICE BASIN	FIAT	TSB100	FLOOR MOUNTED, 24"x24"x1/2" ONE PIECE PRECAST TERRAZZO MOP BASIN WITH STAINLESS STEEL CURB CAPS, STAINLESS STEEL DRAIN BODY WITH S.S. STRAINER, QUICK DRAIN CONNECTOR, STAINLESS STEEL TILING FLANGES, AND CHROME PLATED BRASS DRAIN.	PROVIDE WITH MOP SERVICE SINK FAUCET WITH 3/4" MALE HOSE THREAD, VACUUM BREAKER, INTEGRAL STOPS, AND PAI, HOOK (830AA), HOSE & HOSE BRACKET (832AA), STAINLESS STEEL WALL GUARDS, AND SILICONE SEALANT. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND UNIT MANUFACTURER REQUIREMENTS - ENSURE LEVEL INSTALLATION.	3"	1-1/2"	1/2"	1/2"
JS-2	FLOOR MOUNTED 'NEO-CORNER' TERRAZZO MOP SERVICE BASIN	FIAT	TSBC6010	FLOOR MOUNTED, 24"x24"x1/2" ONE PIECE NEO-CORNER PRECAST TERRAZZO MOP BASIN WITH STAINLESS STEEL CURB CAPS, STAINLESS STEEL DRAIN BODY WITH S.S. STRAINER, QUICK DRAIN CONNECTOR, STAINLESS STEEL TILING FLANGES, AND CHROME PLATED BRASS DRAIN.	PROVIDE WITH MOP SERVICE SINK FAUCET WITH 3/4" MALE HOSE THREAD, VACUUM BREAKER, INTEGRAL STOPS, AND PAI, HOOK (830AA), HOSE & HOSE BRACKET (832AA), STAINLESS STEEL WALL GUARDS, AND SILICONE SEALANT. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND UNIT MANUFACTURER REQUIREMENTS - ENSURE LEVEL INSTALLATION.	3"	1-1/2"	1/2"	1/2"
HB-1	HOSE BIB	WOODFORD	MODEL 24	ANTI-SIPHON VACUUM BREAKER WALL FAUCET WITH HOSE THREADS.	-	-	-	3/4"	-
FPWH	FREEZEPROOF WALL HYDRANT	WOODFORD	B65	NON-FREEZE, SELF DRAINING TYPE WITH POLISHED BRASS CONGALATING BOX AND DOOR, HOSE THREAD SPOUT, REMOVABLE KEY WITH EACH HYDRANT, AND VACUUM BREAKER.	PROVIDE WITH SPARE KEY FOR EACH HYDRANT PROVIDED.	-	-	3/4"	-
RH-1	FREEZE-PROOF ROOF HYDRANT	FREEZEFLOW	2131R	SELF CONTAINED DRAIN PROOF AND FREEZE PROOF ROOF HYDRANT WITH HEAVY DUTY BRASS HOSE BIBS WITH PAI, HOOK, 1" GALVANIZED SCHEDULE 40 STEEL PIPE RISER, STAINLESS STEEL DRAINAGE CANISTER, AND OPTIONAL BACKFLOW PREVENTION DEVICE, INSTALL WITH CANISTER AT MANUFACTURER REQUIRED DEPTH BELOW ROOF DECK.	-	-	-	3/4"	-
IMB	ICE MACHINE ROUGH-IN BOX	GUY GRAY	MB1	20 GAUGE ROUGH-IN BOX WITH FACEPLATE, WHITE POWDER COAT ON COLD ROLLED STEEL FINISH.	PROVIDE WITH 1/2" QUARTER TURN SWEAT VALVE.	-	-	1/2"	-

REMARKS:
 1. VERIFY ALL CONNECTIONS & MOUNTING HEIGHTS WITH CODES, MANUFACTURERS, AND PLANS.
 2. SIZES LISTED INDICATE MIN. SIZE ONLY, SEE PLUMBING RISERS AND FLOOR PLANS FOR LARGER SIZES.

TANKLESS WATER HEATER SCHEDULE (RACK SYSTEM)												
MARK	MFR	MODEL	LOCATION	ENERGY FACTOR	TYPE	MIN. NG PRESS. (PSI)	MAX. NG PRESS. (PSI)	MAX. NG INPUT (GPH)	MAX. NG INPUT (GPH)	TEMP. SETTING (°F)	GPM @ 70° F RISE	VOLT/PH/Hz
WH-12	AO SMITH	ACH-CRS-23WH-M	MECH RM	0.95	NAT. GAS	3.0	10.5	15,000	398,000	120	10.8	120/1/60
												1,2,3,4,5,6,7,8,9,10,11,12,13,14,15

RECIRCULATION PUMPS													
MARK	LOCATION	SERVES	GPM	HEAD (FT)	HP	EFF. %	VOLT	RPM	TYPE	MANUFACTURER	SERIES	MODEL	REMARKS
RP-1	MECH RM	WH-182	2.0	20	1/8	NA	120/1	3300	NLINE	BELL & GOSSETT	ECOCRC	-	-

REMARKS:
 1. VERIFY ALL CONNECTIONS & MOUNTING HEIGHTS WITH CODES, MANUFACTURERS, AND PLANS.
 2. SIZES LISTED INDICATE MIN. SIZE ONLY, SEE PLUMBING RISERS AND FLOOR PLANS FOR LARGER SIZES.
 3. ACCEPTABLE ALTERNATE MANUFACTURERS INCLUDE HAWS, CHICAGO FAUCET, HALSEY TAYLOR, JOSAM, JR SMITH, WADE, ROCKFORD, TOTO, AND OASIS

PLUMBING FIXTURE SCHEDULE - DRAINAGE

TAG	TYPE	MANUFACTURER	MODEL	DESCRIPTION	ACCESSORIES	CONNECTIONS ^{1,2}				
						WASTE	VENT	CW	HW	
MS-1	24"x24" JANITORS SINK	FIAT	TSB100	ONE PIECE PRECAST TERRAZZO MOP SERVICE BASIN, 12" CONTINUOUS DEPTH. TERRAZZO SHALL BE CONSTRUCTED TO A COMPRESSIVE STRENGTH OF NOT LESS THAN 3000 PSI, WITH POLISHED AND SEALED FINISH. BASIN TO BE INSTALLED ON MINIMUM 1/2" LAYER OF MORTAR FOR LEVELING. REFER TO MANUFACTURERS INSTALLATION INSTRUCTIONS.	PROVIDE WITH STAINLESS STEEL STRAINER (#1458B), QUICK DRAIN CONNECTORS, INTEGRAL TILING FLANGES, STAINLESS STEEL CAPS ON ALL SHOULDERS, WALL MOUNTED MOP SERVICE SINK WITH PAI, HOOK (830AA), HOSE AND HOSE BRACKET (832AA), SILICONE SEALANT (#85AA) AND HEAVY GAUGE STAINLESS STEEL WALL GUARDS (MSS).	3"	1-1/2"	1/2"	1/2"	
FD-1	FLOOR DRAIN (GENERAL SERVICE)	ZURN	Z-415	DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND TYPE 'B' POLISHED NICKEL BRONZE, LIGHT-DUTY STRAINER.	PROVIDE WITH 6" DIAMETER STRAINER. PROVIDE TY SEALS FOR FLOOR DRAINS MOUNTED IN FLOORS ABOVE GRADE, VERIFY PIPE SIZES ON PLANS. PROVIDE WITH ASSE 1072 APPROVED TRAP SEALING INSERT TYPICAL OF SURESEAL SERIES SS - SIZE PER FLOOR DRAIN OUTLET.	OUTLET SIZE PER PLAN	-	-	-	
FD-2	FLOOR DRAIN (MECHANICAL AREAS)	ZURN	Z-415	DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND HEAVY DUTY STRAINER.	PROVIDE WITH 8" DIAMETER STRAINER AND ALL ACID RESISTING EPOXY COATING. PROVIDE TY SEALS FOR FLOOR DRAINS MOUNTED IN FLOORS ABOVE GRADE, VERIFY PIPE SIZES ON PLANS. PROVIDE WITH ASSE 1072 APPROVED TRAP SEALING INSERT TYPICAL OF SURESEAL SERIES SS - SIZE PER FLOOR DRAIN OUTLET.	OUTLET SIZE PER PLAN	-	1/2"	-	
FD-3	FLOOR DRAIN (INDIRECT WASTE RECEPTOR)	ZURN	Z-415	DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND TYPE 'B' POLISHED NICKEL BRONZE, LIGHT-DUTY STRAINER.	PROVIDE WITH 6" DIAMETER STRAINER WITH 4" DIAMETER FUNNEL. PROVIDE TY SEALS FOR FLOOR DRAINS MOUNTED IN FLOORS ABOVE GRADE, VERIFY PIPE SIZES ON PLANS. PROVIDE WITH ASSE 1072 APPROVED TRAP SEALING INSERT TYPICAL OF SURESEAL SERIES SS - SIZE PER FLOOR DRAIN OUTLET.	OUTLET SIZE PER PLAN	-	-	-	
FD-4	FLOOR DRAIN (CRITICAL AREAS)	ZURN	Z-415	DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND TYPE 'B' POLISHED NICKEL BRONZE, LIGHT-DUTY STRAINER.	PROVIDE WITH 6" STRAINER AND ALL ACID RESISTING EPOXY COATING. PROVIDE TY SEALS FOR FLOOR DRAINS MOUNTED IN FLOORS ABOVE GRADE, VERIFY PIPE SIZES ON PLANS. PROVIDE WITH ASSE 1072 APPROVED TRAP SEALING INSERT CONNECTION AND BACKWATER VALVE.	OUTLET SIZE PER PLAN	-	1/2"	-	
FD-5	FLOOR DRAIN (SHOWER)	ZURN	Z-415	DURA-COATED CAST IRON BODY WITH BOTTOM OUTLET. COMBINATION INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS AND TYPE 'B' POLISHED NICKEL BRONZE, LIGHT-DUTY STRAINER.	PROVIDE WITH 6"x6" SQUARE HEEL-PROOF STRAINER. PROVIDE TY SEALS FOR FLOOR DRAINS MOUNTED IN FLOORS ABOVE GRADE, VERIFY PIPE SIZES ON PLANS. PROVIDE WITH ASSE 1072 APPROVED TRAP SEALING INSERT TYPICAL OF SURESEAL SERIES SS - SIZE PER FLOOR DRAIN OUTLET.	OUTLET SIZE PER PLAN	-	-	-	
FS-1	FLOOR SINK 12"x12" BODY (FULL GRATE)	ZURN	Z-1901	12"x12"x2" FLOOR RECEPTOR WITH DEEP CAST IRON BODY AND SQUARE, LIGHT-DUTY GRATE WITH 1/2" SLOTTED OPENINGS. WHITE ACID-RESISTING PORCELAIN ENAMEL INTERIOR AND TOP, AND WITH WHITE ABS ANTI-SPLASH INTERIOR BOTTOM DOME STRAINER.	PROVIDE WITH FULL SIZE GRATE, OUTLET SIZE TO MATCH CONNECTION SIZE NOTED ON PLAN, AND TRAP PRIMER CONNECTION.	OUTLET SIZE PER PLAN	-	1/2"	-	
FS-2	FLOOR SINK 12"x12" BODY (3/4 GRATE)	ZURN	Z-1901	12"x12"x2" FLOOR RECEPTOR WITH DEEP CAST IRON BODY AND SQUARE, LIGHT-DUTY GRATE WITH 1/2" SLOTTED OPENINGS. WHITE ACID-RESISTING PORCELAIN ENAMEL INTERIOR AND TOP, AND WITH WHITE ABS ANTI-SPLASH INTERIOR BOTTOM DOME STRAINER.	PROVIDE WITH 3/4 GRATE, OUTLET SIZE TO MATCH CONNECTION SIZE NOTED ON PLAN, AND TRAP PRIMER CONNECTION.	OUTLET SIZE PER PLAN	-	1/2"	-	
TD-1	TRENCH DRAIN	ZURN	Z882-HDG	MODULAR TRENCH DRAIN CHANNELS CONSTRUCTED OF 72" LONG x 12" WIDE REVEAL WITH 9/16" THROAT. MODULAR CHANNEL SECTIONS SHALL BE MADE OF 95% WATER ABSORBENT HIGH DENSITY POLYETHYLENE (HDPE). CHANNELS SHALL BE PRE-SLOPED, PROVIDE END PIPING CONNECTION.	PROVIDE WITH HEAVY DUTY LOAD CLASS E DUCTILE IRON SLOTTED GRATE, COMPLIANT WITH ASTM A538-84, AND LOCKABLE TO TRENCH. PROVIDE WITH REBAR CLIPS AND ASTM A123 COMPLIANT CONCRETE ANCHORS. PROVIDE WITH END OUTLET, SIZE AS NOTED ON PLAN, WITH STRAINER ON OUTLET.	OUTLET SIZE PER PLAN	-	-	-	
RD	COMBO ROOF DRAIN	ZURN/FROET	100C	CAST IRON BODY COMBO PRIMARY/OVERFLOW ROOF DRAIN, VARIABLE DIAMETER BASED UPON OUTLET SIZE. PROVIDE WITH DECK CLAMP AND MINIMUM 5" HIGH DOME STRAINER AND OVERFLOW THRU DOME. ROOF DRAIN SHALL BE COMPLIANT WITH ASME A112.6.4. PROVIDE WITH DECK CLAMP, DECK PLATE	PROVIDE WITH OUTLET SIZE AS NOTED ON PLAN. OUTLET SIZE TO DETERMINE OVERALL DIAMETER OF DOME STRAINER. 3" AND 4" OUTLETS TO HAVE A 1" DIAMETER DOME STRAINER. 6" AND 8" OUTLETS TO HAVE A 1.8" DIAMETER DOME STRAINER. ROOF DRAIN SHALL HAVE A 25 YEAR WARRANTY.	OUTLET AS NOTED ON PLAN	-	-	-	
ORD	WITH COMBO DRAIN ABOVE	-	200C	FURNISH WITH OVERFLOW WATER FLOW SENSOR TO BE INSTALLED IN OVERFLOW PIPING CONNECTION TO PRIMARY. SENSOR EQUAL TO ZURN F7000 WITH INTEGRAL BATTERY BACKUP, BMS INTERFACE, AND PIPE SIZE PER PLANS.	PROVIDE WITH OUTLET SIZE AS NOTED ON PLAN. OUTLET SIZE TO DETERMINE OVERALL DIAMETER OF DOME STRAINER. 3" AND 4" OUTLETS TO HAVE A 1" DIAMETER DOME STRAINER. 6" AND 8" OUTLETS TO HAVE A 1.8" DIAMETER DOME STRAINER. ROOF DRAIN SHALL HAVE A 25 YEAR WARRANTY.	OUTLET AS NOTED ON PLAN	-	-	-	
SD	SIDEWALL SCUPPER DRAIN	ZURN	Z-187	DURA-COATED CAST IRON BODY WITH OBLIQUE ALUMINUM GRATE WITH 90 DEG COMBINATION FRAME AND MEMBRANE FLASHING CLAMP, AND SIDE OUTLET PIPE SIZE PER PLANS (4").	PROVIDE WITH OUTLET SIZE AS NOTED ON PLAN. OUTLET SIZE TO DETERMINE SIZE OF OBLIQUE STRAINER. ROOF DRAIN SHALL HAVE A 25 YEAR WARRANTY.	OUTLET AS NOTED ON PLAN	-	-	-	
DB	DOWNSPOUT BOOT	ZURN	Z-191-RD	DURA-COATED CAST IRON BODY WITH ROUND INLET AND OUTLET AND STRAP WITH 1/4" DIA. CAST HOLES FOR FLAT HEAD BOLTS, AND INLET/OUTLET PIPE SIZE PER PLANS (4").	PROVIDE WITH INLET/OUTLET SIZE AS NOTED ON PLAN (4"). OVERALL HEIGHT OF BOOT 18" DRAIN SHALL HAVE A 25 YEAR WARRANTY. FURNISH WITH CLEANOUT ACCESS WITH PLUG AND NO-HUB CONNECTIONS.	OUTLET AS NOTED ON PLAN	-	-	-	
FGCO	FINISHED GRADE CLEANOUT	ZURN	Z-1400-HD	ADJUSTABLE FLOOR CLEANOUT, CAST IRON BODY, WITH GAS AND WATER-TIGHT ABS TAPERED THREAD PLUG AND ROUND SCORNIATE SECURED HEAVY DUTY TOP, ADJUSTABLE TO FINISH FLOOR. CAST IN CONCRETE PER DETAIL.	CLEANOUT SHALL BE THE SAME SIZE AS PIPING UP TO 4". 4" AND LARGER PIPING SHALL BE A 4" CLEANOUT.	-	-	-	-	
FCO	FINISHED FLOOR CLEANOUT	ZURN	Z-1400	ADJUSTABLE FLOOR CLEANOUT, CAST IRON BODY, WITH GAS AND WATER-TIGHT ABS TAPERED THREAD PLUG AND ROUND SCORNIATE SECURED HEAVY DUTY TOP, ADJUSTABLE TO FINISH FLOOR.	CLEANOUT SHALL BE THE SAME SIZE AS PIPING UP TO 4". 4" AND LARGER PIPING SHALL BE A 4" CLEANOUT.	-	-	-	-	
WCO	WALL CLEANOUT	ZURN	Z-1446	CLEANOUT TEE, DURA COATED CAST IRON BODY, GAS AND WATER-TIGHT, ABS TAPERED THREAD PLUG AND ROUND, SMOOTH STAINLESS STEEL WALL ACCESS COVER WITH SECURING SCREW.	CLEANOUT SHALL BE THE SAME SIZE AS PIPING UP TO 4". 4" AND LARGER PIPING SHALL BE A 4" CLEANOUT.	-	-	-	-	
DSN	DOWNSPOUT NOZZLE	ZURN	ZANB-199	ALL NICKLE BRONZE BODY DOWNSPOUT NOZZLE, WITH OPTIONAL THREADED OR NO-HUB INLET AND DECORATIVE FACE OF WALL FLANGE AND OUTLET NOZZLE.	-	-	-	-	-	SIZE TO MATCH ROOF DRAIN PIPING NOTED ON PLAN

REMARKS:
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 3. ACCEPTABLE ALTERNATE MANUFACTURERS INCLUDE HAWS, CHICAGO FAUCET, HALSEY TAYLOR, JOSAM, JR SMITH, WADE, ROCKFORD, TOTO, AND OASIS

PIPING MATERIAL SCHEDULE												
SYSTEM	SIZE	TYPE	SCH	GRD	ASTM	MATERIAL	MAT.	TYPE	FITTINGS		FIELD TEST	
									PRESS (PSI)	TEMP (°F)	PRESS (PSI)	TIME
DOMESTIC WATER ABOVE GRADE	ALL	L	--	--	B88	CP	CP	SJ	120	40-180	150	1 HR
DOMESTIC WATER BELOW GRADE	ALL	K	--	--	B88	CP	CP	SJ	120	40-180	150	1 HR
CONDENSATE DRAIN ABOVE GRADE	ALL	M	--	--	B88	CP	CP	DRIS	10FT	40-70	10FT	1 HR
FIRE PROTECTION	ALL				PER	NFPA	13	AND	14			2 HR
FIRE SERVICE BELOW GRADE	ALL	CL150	--	--	C900	PVC	DI	MJ	120	40-80	200	2 HR
REFRIGERANT PIPING	ALL	ACR	--	--	B280	CP	CP	SJ	150	40-140	200	4 HR
ROOF DRAIN BELOW GRADE	ALL	DMV	40	--	2665	PVC	PVC	DRSW	10 FT	40-80	10 FT	1 HR
ROOF DRAIN ABOVE GRADE	ALL	NH	SS	--	A74	CI	CI	DRNH	10 FT	40-180	10 FT	1 HR
TEMPERATURE & PRESSURE RELIEF DRAIN	ALL	M	--	--	B88	CP	CP	DRIS	10FT	40-70	10FT	1 HR
NATURAL GAS ABOVE GRADE	0.5"-2.5"	SLWC	40	A	A53	CS/BLK	CS	THRD	1	-	100	1 HR
NATURAL GAS ABOVE GRADE	ABOVE 3"	SLWC	40	A	A53	CS/BLK	CS	THRD	1	-	100	1 HR
NATURAL GAS BELOW GRADE	ALL											REFER TO NOTE 1 BELOW
WASTE BELOW GRADE	ALL	DWV	40	--	2665	PVC	PVC	DRSW	10 FT	40-80	10 FT	1 HR
WASTE & VENT ABOVE GRADE	ALL	NH	SS	--	A74	CI	CI	DRNH	10 FT	40-180	10 FT	1 HR

NOTES:
 1. BURIED GAS PIPING SHALL BE DRISCOPLEX 6500 PE2406, SDR11, POLYETHYLENE WITH #12 COPPER TRACER WIRE AND ANODELESS RISERS WHERE RISING ABOVE GRADE.

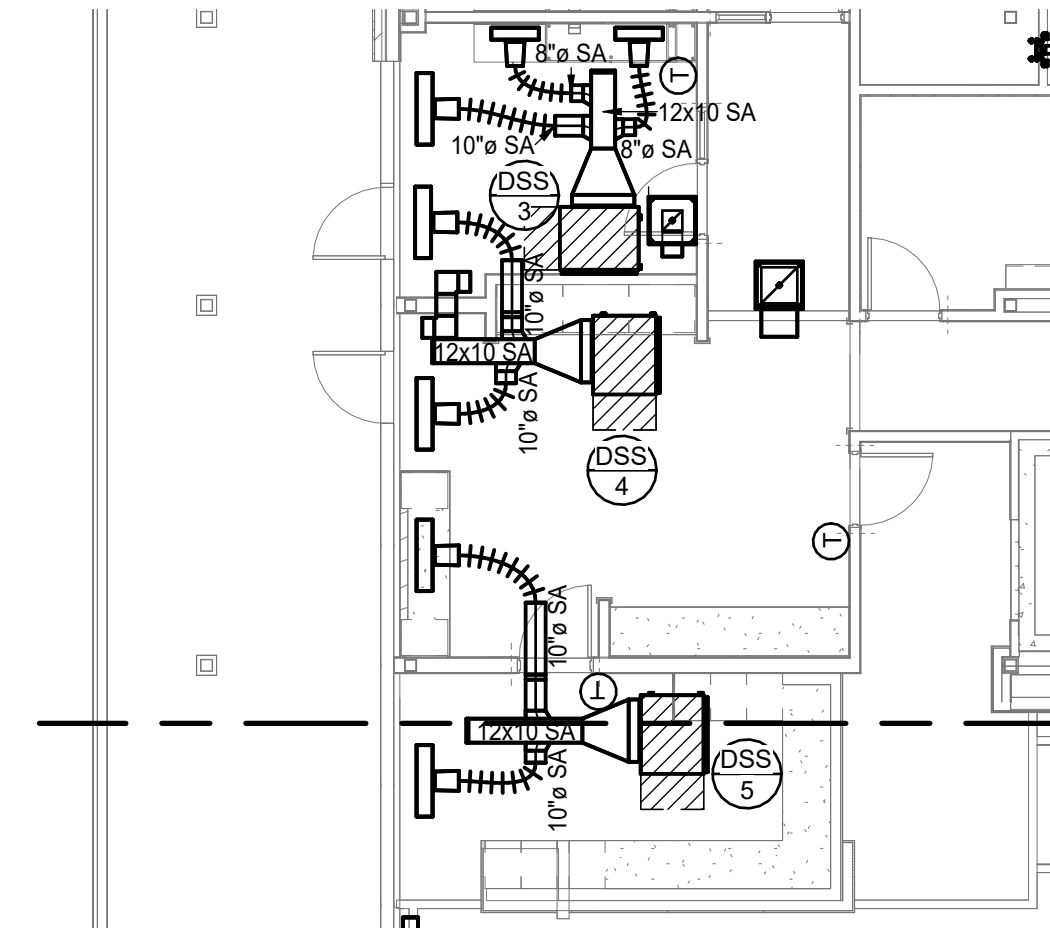
- ATP - ARMCO TRUSS PIPE
- BLK - BLACK
- BS - BELL & SPOT
- CI - CAST IRON
- CP - COPPER
- CS - CARBON STEEL
- CTD - PIPE LINE SERVICE COMPANY X-TRU-COAT HIGH DENSITY POLYETHYLENE COATING
- EXT - EXTENDED
- OW - CONTINUOUS WELD
- DR - DRAINAGE FITTING
- GLV - GALVANIZED
- LG - LEAD CAULKING
- MI - MALLEABLE IRON
- MJ - MECHANICAL JOINT
- NG - NEOPRENE GASKET
- NH - NO-HUB
- PE - POLYETHYLENE
- PVC - POLYVINYL CHLORIDE
- S - BRAZ

**KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI**

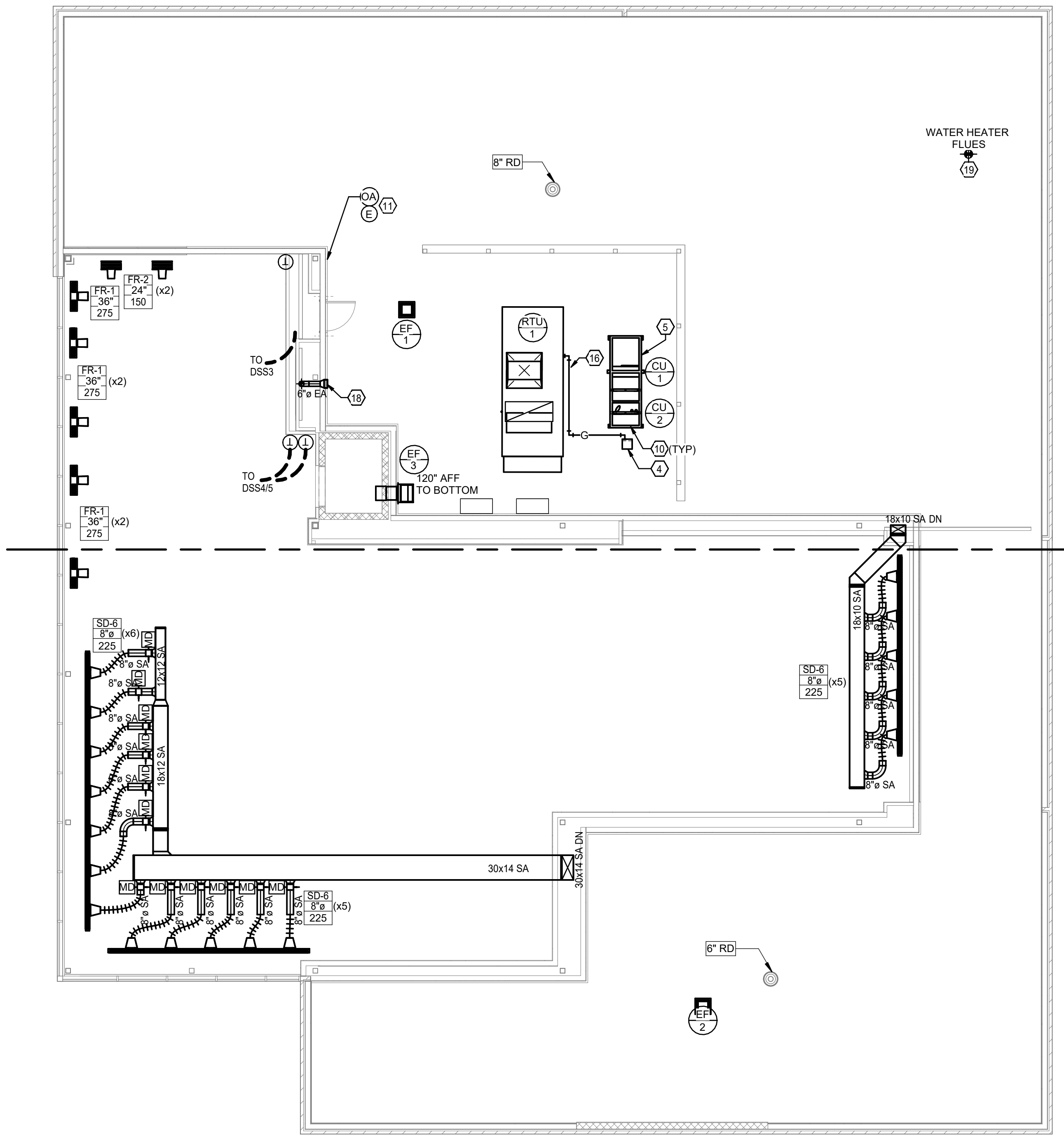
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MECHANICAL PLAN NOTES

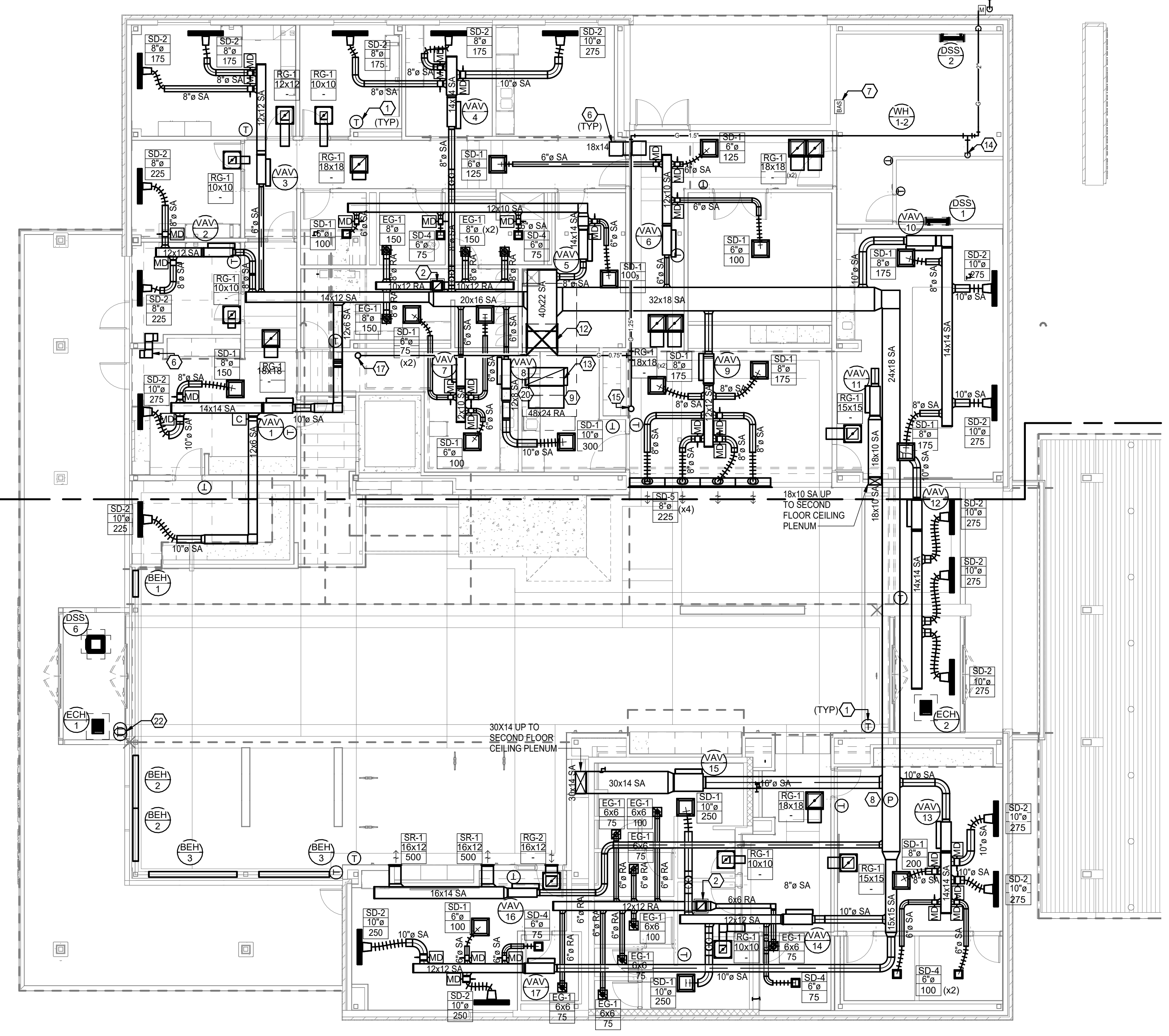
- 1 WHEREVER A THERMOSTAT SYMBOL IS SHOWN, PROVIDE DDC TEMPERATURE SENSOR WITH DIGITAL SCREEN, TEMPERATURE ADJUSTMENT, AND OVERRIDE. SENSOR SHALL CONNECT TO VAV CONTROLLER PER P&IDS.
- 2 12x12 EXHAUST AIR UP TO EXHAUST FAN ON ROOF.
- 3 REFER TO REFRIGERANT CONNECTIONS DETAIL FOR INSTALLATION OF ALL LIQUID/SUCTION LINE INSTALLATIONS TO ALL INDOOR UNITS. ALL REFRIGERANT PIPING TO BE BRAZED ACR TYPE WITH INSULATION WRAP AND JACKETING.
- 4 PATE PIPE HOOD PH-1 ON CURB FOR REFRIGERANT PIPING AND CONDUITS.
- 5 FURNISH PATE BASE RAILS FOR SUPPORTING VRF CONDENSING UNITS AND ASOS ANTENNAE.
- 6 TYPICAL Z-DUCT TRANSFER GRILLE. ANY TRANSFER DUCTWORK SHALL HAVE ARMACELL LINING (FIBER-FREE).
- 7 BMS TEMPERATURE CONTROL PANEL LOCATION. FROM NETWORK RACK ROUTE CAT-6 ETHERNET TO THIS LOCATION.
- 8 LOCATION OF DUCT MOUNTED STATIC PRESSURE SENSOR FOR VFD CONTROL.
- 9 FOR VAV RTU, FURNISH RA DUCT DETECTOR WITH FAN SHUTDOWN RELAY AND CONNECT TO FIRE ALARM SYSTEM.
- 10 REFER TO REFRIGERATION DIAGRAM FOR ALL VRF LIQUID/SUCTION PIPING FROM OUTDOOR CONDENSING UNIT TO INDOOR UNITS. ALL PIPING SHALL BE BRAZED ACR WITH 1" FIBERGLASS JACKETED INSULATION AND PVC COVERS AT ALL FITTINGS.
- 11 ON UPPER ROOF INSTALL ON BACKBOX OUTSIDE AIR AND ENTHALPY SENSORS FOR BMS SYSTEM CONTROL.
- 12 40x22 SUPPLY AIR DUCTWORK UP TO RTU. PROVIDE FLEXIBLE CONNECTION AND TRANSITION TO MATCH UNIT OPENING.
- 13 48x24 RETURN AIR DUCTWORK UP TO RTU. PROVIDE FLEXIBLE CONNECTION AND TRANSITION TO MATCH UNIT OPENING.
- 14 1.25" GAS PIPING DOWN TO WATER HEATERS. REFER TO WATER HEATER ELEVATION. TEE TO BOTH HEATERS. PROVIDE INDIVIDUAL SHUT-OFF VALVES, UNION, AND DIRT LEG.
- 15 1.25" GAS PIPING UP TO ROOFTOP UNIT. COME UP THRU PATE PIPE CURB. USE MIRO OR EQUAL PILLOWBLOCK SUPPORTS.
- 16 1.25" GAS PIPING CONNECTED TO RTU. PROVIDE GAS COCK, DIRT LEG, AND UNION. ALL GAS PIPING PAINTED WITH EPOXY YELLOW ON ROOF.
- 17 0.75" GAS UP TO FIREPLACE WITHIN BASE. PROVIDE GAS COCK, DIRT LEG, AND UNION.
- 18 TYPE B SIDEWALL VENT FROM GAS FIREPLACE. INSTALL 6" VENT PER MANUFACTURER'S INSTRUCTIONS TO ROOF VENT. MAINTAIN ALL REQUIRED EXTERIOR CLEARANCES.
- 19 ROOF MOUNTED CONCENTRIC VENT TERMINATION KIT. PROVIDED WITH WATER HEATER. COORDINATE INSTALLATION REQUIREMENTS WITH GENERAL CONTRACTOR. INSTALL PER UNIT MANUFACTURER REQUIREMENTS.
- 20 OVEN RECIRC HOOD PER ARCH EQUIPMENT PLAN.
- 21 MD DIAGRAMMATICALLY SHOWN ON PLANS IS FOR MANUAL BALANCING DAMPERS AT TAKE-OFF (TYPICAL).
- 22 CEILING HEATER AND VRF TSTAT MOUNTED TO SIDE OF METAL CHANNEL ABOVE SLIDING DOOR ASSEMBLY (102'). ALL LOW VOLTAGE CABLING TO BE FISHED THRU MULLION ASSEMBLIES TO ABOVE VESTIBULE CEILING.



MECHANICAL PLAN - LEVEL 3
1/8" = 1'-0"



MECHANICAL PLAN - LEVEL 2
1/8" = 1'-0"



MECHANICAL PLAN - LEVEL 1
1/8" = 1'-0"

LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT, MO

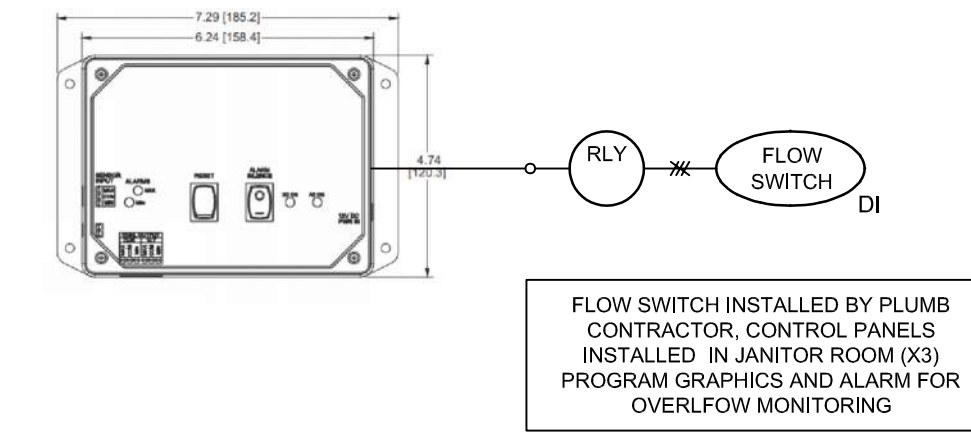
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CAD DWG FILE:	Lee's Summit - Hangar 2.rvt	
DESIGNED BY:	CMW	
DRAWN BY:	MR	
CHECKED BY:	CMW	
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SHEET TITLE
**1ST FLOOR &
MEZZANINE
MECHANICAL PLANS**

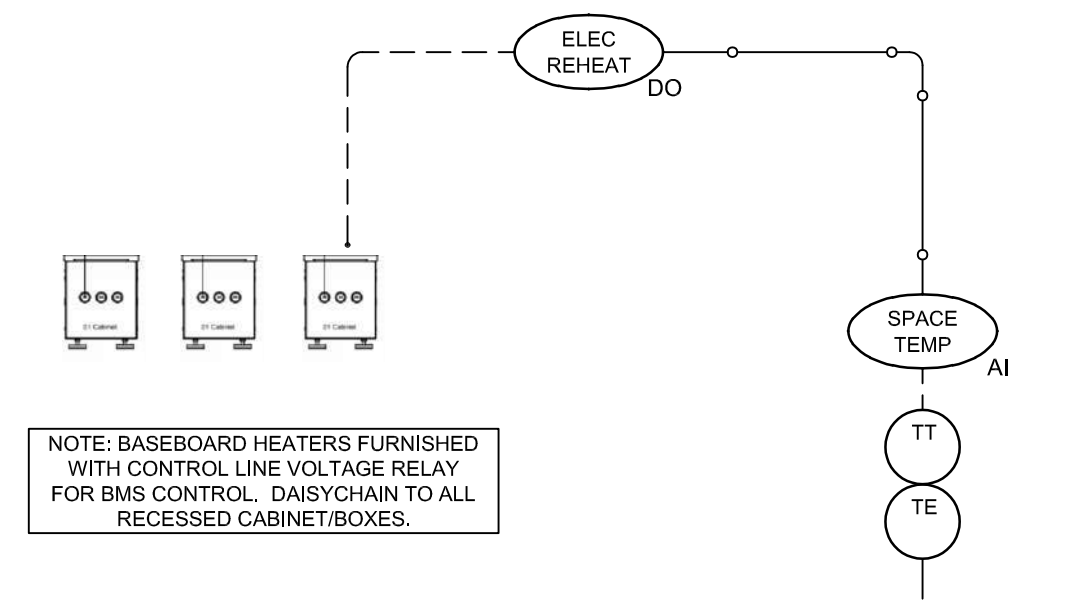
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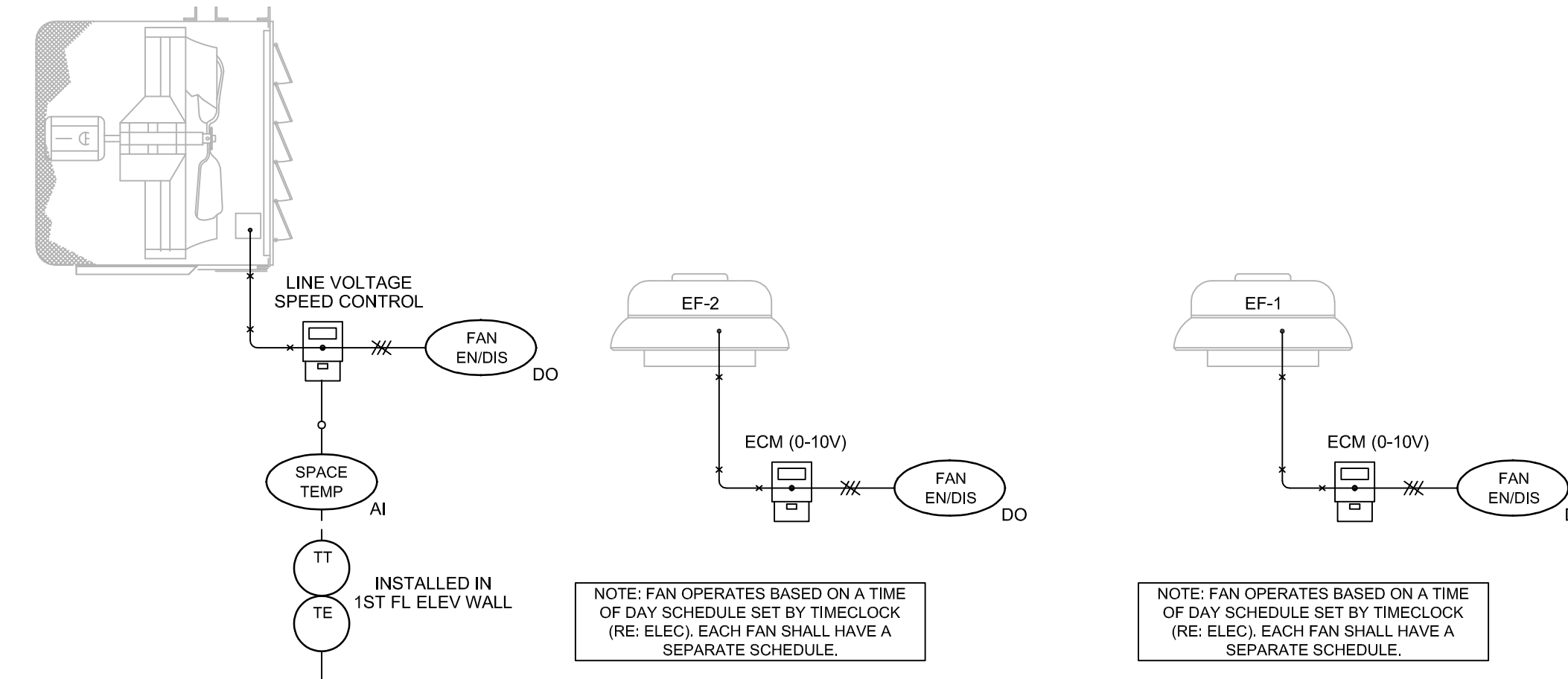
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LEE'S SUMMIT, MISSOURI**
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



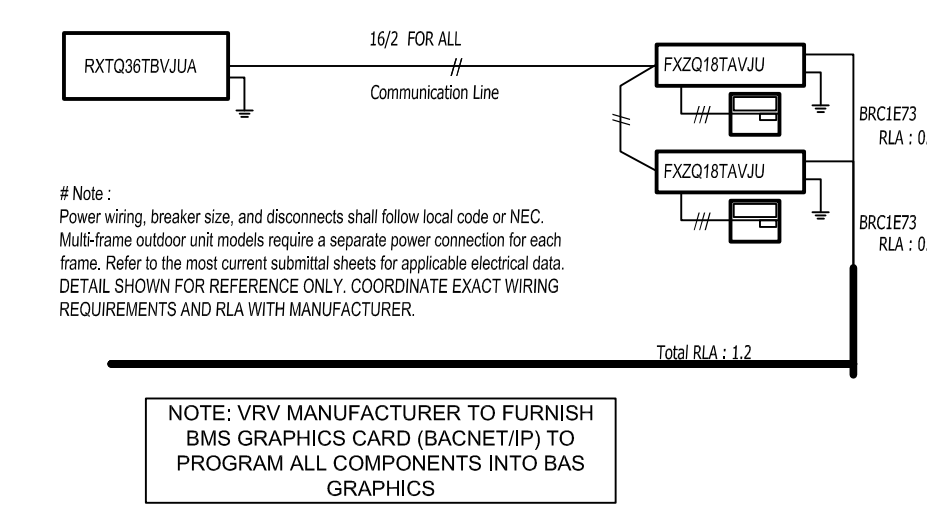
5 ROOF DRAIN MONITORING
SCALE: NONE



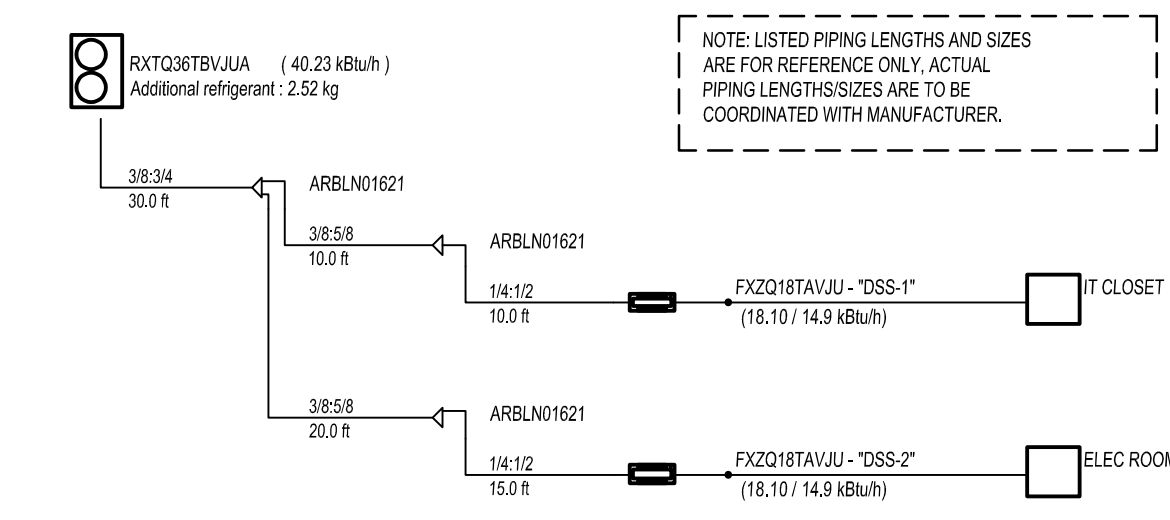
5 BASEBOARD HEATING CONTROL DIAGRAM
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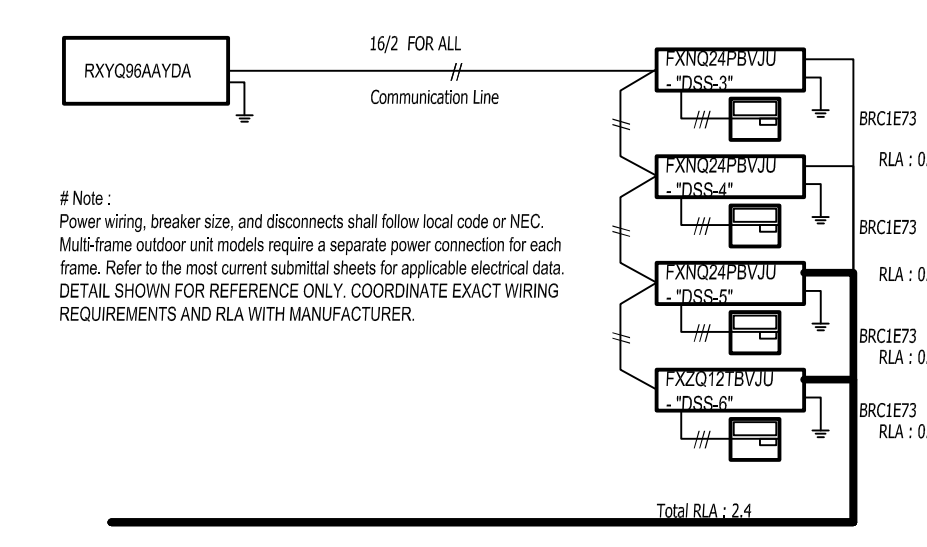
6 EXHAUST FAN CONTROL DIAGRAM
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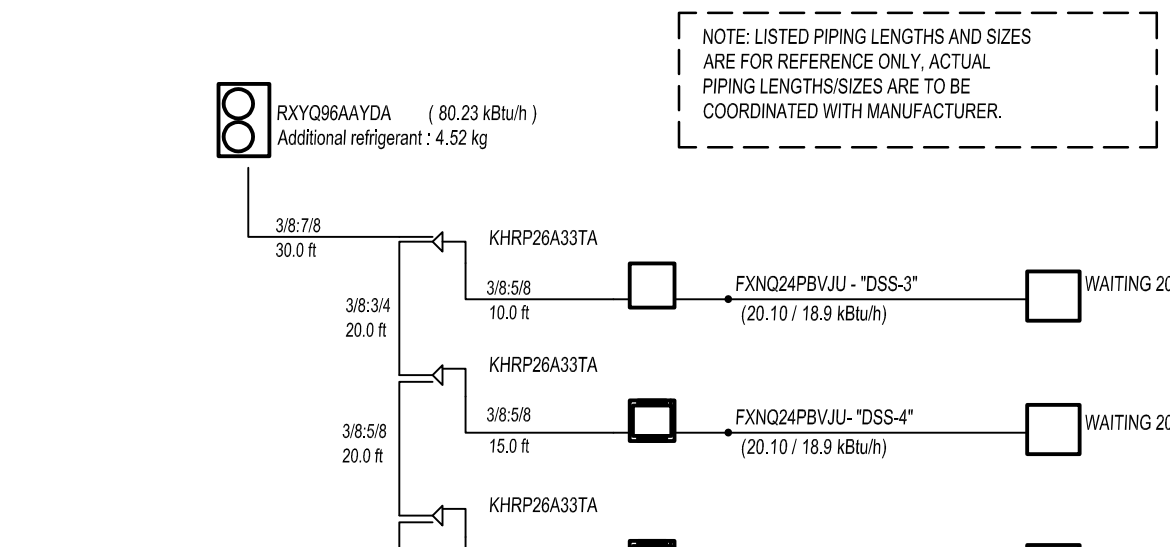
SPLIT SYSTEM WIRING DIAGRAM CU-2



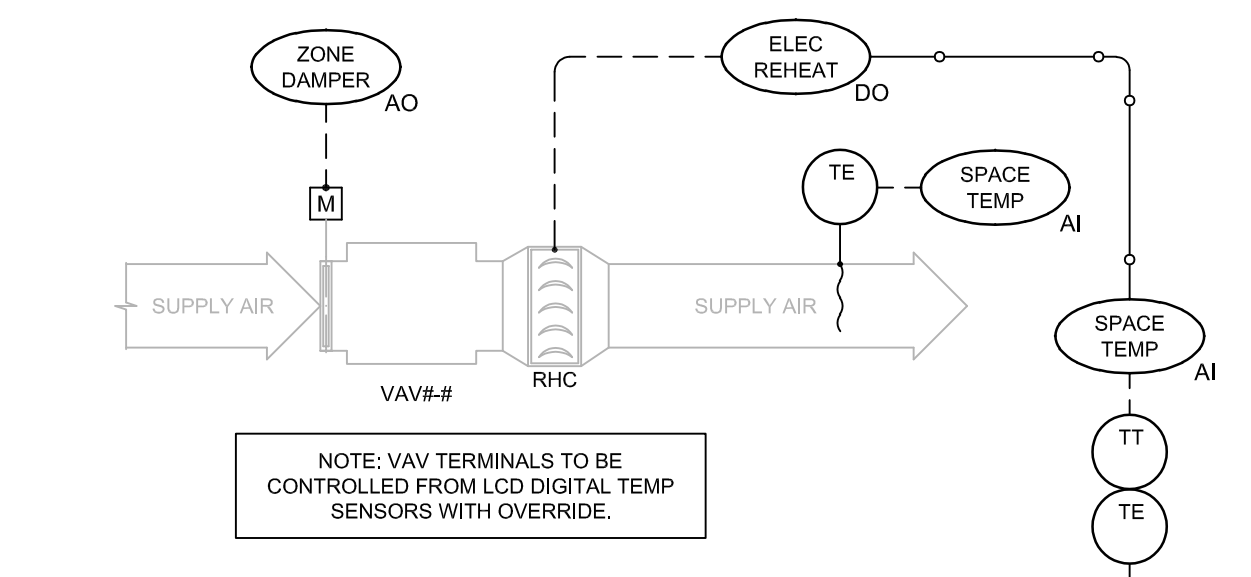
SPLIT SYSTEM PIPING DIAGRAM CU-2



SPLIT SYSTEM WIRING DIAGRAM CU-1

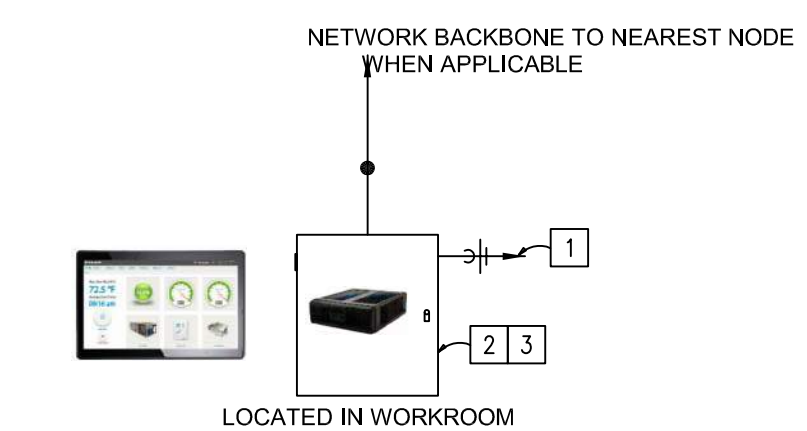


SPLIT SYSTEM PIPING DIAGRAM CU-1



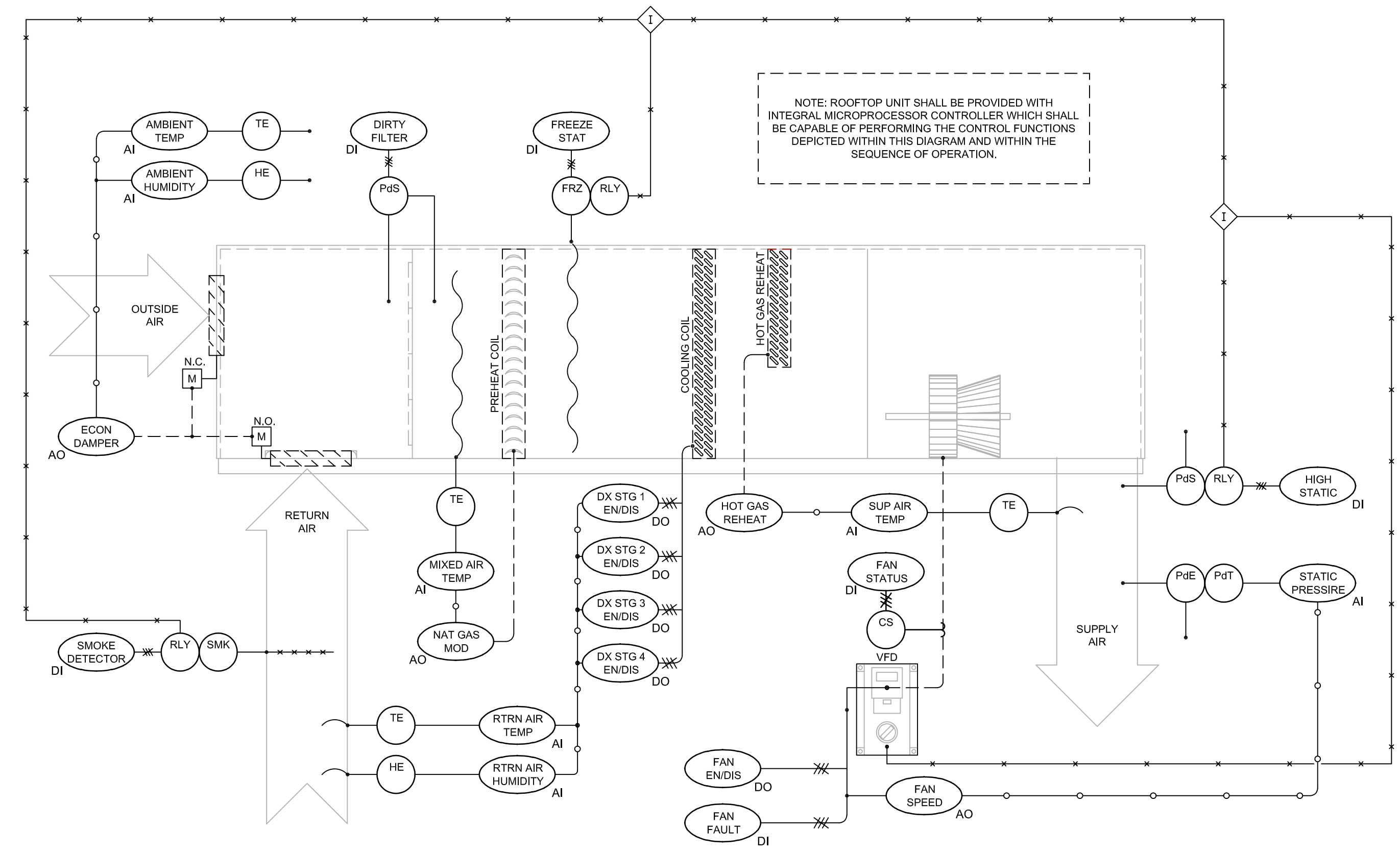
2 VAV TERMINAL CONTROL DIAGRAM
SCALE: NONE

4 VRV HVAC TYPICAL EQUIPMENT DETAILS
SCALE: NONE



- NOTES**
- 120 VAC PROVIDED BY E.C. CONTROLS CONTRACTOR TO COORDINATE WITH E.C. ON ALL NEW ENCLOSURE LOCATIONS.
 - CONTRACTOR TO PROVIDE ALL NEW CONTROL ENCLOSURES. NO EXISTING ENCLOSURES ARE TO BE REUSED. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE AND INSTALL NEW ENCLOSURES.
 - ALL VAV & FAN POWERED BOX ASCS ARE TO BE POWERED FROM TRANSFORMERS HOUSED IN NEW ENCLOSURES OR SOME OF THE FPB/VAVS MAY BE PROVIDED WITH CONTROL TRANSFORMER BY MANUFACTURER. TO COORDINATE WITH M/C. MULTIPLE CONTROLLERS CAN BE POWERED OFF OF A SINGLE TRANSFORMER. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE ENCLOSURES, TRANSFORMERS, AND ALL LOW VOLTAGE WIRING INCLUDING 24 VAC, NETWORK, AND CONTROL WIRING.

3 CONTROL ENCLOSURES
SCALE: NONE



1 PACKAGED ROOFTOP UNIT CONTROL DIAGRAM
SCALE: NONE



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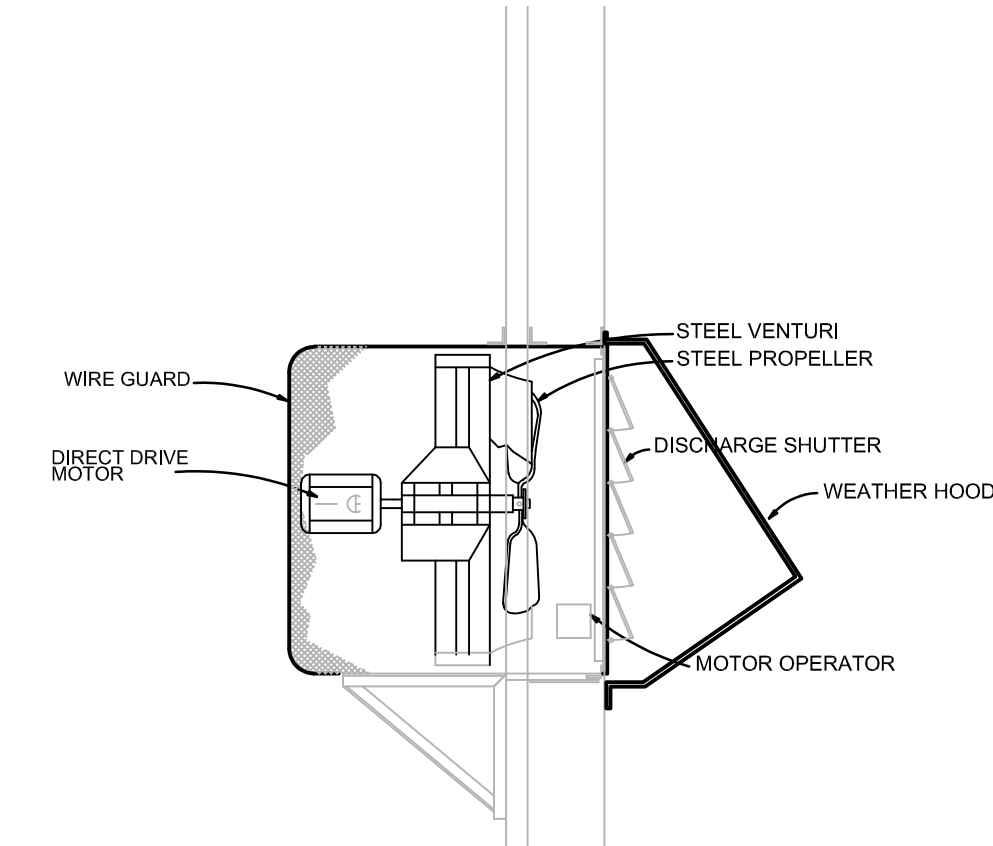
LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION
PROJECT NO:	2403	
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt	
DESIGNED BY:	CMW	
DRAWN BY:	DM	
CHECKED BY:	WAI	
APPROVED BY:	Approver	
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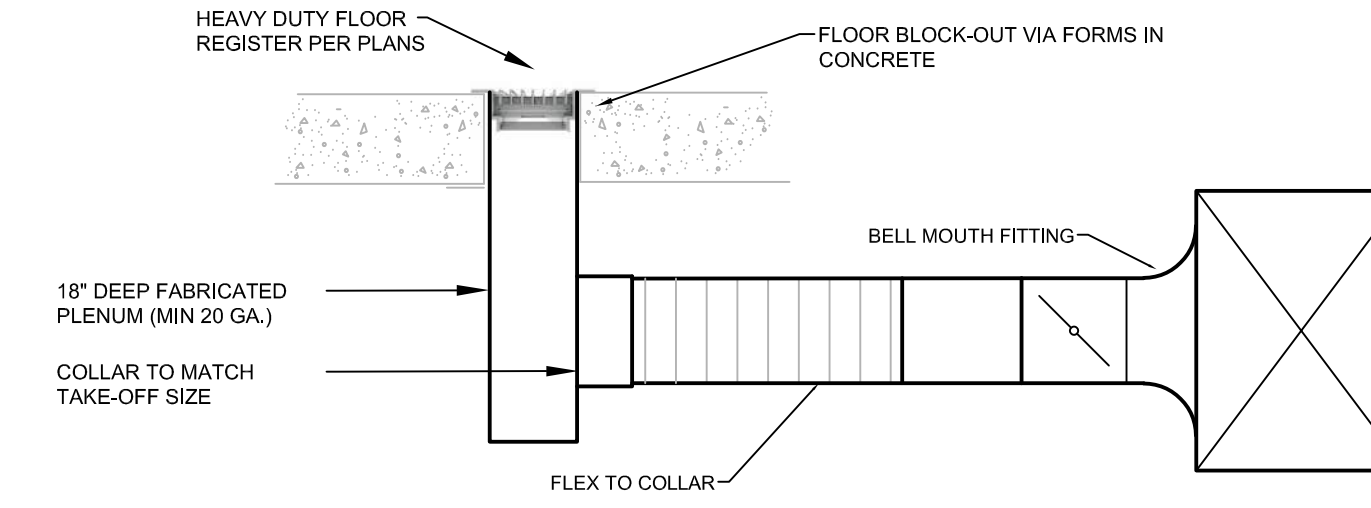
CONTROLS DIAGRAMS

**KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI**
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

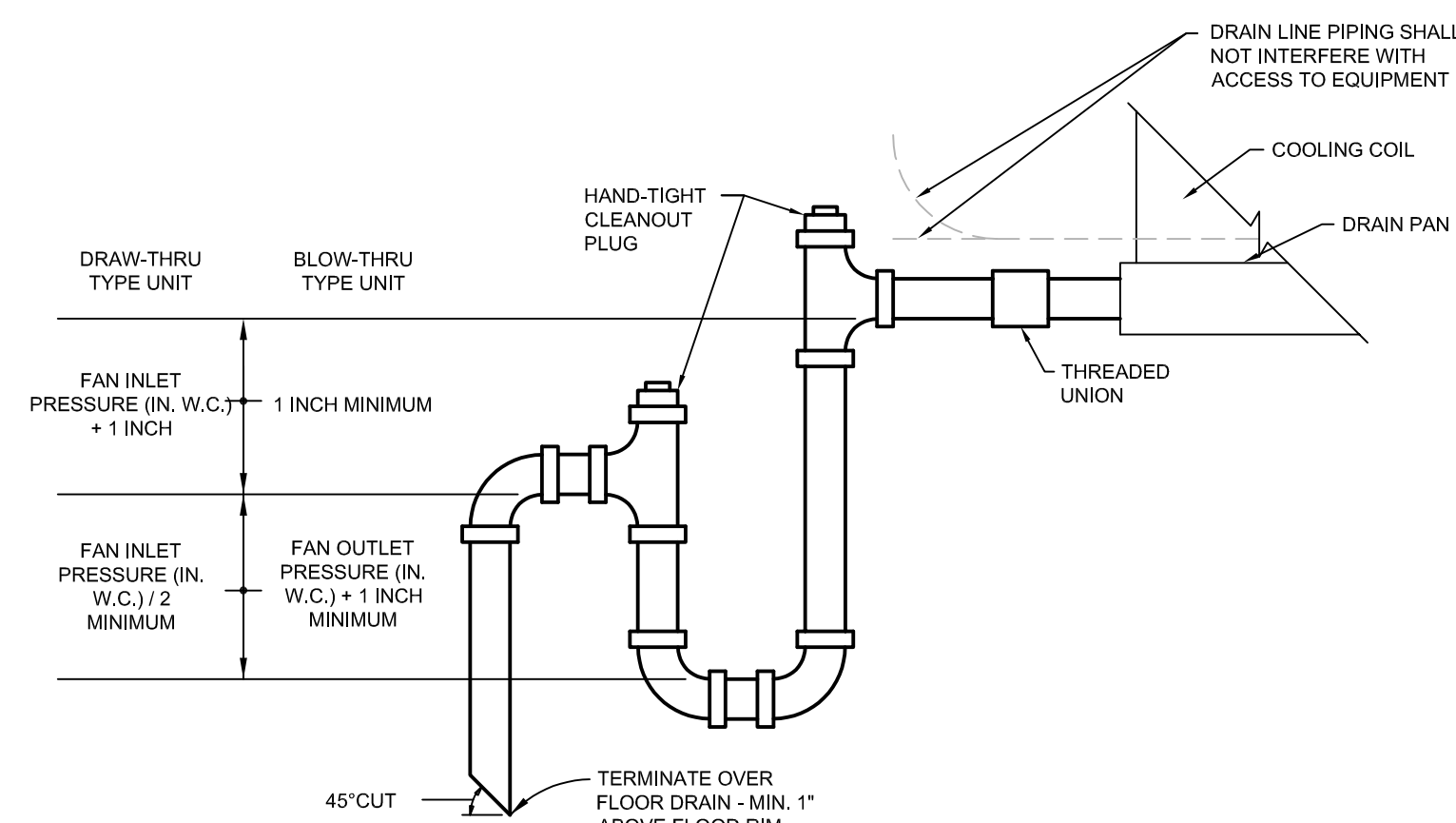
9 WALL PROP EXHAUST FAN DETAIL
SCALE: NONE



10 FLOOR REGISTER DETAIL
SCALE: NTS

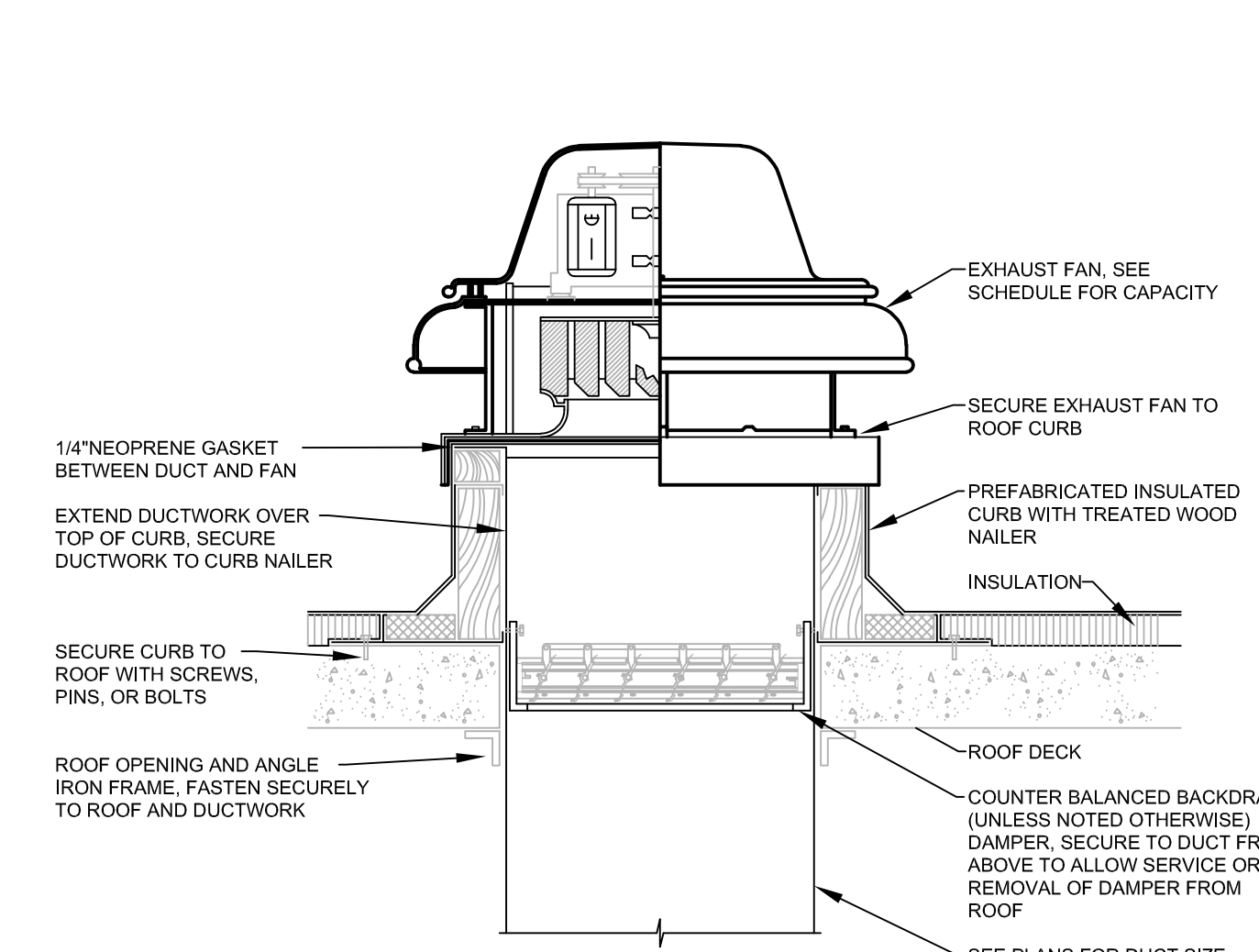


8 CONDENSATE TRAP DETAIL
SCALE: NONE

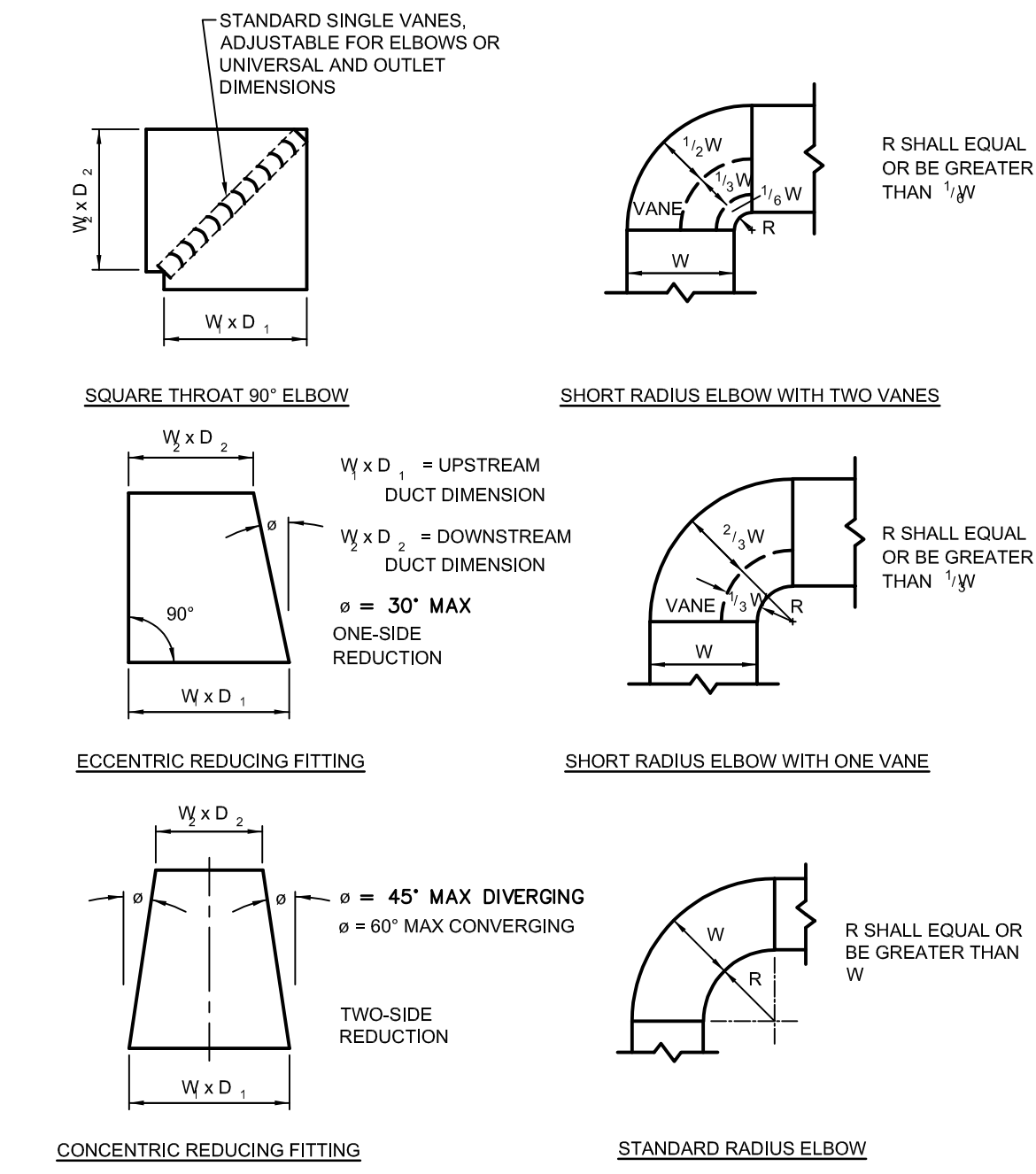


NOTES:
1. FOR EQUIPMENT WITHOUT INTERNAL CONDENSATE TRAPS.
2. PIPING TO BE PER SCHEDULE

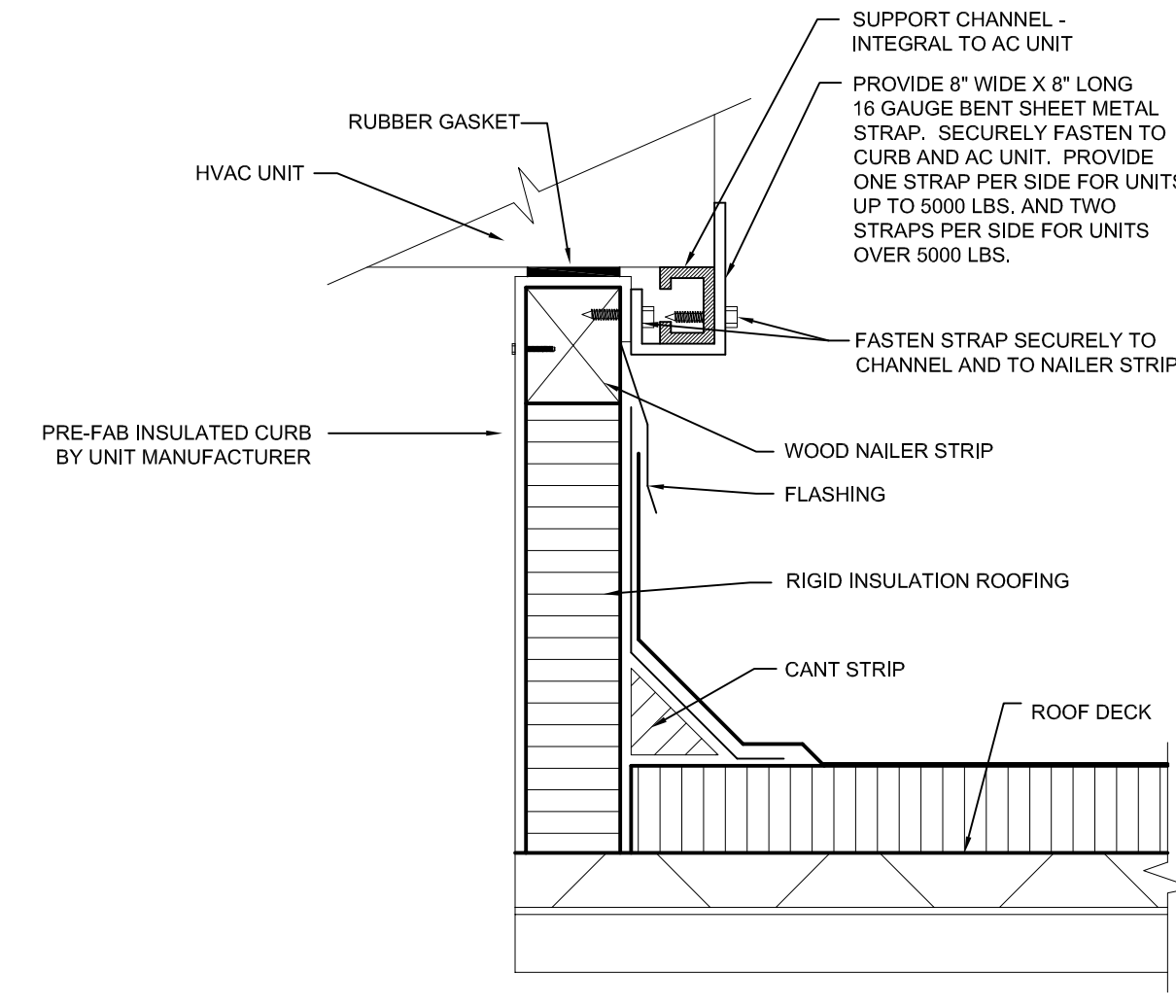
5 EXHAUST FAN DETAIL
SCALE: NONE



2 SHEET METAL FITTINGS
SCALE: NONE

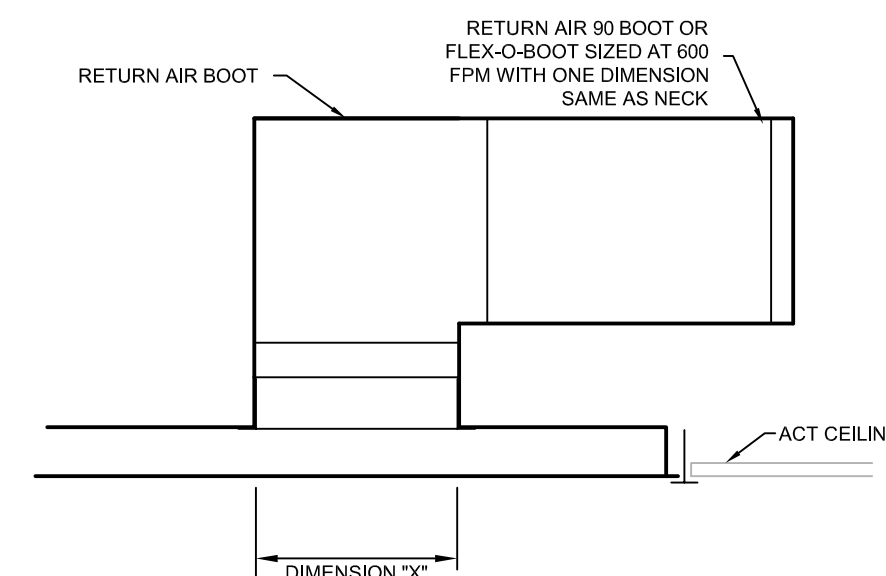


7 RTU CURB ATTACHMENT
SCALE:

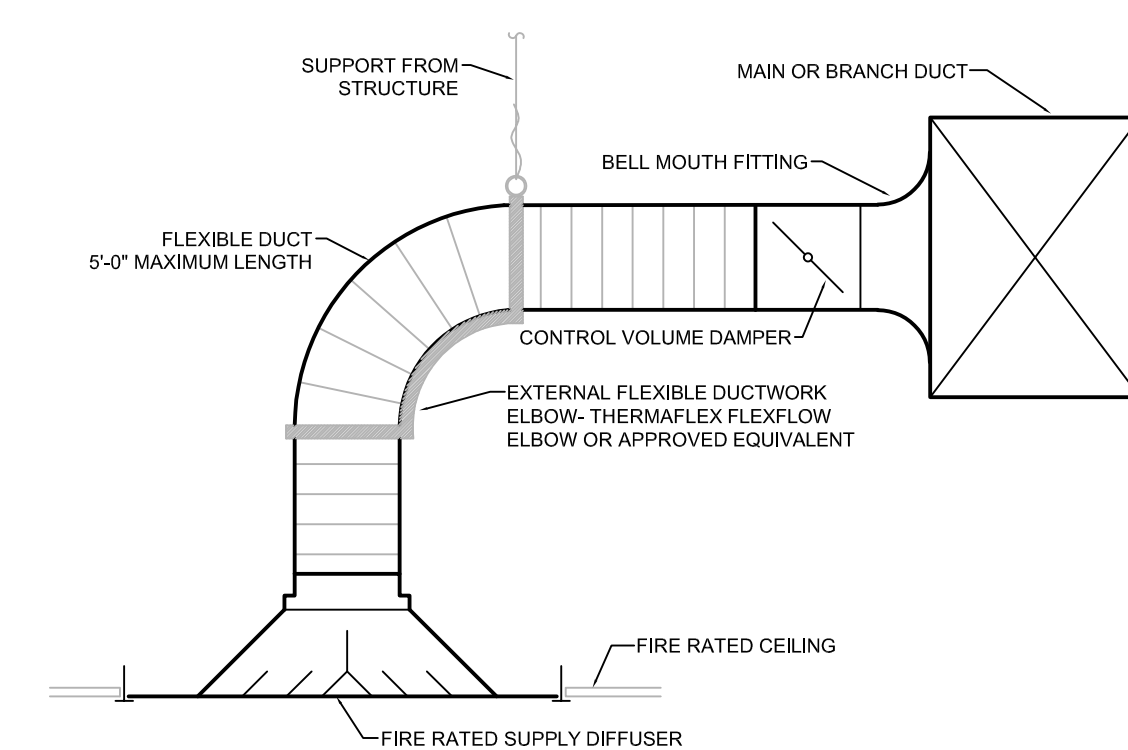


NOTES:
1. UTILIZE MANUFACTURER'S CURBS SUITABLE FOR METAL ROOF OR "THY-CURB" OR APPROVED CURB.
2. COORDINATE EXACT DETAIL WITH HVAC UNIT MANUFACTURER.

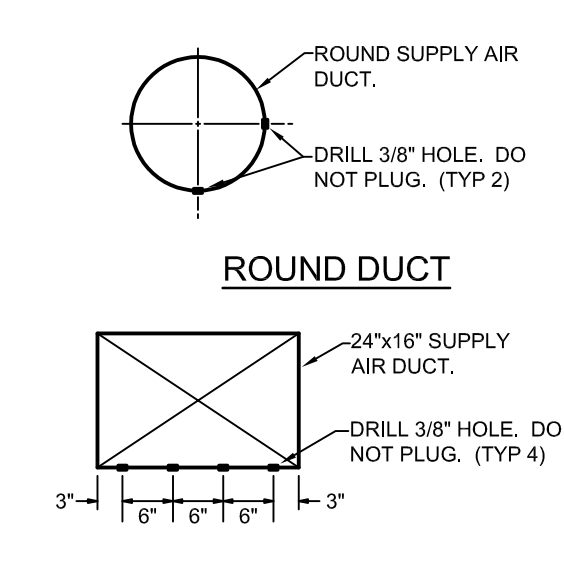
6 RETURN BOOT DETAIL
SCALE: NONE



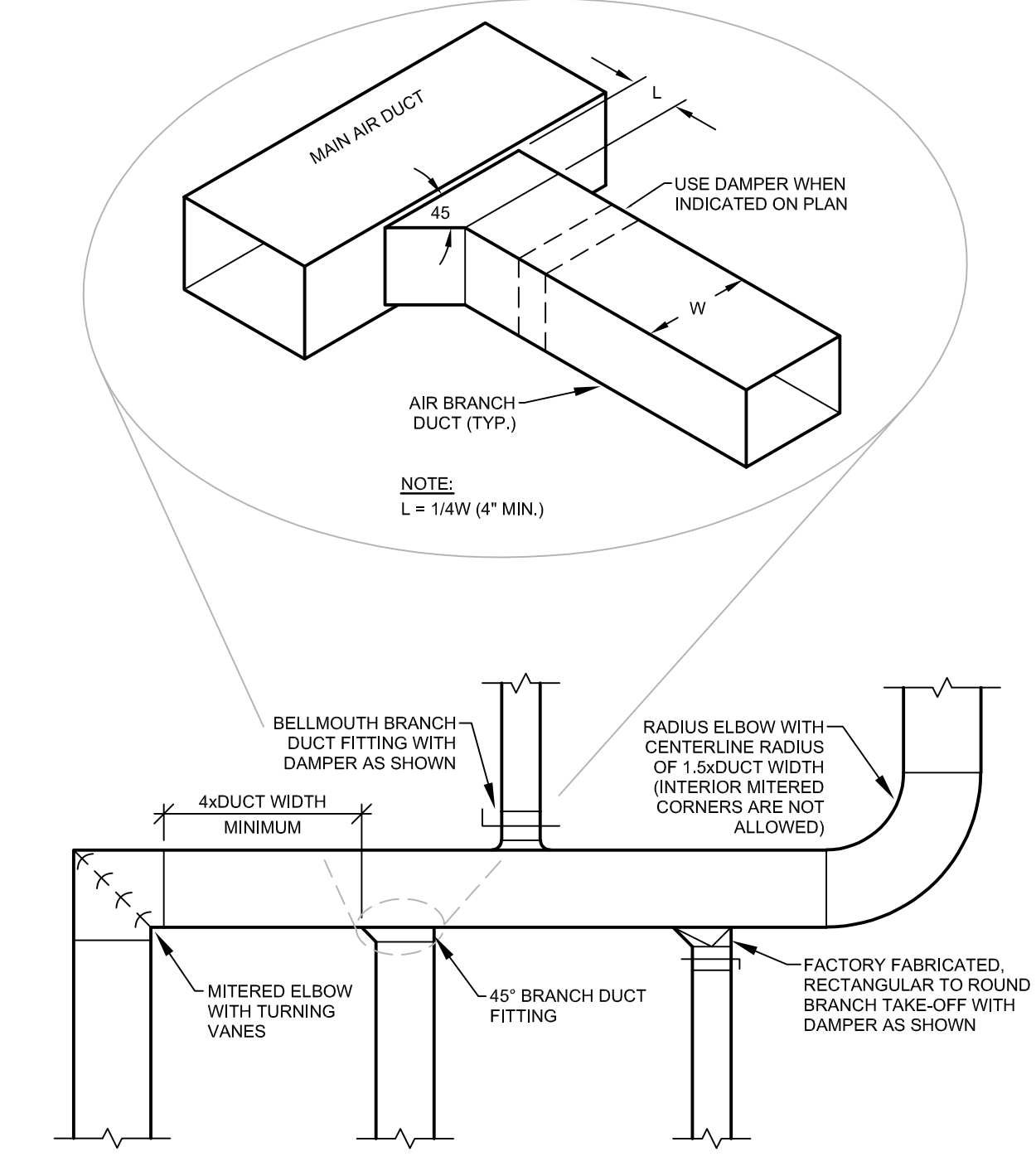
4 CEILING DIFFUSER DETAIL
SCALE: NONE



3 DUCT TRAVERSE DETAIL
SCALE: NONE



1 DUCTWORK CONSTRUCTION DETAIL
SCALE: NONE



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01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION
PROJECT NO:	2403	
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt	
DESIGNED BY:	CMW	
DRAWN BY:	DM	
CHECKED BY:	WAI	
APPROVED BY:	Approver	
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**MECHANICAL
DETAILS**

PACKAGE ROOFTOP UNIT SCHEDULE table with columns: MARK, SERVICES, SUPPLY FAN, ELECTRICAL DATA, HEATING DATA (GAS), COOL, EVAPORATOR DATA, REHEAT COIL, MANUFACTURER & MODEL, ACCESSORIES.

BUILDING OCCUPANTS/OUTSIDE AIR CALCS table with columns: UNIT DESIGNATION, ROOM NO., ROOM DESIGNATION, AREA (FT2), SPACE CLASSIFICATION, OCCUPANTS PER 1000 SF, ZONE OCCUPANTS, OUTDOOR AIR RATE, etc.

HVAC PIPING MATERIAL SCHEDULE table with columns: SYSTEM, PIPING, SIZE, TYPE, SCH, GRD, ASTM, MATERIAL, FITTINGS, MAX. WORKING PRESS, TEMP, FIELD TEST.

BUILDING AIR BALANCE SCHEDULE table with columns: MARK, SUPPLY AIR CFM, OUTSIDE AIR CFM, EXHAUST AIR CFM, RETURN AIR CFM, PRESSURIZATION AIR CFM.

WALL UNIT HEATER table with columns: MARK, LOCATION, SERVICES, MANUFACTURER & MODEL, VOLT/PH, WATTS/AMPS, REMARKS.

DUCT PRESSURE CLASS table with columns: SYSTEM/FAN, LOCATION/DUCT INVOLVED, POSITIVE OR NEGATIVE PRESSURE, PRESSURE CLASS, DUCTWORK TYPE, INSULATION TYPE/THICKNESS.

VARIABLE AIR VOLUME BOX SCHEDULE table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.

Table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.

DUCT PRESSURE CLASS table with columns: SYSTEM/FAN, LOCATION/DUCT INVOLVED, POSITIVE OR NEGATIVE PRESSURE, PRESSURE CLASS, DUCTWORK TYPE, INSULATION TYPE/THICKNESS.

DUCTLESS SPLIT SYSTEM SCHEDULE table with columns: MARK, MFG, MODEL #, CFM LO/HI, E.S.P., FAN KW, COOLING CAPACITY, HEAT CAPACITY, ELECTRICAL DATA, ACCESSORIES, ASSOC. HP.

Table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.

Table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.

HEAT PUMP CONDENSING UNIT table with columns: MARK, MFG, MODEL #, AMB. TEMP., HTG MBH, LG TH, V/PH, MCA, MOCP, ACCESSORIES.

AIR DISTRIBUTION DEVICES table with columns: MARK, SERVES, COLOR, DAMPER, PATTERN, SIZE, MAX NC, MAX PD IN WC, MANUFACTURER & MODEL, REMARKS.

Table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.

WALL UNIT HEATER table with columns: MARK, LOCATION, SERVICES, MANUFACTURER & MODEL, VOLT/PH, WATTS/AMPS, REMARKS.

EXHAUST FAN SCHEDULE table with columns: TAG, CFM, SP (IN. W.C.), MOTOR HP/WATTS, RPM, DRIVE TYPE, SERVICE/MOUNTING, ELECTRICAL, MANUFACTURER, ACCESSORIES, DRAWING LOCATION.

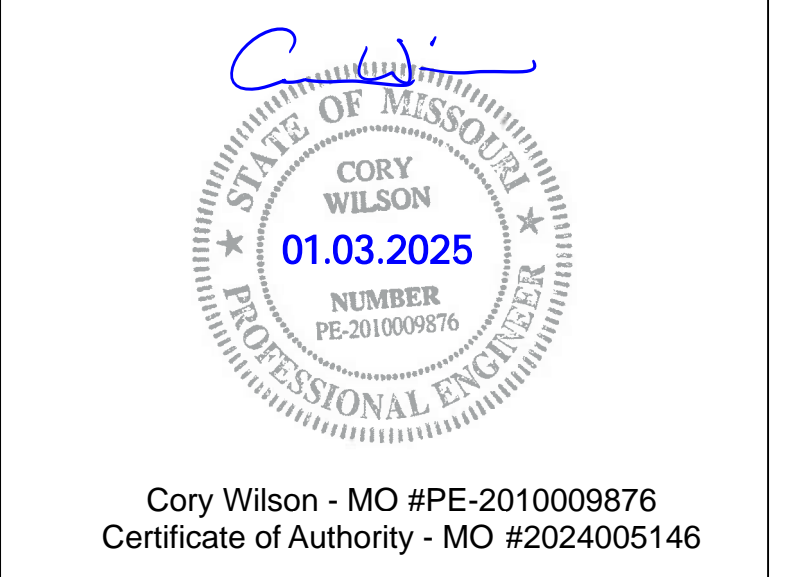
Table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.

RECESSED BASEBOARD ELECTRIC HEATING table with columns: MARK, LOCATION, SERVES, MANUFACTURER & MODEL, VOLT/PH, WATTS/AMPS, REMARKS.

Table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.

Table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.

Table with columns: MARK, MAKE, MODEL, INLET, OUTLET, AIRFLOW, HTG COIL (ELECTRIC), PRESSURE CONTROLS, ACCESSORIES.



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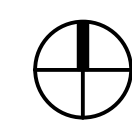
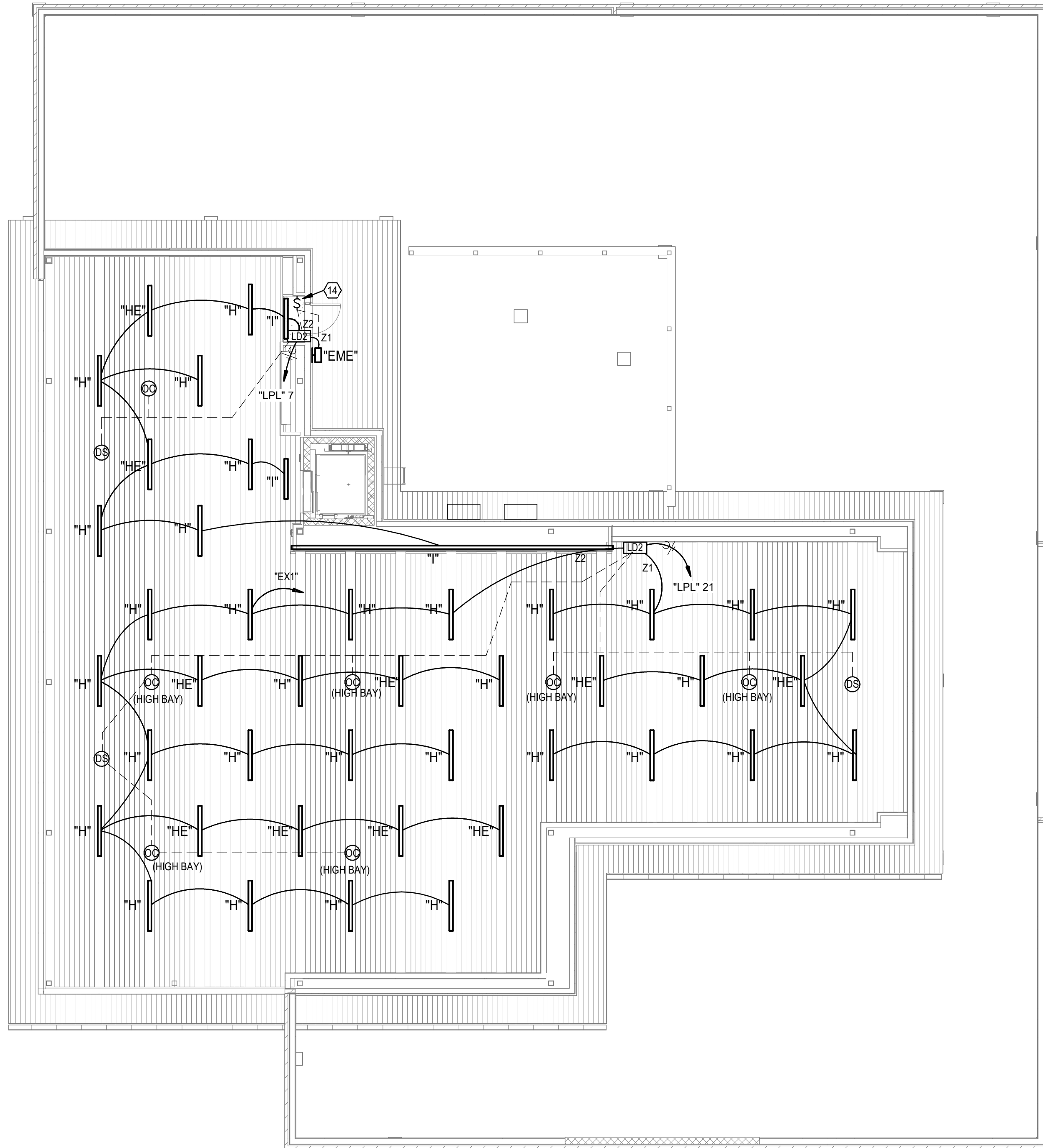
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LIGHTING PLAN NOTES

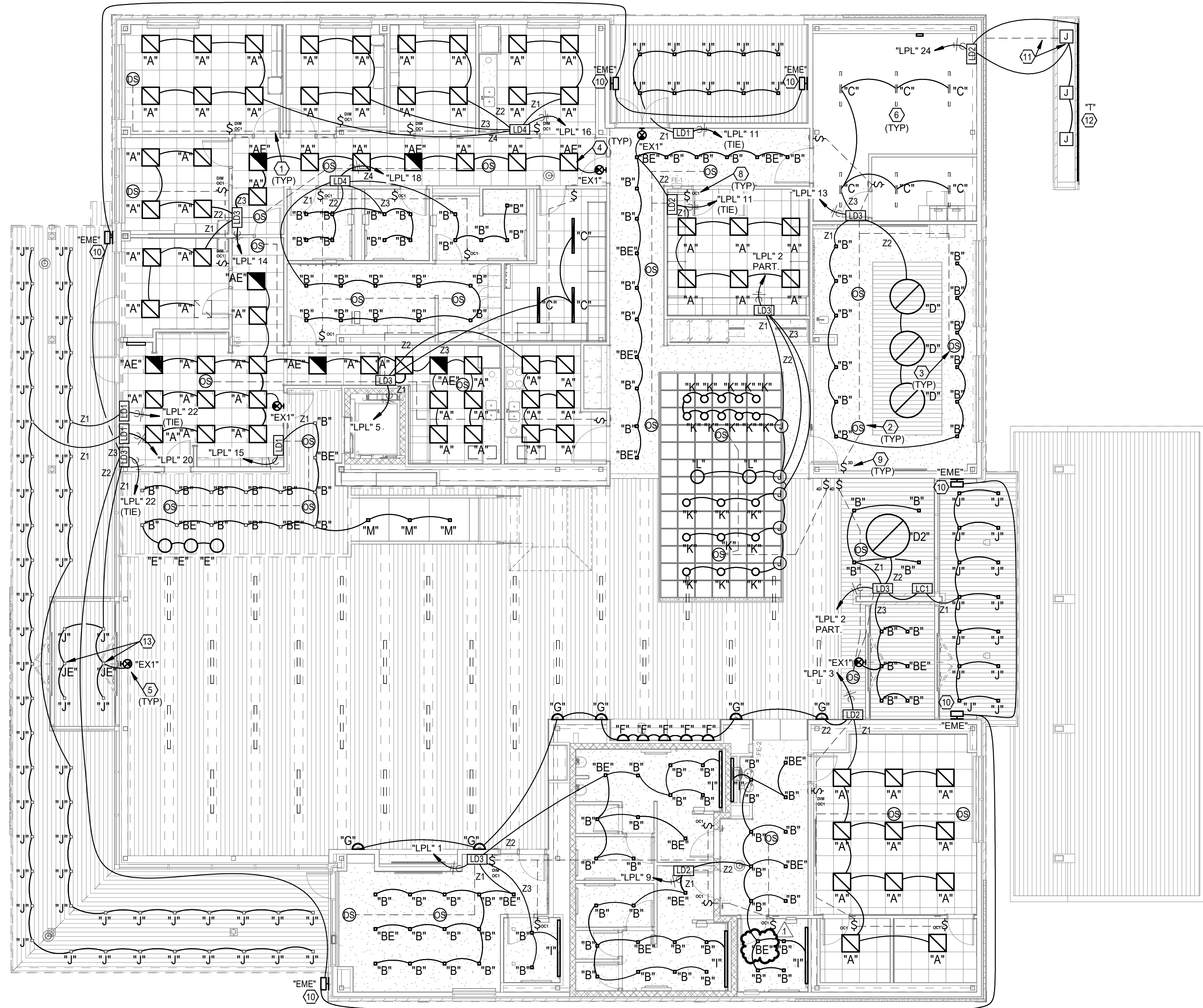
- ① ROUTE CAT-6 CABLING FOR ALL CONTROL DEVICES TO CONTROLLER.
- ② DUAL TECHNOLOGY (PIRUS) LOW VOLTAGE CEILING OCCUPANCY SENSOR FURNISHED AS PART OF DIGITAL LIGHTING CONTROL SYSTEM. ROUTE COMMUNICATION CABLING TO CONTROLLER.
- ③ TYPICAL DAYLIGHT HARVESTING SENSOR MOUNTED IN CEILING WITHIN 60" OF WINDOW.
- ④ FIXTURES WITHIN DRYWALL CEILING TO BE FURNISHED WITH PLASTER FRAM (TYP. RE. ARCH REFLECTED CEILING PLANS).
- ⑤ INCLUDE HOT UNSWITCHED CONDUCTOR WITH CIRCUITS THAT POWER EMERGENCY BATTERY PACK.
- ⑥ SUSPEND LED STRIP FIXTURE WITH CHAINS AT 8'-0" AFF.
- ⑦ DIGITAL LIGHTING CONTROLLER (1-4 CIRCUIT) MOUNTED ABOVE CEILING ON WALL 12" ABOVE GRID (LD FOR DIMMING, LC FOR GROUP CONTROL).
- ⑧ TYPICAL DUAL TECHNOLOGY (PIRUS) WALL SWITCH OCCUPANCY SENSOR WITH OVERRIDE OFF AND PUSH TO DIM FURNISHED AS PART OF DIGITAL LIGHTING CONTROL SYSTEM. ROUTE COMMUNICATION CABLING TO CONTROLLER.
- ⑨ TYPICAL MULTI-BUTTON DIGITAL SWITCH SENSOR FURNISHED AS PART OF DIGITAL LIGHTING CONTROL SYSTEM. ROUTE COMMUNICATION CABLING CONTROLLER. PROGRAM PER SEQUENCES FOR DAYLIGHTING, PUSH TO DIM, ETC.
- ⑩ MOUNT EXTERIOR FIXTURE AT 108" AFF PROVIDE SURFACE MOUNTING PLATE AND CONDUIT ENTRY. EXTERIOR EMERGENCY FIXTURES SHALL COME WITH BUILT-IN PHOTOCELL.
- ⑪ PROVIDE 2#12, 3/4" UG CONDUIT FROM PANELBOARD SERVING LOAD TO JUNCTION BOX FOR MONUMENT SIGN POWER. FINAL CONNECTION BY MONUMENT SIGN VENDOR.
- ⑫ LED STRIP LIGHTING ON FRONT OF MONUMENT SIGN. RE. ARCH DRAWINGS FOR ADDITIONAL DETAILS.
- ⑬ PROVIDE "IE" TYPE LIGHT FIXTURE WITH SURE-LITES EBPLED EMERGENCY BATTERY PACK RE. DETAIL 6/E-400.
- ⑭ MANUAL OVERRIDE SWITCH FOR EXTERIOR MEZZANINE "EME" LIGHT FIXTURE. SWITCH TO ALLOW FIXTURE TO REMAIN OFF IN NORMAL OPERATION AND TURN ON VIA SWITCH OR EMERGENCY POWER.

LIGHTING GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LOCAL VERSION OF THE NATIONAL ELECTRIC CODE AND NFPA AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
2. COORDINATE CLOSELY WITH ALL OTHER TRADES TO EXPEDITE CONSTRUCTION AND AVOID INTERFERENCES AND CONFLICTS BEFORE ANY PIPING, DUCTWORK, CONDUIT, ETC. IS INSTALLED. IT SHALL BE COORDINATED CAREFULLY BETWEEN ALL TRADES.
3. CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, ACCESSORIES, AND MATERIAL FURNISHED BY THEM FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE AGAINST ALL DEFECTORS.
4. VERIFY IN FIELD, THE LOCATION OF ALL STRUCTURAL MEMBERS. CEILINGS ARE SHOWN SCHEMATICALLY FROM ARCHITECTURAL PLANS.
5. ROUTE ALL CONDUIT TIGHT TO STRUCTURE.
6. LIGHT FIXTURES DESIGNATED WITH THE LETTER "E" (IE, "DE", "BE", ETC.) SHALL BE CONNECTED TO CIRCUIT SHOWN THAT SHALL AUTOMATICALLY SWITCH TO EMERGENCY POWER IN THE EVENT OF A NORMAL POWER LOSS.
7. PROVIDE ALL LED DIMMABLE FIXTURES WITH 0-10V DIMMABLE DRIVERS.
8. REFER TO SHEET E-400 FOR DIMMING SWITCH BANKS.
9. EXIT LIGHTS SHALL BE CIRCUITED TO UNSWITCHED HOT. TYPICAL ALL EXITS THROUGHOUT.



Mezzanine Level
1/8" = 1'-0" **2**



Level 01 LIGHTING PLAN
1/8" = 1'-0" **1**



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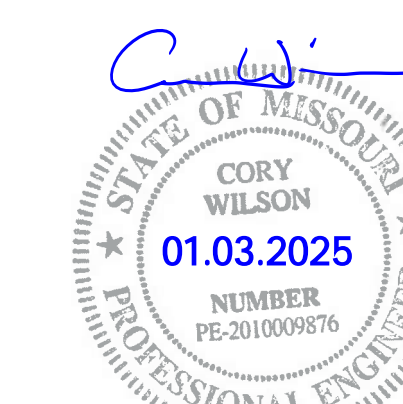
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LEES SUMMIT, MO

01.03.25 CITY REVIEW COMMENTS
MARK DATE DESCRIPTION

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LIGHTING PLANS

E-100
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LEES SUMMIT, MO

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SHEET TITLE

POWER PLANS

E-110

SHEET 92 OF 102

POWER PLAN NOTES

- 1 LOCATION OF MAIN DISCONNECT/MANUAL TRANSFER SWITCH WITH HOOK-UP, CT CABINET (30" WIDE, LOCKABLE), METER, SURFACE MOUNT ON WALL.
- 2 FACTORY INSTALLED DISCONNECTING MEANS/BREAKER FURNISHED WITH VAV EQUIPMENT. SEE SCHEDULE ON THIS SHEET FOR ALL FEEDERS TO HVAC EQUIPMENT.
- 3 NEW NEMA 3R DISCONNECT "DS1" WITH LIQUID-TIGHT FLEXIBLE CONDUIT FOR CONNECTION TO MECHANICAL EQUIPMENT. ROUTE CONDUIT THRU WALL ON LOWER ROOF INTO BUILDING. FIELD VERIFY EXACT REQUIREMENTS.
- 4 PROVIDE DEDICATED QUAD RECEPTACLES FOR SERVER OR AV EQUIPMENT LOCATED IN RACKS. INSTALL ONE WALL MOUNTED CABINET PER DETAILS WITH BUILT-IN OUTLET WITHIN.
- 5 INSTALL 5/8" THICK, FIRE RATED PLYWOOD TERMINATION BOARD ON THE ENTIRE WALL. PAINT TO MATCH WALL COLOR.
- 6 PROVIDE 30A, 1P DISCONNECT SWITCH FUSED AT 20A FOR ELEVATOR HOISTWAY CAB LIGHTING AND RECEPTACLES.
- 7 FURNISH SO DROP BOX AT CEILING WITH NEMA L5-30P DROP FOR CONNECTION TO RACK MOUNTED UPS UNIT.
- 8 FURNISH (1) DOUBLE GANG JUNCTION BOXES FOR SYSTEMS FURNISH FEED CONNECTIONS (POWER). PROVIDE SINGLE GANG MUD RING FOR 0.75" (POWER) WHIP CONNECTION. FURNISH ALL IN-FEEDS PER MANUFACTURER (2-1).
- 9 12" WIDE x 2" DEEP WIRE BASKET CABLE TRAY EQUAL TO COOPER B LINE MODEL WBS12-CW. PROVIDE ALL-THREAD SUPPORTS FROM CEILING. COORDINATE EXACT MOUNTING HEIGHT WITH DUCTWORK AND PIPING (MOUNT AS HIGH AS POSSIBLE). PROVIDE CONTINUOUS GROUND WIRE ATTACHED TO EACH WIRE BASKET SECTION, TERMINATING AT SERVER ROOM GROUND BAR. INSTALL TEES, SUPPORTS, FITTINGS, ETC PER MANUFACTURER SPECIFICATIONS.
- 10 PROVIDE NEW SINGLE GANG BACKBOX WITH 0.5" CONDUIT TO ABOVE CEILING FOR THERMOSTAT SENSOR WIRING. ALL TEMPERATURE CONTROL WIRING AND DEVICES SHALL BE PROVIDED BY MECHANICAL CONTRACTOR.
- 11 SCHEMATIC LOCATION OF NEW VAV BOX WITH ELECTRIC REHEAT. CONFIRM EXACT LOCATION WITH MECHANICAL PLANS. CONFIRM EXACT MOCP WITH MECHANICAL PLANS TO COORDINATE BREAKER WIRE SIZE. VAV'S FURNISHED WITH INTEGRAL DISCONNECT. SEE SCHEDULE ON THIS SHEET.
- 12 ASOS EQUIPMENT BOX ON WALL WITH POWER TERMINATED AT JUNCTION BOX. CIRCUIT 2-#12 AND 1 - #12 GROUND TO 200P BREAKER PER PANEL SCHEDULE.
- 13 WHERE A DATA SYMBOL IS SHOWN ON THE PLANS, PROVIDE DOUBLE GANG BACKBOX WITH SINGLE GANG MUD RING. PROVIDE 1" CONDUIT TO ABOVE CEILING TERMINATING WITH BUSHING. (TYP OF ALL SHOWN ON THE PLANS). RE-ROUGH-IN DETAIL. ANY SCIF PERIMETER WALL SHALL BE SURFACE MOUNTED CONDUIT AND BACKBOXES. INTERIOR SCIF WALLS CAN BE RECESSED.
- 14 CIRCUIT HOMERUN FROM EXHAUST FAN THRU DDC RELAY FOR TIME CLOCK CONTROL.
- 15 FLOOR COPIER RECEPTACLE.
- 16 PROVIDE NEW WALL RECEPTACLE AND LOW VOLTAGE ROUGH-IN BOXES FOR FLAT SCREEN TELEVISION. INSTALL AT 72" AFF PER ARCH PLANS. PROVIDE INSTALLATION PER DETAIL FOR WIREMOLD AV PREMANUF. BOX. ROUTE HDMI AND CAT-6 TO WALL BOX IN CONDUIT (COORDINATE WITH OWNER TELECOMM CONTRACTOR).
- 17 WIREMOLD DS4000 SERIES DUAL CHANNEL PLUGMOLD WITH OUTLETS AT 12" O.C. AND LOW VOLTAGE SECTION FOR TELECOMM OUTLET AND PANIC HARDWARE MOUNTING WITHIN. MOUNT 4" ABOVE TOP OF COUNTER.
- 18 MOUNT MAINTENANCE RECEPTACLE TO OUTSIDE OF WALL ABOVE LOWER ROOF AT 24" ABOVE ROOF LINE. INSTALL WITHIN WEATHERPROOF-IN-USE ENCLOSURE. ROUTE CONDUITS THRU WALL.
- 19 TELECOM CONTRACTOR FURNISHED FLOOR MOUNTED 2-POST RACK WITH RACK MOUNTED UPS AND PATCH PANELS (BY OTHERS). PROVIDE SO CORD DROP TO CONNECT TO RACK MOUNTED UPS INPUTS WITH MULTIPLE NEMA 5-15R OUTLETS WITHIN RACK.
- 20 PROVIDE COOPER, LEVITON, OR HUBBELL 12" LONG GROUND BAR WITH INSULATORS, (6) #4 MAX LUGS.
- 21 TYPICAL LOCATION OF CAMERA BY OTHERS. FURNISH JUNCTION BOX AND CONDUIT TO ABOVE CEILING IF INSTALLED WITHIN WALL. USE RADIUS ELBOW AND TERMINATE WITH BUSHING.
- 22 FURNISH CARD READER JUNCTION BOX AND CONDUIT WITHIN WALL TO 4X4 JUNCTION BOX ABOVE DOOR. REFER TO SECURITY ROUGH-IN DETAIL.
- 23 CABLE TRAY TO STOP PRIOR TO WALL (12") WITH LEGRAND EXCESS THRU-WALL BARRIER (3 SECTIONS PARTIALS FOR EACH NETWORK). E2PASS FURNISHED AND INSTALLED BY EC.
- 24 TRIPPLITE 12U WALL IT CABINET FOR PA SYSTEM (1) AND CRESTRON EQUIPMENT (1). PROVIDE L5-20R OUTLET BEHIND CABINET FOR CONNECTION TO RACK MOUNTED PDU.

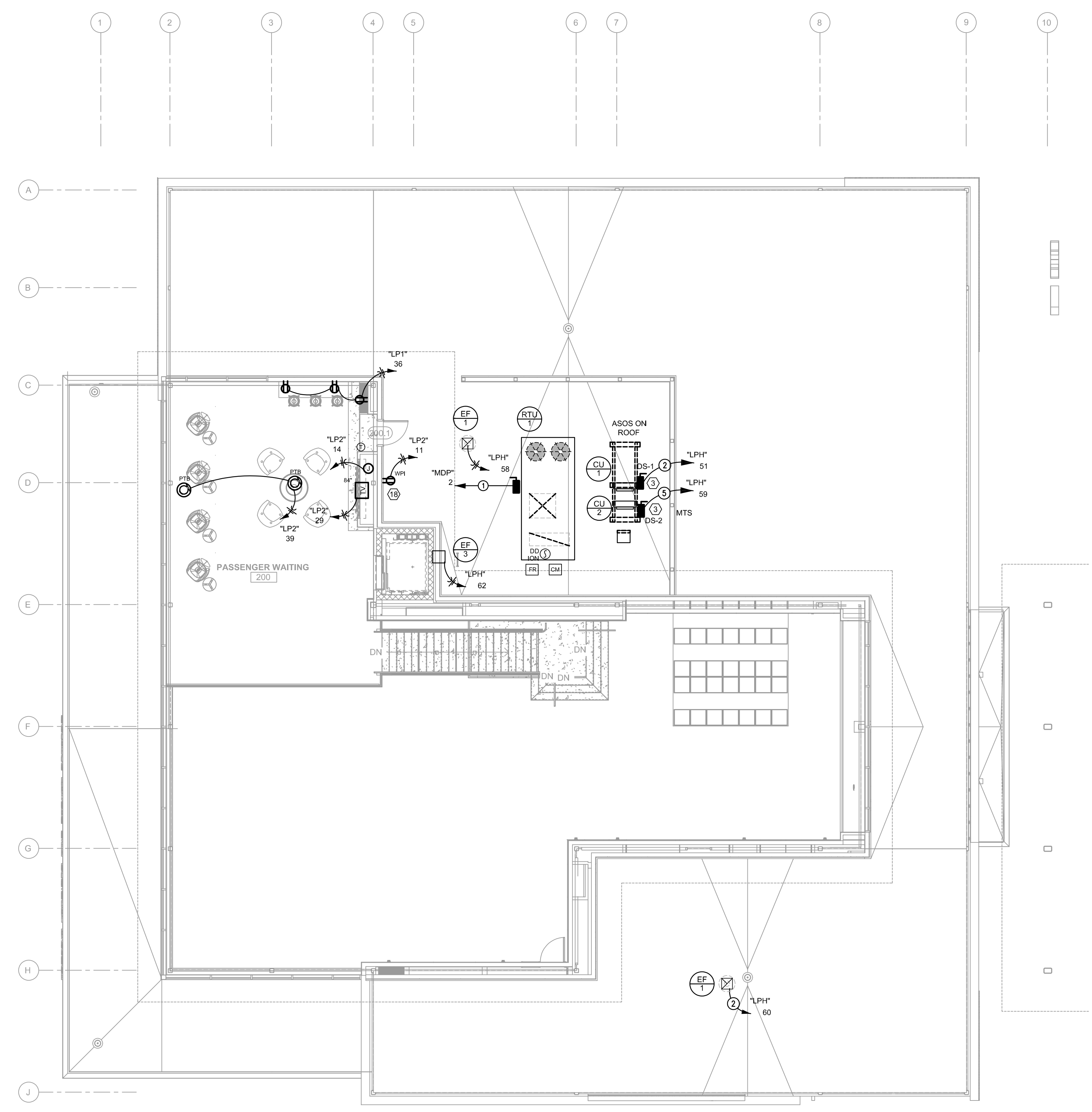
FEEDER SCHEDULE

- 1 (4)-#25MCM AND (1)-#4 GROUND IN 2.5" CONDUIT.
- 2 (2)-#10 AND (1)-#10 GROUND IN 3/4" CONDUIT.
- 3 (3)-#10 AND (1)-#10 GROUND IN 3/4" CONDUIT.
- 4 (2)-#8 AND (1)-#10 GROUND IN 3/4" CONDUIT.
- 5 (3)-#8 AND (1)-#10 GROUND IN 3/4" CONDUIT.

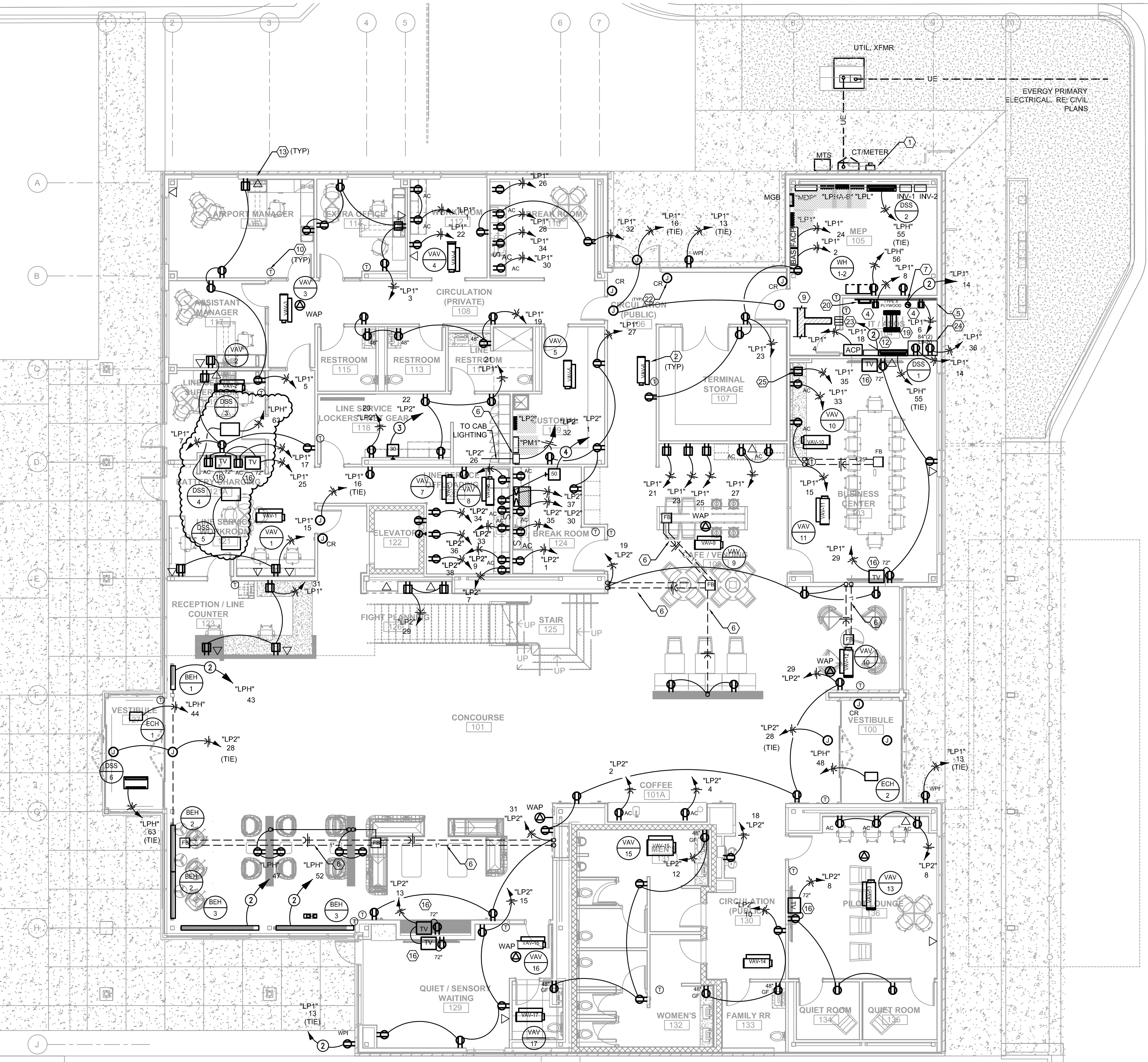
VAV/ELEC HEAT FEEDER SCHEDULE

MARK	HTG COIL (ELECTRIC)			PANEL	FEEDER
	VOLTRM	KW	MOCP		
VAV-1	208V1	5.0	35	LPH1	2 - #8 AND 1-#10G IN 0.75" C
VAV-2	208V1	4.0	30	LPH2	2 - #10 AND 1-#10G IN 0.75" C
VAV-3	208V1	2.5	20	LPH5	2 - #12 AND 1-#10G IN 0.75" C
VAV-4	208V1	5.0	35	LPH6	2 - #8 AND 1-#10G IN 0.75" C
VAV-5	208V1	2.5	20	LPH9	2 - #12 AND 1-#12G IN 0.75" C
VAV-6	208V1	2.5	20	LPH10	2 - #12 AND 1-#12G IN 0.75" C
VAV-7	208V1	2.5	20	LPH13	2 - #12 AND 1-#12G IN 0.75" C
VAV-8	208V1	2.5	20	LPH14	2 - #12 AND 1-#12G IN 0.75" C
VAV-9	208V3	12.0	45	LPH17	3 - #8 AND 1-#10G IN 0.75" C
VAV-10	208V3	7.5	30	LPH18	3 - #10 AND 1-#10G IN 0.75" C
VAV-11	208V3	12.0	45	LPH23	3 - #8 AND 1-#10G IN 0.75" C
VAV-12	208V3	7.5	30	LPH24	3 - #10 AND 1-#10G IN 0.75" C
VAV-13	208V3	7.5	30	LPH29	3 - #10 AND 1-#10G IN 0.75" C
VAV-14	208V1	5.0	35	LPH30	2 - #10 AND 1-#10G IN 0.75" C
VAV-15	208V3	15.0	60	MDP-7	3 - #8 AND 1-#10G IN 1" C
VAV-16	208V3	8.0	30	LPH34	3 - #10 AND 1-#10G IN 0.75" C
VAV-17	208V1	5.0	35	LPH40	2 - #10 AND 1-#10G IN 0.75" C
BES-12	208V1	3.0	20	LPH43	2 - #12 AND 1-#12G IN 0.75" C
BES-3	208V1	2.0	20	LPH47	2 - #12 AND 1-#12G IN 0.75" C
BES-3	208V1	2.0	20	LPH52	2 - #12 AND 1-#12G IN 0.75" C
EVH-1	208V1	3.0	20	LPH44	2 - #12 AND 1-#12G IN 0.75" C
EVH-2	208V1	3.0	20	LPH48	2 - #12 AND 1-#12G IN 0.75" C
WH-INDOOR	120V1	0.5	20	LPH56	2 - #12 AND 1-#12G IN 0.75" C
RV-INDOOR	208V1	0.5	20	LPH55	2 - #12 AND 1-#12G IN 0.75" C
RV-INDOOR	208V1	0.5	20	LPH83	2 - #12 AND 1-#12G IN 0.75" C
CU-1	208V1	5.5	35	LPH51	2 - #8 AND 1-#12G IN 0.75" C
CU-2	208V3	7.5	60	LPH59	3 - #8 AND 1-#12G IN 0.75" C

REFER TO MECHANICAL PLANS FOR LOCATIONS AND EXACT SIZES OF HEATERS. VAV BOXES MAY NOT BE IN EXACT LOCALE. EXACT LOCATION OF T-SENSORS PER MECH



1 POWER PLAN - LEVEL 2
SCALE: 1/8"=1'-0"



1 POWER PLAN - LEVEL 1
SCALE: 1/8"=1'-0"

COMMUNICATIONS CABLING LEGEND					
DEVICE	CABLE TYPE (NOTE 1)	CABLE COLOR (NOTE 5)	DESCRIPTION	HEIGHT (NOTE 4)	COMMENTS
▽	CAT-6	2 GREEN	DATA RECEPTACLE - WALL	WALL +18"	MOUNTED AT 18" A.F.F. UNLESS NOTED OTHERWISE ON PLANS
○	CAT-6	2 GREEN	DATA RECEPTACLE - ABOVE CEILING	CEILING	PROVIDE A BISCUIT JACK ABOVE THE ACCESSIBLE CEILING SPACE
WAP	CAT-6	2 GREEN	WIRELESS ACCESS POINT UNIFY 7 U7 PRO MAX, TRI-BAND, 1750 SF COVERAGE AND 500 USERS MAX. BLACK IN COLOR ON WOOD SLAT CEILINGS, WHITE IN LAY-IN CEILINGS	CEILING	PROVIDE A BISCUIT JACK ABOVE THE ACCESSIBLE CEILING SPACE. PROVIDE A 10' SERVICE LOOP AT WAP LOCATION. WIRELESS ACCESS POINT SHALL BE FURNISHED AND INSTALLED BY DIV. 27 CONTRACTOR. CONFIRM FINAL LOCATIONS OF WAP'S WITH OWNER PRIOR TO INSTALLATION.
□	CAT-6	2 GREEN	DATA RECEPTACLE - FLOOR BOX	FLOOR	DIV 26 FURNISHED FLOOR BOX/POKE-THRU, DIV 27 CONTRACTOR INSTALLED DEVICES
TV	CAT-6	1 GREEN	TV OR AUDIOVISUAL FLAT PANEL DISPLAY	NOTE 2	COORDINATE FINAL ROUGH-IN REQUIREMENTS WITH AV CONTRACTOR. PROVIDE BACKING FOR DISPLAY MOUNTING PER DETAIL.
CCV	CAT-6	1 PURPLE	CCTV CAMERA (I.P., POE)	NOTE 3	COORDINATE FINAL ROUGH-IN REQUIREMENTS WITH SECURITY CONTRACTOR. FINAL CAMERA LOCATION MAY VARY BY +/- 15'.
ACP	CAT-6	1 PURPLE	ACCESS CONTROL PANEL	NOTE 3	
○	(2)#12		PA-WHITE NOISE SPEAKER		SHIELDED TWISTED PAIR WIRING

NOTES (#)
 1. PROVIDE CABLE QUANTITY SHOWN UNLESS NOTED OTHERWISE BY NUMBER / LETTER MODIFIER ADJACENT TO SYMBOL. A "0" ADJACENT TO SYMBOL INDICATES DEVICE PROVIDED FOR ROUGH-IN ONLY. PROVIDE A BLANK COVER PLATE WITH NO CABLING.
 EXAMPLE: (3) = THREE CABLES
 (2) = TWO CABLES
 2. COORDINATE WITH AV CONTRACTOR.
 3. COORDINATE WITH SECURITY CONTRACTOR.
 4. UNLESS NOTED OTHERWISE ON PLANS.
 5. VERIFY CABLE COLOR CODING WITH ENGINEER AND OWNER DURING SUBMITTAL PROCESS AND PRIOR TO PROCUREMENT OF ANY MATERIALS.

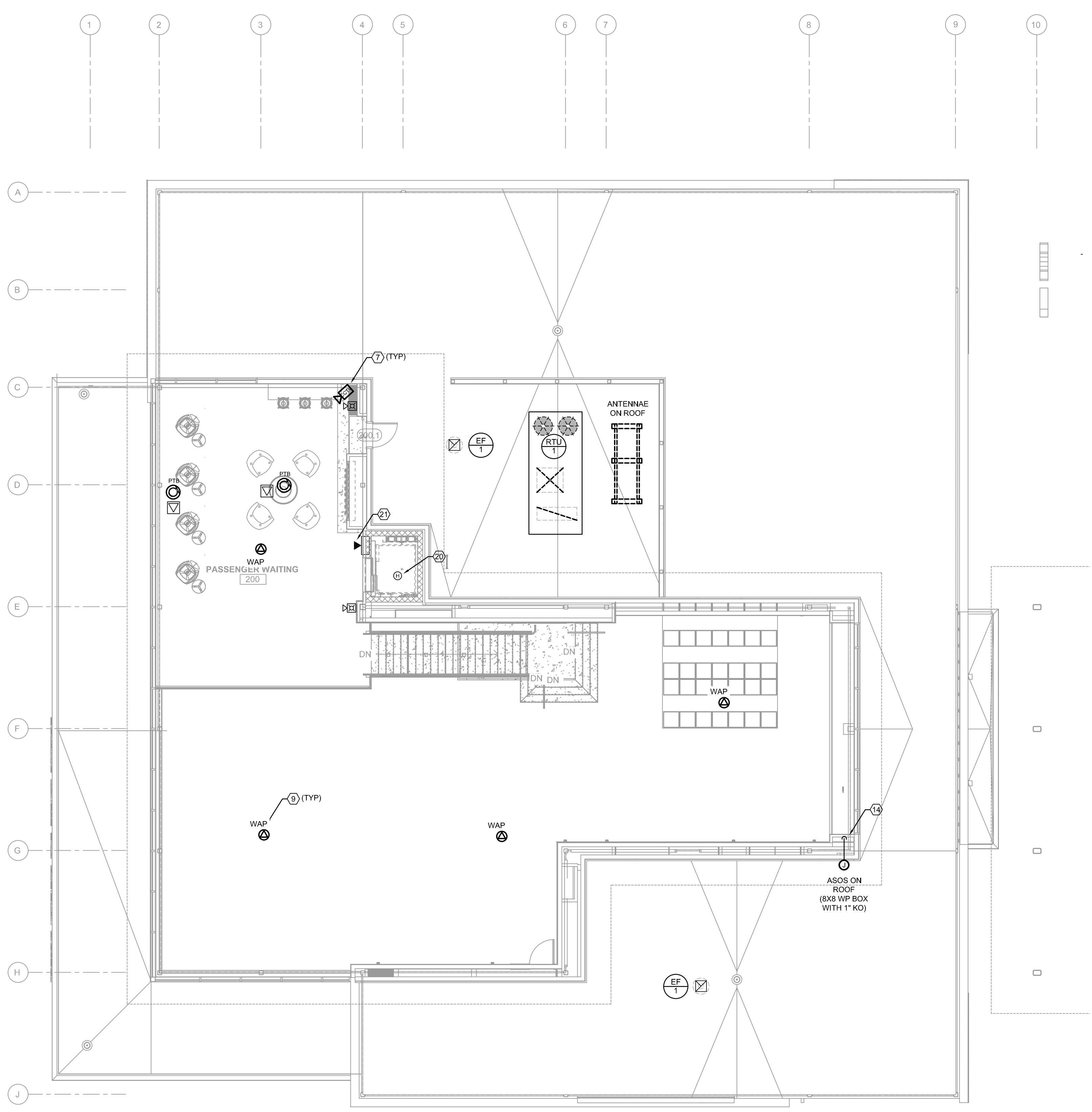
NOTES ()**
 ** FOR ALL FIBER OUTLET LOCATIONS, INSTALL WAC-1X LIGHTWAVE LGX FIBER ENCLOSURE OVER THE TOP OF THE DOUBLE GANG BOX WITH SINGLE GANG MUD RING TO PULL CABLING THRU WITH SIDE OUTLET CONNECTORS. THIS IS TYPICAL FOR ALL FIBER DROP LOCATIONS.

PLAN NOTES: (1)

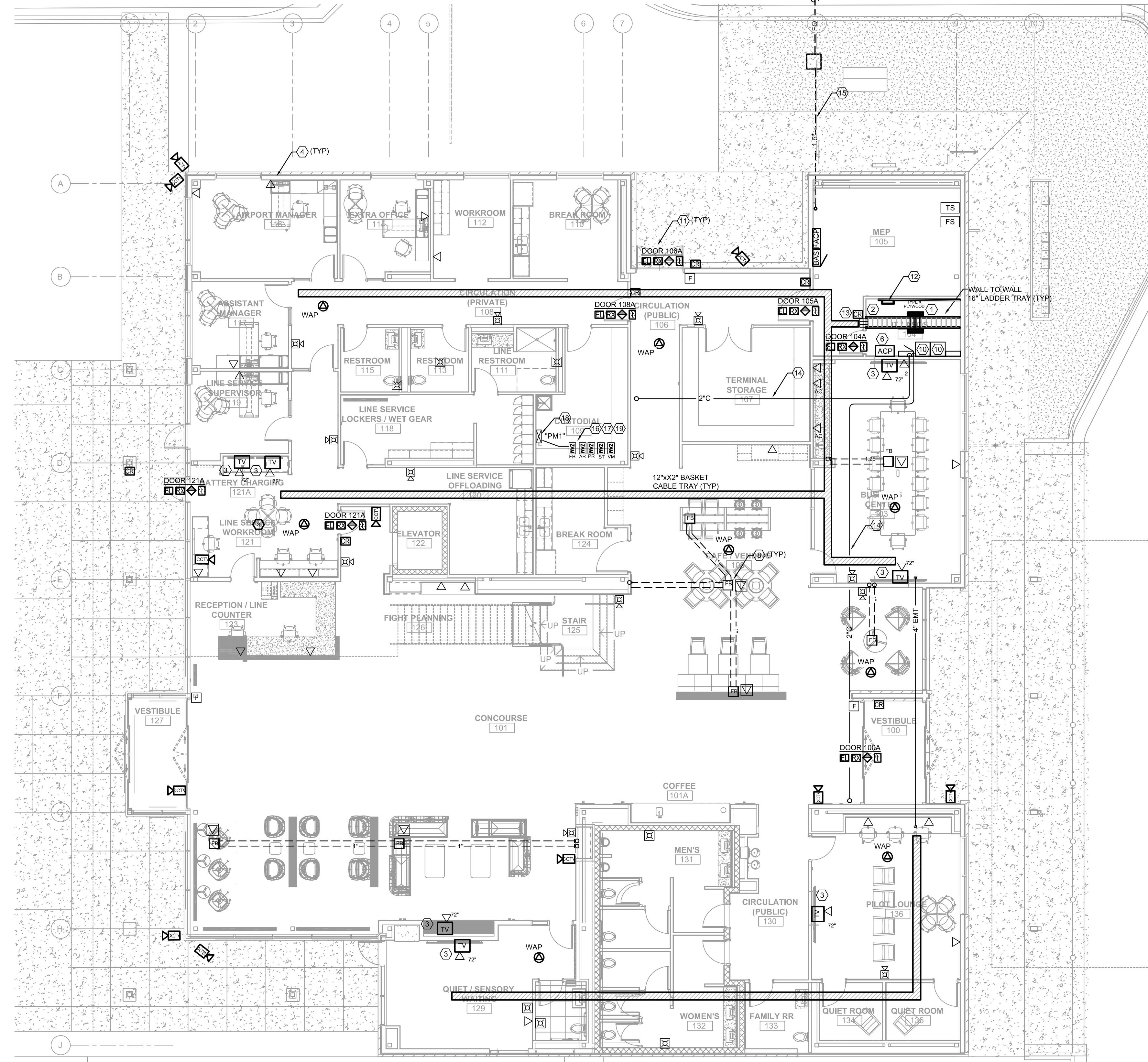
- (1) 48-RU, BLACK, 2-POST TELECOMMUNICATIONS RACK WITH 6" DUAL-SIDED (FRONT/BACK) VERTICAL CABLE MANAGER.
- (2) PROVIDE BLACK LADDER TYPE CABLE RUNWAY 18" WIDE. CABLE TRAY SHALL BE MOUNTED 12" ABOVE THE EQUIPMENT RACKS UTILIZING RACK STAND-OFF KITS. PROVIDE RACKS DROP-OUT KITS AT RACK VERTICAL CABLE MANAGER LOCATION. PROVIDE ALL REQUIRED SUPPORTS AND ACCESSORIES AS NEEDED FOR A COMPLETE SYSTEM.
- (3) LEGRAND TV ROUGH-IN BOX FURNISHED BY ELECTRICAL CONTRACTOR. UTILIZE LOW VOLTAGE SECTION FOR ANY COMMUNICATION CABLING JACKS.
- (4) TYPICAL DATA OUTLET WITH (2) CAT-6 DROPS AND KEYSTONES. ALL ROUGH-IN BOXES AND CONDUIT TO ABOVE CEILING BY EIC.
- (5) TYPICAL WHITE NOISE - MUSAK CEILING SPEAKER. REFER TO RISER DIAGRAM AND ALL CABLING WORK.
- (6) ACCESS CONTROL SYSTEM CONTROL PANEL. POWER (120V) FURNISHED BY EIC. REFER TO DOOR WIRING DIAGRAMS.
- (7) TYPICAL POE CAMERA FURNISHED BY OWNER SECURITY CONTRACTOR. ALL CAT6 WIRING INSTALLED BY TELECOMMUNICATIONS CONTRACTOR. COIL 6 FEET OF CABLING AT ROUGH-IN LOCATION.
- (8) FLOOR BOX PROVIDED BY ELECTRICAL CONTRACTOR.
- (9) PROVIDE CAT-6 CABLING COILED ABOVE CEILING FOR CONTRACTOR FURNISHED CEILING MOUNTED WIRELESS ACCESS POINT (BLACK/WHITE).
- (10) WALL MOUNTED CABINET FOR PA SPEAKERS. REFER TO RISER DIAGRAM.
- (11) TYPICAL ACCESS CONTROL DOOR. INCLUDE ROUGH-IN AND WIRING TO ELECTRIC STRIKE, REQUEST TO EXIT, DOOR CONTACT, CONTROLLER.
- (12) TELECOM GROUND BAR MOUNTED ON 3/4" TYPE X PLYWOOD.
- (13) INSTALL WIREMOLD EXCESS PASS-THRU BOX PER DETAIL (CAT-6).
- (14) ROUTE 2" CONDUIT FOR ASOS/ANTENNAE EQUIPMENT ON WALL UP TO SATELLITE MOUNT ON ROOF AND SECOND STORY WALL (2 LOCATIONS). REFER TO INSTALLATION DETAIL ON ROOF.
- (15) 1.5" CONDUIT FROM HANGAR IF FOR PULLING OF 6-STRAND MULTI-MODE FIBER FROM HANGAR NETWORK. OWNER SHALL COORDINATE WORK WITH OWNER IT GROUP. FURNISH PULL-WIRE. INSTALL QUADZITE PULL-BOXES AS REQUIRED PER SITE PLAN.
- (16) SHUNT TRIP TO BE PROVIDED INTEGRAL TO EACH ELEVATOR POWER MODULE. UPON ACTIVATION OF HEAT DETECTORS INSTALLED IN THE ELEVATOR SHAFT AND MACHINE ROOM POWER TO ELEVATOR SHALL BE DISABLED. SPECIFIED CONTACT RATING IS 120V FOR SIGNAL FROM FA SYSTEM. VERIFY EXACT REQUIREMENTS WITH FAC.

- (17) PROVIDE FIRE ALARM CONTROL MODULE INTEGRAL TO ELEVATOR POWER MODULE AND WIRE TO FIRE ALARM SYSTEM SUCH THAT CONTROL VOLTAGE IS MONITORED FOR ELEVATOR EMERGENCY OPERATION. LOSS OF VOLTAGE SHALL PRODUCE A TROUBLE ALERT AT THE FIRE ALARM PANEL.
- (18) ELEVATOR POWER MODULE "PM".
- (19) PROVIDE FIRE ALARM MODULES TO PROVIDE PRIMARY FLOOR RECALL. ALTERNATE FLOOR RECALL AND "FIREMAN'S HAT" INDICATION AT THE ELEVATOR CONTROLLER. VERIFY ALL WIRING REQUIREMENTS WITH THE FIRE ALARM MANUFACTURER AND ELEVATOR EQUIPMENT SUPPLIER. LOCATE IN ELEVATOR CONTROL ROOM.
- (20) INSTALL HEAT DETECTOR AT HOISTWAY CEILING. ACTIVATION OF HEAT DETECTOR SHALL CAUSE CLOSURE OF A 120V CONTACT AT THE FAC FOR SHUNT TRIP OF THE ELEVATOR POWER MODULE. COORDINATE SPECIFIC REQUIREMENTS WITH FIRE ALARM CONTRACTOR PRIOR TO ROUGH-IN.
- (21) ROUTE DEDICATED CAT-6 CABLING TO ELEVATOR CONTROL PANEL. COORDINATE WITH EQUIPMENT MANUFACTURER FOR INSTALLATION AND/OR EXTENSION (CAT 6) CABLE BEYOND CONTROL PANEL.

GENERAL NOTES:
 A. HORIZONTAL CABLING FOR SECURITY CAMERAS AND/OR OTHER SECURITY EQUIPMENT SHALL BE WIRED TO TELECO RACK.
 B. REFER TO OVERALL FLOOR PLANS FOR CABLE TRAY ROUTING. ALL TRAY INSTALLED BY EIC.
 C. COORDINATE ALL DOOR HARDWARE ROUGH-IN REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO ROUGH-IN.
 D. COORDINATE ROUGH-IN REQUIREMENTS WITH ALL SECURITY CAMERAS WITH ELECTRICAL CONTRACTOR.



1 SPECIAL SYSTEMS PLAN - LEVEL 2
 SCALE: 1/8"=1'-0"



1 SPECIAL SYSTEMS PLAN - LEVEL 1
 SCALE: 1/8"=1'-0"

CMT
 1627 MAIN STREET, SUITE 600
 KANSAS CITY, MO 64108

WELLNER ARCHITECTS + engineers
 1627 MAIN STREET, SUITE 100
 KANSAS CITY, MO 64108

OWN
 1701 WALNUT STREET, SUITE 300
 KANSAS CITY, MO 64108

**KC - LEE'S SUMMIT REGIONAL
 LEE'S SUMMIT, MISSOURI**

**GENERAL AVIATION TERMINAL
 CITY PROJECT NO. - 17932172**

Cory Wilson
 STATE OF MISSOURI
 CORY WILSON
 01.03.2025
 NUMBER
 PE-2010009876
 PROFESSIONAL ENGINEER

Cory Wilson - MO #PE-2010009876
 Certificate of Authority - MO #2024005146
 01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
 LEES SUMMIT, MO

MARK	DATE	DESCRIPTION
PROJECT NO:	2403	
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt	
DESIGNED BY:	CMW	
DRAWN BY:	DM	
CHECKED BY:	WAI	
APPROVED BY:	Approver	
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SPECIAL SYSTEMS PLAN

ELECTRICAL ROOF PLAN NOTES

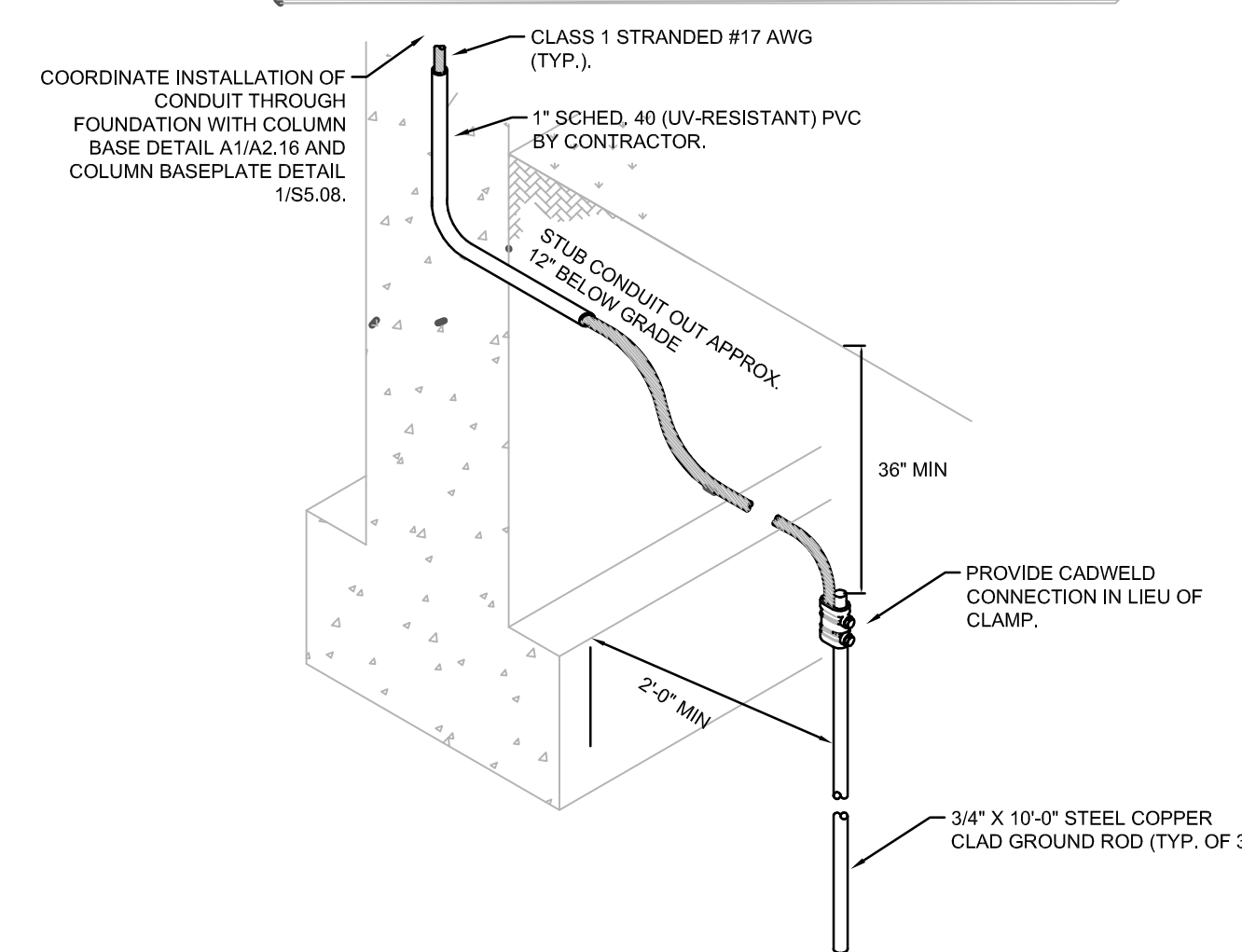
- ① FURNISH AND INSTALL 3/8" DIAMETER COPPER LIGHTNING AIR TERMINAL 18" LONG WITH SHARP BARE COPPER POINTS (TYPICAL). AIR TERMINAL SHALL EXTEND A MINIMUM OF 10" ABOVE SURROUNDING OBJECTS (WALLS). SPACE TERMINALS AT 20'-0".
- ② INSTALL CLASS 2 STRANDED COPPER CONDUCTOR WITH #17 AWG STRANDS FOR MAINBONDING CONDUCTOR THROUGHOUT LIGHTNING PROTECTION SYSTEM. FASTEN TO STRUCTURE EVERY 3'-0" MINIMUM.
- ③ ROUTE DOWN CONDUCTOR DOWN THROUGH BUILDING AND CAD WELD TO A 100#4 COPPER CLAD STEEL GROUND ROD AT THE BASE OF THE BUILDING. INSTALL TEST STATION PER DETAIL. FASTEN THE CONDUCTOR SECURELY TO STRUCTURE AT EVERY 3'-0" THROUGHOUT. AT FOUNDATION COORDINATE DOWN CONDUCTOR INSTALLATION THROUGH FOUNDATION WALL WITH ARCHITECTURAL COLUMN BASE DETAIL AND STRUCTURAL DETAIL. INSTALL 1" SCHEDULE 40 CONDUIT (PER DETAIL E410) THROUGH FOUNDATION SO THAT DOWN CONDUCTOR WILL ROUTE AROUND BASEPLATE AND BE CONCEALED WITHIN COLUMN FOUNDATION WALL THROUGHOUT.

GENERAL NOTES

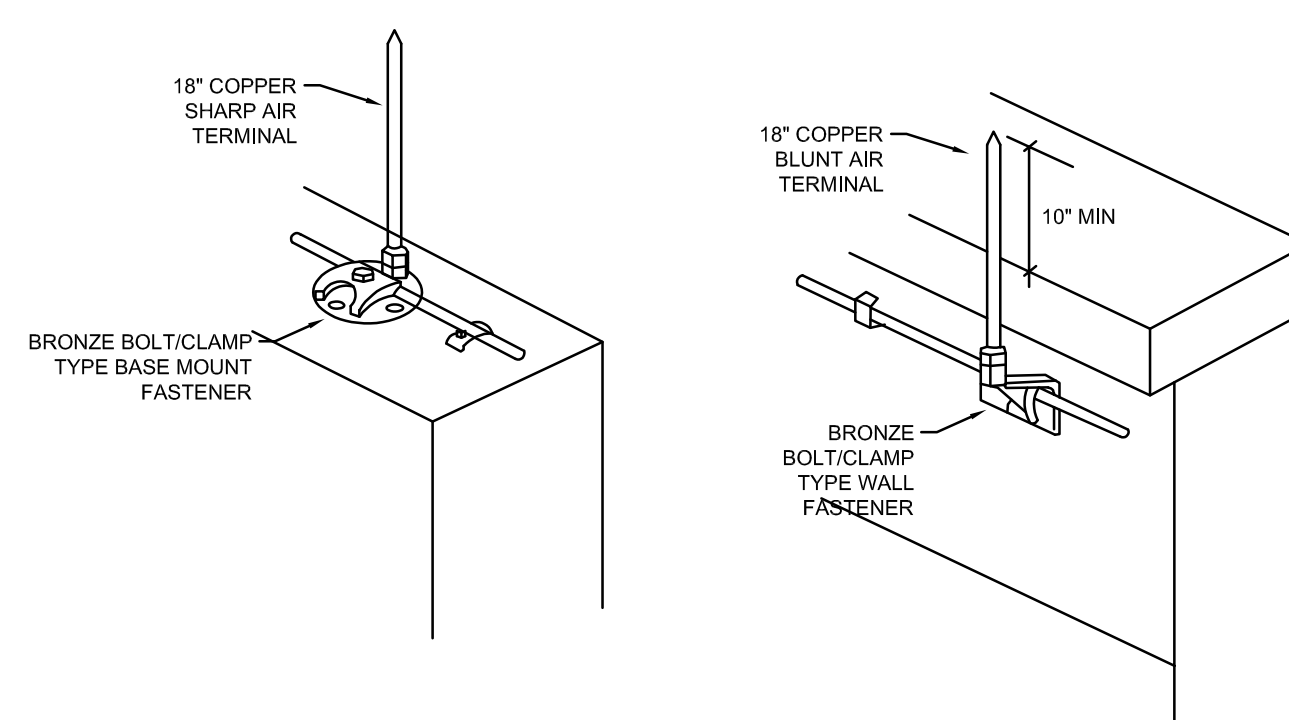
1. LIGHTNING PROTECTION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 780. SHOP DRAWINGS SHALL BE PROVIDED THAT INCLUDE ALL APPROPRIATE WIRE, TERMINALS, CONNECTION INFORMATION, DETAILED DIMENSIONS OF ALL EQUIPMENT, ETC.
2. LIGHTNING PROTECTION SYSTEM GROUNDING SHALL BE TIED INTO ELECTRICAL TELEPHONE SERVICE GROUNDING SYSTEMS. SIZE OF CONDUCTOR FOR INTERCONNECTION SHALL BE THE SAME AS THE MAIN-SIZE LIGHTNING CONDUCTORS.
3. LIGHTNING PROTECTION SYSTEM SHALL BE BONDED TO ALL STRUCTURAL, ARCHITECTURAL, ETC., METALLIC EQUIPMENT THAT IS A PART OF THE STRUCTURE.
4. PROVIDE ALL NECESSARY BASES AND/OR FASTENERS TO INSTALL LIGHTNING PROTECTION SYSTEM AS INDICATED. REFERENCE DETAILS FOR FURTHER INFORMATION.
5. FOR SOLAR ARRAY, UTILIZE STANDING SEAM CLIPS AND BRACKETING FOR ALL ARRAYS. MINIMUM STAND-OFF FROM ROOF SHALL BE 6".
6. FOR CONDUITS DOWN THRU UPPER ROOF OVERHANG, UTILIZE PASS-THRU BOOTS AND SLEEVES FOR CONDUITS. ALL PENETRATIONS SHALL BE WEATHERTIGHT. USE LB FITTINGS DOWN.

PHOTOVOLTAIC ARRAY NOTES

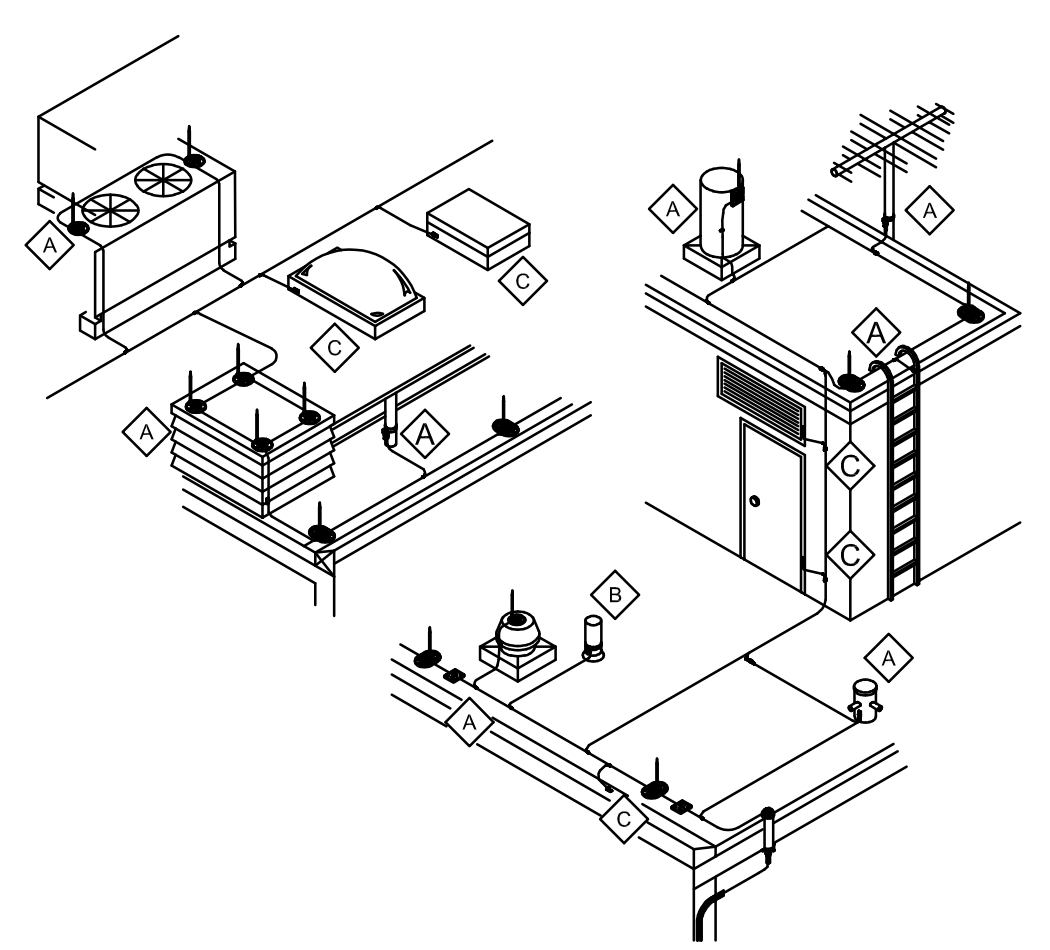
1. REFER TO SHEET E320 FOR ALL WIRING AND SOLAR ARRAY WORK ON ROOF.
2. POTENTIAL AVAILABILITY OF RENEWABLE ENERGY SOURCE IS 4.8 KW OF OFFSET ENERGY.
3. ARRAY CURRENTLY ORIENTATED SOUTH AT 27 DEG ON SINGLE ROW ARRAY FRAMING.



5 LIGHTNING PROTECTION GROUND ROD DETAIL
SCALE: NTS

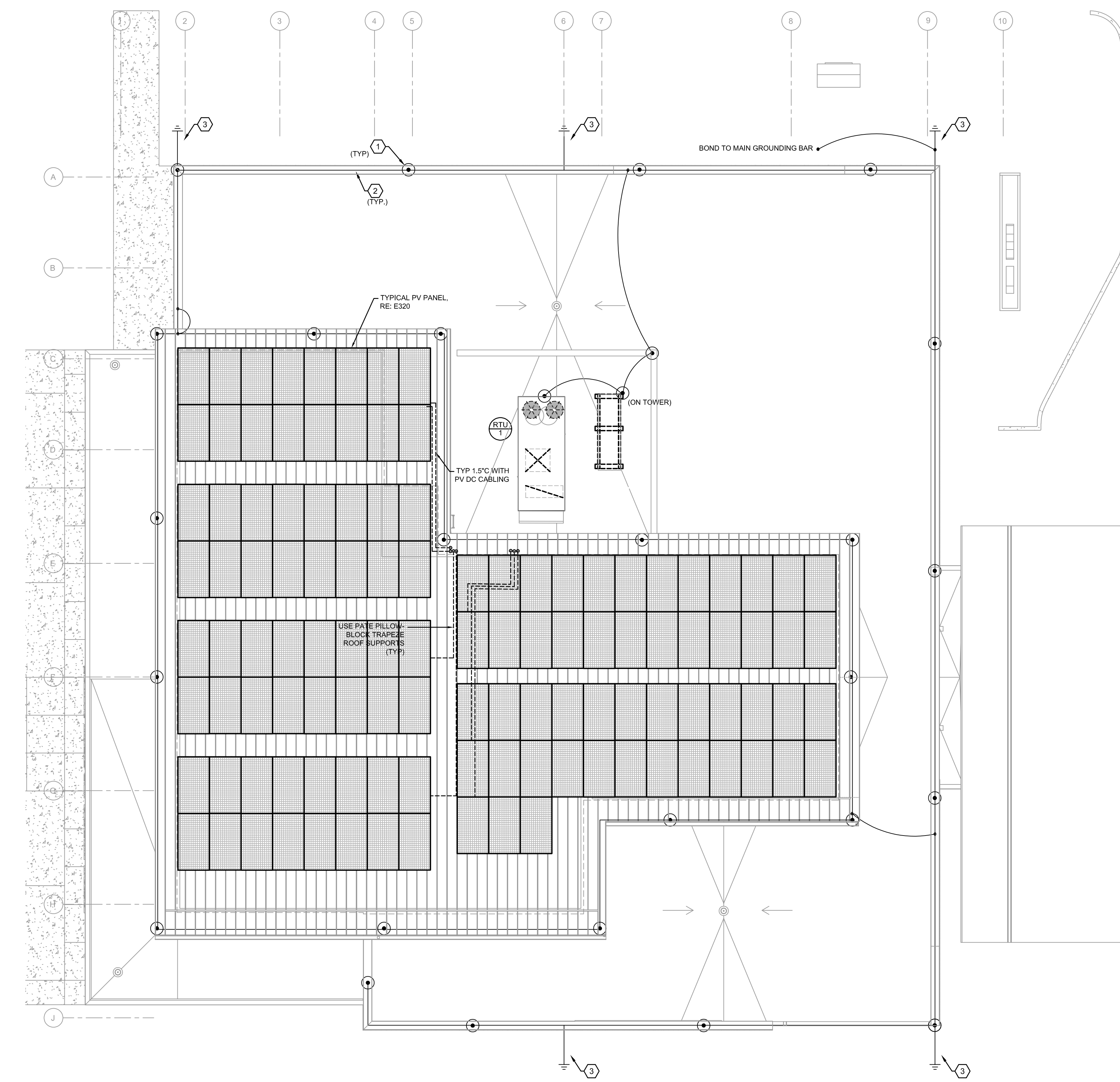


4 LIGHTNING PROTECTION AIR TERMINAL DETAIL
SCALE: NTS



3 LIGHTNING PROTECTION AIR TERMINAL DETAIL
SCALE: NTS

- DETAIL NOTES**
- ⓧ TYPICAL BODIES OF CONDUCTANCE AS NOTED BELOW. USE FULL SIZE CONDUCTOR AND APPROPRIATE FITTING SHOWN FOR CONNECTION.
 - ⓧ (PLUMBING STACK) REQUIRES BONDING WITH MAIN SIZE CABLE ONLY IF WITHIN 6'-0" (1.828m) OF LIGHTNING PROTECTION SYSTEM.
 - ⓧ TYPICAL BODIES OF INDUCTANCE AS NOTED BELOW. USE SECONDARY SIZE (SMALLER) CONDUCTOR AND APPROPRIATE FITTING SHOWN FOR CONNECTION.
 - ⓧ BONDING CONNECTIONS AND FITTINGS SHOWN ARE TYPICAL EXAMPLES. MAKE ALL CONNECTIONS REQUIRED TO MEED CODES AS NOTED BELOW. ADJUST FITTING TYPE AS REQUIRED TO SUIT FIELD CONDITIONS.



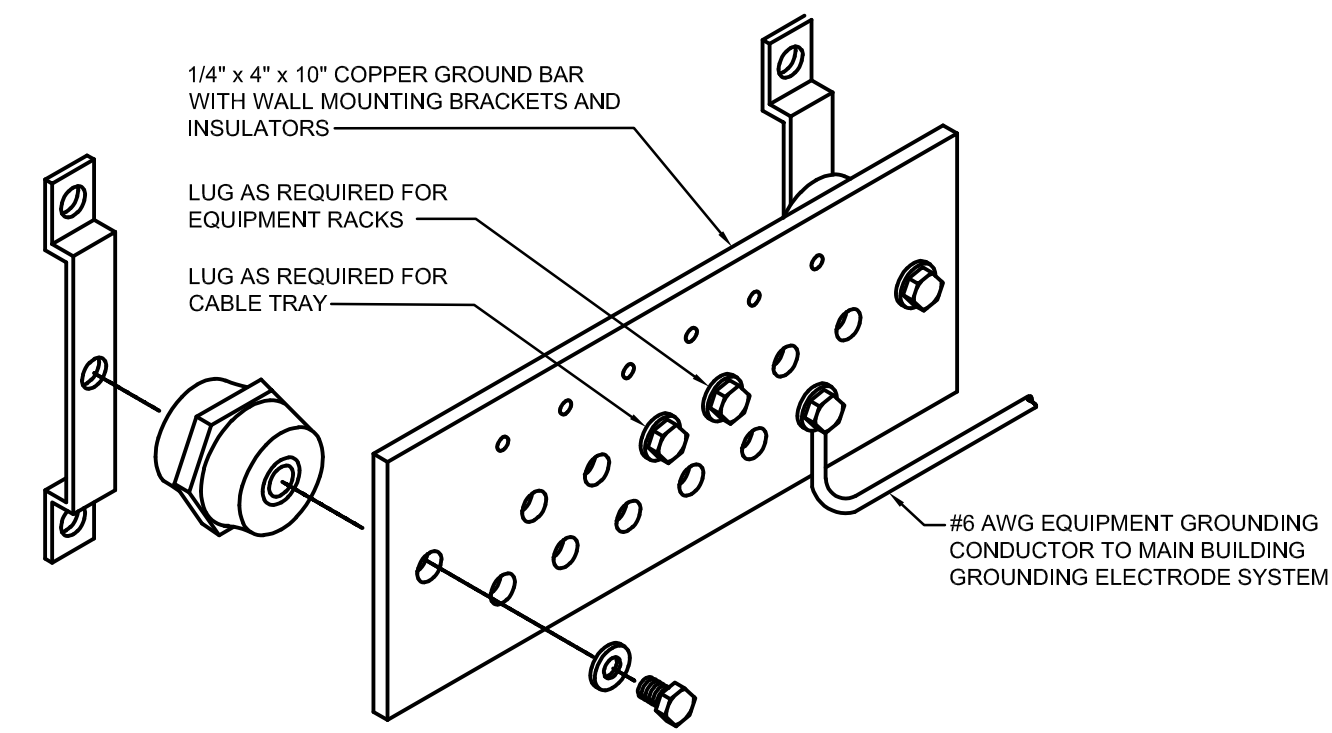
1 LIGHTNING PROTECTION ROOF PLAN
SCALE: 1/8"=1'-0"

Cory Wilson - MO #PE-2010009876
 Certificate of Authority - MO #2024005146
 01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

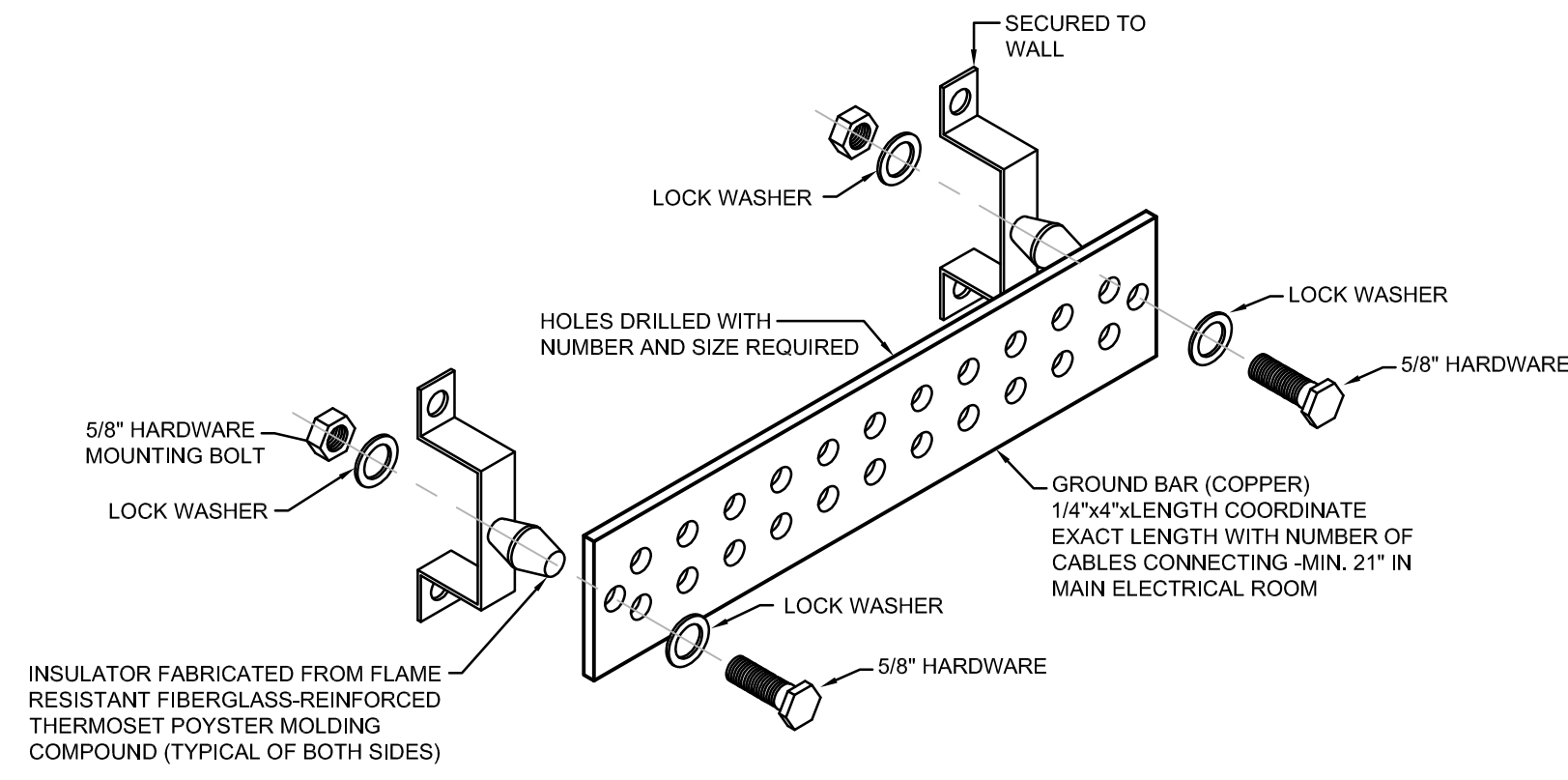
MARK	DATE	DESCRIPTION
PROJECT NO:	2403	
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt	
DESIGNED BY:	CMW	
DRAWN BY:	DM	
CHECKED BY:	WAI	
APPROVED BY:	Approver	
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SHEET TITLE
ROOF LIGHTNING PROTECTION PLAN
 E-130
 SHEET 94 OF 102

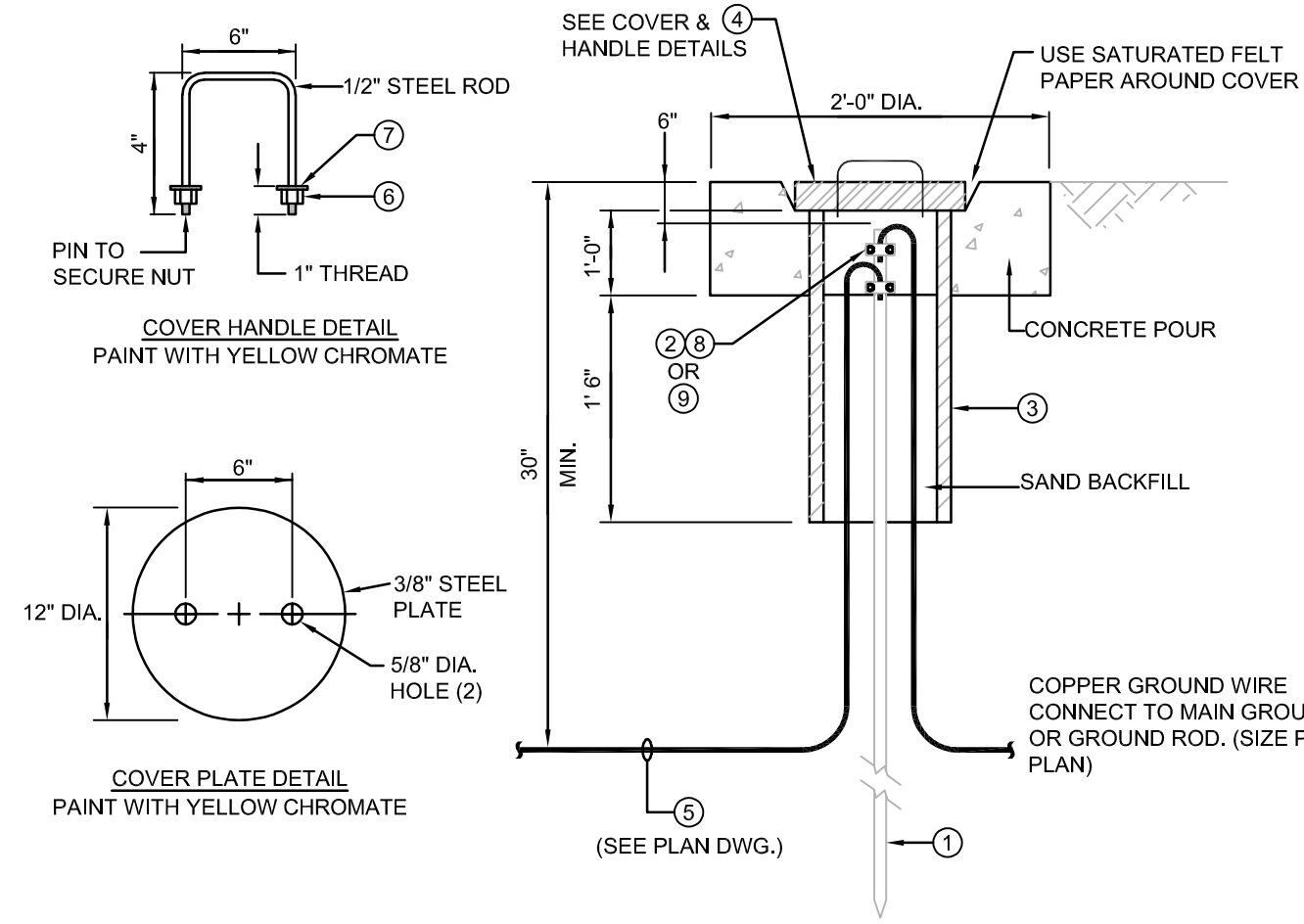


GENERAL NOTES APPLICABLE TO THIS DETAIL:
 A. NOT ALL PARTS AND PART NUMBERS ARE SHOWN IN THE DETAIL. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR A COMPLETE WORKING INSTALLATION, INCLUDING MISCELLANEOUS APPURTENANCES REQUIRED BUT NOT SHOWN.
 B. INSTALL A GROUND BAR IN EACH AND EVERY TELECOM ROOM AS SHOWN.

6 IT ROOM GROUND BAR DETAIL
 SCALE: NTS



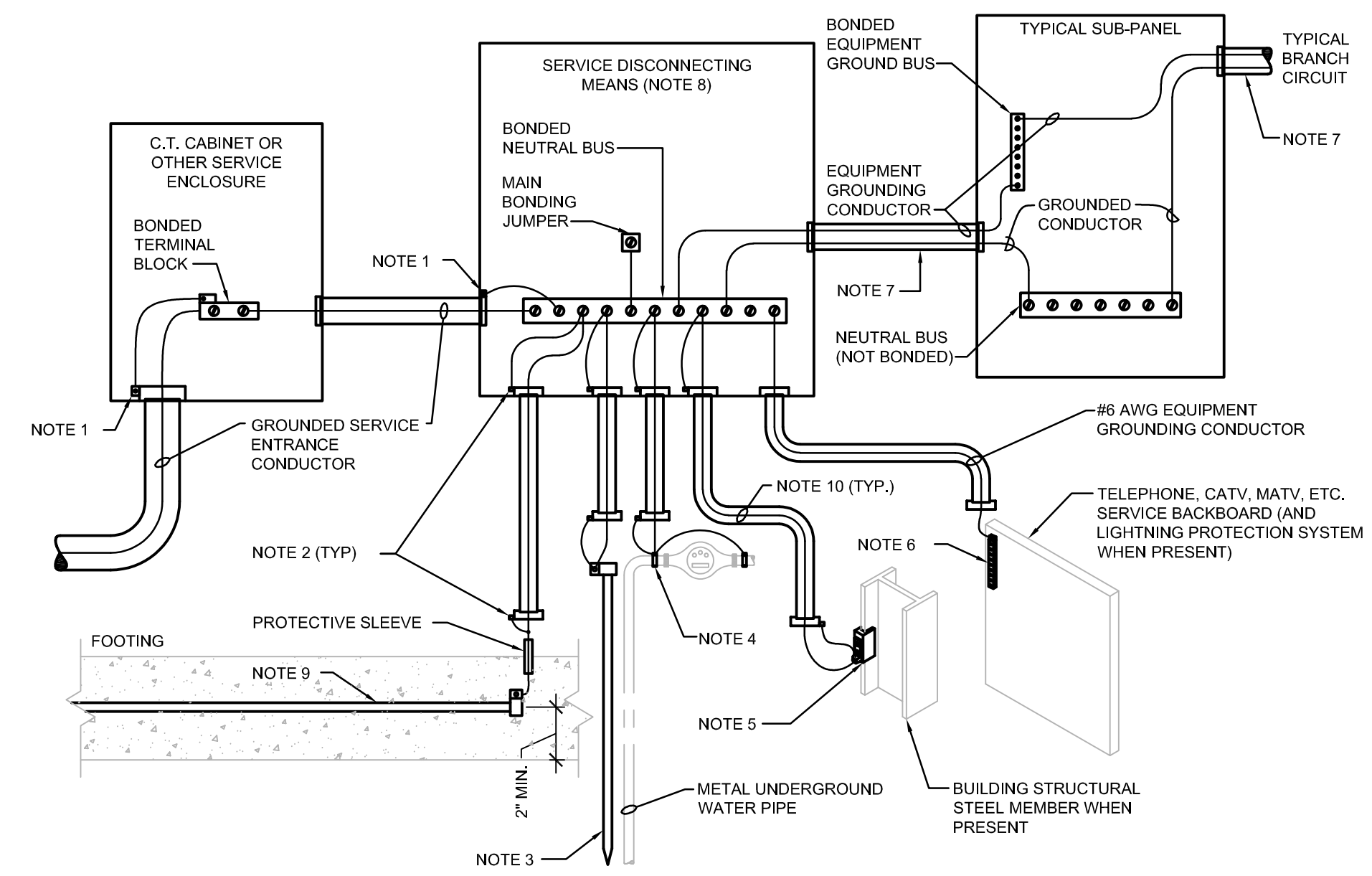
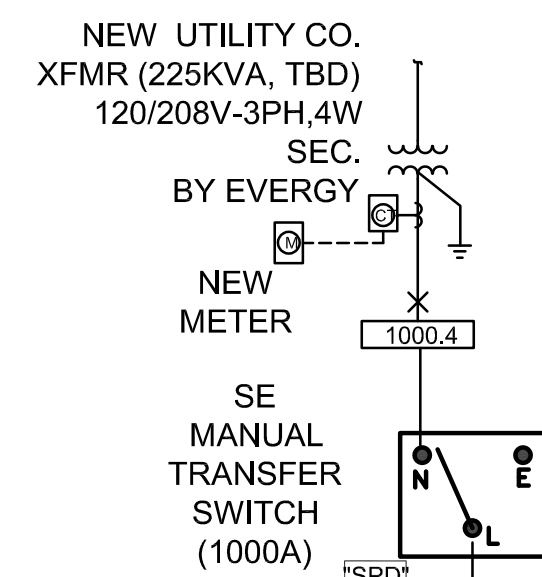
5 MAIN GROUND BAR DETAIL
 SCALE: NTS



ITEM	BILL OF MATERIAL
1	GROUND ROD, 3/4" DIA. x 10' LONG, COPPER CLAD STEEL
2	CONNECTOR, #4 SOLID THRU #20 STR. CABLE TO GND. ROD, BURNDY #GAR-6426
3	PVC PIPE, 10" DIA. x 2'-0" LONG, SCHEDULE 40
4	COVER PLATE & HANDLE, FIELD FABRICATE PER DETAIL
5	GROUND WIRE, SDB COPPER
6	SQUARE NUT, 1/2", UNISTRUT #HNS050EG
7	FLAT WASHER, 1/2", UNISTRUT #HFW050EG
8	CONNECTOR, #20 SOLID THRU 250KCMIL STR. CABLE TO GND. ROD, BURNDY #GAR-6429
9	CONNECTOR, #8 SOLID THRU #4 STR. CABLE TO GND. ROD, BURNDY #GAR-644C

* FOR EACH ADDITIONAL CABLE CONNECTION ADD 1" CONNECTOR.

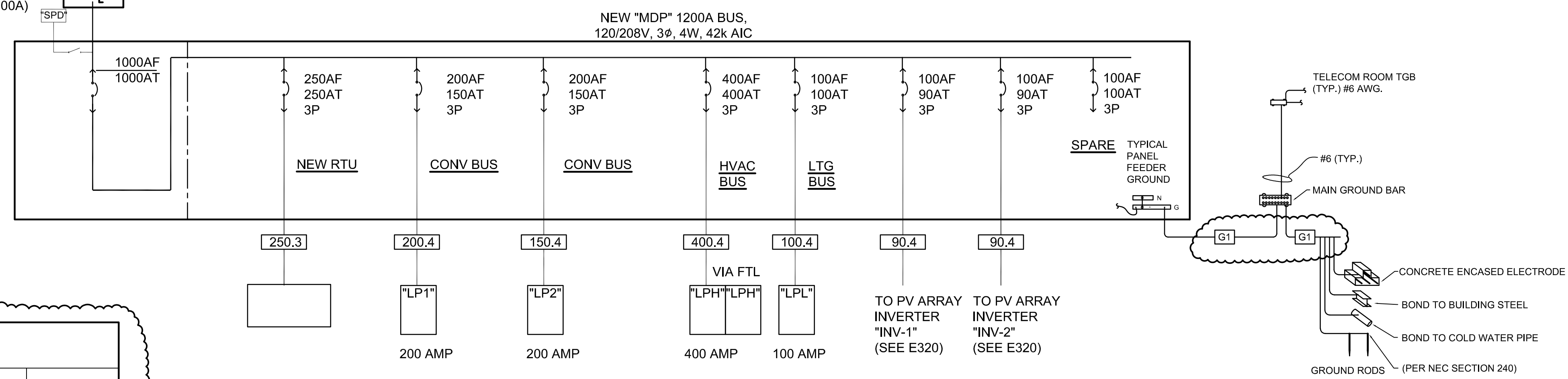
4 GROUND TEST WELL DETAIL
 SCALE: NTS



GENERAL NOTES APPLICABLE TO THIS DETAIL:
 A. FOR CLARITY, PHASE CONDUCTORS ARE NOT SHOWN.
 B. THE GROUND SYSTEM SHALL BE TESTED AND REPORT PROVIDED TO ENGINEER PER SPECIFICATIONS. MAXIMUM IMPEDANCE TO GROUND SHALL BE 5 OHMS. GROUND SYSTEM IMPEDANCE SHALL BE TESTED QUARTERLY TO ENSURE IMPEDANCE REQUIREMENTS ARE MET.

- NOTES APPLICABLE TO THIS DETAIL:
1. ALL METAL CONDUITS ENCLOSING ANY SERVICE CONDUCTORS SHALL BE FITTED WITH A BONDING BUSHING. SIZE THE JUMPER PER NEC ARTICLE 250.
 2. ALL METAL CONDUITS ENCLOSING ANY GROUNDING ELECTRODE CONDUCTOR SHALL BE FITTED WITH A BONDING BUSHING AT EACH END. SIZE THE JUMPER PER NEC ARTICLE 250.
 3. PROVIDE AT LEAST ONE SUPPLEMENTAL GROUNDING ELECTRODE PER NEC IN THE FORM OF A 10'-0" x 3/4" COPPER CLAD GROUND ROD INSTALLED PER CURRENT NEC ARTICLE 250 REQUIREMENTS.
 4. CONNECT TO THE BUILDING'S METAL UNDERGROUND WATER PIPE WITHIN 5'-0" OF ITS ENTRANCE INTO THE BUILDING AND JUMPER ANY WATER METER PER NEC REQUIREMENTS.
 5. IF STRUCTURAL STEEL MEMBER IS AVAILABLE, BOND IT TO THE SERVICE USING A UL LISTED IRREVERSIBLE CLAMP OR WELDED LUG.
 6. PROVIDE AN EQUIPMENT GROUND BAR AND ATTACH IT TO THE PHONE BOARD.
 7. ALL BRANCH CIRCUIT AND FEEDER CONDUITS ARE TO HAVE AN INSULATED EQUIPMENT GROUNDING CONDUCTOR REGARDLESS OF THE CONDUIT MATERIAL.
 8. WHEN THE SERVICE CONSISTS OF MULTIPLE DISCONNECTING MEANS IN SEPARATE ENCLOSURES, CONNECT A TAP CONDUCTOR FROM THE MAIN GROUNDING ELECTRODE CONDUCTOR TO EACH DISCONNECTING MEANS. SIZE THIS TAP BASED ON THE LARGEST SERVICE CONDUCTOR IN THAT SERVICE DISCONNECT ENCLOSURE.
 9. PROVIDE A GROUNDING ELECTRODE ENCASED IN AT LEAST 2" OF CONCRETE AND LOCATED NEAR THE BOTTOM OF A CONCRETE FOUNDATION OR FOOTING THAT IS IN DIRECT CONTACT WITH EARTH. GROUNDING ELECTRODE SHALL CONSIST OF AT LEAST 20'-0" OF ONE OR MORE BARE OR ZINC GALVANIZED OR OTHER ELECTRICALLY CONDUCTIVE COATED STEEL REINFORCING BARS OR RODS OF NOT LESS THAN 1/2" IN DIAMETER OR AT LEAST 20'-0" OF #4 AWG BARE COPPER CONDUCTOR. THIS CONCRETE ENCASED GROUNDING ELECTRODE IS ALSO KNOWN AS A "UFER" GROUND.
 10. WHERE A GROUNDING ELECTRODE CONDUCTOR IS SPECIFIED ELSEWHERE IN THE DRAWINGS, THAT SIZE SHALL APPLY TO ALL GROUNDING ELECTRODE CONDUCTORS SHOWN ON THIS DETAIL.

3 SERVICE ENTRANCE GROUND DETAIL
 SCALE: NTS



2 NEW WORK ONE-LINE DIAGRAM
 SCALE: NOT TO SCALE

ALL LIFE SAFETY ITEMS, INCLUDING FIRE ALARM, EMERGENCY LIGHTING, ETC SHALL BE BATTERY SOURCE. NO GENERATOR SHALL BE INCLUDED WITH PROJECT.

1. COORDINATE WITH MEP/SWERO FOR ADDITIONAL REQUIREMENTS AND FOR ROUTING OF ALL UTILITIES OUTSIDE THE BUILDING. ALL TRENCHING AND SECONDARY CONDUITS TO BUILDING SHALL BE BY CONTRACTOR.
2. CONTRACTOR SHALL CONTACT EVERY ELECTRIC AND ARRANGE FOR ELECTRIC SERVICE AS INDICATED ON DRAWINGS. INCLUDE ALL COSTS, CHARGES, FEES, ETC. INCURRED BY UTILITY COMPANY INTO BID. PROVIDE ALL MATERIALS AS REQUIRED BY LOCAL AUTHORITIES FOR ELECTRIC SERVICE INSTALLATION. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF LOCAL AUTHORITIES.

EVERY UTILITY CONTACT INFORMATION:
 STEPHEN JEFFERS
 PHONE - (816) 354-317
 EMAIL - STEPHEN.JEFFERS@EVERGY.COM

SERVICE ENTRANCE MANUAL TRANSFER SWITCH												
MARK	MANUF.	MODEL	SERVICE RATED *	RATING (AMPS)	VOLT/PH POLE	TYPE	SOURCE 1	SOURCE 2	ENCLOSURE		ACCESSORIES	ALTERNATES
									RATING	MOUNTING		
*MTS-1	ASCO	300 SERIES 30C-NC-N-A-3-1000-F-B-X-M	YES UL 981	1000A	208V-3PH 3/POLE	OPEN TRANSITION	UTILITY-1000A CB	ROLL-UP GEN SERIES 18 CAMLOCK (3 ROWS ON PHASES/NEUTRAL 2 ROWS ON GROUND)	NEMA 3R	FLOOR MOUNTED (77.5" H x 31" W x 43" D)	HP, AC, PLAC2, MP, G	RUSS ELECTRIC, ZENITH, SQUARE D

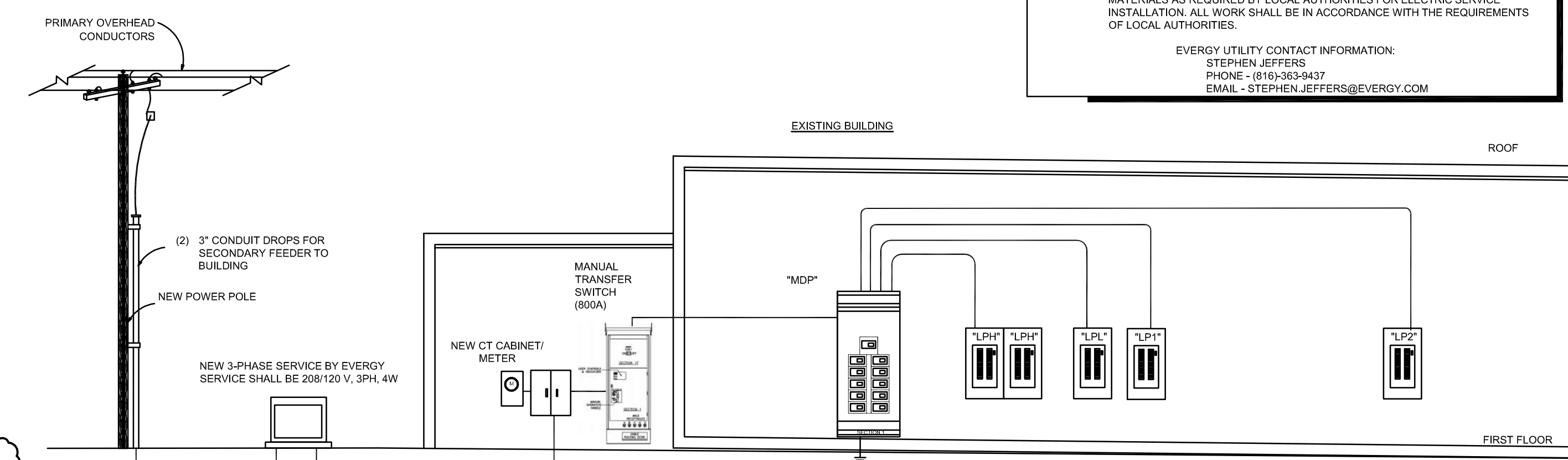
ACCESSORIES:
 HP - FREE-STANDING FRAME ON HOUSEKEEPING PAD
 IC - MODBUS INTEGRATION CARD / COMM INTERFACE
 RA - REMOTE ANNUNCIATOR

MB - MAINTENANCE BYPASS / RACK OUT
 AC - AUX CONTACTS (BREAKER TRIP RELAYS)
 PL - PILOT LIGHTS FOR STATUS/POSITION

AC2 - AUX CONTACTS (220V, TO TERMINAL STRIP)
 MP - MICROPROCESSOR CONTROLLER
 G - SOLID GROUND BUS

RISER & ONE-LINE DIAGRAM SCHEDULE							
TAG	OCPD	SETS	3-P CONDUCTORS	NEUTRAL	GROUND	CONDUIT	NOTES
1000.4	1000A	3	400 KCMIL	400 KCMIL	#2/0 AWG	3"	RE: CONDUIT APPLICATION SCHEDULE
400.4	400A	2	#3/0 AWG	-	#3 AWG	2"	RE: CONDUIT APPLICATION SCHEDULE
200.4	200A	1	#3/0 AWG	-	#6 AWG	2"	RE: CONDUIT APPLICATION SCHEDULE
150.4	150A	1	#1/0 AWG	#1/0 AWG	#6 AWG	2"	RE: CONDUIT APPLICATION SCHEDULE
150.3	150A	1	#1/0 AWG	-	#6 AWG	1-1/2"	RE: CONDUIT APPLICATION SCHEDULE
100.4	100A	1	#3 AWG	#3 AWG	#8 AWG	1-1/4"	RE: CONDUIT APPLICATION SCHEDULE
90.4	90A	1	#3 AWG	#3 AWG	#8 AWG	1-1/4"	RE: CONDUIT APPLICATION SCHEDULE
50.3	50A	1	#6 AWG	-	#10 AWG	1"	RE: CONDUIT APPLICATION SCHEDULE

GROUNDING ELECTRODE CONDUCTOR REQUIRED SIZE		
MARK	CONDUCTOR AMPACITY RATING (AMPS)	REQUIRED GROUNDING ELECTRODE CONDUCTOR
G-1	-	#3/0-AWG (CU) - INSTALL PER NEC. BOND TO ALL GROUNDING ELECTRODES (DRIVEN GROUND ROD, WATER SERVICE, BUILDING STEEL, CONCRETE ENCLOSED REBAR)



1 NEW WORK RISER DIAGRAM
 SCALE: NOT TO SCALE



1627 MAIN STREET, SUITE 600
 KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100
 KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300
 KANSAS CITY, MO 64108

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 LEE'S SUMMIT, MISSOURI
 GENERAL AVIATION TERMINAL
 CITY PROJECT NO. - 17932172



Cory Wilson - MO #PE-2010009876
 Certificate of Authority - MO #2024005146

01-02-2025

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 LEES SUMMIT, MO

A 01.03.25 CITY REVIEW COMMENTS
 MARK DATE DESCRIPTION

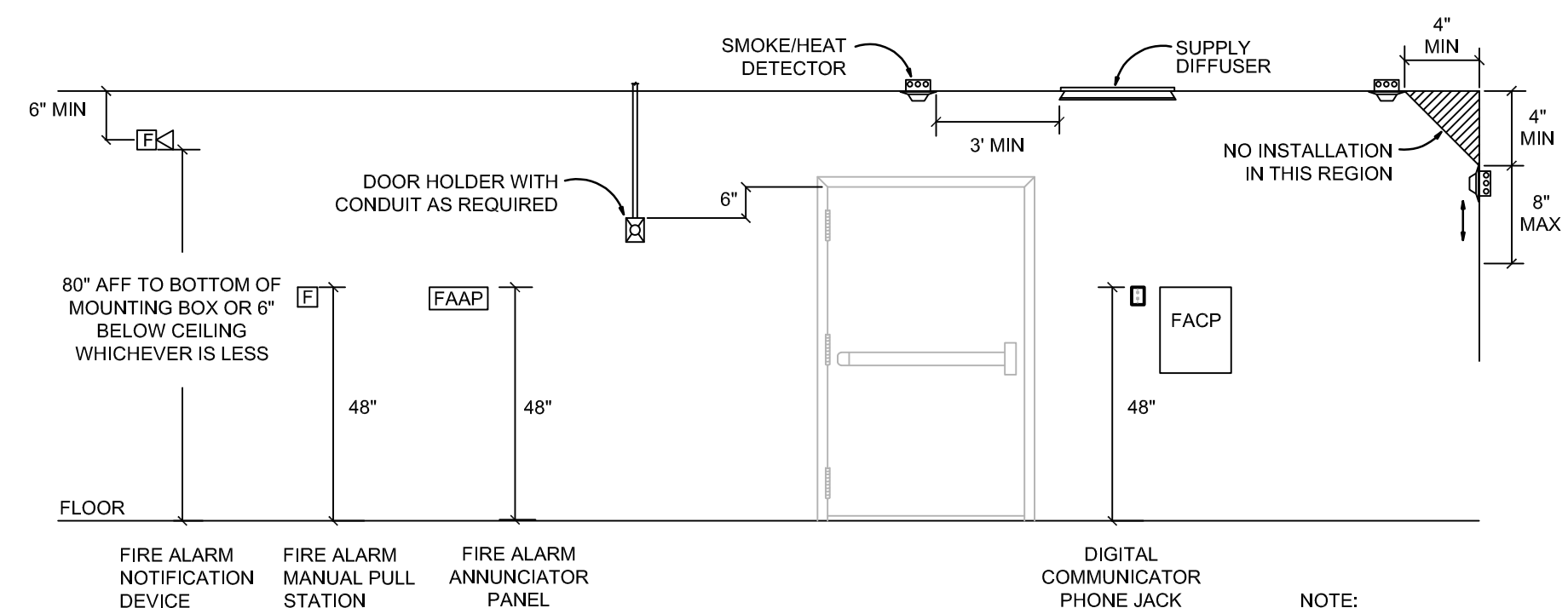
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 CAD DWG FILE: Lee's Summit - Terminal MEP.rvt
 DESIGNED BY: CMW
 DRAWN BY: DM
 CHECKED BY: WAI
 APPROVED BY: Approver
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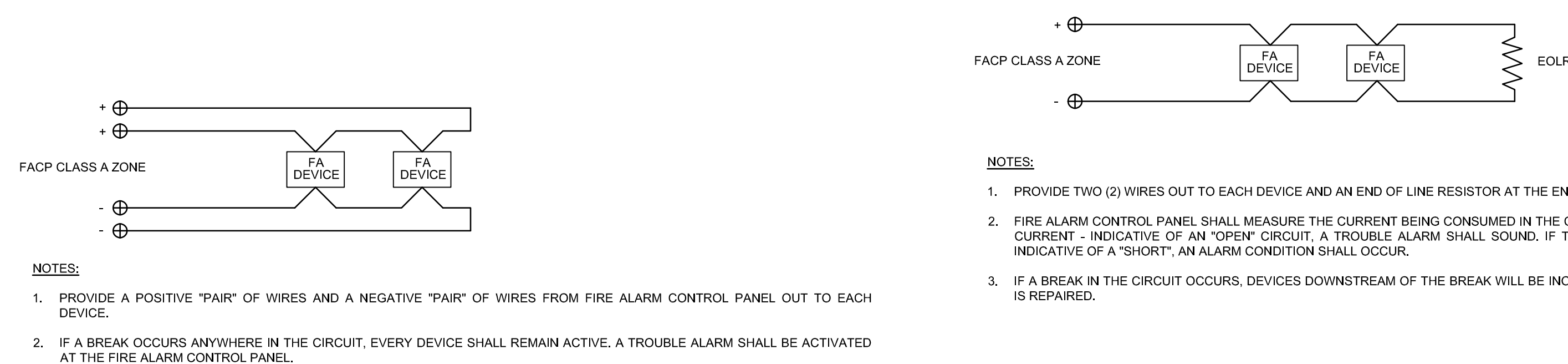
ELECTRICAL RISERS AND DETAILS

E-300

SHEET 95 OF 102



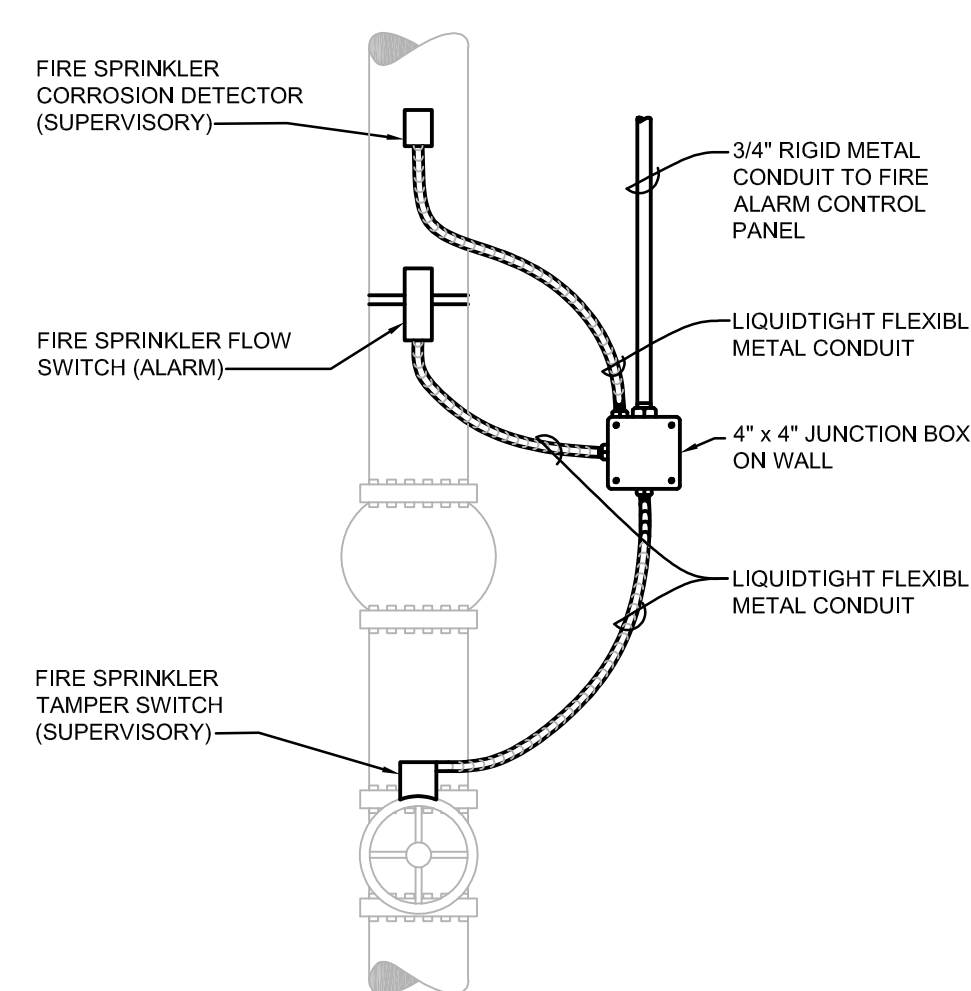
5 ELECTRICAL DEVICE MOUNTING HEIGHT DETAIL
SCALE: N.T.S.



4 CLASS A FIRE ALARM WIRING
SCALE: N.T.S.

3 CLASS B FIRE ALARM WIRING
SCALE: N.T.S.

6 FIRE SPRINKLER CONNECTION DETAIL
SCALE: NTS



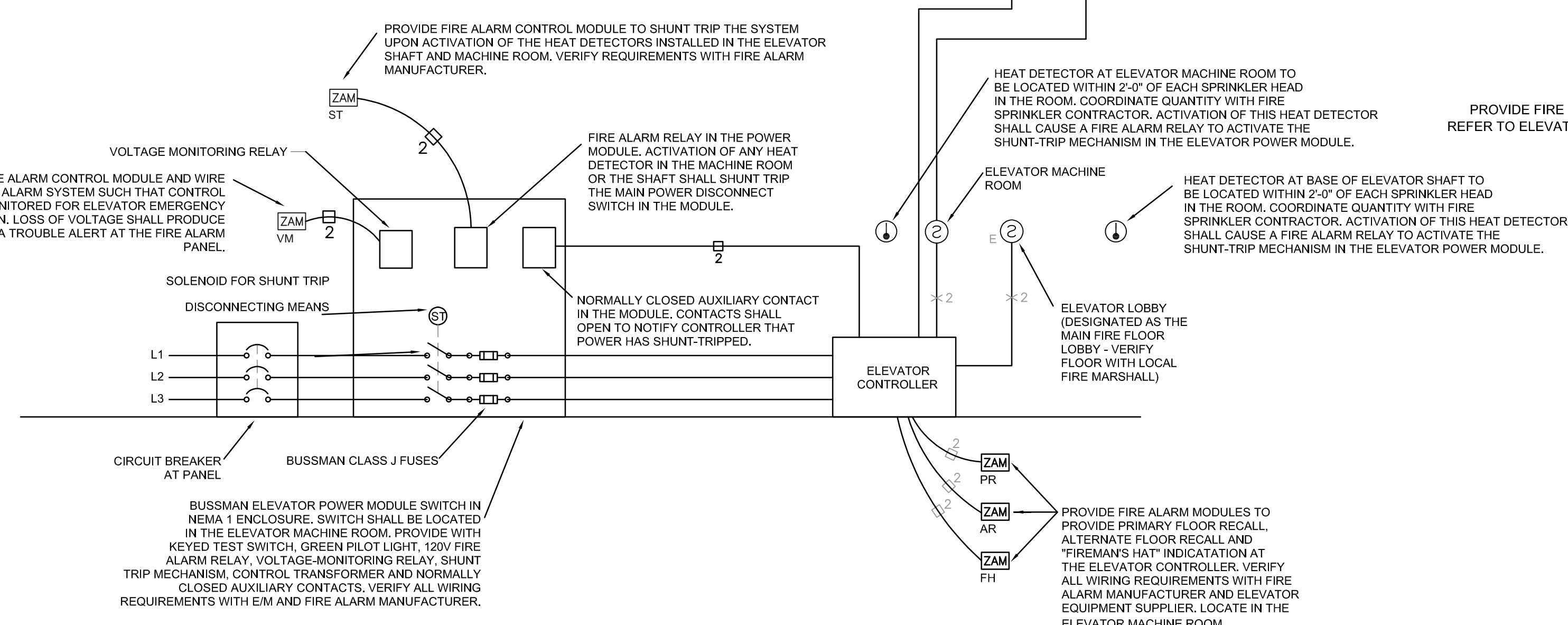
FIRE ALARM SYSTEM

SEQUENCE OF OPERATION	ACTIVATED DEVICE	LOCATION	ACTION
	CEILING SMOKE DETECTOR	CORRIDORS/LOBBIES	GENERAL BUILDING ALARM
	SMOKE ALARM WITH SOUNDER	RESIDENT ROOMS	LOCALIZED ALARM
	MANUAL PULL STATION	ALL FLOORS EXITS	GENERAL BUILDING ALARM
	DOOR HOLD OPEN	ALL FLOORS	GENERAL BUILDING ALARM DOORS CLOSE
	HEAT DETECTOR	ELEVATOR SHAFTS	SHUNT ELEVATOR POWER MODULE FIREMAN'S HAT AT THE ELEVATOR CAB GENERAL BUILDING ALARM SHUT-OFF ALL MECHANICAL HVAC EQUIPMENT VIA RELAY
	SPRINKLER WATER FLOW SWITCH	ALL FLOORS	GENERAL BUILDING ALARM SHUT OFF ALL MECHANICAL HVAC EQUIPMENT VIA RELAY

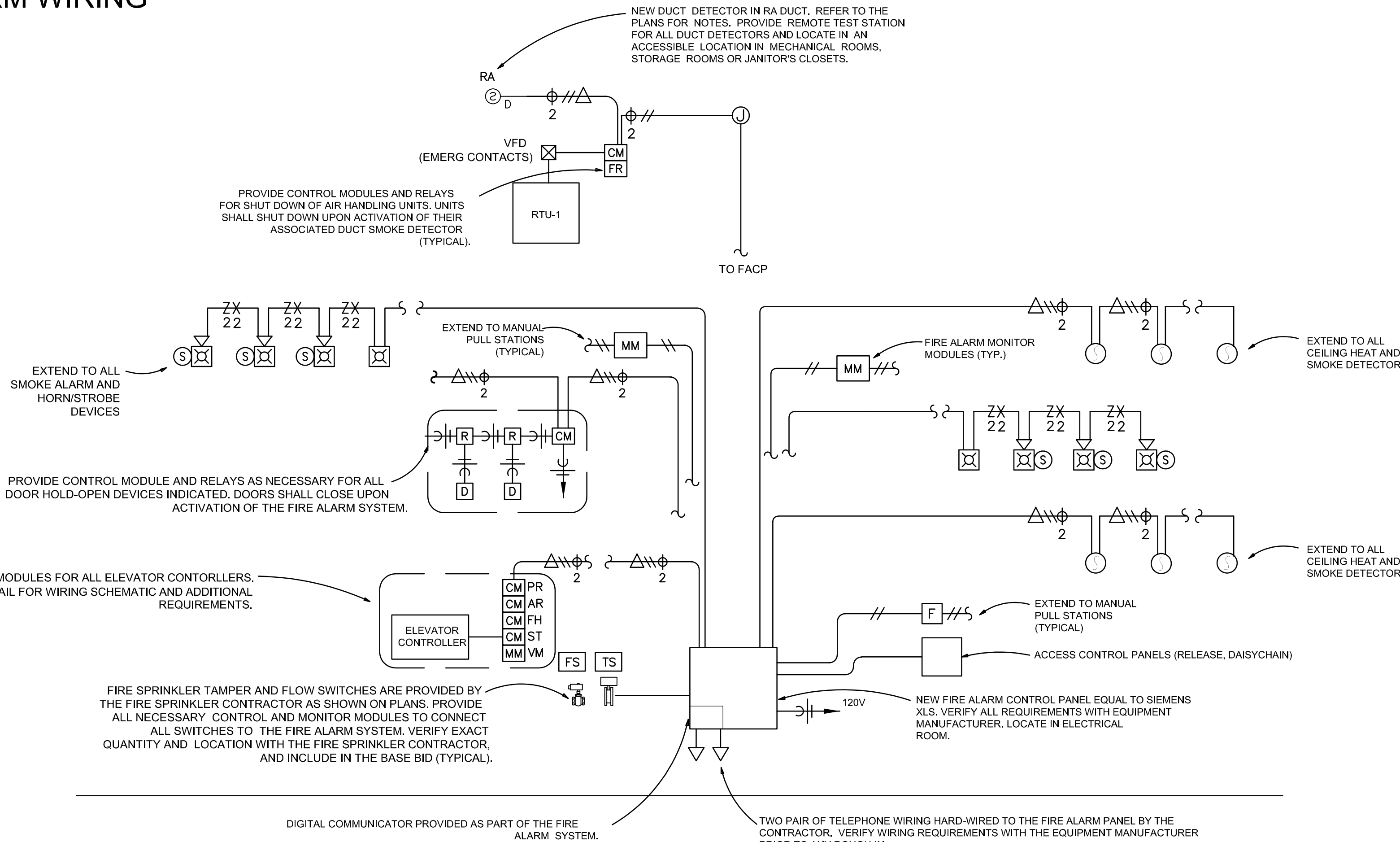
NOTE: 1. SEQUENCE OF OPERATION IS SUBJECT TO APPROVAL BY LOCAL FIRE MARSHALL AND CODE OFFICIAL.
NOTE: 2. ALL INITIATING DEVICES SHALL BE ADDRESSABLE, MARKET TYPE.
NOTE: 3. THE EXISTING SYSTEM AND FIRE ALARM CONTROL PANEL DOES NOT HAVE MASS COMMUNICATION CAPABILITY OR UL RATINGS.

NOTES

- VERIFY ALL WIRING REQUIREMENTS WITH THE ELEVATOR EQUIPMENT SUPPLIER PRIOR TO ANY ROUGH-IN. E/C SHALL VERIFY THAT INSTALLATION.
- IS IN COMPLETE COMPLIANCE WITH THE LATEST EDITION OF THE ANSI ELEVATOR CODE.
- ALL SMOKE DETECTORS ARE TO BE PROVIDED WITH NORMALLY CLOSED, DRY ISOLATED CONTACTS AND SHALL BE NON-RESETTING.



2 MACHINE-LESS ELEVATOR WIRING SCHEMATIC
SCALE: NTS



FIRE ALARM WIRING LEGEND:

- FIREFIGHTERS TELEPHONE CABLE
- Z — STROBE CABLE
- S — SPEAKER CABLE
- X — ZAM POWER
- # — MANTLET CABLE
- □ — SINGLE STATION SMOKE DETECTOR MONITOR CABLE
- Δ — DUCT DETECTOR POWER

GENERAL FIRE ALARM NOTES:

- IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE ALL DEVICES WITH THE NEW FIRE ALARM SYSTEM. CONTRACTOR SHALL CONTACT EIM FOR EXTENSION OF THE SYSTEM IF REQUIRED, AND INCLUDE ANY EXTRAS INCURRED BY THE MANUFACTURER TO ACCOMMODATE NEW DEVICES, EXTERMINATOR TRANSFORMER PANELS, AND 120V CIRCUITS. THIS SHALL BE INCLUDED IN BASE BID. FIRE ALARM EQUIPMENT SHOPS, WIRING, AMPERAGE CALCULATIONS, AND LAYOUT SHALL BE SUBMITTED FOR REVIEW PRIOR TO FINAL ACCEPTANCE.
- THIS FIRE ALARM RISER DIAGRAM IS FOR SCHEMATIC PURPOSES ONLY. REFER TO THE PLANS FOR DEVICE LOCATIONS AND QUANTITIES. THE E/C SHALL PROVIDE A COMPLETE RISER DIAGRAM WITH THE SHOP DRAWING SUBMITTAL WITH EACH DEVICE LOCATED ON THE PLANS (AND ITS ADDRESS) AND ALL WIRING REQUIREMENTS.
- VERIFY ALL WIRING REQUIREMENTS WITH THE FIRE ALARM MANUFACTURER PRIOR TO ANY ROUGH-IN. INCLUDE ALL WIRING REQUIREMENTS IN THE BASE BID

1 FIRE ALARM RISER DIAGRAM
SCALE: NTS



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146

01-02-2025

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LEES SUMMIT, MO

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DESIGNED BY:	CMW
DRAWN BY:	DM
CHECKED BY:	WAI
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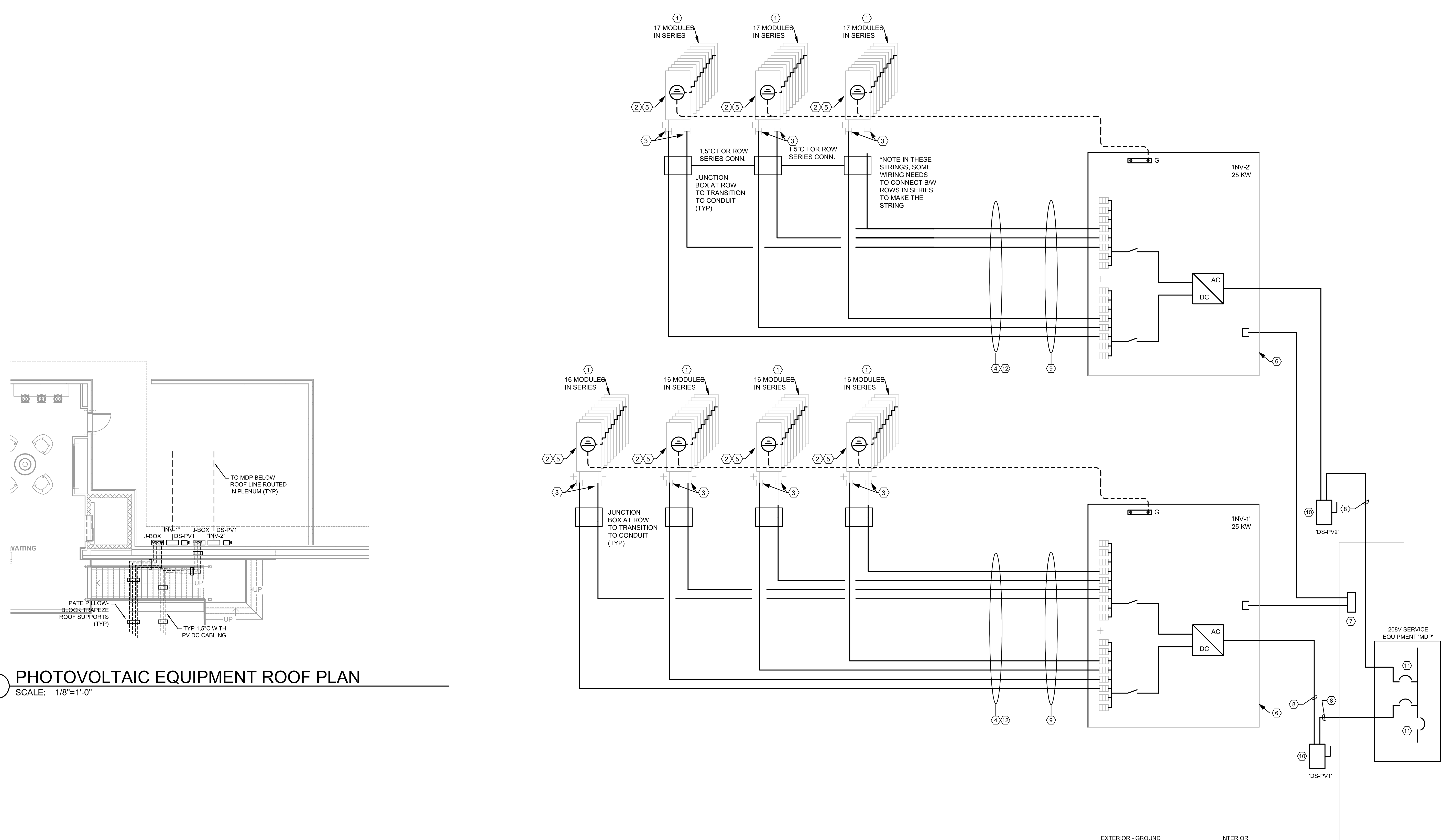
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**FIRE ALARM
DIAGRAMS**

E-310

SHEET 96 OF 102

**KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI**
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



1 PHOTOVOLTAIC EQUIPMENT ROOF PLAN
SCALE: 1/8"=1'-0"

1 PHOTOVOLTAIC SYSTEM RISER DIAGRAM
SCALE: NTS

GENERAL NOTES:

- A. REFER TO SPECIFICATIONS FOR ADDITIONAL MATERIALS AND INSTALLATION REQUIREMENTS. SEE POWER PLANS FOR EQUIPMENT LOCATIONS. SEE ONE-LINE DIAGRAM FOR METERING REQUIREMENTS.
- B. TORQUE WIRE TERMINATIONS AND RACKING PER MANUFACTURER RECOMMENDATIONS WITH CALIBRATED TORQUE LIMITING DEVICES.
- C. OBTAIN APPROVAL FROM UTILITY PRIOR TO PARALLELING SOLAR INVERTER WITH GRID. FURNISH ELECTRICAL INSPECTOR WITH COPY OF APPROVED UTILITY DISTRIBUTED APPLICATION.
- D. REFER TO ELECTRICAL ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.
- E. ALL EQUIPMENT SPECIFIED ON THIS SHEET DENOTES THE BASIS OF DESIGN. REFER TO THE SPECIFICATIONS AND NOTES REGARDING PERFORMANCE CHARACTERISTICS FOR ADDITIONAL APPROVED VENDORS AND REQUIREMENTS.
- F. DIAGRAM IS SCHEMATIC ONLY.

KEYNOTES:

- 1. TRINA SOLAR TSM-DE18M OR EQUAL SOLAR MODULES UL LISTED FOR 1500VDC USE. EACH MODULE HAS A RAPID SHUTDOWN DEVICE MOUNTED TO FRAME, WITH RAPID SHUTDOWN DEVICES SERIES CONNECTED IN 14-MODULE STRINGS.
- 2. PROVIDE MINIMUM 1000V, #10 BLACK PV WIRE (UL4703, 90 DEGREE WET RATING, 150 DEGREE DRY) CONNECTORIZED JUMPERS BETWEEN ROWS VIA RAYTRAY WIRE MANAGEMENT AND PERMANENTLY LABEL JUMPER ENDS WITH POLARITY AND SOURCE CIRCUIT NUMBER. PERMANENTLY LABEL MODULE LEADS THAT REPRESENT THE POSITIVE AND NEGATIVE OF THE OVERALL STRING. PROVIDE RAYTRAY RPVC SOLAR WIRE MANAGEMENT SYSTEM WITH CAP INSTALLED BETWEEN MODULE ROWS FOR PROTECTION FROM MOVING SNOW AND ICE.
- 3. PROVIDE MINIMUM 1500V, #10 BLACK PV WIRE (UL4703, 90 DEGREE WET RATING, 150 DEGREE DRY) HOME RUN CABLES FROM STRING END TO INVERTER DC CONNECTION BOX WITHOUT SPLICING. LABEL PV SOURCE CIRCUIT NUMBER AND POLARITY AT BOTH ENDS.
- 4. TRANSITION FROM OPEN WIRE TO 1-1/2" EMT CONDUIT WITH WEATHERTIGHT FITTINGS UNDER PROTECTION OF MODULE COVER AT JUNCTION BOX AT END OF ROWS.
- 5. SECURE WIRE IN A NEAT AND WORKMANLIKE MANNER, KEEPING EXPOSED CABLE AS HIGH OFF OF ROOF AS POSSIBLE AND TUCKED INTO THE INNER PORTION OF MODULE FRAME WHERE POSSIBLE. USE STAINLESS STEEL HEYCO CABLE CLIPS ATTACHED TO MODULE FRAMES AND/OR RACKING COMPONENTS AT INTERVALS THAT KEEP WIRE SECURED WITH MINIMAL STRAIN THAT COULD RESULT IN CABLE PULLING FROM CLIP.
- 6. OPS SCA25KTL-DOUS-208, 25KW, 208/3PH, NEMA 4X INVERTER OR EQUAL WITH INTEGRAL DC DISCONNECTING MEANS, DC ARC-FAULT CIRCUIT PROTECTION, AND RAPID SHUTDOWN SUSPEC DC POWERLINE SIGNALLING INITIATED BY LOSS OF AC CONNECTION VOLTAGE. VERIFY OPERATION OF RAPID SHUTDOWN UPON SYSTEM BECOMING OPERABLE. PROVIDE WITH 20A PV STRING FUSING.
- 7. PROVIDE A 3/4" CONDUIT AND CAT-6 DATA CABLE TO SOLAR INVERTER. COORDINATE WITH SOLAR CONTRACTOR FOR TERMINATION REQUIREMENTS. WEB-BASED MONITORING ACCESS FOR INVERTER SHALL BE MADE AVAILABLE TO OWNER AND ENGINEER. COORDINATE WITH OWNER'S IT DEPARTMENT FOR NETWORK CONNECTION REQUIREMENTS.
- 8. 3#3, #3N, #8G-1-1/4", AC INVERTER OUTPUT CIRCUIT WITH COMBINED DC GROUND ELECTRODE CONDUCTOR (GEC) AND AC EQUIPMENT GROUNDING CONDUCTOR (EGC) PER NEC 690.47(B).
- 9. INCLUDE A #6 EQUIPMENT GROUNDING CONDUCTOR FOR ARRAY GROUNDING, SIZED PER NEC 690.45, CONNECT TO AEROCOMPACT RACKING PER MANUFACTURER UL 2703 CERTIFIED METHOD.
- 10. 100's, 600V, NEMA 3R, NON-FUSED, KNIFE-BLADE DISCONNECT FOR OPPD AS REDUNDANT GRID ISOLATION FEATURE. PROVIDE WITH NEUTRAL TERMINATION (PROVISION FOR UTILITY TO GROUND), DISCONNECT SHALL BE LOCKABLE.
- 11. CONNECT TO BREAKER IN MDP AS SHOWN ON ONE-LINE DIAGRAM.
- 12. UNGROUNDED DC SYSTEM PER NEC 690.12 AND 690.35. UTILIZE #10 PV WIRE LISTED FOR A MINIMUM OF 1000V.

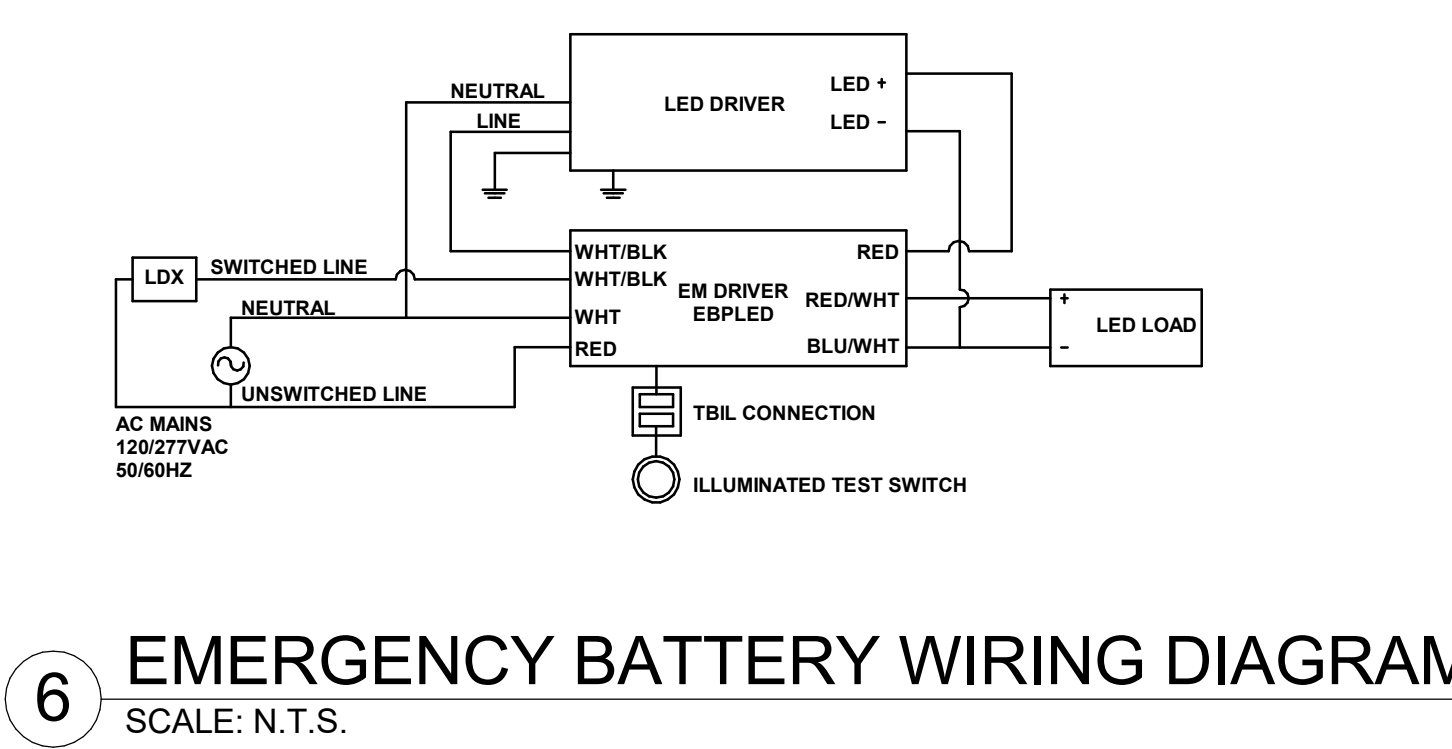
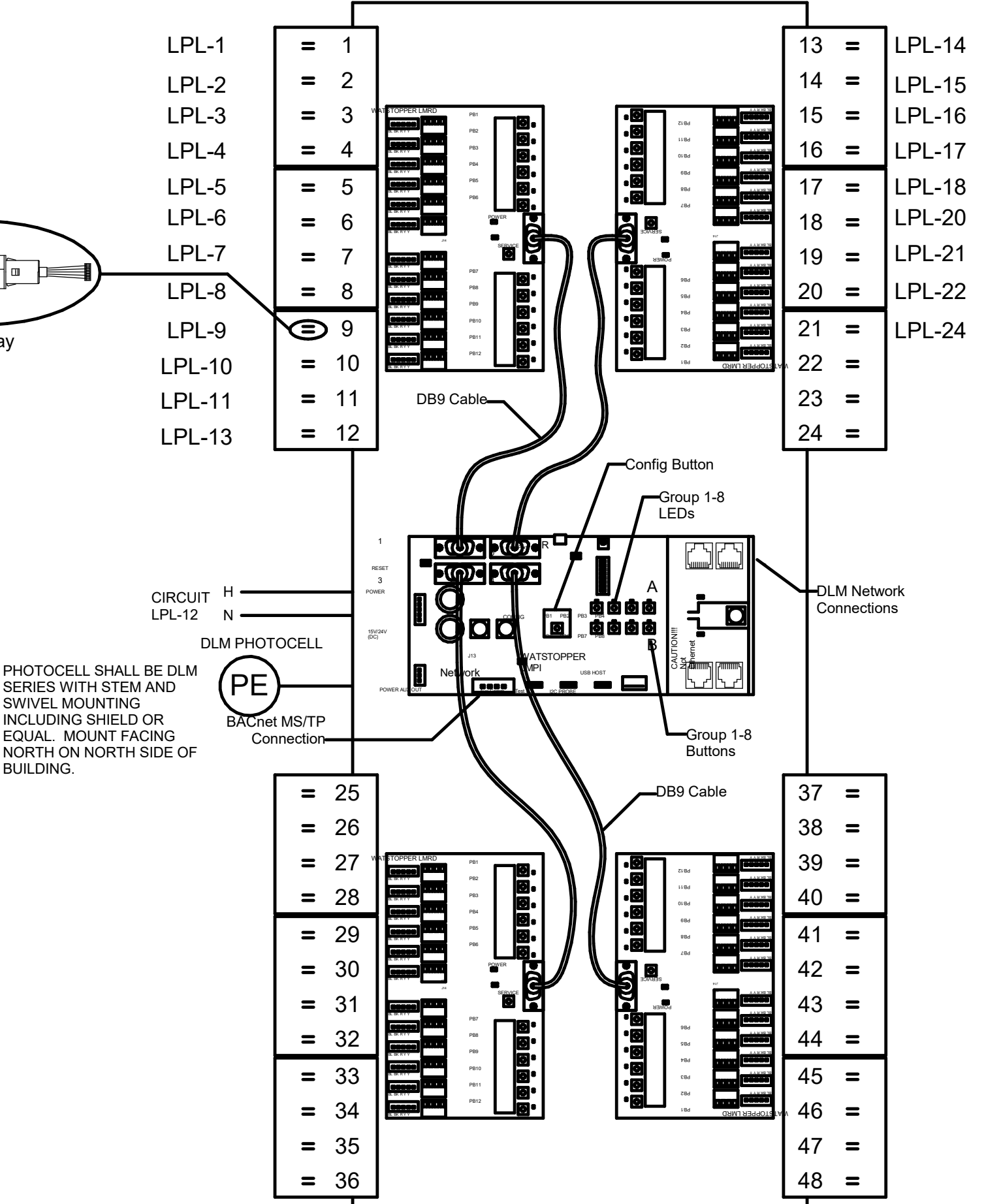
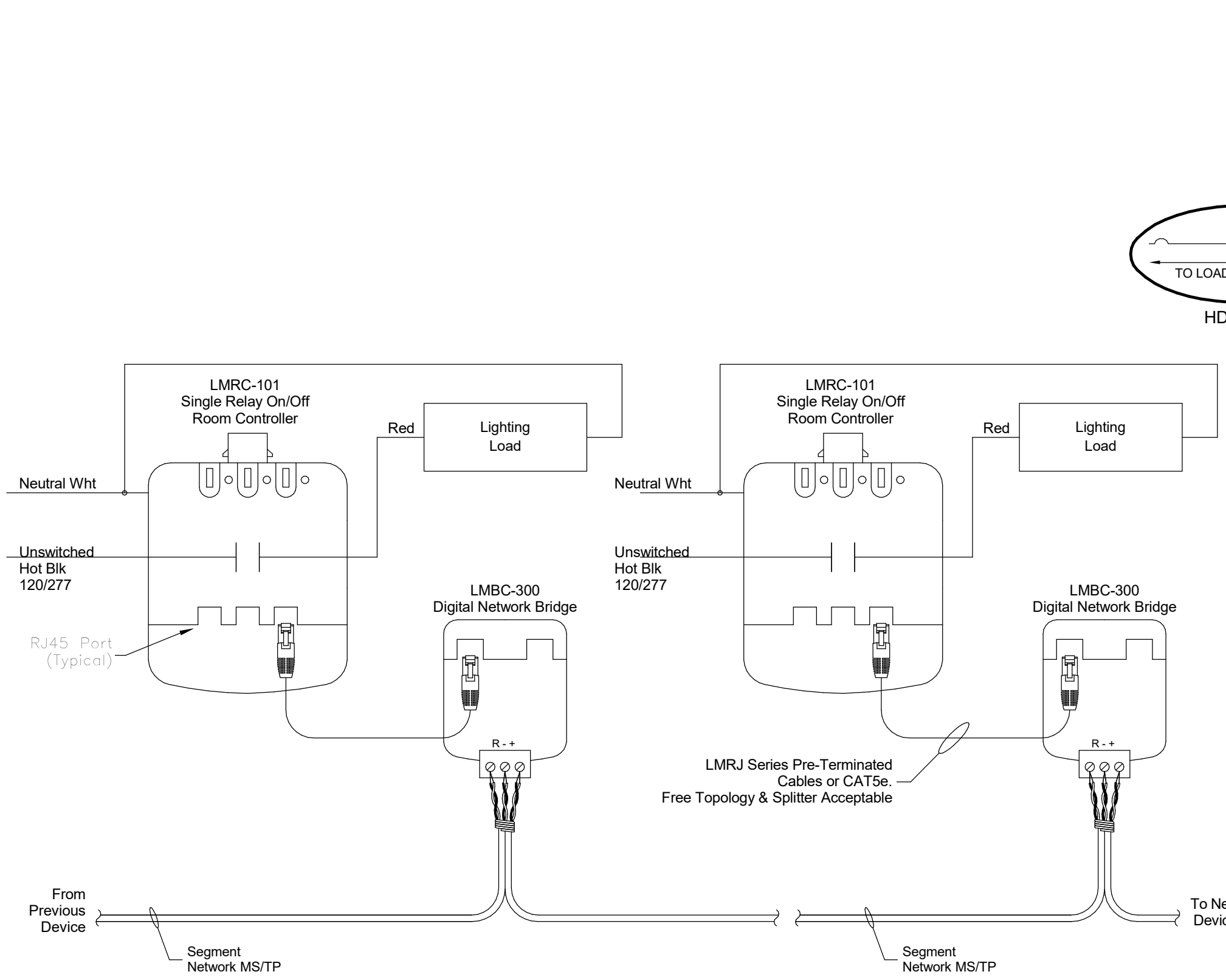
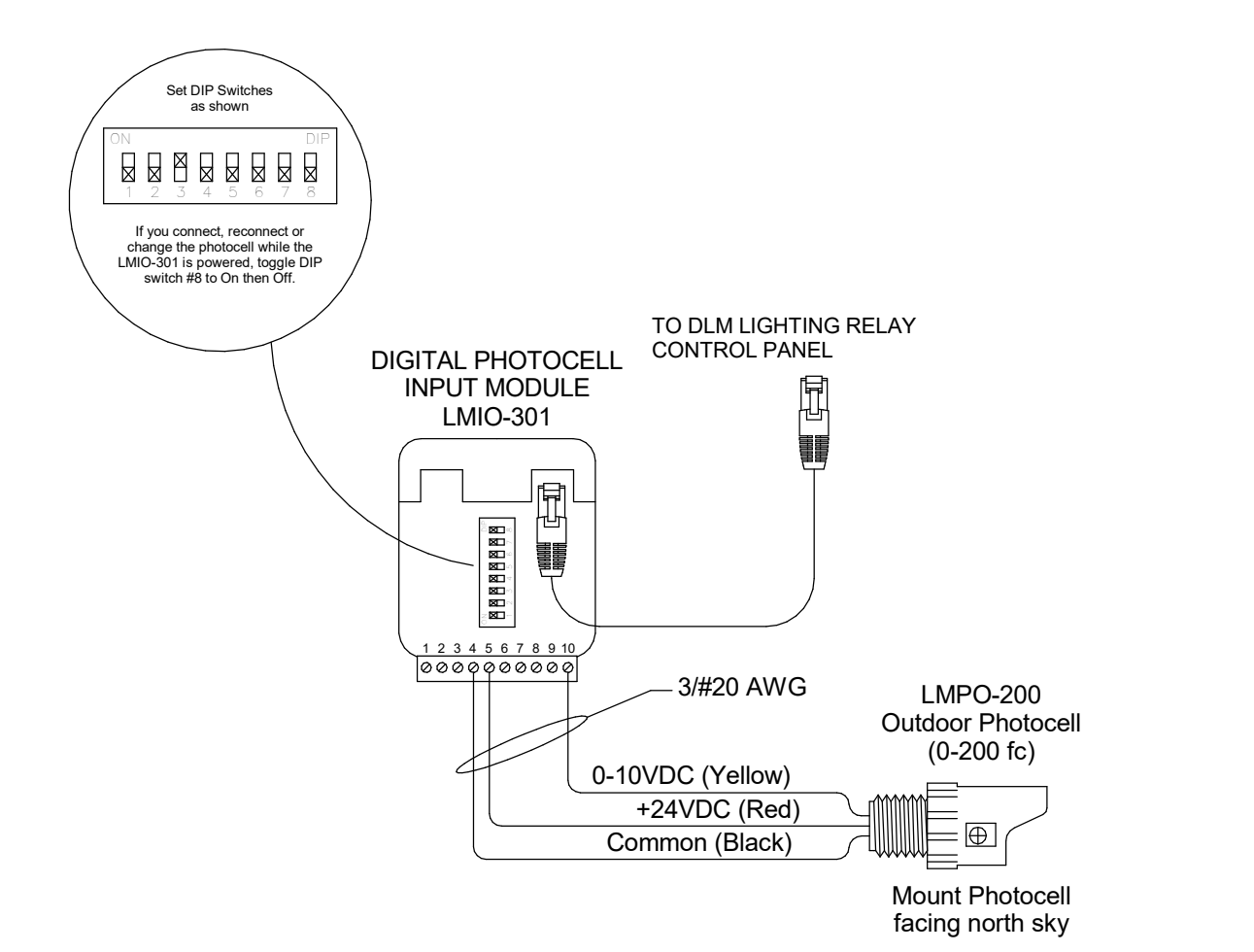
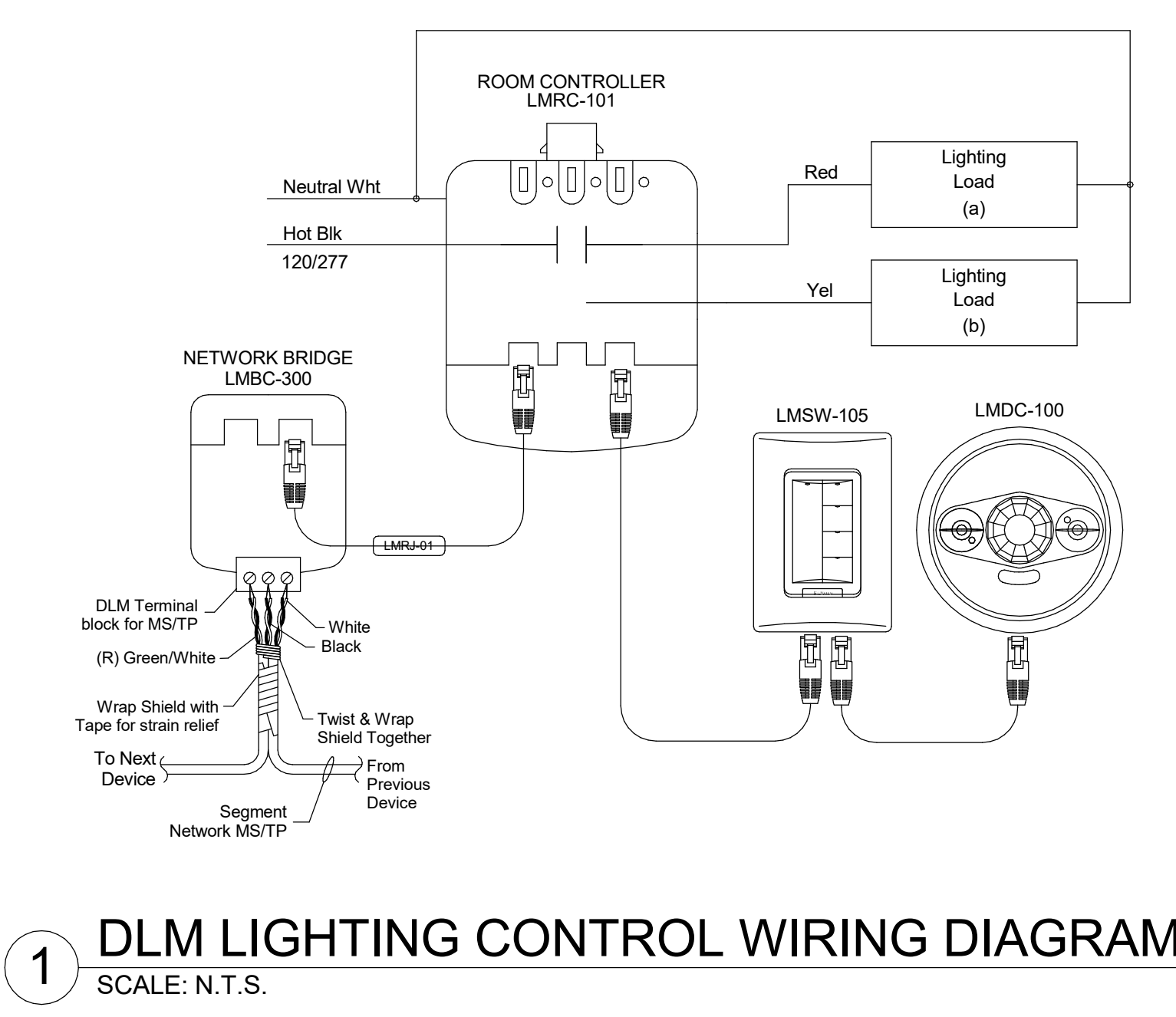
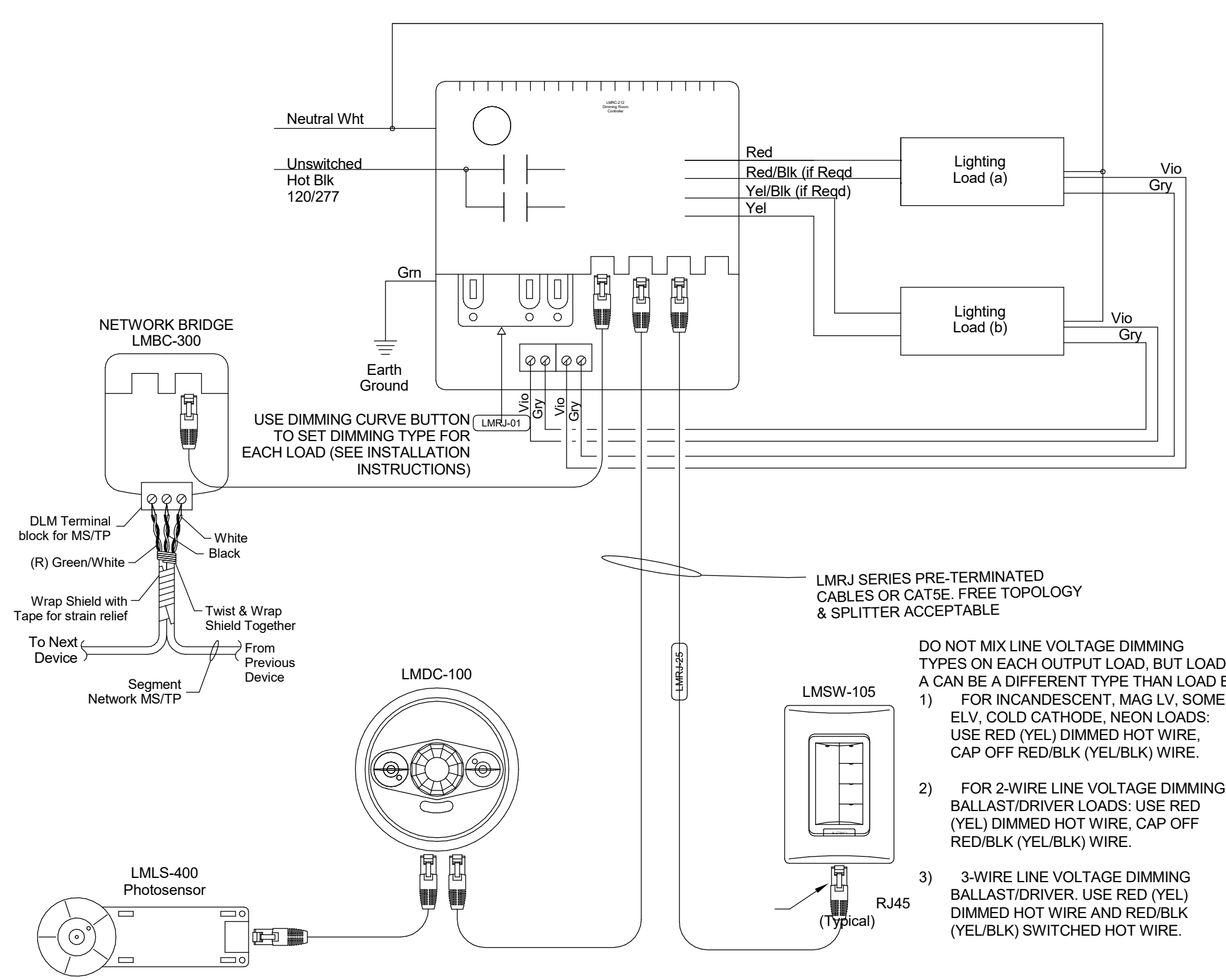
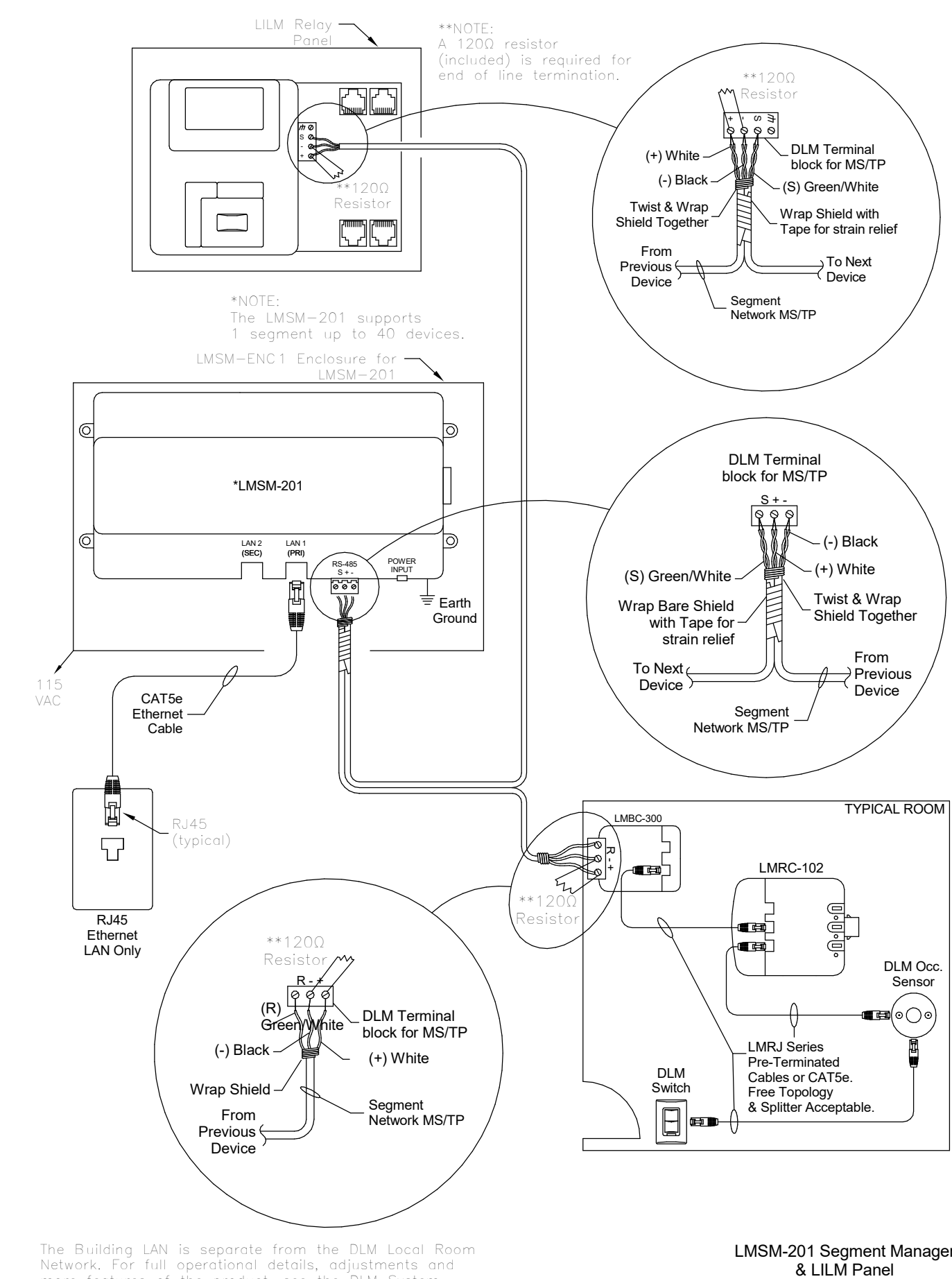


Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146
01-02-2025

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LEES SUMMIT, MO

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SHEET TITLE
PV ARRAY DIAGRAMS



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**GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172**



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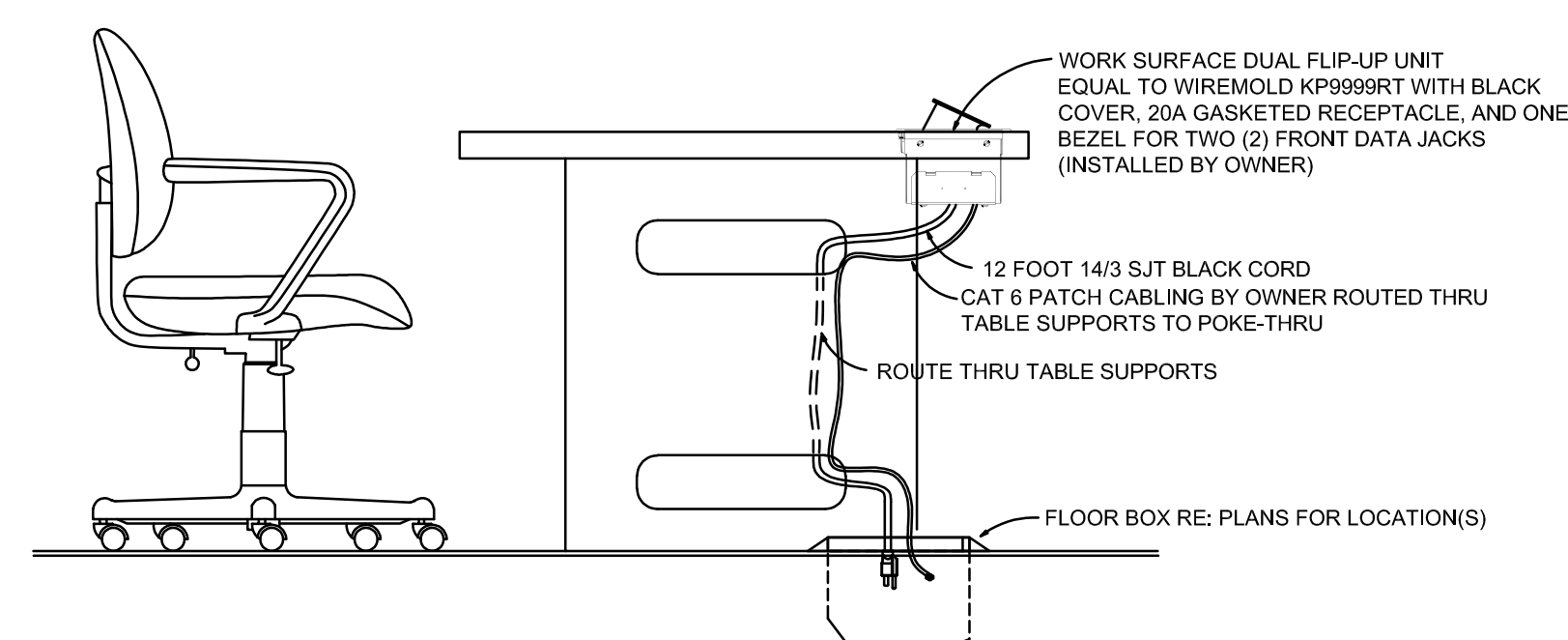
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LEES SUMMIT, MO

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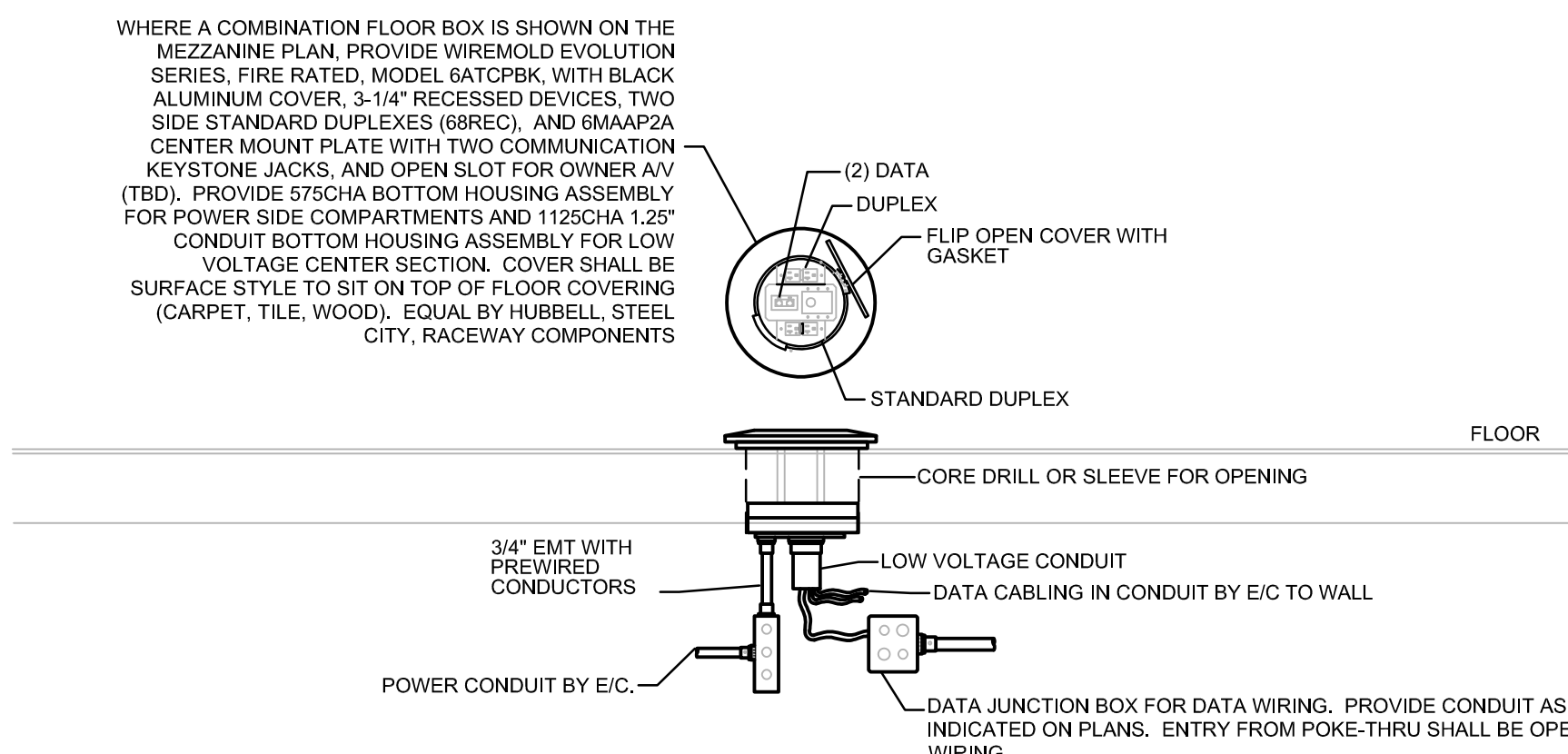
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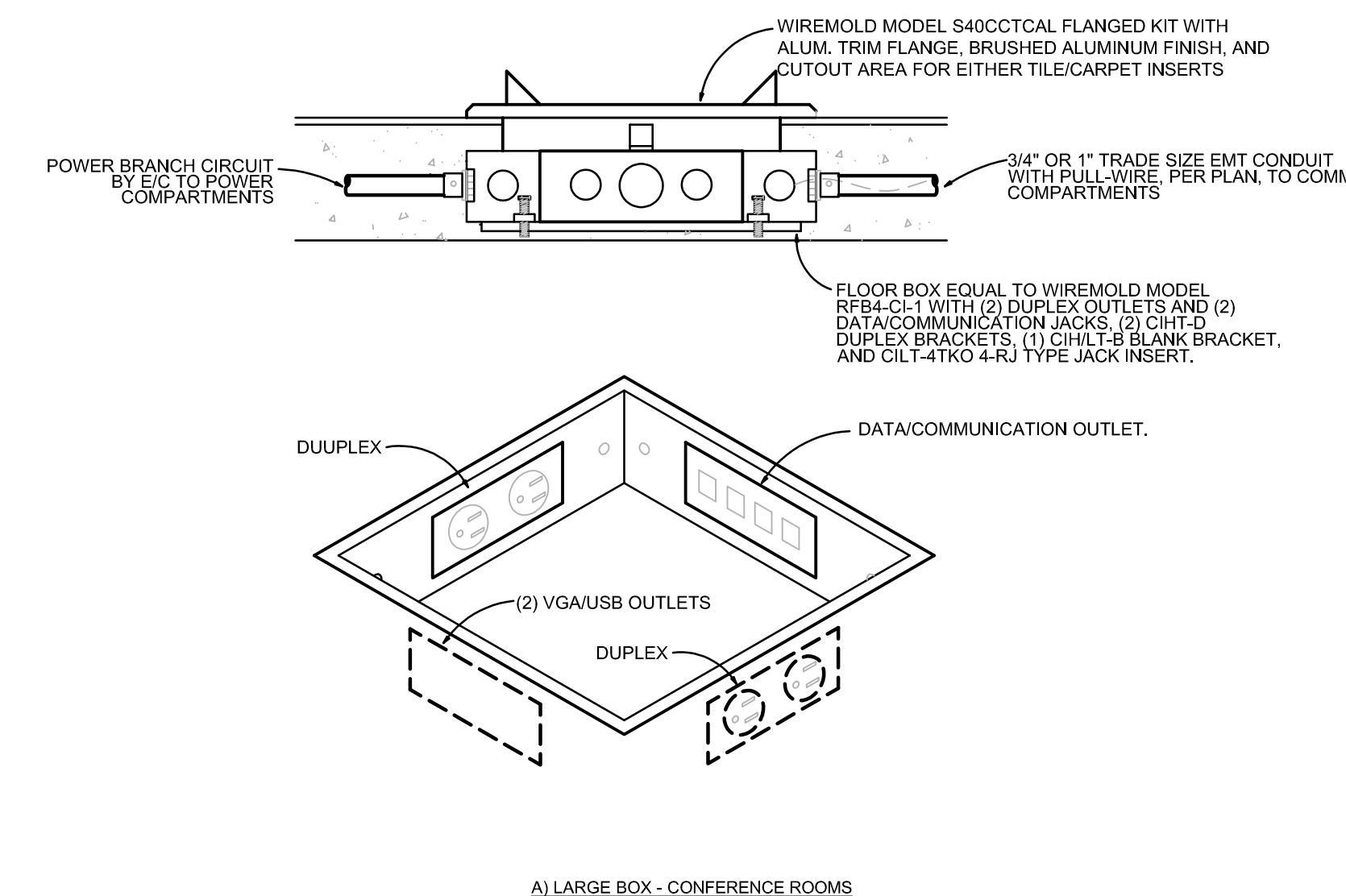
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CITY PROJECT NO. - 17932172



**10 WORK SURFACE MODULE
INSTALLATION DETAIL**
SCALE: N.T.S.



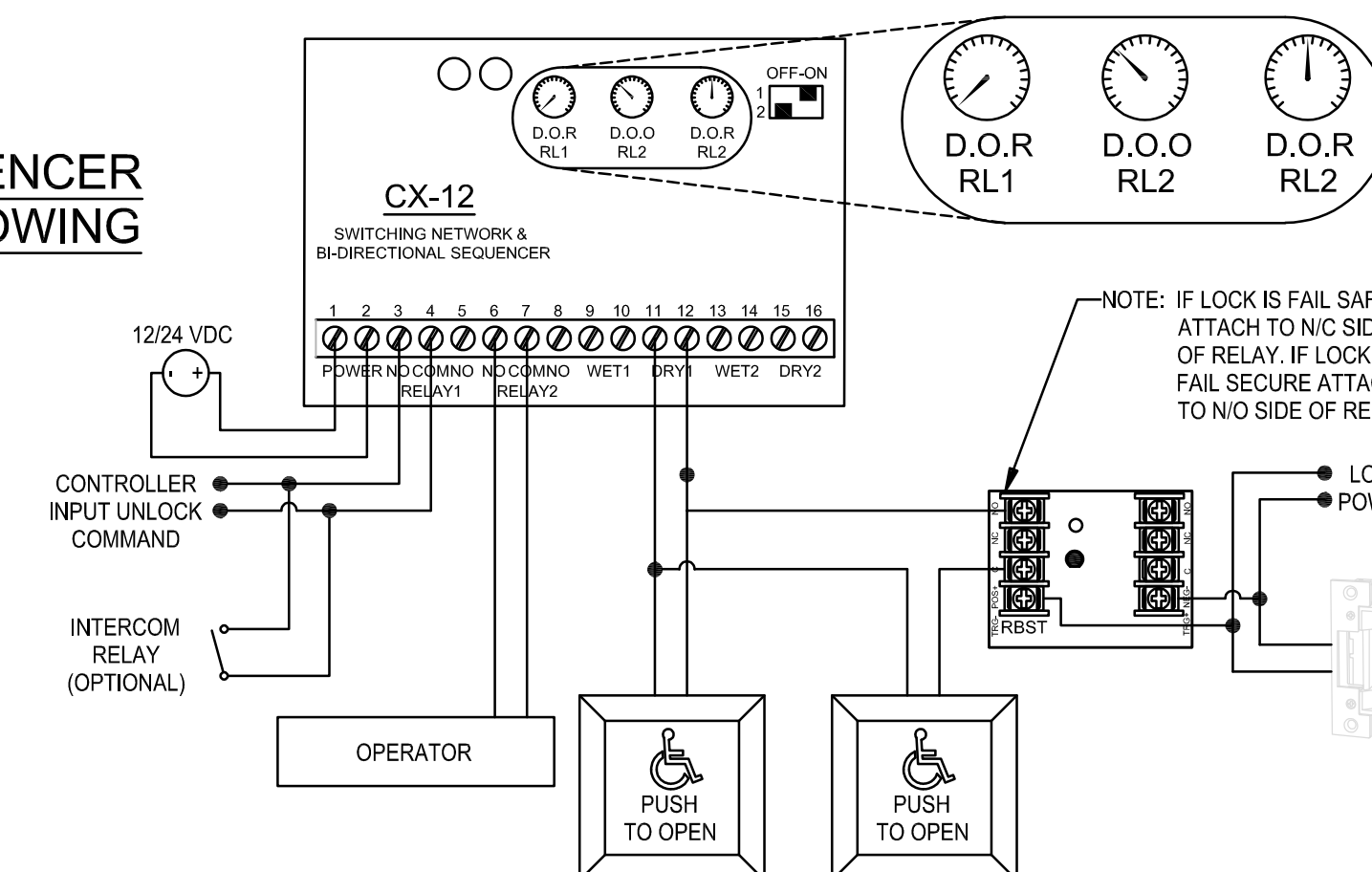
11 POKE-THRU FLOOR BOX DETAIL
SCALE: N.T.S.



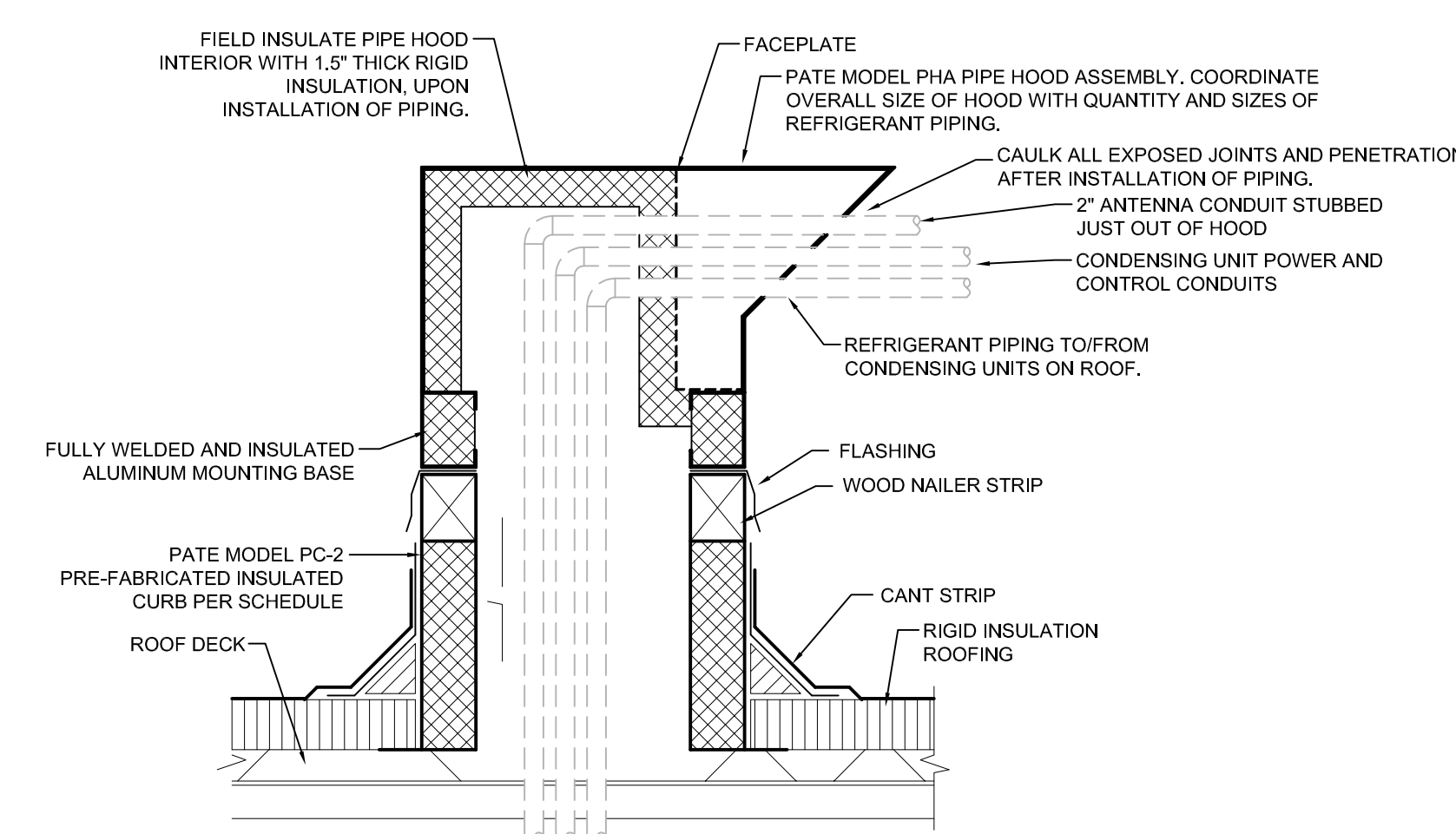
4 FLOOR BOX DETAIL
SCALE: N.T.S.

ADA INTERFACE MODULE - DOOR SEQUENCER
ADA INTERFACE SHALL MEET THE FOLLOWING
FEATURES AND FUNCTIONS:

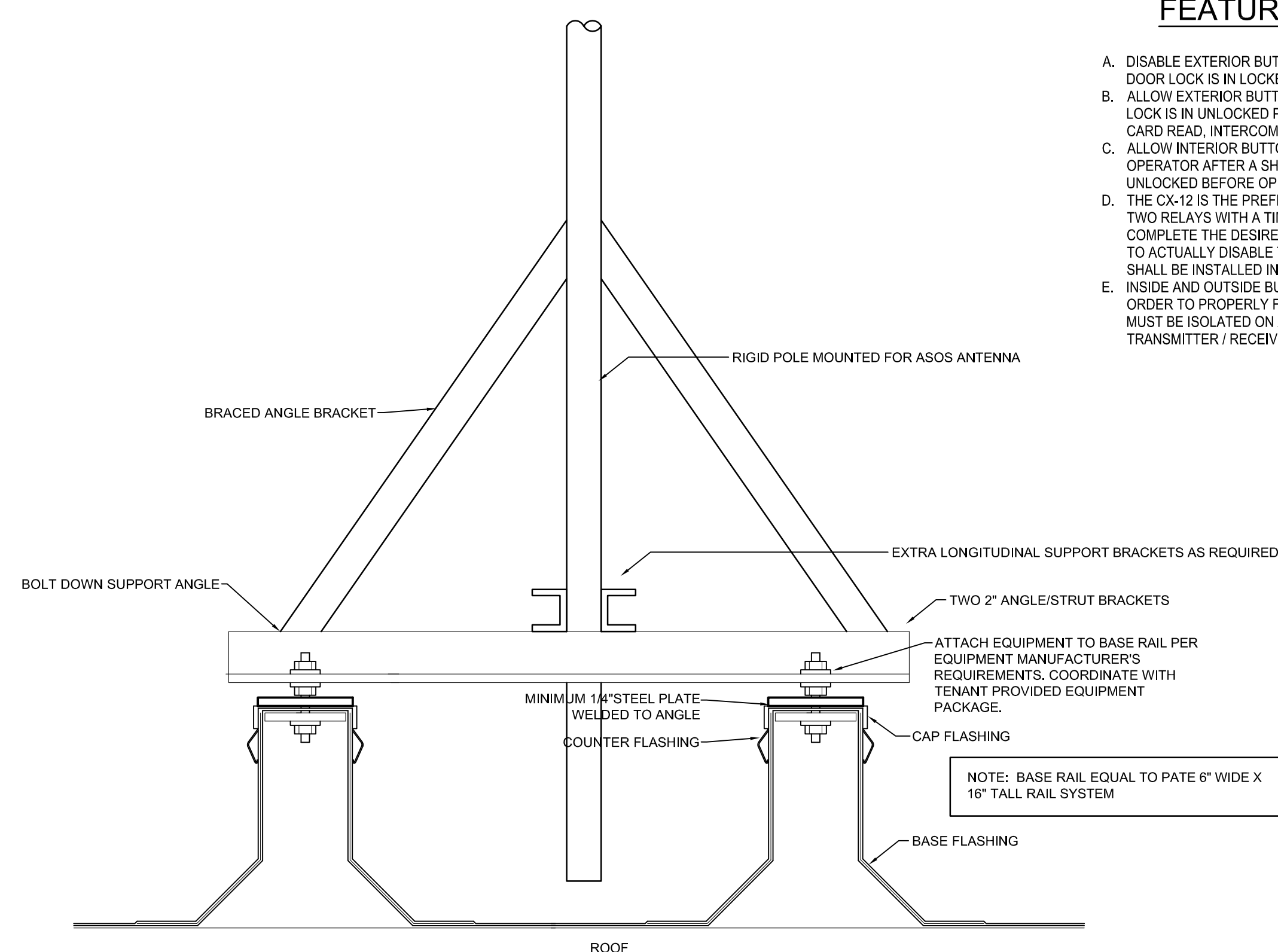
- DISABLE EXTERIOR BUTTON FROM TRIGGERING DOOR OPERATOR WHEN DOOR LOCK IS IN LOCKED POSITION.
- ALLOW EXTERIOR BUTTON TO ACTIVATE THE OPERATOR WHEN DOOR LOCK IS IN UNLOCKED POSITION BY ANY OF THE FOLLOWING MEANS: CARD READ, INTERCOM, OR SCHEDULED UNLOCK EVENT.
- ALLOW INTERIOR BUTTON TO UNLOCK DOOR AND ACTIVATE THE OPERATOR AFTER A SHORT DELAY TO ENSURE DOOR IS FULLY UNLOCKED BEFORE OPERATING.
- THE CX-12 IS THE PREFERRED MODULE DUE TO ITS ABILITY TO SEQUENCE TWO RELAYS WITH A TIME DELAY. HOWEVER, IT DOES NOT FULLY COMPLETE THE DESIRED TASK, THIS A SECONDARY RELAY MUST BE USED TO ACTUALLY DISABLE THE OUTSIDE BUTTON. THE SECONDARY RELAY SHALL BE INSTALLED IN PARALLEL WITH LOCK POWER.
- INSIDE AND OUTSIDE BUTTONS MUST BE ISOLATED AT THE OPERATOR IN ORDER TO PROPERLY FUNCTION. IF THE BUTTONS ARE WIRELESS THEY MUST BE ISOLATED ON A SEPARATE CHANNEL BY MEANS OF A DIFFERENT TRANSMITTER / RECEIVER SET.



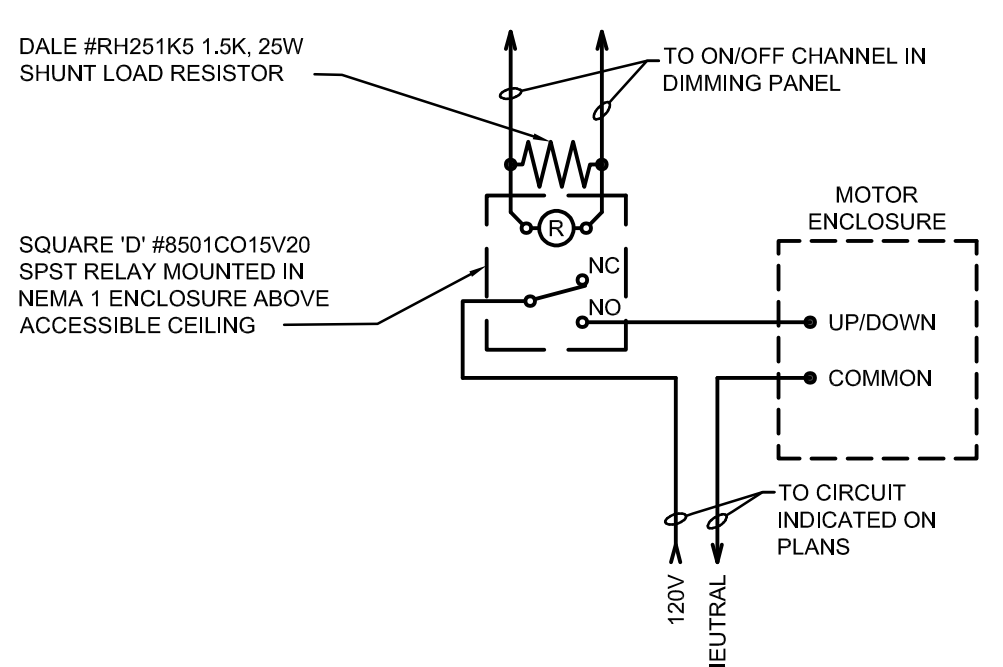
7 ACCESS CONTROL SYSTEM ADA DOOR INTERFACE
SCALE: N.T.S.



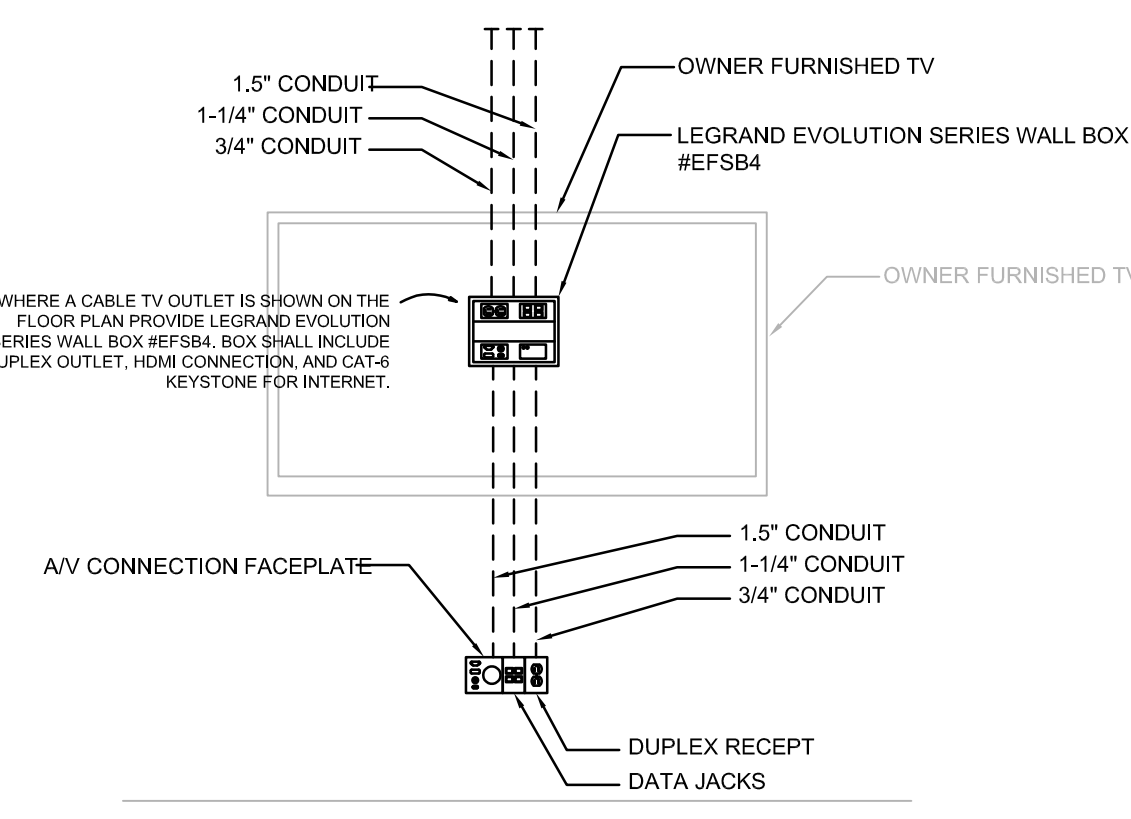
3 PIPE CURB DETAIL
SCALE: NONE



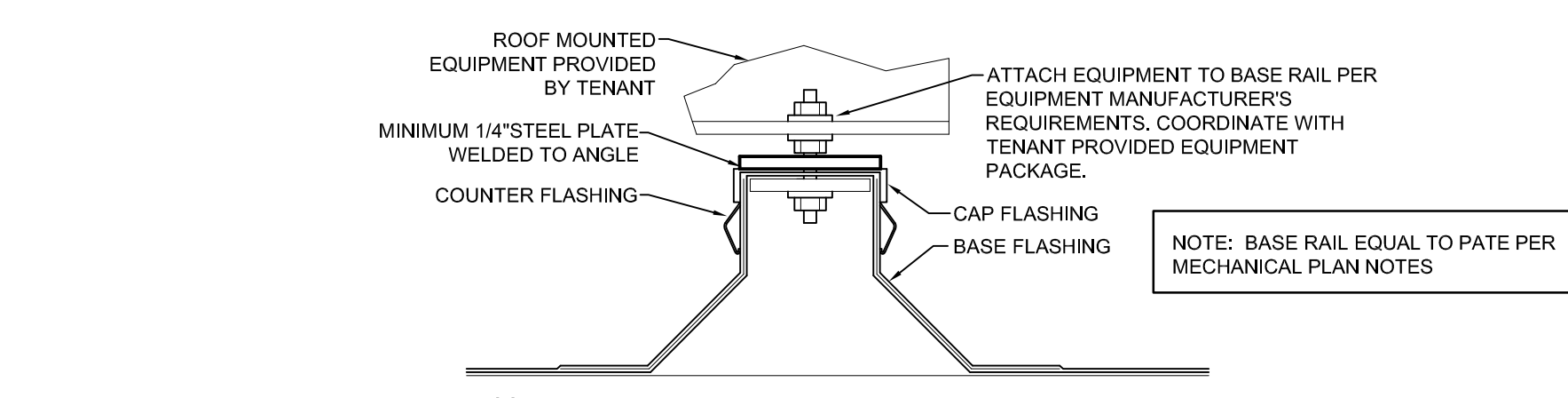
9 ROOF EQUIPMENT/ANTENNA SUPPORT
SCALE: NONE



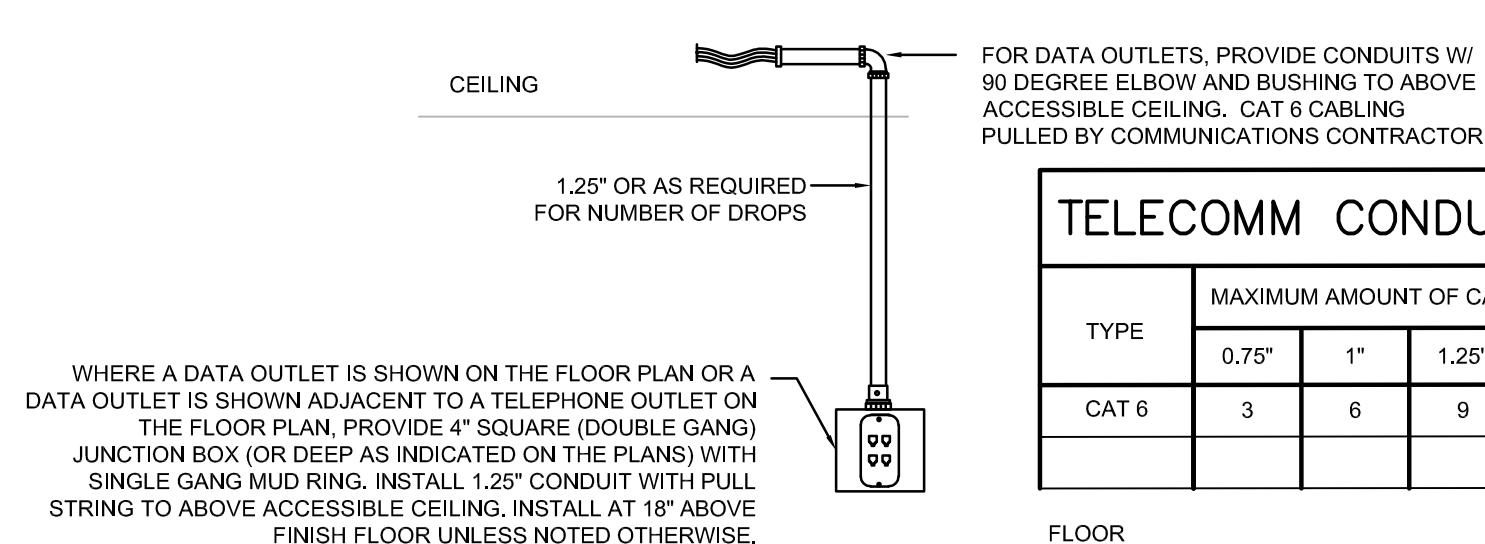
A/V EQUIPMENT CONTROL DETAIL



2 TYPICAL A/V ROUGH-IN DETAIL
SCALE: N.T.S.



6 TYPICAL A/V SCREEN DETAIL
SCALE: N.T.S.

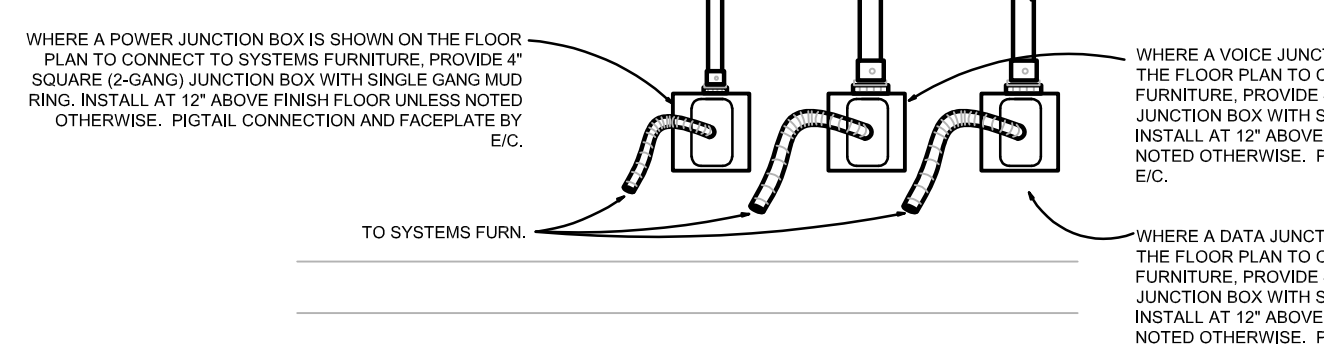


GENERAL NOTES

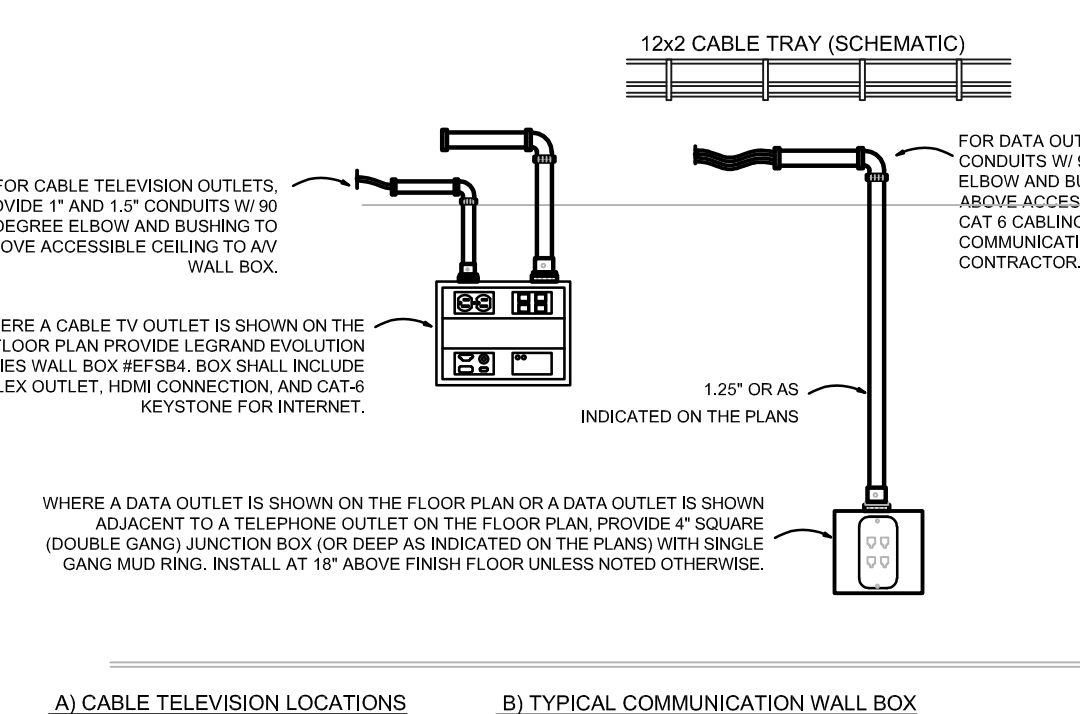
- ALL DATA/TELEPHONE CABLING TO BE INSTALLED BY COMMUNICATIONS CONTRACTOR.

8 COMMUNICATIONS ROUGH-IN DETAIL
SCALE: N.T.S.

TYPE	MAXIMUM AMOUNT OF CABLE FOR A 40% FILL PER CONDUIT SIZE						
	0.75"	1"	1.25"	1.5"	2"	2.5"	3"
CAT 6	3	6	9	14	24	38	55



5 SYSTEMS FURNITURE ROUGH-IN DETAILS
SCALE: N.T.S.



- NOTES:**
- ALL DATA/TELEPHONE CABLING TO BE INSTALLED BY OWNER.
 - DESIGNATION NEXT TO SYMBOL ON DRAWING INDICATES NUMBER OF CABLE DROPS FOR EACH OUTLET. FOR REFERENCE ONLY.

1 COMMUNICATIONS ROUGH-IN DETAILS
SCALE: N.T.S.



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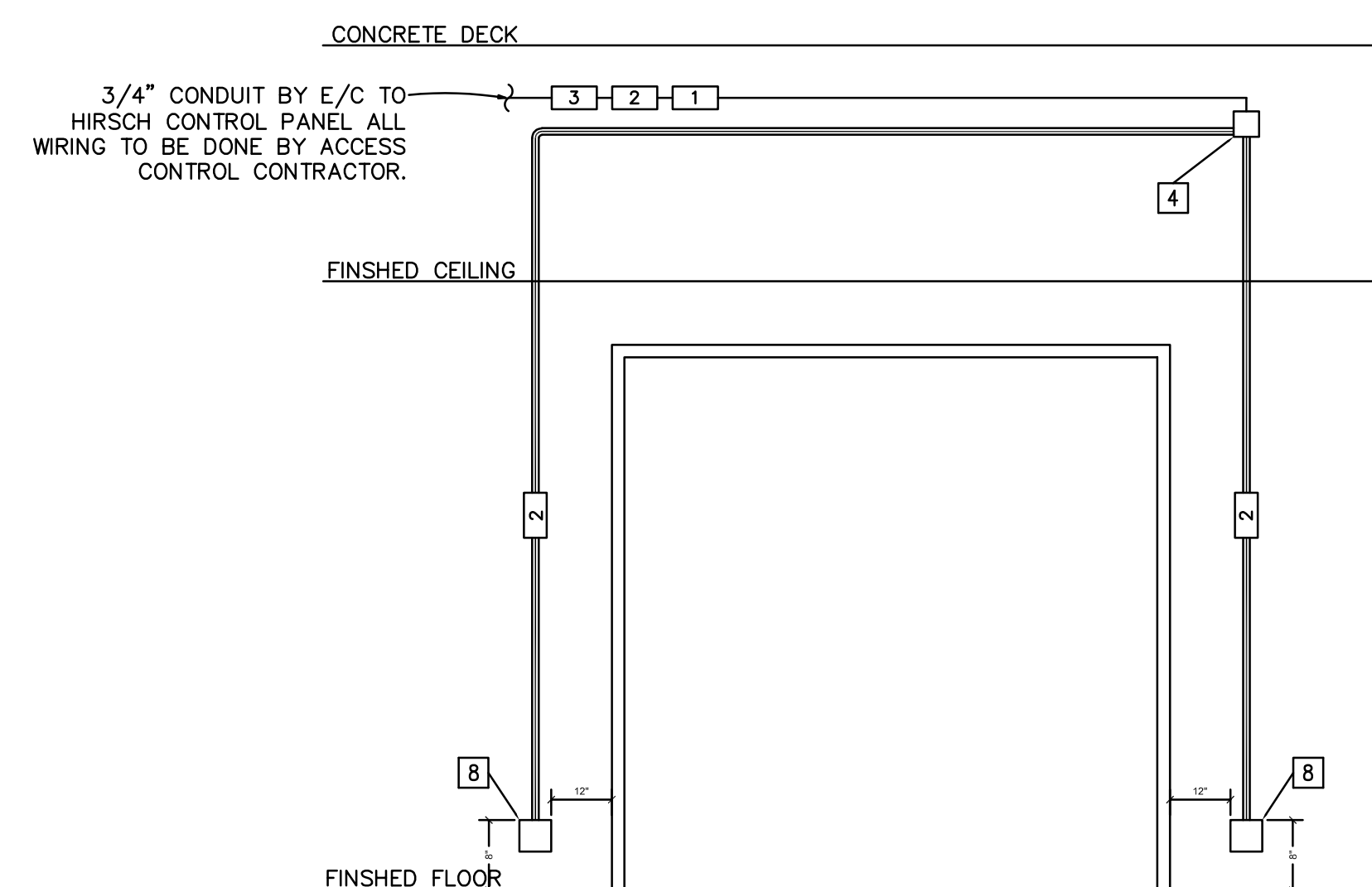
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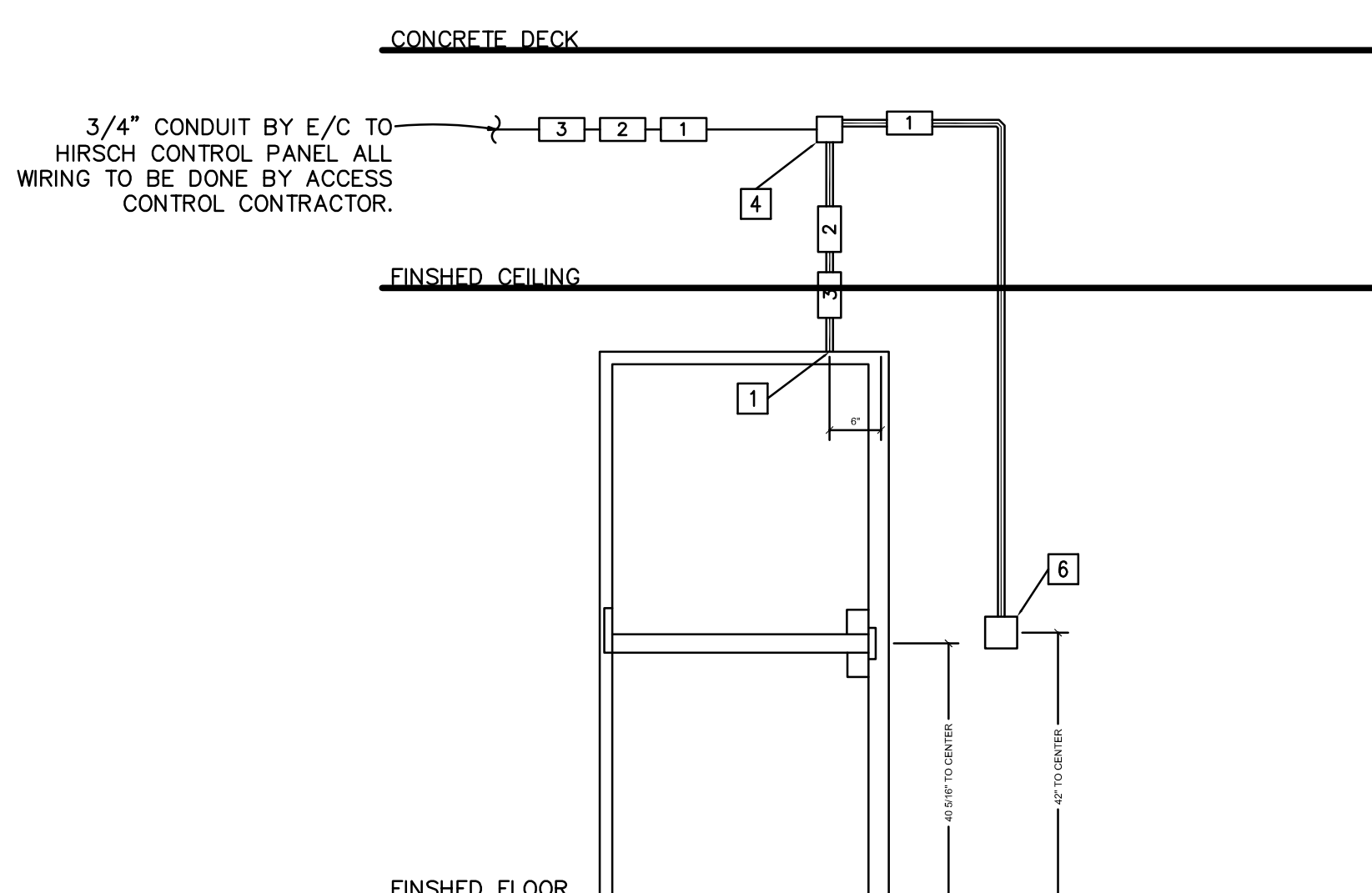
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**ELECTRICAL
DETAILS**

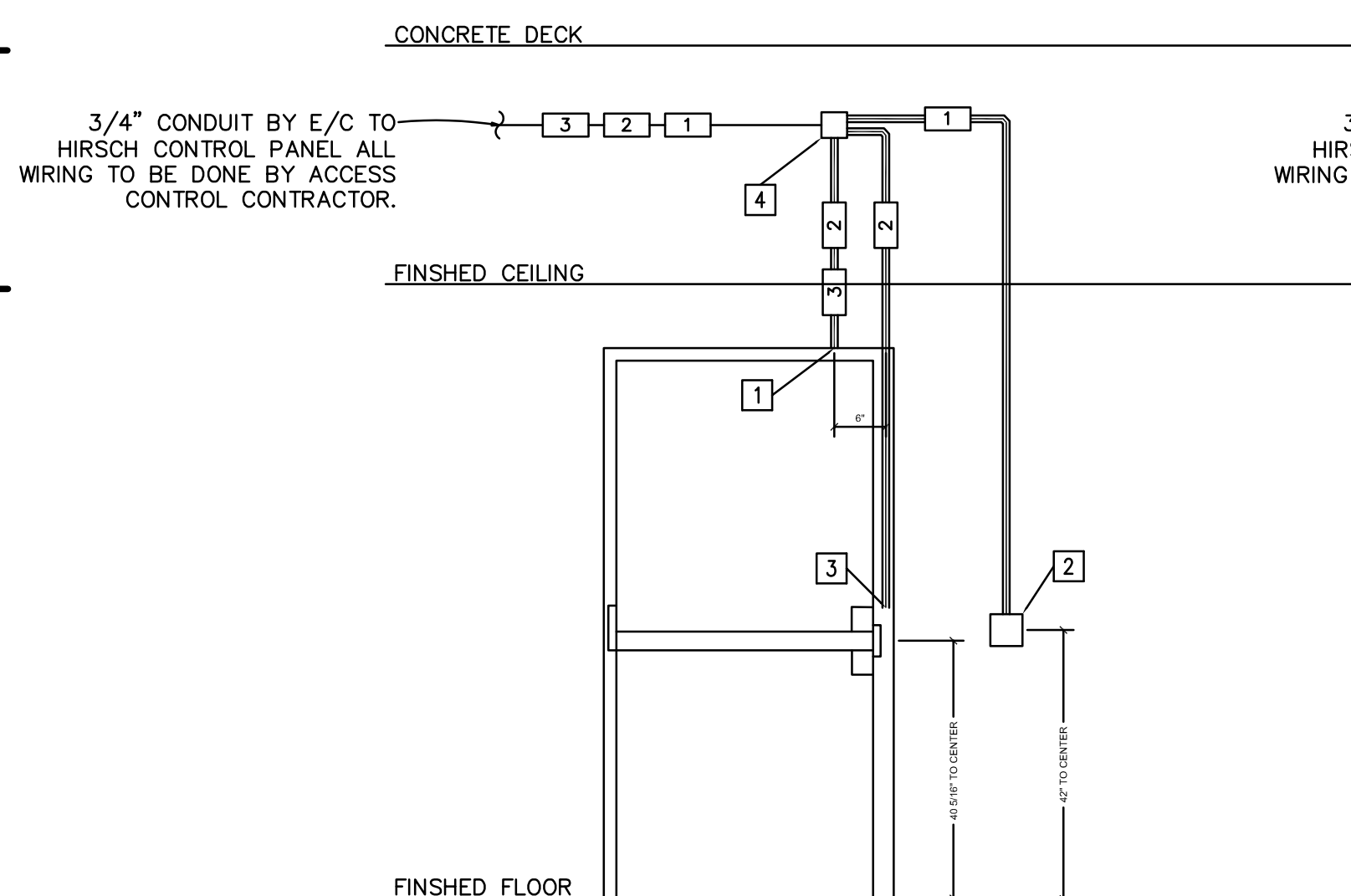
E-410
SHEET 98 OF 102



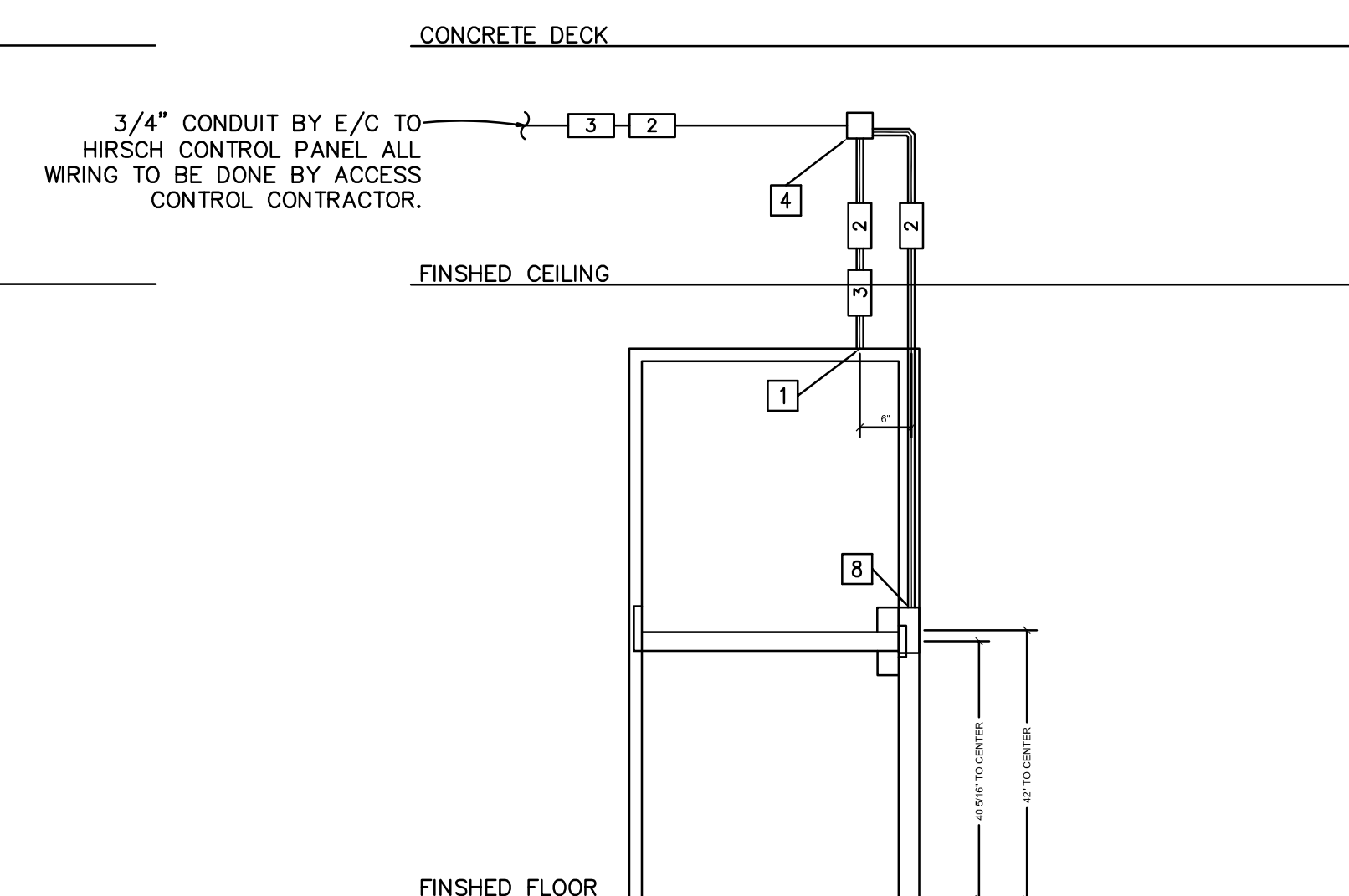
A SLIDER DOOR WITH DOOR CONTACT, CARD READER, REQUEST TO EXIT
NOT TO SCALE



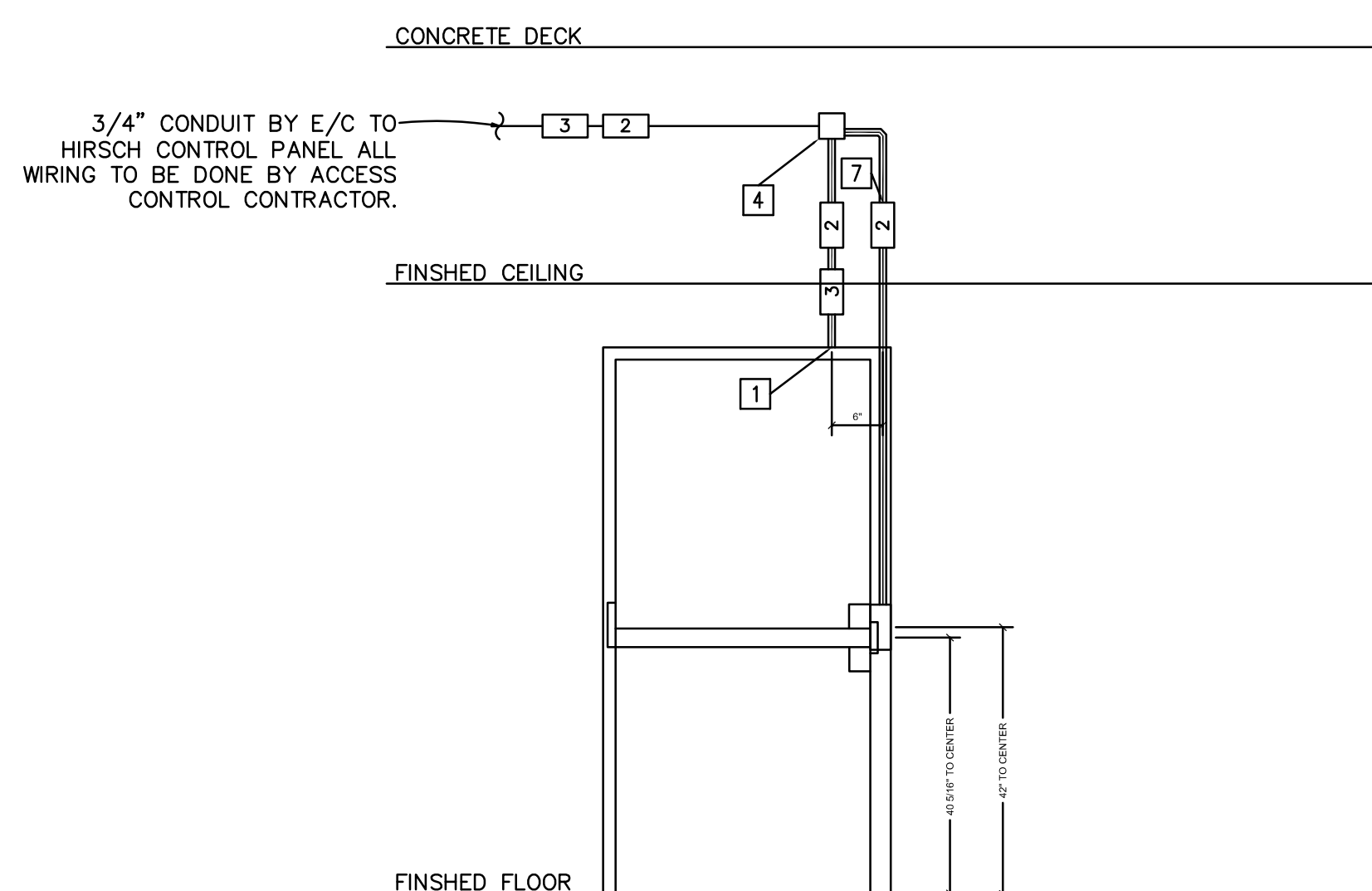
B SINGLE DOOR WITH DOOR CONTACT, MAG LOCK CARD READER, REQUEST TO EXIT, ELECTRIC HINGE
NOT TO SCALE



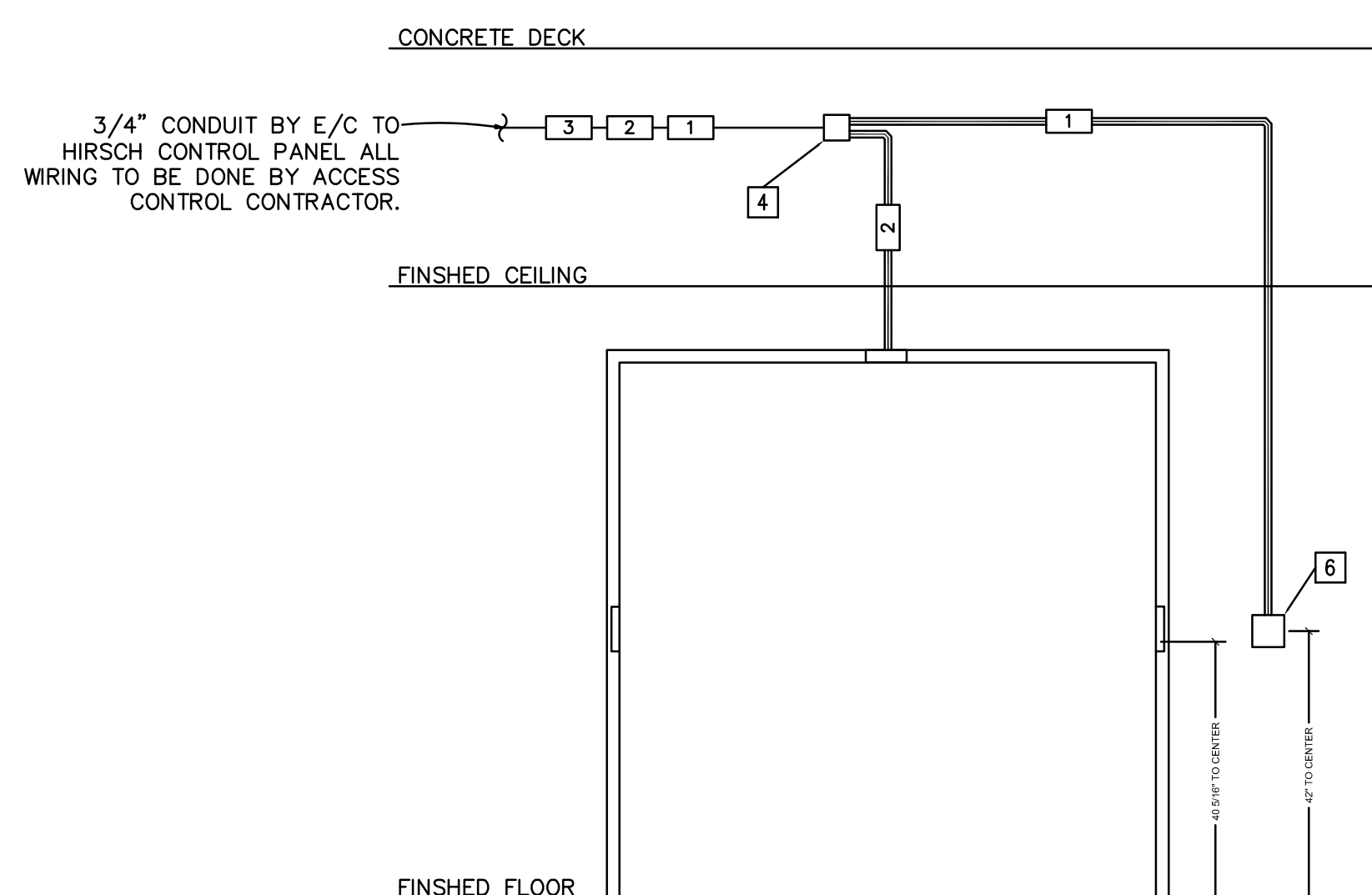
C SINGLE DOOR WITH DOOR CONTACT, ELECTRONIC STRIKE, CARD READER, REQUEST TO EXIT
NOT TO SCALE



D SINGLE DOOR WITH DOOR CONTACT, ELECTRONIC STRIKE, (2) CARD READERS, REQUEST TO EXIT
NOT TO SCALE



E SINGLE DOOR WITH DOOR CONTACT, ELECTRONIC STRIKE, CARD READER, REQUEST TO EXIT
NOT TO SCALE



F SLIDER DOOR WITH DOOR CONTACT, CARD READER, REQUEST TO EXIT
NOT TO SCALE

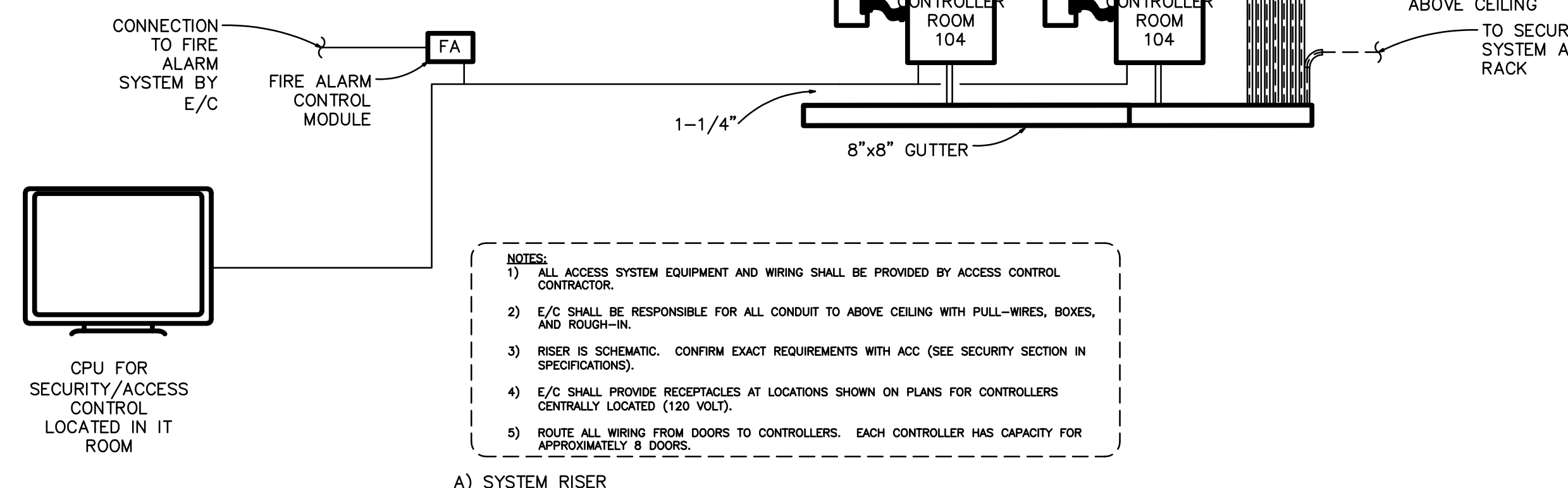
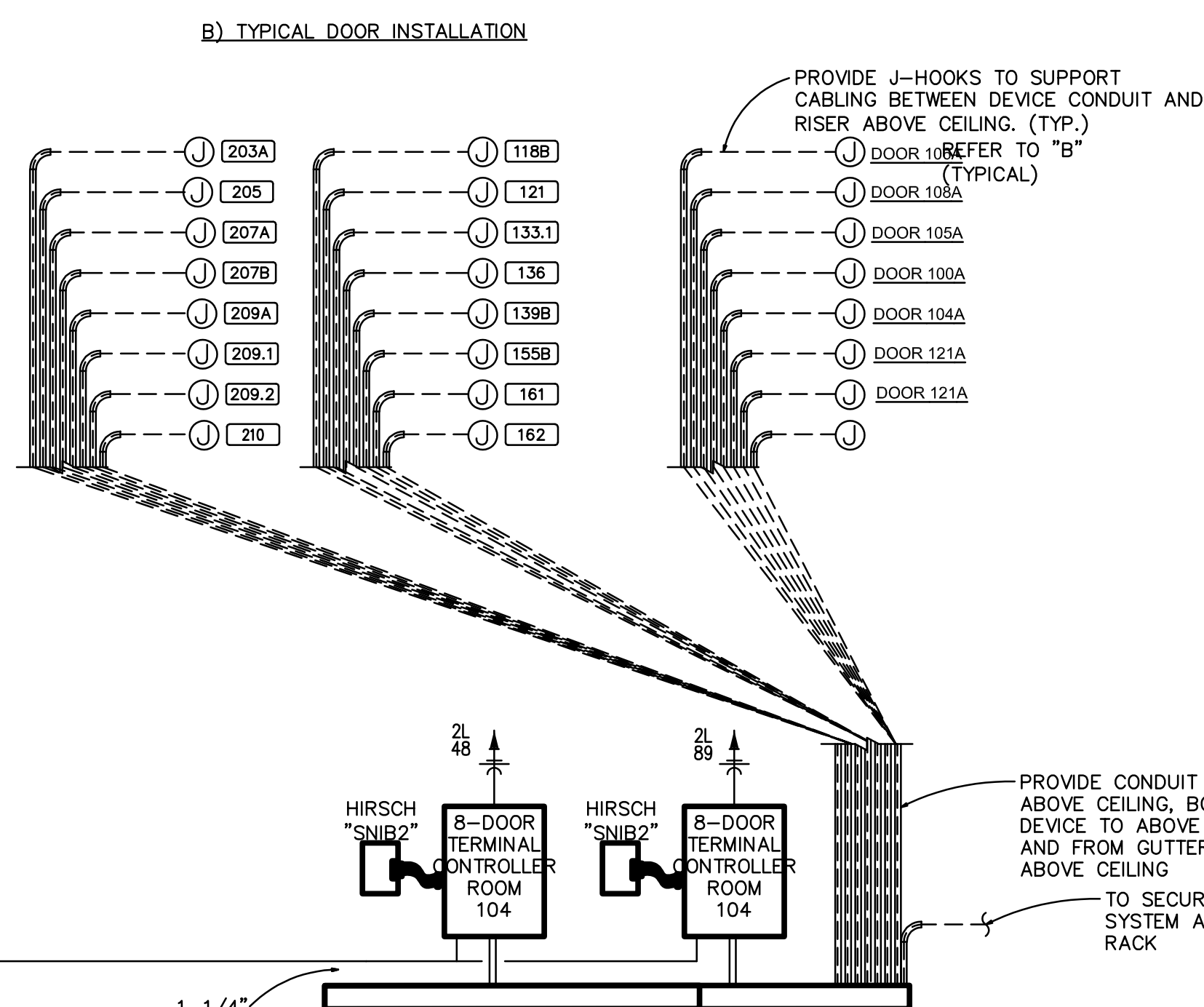
SECURITY EQUIPMENT WIRING LEGEND

1	4 - #22 SHIELDED CARD READER CIRCUIT
2	2 - #18 REQUEST TO EXIT CIRCUIT
3	2 - #22 DOOR CONTACT CIRCUIT

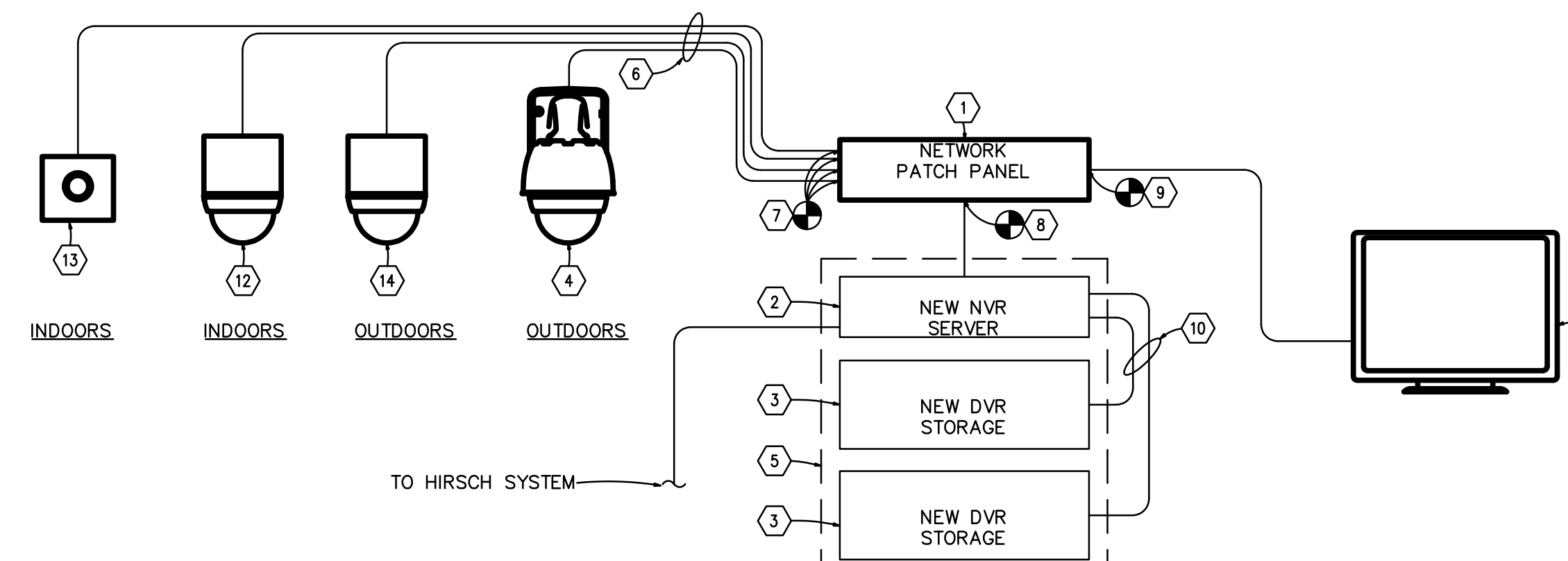
NOTES

- CONTRACTOR SHALL FIELD VERIFY EXISTING NETWORK PATCH PANEL TO SERVE NEW IP SECURITY CAMERA SYSTEM. COORDINATE ALL EXISTING NETWORK REQUIREMENTS AND LOCATION WITH OWNER.
- NEW NETWORK VIDEO RECORDER (NVR) EQUIVALENT TO AMERICAN DYNAMICS VIDEODIG IP NVR, 2U. NEW NETWORK VIDEO RECORDER SHALL COME AS A PRECONFIGURED BUNDLED SERVER PACKAGE INCLUDING SOFTWARE AND LICENSING, AND SHALL BE SUITABLE FOR RACK MOUNTING.
- NEW RAID STORAGE SYSTEM EQUIVALENT TO AMERICAN DYNAMICS 30TB. RAID STORAGE SYSTEM SHALL HAVE A CAPACITY OF 30.0 TB OR HIGHER.
- NEW SECURITY CAMERAS OUTDOORS. SECURITY CAMERAS TO BE EQUIVALENT TO AXIS #215 PTZ-E. PROVIDE WITH VANDAL RESISTANT OUTDOOR PENDANT HOUSING WITH SMOKE COLOR, BASE MOUNT ADAPTER, AND MOUNTING ARM ACCESSORIES REQUIRED SUITABLE FOR MOUNTING ON WALL. SECURITY CAMERAS SHALL BE POWERED BY THE NETWORK ETHERNET CONNECTION. CONFIRM ALL MOUNTING REQUIREMENTS AND ACCESSORIES WITH SECURITY SYSTEM MANUFACTURER.
- CONTRACTOR SHALL PROVIDE NEW COMPONENT RACK FOR MOUNTING NEW NVR SERVER AND RAID STORAGE COMPONENTS AS REQUIRED. CONFIRM SIZE AND TYPE OF RACK WITH SECURITY SYSTEM MANUFACTURER AND COORDINATE WITH OWNER FOR NEW LOCATION OF RACK.
- PROVIDE CAT-6 CABLE OR OTHER TYPE OF CABLE AS REQUIRED BY SECURITY MANUFACTURER FROM NETWORK PATCH PANEL TO NEW SECURITY CAMERAS. CONFIRM ALL CABLE REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
- PROVIDE AND CONNECT NEW CAT-6 CABLE TO NEW NETWORK PATCH PANEL. CONFIRM ALL CABLE TYPE AND REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
- PROVIDE AND CONNECT NEW CAT-6 CABLE FROM NEW NVR SERVER TO NEW NETWORK PATCH PANEL. CONFIRM ALL CABLE TYPE AND REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
- PROVIDE NEW CAT-6 CABLE FROM NEW NVR SERVER AND CONNECT TO EXISTING NETWORK PATCH PANEL. CONFIRM ALL CABLE TYPE AND REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
- IF REQUIRED, CONTRACTOR SHALL PROVIDE NEW CAT-6 CABLE FROM NEW NETWORK PATCH PANEL TO NEW HOST COMPUTER.
- PROVIDE NEW SCSI CABLE FROM NEW NVR SERVER TO NEW RAID STORAGE UNITS. CONFIRM ALL CABLE TYPE AND REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
- NEW HOST COMPUTER TO BE USED FOR INSTALLATION AND CONTROL OF NEW SECURITY SYSTEM SOFTWARE. CONTRACTOR SHALL COORDINATE EXACT LOCATION THAT WILL BE USED TO CONTROL NEW SECURITY SYSTEM WITH OWNER.
- NEW SECURITY CAMERAS INDOORS. SECURITY CAMERAS TO BE EQUIVALENT TO AXIS #215 PTZ. PROVIDE WITH VANDAL RESISTANT INDOOR PENDANT HOUSING WITH SMOKE COLOR, BASE MOUNT ADAPTER, AND MOUNTING ARM ACCESSORIES REQUIRED SUITABLE FOR MOUNTING ON WALL. SECURITY CAMERAS SHALL BE POWERED BY THE NETWORK ETHERNET CONNECTION. CONFIRM ALL MOUNTING REQUIREMENTS AND ACCESSORIES WITH SECURITY SYSTEM MANUFACTURER.
- NEW FIXED SECURITY CAMERAS INDOORS. SECURITY CAMERAS TO BE EQUIVALENT TO AXIS #211M. MOUNTING ARM ACCESSORIES REQUIRED SUITABLE FOR MOUNTING ON WALL. SECURITY CAMERAS SHALL BE POWERED BY THE NETWORK ETHERNET CONNECTION. CONFIRM ALL MOUNTING REQUIREMENTS AND ACCESSORIES WITH SECURITY SYSTEM MANUFACTURER.
- NEW PTZ SECURITY CAMERA OUTDOOR AT LOADING DOCK POLE & LIGHTS. SECURITY CAMERA TO BE 360° IMMERSIVE VIDEO SURVEILLANCE CAMERA. SECURITY CAMERAS SHALL BE POWERED BY THE NETWORK ETHERNET CONNECTION. CONFIRM ALL MOUNTING REQUIREMENTS AND ACCESSORIES WITH SECURITY SYSTEM MANUFACTURER.

- PROVIDE 1/2" EMT CONDUIT STUBBED INTO DOOR FRAME FOR DOOR CONTACT AND REQUEST TO EXIT SENSOR.
- PROVIDE (2) 4 SQ JBOX MOUNTED 42" TO CENTER FROM FINISHED FLOOR ON SECURE AND UNSECURE SIDE OF DOOR. OFFSET JUNCTION BOXES BY 10" HORIZONTALLY TO KEEP READERS FROM INTERFERING WITH EACH OTHER. PROVIDE SINGLE GANG MUD RING SIZED FOR DEPTH OF FINISHED WALL, PROVIDE 1/2" EMT STUBBED TO JUNCTION BOX.
- PROVIDE 1/2" EMT STUBBED INTO DOOR FRAME TO STRIKE POCKET.
- PROVIDE 6"x6"x4" JUNCTION BOX MOUNTED ABOVE FINISHED CEILING AND BELOW CONCRETE DECK. CONNECT ALL EMT CONDUITS TO THIS JUNCTION BOX.
- VERIFY ACCESSIBLE PATHWAY FROM CONDUIT STUB TO SECOND DOOR CONTACT.
- PROVIDE 4 SQ JBOX MOUNTED 42" TO CENTER FROM FINISHED FLOOR ON UNSECURE SIDE OF DOOR. PROVIDE SINGLE GANG MUD RING SIZED FOR DEPTH OF FINISHED WALL, PROVIDE 1/2" EMT STUBBED TO JUNCTION BOX.
- PROVIDE 1/2" EMT STUBBED INTO DOOR FRAME TO 44" AFF FOR ELECTRONIC STRIKE & CARD READER.
- PROVIDE SINGLE GANG JUNCTION BOX MOUNTED 8" FROM FINISHED FLOOR AND 12" FROM DOOR FRAME.
- PROVIDE 4" SQUARE JUNCTION BOX MOUNTED BELOW CONCRETE DECK.



1 ACCESS SYSTEM DETAIL
SCALE: N.T.S.



3 SECURITY SYSTEM RISER DIAGRAM
SCALE: NTS

- GENERAL NOTES:
- THE NEW IP SECURITY SYSTEM DIAGRAM SHOWN MAY OR MAY NOT BE ACCURATE AND ONLY SERVES AS A GUIDE FOR THE SPECIFICATION OF A NEW SECURITY SYSTEM.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE IP SECURITY SYSTEM. ALL REQUIRED EQUIPMENT, ACCESSORIES, CABLE, ETC. SHALL BE PROVIDED BY CONTRACTOR AND SHALL BE DETERMINED BASED ON WHICH MANUFACTURER WILL BE SPECIFIED.
 - REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR NEW SECURITY SYSTEM.

Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146

01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION

SPECIAL SYSTEMS DETAILS
E-420
SHEET 99 OF 102



1627 MAIN STREET, SUITE 600
KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100
KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300
KANSAS CITY, MO 64108

KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



Cory Wilson - MO #PE-201009576
Certificate of Authority - MO #2024005146

01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK DATE DESCRIPTION

PROJECT NO: 2403

CAD DWG FILE: Lee's Summit - Hangar 2.rvt

DESIGNED BY: SH

DRAWN BY: OH

CHECKED BY: AF

APPROVED BY: TWD

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SHEET TITLE

ELECTRICAL
SCHEDULES

E-500

SHEET OF

LIGHTING FIXTURE SCHEDULE

R	MANUFACTURER	MODEL	DESCRIPTION	LAMP			DIMMING	COMMENTS
				TYPE	CCT	VA		
A	COOPER LIGHTING	Z29RLDZ-56-CUNV-L835-CD1-U	RECESSED 2X2 DIRECT/INDIRECT TROFFER	LED	3500 K	50	UNV	0-10V
AE	COOPER LIGHTING	Z29RLDZ-56-CUNV-L835-CD1-U-E1	RECESSED 2X2 DIRECT/INDIRECT TROFFER	LED	3500 K	50	UNV	0-10V
B	COOPER LIGHTING	LDSQ4D-358-90-35-D010	4" SQUARE DOWNLIGHT	LED	3500 K	33	UNV	0-10V
BE	COOPER LIGHTING	LDSQ4D-358-90-35-D010-EM7	4" SQUARE DOWNLIGHT	LED	3500 K	33	UNV	0-10V
C	METALUX	4SN-46SL-SLW-UNV-L835-CD-1	LED STRIPLIGHT	LED	3500 K	33	UNV	0-10V
D	BUZZSPACE	BUZZ2ETL	DECORATIVE PENDANT	LED	3500 K	70	UNV	0-10V
D2	BUZZSPACE	BUZZ2LFT-XL	DECORATIVE PENDANT	LED	3500 K	70	UNV	0-10V
E	EUREKA	4256-24-LED-25-60-120V-OV	DECORATIVE PENDANT	LED	3500 K	33	120 V	0-10V
EME	<varies>	<varies>	<varies>	LED	4000 K	45	<varies>	<varies>
EX1	COOPER LIGHTING	LPX SERIES EDGE-LIT	EXIT SIGN	LED	3500 K	5	UNV	N/A
F	EUREKA	3409-LED-4-35-90-120-DV-BLK-CFR	SURFACE MOUNT PENDANT	LED	3500 K	5	120 V	0-10V
G	EUREKA	3450-LED-35-90-120-DV-BLK	SURFACE MOUNT PENDANT	LED	3500 K	5	120 V	0-10V
H	AXIS LIGHTING	B2SQSLD-1000-80-35-SO-5-DIMLED-BLK-UNV-OP-1	SURFACE MOUNT LINEAR FIXTURE	LED	3500 K	43	UNV	0-10V
HE	AXIS LIGHTING	B2SQSLD-1000-80-35-SO-5-DIMLED-BLK-UNV-OP-E1	SURFACE MOUNT LINEAR FIXTURE	LED	3500 K	43	UNV	0-10V
I	AXIS LIGHTING	GPSLED-NL-300-80-3500-FL-BLK-UNV-OP	SURFACE MOUNT WALL GRAZE FIXTURE	LED	3500 K	40	UNV	0-10V
J	COOPER LIGHTING	HCSQ4-40-D010-HM-390-835	EXTERIOR DOWNLIGHT	LED	4000 K	43	120 V	0-10V
JE	COOPER LIGHTING	HCSQ4-40-D010-EMOS-HM-390-835	EXTERIOR DOWNLIGHT	LED	4000 K	43	UNV	0-10V
K	BEGA	B50539-K35-B13183	DECORATIVE PENDANT	LED	3500 K	20	120 V	0-10V
L	BUZZSPACE	BUZZPROP LED PENDANT LIGHT	DECORATIVE PENDANT	LED	3000 K	20	120 V	N/A
M	COOPER LIGHTING	LDSQ4D-358-90-35-D010	2" SQUARE DOWNLIGHT	LED	3500 K	22	UNV	0-10V
SL1	KIM LIGHTING	PATRF1-CH-3-12-020-4TK-4MR-320-BLT-UNV	SITE BOLLARD	LED	4000 K	43	120 V	0-10V
SL2	KIM LIGHTING	CY2-45-4K9-2-SP-3-UNV-BLT-F-LFSW	SITE UP/DOWN LIGHT	LED	4000 K	52	UNV	N/A
SL3	KIM LIGHTING	ALT2-100L160-4K9-3-UNV-ASQ-BLT	SITE LIGHTING POWER POLE	LED	4000 K	160	UNV	0-10V
SL4	KIM LIGHTING	ALT2-100L160-4K9-4-UNV-ASQ-BLT	SITE LIGHTING POWER POLE	LED	4000 K	160	UNV	0-10V
T	PURE EDGE	SS2C-24-40K-W	OUTDOOR LED STRIP	LED	4000 K	50	120 V	0-10V

LIGHTING FIXTURE SCHEDULE NOTES:

- EQUALS BY LITHONIA, HUBBELL, LSI, ACUTY.
- DECORATIVE PENDANT EQUAL REQUIRES APPROVAL BY ARCHITECT PRIOR TO SUBMITTAL.

LIGHTING CONTROL SEQUENCE

SPACE TYPE / ROOM NAME	CONTROLS															SEQUENCE OF OPERATIONS	NOTES / OTHER COMMENTS		
	LINE VOLT MANUAL SWITCH	LINE VOLT WALL SWITCH	LOW VOLT WALL SWITCH	LOW VOLT DIMMING WALL SWITCH	PHOTOSENSOR ON/OFF	ASTRONOMIC TIME CLOCK PERMISSION	MANUAL ON ONLY	OCCUPANCY SENSOR 30% AUTO ON	OCCUPANCY SENSOR 50% AUTO ON	OCCUPANCY SENSOR 100% AUTO ON	BE-LEVEL SENSOR ON/OFF	OPERATING HOURS SCHEDULE	OPERATING HOURS 25% AUTO ON	OPERATING HOURS 50% AUTO ON	OPERATING HOURS 75% AUTO ON			DAYLIGHT SENSOR DIMMING	WIRING DIAGRAM REFERENCE
EXTERIOR - PARKING					X	X												1	BI-LEVEL SENSOR FROM 11 PM TO 5 PM
EXTERIOR - BUILDING					X	X												1	50% LEVEL FROM 11 PM TO 5 AM
EXTERIOR - SIGNAGE					X	X												1	
EXTERIOR - CANOPY					X	X												1	
QUIETWAITING & PILOT LOUNGE					X												E400	2	
PRIVATE OFFICE / WORK ROOM	X							X	X	X								2	
CONCOURSE					X												E400	3,4,11	
RECEPTION COUNTER					X				X	X							E400	2,4	
CAFE/VENDING					X				X	X	X						E400	2,3,11	
ENTRY					X	X		X	X	X	X	X	X	X			E400	5,11	
ENTRY STAIRS					X	X		X	X	X	X	X	X	X			E400	5,6,11	
CONFERENCE					X				X	X							E400	2,7	
ELECTRICAL / MECHANICAL / IT	X																		
LARGE STORAGE / JANITOR					X				X	X							E400	8	
SMALL STORAGE					X				X	X								8	
VESTIBULES									X	X	X	X	X	X	X	X	E400	5,11	
PUBLIC RESTROOMS									X	X							E400	8	
PRIVATE RESTROOMS / JANITOR	X								X	X								8	
MEZZANINE					X				X	X					X		E400	9	
LINE SERVICE / LOCKER					X					X	X	X	X	X			E400	6,9	
WORK ROOM / BREAK ROOM					X				X	X	X	X	X	X			E400	6,10,11	
CORRIDORS									X	X	X	X	X	X				5,11	

SEQUENCE OF OPERATIONS

- TIME CLOCK PERMISSION ON FROM 4 PM TO 9 AM. PHOTOSENSOR ON AND OFF. DIMMING AND BI-LEVEL FUNCTIONALITY AS DESCRIBED IN COMMENTS.
- OCCUPANCY SENSOR 50% ON. TASK LIGHTS MANUAL ON AT LOCAL SWITCH, IF APPLICABLE. ALL LIGHTS OCCUPANCY SENSOR OFF.
- TIME PERMISSIONS. DURING OPERATING HOURS, LIGHT LEVELS ON AT 25% AND AUTO RAISE TO 50% WHEN OCCUPIED. AFTER HOURS, LIGHTS OFF WHEN UNOCCUPIED, AUTO ON TO 50% WHEN OCCUPIED.
- PRESENTATION SETTING DIMS ALL LIGHTS TO 50% AND TURNS OFF ZONE ADJACENT TO PRESENTATION SCREEN.
- TIME PERMISSIONS. DURING OPERATING HOURS, LIGHT LEVELS ON AT 50% AND AUTO RAISE TO 100% WHEN OCCUPIED. AFTER HOURS, LIGHTS OFF WHEN UNOCCUPIED, AUTO ON TO 100% WHEN OCCUPIED.
- DAYLIGHT CONTROLS. DIM LIGHTING, LINEARLY, STARTING AT 100% OUTPUT AT 40 FC TO 0% OUTPUT AT 120 FC. EVALUATE ACTUAL LIGHT LEVELS AND CALIBRATE SETTINGS PER SPECIFICATIONS.
- PRESENTATION SETTING DIMS LINEAR PENDANT TO 10% AND TURNS OFF DOWNLIGHTS.
- OCCUPANCY SENSOR 100% ON. ALL LIGHTS OCCUPANCY SENSOR OFF.
- TIME PERMISSIONS. DURING OPERATING HOURS, LIGHT LEVELS ON AT 33% AND AUTO RAISE TO 100% WHEN OCCUPIED. AFTER HOURS, LIGHTS OFF WHEN UNOCCUPIED, AUTO ON TO 33% WHEN OCCUPIED.
- TIME PERMISSIONS. DURING OPERATING HOURS, LIGHT LEVELS ON AT 50%. AFTER HOURS, LIGHTS OFF WHEN UNOCCUPIED, AUTO ON TO 55% WHEN OCCUPIED.
- SPACE CONTROLS NETWORKED TO RELAY PANEL 'RP1' FOR TIME CLOCK FUNCTIONALITY.

CONDUIT APPLICATION SCHEDULE

APPLICATION	MATERIAL	FITTING TYPE (IF APPLICABLE)	NOTES
SERVICE ENTRANCE CONDUIT ABOVE GRADE ONLY	RIGID STEEL	-	-
FEDERS ABOVE GRADE	EMT	COMPRESSION	-
ALL BRANCH CIRCUITS FOR LIGHTING AND POWER	EMT	COMPRESSION	-
ALL HVAC EQUIPMENT, SUPPLY/EXHAUST FANS AND MOTORS	EMT	COMPRESSION	-
LIGHT FIXTURE WHIPS LIMITED TO 5'-0" IN LENGTH	MC CABLE	-	CU ONLY
UNDERGROUND TELEPHONE SERVICE	PVC	-	-
UNDERGROUND CABLE TV / INTERNET	PVC	-	-
SERVICE ENTRANCE CONDUIT BELOW GRADE WHERE NOT BELOW PAVED AREA	SCH 40 PVC	-	2
BRANCH CIRCUITS BELOW GRADE	PVC	-	1
LINE VOLTAGE THERMOSTAT / CONTROL WIRING	EMT	COMPRESSION	-
T-STAT WIRING OR CONTROL WIRING IN WALLS AND IN AREAS WITHOUT CEILINGS	EMT	COMPRESSION	-
FIRE ALARM CABLING (POWER-LIMITED, FIRE-PROTECTIVE, SIGNALING CIRCUIT CABLE)	EMT	COMPRESSION	-
DATA/TELEPHONE CABLING WHERE CEILINGS INSTALLED	OPEN/CABLE TRAY	-	3
INTERCOMSECURITY SYSTEM	OPEN	-	3

- TRANSITION TO EMT SHALL BE MADE PRIOR TO COMING UP FROM BELOW GRADE
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN UTILITY COMPANY REQUIREMENTS FOR PRIMARY SERVICE AND ENCASE IN CONCRETE IF REQUIRED
- WHERE CEILINGS EXIST, WIRING CAN BE OPEN, PLENUM-RATED WIRING. IN AREAS WITHOUT A CEILING, EMT CONDUIT IS REQUIRED.

DISCONNECT SWITCH SCHEDULE

TAG NO.	EQUIPMENT SERVED	VOLTS	DUTY	SWITCH			FUSE			ENCLOSURE NEMA TYPE	NOTES
				AMPS	POLE	TYPE	AMP	POLE	TYPE		
DS-1	ROOF HEAT PUMP "CU-1"	208	HD	60	2	-	-	-	-	NEMA 3R	L,GB
DS-2	ROOF HEAT PUMP "CU-2"	208	HD	60	2	-	-	-	-	NEMA 3R	L,GB
DS-3	ROOF HEAT PUMP "CU-2"	208	HD	60	2	-	-	-	-	NEMA 3R	L,GB

ABBREVIATIONS:
HD - HEAVY DUTY
GD - GENERAL DUTY
GB - GROUND BAR
SN - SOLID NEUTRAL
L - LOCKABLE
EQUIVALENT MANUFACTURERS BY SQUARE D, GE, SIEMENS, EATON

SS - STAINLESS STEEL MUST TIGHT
GD - GENERAL DUTY
GB - GROUND BAR
SN - SOLID NEUTRAL
L - LOCKABLE

*NOTE: ALL EQUIPMENT SHALL BE LABELED PER SPECS WITH PLASTIC ENGRAVED TAGS

FLOOR BOX DEVICE SCHEDULE

TAG NO.	MAKE	MODEL				POWER		COMM	AUDIO VISUAL	NOTES	
		MODEL	COLOR	MANUF	COVER	QTY	DEPTH				
FB-1	EVOLUTION RFB4-C1-1	BRUSHED N BLACK	WIREMOLD	S40CCTCAL	CHT-D	2	3"	CLT4TKO-4RJ	CENTER	AV	CS,LF,CT,LVD

ABBREVIATIONS
FR - FIRE RATED
CS - CONCEALED SERVICE
LF - LEVELING FEET
CT - CARPET TILE FLANGE KIT, BA FINISH TRIM, CARPET INSERT
LVD - LOW VOLTAGE DIVIDER

AV - AV PLATE CHLT-B BLANK INSERT WITH VGA AND HDMI CONNECTIONS (WIRING JACKS BY CONTRACTOR)

*REFER TO SPECIFICATIONS FOR EQUIVALENT MANUFACTURERS.

BRANCH CIRCUIT COPPER CONDUCTOR AND CONDUIT SIZE

OVERCURRENT PROTECTION DEVICE RATING (AMPS)	REQUIRED CONDUCTOR SIZE	EQUIPMENT GROUNDING CONDUCTOR SIZE	SINGLE PHASE 2 WIRE + GND CONDUIT SIZE	SINGLE PHASE 3 WIRE + GND CONDUIT SIZE (where noted on circuit)	THREE PHASE 3 WIRE + GND CONDUIT SIZE	THREE PHASE 4 WIRE + GND CONDUIT SIZE (where noted on circuit)
15	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
20	12 AWG	12 AWG	3/4"	3/4"	3/4"	3/4"
25	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
30	10 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
35	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
40	8 AWG	10 AWG	3/4"	3/4"	3/4"	3/4"
45	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
50	6 AWG	10 AWG	3/4"	3/4"	3/4"	1"
60	4 AWG	10 AWG	1"	1"	1"	1-1/4"
70	4 AWG	8 AWG	1"	1"	1"	1-1/4"
80	3 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
90	2 AWG	8 AWG	1"	1-1/4"	1-1/4"	1-1/4"
100	1 AWG	8 AWG	1-1/4"	1-1/2"	1-1/2"	1-1/2"

- * UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ** CONDUIT SIZE DOES NOT APPLY TO "MC" CABLE.

LIGHTING CONTROL AND DLM DEVICE SCHEDULE

TYPE	MOUNTING	TYPE	MANUFACTURER MODEL NO.	COVERAGE	COLOR	NOTES
LC1	STRUCTURE (ABOVE ACCESSIBLE CEILING WHERE CEILING EXISTS)	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) PLENUM RATED CONTROLLER WITH LINE VOLTAGE RELAY(S) AND ON/OFF POWER SUPPLY COMPONENT OF DIGITAL LIGHTING MANAGEMENT SYSTEM CONNECT TO COMPONENTS WITH CAT5E CABLES WITH RJ45 CONNECTORS	WATTSTOPPER LMRC-102	PER ROOM	N/A	1,3
LXD	STRUCTURE (ABOVE ACCESSIBLE CEILING WHERE CEILING EXISTS)	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) PLENUM RATED CONTROLLER WITH LINE VOLTAGE RELAY(S) AND ON/OFF 0-10V DIMMING POWER SUPPLY COMPONENT OF DIGITAL LIGHTING MANAGEMENT SYSTEM CONNECT TO COMPONENTS WITH CAT5E CABLES WITH RJ45 CONNECTORS PROVIDE 0-10V CONTROL SIGNAL TO DIMMABLE FIXTURES.	WATTSTOPPER LD1 = LMRC-211 LD2 = LMRC-212 LD3 = LMRC-213	PER ROOM	N/A	1,3
S2	WALL	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) LOW VOLTAGE PUSHBUTTON SWITCH TWO BUTTONS AS FOLLOWS: "OFF", "1"	WATTSTOPPER LMSW-102	PER ROOM / ZONE	GREY	2,3
S3	WALL	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) LOW VOLTAGE PUSHBUTTON SWITCH THREE BUTTONS AS FOLLOWS: "OFF", "1", "2"	WATTSTOPPER LMSW-103	PER ROOM / ZONE	GREY	2,3
S4	WALL	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) LOW VOLTAGE PUSHBUTTON SWITCH FOUR BUTTONS AS FOLLOWS: "OFF", "1", "2", "3"	WATTSTOPPER LMSW-104	PER ROOM / ZONE	GREY	2,3,4
S5	WALL	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) LOW VOLTAGE PUSHBUTTON SWITCH FIVE BUTTONS AS FOLLOWS: "OFF", "1", "2", "3", AND DIMMING.	WATTSTOPPER LMSW-105	PER ROOM / ZONE	GREY	2,3
OS	CEILING	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) DUAL TECHNOLOGY ULTRASONIC AND PASSIVE INFRARED DIGITAL CEILING SENSOR BY WATTSTOPPER	WATTSTOPPER CEILING MOUNT: LMDC-100 CORNER MOUNT: LMDX-100 GYMNASIUM: HBL4 LENS WITH WC	1000 SQFT	WHITE	3,4
OS HIGHBAY	CEILING	DIGITAL PASSIVE INFRARED CEILING SENSOR WITH 360 DEG PATTERN COMPONENT OF DIGITAL LIGHTING MANAGEMENT INTEGRATED CONTROL SYSTEM	WATTSTOPPER LMPC-100-5	1000 SQFT	WHITE	3
DS	CEILING	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) SINGLE ZONE SWITCHING AND DIMMING CLOSED LOOP DIGITAL PHOTOSENSOR	WATTSTOPPER LMLS-400		WHITE	3,4
ELT	WALL MOUNTED	EMERGENCY LIGHTING CONTROL TRANSFER SWITCH TRANSFERS LIGHTING LOADS TO EMERGENCY POWER SOURCE UPON LOSS OF POWER. BYPASSES LIGHTING CONTROLS ON NORMAL POWER CIRCUIT. UL924. PROVIDE WITH TEST SWITCH ACCESSORY.	BODINE GTD OR EQUAL AS APPROVED	PER ROOM OR ZONE	N/A	
S091	WALL	LINE VOLTAGE OCCUPANCY SENSOR WALL SWITCH PASSIVE INFRARED	WATTSTOPPER PW-101	PER ROOM	GREY	3
S092	WALL	LINE VOLTAGE OCCUPANCY SENSOR WALL SWITCH PASSIVE INFRARED, DUAL RELAY	WATTSTOPPER PW-200			

**KC - LEE'S SUMMIT REGIONAL
LEE'S SUMMIT, MISSOURI**
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146
01-02-2025

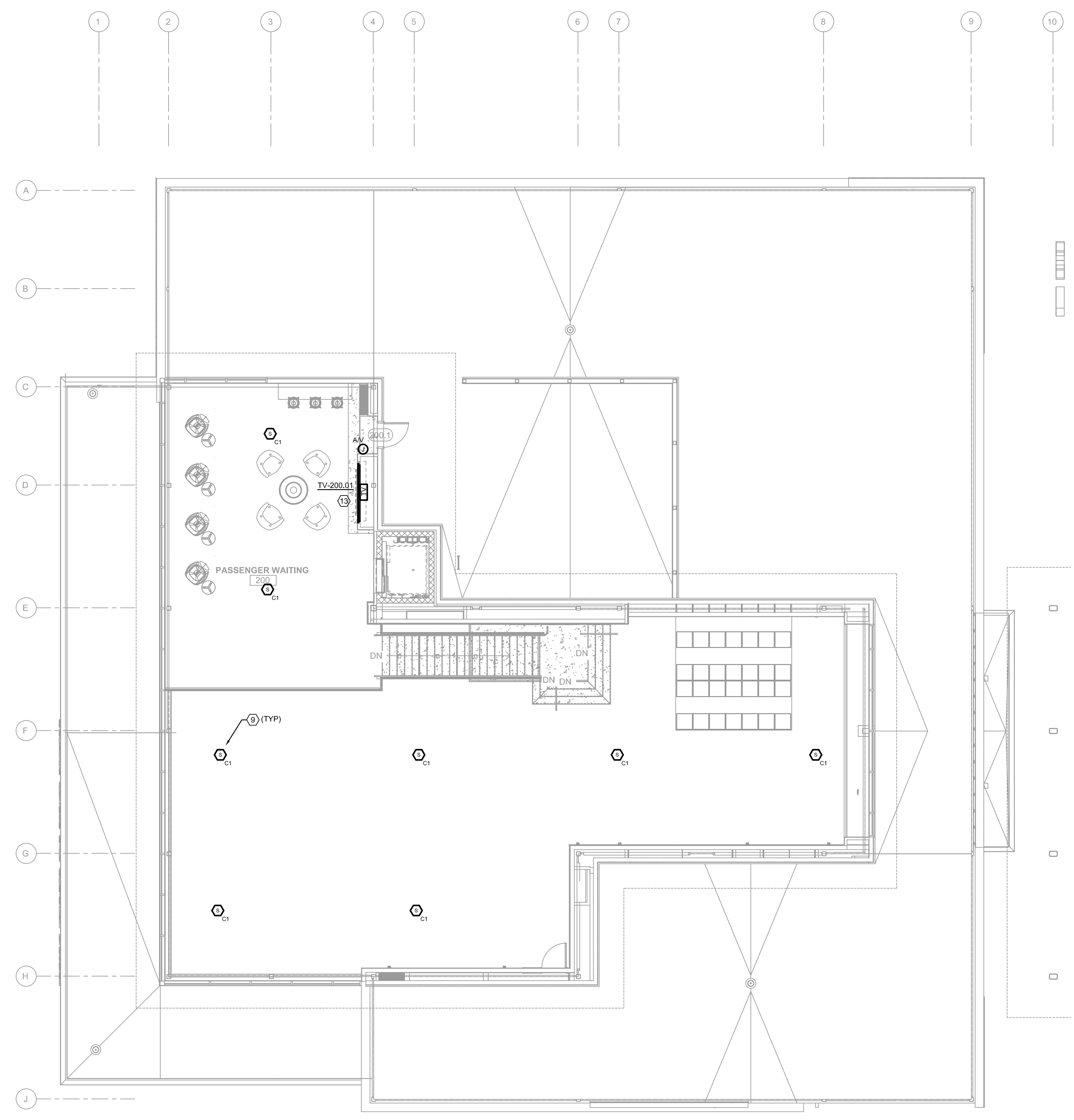
LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION
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CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt	
DESIGNED BY:	CMW	
DRAWN BY:	DM	
CHECKED BY:	WAI	
APPROVED BY:	Approver	
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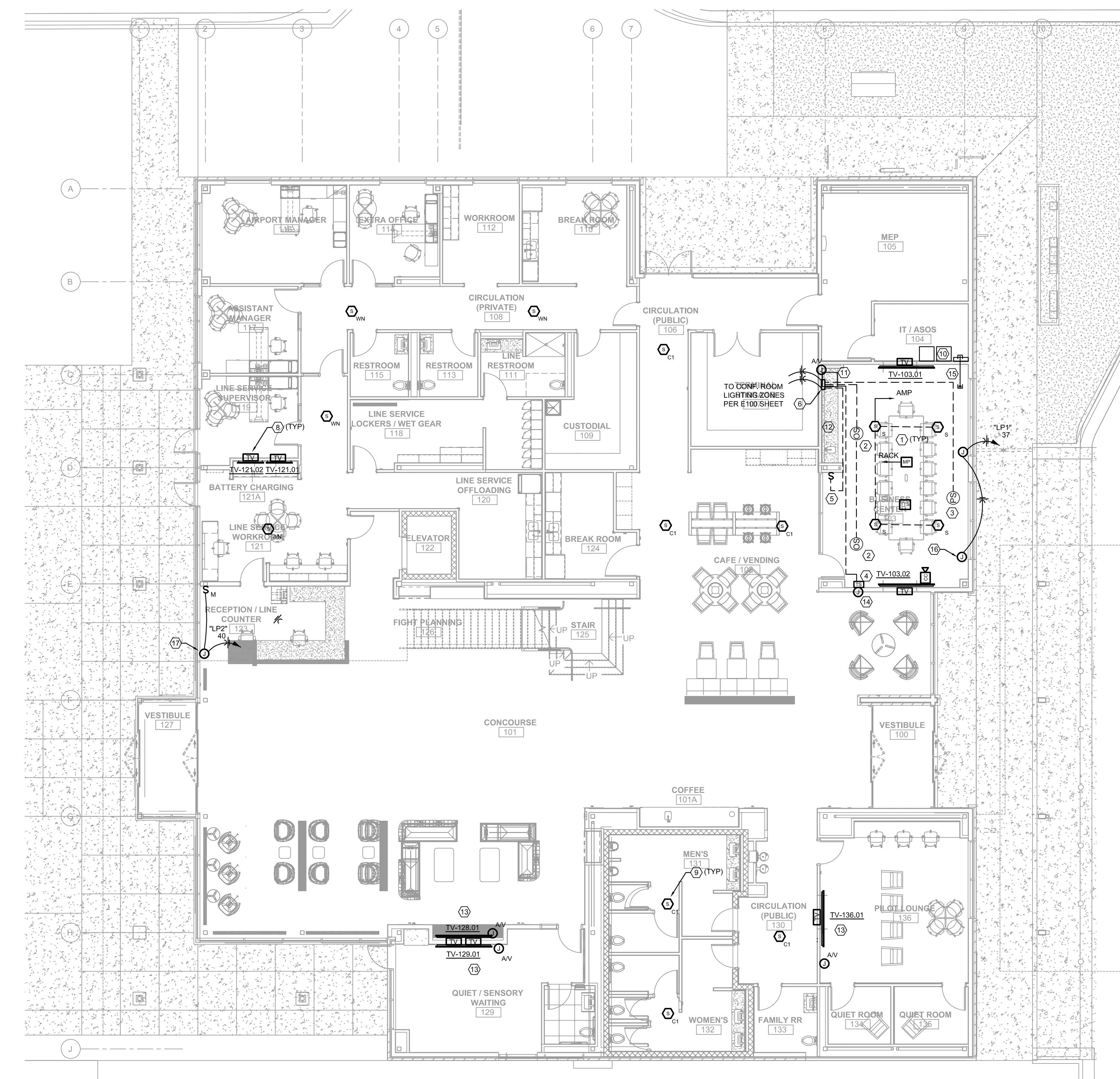
AUDIO/VISUAL SYSTEMS PLAN

PLAN NOTES:

- 1 PROVIDE CRESTRON GREEN LIGHT INTEGRATED LIGHTING SYSTEM FOR CONFERENCE ROOM. INTEGRATE SYSTEM WITH CRESTRON AV SYSTEM. PROVIDE ALL WIRING DEVICES AND COMPONENTS NECESSARY FOR A COMPLETE FUNCTIONAL SYSTEM. REFER TO DETAIL ON AV300.
- 2 PROVIDE CRESTRON DUAL TECH CEILING MOUNT OCCUPANCY SENSOR GLS-ODT-C-1000.
- 3 PROVIDE CRESTRON DAYLIGHT SENSOR GLS-LCL. MOUNT SENSOR LOCATION PER MANUFACTURERS RECOMMENDATIONS.
- 4 PROVIDE CRESTRON 5.7" WALL MOUNT TOUCH SCREEN PANEL TPS-6L.
- 5 PROVIDE CRESTRON GAMED KEYPAD AND DECORA FACEPLATE C2N-CBD-TS (C86-6TN).
- 6 PROVIDE CRESTRON GREEN LIGHT INTEGRATED DIMMABLE CONTROLLER GLPAC-DIMFLV8 ABOVE CEILING.
- 7 PROVIDE A 2" CONDUIT WITH PULL STRING STUBBED ABOVE ACCESSIBLE CONFERENCE ROOM TO AV CABINET IN CENTRAL CLOSET.
- 8 LEGRAND TV ROUGH-IN BOX FURNISHED BY ELECTRICAL CONTRACTOR. UTILIZE LOW VOLTAGE SECTION FOR ANY COMMUNICATION CABLING JACKS AND AV ROUGH-IN. SEE POWER/SPECIAL SYSTEMS PLANS.
- 9 TYPICAL WHITE NOISE - MUSAK CEILING SPEAKER. REFER TO RISER DIAGRAM AND ALL CABLING WORK. IN UPPER CEILING ENSURE THESE ARE INSTALLED IN THE BLACK PAN. SPEAKER TO BE BLACK.
- 10 WALL MOUNTED CABINET FOR PA SPEAKERS AND ADJACENT CABINET FOR CRESTRON SYSTEM. CRESTRON CABINET TO BE MINIMUM 12U WITH LOCKABLE DOOR.
- 11 UNDERCABINET AV RACK FOR CRESTRON AND INPUT DEVICES.
- 12 REFER TO AV WALL ELEVATION FOR ROUGH-IN REQUIREMENTS (103)
- 13 REFER TO AV WALL ELEVATION FOR ROUGH-IN REQUIREMENTS (TYPICAL STANDALONE TV)
- 14 PROVIDE CUSTOM BACKBOX AND 1" CONDUIT TO ABOVE ACCESSIBLE CEILING FOR CRESTRON 7" AV SCREEN.
- 15 PROVIDE A 2" CONDUIT WITH PULL STRING STUBBED ABOVE ACCESSIBLE CONFERENCE ROOM FROM AV CABINET IN CENTRAL CLOSET.
- 16 120V CIRCUIT FOR MOTORIZED SHADES TO BE CONTROLLED BY CRESTRON SYSTEM VIA RELAY.
- 17 120V CIRCUIT FOR MOTORIZED SHADES TO BE CONTROLLED FROM MOMENTARY DECORA SWITCH (UP/DOWN/STOP).



2 AUDIO/VISUAL SYSTEMS PLAN - LEVEL 2
SCALE: 1/8"=1'-0"



1 AUDIO/VISUAL SYSTEMS PLAN - LEVEL 1
SCALE: 1/8"=1'-0"

**KC - LEE'S SUMMIT REGIONAL
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01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

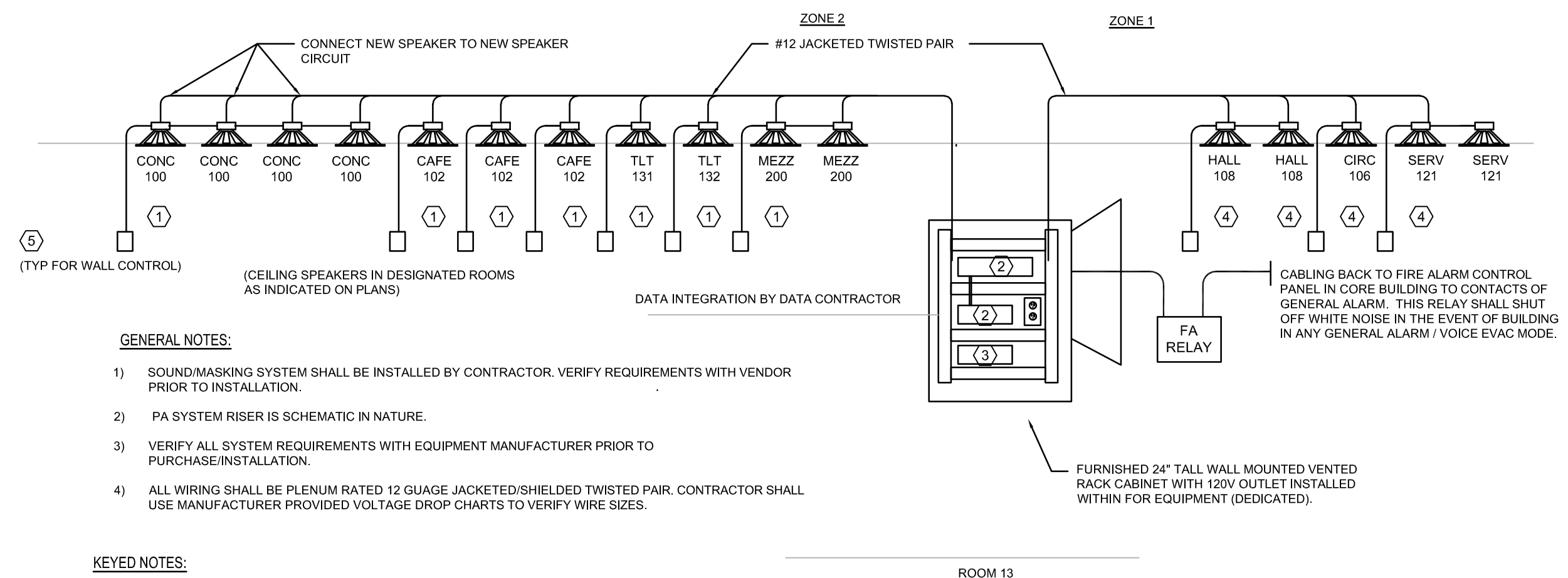
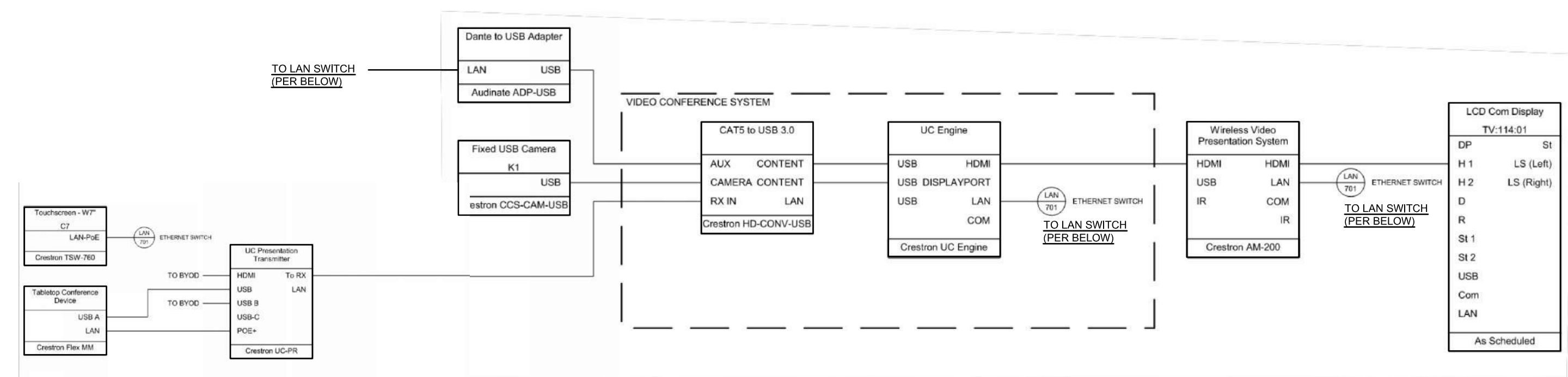
MARK DATE DESCRIPTION

PROJECT NO:	2403
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt
DESIGNED BY:	CMW
DRAWN BY:	DM
CHECKED BY:	WAI
APPROVED BY:	Approver
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**AUDIOVISUAL
DETAILS**

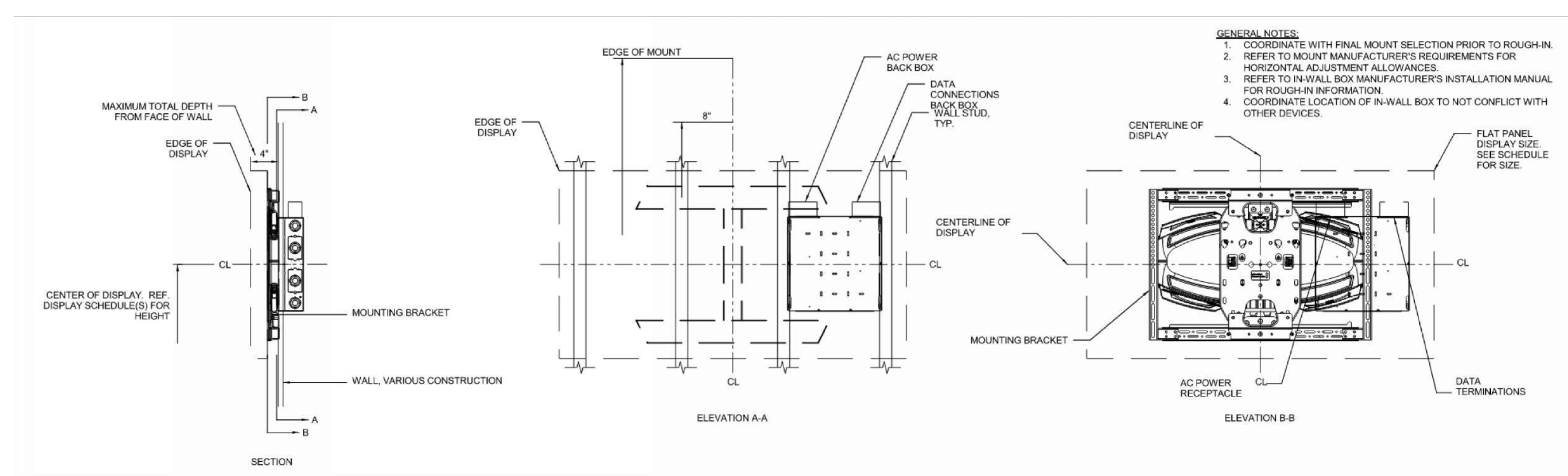
AV400

SHEET 103 OF 102

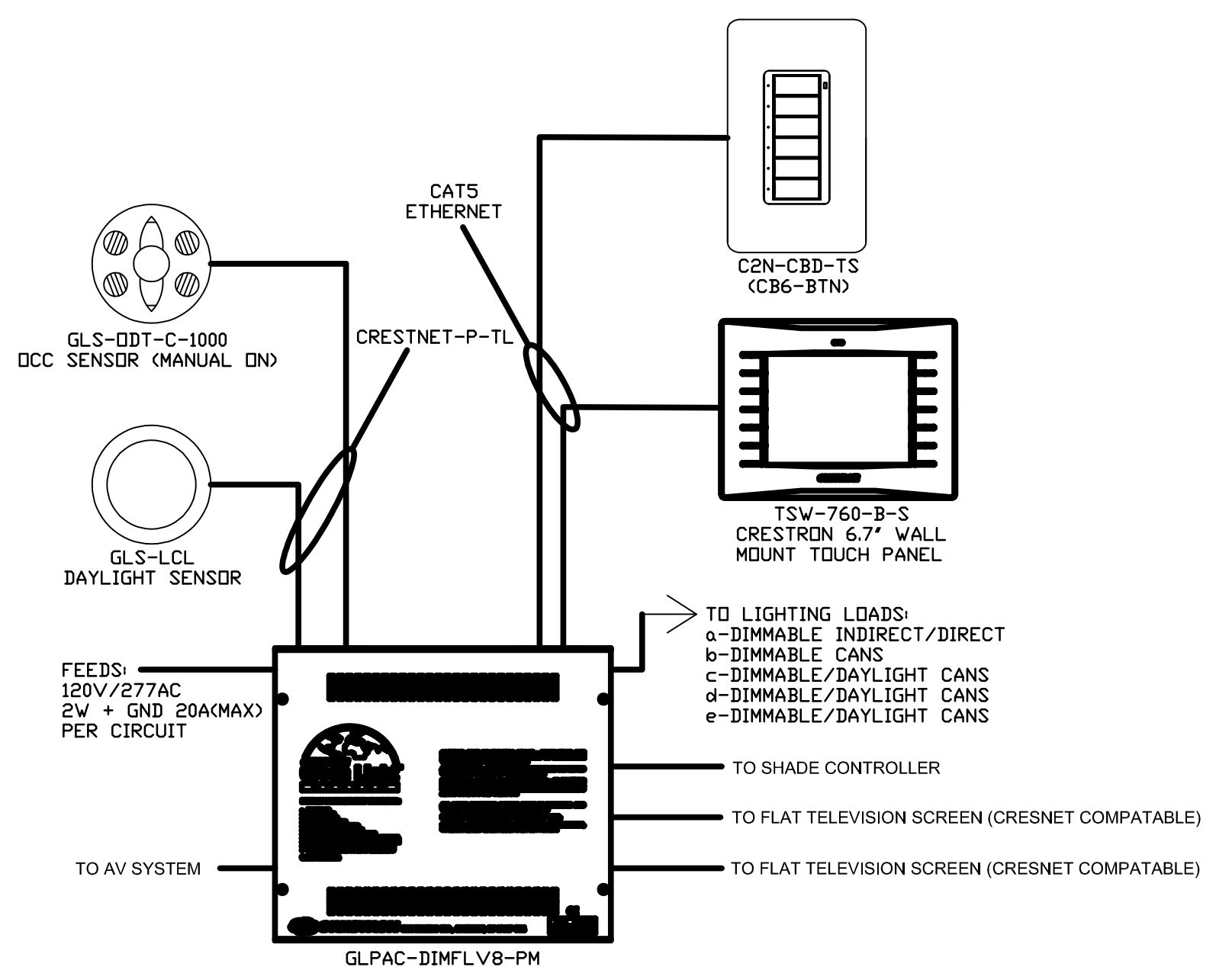


- GENERAL NOTES:**
- SOUNDMASKING SYSTEM SHALL BE INSTALLED BY CONTRACTOR. VERIFY REQUIREMENTS WITH VENDOR PRIOR TO INSTALLATION.
 - PA SYSTEM RISER IS SCHEMATIC IN NATURE.
 - VERIFY ALL SYSTEM REQUIREMENTS WITH EQUIPMENT MANUFACTURER PRIOR TO PURCHASE/INSTALLATION.
 - ALL WIRING SHALL BE PLENUM RATED 12 GAUGE JACKETED/SHIELDED TWISTED PAIR. CONTRACTOR SHALL USE MANUFACTURER PROVIDED VOLTAGE DROP CHARTS TO VERIFY WIRE SIZES.
- KEYED NOTES:**
- NEW 70V LAY-IN SPEAKER, BOGEN HFCS1LP OR EQUAL BY ATLAS SOUND.
 - BOGEN AMPLIFIER X300W AND DIGITAL INPUT ACCESS MODULE TAM822PS.
 - WHITE NOISE GENERATOR EQUAL TO ATLAS SOUND TSD-GPN1200 WITH POWER SUPPLY AND TSD-RNK 1RU RACK.
 - WHITE NOISE SPEAKER EQUAL TO ATLAS SOUND M1000R-W (WHITE).
 - ROOM SOUND CONTROL FOR EVERY SPEAKER ZONE EQUAL TO ATLAS MODEL A110 (OR COMPATIBLE) OR BOGEN CSRVIC.

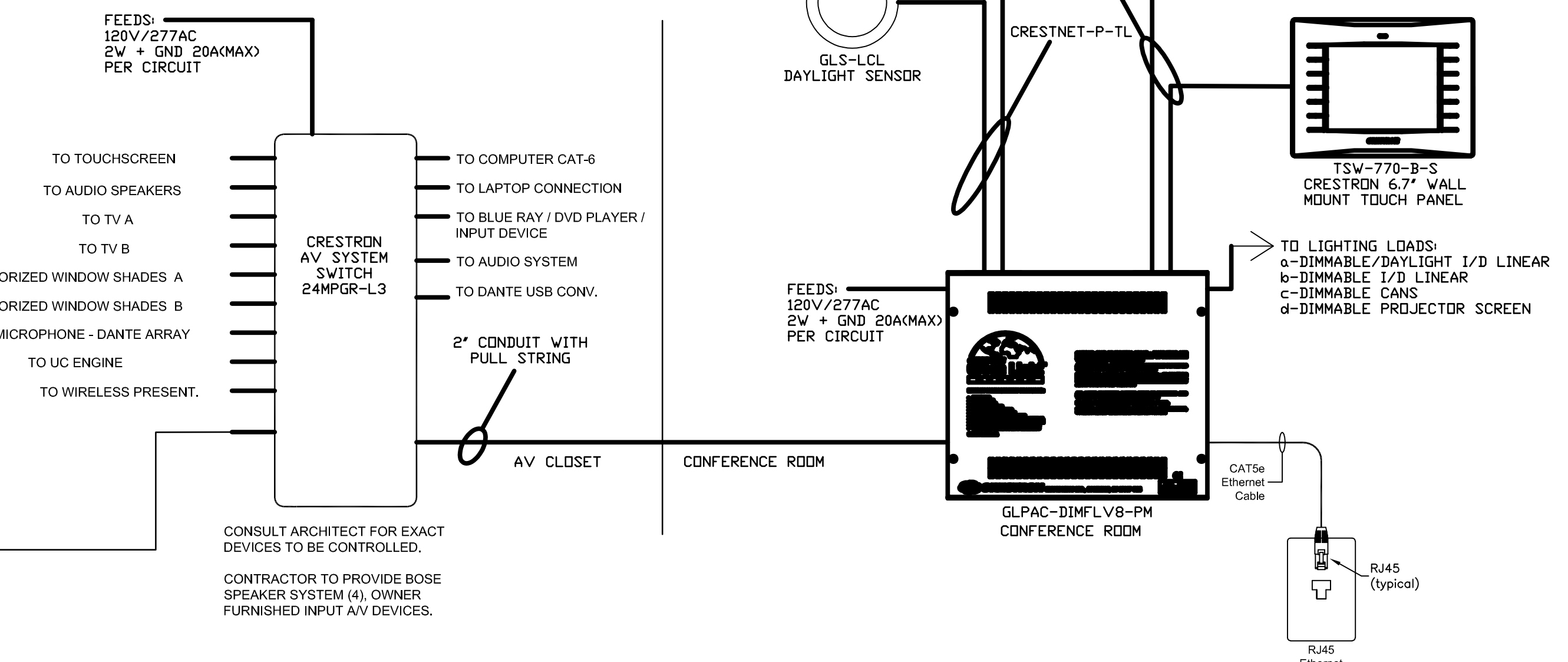
5 PA WHITE NOISE SPEAKER DIAGRAM
SCALE: NTS



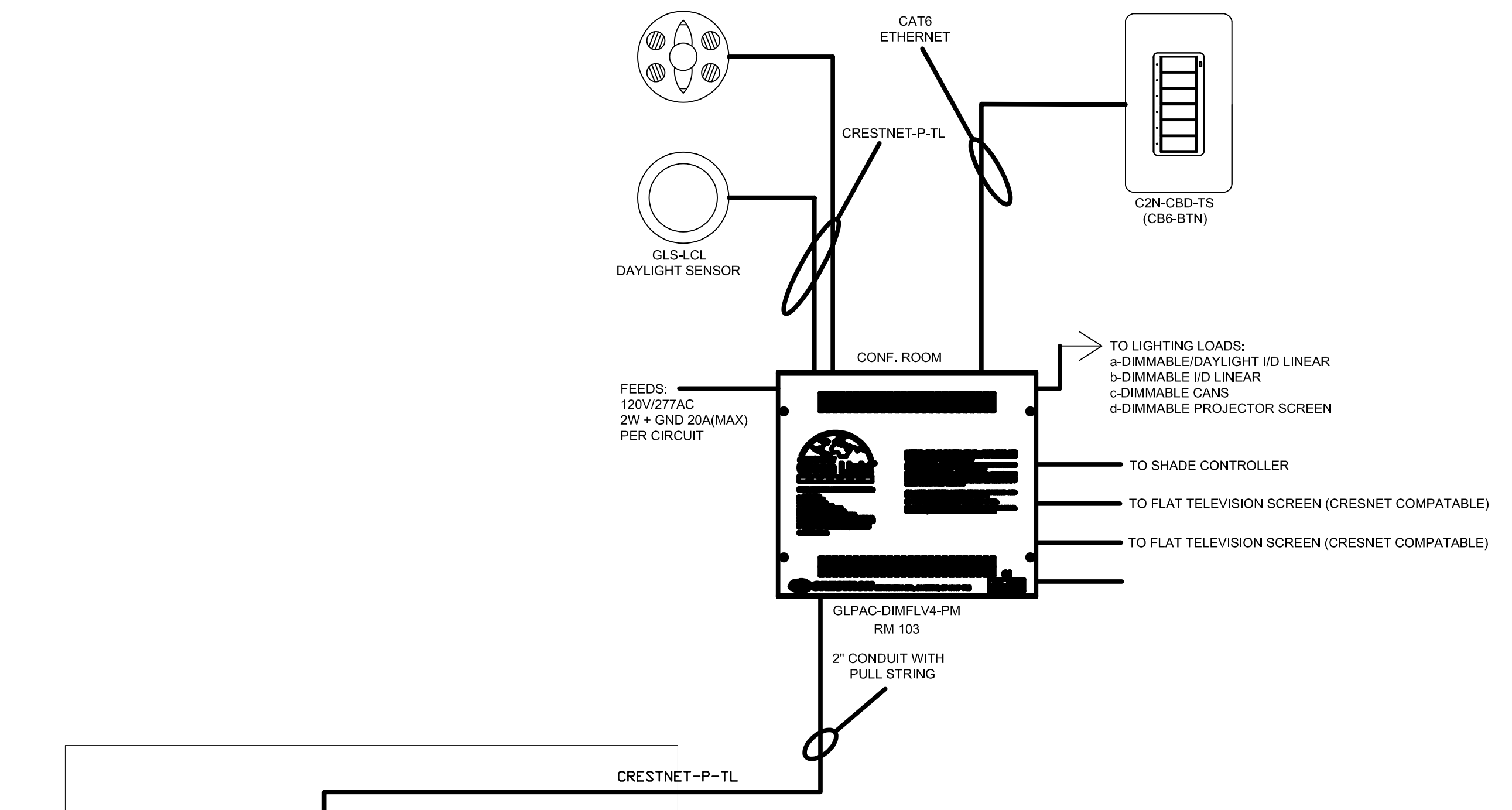
4 FLAT PANEL DISPLAY TYPICAL MOUNTING DETAIL
SCALE: NTS



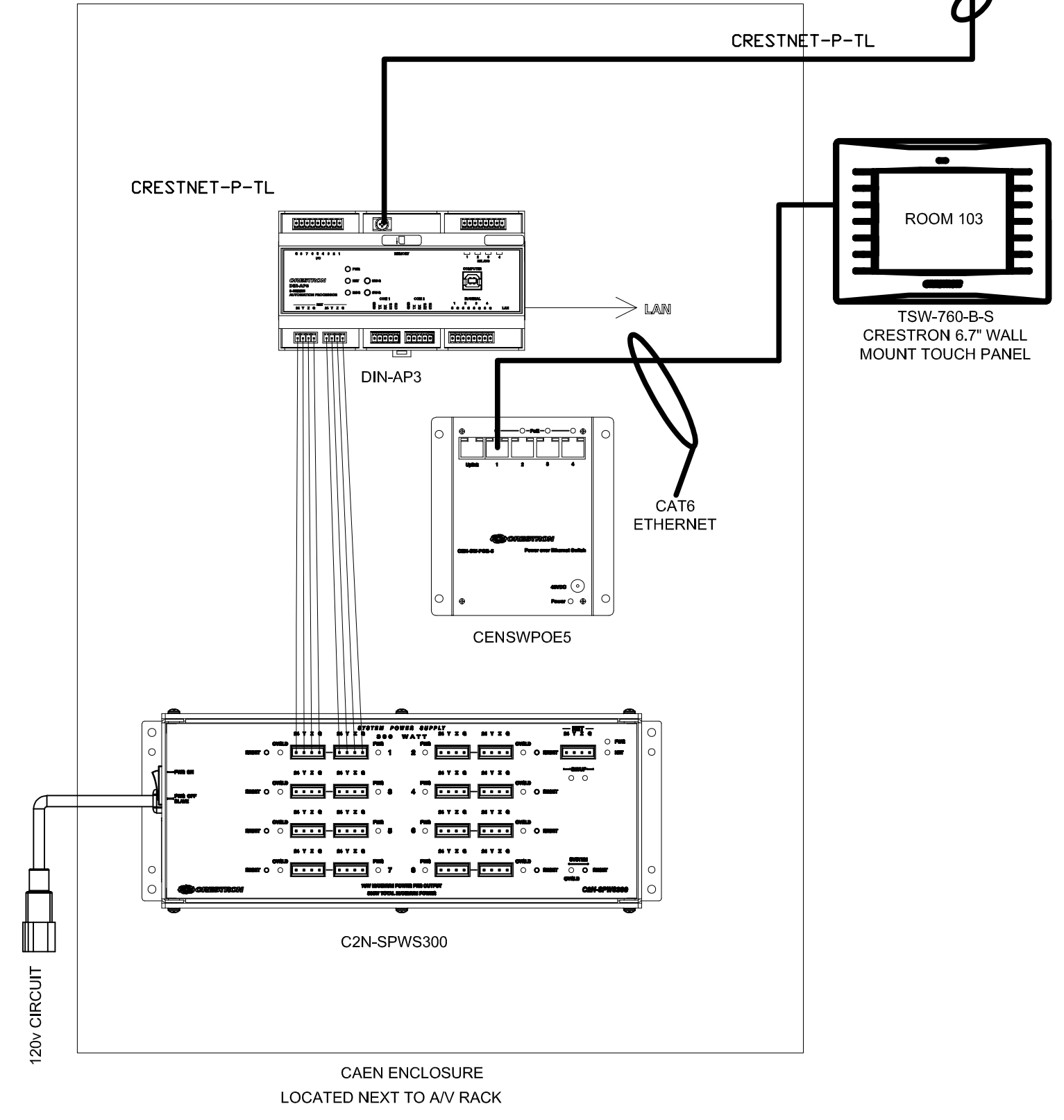
3 CRESTRON CONFERENCE RM LIGHTING LIGHTING CONTROL (TYPICAL)
SCALE: NTS



2 CRESTRON CONFERENCE RM 103 AV / LIGHTING CONTROL
SCALE: NTS



1 CRESTRON CONFERENCE RM 103 AV / LIGHTING CONTROL
SCALE: NTS



AUDIO/VISUAL LOUDSPEAKER SCHEDULE									
SYMBOL	ID	DESCRIPTION	LOAD TYPE	LOCATION	B.O.D. MANUFACTURER & MODEL No.	INSTALL HEIGHT AFF	TYPE	INSTALLED/PROVIDED BY:	ADDITIONAL NOTES
SP-C1	SP-C1	MUSAK SPEAKER	70V	ALL	BOGEN #: BOGEN HFCS 1LP (BLACK UPPER, WHITE LOWER CEILING)	CEILING / FLUSH	T-BAR LAY-IN (CUT IN WOOD/GYP CEILING)	CONTRACTOR/CONTRACTOR	①②③
SP-WN	SP-WN	WHITE NOISE SPEAKER	70V	OFFICE AREA	ATLAS SOUND #: M1000R-W (WHITE)	CEILING / FLUSH	T-BAR MOUNT	CONTRACTOR/CONTRACTOR	①②④
SP-S	SP-S	CONF ROOM AUDIO SPEAKERS	70V	CONF ROOM	COMMUNITY #: DB-70V (15 WATT)	CEILING/FLUSH	CUT-IN	CONTRACTOR/CONTRACTOR	①②

NOTES:

① 12/2 PLENUM RATED CABLING TO AMPLIFIER
 ② BACKING AND MOUNTING PER DETAIL ON AV300
 ③ FOR MUSAK SPEAKERS, FURNISH WALL VOLUME CONTROL BOGEN GSRVC TO BE MOUNTED IN SINGLE GANG BOX
 ④ FOR WHITE NOISE SPEAKERS, FURNISH ATLAS SOUND AT10 WALL VOLUME CONTROL.

ADDITIONAL EQUIPMENT FOR SOUND:

1. BOGEN AMPLIFIER X300W AND DIGITAL INPUT ACCESS MODULE TAMBZ2PS.
 2. WHITE NOISE GENERATOR EQUAL TO ATLAS SOUND TSD-GPN1200 WITH POWER SUPPLY AND TSD-RMK 1RU RACK.
 3. PROVIDE 70W MINIMUM, 2 CHANNEL, 8 OHM IMPED AMPLIFIER FOR CONF ROOM SOUND SYSTEM, 1-2 RACK UNIT MOUNTING, QSC SPA2-60

AUDIO/VISUAL DEVICE SCHEDULE									
SYMBOL	ID	DESCRIPTION	BOX TYPE	LOCATION	B.O.D. MANUFACTURER & MODEL No.	(CENTER OF DISPLAY) INSTALL HEIGHT AFF	TYPE	INSTALLED/PROVIDED BY:	ADDITIONAL NOTES
MP	MP	CONF MICROPHONE ARRAY CONNECTION BOX	SHURE MXA910	CONF ROOM	DANTE #: XXX USB ADAPTER - AUDINATE ADP-USB	CEILING / FLUSH	T-BAR LAY-IN (CUT IN WOOD/GYP CEILING)	CONTRACTOR/CONTRACTOR	①
CC	CC	VIDEO CONFERENCING CAMERA		CONF ROOM	CRESTRON #: CCS-CAM-USB	SHELF/TV		CONTRACTOR/CONTRACTOR	
		VIDEO CONFERENCING SYSTEM		CONF ROOM	CRESTRON #: CAT5 TO USB 3.0 - HD-CONV-USB UC ENGINE - CRESTRON UC ENGINE WIRELESS VIDEO PRESENTATION - CRESTRON AM-200 UC PRESENTATION TRANSMITTER - CRESTRON UC-PR				
TS	TS	SYSTEM TOUCHSCREEN 7" FLAT		CONF ROOM	CRESTRON #: TSW-770-B-S	WALL DOUBLE GANG BOX		CONTRACTOR/CONTRACTOR	
TTS	TTS	TABLE TOP TOUCHSCREEN W/PT		CONF ROOM	CRESTRON #: FLEX MM UC-MM30-R	WORK SURFACE TABLE		CONTRACTOR/CONTRACTOR	
AMP	AMP	CONF SPEAKER AMPLIFIER TYPE 60W		CONF ROOM	QSC #: SPA2-60	SHELF, IN CABINET		CONTRACTOR/CONTRACTOR	
AVC	AVC	AV&C PROCESSOR DSP FLEX 8 I/O		CONF ROOM	QSC #: QSC CORE 8 FLEX	SHELF, IN CABINET		CONTRACTOR/CONTRACTOR	

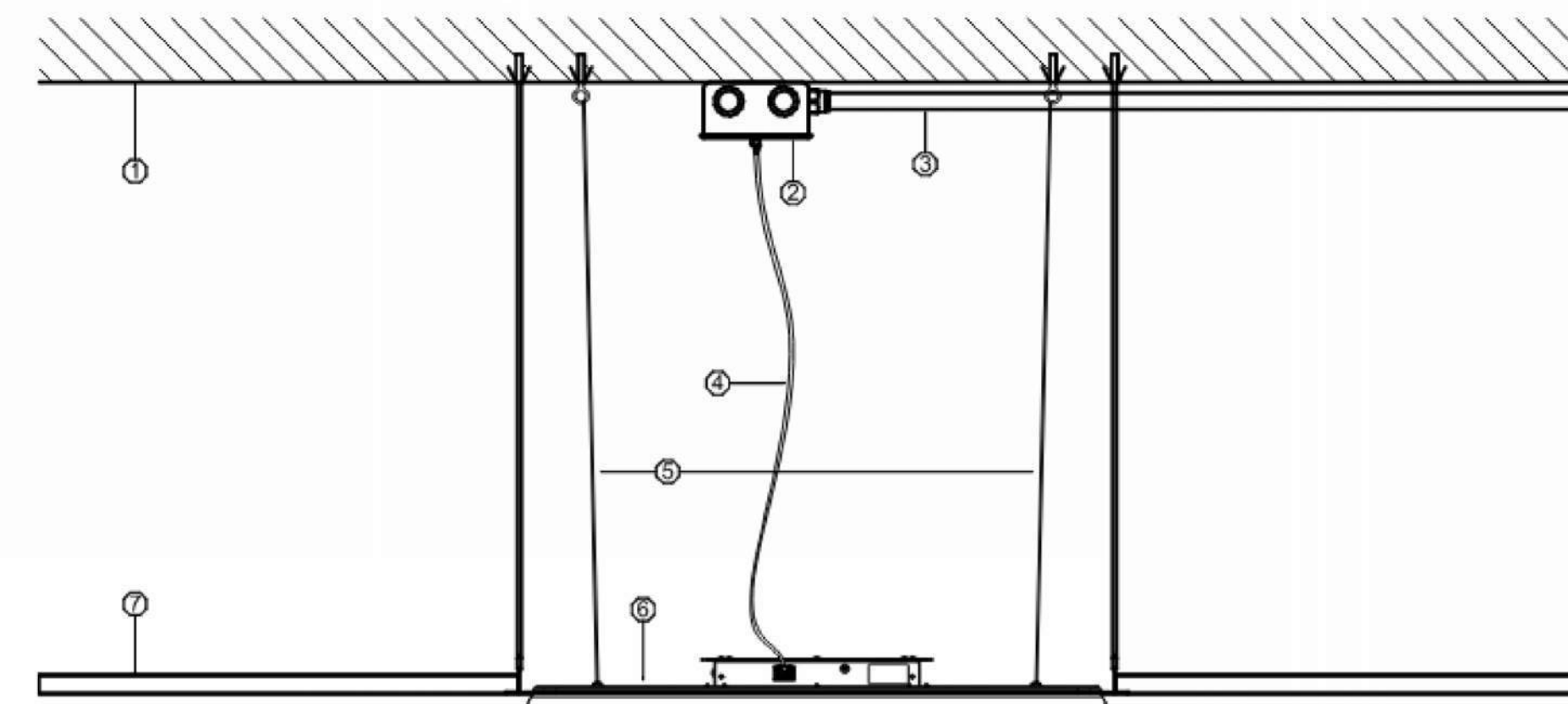
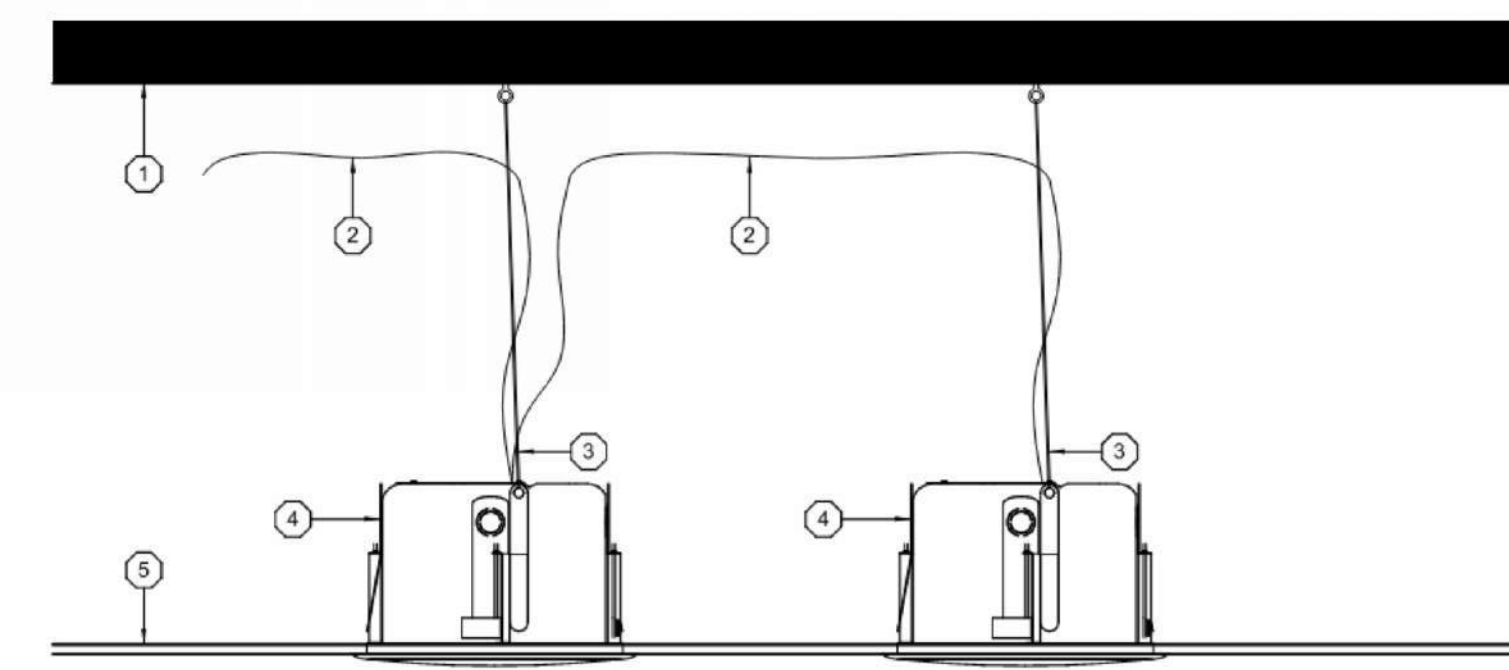
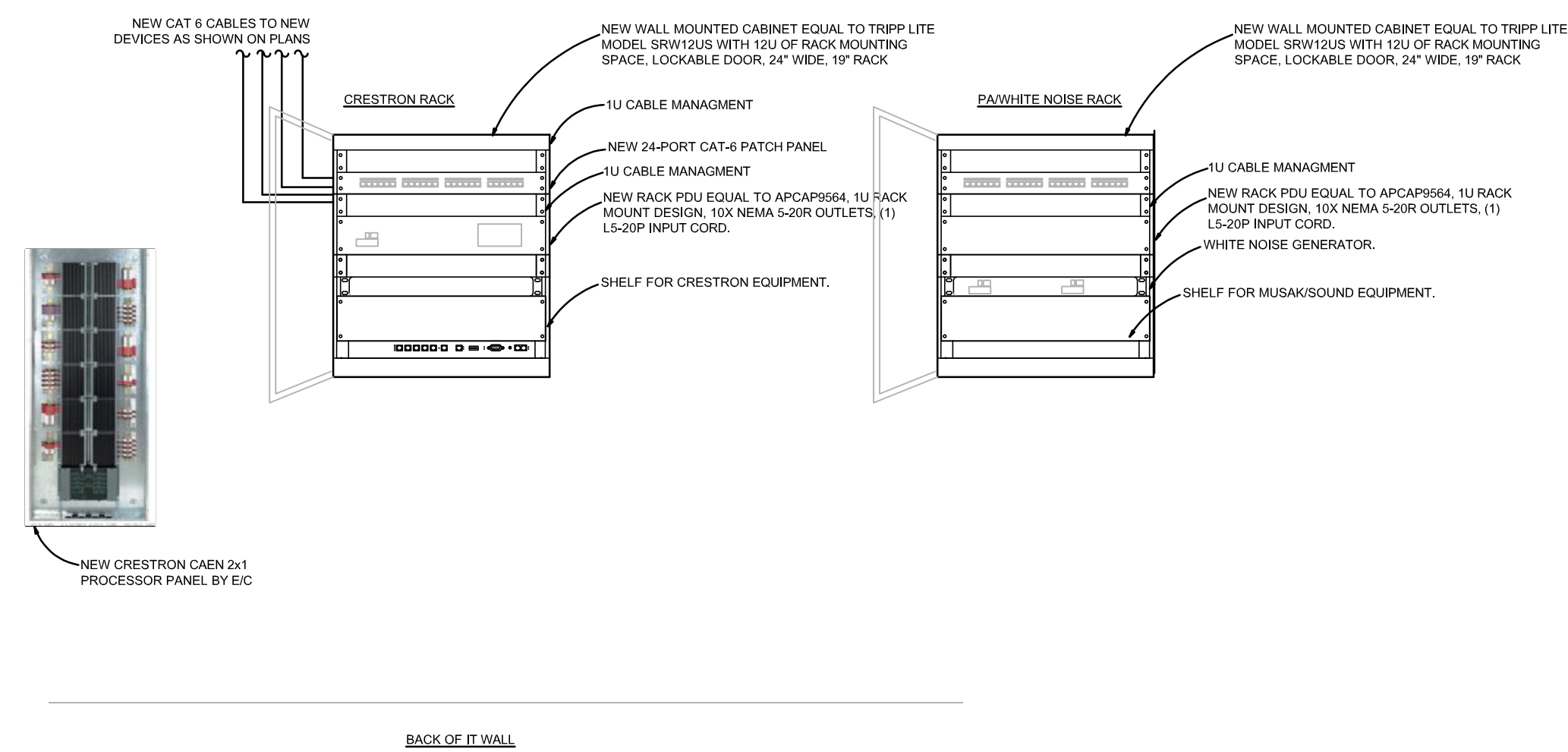
NOTES:

① CABLING TO USB CONVERTER PER DIAGRAM

AUDIO/VISUAL FLAT PANEL DISPLAY SCHEDULE									
SYMBOL	ID	DESCRIPTION	SIZE	LOCATION	B.O.D. MANUFACTURER & MODEL No.	INSTALL HEIGHT AFF (CENTER OF DISPLAY)	TYPE	INSTALLED/PROVIDED BY:	ADDITIONAL NOTES
TV-103.01	TV-103.01	LCD COMM DISPLAY - 216075 (4K)	75"	CONFERENCE	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	①②③④
TV-103.02	TV-103.02	LCD COMM DISPLAY - 216075 (4K)	75"	CONFERENCE	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	①②③④
TV-129.01	TV-129.01	LCD COMM DISPLAY - 216075 (4K)	75"	QUIET WAITING	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	①②④
TV-136.01	TV-136.01	LCD COMM DISPLAY - 216075 (4K)	75"	PILOT LOUNGE	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	①②④
TV-101.01	TV-101.01	LCD COMM DISPLAY - 216086 (4K)	86"	CONCOURSE	LG #: 86UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	①②
TV-121.01	TV-121.01	LCD COMM DISPLAY - 216050 (4K)	50"	LINE SERVICE	LG #: 50UR340C	68"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	①②
TV-121.02	TV-121.02	LCD COMM DISPLAY - 216050 (4K)	50"	LINE SERVICE	LG #: 50UR340C	68"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	①②
TV-200.01	TV-200.01	LCD COMM DISPLAY - 216075 (4K)	75"	QUIET WAITING	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	①②④

NOTES:

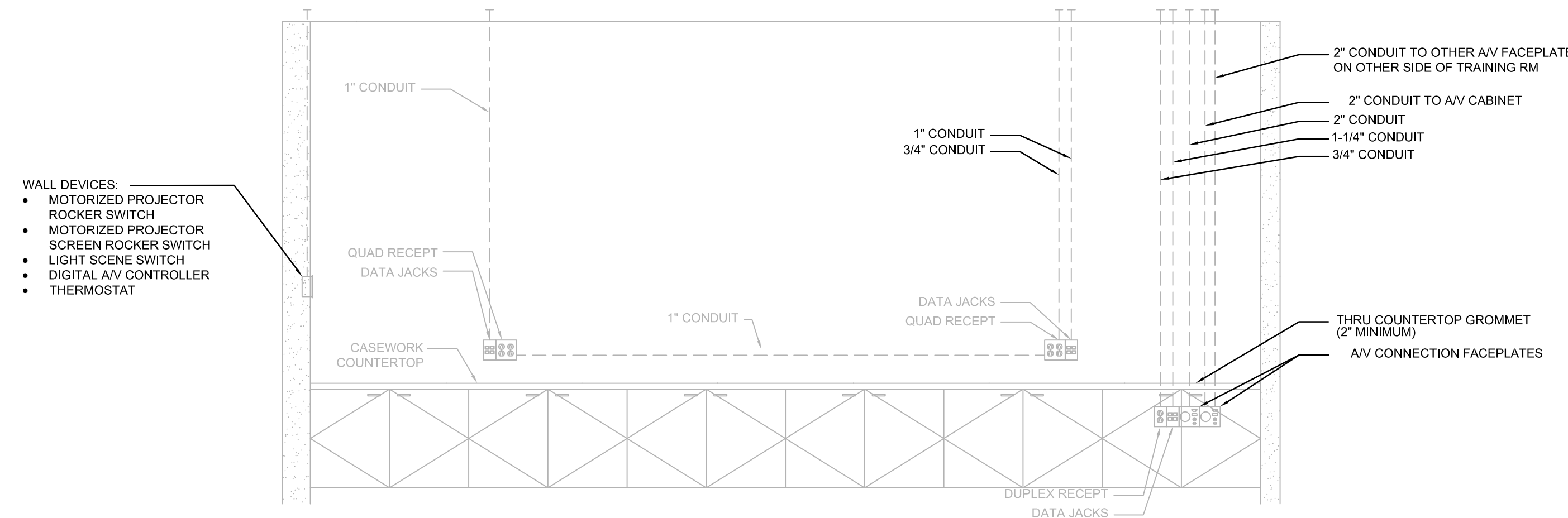
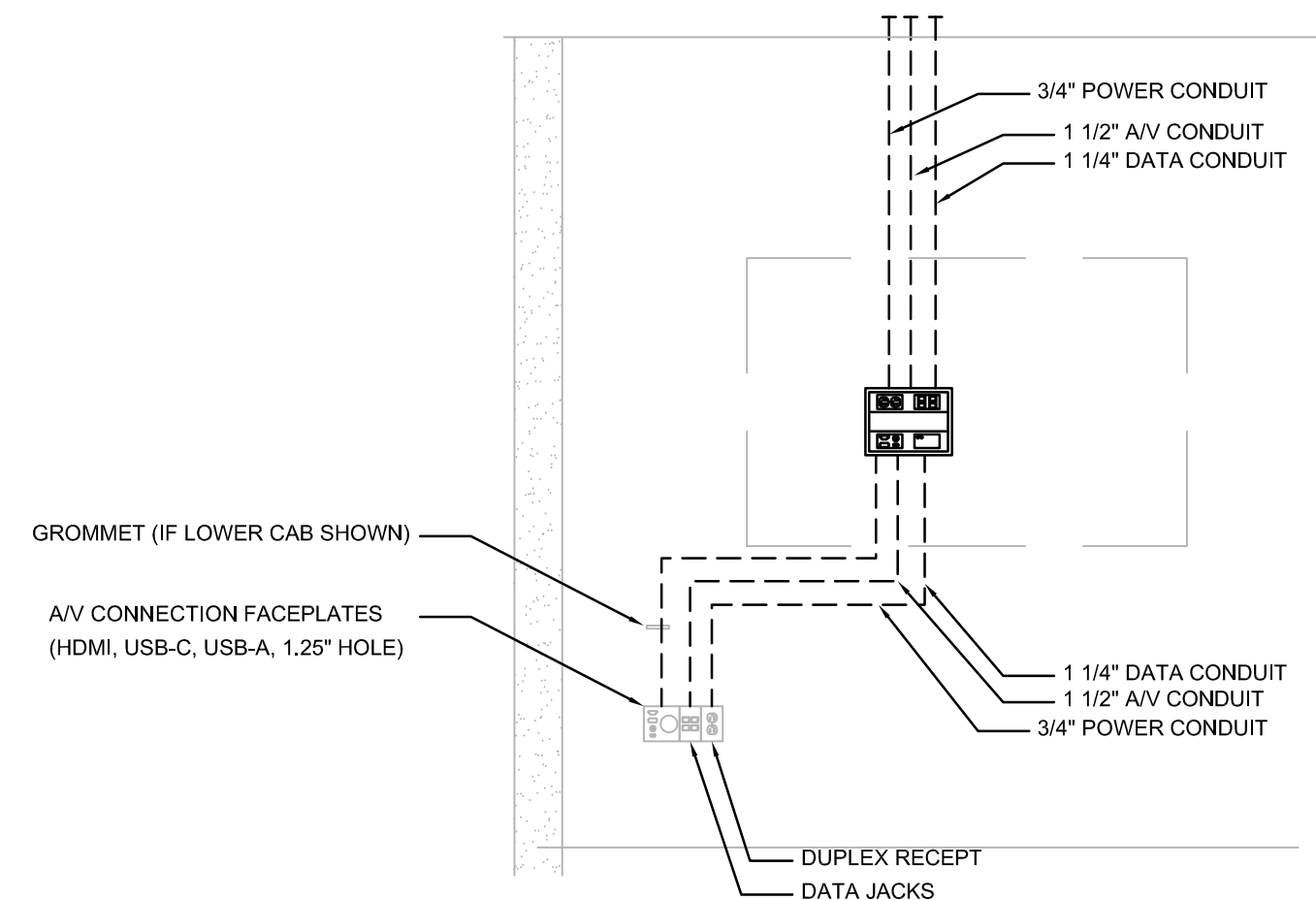
① LEGRAND A/V POWER/DATA BOX PER POWER/SPECIAL SYSTEMS PLANS
 ② BACKING AND MOUNTING PER DETAIL ON AV300
 ③ CRESTRON A/V CONTROLLER AND DIGITAL MEDIA CONNECTIONS
 ④ CAT-6 LAN DROP TO TELEVISION, HDMI TO WALL OR FLOOR BOX STATION



5 AV RACK CABINET DETAILS
SCALE:

4 CEILING LOUDSPEAKER MOUNTING DETAILS
SCALE: NTS

3 CEILING MICROPHONE ARRAY MOUNTING DETAIL
SCALE: NTS



2 AV ROUGH-IN ELEVATION - TYPICAL REMOTE TV
SCALE: NTS

1 AV ROUGH-IN ELEVATION - CONF ROOM 103
SCALE: NTS



1627 MAIN STREET, SUITE 600
KANSAS CITY, MO 64108

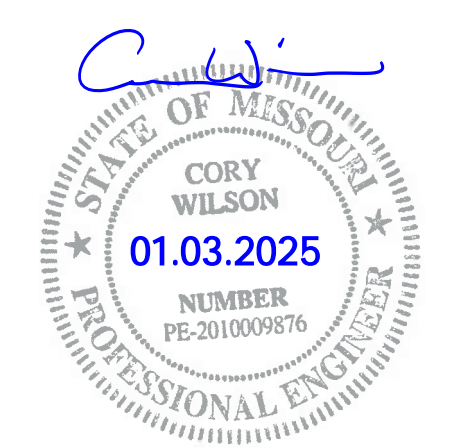


1627 MAIN STREET, SUITE 100
KANSAS CITY, MO 64108



1701 WALNUT STREET, SUITE 300
KANSAS CITY, MO 64108

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GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172



Cory Wilson - MO #PE-2010009876
Certificate of Authority - MO #2024005146

01-02-2025

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK DATE DESCRIPTION

PROJECT NO: 2403
 CAD DWG FILE: Lee's Summit - Terminal MEP.rvt
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AV500

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