DESIGN CRITERIA

1. BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION, INCLUDING LOCAL SUPPLEMENTS. THE STRUCTURE IS CLASSIFIED AS A RISK CATEGORY II FACILITY.

2. DEAD AND LIVE LOADS:

LOCATION	UNIFORM LIVE LOAD	CONCENTRATED LIVE LOAD	TOTAL DEAD LOAD*
ROOF	20 PSF	----------	20 PSF
HIGH ROOF (W/ PV PANELS)	20 PSF	----------	30 PSF
SLAB ON GRADE	100 PSF	2,000 LB	----------
MEZZANINE	100 PSF	----------	65 PSF
STAIRS	100 PSF	300 LB	50 PSF
ROOF (ABOVE RESTROOM)	100 PSF	---------	75 PSF

FLOOR LIVE LOADS ON SUPPORTING ELEMENTS CAN BE REDUCED IN ACCORDANCE WITH THE BUILDING CODE. ROOF LIVE LOADS ON SUPPORTING ELEMENTS SHALL NOT BE REDUCED
*TOTAL DEAD LOAD INCLUDES WEIGHT OF STRUCTURAL ELEMENTS.

3. SNOW LOADS

GROUND SNOW LOAD, P_g:	20 PSF
FLAT ROOF SNOW LOAD, P_f:	14 PSF
MINIMUM SNOW LOAD, P_m:	20 PSF
SNOW EXPOSURE FACTOR, C_e:	1.0
SNOW IMPORTANCE FACTOR, I_s:	1.0
THERMAL FACTOR, C_t:	1.0
ROOF SLOPE FACTOR, C_s	1.0

DRIFTING OF SNOW AND UNBALANCED SNOW SHALL BE IN ACCORDANCE WITH THE CODE. FOR SNOW DRIFT INFORMATION SUCH AS DRIFT SURCHARGE LOAD, Pd, AND WIDTH OF SNOW DRIFTS, w, REFERENCE SNOW DRIFT TABLE.

4. WIND:

BASIC WIND SPEED, V:	109 MPH (3 SECOND GUST)
ALLOWABLE STRESS DESIGN WIND SPEED, V_{asd}:	85 MPH (3 SECOND GUST)
WIND EXPOSURE:	C
INTERNAL PRESSURE COEF.:	+/-0.18

COMPONENTS AND CLADDING PRESSURE SHALL BE USED FOR DESIGN OF EXTERIOR WALLS, WINDOWS, DOORS, AND MISCELLANEOUS MATERIALS NOT SPECIFICALLY SHOWN ON THE PLANS.
FOR COMPONENTS AND CLADDING DESIGN WIND PRESSURES, REFERENCE COMPONENT AND CLADDING TABLE.

5. SEISMIC:

SITE CLASS:	C
SEISMIC DESIGN CATEGORY:	B
SEISMIC IMPORTANCE FACTOR:	1.0
S_s:	0.099
S_1:	0.068
S_{DS}:	0.106
S_{D1}:	0.108
SEISMIC FORCE RESISTING SYSTEM:	STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
RESPONSE MODIFICATION COEF., R	3
METHOD OF ANALYSIS:	EQUIVALENT LATERAL FORCE
C_S:	0.035
BASE SHEAR:	20 KIPS

6. RAIN INTENSITY (DURATION/100 YEAR MEAN RECURRENCE):

15 MINUTE: 7.36 INCHES PER HOUR
60 MINUTE: 3.53 INCHES PER HOUR

7. NO AREA WITHIN THIS BUILDING HAS BEEN DESIGNED TO MEET THE REQUIREMENTS OF FEMA P-361 OR ICC 500.

PLAN MARKS

GB# — GRADE BEAM MARK, REF. GRADE BEAM SCHEDULE

WF# — WALL FOOTING MARK, REF. WALL FOOTING SCHEDULE

F# — SPREAD FOOTING MARK, REF. SPREAD FOOTING SCHEDULE

HSS6X6X1/4 — COLUMN SIZE

BP-1, P-1 — PILASTER TYPE, REF. PILASTER DETAILS; BASE PLATE TYPE, REF. BASE PLATE DETAILS

BRACED FRAME ABOVE, REF. FRAMING ELEVATIONS & BRACED FRAME SCHEDULE

BRACED FRAME BELOW, REF. FRAMING ELEVATIONS & BRACE FRAME SCHEDULE

MOMENT CONN., REF. FRAMING ELEVATIONS & MOMENT CONN. SCHEDULE

W16X26 (20) <3/4"> — CAMBER; # OF HEADED SHEAR CONNECTORS (3/4" DIA. U.N.O.); BEAM SIZE

J# — JOIST MARK, REF. JOIST SCHEDULE

L# — LINTEL MARK AND SYMBOL, REF. LINTEL SCHEDULE

1 / 8'-0" — SHEAR WALL MARK, REF. SHEAR WALL SCHEDULE (POINTS TO SHEATHED SIDE); SHEAR WALL LENGTH

H# — HEADER MARK, REF. HEADER SCHEDULE

STEP IN SURFACE ELEVATION

SLOPE IN SURFACE ELEVATION

MATERIAL LEGEND

- LOAD BEARING CMU (NON-LOAD BEARING CMU HALFTONED)
- EARTH
- EXISTING
- GROUT/SAND/GRANULAR FILL
- PRECAST CONCRETE
- CONCRETE
- NOT IN SCOPE (E.G. VENEER, PAVING, ETC.)
- STEEL (IN SECTION)
- GRATING

ABBREVIATIONS

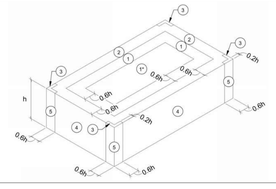
#	NUMBER OR POUNDS
(E)	EXISTING
@	AT
ADD'L	ADDITIONAL
ALT.	ALTERNATE
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
B.O.	BOTTOM OF
BLDG.	BUILDING
BOT.	BOTTOM
BRG.	BEARING
C.J.	CONTROL JOINT
CFS	COLD-FORMED STEEL
CL	CENTERLINE
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
COMP.	COMPOSITE
CONC.	CONCRETE
CONN.	CONNECTION
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
COORD.	COORDINATE
CTR.	CENTER
D(L)	DEAD (LOAD)
DBA	DEFORMED BAR ANCHOR
DEMO.	DEMOLITION / DEMOLISH
DIA.	DIAMETER
DIM.	DIMENSION
DWG.	DRAWING
DWL.	DOWEL
E(L)	EARTHQUAKE/SEISMIC (LOAD)
E.G.	FOR EXAMPLE
E.J.	EXPANSION JOINT
E.O.R.	ENGINEER OF RECORD
EA.	EACH
EL.	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EQ.	EQUAL
EQUIP.	EQUIPMENT
ETC.	ET CETERA
EXIST.	EXISTING
EXP.	EXPANSION
EXT.	EXTERIOR
F.S.	FAR SIDE
F.V.	FIELD VERIFY
FDN.	FOUNDATION
FT	FEET / FOOT
FTG.	FOOTING
G.C.	GENERAL CONTRACTOR
GA.	GAUGE
GALV.	GALVANIZED
GEN.	GENERAL
H.D.G.	HOT-DIP GALVANIZED
HD. ST.	HEADED STUD
HORIZ.	HORIZONTAL
I.D.	INSIDE DIAMETER
I.E.	INVERT ELEVATION

I.J.	ISOLATION JOINT
IN	INCH(ES)
INT.	INTERIOR
K	KIPS
L(L)	LIVE (LOAD)
LBS	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC.	LOCATION
MANUF.	MANUFACTURER
MAX.	MAXIMUM
MECH.	MECHANICAL
MIN.	MINIMUM
MISC.	MISCELLANEOUS
MTL.	METAL
N.A.	NOT APPLICABLE
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.H.	OVERHEAD
OPP.	OPPOSITE
P.A.F.	POWDER ACTUATED FASTENER
PCF	POUNDS PER CUBIC FOOT
PEMB	PRE-ENGINEERED METAL BUILDING
PERP.	PERPENDICULAR
PL.	PLATE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
QTY.	QUANTITY
RAD.	RADIUS
REF.	REFERENCE
REINF.	REINFORCING
REQ'D	REQUIRED
REV.	REVISION/REVISED
S.J.	SAWN JOINT
S.S.	STAINLESS STEEL
SCHED.	SCHEDULE
SF	SQUARE FEET/FOOT
SIM.	SIMILAR
SPA.	SPACE(S)
SQ.	SQUARE
SSE	SPECIALTY STRUCTURAL ENGINEER
STD.	STANDARD
STIFF.	STIFFENER
STRUCT.	STRUCTURAL
T.O.	TOP OF
T/C	TENSION/COMPRESSION
TEMP.	TEMPORARY
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
W(L)	WIND (LOAD
W/	WITH
W/C	WATER / CEMENT RATIO
WP	WORKING POINT
WT.	WEIGHT
WWF	WELDED WIRE FABRIC

STRUCTURAL SHEET INDEX

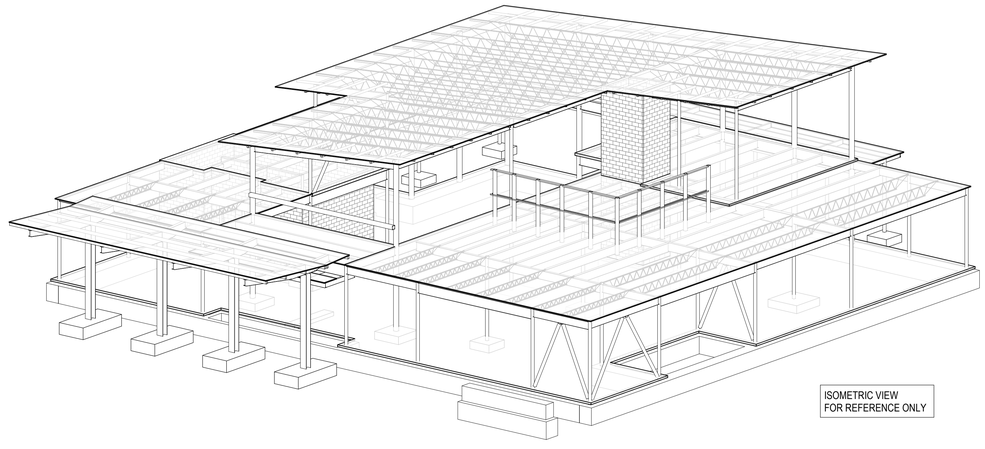
SHEET NO.	SHEET TITLE
S-000	STRUCTURAL COVER SHEET
S-001	STRUCTURAL GENERAL NOTES
S-002	GENERAL NOTES AND IBC INSPECTION TABLES
S-101	FOUNDATION PLAN
S-102	MEZZANINE AND LOW ROOF FRAMING PLAN
S-103	HIGH ROOF FRAMING PLAN
S-201	ENLARGED PLAN
S-301	SCHEDULES AND DETAILS
S-302	SCHEDULES AND DETAILS
S-303	BRACE FRAME SCHEDULE AND DETAILS
S-304	MOMENT FRAME ELEVATIONS AND DETAILS
S-501	TYPICAL FOUNDATION DETAILS
S-502	FOUNDATION DETAILS
S-503	FOUNDATION DETAILS
S-550	TYPICAL FRAMING DETAILS
S-551	TYPICAL FRAMING DETAILS
S-552	FRAMING DETAILS
S-553	FRAMING DETAILS
S-554	FRAMING DETAILS
S-801	TYPICAL CMU DETAILS

COMPONENTS AND CLADDING TABLE



NOTES:
1. ALL WIND PRESSURES AND LOAD COMBINATIONS SHALL BE PROVIDED AND APPLIED PER ASCE 7-16.
2. PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
3. PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
4. FOR EFFECTIVE WIND AREAS BETWEEN THOSE GIVEN, STRAIGHT LINE INTERPOLATION MAY BE USED; OTHERWISE, USE THE VALUE ASSOCIATED WITH THE LOWER EFFECTIVE WIND AREA.
5. IF OVERHANGS EXIST, THE LESSER HORIZONTAL DIMENSION OF THE BUILDING SHALL NOT INCLUDE ANY OVERHANG DIMENSION, BUT THE EDGE DISTANCE, 'a', SHALL BE MEASURED FROM THE OUTSIDE EDGE OF THE OVERHANG.
6. h = MEAN ROOF HEIGHT IN FT., EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES < 10°.
7. A NET ROOF DEAD LOAD OF 15 PSF MAY BE ASSUMED TO RESIST JOIST UPLIFT FORCES.
8. C&C LOADS SHALL BE USED BY THE STEEL JOIST SUPPLIER AND ANY OTHER MANUFACTURER TO DETERMINE WALL DESIGNS, ROOF DESIGNS, CONNECTION DESIGNS, ETC.

PRESSURE (PSF)	WALL AND ROOF C&C PRESSURE												PARAPET C&C PRESSURE			
	KEY AREA 1		KEY AREA 1*		KEY AREA 2		KEY AREA 3		KEY AREA 4		KEY AREA 5		INTERIOR ZONE		CORNER ZONE	
	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF
POSITIVE	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	27.6	23.6	27.6	23.6	72.4	56.8	92.8	65.2
NEGATIVE	-48.1	-37.5	-27.6	-27.6	-63.4	-49.9	-86.4	-59.3	-29.9	-25.9	-36.8	-28.7	-42.8	-35.6	-48.9	-38.1
OVERHANG	-48.1	-40.9	-43.5	-40.9	-58.8	-40.9	-81.8	-50.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



ISOMETRIC VIEW
FOR REFERENCE ONLY

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

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

PEC
PEC AUTHORITY NUMBER: EGC 000465F
1100 MAIN ST, STE 1800
KANSAS CITY, MO 64105

olsson
1301 BURLINGTON
NORTH KANSAS CITY, MO 64116

LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WILLIAM TODD LOEHR
NUMBER PE-2022000051
PROFESSIONAL ENGINEER
03/04/2025

MARK	DATE	DESCRIPTION

ISSUED FOR:	FINAL REVIEW
PROJECT NO:	250104-000
REVIT FILE:	250104-000_STRUCT_R24.rvt
DESIGNED BY:	JSH
DRAWN BY:	DGC
CHECKED BY:	WTL
APPROVED BY:	WTL

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SHEET TITLE

STRUCTURAL COVER SHEET

S-000

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DELEGATED ENGINEERING OF STRUCTURAL COMPONENTS & SYSTEMS

2. ALL STRUCTURAL COMPONENTS & SYSTEMS SPECIFIED TO BE DELEGATED SHALL BE DESIGNED AND SEALED BY A SPECIALTY STRUCTURAL ENGINEER (SSE) AND SHALL MEET THE GUIDELINES PUBLISHED BY THE COUNCIL OF AMERICAN STRUCTURAL ENGINEERS (CASE) FOR DELEGATED SPECIALTY STRUCTURAL ENGINEERING.

3. REFERENCE THE GENERAL NOTES & DRAWINGS FOR BUILDING CODE, SERVICE CRITERIA, AND DESIGN LOADS.

4. SUBMITTALS FOR DELEGATED COMPONENTS & SYSTEMS SHALL INCLUDE THE FOLLOWING:

   A. A FULL DESIGN ANALYSIS, INCLUDING CALCULATIONS FOR GRAVITY AND LATERAL LOADS, WITH A SEALED COVER SHEET IDENTIFYING THE PROJECT NAME AND ADDRESS.

   B. THE SSE THAT SEALED THE CALCULATIONS SHALL ALSO SEAL THE FABRICATION, PLACING, AND ERECTION PLANS. EACH PLAN SHALL IDENTIFY THE PROJECT NAME AND ADDRESS.

   C. IF THE SSE THAT SEALED THE CALCULATIONS AND PLANS IS AN EMPLOYEE OF A COMPANY, THE COMPANY'S CERTIFICATE OF AUTHORIZATION NUMBER SHALL BE INCLUDED ON THE SUBMITTALS. BOTH THE SSE SEAL AND THE CERTIFICATE OF AUTHORIZATION SHALL BE ISSUED BY THE STATE IN WHICH THE PROJECT IS LOCATED, INCLUDING PROJECTS ON FEDERAL LAND.

5. THE CONTRACTOR SHALL REVIEW THE SUBMITTAL FOR QUANTITIES AND DIMENSIONS AND VERIFY THAT THE ABOVE INFORMATION HAS BEEN INCLUDED IN THE SUBMITTAL.

6. NO SUBMITTAL WILL BE REVIEWED UNLESS ALL OF THE ABOVE INFORMATION IS INCLUDED. THE ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR DELAYS CAUSED BY INCOMPLETE SUBMITTALS.

7. STEEL JOISTS / JOIST GIRDERS

   A. STEEL JOISTS SHALL MEET THE LATEST STEEL JOIST INSTITUTE (SJI) AND AISC JOIST SPECIFICATIONS, AND SHALL BE FABRICATED BY A MEMBER OF THE SJI.

   B. DESIGN ALL STEEL ROOF JOISTS, JOIST GIRDERS, AND BRIDGING FOR A NET UPLIFT PRESSURE PER THE JOIST SCHEDULE AND COMPONENTS AND CLADDING TABLE. BRIDGING LOCATIONS TO BE DETERMINED BY JOIST SUPPLIER PER SJI RECOMMENDATIONS.

   C. WHERE JOIST BEARING CONDITIONS REQUIRE NON-STANDARD BEARING ENDS, JOIST FABRICATOR SHALL PROVIDE SPECIAL BEARING ENDS AS REQUIRED TO ACCOMMODATE SUCH CONDITIONS.

   D. PROVIDE STABILIZER PLATES AND ERECTION BOLTS AT LOCATIONS REQUIRED PER SJI SPECIFICATIONS AND OSHA REGULATIONS.

   E. UNLESS SPECIFICALLY NOTED, JOIST SIZES INDICATED ARE FOR UNIFORMLY APPLIED LOADS. MANUFACTURER SHALL PROVIDE JOIST CAPACITY TO SUPPORT SPECIAL LOADS AS NOTED ON PLANS.

   F. SUSPENSION OF ANY MISCELLANEOUS ITEMS FROM JOISTS SHALL BE ONLY AT TOP OR BOTTOM CHORD PANEL POINTS UNLESS INDICATED OTHERWISE.

   G. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ROUTING OF MECHANICAL OR ELECTRICAL COMPONENTS WITH JOIST BRIDGING AND/OR JOIST WEB MEMBERS PRIOR TO JOIST FABRICATION.

   H. STEEL JOISTS

      a. ALL STEEL JOIST BEARING CONNECTIONS SHALL BE WELDED UNLESS NOTED OTHERWISE.

      b. JOIST SHALL BE DESIGNED BY THE MANUFACTURER FOR ALL LOADING CONDITIONS AND TABLES PER SJI AND, IN ADDITION, ANY SPECIAL OR APPLIED LOADS AS MAY BE INDICATED IN THE DRAWINGS. JOIST MANUFACTURER SHALL NOT DESIGN JOISTS FOR LESS THAN LOADS SPECIFIED IN SJI CAPACITY TABLES FOR JOIST DESIGNATION SHOWN ON PLANS.

      c. JOIST EXTENSIONS SHALL BE DESIGNED FOR THE SAME LOADS AS THE MAIN JOIST SPAN UNLESS NOTED OR DETAILED OTHERWISE.

8. COLD-FORMED STEEL (CFS) FRAMING

   A. COLD-FORMED STEEL COMPONENTS AND CONNECTIONS SHALL BE DESIGN IN ACCORDANCE WITH THE LATEST AISI DESIGN STANDARDS AND ARE THE RESPONSIBILITY OF THE CFS SUPPLIER AND CFS SSE.

   B. PRODUCTS SHALL BE FORMED FROM STEEL MEETING THE REQUIREMENTS OF AISI, SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, UNLESS NOTED OTHERWISE.

   C. ALL COLD-FORMED STEEL STUDS, PURLINS, AND TRUSS SYSTEMS SHALL BE GALVANIZED PER AISI STANDARDS. APPLY ZINC-RICH PAINT TO ALL AREAS WHERE FINISH IS DAMAGED DUE TO WELDING.

   D. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS.

   E. PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, FASTENERS, ANCHORAGE DEVICES, CONNECTION ANGLES, BRIDGING, AND MISCELLANEOUS HARDWARE REQUIRED TO COMPLETE ALL CONNECTIONS AND INSTALLATION.

   F. FASTENING OF FRAMING COMPONENTS SHALL BE WITH SELF-TAPPING SCREWS OR WELDING OF SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION. WELDS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST AWS D1.3 CODE.

   G. COLD-FORMED STEEL STUD PRODUCTS SHALL BE MANUFACTURED BY A CURRENT MEMBER OF THE STEEL STUD MANUFACTURER ASSOCIATION (SSMA) OR THE STEEL FRAMING INDUSTRY ASSOCIATION (SFIA).

      a. THE PHYSICAL AND STRUCTURAL PROPERTIES SHALL BE EQUIVALENT TO THOSE LISTED BY THE SSMA "PRODUCT TECHNICAL INFORMATION" AND ICC-ES ER-3064P FOR "S" AND "T" SECTIONS.

      b. PROVIDE WALL STUD BRIDGING SPACES AT 4'-0" ON CENTER, MAXIMUM IN ALL EXTERIOR WALLS AND INTERIOR, LOAD BEARING WALLS.

      c. PROVIDE DEFLECTION TRACK AT THE TOP OF ALL NON-LOAD BEARING STUD WALLS WHERE THE TOP OF WALL ABUTS THE BOTTOM OF THE STRUCTURE.

      d. DEFLECTION TRACK SHALL CONFORM TO GUIDELINES IN SSMA TECH NOTE NO. 1 AND SHALL ACCOMMODATE A DEFLECTION DESCRIBED UNDER CONSTRUCTION DETAILS FOR STRUCTURAL MOVEMENT.

      e. ATTACH STUDS TO TRACK WITH A MINIMUM OF ONE SCREW IN EACH STUD FLANGE, UNLESS NOTED OTHERWISE.

   H. STUD TRACK SECTIONS SHALL MEET OR EXCEED THICKNESS OF STUD MEMBERS, UNLESS NOTED OTHERWISE.

8. HANDRAILS/GUARDRAILS

   A. HANDRAILS/GUARDRAILS SHALL BE DESIGNED, DETAILED, AND ERECTED IN ACCORDANCE WITH IBC/OSHA/NAAMM AMP 510 AND NAAMM AMP 521.

SOIL PREPARATION AND FOUNDATIONS

1. THE FOUNDATION SYSTEM IS DESIGNED AS RECOMMENDED IN THE GEOTECHNICAL INVESTIGATION PREPARED BY KRUGER TECHNOLIGIES, INC., JOB NO. 224081G DATED MAY 30, 2024. A COPY IS IN THE SPECIFICATIONS OR IS AVAILABLE FOR INSPECTION AT THE ARCHITECT'S PLACE OF BUSINESS.

2. REMOVE TOP SOIL CONTAINING ORGANIC MATERIAL AND PREPARE THE BUILDING PAD IN ACCORDANCE WITH THE CIVIL ENGINEERING PLANS, SPECIFICATIONS, AND GEOTECHNICAL INVESTIGATION.

3. REMOVE SOIL AS REQUIRED TO ALLOW FOR A LOW VOLUME CHANGE ZONE THICK UNDER THE FLOOR SLAB AND DRAINAGE MATERIAL. FILL TO SUBGRADE ELEVATION SHOWN ON THE DRAWINGS WITH NON-EXPANSIVE FILL OR STABILIZED SOIL PER SPECIFICATION.

4. DO NOT BACKFILL FOUNDATIONS/BASEMENT WALLS UNTIL THE RESTRAINING SLABS OR ADEQUATE BRACING ARE IN PLACE. ALL BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATION.

5. EXTERIOR SLABS SHALL SLOPE AWAY FROM THE STRUCTURE A MINIMUM OF 1/4" PER FOOT UNLESS NOTED OTHERWISE.

6. SOIL SUPPORTED FOUNDATIONS:

   A. DESIGN BEARING PRESSURE (NET) IS 3,000 PSF FOR FOUNDATIONS BEARING ON UNDISTURBED SOIL OR APPROVED ENGINEERED FILL MATERIAL. BEARING MATERIALS SHALL BE VERIFIED BY A LICENSED GEOTECHNICAL ENGINEER.

   B. ALL FOUNDATIONS ARE DESIGNED WITH EARTH FORMED SIDES; THE TOP 7-1/4" OF THE FOUNDATION SHALL BE FORMED TO THE DESIGN DIMENSION WHEN VISIBLE AFTER CONSTRUCTION IS COMPLETE. THE CONSTRUCTED FOUNDATION DIMENSION SHALL BE NO LESS THAN THE DESIGN DIMENSION, AND NO MORE THAT 6" GREATER THAN THE DESIGN DIMENSION.

CONCRETE

1. ALL CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH ACI 318 AND THE BUILDING CODE, AND IN CONFORMANCE WITH THE CURRENT "ACI MANUAL OF CONCRETE PRACTICE."

2. THE CONCRETE REQUIREMENTS ARE:

   A. FINE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.

   B. COARSE AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33. COARSE AGGREGATES SHALL BE NO LESS THAN 50% OF THE TOTAL AGGREGATE BY WEIGHT, UNLESS APPROVED BY THE ENGINEER PRIOR TO MIX DESIGN SUBMITTAL.

   C. THE CONTRACTOR OR MIX DESIGNER SHALL SPECICFY AN APPROPRIATE SLUMP PER ACI 117 FOR THE APPLICATION AS NEEDED FROM PUMPING, WORKABILITY, AND FINISHING. IF CONCRETE IS PLACED THROUGH A FUNNEL HOPPER AT THE TOP OF A DEEP FOUNDATION ELEMENT, THE MIX SHALL HAVE A SLUMP BETWEEN 4" AND 8".

   D. FOR EACH MIX DESIGN, THE MATERIAL SUPPLIER SHALL INCLUDE AN ENVIRONMENTAL PRODUCT DECLARATION (EPD) IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS. THE THIRD-PARTY-VERIFIED EPD WILL BE USED TO DOCUMENT THE ESTIMATED GLOBAL WARMING POTENTIAL (GWP). ALL GWP INFORMATION SUBMITTED SHALL BE IN THE FORM OF $kgCO_2e/CY$.

   E. THE CONCRETE COMPRESSIVE STRENGTH, f'_c, SHALL BE BASED ON 28-DAY TESTS UNLESS NOTED OTHERWISE.

   F. REFER TO CONCRETE MIX DESIGN REQUIREMENTS TABLE FOR MIX DESIGN.

3. ADMIXTURES, HARDENERS, & CURING COMPOUNDS

   A. ALL CONCRETE ADMIXTURES SHALL, WHEN MIXED INTO CONCRETE, BE NON-CHLORIDE AND NON-CHLORIDE FORMING.

   B. ALL ADMIXTURES MUST CONFORM TO ASTM C 494 AND C 260.

   C. CONCRETE CURING COMPOUND AND SEALERS SHALL MEET ASTM C 309 TYPE 1 OR 1D.

   D. USE OF "SELF CONSOLIDATING" CONCRETE MUST BE SUBMITTED FOR APPROVAL WITH THE CONCRETE MIX DESIGN.

   E. CONCRETE PENETRATING HARDENER SEALERS SHALL BE USED ON ALL EXPOSED CONCRETE FLOORS UNLESS OTHER COATINGS ARE REQUIRED BY THE ARCHITECT.

4. MISCELLANEOUS CONCRETE DETAILS:

   A. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" INSIDE THE FORMS OR TOOLED TO 3/4" RADIUS UNLESS NOTED OTHERWISE.

   B. SLABS ON GRADE SHALL HAVE CONSTRUCTION JOINTS AND/OR CONTROL JOINTS (SAWN JOINTS) TO DIVIDE THE SLAB INTO PANELS, NOT TO EXCEED 256 SQUARE FEET. THE LONG DIMENSION SHALL NOT EXCEED THE SHORT DIMENSION BY MORE THAN 20%. CONTRACTOR TO SUBMIT PROPOSED LOCATIONS FOR APPROVAL.

   C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING AND SHORING. SCREEDS SHALL ALSO INCORPORATE THIS CAMBER TO CREATE A FINISHED SLAB OF UNIFORM THICKNESS. ELEVATED SLABS SHALL NOT HAVE THE FORMS REMOVED WITHOUT PLACING RESHORES. IF ADDITIONAL ELEVATED SLABS WILL BE SHORED ON TOP OF PREVIOUSLY CAST ELEVATED SLABS, THE SLABS SHALL BE RESHORED IN ACCORDANCE WITH ACI.

   D. NO ALUMINUM SHALL BE EMBEDDED IN CONCRETE. CONDUITS AND PIPING EMBEDDED IN CONCRETE WALLS, SLABS, OR BEAMS SHALL BE SPACED A MINIMUM OF FOUR DIAMETERS AND THE OUTSIDE DIAMETER SHALL BE LESS THAN 30% OF THE MEMBER THICKNESS AND PLACED BETWEEN LAYERS OF REINFORCING.

   E. NO CONDUIT MAY BE EMBEDDED IN SLABS ON METAL DECK OR TOPPING SLABS ON PRECAST CONCRETE UNLESS SPECIFICALLY DETAILED OR NOTED OTHERWISE ON STRUCTURAL PLANS.

5. WHEN THE CONCRETE WILL HAVE MOISTURE SENSITIVE FLOOR COVERING, THE CONTRACTOR SHALL COORDINATE THE CURING TIME TO ALLOW THE MOISTURE VAPOR TRANSMISSION TO REDUCE THE LEVEL THAT THE ADHESIVE MANUFACTURER WILL GUARANTEE THE INSTALLATION. THE CONTRACTOR SHALL HAVE THE FLOOR COVERING INSTALLER TEST THE MOISTURE VAPOR TRANSMISSION OR USE AN ADHESIVE DESIGNED FOR THE RATE OF VAPOR TRANSMISSION OCCURRING AT THE TIME OF INSTALLATION.

CONCRETE MIX DESIGN REQUIREMENTS

LOCATION	COMPRESSIVE STRENGTH, f'c (PSI)	TARGET AIR CONTENT	EXPOSURE CLASSES				NOTES
			F	C	S	W	
GRADE BEAMS/SPREAD FOOTINGS	4500	6%	F2	C1	S0	W1	
PILASTERS	4000	NR	F0	C0	S0	W0	
INTERIOR SLAB ON GRADE	4000	NR	F0	C0	S0	W0	FLEXURAL STRENGTH OF 650 PSI WHERE SUBJECT TO VEHICLE TRAFFIC.
SLAB ON DECK	4000	NR	F0	C0	S0	W0	

CONCRETE REINFORCING

1. MATERIALS

	ASTM	GRADE
PLATE & ANGLE:	A36	---
REINFORCING STEEL:	A615	60
WELDABLE REINFORCING STEEL	A706	60
DEFORMED BAR ANCHORS:	A706	60
ANCHOR RODS (BOLTS):	F1554	36

2. DETAILS:

   A. WELDING OF REINFORCING STEEL IS PROHIBITED UNLESS NOTED OTHERWISE. WHEN WELDING IS APPROVED, WELDING SHALL BE IN ACCORDANCE WITH AWS D1.4 "WELDING REINFORCING STEEL, ETC."

   B. SHOP DRAWINGS SHALL BE SUBMITTED WITH REINFORCING STEEL IN ACCORDANCE WITH ACI 315.

3. PLACEMENT:

   A. ALL REINFORCING AND EMBEDMENTS SHALL BE SUPPORTED ON CHAIRS/BOLSTERS TO THE DESIGN DIMENSIONS. SPACING SHALL BE SUFFICIENTLY CLOSE TO PREVENT DISPLACEMENT OR PERMANENT DEFORMATION DUE TO CONCRETE PLACEMENT, FOOT TRAFFIC, OR VIBRATION. "PUDDLING IN" OR "PULLING UP" REINFORCING IS NOT AN ACCEPTABLE METHOD FOR PLACING REINFORCING. CHAIRS/BOLSTERS SHALL HAVE PLASTIC COATED FEET OR BE MADE OF STAINLESS STEEL. CHAIRS/BOLSTERS IN CONTACT WITH EARTH SHALL HAVE BOTTOM PLATES AND BE COATED TO PREVENT CORROSION. ANCHOR RODS SHALL BE HELD IN PLACE WITH TEMPLATES SUFFICIENTLY STRONG TO PREVENT DISPLACEMENT OR TILTING.

   B. MAINTAIN ACI CLEAR COVER ON REINFORCING AS LISTED BELOW UNLESS NOTED OTHERWISE.

CAST AGAINST EARTH (BOTTOM OR SIDES):	3"
FORMED - EXPOSED TO SOIL, WEATHER OR LIQUIDS:	2"
SLABS ON GRADE (FROM TOP OF SLAB):	1.5"

   C. PROVIDE CORNER BARS OF THE SAME SIZE AND SPACING AS ADJACENT REINFORCING.

   D. OPENINGS IN WALLS OR SLABS SHALL BE REINFORCED PER TYP. CONC. OPENING REINF. DETAIL.

   E. REINFORCING STEEL SHALL BE LAPPED PER CONCRETE REINFORCEMENT LAP TABLE.

   F. WELDED WIRE FABRIC SHALL BE LAPPED ONE FULL SQUARE PLUS 2".

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE LATEST "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGE," AND HAS BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE AND THE LATEST EDITION OF AISC "MANUAL OF STEEL CONSTRUCTION".

2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE FOLLOWING REQUIREMENTS UNLESS NOTED OTHERWISE ON THE DRAWINGS:

TYPE	ASTM	GRADE
W & WT SHAPES	A992	------
PLATES, CHANNELS, & ANGLES	A36	------
RECTANGULAR HSS SECTIONS	A500	C (F_Y=50 KSI)
STRUCTURAL BOLTS	A325	------ (ASTM F1852)
ERECTION BOLTS	A307	------
HEADED ANCHOR STUDS	A108	1015/1025

3. ALL BOLTED CONNECTIONS SHALL BE STANDARD AISC BEARING TYPE FRAMING CONNECTIONS. BOLTS SHALL BE TENSION-INDICATING FOR INSPECTION PURPOSES.

   A. BOLTED MOMENT CONNECTIONS INDICATED ON DRAWINGS SHALL USE FRICTION TYPE PRETENSIONED BOLTS AND INDICATED AS SLIP CRITICAL (SC).

4. ALL CONNECTIONS NOT DETAILED OR OTHERWISE NOTED SHALL BE PROVIDED BY THE FABRICATOR AND HIGHLIGHTED FOR THE ENGINEER OF RECORD'S REVIEW.

   A. SLIP CRITICAL (SC) CONNECTIONS SHALL HAVE UNCOATED CLASS A FAYING SURFACES.

5. ALL WELDING SHALL BE IN ACCORDANCE WITH LATEST AWS CODE, SECTION D1.1. ALL WELD MATERIAL SHALL BE 70 KSI TENSILE STRENGTH.

6. STEEL FRAMING MEMBERS SHALL NOT BE SPLICED.

7. OPENINGS SHALL NOT BE FIELD-CUT IN THE FLANGE OR WEBS OF STEEL MEMBERS.

8. PACK GROUT SOLIDLY BETWEEN BEARING SURFACES AND BASE PLATES WITH FACTORY-PACKAGED, NON-METALLIC, NON-SHRINK, NON-CORROSIVE GROUT COMPLYING WITH ASTM C1107. GROUT TO HAVE A MINIMUM COMPRESSIVE 28 DAY STRENGTH OF 7,500 PSI.

9. GALVANIZED STRUCTURAL STEEL SHALL CONFORM TO ASTM A123 FOR MEMBERS AND ASTM A153 FOR CONNECTION ELEMENTS. REPAIR ANY DAMAGED GALVANIZING COATING IN ACCORDANCE WITH ASTM A780.

10. ALL STEEL BEAMS USED IN COMPOSITE SYSTEMS HAVE BEEN DESIGNED FOR UNSHORED CONSTRUCTION.

    A. COMPOSITE SLAB SHEAR CONNECTORS SHALL BE OF SIZE AND QUANTITY INDICATED ON THE DRAWINGS AND SPACED EQUALLY ALONG THE CENTERLINE OF THE BEAM. WHERE SHEAR CONNECTORS ARE NOT CALLED FOR ON DRAWINGS, PROVIDE SHEAR CONNECTORS FOR ALL BEAMS SUPPORTING COMPOSITE SLABS AT 3'-0" O.C. MAX.

    B. THE DESIGN IS BASED ON THE CONTRACTOR PLACING THE CONCRETE TO A UNIFORM THICKNESS OVER THE DECK BY HAVING THE SCREED FOLLOWING THE CAMBER OF THE BEAM. POURING THE CONCRETE TO A UNIFORM ELEVATION MAY CAUSE EXCESSIVE ACCUMULATION OF CONCRETE AT THE MID-SPAN OF THE BEAMS AND REDUCE DESIGN CAPACITY.

STEEL DECKING

1. DECK SHALL BE ATTACHED TO ALL SUPPORTING MEMBERS.

   A. ATTACH METAL DECK TO STEEL MEMBERS WITH 5/8" DIAMETER PUDDLE WELDS. USE WELDING WASHERS FOR DECKS THINNER THAN 22 GAUGE. WELDS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AWS. REFERENCE THE DECK ATTACHMENT DETAIL.
   (IF MECHANICAL FASTENERS ARE PREFERRED, CONTRACTOR MAY SUBMIT A REPLACEMENT THAT IS SHOWN TO HAVE EQUAL OR GREATER CAPACITY THAN THE DECK ATTACHMENT SHOWN)

   B. SIDE LAPS OF METAL DECK SHALL BE FASTENED TOGETHER WITH #10 TEK SCREWS WITH METAL IN FULL CONTACT. REFERENCE THE DECK ATTACHMENT DETAIL.

2. STEEL ROOF DECK SHALL BE 1-1/2" DEEP, 22 GAUGE, WIDE RIB METAL DECKING WITH THE FOLLOWING PROPERTIES:

   MINIMUM F_Y: 50 KSI
   MINIMUM I_P: 0.155 IN^4
   MINIMUM S_P: 0.169 IN^3
   MINIMUM I_N: 0.178 IN^4
   MINIMUM S_N: 0.179 IN^3

   ROOF DECK SHALL CONFORM TO ASTM A653 WITH G60 FINISH. DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS. EACH DECK UNIT SHALL BE ATTACHED TO SUPPORTING MEMBERS AND ADJACENT PANELS PER THE DIAPHRAGM ATTACHMENT DETAIL.

3. COMPOSITE FLOOR DECK SHALL BE 2" DEEP, 20 GAUGE, COMPOSITE METAL DECK WITH THE FOLLOWING PROPERTIES:

   MINIMUM F_Y: 50 KSI
   MINIMUM I_P: 0.409 IN^4
   MINIMUM S_P: 0.326 IN^3
   MINIMUM I_N: 0.407 IN^4
   MINIMUM S_N: 0.337 IN^3

   COMPOSITE DECK SHALL [CONFORM TO ASTM A653 WITH G60 FINISH/RECEIVE FINISH PER SPECIFICATION]. DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS. WHEN THE COMPOSITE DECKING EXCEEDS THE MAXIMUM SAFE CONSTRUCTION SPAN AS DEFINED BY SDI, THE CONTRACTOR SHALL SHORE THE DECKING. DECK SHORING SHALL CONSIST OF A SINGLE HORIZONTAL SHORE MIDWAY BETWEEN BEAMS SUPPORTED BY SHORES THAT SPAN FROM BEAM TO BEAM. THIS ALLOWS THE SHORES/DECKING TO DEFLECT WITH THE BEAMS. DO NOT SHORE DECK FROM GRADE OR FLOOR BELOW.

4. PROVIDE ANGLE FRAME TO SUPPORT METAL DECK AT ALL ROOF DRAINS AND OTHER OPENINGS GREATER THAN 8" X 8". OPENINGS SMALLER THAN 8" REQUIRE NO REINFORCEMENT.

MASONRY

1. MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE TMS 402/602 AND THE BUILDING CODE.

2. MATERIALS:

   A. ALL CONCRETE MASONRY UNITS (CMU) SHALL BE TWO-CELL, LIGHTWEIGHT AGGREGATE UNITS WITH A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI ON NET AREA AT 28 DAYS CONFORMING TO ASTM C90.

   B. ALL MORTAR SHALL BE TYPE "S" CONFORMING TO ASTM C270.

   C. THE MINIMUM COMPRESSIVE STRENGTH (f'_m) OF A PRISM ASSEMBLED OF CMU AND FULL MORTAR BEDDING SHALL BE 2000 PSI AT 28 DAYS ON THE NET AREA.

   D. ALL GROUT SHALL CONFORM TO ASTM C476 WITH A MINIMUM GROUT COMPRESSIVE STRENGTH (f'_c) OF 2500 PSI.

   E. REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF ASTM A615, GR. 60.

   F. CMU LOCATED BELOW GRADE SHALL BE NORMAL-WEIGHT AGGREGATE UNITS WITH ALL CELLS GROUTED SOLID.

   G. ALL CMU SHALL BE IN RUNNING BOND.

3. HORIZONTAL WALL REINFORCING:

   A. PROVIDE CONTINUOUS HORIZONTAL REINFORCING AT THE TOP OF THE WALL AND AT A MAXIMUM OF 4'-0" ON CENTER IN KNOCK-OUT BOND BEAMS UNLESS NOTED OTHERWISE. REINFORCING STEEL SHALL BE LAPPED PER THE CMU REINFORCING LAP TABLE.

   B. PROVIDE HORIZONTAL REINFORCING AT THE HEAD OF ALL OPENINGS IN A "U" SHAPED SOLID BOTTOM LINTEL BLOCK. CUT OFF THE BOTTOM SHELL OF THE LINTEL BLOCKS AT VERTICAL REINFORCING LOCATION FOR JAMBS. PROVIDE HORIZONTAL REINFORCING AT THE SILL OF ALL OPENINGS IN A KNOCK-OUT BOND BEAM. REINFORCING STEEL SHALL EXTEND BEYOND OPENING PER TYPICAL DETAILS.

   C. MINIMUM HORIZONTAL REINFORCING IN ALL LINTELS AND BOND BEAMS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

THICKNESS	REINFORCING
8"	(2) #4

4. VERTICAL REINFORCING:

   A. PROVIDE VERTICAL REINFORCING (NORMAL REINFORCING) IN FULLY GROUTED CELLS, CENTERED AND HELD IN PLACE BY REINFORCING STEEL GUIDES IN ALL WALLS AS FOLLOWS, UNLESS NOTED OTHERWISE:

THICKNESS	INTERIOR NON-LOAD BRG. WALLS	EXTERIOR & LOAD BRG. WALLS
8"	#5 AT 8" O.C.	#5 AT 8" O.C.

   B. PROVIDE VERTICAL FULLY GROUTED REINFORCED CELLS AT EACH SIDE OF AN ISOLATION JOINT, AT INTERSECTIONS OF WALLS, EACH SIDE OF A WALL OPENING, AT EACH BEAM BEARING, AND AT THE END OF A WALL.

   C. VERTICAL REINFORCING SHALL EXTEND CONTINUOUSLY FROM THE TOP OF THE SUPPORTING MEMBER TO THE TOP BOND BEAM. THERE SHALL BE A DOWEL, CAST INTEGRAL WITH THE SUPPORTING MEMBER, FOR EACH VERTICAL REINFORCING BAR EXCEPT AS NOTED. ALL VERTICAL REINFORCING STEEL SHALL BE HOOKED INTO TOP BOND BEAM. ALL HOOKS, STRAIGHT EMBEDMENTS AND LAPS SHALL BE PER TABLE.

5. LOCATION AND DETAILS OF CONTROL AND ISOLATION JOINTS IN MASONRY WALLS SHALL BE PER THE ARCHITECTURAL DRAWINGS. IF NOT SHOWN OR NOTED ON THE ARCHITECTURAL DRAWINGS, THE MAXIMUM SPACING OF CONTROL OR ISOLATION JOINTS SHALL BE AT A LENGTH TO HEIGHT RATIO OF 2:1 OR 30'-0" O.C., WHICHEVER IS LESS. REINFORCING IN ALL BOND BEAMS, INCLUDING THE TOP BOND BEAM, SHALL BE DISCONTINUOUS AT CONTROL AND ISOLATION JOINTS. CONTRACTOR SHALL SUBMIT A JOINT LAYOUT PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WALL ELEVATIONS AS PART OF THE SUBMITTAL. WALL ELEVATIONS SHALL INCLUDE HORIZONTAL AND VERTICAL REINFORCING, EMBEDS, CONTROL JOINTS, OPENINGS, ETC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ALL OPENING LOCATION.

7. EMBEDDED CONDUIT, PIPES OR SLEEVES SHALL BE NO CLOSER THAN 3 DIAMETER ON CENTER OR DISPLACE MORE THAN 2% OF THE NET AREA.

8. LOOSE LINTELS SUPPORTING MASONRY VENEERS, UNLESS NOTED OTHERWISE, SHALL BE:

OPENING WIDTH	LINTEL
< 4'-0"	L3 1/2X3 1/2X3/8
6'-4" > 4'-0"	L6X3 1/2X3/8 (LLV)
8'-8" > 6'-4"	L7X4X3/8 (LLV)

   ALL LINTELS SHALL BEAR A MINIMUM OF 8" ON EACH END. EXTERIOR LINTELS SHALL BE GALVANIZED UNLESS NOTED OTHERWISE BY ARCHITECT.

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

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

PEC
PEC AUTHORITY NUMBER: EGC 000465F
1100 MAIN ST, STE 1800
KANSAS CITY, MO 64105

olsson
1301 BURLINGTON
NORTH KANSAS CITY, MO 64116

LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
VICTOR FLOEHR
NUMBER PE-2022000051
10/04/2025
PROFESSIONAL ENGINEER

MARK	DATE	DESCRIPTION

ISSUED FOR:	FINAL REVIEW
PROJECT NO:	250104-000
REVIT FILE:	250104-000_STRUCT_R24.rvt
DESIGNED BY:	JSH
DRAWN BY:	DGC
CHECKED BY:	MWK
APPROVED BY:	WTL
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SHEET TITLE

STRUCTURAL GENERAL NOTES

S-001

3/3/2025 4:44:00 PM

POST INSTALLED ANCHORING SYSTEMS

1. SUBSTITUTION OF POST INSTALLED ANCHORS FOR EMBEDDED ANCHORS SHOWN ON THE DRAWINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER OF RECORD IN ADVANCE.

2. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) AND THE EVALUATION REPORT (ER/ESR) SPECIFIED INCLUDING HOLE PREPARATION, TEMPERATURE AND MOISTURE CONDITIONS.

3. ADHESIVE ANCHORS:

   A. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. THE CONTRACTOR MUST MAINTAIN TRAINING RECORDS OF ALL CONTRACTOR PERSONNEL INSTALLING ANCHORS AND SUBMIT TO THE ENGINEER OF RECORD PRIOR TO INSTALLING ANCHORS UPON REQUEST.

   B. ADHESIVE ANCHORS SHALL BE USED IN CONJUNCTION WITH THE APPROPRIATE ADHESIVE SYSTEM. STANDARD REINFORCING STEEL REBAR ANCHORED IN CONCRETE SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. ALL THREADED ANCHORS SHALL BE IN ACCORDANCE TO ASTM F1554 GRADE 36 (OR BETTER) OR STAINLESS STEEL 304/316.

   C. APPROVED ADHESIVES FOR PREVIOUSLY CAST CONCRETE:

MANUFACTURER/PRODUCT	EVALUATION REPORT
HILTI HIT-HY200	ICC-ES ESR-3963
HILTI HIT-HY270 SAFE SET INSTALLATION	ICC-ES ESR-3187
HILTI HIT-RE 500 V3 SAFE SET INSTALLATION	ICC-ES ESR-2322/3814
SIMPSON STRONG-TIE SPEED CLEAN SET-3G	ICC-ES ESR-4057
SIMPSON STRONG-TIE SPEED CLEAN AT-3G	ICC-ES ESR-5026

   D. APPROVED ADHESIVES FOR GROUTED MASONRY:

MANUFACTURER/PRODUCT	EVALUATION REPORT
HILTI HIT-HY 200 SAFE SET	ICC-ES ESR-4143
SIMPSON STRONG-TIE SPEED CLEAN SET-3G	ICC-ES ESR-4844

4. POWDER ACTUATED FASTENERS:

   A. APPROVED ANCHORS FOR STEEL OR PREVIOUSLY CAST CONCRETE:

MANUFACTURER AND PRODUCT	EVALUATION REPORT
HILTI X-U (0.157" DIA., 1" EMBED)	ICC-ES ESR-2269

CONSTRUCTION DETAILS FOR STRUCTURAL MOVEMENT

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ACCOMMODATIONS IN GLAZING, ARCHITECTURAL FINISHES, PLUMBING, HVAC, AND ELECTRICAL ELEMENTS TO PREVENT DAMAGE DUE TO DEFLECTION OF ROOF, WALL AND FLOOR MEMBERS.

2. VERTICAL DEFLECTIONS DUE TO GRAVITY LOADS:

	LIVE/SNOW/WIND	TOTAL
OPEN WEB ROOF JOISTS	L/360	L/240
WIDE FLANGE ROOF BEAMS & GIRDERS	L/360	L/240
SUPPORTING VERTICAL BRICK OR STONE		L/600 (0.3" MAX)
SUPPORTING VERTICAL GLASS		L/480
COMPOSITE FLOOR WIDE FLANGE BEAMS*	L/360	L/240

*AFTER THE FLOOR CONCRETE IS POURED. DO NOT ATTACH ANY ELEMENT TO A FLOOR SYSTEM BEFORE THE FLOOR SLAB IS POURED AND SHORING IS REMOVED.

3. HORIZONTAL DEFLECTIONS OF INDIVIDUAL MEMBERS:

A. EXTERIOR WALLS	WIND OR SEISMIC
WITH PLASTER OR STUCCO FINISHES	L/360
WITH BRICK OR STONE VENEER	L/600
WITH GLASS FINISHES	L/175 (MAX 3/4")
WITH METAL PANEL FINISHES	L/180
B. INTERIOR WALLS	
WITH PLASTER OR STUCCO FINISHES	L/360
ALL OTHERS	L/240

5. VIBRATION

   A. THIS STRUCTURE HAS NOT BEEN ANALYZED FOR VIBRATION CAUSED BY FOOTFALL, EQUIPMENT, ETC.

CONTRACT/CONSTRUCTION DOCUMENTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A FULL SET OF THE MOST RECENT REVISIONS OF EACH DOCUMENT INCLUDING ALL PLANS, SPECIFICATIONS, ADDENDA, AND SUPPLEMENTAL INSTRUCTIONS.

2. THE CONTRACTOR SHALL REVIEW THE DOCUMENTS PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY MATERIALS FOR CONFLICTS. IF CONFLICTS OCCUR THE CONTRACTOR SHALL USE THE MOST STRINGENT REQUIREMENT OR REQUEST A CLARIFICATION THROUGH A REQUEST FOR INFORMATION (RFI).

3. THE DOCUMENTS MAY NOT BE REPRODUCED IN WHOLE OR IN PART FOR USE ON PROJECTS OTHER THAN IDENTIFIED IN THE TITLE BLOCK. SHOULD THE CONTRACTOR USE THE DOCUMENTS AS A PORTION OF A SHOP DRAWING SUBMITTAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONSEQUENCES RESULTING FROM ERRORS IN THE REPRODUCED DOCUMENTS.

4. DETAILS LABELED TYPICAL ARE INTENDED TO REPRESENT A CONDITION THAT OCCURS AT SEVERAL LOCATIONS IN THE PLANS WHETHER OR NOT THE DETAIL IS REFERENCED.

5. DO NOT SCALE THE PLANS AND DETAILS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.

CONTRACTOR'S RESPONSIBILITY

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL SUB-CONTRACTOR SUBMITTALS AND NOTING ALL DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMITTING TO THE ENGINEER FOR REVIEW.

2. SUBSTITUTION REQUESTS SHALL BE SUBMITTED IN WRITING WITH THE COST REDUCTION AMOUNT AND THE SCHEDULE IMPACT FOR THE OWNER (SUBMITTALS WITHOUT THE COST AND SCHEDULE IMPACT WILL NOT BE REVIEWED). A COMPARISON OF THE DATA WITH THE MATERIAL SPECIFIED INCLUDING CODE APPROVALS SHALL BE PROVIDED.

3. REQUESTS FOR INFORMATION (RFI) SHALL BE SUBMITTED IN WRITING WITH COST, SCHEDULE IMPACT, AND SUGGESTED SOLUTION INCLUDED. AN RFI THAT DOES NOT INCLUDE THE COST AND SCHEDULE IMPACT WILL NOT BE REVIEWED.

4. DEFECTIVE WORK REPORT (DWR) SHALL BE SUBMITTED TO THE ENGINEER. THE DWR SHALL REPORT THE DEFECT AND PROPOSE A REMEDIATION OF THE DEFECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REMEDIATION OF THE DEFECT INCLUDING ENGINEERING COSTS, IF ANY.

5. WHEN THE CONTRACTOR BECOMES AWARE OF WHAT MAY BE AN UNFORESEEN CONDITION THAT COULD AFFECT COST OR SCHEDULE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING. AFTER REVIEW AND ENGINEER'S DETERMINATION THAT AN UNFORESEEN CONDITION EXISTS; THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER REQUEST FOR APPROVAL WITH BOTH COST AND SCHEDULE IMPACT ATTACHED.

6. THE CONTRACTOR'S SCHEDULE MUST PROVIDE A REASONABLE TIME ALLOWANCE FOR THE ENGINEERING REVIEW AND APPROVAL.

7. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR SITE SAFETY. THE ENGINEER IS RESPONSIBLE FOR FOLLOWING THE CONTRACTOR'S CONSTRUCTION SITE SAFETY INSTRUCTIONS PROVIDED IN WRITING. ALTERNATELY, THE CONTRACTOR SHALL ASSIGN AN ESCORT TO ADVISE THE ENGINEER OF SITE SAFETY ISSUES DURING SITE VISITS. THE ENGINEER'S PURPOSE OF A SITE VISIT IS SOLELY TO BECOME FAMILIAR WITH THE GENERAL PROGRESS AND QUALITY OF THE PROJECT. THE ENGINEER'S SITE VISIT IS NOT A QUALITY CONTROL FUNCTION.

CONSTRUCTION MEANS AND METHODS ISSUES

1. SLAB ON GRADE AND ELEVATED SLABS ARE NOT DESIGNED TO SUPPORT CRANES, FORKLIFTS, TRUCKS, MANLIFTS, OR OTHER CONSTRUCTION RELATED EQUIPMENT UNLESS NOTED AS SUCH. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE IF CONSTRUCTION EQUIPMENT CAN BE SAFELY OPERATED ON THESE SLABS AND TO REPAIR ANY DAMAGE THE EQUIPMENT MAY CAUSE.

2. THE CONSTRUCTION DOCUMENTS REPRESENT A STABLE STRUCTURE IN THE COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY BRACING AND/OR SHORES TO SAFELY CONSTRUCT THE BUILDING AND PREVENT DAMAGE DURING CONSTRUCTION.

3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION THAT MAY AFFECT THE PROJECT AND REPORT DISCREPANCIES TO THE ENGINEER. ANY DIMENSIONS FOR ELEVATIONS THAT IMPACT NEW WORK SHALL BE VERIFIED PRIOR TO FABRICATION OF ANY MATERIAL. EXISTING BUILDING ELEMENTS THAT ARE TO BE ABANDONED THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.

4. WHEN A PIECE OF EQUIPMENT (HVAC, ELECTRICAL, KITCHEN, ETC.) IS PROVIDED THAT IS DIFFERENT THAN THE EQUIPMENT THAT THE STRUCTURE WAS DESIGNED FOR EITHER BY SIZE, WEIGHT OR CONFIGURATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REMEDY OF THE SITUATION. THOSE COSTS SHALL INCLUDE THE ENGINEERING COSTS TO REDESIGN PORTIONS OF THE STRUCTURE TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRUCTURAL DESIGN AND MATERIALS FOR ATTACHING NON-STRUCTURAL ELEMENTS TO ANY PORTION OF THE STRUCTURE TO RESIST ALL LOADS, INCLUDING SEISMIC, IN A WAY THAT DOES NOT OVERSTRESS STRUCTURAL MEMBERS. NON-STRUCTURAL ELEMENTS CAN BE FOUND IN EACH OF THE OTHER DISCIPLINES (ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC.).

STRUCTURAL TESTS, INSPECTIONS, AND QUALITY ASSURANCE

1. ALL STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED PER CHAPTER 17 OF THE BUILDING CODE WITH LOCAL SUPPLEMENTS, UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED.

INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONC. PLACEMENT

Inspection of Steel Elements of Composite Construction Prior to Concrete Placement	QUALITY CONTROL	QUALITY ASSURANCE
Placement and installation of steel deck	P	P
Placement and installation of steel headed stud anchors	P	P
Document acceptance or rejection of steel elements	P	P

Quality Control - Requirements on the part of the steel fabricator and erector.
Quality Assurance - Requirements on the part of the project owner's representative.
P Perform these tasks for each weld joint or member.
O Observe these items on a random basis. Operations need not be delayed pending these inspections

REQUIRED SPECIAL INSPECTIONS OF STEEL CONSTRUCTION OTHER THAN STRUCT STEEL

TYPE	FREQUENCY	REFERENCED STANDARD
1. Material verification of cold-formed steel deck:		
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Periodic	ASTM standards
b. Manufacturer's certified test reports.	Periodic	
2. Inspection of welding:		
a. Cold-formed steel deck:		
1. Floor and roof deck welds.	Periodic	AWS D1.3

REQUIRED QUALITY ASSURANCE PROTOCOL FOR MASONRY CONSTRUCTION

MINIMUM VERIFICATION REQUIREMENTS Minimum Verification	REQUIRED FOR QUALITY ASSURANCE[a] Level 1	Level 2	Level 3	REFERENCE FOR CRITERIA	TMS 602
Prior to construction, verification of compliance of submittals.	R	R	R		Art. 1.5
Prior to construction verification of f'_m and f'_{AAC} except where specifically exempted by the Code.	NR	R	R		Art. 1.4 B
During construction, verification of Slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project site.	NR	R	R		Art. 1.5 & 1.6.3
During construction, verification of f'_m and f'_{AAC} for every 5,000 sq. ft (465 sq. m).	NR	NR	R		Art. 1.4 B
During construction verification of proportions of materials as delivered to the project site for premixed or preblended mortar, prestressing grout, and grout other than self-consolidation grout.	NR	NR	R		Art. 1.4 B

MINIMUM SPECIAL INSPECTION Inspection Task	FREQUENCY[b] Level 1	Level 2	Level 3	REFERENCE FOR CRITERIA TMS 402	TMS 602
1. As masonry construction begins, verify that the following are in compliance:					
a. Proportions of site-prepared mortar	NR	P	P		Art. 2.1, 2.6 A & 2.6 C
b. Grade and size of prestressing tendons and anchorages	NR	P	P		Art. 2.4B & 2.4 H
c. Grade, type and size of reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages	NR	P	P		Art. 3.4 & 3.6 A
d. Prestressing technique	NR	P	P		Art. 3.6 B
e. Properties of thin-bed mortar for AAC masonry	NR	C[c]/P[d]	C		Art. 2.1 C.1
f. Sample panel construction	NR	P	C		Art. 1.6 D
2. Prior to grouting, verify that the following are in compliance:					
a. Grout space	NR	P	C		Art. 3.2 D & 3.2 F
b. Placement of prestressing tendons and anchorages	NR	P	P	Sec. 10.8 & 10.9	Art. 2.4 & 3.6
c. Placement of reinforcement, connectors, and anchor bolts	NR	P	C	Sec. 6.1, 6.3.1, 6.3.6 & 6.3.7	Art. 3.2 E & 3.4
d. Proportions of site-prepared grout and prestressing grout for bonded tendons	NR	P	P		Art. 2.6 B & 2.4 G.1.b
3. Verify compliance of the following during construction:					
a. Materials and procedures with the approved submittals	NR	P	P		Art. 1.5
b. Placement of masonry units and mortar joint construction	NR	P	P		Art. 3.3 B
c. Size and location of structural members	NR	P	P		Art. 3.3 F
d. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction	NR	P	C	Sec. 1.2.1 (e), 6.2.1 & 6.3.1	
e. Welding reinforcement	NR	C	C	Sec. 6.1.6.1.2	
f. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F(4.4°C)) or hot weather (temperature above 90°F (32.2°C))	NR	P	P		Art. 1.8 C & 1.8 D
g. Application and measurement of prestressing force	NR	C	C		Art. 3.6 B
h. Placement of grout and prestressing grout for bonded tendons is in compliance	NR	C	C		Art. 3.5 & 3.6 C
i. Placement of AAC masonry units and construction of thin-bed mortar joints	NR	C[c]/P[d]	C		Art. 3.3 B.9, & 3.3 F.1.b
4. Observe preparation of grout specimens, mortar specimens, and/or prisms	NR	P	C		Art. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3 & 1.4 B.4

(a) R = Required, NR = Not Required
(b) Frequency refers to the frequency of inspection, which may be continuous during the task listed or periodically during the listed task, as defined in the table.
NR = Not Required, P = Periodic, C = Continuous
(c) Required for the first 5000 square feet (465 square meters) of AAC masonry
(d) Required after the first 5000 square feet (465 square meters) of AAC masonry

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	FREQUENCY	REFERENCED STANDARD	IBC REFERENCE
1. Inspect reinforcement, including prestressing tendons, and verify placement.	Periodic	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. Reinforcing bar welding: a. Verify weldability of reinforcing bars other than ASTM A706 b. Inspect single-pass fillet welds, maximum 5/16"; and c. Inspect all other welds.	Periodic Periodic Continuous	AWS D1.4 ACI 318: 26.6.4	
3. Inspect anchors cast in concrete.	Periodic	ACI 318: 17.8.2	
4. Inspection of anchors post installed in hardened concrete members.[b] a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads. b. Mechanical anchors and adhesive anchors not defined in 4.a.	Continuous Periodic	ACI 318: 17.8.2.4 ACI 318: 17.8.2	
5. Verify use of required design mix.	Periodic	ACI318: Ch.19, 26.4.3, 26.4.4	1904.1, 1904.2 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Continuous	ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1908.10
7. Inspection of concrete and shotcrete placement for proper application techniques.	Continuous	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	Periodic	ACI 318: 26.5.3-26.5.5	1908.9
9. Inspection of prestressed concrete for: a. Application of prestressing forces; and b. Grouting of bonded prestressing tendons.	Continuous Continuous	ACI 318: 26.10 ACI 318: 26.10	
10. Inspect erection of precast concrete members.	Periodic	ACI 318: Ch. 26.9	
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	Periodic	ACI 318: 26.11.2	
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	Periodic	ACI 318: 26.11.1.2(b)	

(a) Where applicable, see Section 1705.12, Special inspections for seismic resistance.
(b) Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS

TYPE	FREQUENCY	REFERENCED STANDARD
1. Installation of open-web steel joists and joist girders.		
a. End connections - welding or bolted.	Periodic	SJI spec listed in Section 2207.1.
b. Bridging - horizontal or diagonal.		
1. Standard bridging	Periodic	SJI spec listed in Section 2207.1.
2. Bridging that differs from the SJI specifications listed in Section 2207.1.	Periodic	

REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL FOR WELDING PROCESS

Inspection Tasks Prior to Welding	QUALITY CONTROL	QUALITY ASSURANCE
Welding procedure specifications (WPSs) available	P	P
Manufacturer certifications for welding consumables available	P	P
Material identification (type/grade)	O	O
Welder identification system[1]	O	O
Fit-up of groove welds (including joint geometry) • Joint preparation • Dimensions (alignment, root opening, root face, bevel) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location) • Backing type and fit (if applicable)	O	O
Configuration and finish of access holes	O	O
Fit-up of fillet welds • Dimensions (alignment, gaps at root) • Cleanliness (condition of steel surfaces) • Tacking (tack weld quality and location)	O	O
Check welding equipment	O	--
Inspection Tasks During Welding	**QUALITY CONTROL**	**QUALITY ASSURANCE**
Use of qualified welders	O	O
Control and handling of welding consumables • Packaging • Exposure Control	O	O
No welding over cracked tack welds	O	O
Environmental conditions • Wind speed within limits • Precipitation and temperature	O	O
WPS followed • Settings on welding equipment • Travel speed • Selected welding materials • Shielding gas type/flow rate • Preheat applied • Interpass temperature maintained (min/max) • Proper position (F, V, H, OH)	O	O
Welding Techniques • Interpass and final cleaning • Each pass within profile limitations • Each pass meets quality requirements	O	O
Inspection Tasks After Welding	**QUALITY CONTROL**	**QUALITY ASSURANCE**
Welds cleaned	O	O
Size, length and location of welds	P	P
Welds meet visual acceptance criteria • Crack prohibition • Weld/base-metal fusion • Crater cross section • Weld profiles • Weld size • Undercut • Porosity	P	P
Arc strikes	P	P
k-area[2]	P	P
Backing removed and weld tabs removed (if required)	P	P
Repair activities	P	P
Document acceptance or rejection of welded joint or member	P	P

Quality Control - Requirements on the part of the steel fabricator and erector.
Quality Assurance - Requirements on the part of the project owner's representative.
P Perform these tasks for each weld joint or member.
O Observe these items on a random basis. Operations need not be delayed pending these inspections
1 The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.
2 When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 inches (75 mm) of the weld.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL FOR BOLTING PROCESS

Inspection Tasks Prior to Bolting	QUALITY CONTROL	QUALITY ASSURANCE
Manufacturer certifications available for fastener materials	O	P
Fasteners marked in accordance with ASTM requirements	O	O
Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	O
Proper bolting procedure selected for joint detail	O	O
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	O	O
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	P	O
Proper storage provided for bolts, nuts, washers and other components	O	O
Inspection Tasks During Bolting	**QUALITY CONTROL**	**QUALITY ASSURANCE**
Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required	O	O
Joint brought to the snug-tight condition prior to the pretensioning operation	O	O
Fastener component not turned by the wrench prevented from rotating	O	O
Fasteners are pretentioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges	O	O
Inspection Tasks After Bolting	**QUALITY CONTROL**	**QUALITY ASSURANCE**
Document acceptance or rejection of bolted connections	P	P

Quality Control - Requirements on the part of the steel fabricator and erector.
Quality Assurance - Requirements on the part of the project owner's representative.
P Perform these tasks for each weld joint or member.
O Observe these items on a random basis. Operations need not be delayed pending these inspections

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

TYPE	FREQUENCY
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Periodic
2. Verify excavations are extended to proper depth and have reached proper material.	Periodic
3. Perform classification and testing of compacted fill materials.	Periodic
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Continuous
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	Periodic

Special Inspection Additional Requirements:

- Additional items that need special inspection, in the opinion of the building official, shall be inspected.
- Coordination of Special Inspections with construction of the inspected items shall be the responsibility of the contractor.
- If Special Inspection is waived by the Authority having Jurisdiction, the general contractor shall provide the designer of record with a copy of the written exemption for each item that has been waived.
- The building official may perform inspections in addition to and/or concurrently with the Special Inspection's outlined in the tables.
- The general contractor is responsible for implementing a quality control program. The quality control program is in addition to the Special Inspection requirements and must meet or exceed those responsibilities required as part of the contract drawings and specifications.

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LEE'S SUMMIT MUNICIPAL AIRPORT
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GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON T. LOEHR
NUMBER PE-2022000051
03/04/2025
PROFESSIONAL ENGINEER

MARK	DATE	DESCRIPTION

ISSUED FOR:	FINAL REVIEW
PROJECT NO:	250104-000
REVIT FILE:	250104-000_STRUCT_R24.rvt
DESIGNED BY:	JSH
DRAWN BY:	DGC
CHECKED BY:	MWK
APPROVED BY:	WTL

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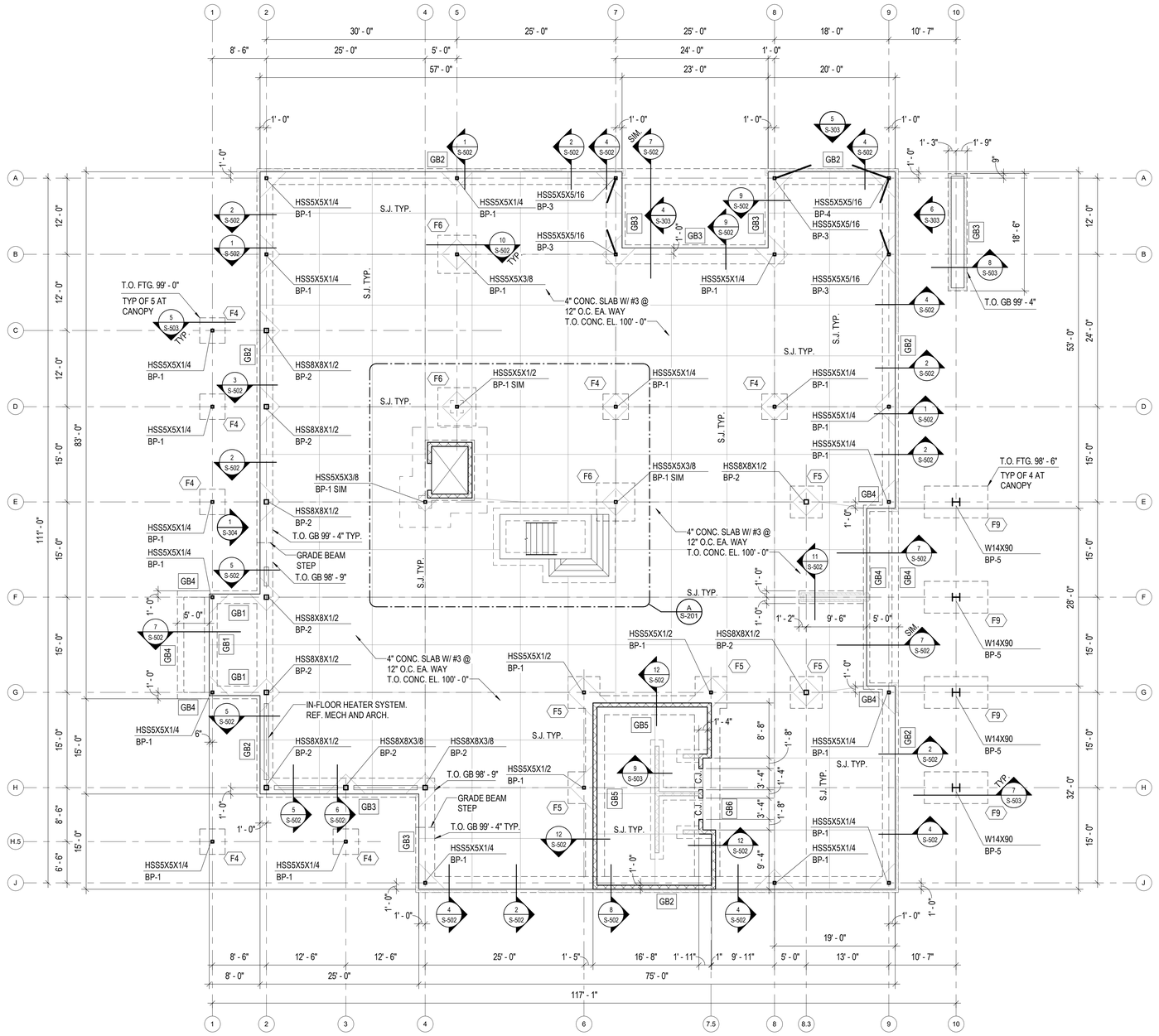
GENERAL NOTES AND IBC INSPECTION TABLES

S-002

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PLAN NOTES:

1. TOP OF CONC. AT INTERIOR FOUNDATIONS IS 99' - 4" UNLESS NOTED OTHERWISE
2. TOP OF CONC. AT EXTERIOR FOUNDATIONS IS 99' - 4" UNLESS NOTED OTHERWISE



N

A FOUNDATION PLAN

0' 4' 8' 12' **1/8" = 1'-0"**

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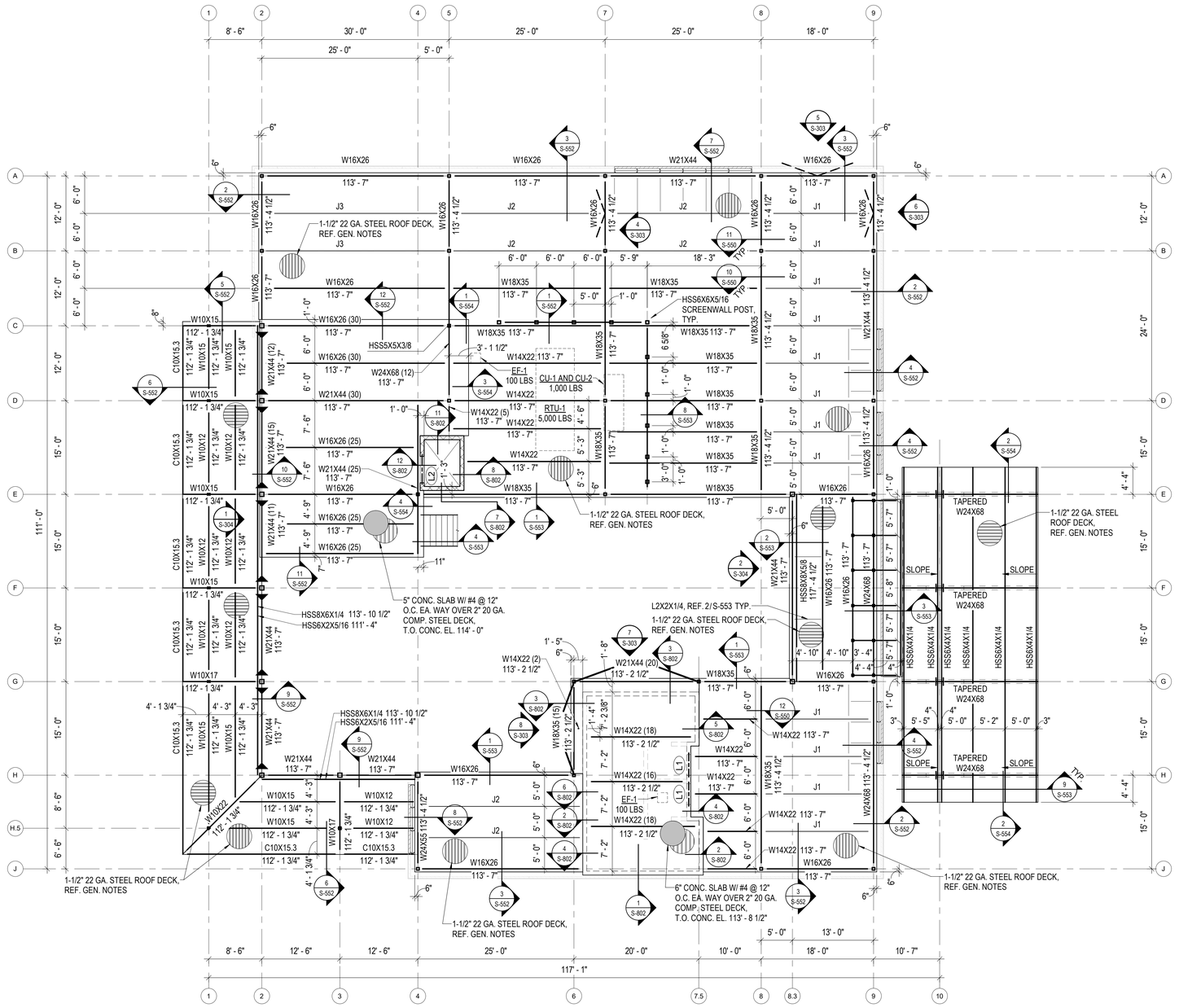
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FOUNDATION PLAN

S-101



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A MEZZANINE AND LOW ROOF FRAMING PLAN

0' 4' 8' 12' **1/8" = 1'-0"**

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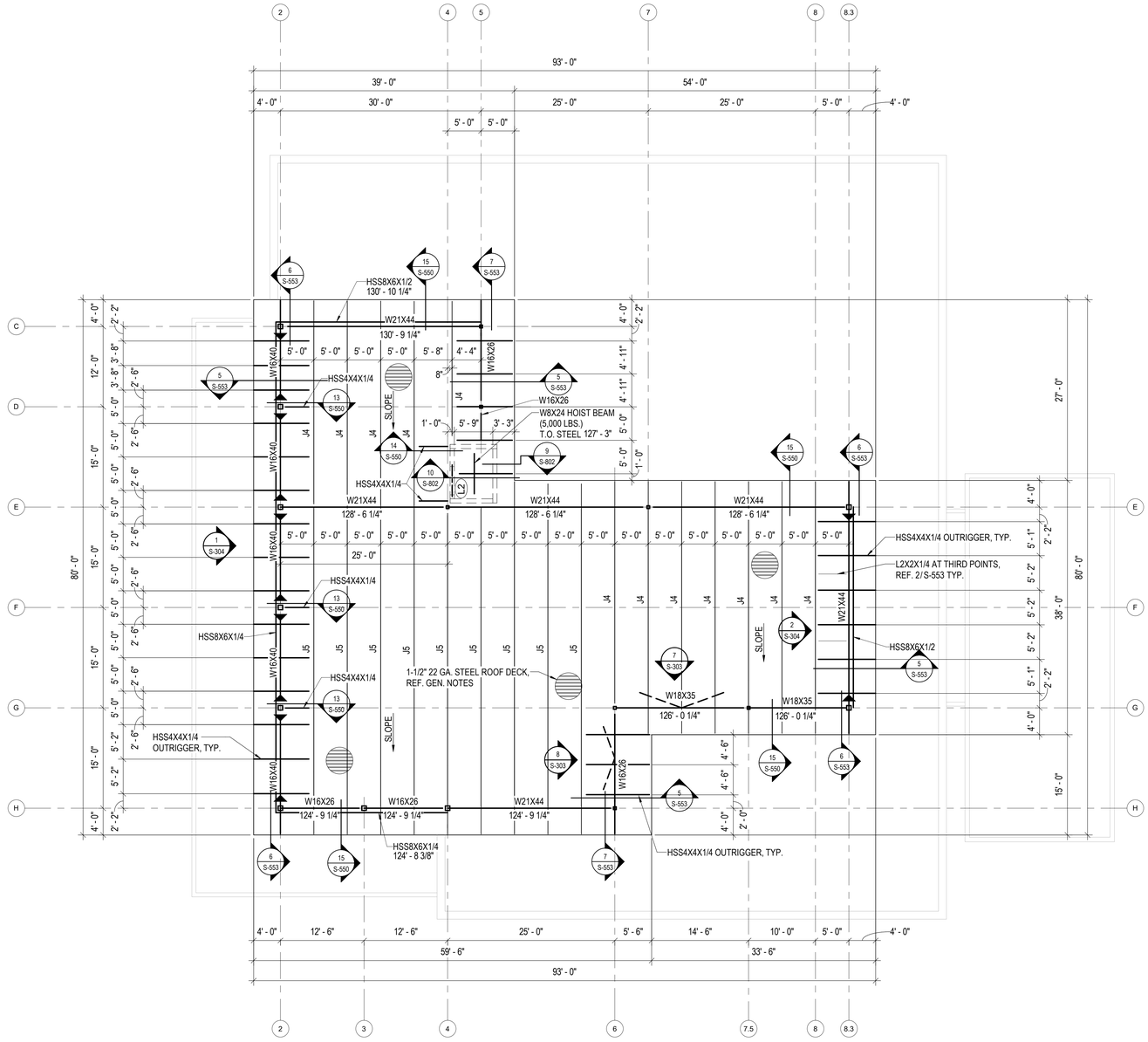
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MEZZANINE AND LOW ROOF FRAMING PLAN

S-102



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A HIGH ROOF FRAMING PLAN

0' 4' 8' 12'

1/8" = 1'-0"

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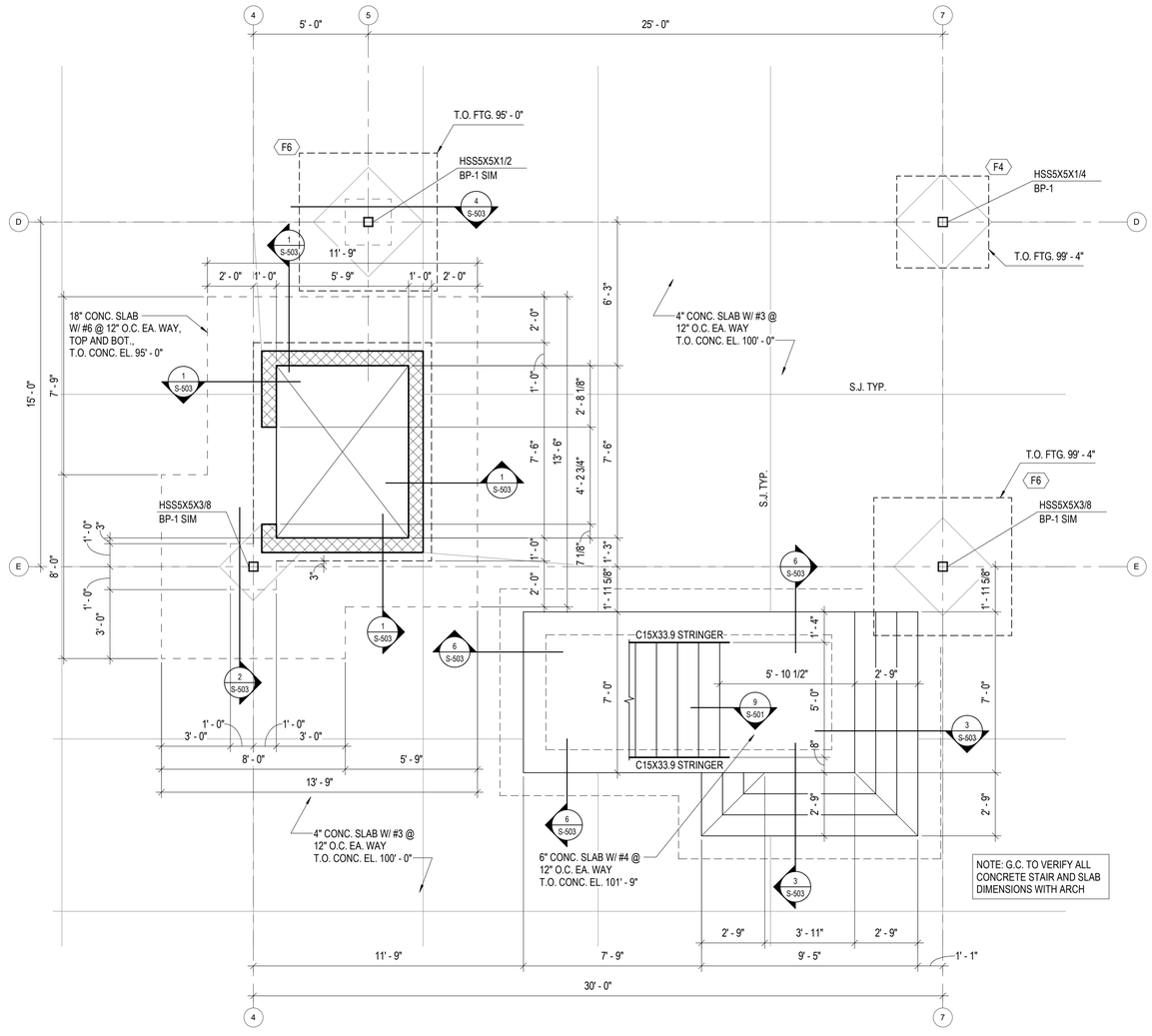
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HIGH ROOF FRAMING PLAN

S-103



N

A ENLARGED FOUNDATION PLAN AT STAIRS AND ELEVATOR

0' 4' 8' 12' **3/8" = 1'-0"**

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ENLARGED PLAN

S-201

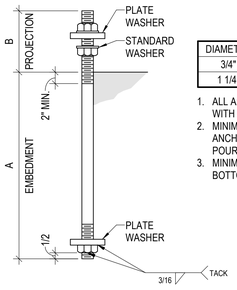
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FOOTING SCHEDULE

MARK	WIDTH	LENGTH	THICKNESS	REINFORCING	NOTES
F4	4' - 0"	4' - 0"	1' - 4"	#6 @ 12" O.C. EA. WAY, BOT.	
F5	5' - 0"	5' - 0"	1' - 4"	#6 @ 12" O.C. EA. WAY, BOT.	
F6	6' - 0"	6' - 0"	1' - 4"	#6 @ 12" O.C. EA. WAY, BOT.	
F9	5' - 0"	10' - 0"	2' - 0"	#6 @ 9" O.C EA. WAY, TOP & BOT.	

GRADE BEAM SCHEDULE

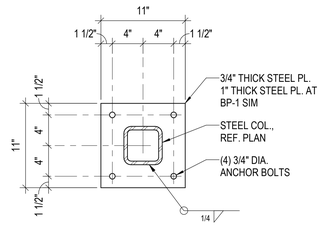
MARK	WIDTH	HEIGHT	REINFORCING	NOTES
GB1	2' - 0"	3' - 0"	(3) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.	
GB2	2' - 6"	3' - 0"	(4) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.	
GB3	3' - 0"	3' - 0"	(5) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.	
GB4	1' - 0"	3' - 0"	(2) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.	
GB5	3' - 0"	1' - 4"	(4) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.	
GB6	4' - 0"	1' - 4"	(5) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.	



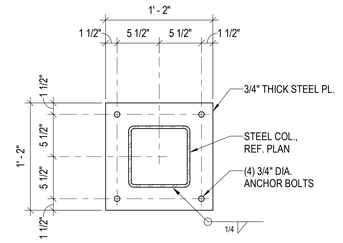
DIAMETER	A	B	PLATE SIZE
3/4"	1'-0"	6"	1/4"X2"
1 1/4"	1'-9"	8"	1/2"X3"

1. ALL ANCHOR BOLTS ARE TO BE SUPPLIED WITH 3 NUTS.
2. MINIMUM EMBEDMENT LENGTH OF ANCHOR MUST BE PLACED INTO A SINGLE POUR OF CONCRETE.
3. MINIMUM OF 3" CLEAR COVER TO BOTTOM OF FOUNDATION.

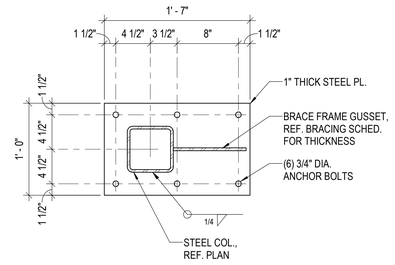
1 TYPICAL ANCHOR BOLT DETAIL
3/4" = 1'-0"



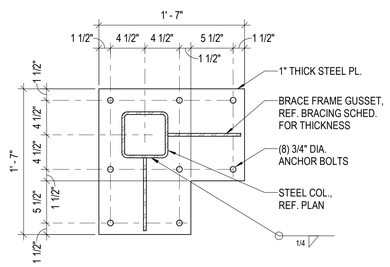
2 BP-1
1 1/2" = 1'-0"



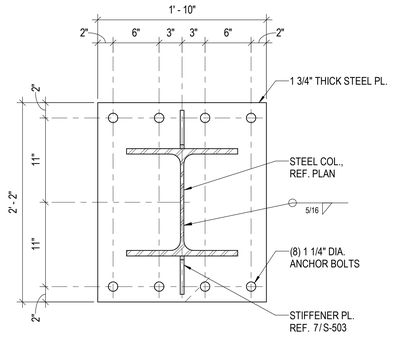
3 BP-2
1 1/2" = 1'-0"



4 BP-3
1 1/2" = 1'-0"



5 BP-4
1 1/2" = 1'-0"



6 BP-5
1 1/2" = 1'-0"

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GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON W. LOEHR
NUMBER PE-2022000051
03/04/2025
PROFESSIONAL ENGINEER

MARK	DATE	DESCRIPTION

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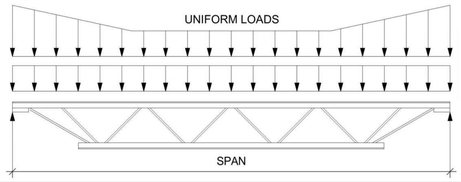
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SCHEDULES AND DETAILS

S-301

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JOIST SCHEDULE

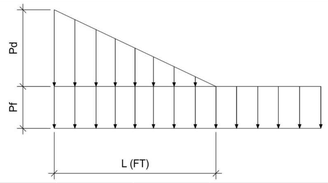


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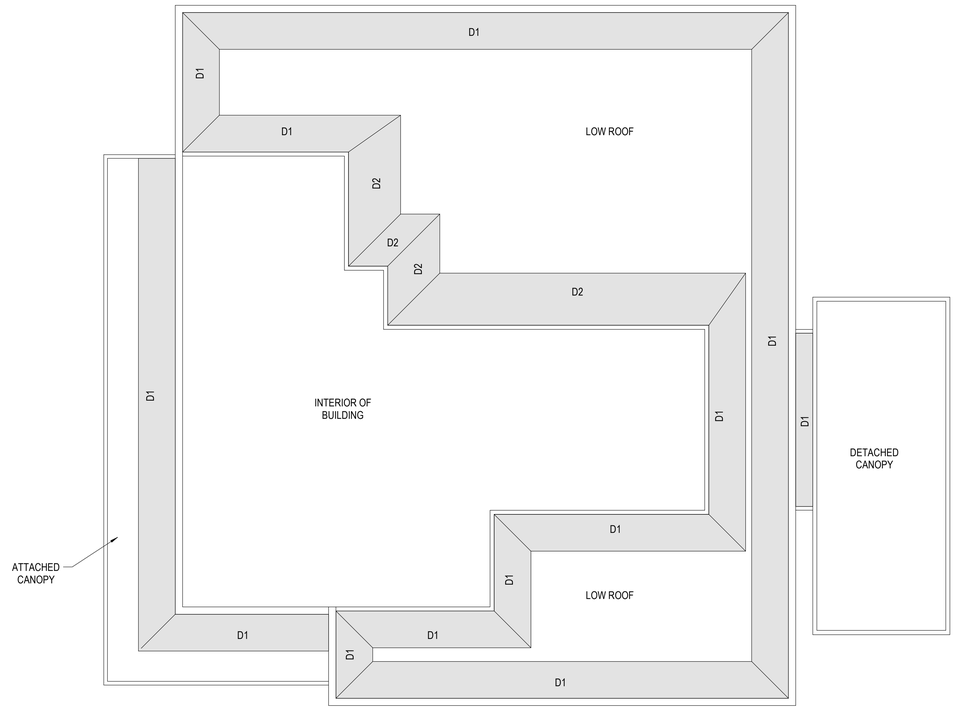
1. REF. THE DELEGATED ENGINEERING OF STRUCTURAL COMPONENTS & SYSTEMS SECTION OF THE GENERAL NOTES FOR ADDITIONAL JOIST REQUIREMENTS.
2. DESIGN JOISTS FOR THE CODE MANDATED GRAVITY AND LATERAL LOADS, REF. GENERAL NOTES, PLANS, AND DETAILS FOR LOADING CRITERIA.
3. DESIGN JOISTS FOR SNOW DRIFT, REF. GENERAL NOTES AND SNOW DRIFT TABLE.
4. DESIGN JOISTS FOR POSITIVE AND NEGATIVE (UPLIFT) WIND LOADS, REF. GENERAL NOTES AND COMPONENTS & CLADDING TABLE.
5. DESIGN JOISTS FOR A 2250# ALLOWABLE ROLLOVER FORCE ACROSS THE JOIST SEAT.
6. DESIGN JOISTS FOR TOP CHORD UNFACTORED ALLOWABLE (1.0W U.N.O.) AXIAL TENSION/COMPRESSION AS NOTED ON THE PLANS (T/C=?.?K).
7. REF. ALL PROJECT DESIGN PLANS AND DETAILS FOR ADDITIONAL POINT LOADS ON JOISTS (ARCH., MECH., ELEC., ETC.).
8. JOIST DESIGNER MAY CAMBER FOR THE DEAD LOAD OF THE JOIST ONLY. NO ADDITIONAL CAMBER MAY BE USED.
9. REF. THE MOVEMENT AND SERVICEABILITY SECTION OF THE GENERAL NOTES FOR MINIMUM JOIST DEFLECTION REQUIREMENTS.
10. REF. PLAN AND DETAILS FOR JOIST CHORD EXTENSIONS, WHERE APPLICABLE.

TYPE	DEPTH	SERIES	SEAT DEPTH		NOTES
			LEFT	RIGHT	
J1	12"	K	2 1/2"	2 1/2"	
J2	18"	K	2 1/2"	2 1/2"	
J3	22"	K	2 1/2"	2 1/2"	
J4	22"	K	4"	4"	
J5	30"	K	4"	4"	

SNOW DRIFT SCHEDULE



MARK	Pd MAX. (PSF)	Pf (PSF)	LENGTH (L)	NOTES
D1	35.0	20.0	6'-0"	
D2	48.0	20.0	8'-6"	



1 SNOW DRIFT PLAN

NO SCALE

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olsson
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NORTH KANSAS CITY, MO 64116

LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON T. LOEHR
NUMBER PE-2022000051
03/04/2025
PROFESSIONAL ENGINEER

MARK	DATE	DESCRIPTION

ISSUED FOR:	FINAL REVIEW
PROJECT NO:	250104-000
REVIT FILE:	250104-000_STRUCT_R24.rvt
DESIGNED BY:	JSH
DRAWN BY:	DGC
CHECKED BY:	MWK
APPROVED BY:	WTL

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SHEET TITLE

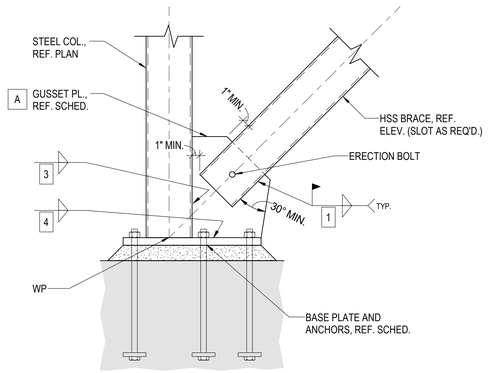
SCHEDULES AND DETAILS

S-302

3/3/2025 4:44:07 PM

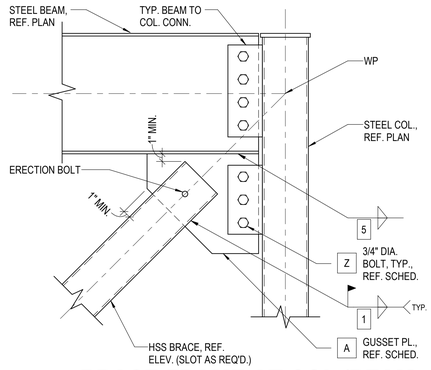
BRACING SCHEDULE

FRAME ELEVATION	LEVEL	GUSSET THICKNESS [A]	BRACE TO GUSSET		CHEVRON GUSSET TO BEAM		GUSSET TO COLUMN			GUSSET TO BASE PLATE		GUSSET TO BEAM	
			WELD SIZE [1]	MIN. LENGTH	WELD SIZE [2]	MIN. LENGTH	WELD SIZE [3]	MIN. HEIGHT	# OF BOLTS [Z]	WELD SIZE [4]	MIN. LENGTH	WELD SIZE [5]	MIN. LENGTH
1	LOW ROOF	3/8"	1/4"	6"	1/4"	20"	1/4"	14"	N/A	1/4"	10"	N/A	N/A
2	LOW ROOF	3/8"	1/4"	6"	1/4"	24"	1/4"	18"	N/A	1/4"	10"	N/A	N/A
3	LOW ROOF	3/8"	1/4"	6"	1/4"	20"	1/4"	14"	N/A	1/4"	10"	N/A	N/A
4	HIGH ROOF	3/8"	1/4"	6"	1/4"	36"	1/4"	10"	3	N/A	N/A	1/4"	16"
5	HIGH ROOF	3/8"	1/4"	6"	1/4"	22"	1/4"	20"	5	N/A	N/A	1/4"	10"



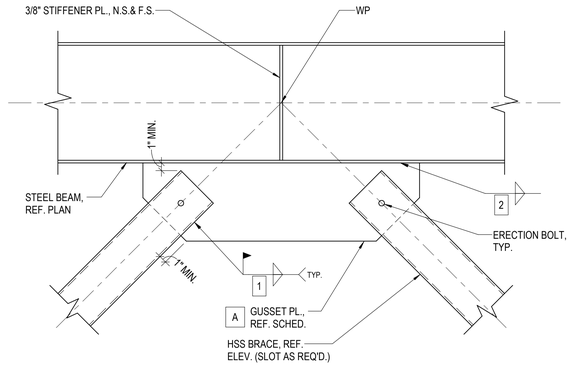
1 BRACE FRAME AT BASE PLATE

NO SCALE



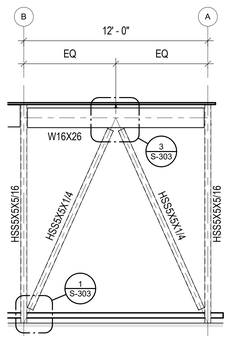
2 BRACE FRAME AT COL./BEAM

NO SCALE



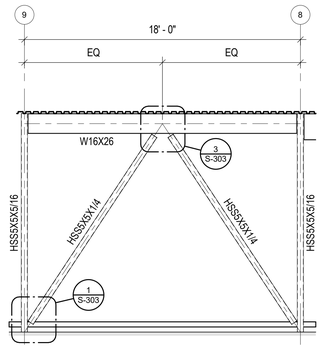
3 BRACE FRAME AT BEAM

NO SCALE



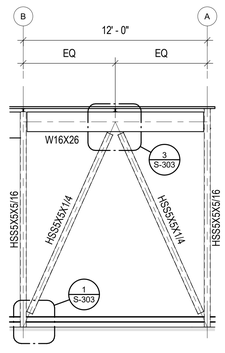
4 BRACE FRAME ELEVATION 1 - GRID 7

1/4" = 1'-0"



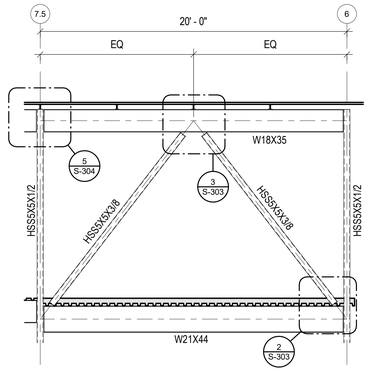
5 BRACE FRAME ELEVATION 2 - GRID A

1/4" = 1'-0"



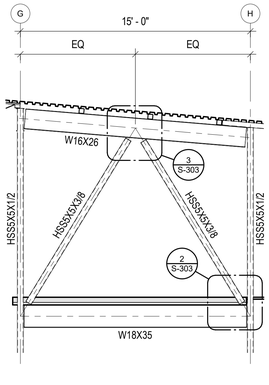
6 BRACE FRAME ELEVATION 3 - GRID 9

1/4" = 1'-0"



7 BRACE FRAME ELEVATION 4 - GRID G

1/4" = 1'-0"



8 BRACE FRAME ELEVATION 5 - GRID 6

1/4" = 1'-0"

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LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON T. LOEHR
NUMBER PE-2022000051
PROFESSIONAL ENGINEER
03/04/2025

MARK	DATE	DESCRIPTION

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CHECKED BY:	MWK
APPROVED BY:	WTL

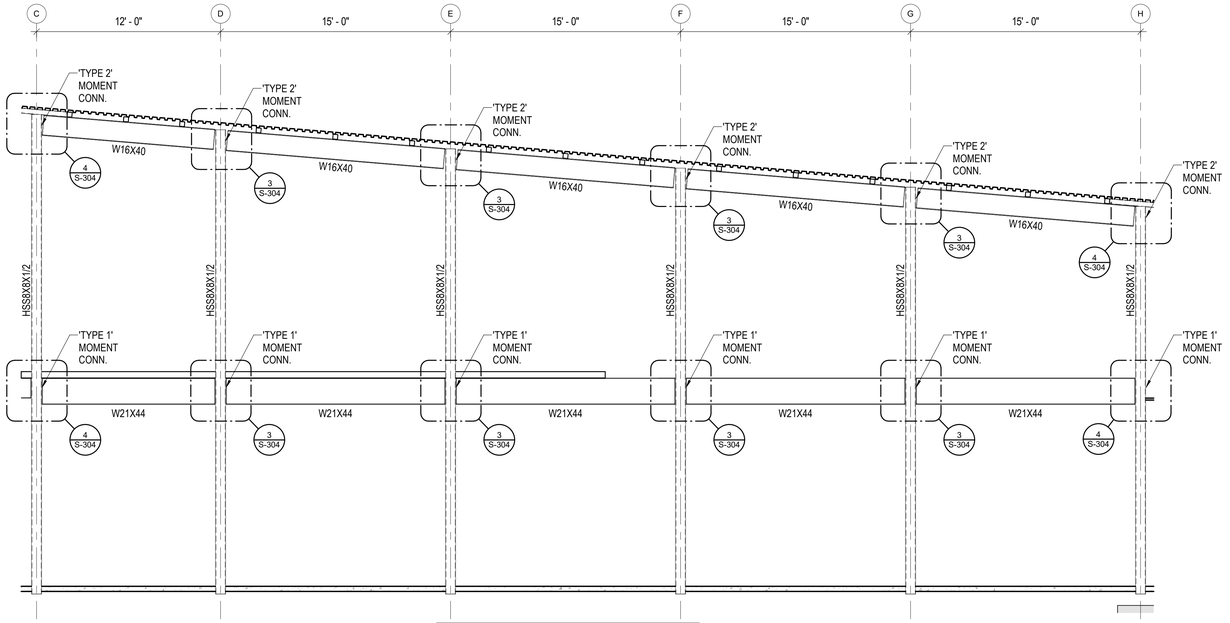
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BRACE FRAME SCHEDULE AND DETAILS

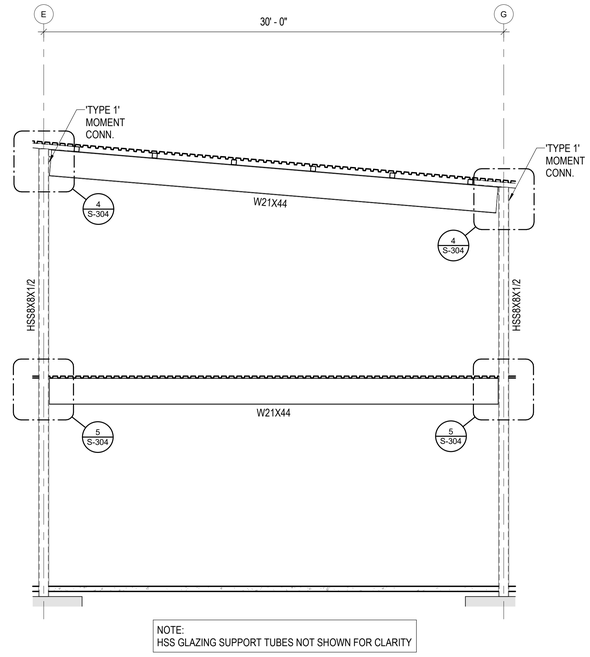
S-303

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1 GRID 2 MOMENT FRAME (LOOKING EAST)

1/4" = 1'-0"



2 GRID 8.3 MOMENT FRAME (LOOKING EAST)

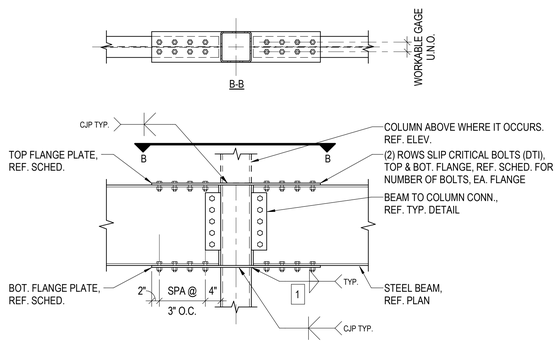
1/4" = 1'-0"

MOMENT CONNECTION SCHEDULE

NOTES:

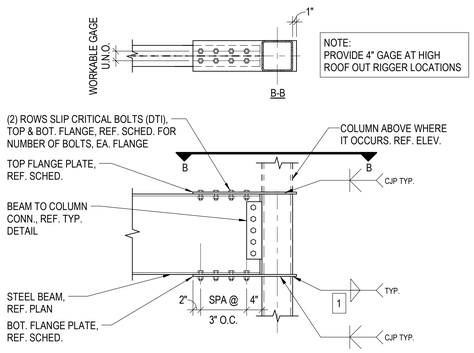
1. PROVIDE CLASS A FAYING SURGACE AT ALL MOMENT CONNECTIONS.
2. CONNECTING BOLTS SHALL BE SLIP-CRITICAL (SC) AND SHALL BE PRE-TENSIONED TO ASTM STANDARDS
3. NUMBER OF BOLTS LISTED IN TABLE IS PER ONE FLANGE PLATE. PROVIDE SAME QUANTITY AND SIZE OF BOLTS FOR BOTH TOP AND BOTTOM PLANGE PLATE CONNECTIONS AND EACH SIDE OF COLUMN, WHERE APPLICABLE.
4. REFERENCE MOMENT CONNECTION DETAIL FOR BOLT SPACING AND EDGE DISTANCE/MINIMUM REQUIREMENTS.

MARK	COLUMN SIZE	BEAM SIZE	MIN. PLATE THICKNESS	MIN. PLATE WIDTH	PLATE TYPE	BOLT DIA.	BOLT QUANTITY	BOLT TYPE	WELD SIZE [1]
TYPE 1	HSS8X8	W21X	1/2"	8"	A36 (36 KSI)	3/4"	8	A325-SC	5/16"
TYPE 2	HSS8X8	W16X	1/2"	8"	A36 (36 KSI)	3/4"	8	A325-SC	5/16"
TYPE 3	W14X	W24X	1"	8"	A36 (36 KSI)	3/4"	10	A325-SC	5/16"



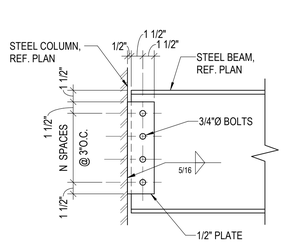
3 MOMENT CONN. AT HSS COL.

NO SCALE



4 MOMENT CONN. AT HSS COL.

NO SCALE



BEAM CONNECTION SCHEDULE		
BEAM DEPTH	NUMBER OF BOLTS	BOLT DIAMETER
W8	2	3/4" DIA.
W10		
W12	3	3/4" DIA.
W14		
W16		
W18	4	3/4" DIA.
W21	5	3/4" DIA.
W24	6	3/4" DIA.
W27	7	3/4" DIA.
W30	8	3/4" DIA.
W33	9	3/4" DIA.

5 TENSION CONNECTION (SINGLE ROW)

NO SCALE

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LEE'S SUMMIT MUNICIPAL AIRPORT
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GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON T. LOEHR
NUMBER PE-2022000051
03/04/2025
PROFESSIONAL ENGINEER

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CHECKED BY:	MWK
APPROVED BY:	WTL
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MOMENT FRAME ELEVATIONS AND DETAILS

S-304

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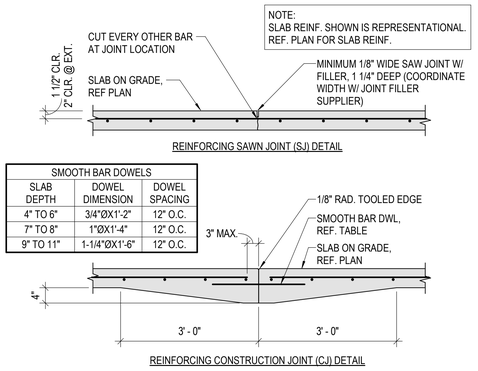
CONCRETE REINFORCEMENT LAP, EMBEDMENT, AND HOOK LENGTHS

fy = 60,000 PSI **f'c = 4,000 PSI**

NOTES:

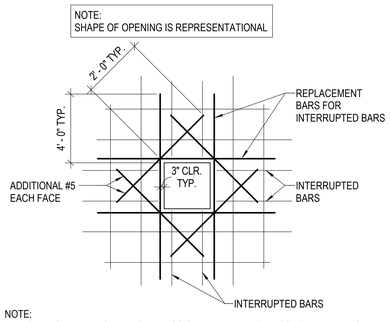
1. LENGTHS SHOWN CONFORM WITH NON-SEISMIC PROVISIONS OF ACI 318 FOR UNCOATED BARS.
2. BAR CLEAR SPACING IS THE CENTER TO CENTER BAR SPACING MINUS ONE BAR DIAMETER.
3. CLASS A LAP LENGTHS APPLY WHEN BAR LAPS ARE STAGGERED TO LAP HALF THE BARS AT THE SAME LOCATION. USE CLASS B LAP FOR ALL OTHER CASES.
4. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THE REINFORCEMENT.
5. MULTIPLY LENGTHS GIVEN BY 2.0 FOR BARS WITH CLEAR SPACING OF TWO BAR DIAMETERS OR LESS, OR CONCRETE COVER OF ONE BAR DIAMETER OR LESS.

BAR SIZE	CLEAR SPACING (S) (IN)			EMBEDMENT & CLASS A LAP (IN)						CLASS B LAP (IN)						HOOK EMBED (IN)
				TOP BAR			OTHER BARS			TOP BAR			OTHER BARS			
	2d	3d	5d	2d<s<3d	S>3d	S>5d	2d<s<3d	S>3d	S>5d	2d<s<3d	S>3d	S>5d	2d<s<3d	S>3d	S>5d	
3	3/4	1-1/8	1-7/8	28	18	12	21	14	12	36	24	14	28	18	12	8
4	1	1-1/2	2-1/2	37	25	15	28	19	12	48	32	19	37	25	15	10
5	1-1/4	1-7/8	3-1/8	46	31	18	36	24	14	60	40	24	46	31	18	12
6	1-1/2	2-1/4	3-3/4	55	37	22	43	28	17	72	48	29	55	37	22	15
7	1-3/4	2-5/8	4-3/8	81	54	32	62	42	25	105	70	42	81	54	32	18
8	2	3	5	92	62	37	71	47	28	120	80	48	92	62	37	20
9	2-1/4	3-3/8	5-5/8	104	70	42	80	54	32	136	90	54	104	70	42	22
10	2-1/2	3-3/4	6-3/8	117	78	47	90	60	36	153	102	61	117	78	47	25
11	2-7/8	4-1/4	7	130	87	52	100	67	40	170	113	68	130	87	52	27



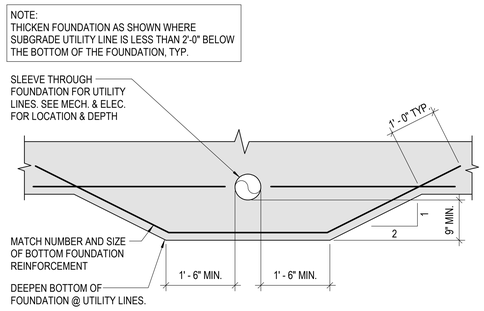
1 TYP. SLAB ON GRADE JOINT

NO SCALE



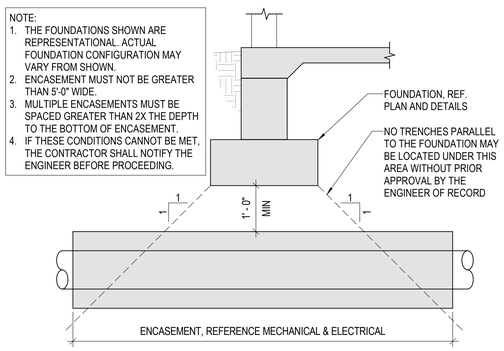
2 TYP. CONC. OPENING REINF.

NO SCALE



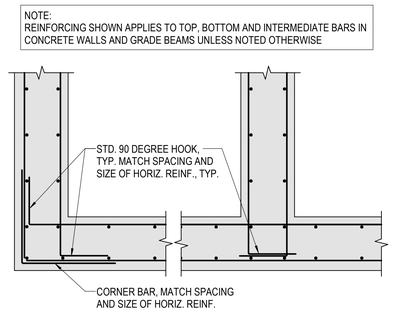
3 TYP. UTILITY THRU FTG.

NO SCALE



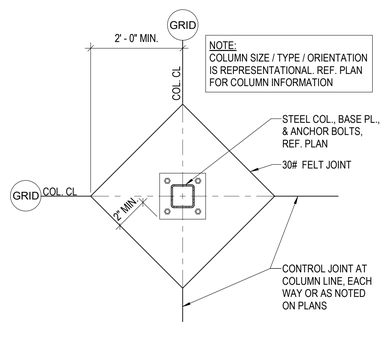
4 UTILITY ENCASEMENT UNDER FTG.

NO SCALE



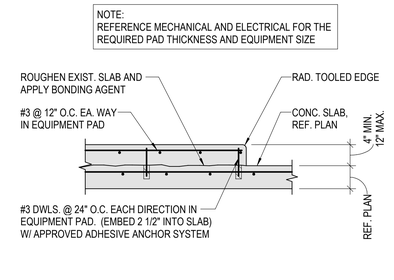
5 TYP. CORNER/INTERSECTION

NO SCALE



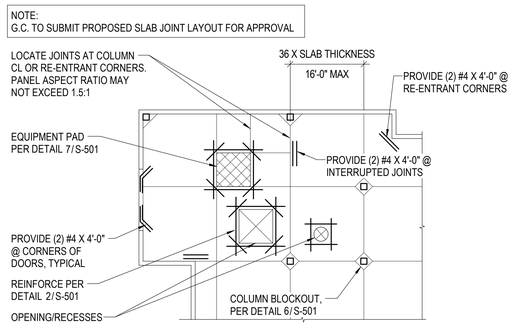
6 TYP. COL. ISOLATION JOINT

NO SCALE



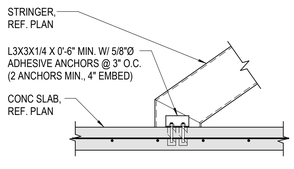
7 TYP. INTERIOR EQUIP. PAD

NO SCALE



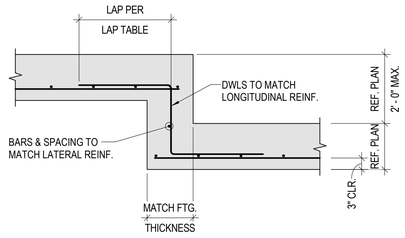
8 TYP. SLAB JOINT DETAIL

NO SCALE



9 SECTION AT STAIR STRINGER

NO SCALE



10 TYP. GRADE BEAM STEP

NO SCALE

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GENERAL AVIATION TERMINAL
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STATE OF MISSOURI
WESLEY T. LOEHR
NUMBER PE-2022000051
03/04/2025
PROFESSIONAL ENGINEER

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APPROVED BY:	WTL

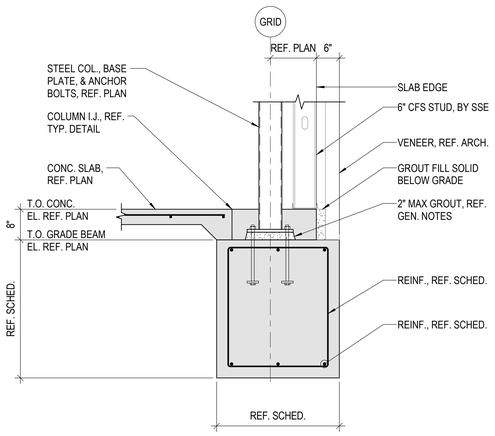
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TYPICAL FOUNDATION DETAILS

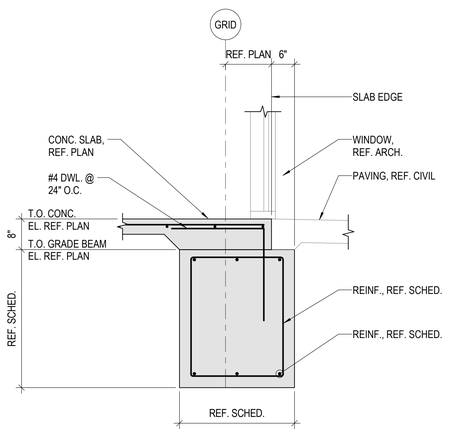
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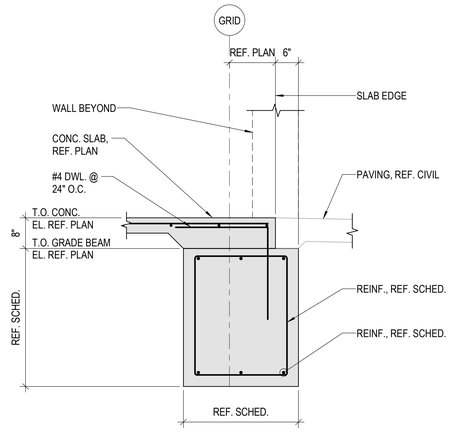
1 GRADE BEAM AT COLUMN

3/4" = 1'-0"



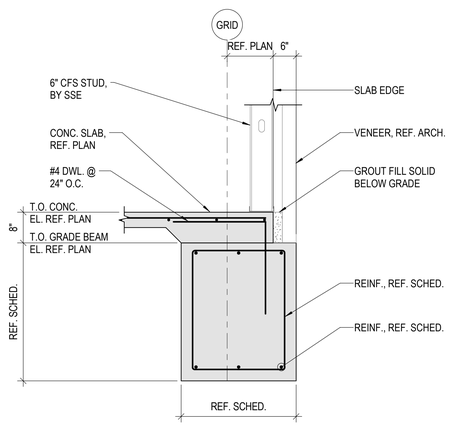
2 GRADE BEAM AT GLAZING

3/4" = 1'-0"



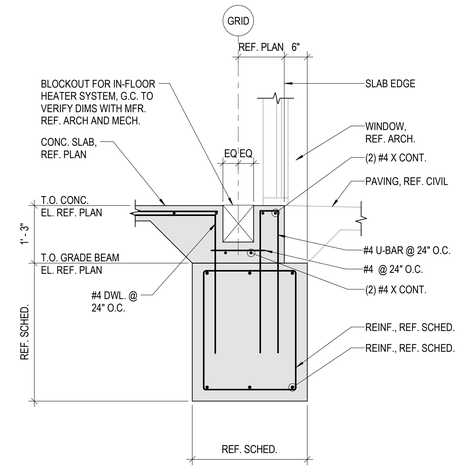
3 GRADE BEAM AT OPENING

3/4" = 1'-0"



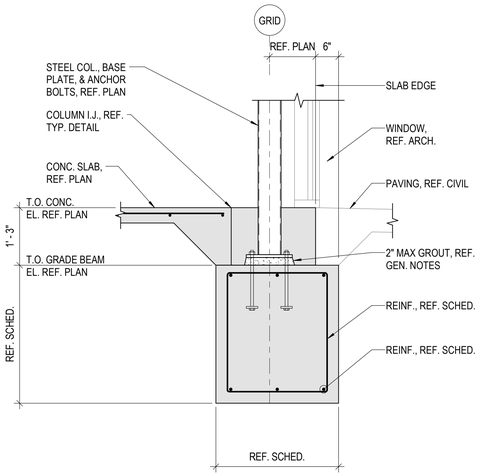
4 GRADE BEAM AT STUD WALL

3/4" = 1'-0"



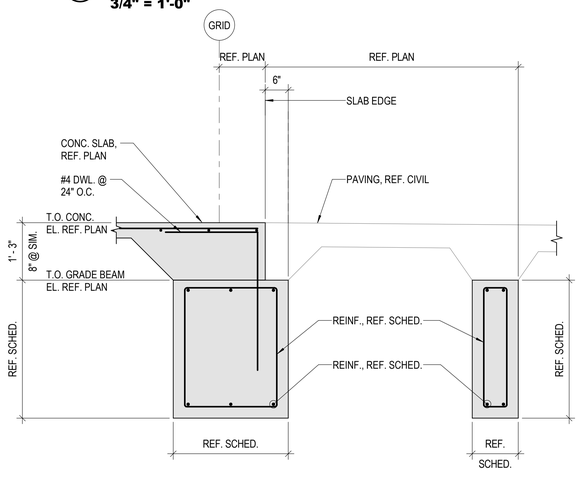
5 GRADE BEAM AT IN-FLOOR HEATER

3/4" = 1'-0"



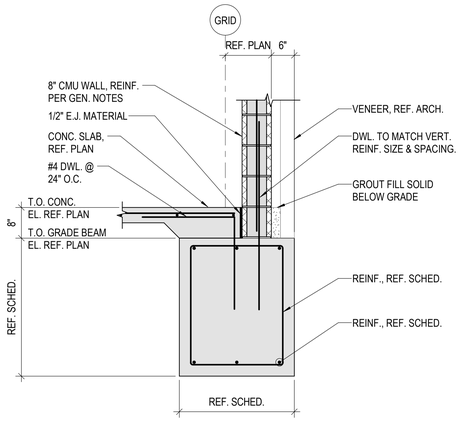
6 GRADE BEAM AT COLUMN

3/4" = 1'-0"



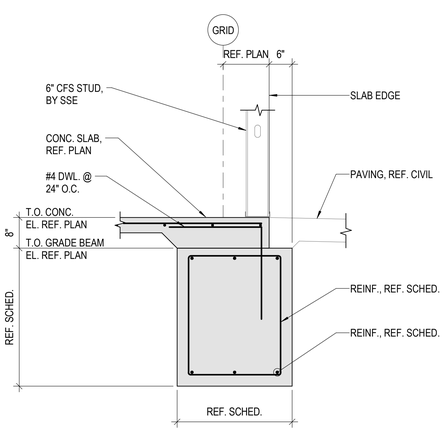
7 STRUCTURAL STOOP

3/4" = 1'-0"



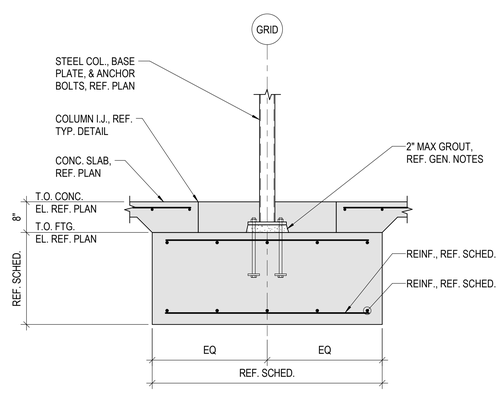
8 GRADE BEAM AT CMU WALL

3/4" = 1'-0"



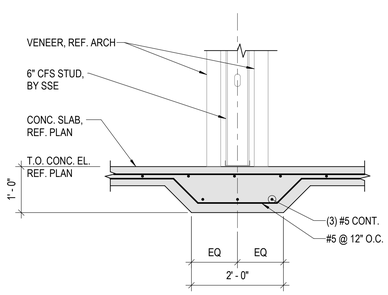
9 GRADE BEAM STUD WALL

3/4" = 1'-0"



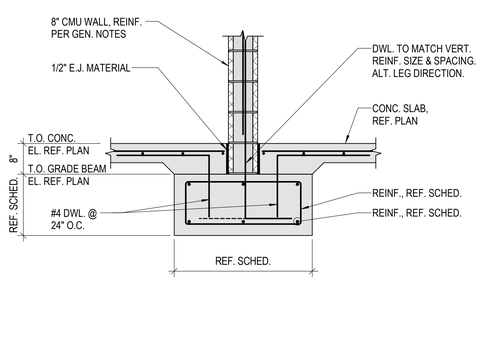
10 INTERIOR COLUMN FTG.

3/4" = 1'-0"



11 THICKENED SLAB AT ENTRY BRICK

3/4" = 1'-0"



12 GRADE BEAM AT CMU WALL

3/4" = 1'-0"

3/3/2025 4:44:13 PM

CMT
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LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON LOEHR
NUMBER PE-2022000051
PROFESSIONAL ENGINEER
03/04/2025

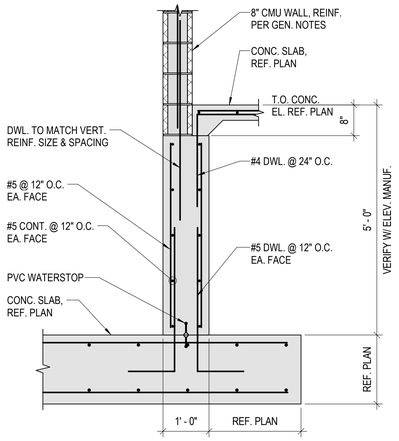
MARK	DATE	DESCRIPTION

ISSUED FOR:	FINAL REVIEW
PROJECT NO:	250104-000
REVIT FILE:	250104-000_STRUCT_R24.rvt
DESIGNED BY:	JSH
DRAWN BY:	DGC
CHECKED BY:	MWK
APPROVED BY:	WTL
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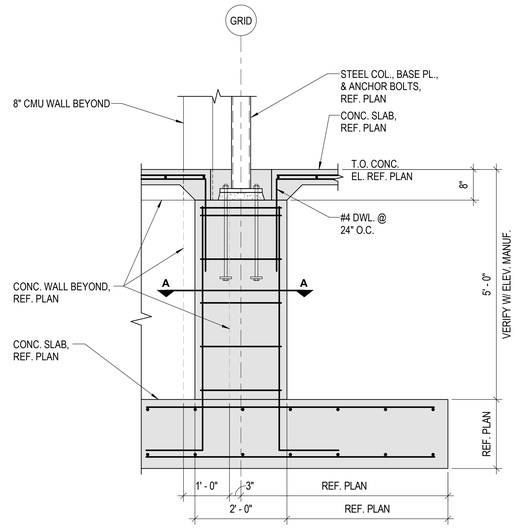
FOUNDATION DETAILS

S-502



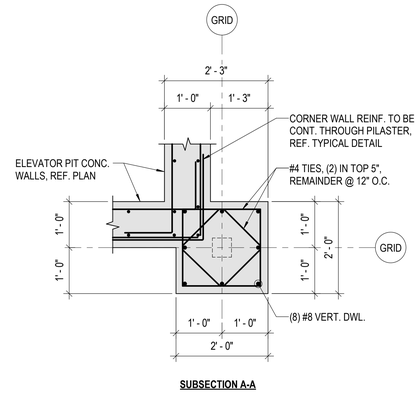
1 ELEVATOR PIT DETAIL

3/4" = 1'-0"



2 COLUMN PILASTER AT ELEVATOR PIT DETAIL

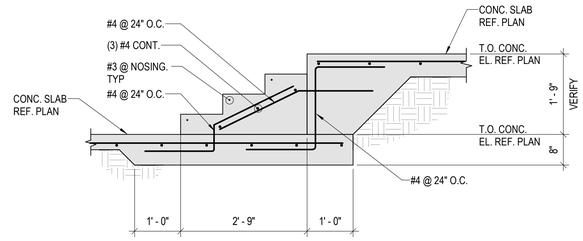
3/4" = 1'-0"

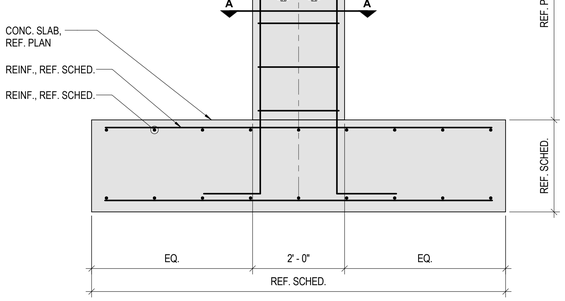


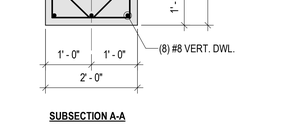
SUBSECTION A-A

3 CONC. STAIR FOUNDATION

3/4" = 1'-0"



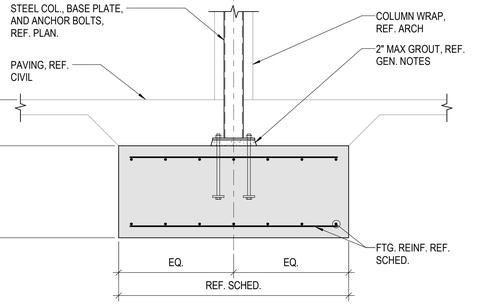




SUBSECTION A-A

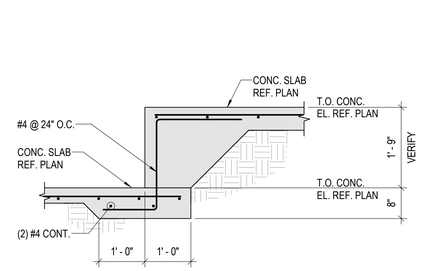
4 COLUMN PILASTER DETAIL

3/4" = 1'-0"



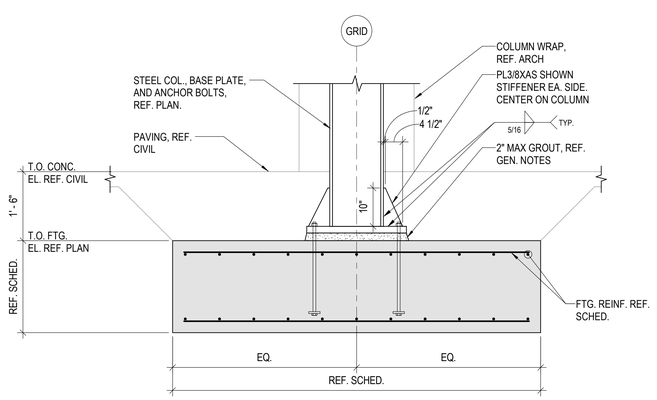
5 AIRSIDE CANOPY COLUMN FTG.

3/4" = 1'-0"



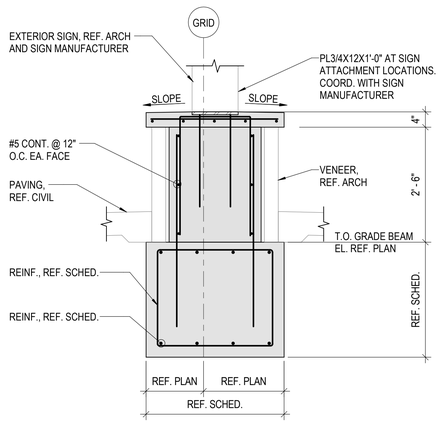
6 CONC. STAIR FOUNDATION

3/4" = 1'-0"



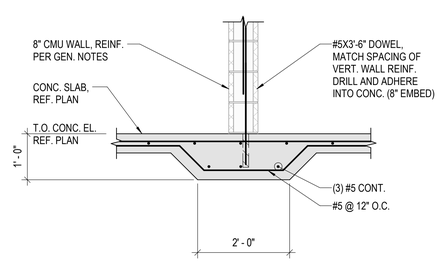
7 DROP-OFF CANOPY COLUMN FTG.

3/4" = 1'-0"



8 MONUMENT SIGN FOUNDATION

3/4" = 1'-0"



9 TYP. NON-LOAD BRG. CMU THICKENED SLAB

3/4" = 1'-0"

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LEE'S SUMMIT MUNICIPAL AIRPORT
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GENERAL AVIATION TERMINAL
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WESTON T. LOEHR
NUMBER PE-2022000051
03/04/2025
PROFESSIONAL ENGINEER

MARK	DATE	DESCRIPTION

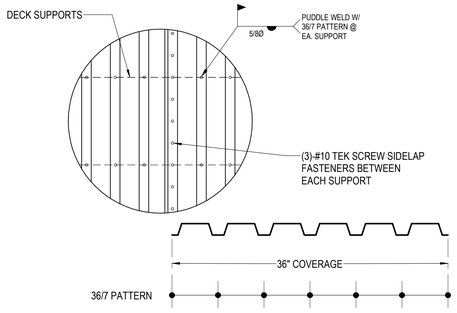
ISSUED FOR:	FINAL REVIEW
PROJECT NO:	250104-000
REVIT FILE:	250104-000_STRUCT_R24.rvt
DESIGNED BY:	JSH
DRAWN BY:	DGC
CHECKED BY:	MWK
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FOUNDATION DETAILS

S-503

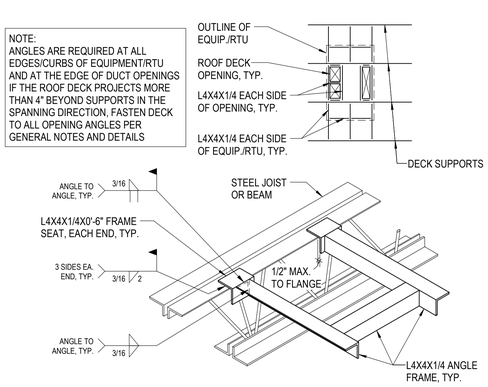
3/3/2025 4:44:14 PM



1 1 1/2" METAL ROOF DECK ATTACH.

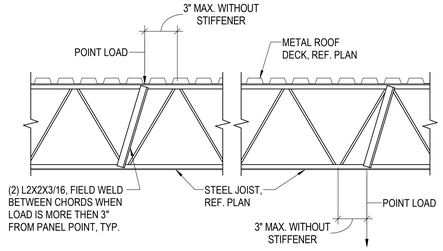
NO SCALE

NOTE:
ANGLES ARE REQUIRED AT ALL EDGES/CURBS OF EQUIPMENT/RTU AND AT THE EDGE OF DUCT OPENINGS IF THE ROOF DECK PROJECTS MORE THAN 4" BEYOND SUPPORTS IN THE SPANNING DIRECTION, FASTEN DECK TO ALL OPENING ANGLES PER GENERAL NOTES AND DETAILS



2 TYP. METAL ROOF DECK OPENING

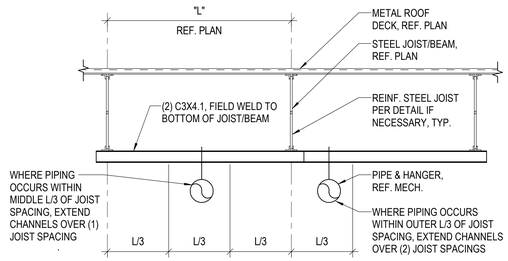
NO SCALE



NOTE:
1. A MAXIMUM SINGLE CONCENTRATED LOAD OF 100 LBS. MAY BE APPLIED BETWEEN PANEL POINTS WITHOUT ANY JOIST REINFORCING.
2. FOR CONCENTRATED LOADS IN EXCESS OF 100 LBS. AND UP TO 200 LBS., REINFORCE THE JOIST WITH THE MEMBERS NOTED ABOVE.
3. FOR LOADS IN EXCESS OF 200 LBS. AND NOT INDICATED ON FRAMING PLANS, THE JOIST MANUFACTURER SHALL BE NOTIFIED BY THE CONTRACTOR OF THE MAGNITUDE AND LOCATION SO THE JOIST CAN BE DESIGNED FOR THE ADDITIONAL LOAD.

3 TYP. MISC. JOIST LOADING

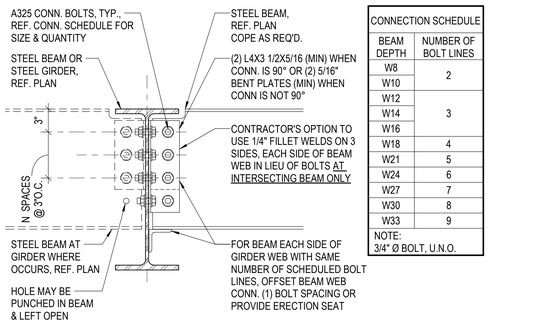
NO SCALE



NOTE:
THIS DETAIL APPLIES FOR ONE PIPE 6" TO 10" IN DIAMETER. WHEN HANGING MULTIPLE PIPES VERIFY SUPPORT WITH ARCHITECT & STRUCTURAL ENGINEER PRIOR TO INSTALLATION. REFERENCE MECHANICAL FOR LOCATIONS, TYP.

4 TYP. PIPE SUPPORT DETAIL

NO SCALE



CONNECTION SCHEDULE	
BEAM DEPTH	NUMBER OF BOLT LINES
W8	2
W10	
W12	3
W14	
W16	
W18	4
W21	5
W24	6
W27	7
W30	8
W33	9

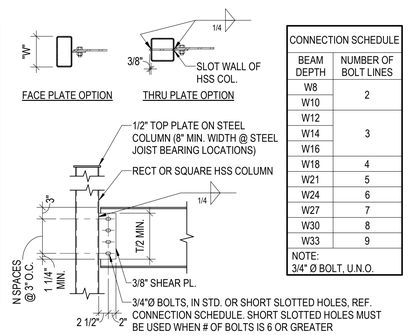
NOTE:
3/4" Ø BOLT, U.N.O.

5 TYP. DOUBLE ANGLE CONN.

NO SCALE

RECT. HSS	
W	MIN. WALL THICKNESS
3"	3/16"
4"	3/16"
5"	3/16"
6"	3/16"
7"	1/4"
8"	1/4"
9"	5/16"
10"	5/16"
12"	3/8"
14"	1/2"
16"	1/2"

WHERE WALL THICKNESS IS LESS THAN MIN., PROVIDE THRU PLATE CONNECTION, AS SHOWN.



CONNECTION SCHEDULE	
BEAM DEPTH	NUMBER OF BOLT LINES
W8	2
W10	
W12	3
W14	
W16	
W18	4
W21	5
W24	6
W27	7
W30	8
W33	9

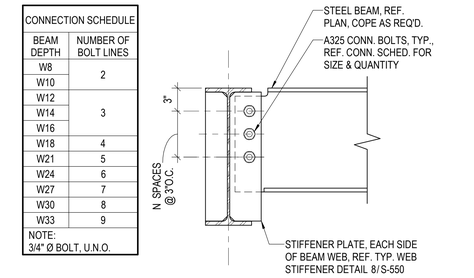
NOTE:
3/4" Ø BOLT, U.N.O.

6 TYP. BEAM TO HSS COLUMN CONN.

NO SCALE

CONNECTION SCHEDULE	
BEAM DEPTH	NUMBER OF BOLT LINES
W8	2
W10	
W12	3
W14	
W16	
W18	4
W21	5
W24	6
W27	7
W30	8
W33	9

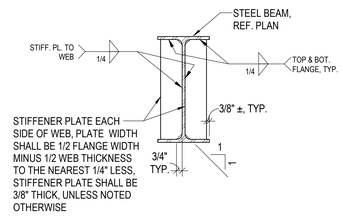
NOTE:
3/4" Ø BOLT, U.N.O.



7 TYP. WEB PLATE CONN.

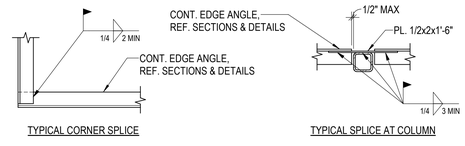
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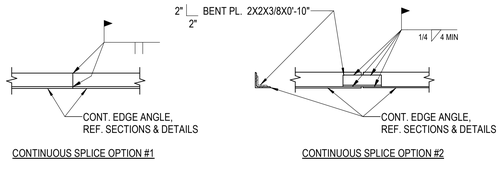
NOTE:
STIFFENER MAY BE REQUIRED TO EXTEND PAST THE FLANGE EDGE FOR CONNECTIONS, REF. TYP. WEB PLATE CONNECTION DETAIL



8 TYP. WEB STIFFENER PLATE

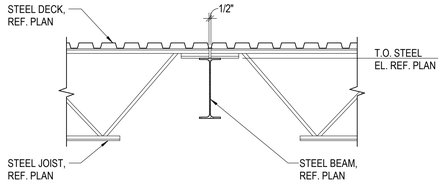
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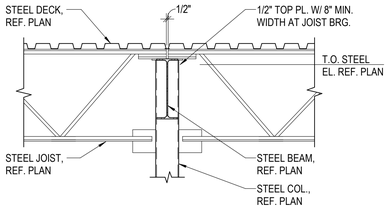
9 TYP. EDGE ANGLE SPLICE

NO SCALE



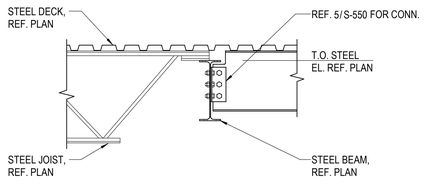
10 JOIST BRG. AT BEAM

3/4" = 1'-0"



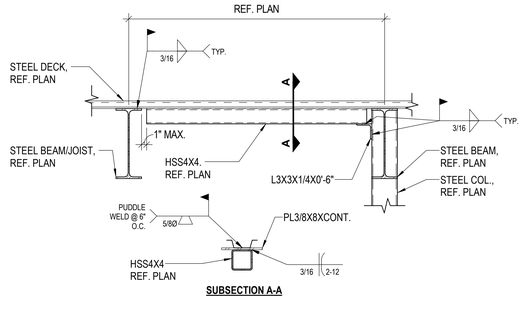
11 JOIST BRG. AT COLUMN

3/4" = 1'-0"



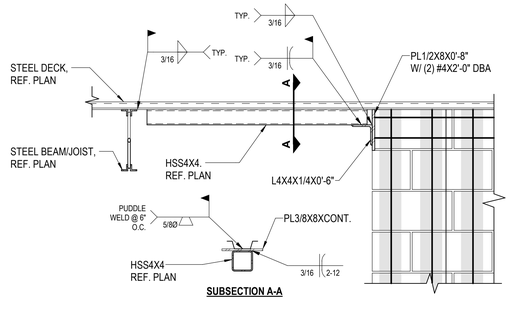
12 JOIST BRG. AT BEAM

3/4" = 1'-0"



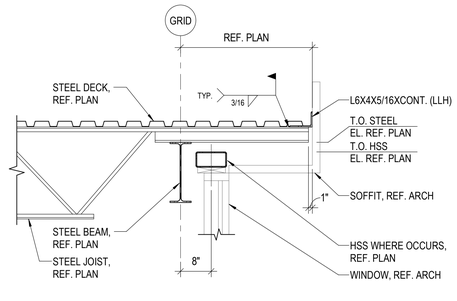
13 TYP. DRAG AT STEEL COLUMN

NO SCALE



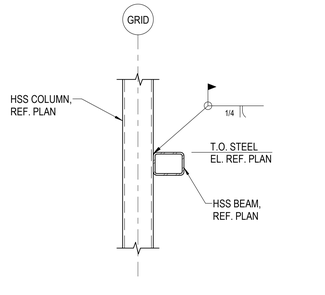
14 TYP. DRAG AT CMU

NO SCALE



15 JOIST EXTENSION AT BEAM

3/4" = 1'-0"



16 TYP. HSS BEAM TO HSS COLUMN CONN.

NO SCALE

3/3/2025 4:44:15 PM

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LEE'S SUMMIT AIRPORT

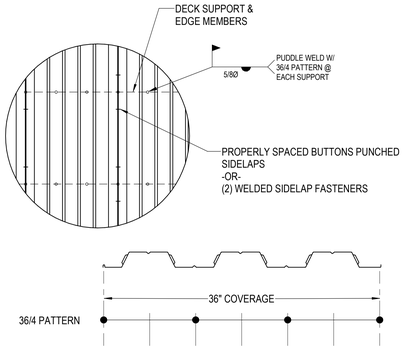
GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON T. LOEHR
NUMBER PE-2022000051
PROFESSIONAL ENGINEER
10/04/2025

MARK	DATE	DESCRIPTION
ISSUED FOR:		FINAL REVIEW
PROJECT NO:		250104-000
REVIT FILE:		250104-000_STRUCT_R24.rvt
DESIGNED BY:		JSH
DRAWN BY:		DGC
CHECKED BY:		MWK
APPROVED BY:		WTL
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SHEET TITLE		

TYPICAL FRAMING DETAILS

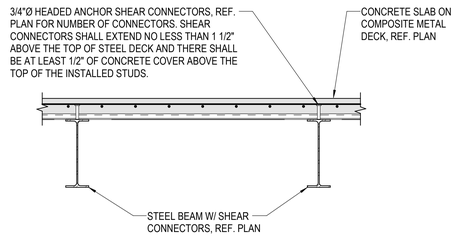
S-550



1 2" COMPOSITE DECK ATTACHMENT

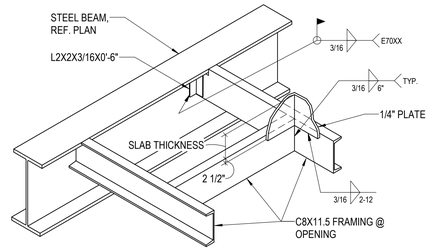
NO SCALE

COMPOSITE SLAB DETAIL NOTES:
1. METAL DECK SHALL BE CONTINUOUS OVER THREE OR MORE SPANS.
2. COMPOSITE DECK IS DESIGNED AS UNSHORED
3. CONDUIT SHALL NOT BE EMBEDDED IN THE SLAB.
4. SHEAR CONNECTORS IN COMPOSITE SLABS SHALL BE EQUALLY SPACED ALONG THE LENGTH OF THE BEAM. THE NUMBER AND SPACING OF CONNECTORS SHALL BE APPROXIMATELY SYMMETRICAL ABOUT THE BEAM CENTERLINE.



2 TYP. COMPOSITE SLAB DETAIL

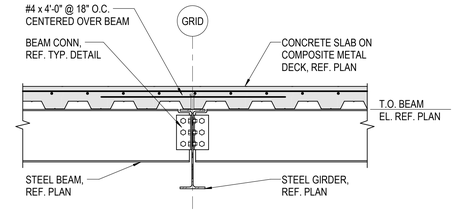
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NOTE:
USE THIS DETAIL FOR ANY OPENING LARGER THAN 24" IN ANY DIRECTION OR EQUIPMENT WEIGHING IN EXCESS OF 50 POUNDS.

3 TYP. COMP. SLAB OPENING DETAIL

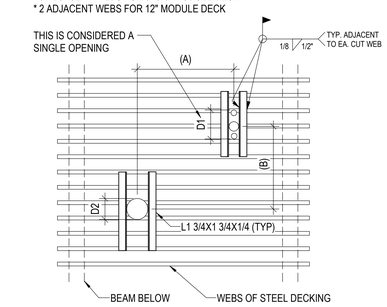
NO SCALE



4 TYP. SLAB REINF. AT GIRDER

NO SCALE

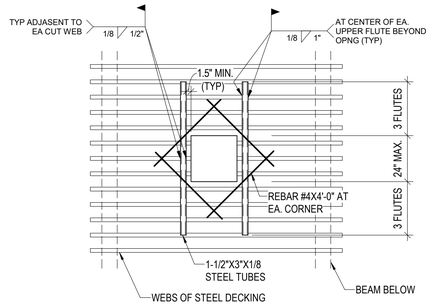
HOLES CUTTING NO MORE THAN:
* 3 ADJACENT WEBS FOR 6" & 8" MODULE DECK
* 2 ADJACENT WEBS FOR 12" MODULE DECK



NOTES:
1. ANGLES SHALL BE PLACED ON TOP OF THE DECK.
2. ANGLES SHALL EXTEND 3 WEBS PAST THE DECK OPENING (TYP).
3. IF DIMENSION (A) IS GREATER THAN 4D1, OR 32" WHICHEVER IS LARGER, THERE IS NO RESTRICTION ON DIMENSION (B).
4. IF DIMENSION (B) IS GREATER THAN 4D1, 4D2 OR 32" WHICHEVER IS
5. LARGER, THERE IS NO RESTRICTION ON DIMENSION (A).
6. IF DIMENSION (A) AND (B) ARE LESS THAN 4D1, 4D2 OR 32" WHICHEVER IS LARGER, THE OPENING GROUP SHALL BE CONSIDERED AS A SINGLE HOLE, AND SHALL BE REINFORCED AS REQUIRED FOR THE LARGER OPENING AS SHOWN IN 6/S-551

5 COMPOSITE DECK OPENING

NO SCALE



NOTES:
1. TUBES SHALL BE PLACED ON TOP OF THE DECK.
2. ADD REBARS AT CORNERS OF OPENING ABOVE THE TUBES.
3. IF THE OPENING OR GROUP OF OPENINGS CUTS THROUGH ONE DECK FLUTE, THE OPENING OR OPENING GROUPS MAY BE CUT BEFORE POURING CONCRETE.
4. IF THE OPENING OR GROUP OF OPENINGS CUTS THROUGH TWO DECK FLUTES, THE DECK SHALL NOT BE CUT UNTIL CONCRETE HAS BEEN PLACED AND CURED. AT THE TIME OF OPENING, SUITABLE SLEEVES OR BULKHEADS SHALL BE PLACED AROUND THE OPENING.
5. WHEN THE MAXIMUM DIMENSION OF AN OPENING OR OPENING GROUP EXCEEDS 24", PLACE BEAMS AROUND OPENING PER 3/S-551

6 COMPOSITE DECK OPENING

NO SCALE

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LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON T. LOEHR
NUMBER PE-2022000051
PROFESSIONAL ENGINEER
3/3/04/2025

MARK	DATE	DESCRIPTION

ISSUED FOR:	FINAL REVIEW
PROJECT NO:	250104-000
REVIT FILE:	250104-000_STRUCT_R24.rvt
DESIGNED BY:	JSH
DRAWN BY:	DGC
CHECKED BY:	MWK
APPROVED BY:	WTL

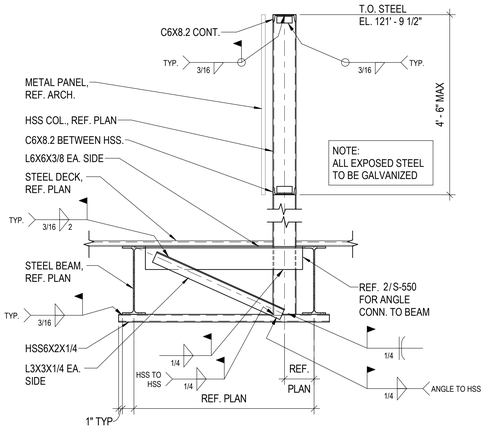
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TYPICAL FRAMING DETAILS

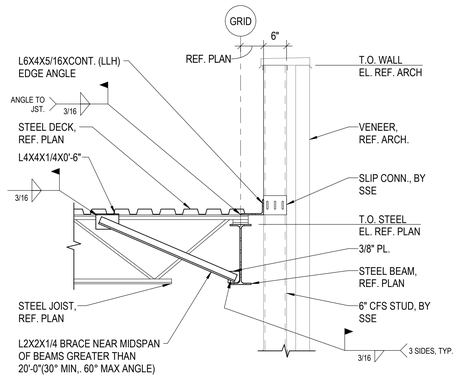
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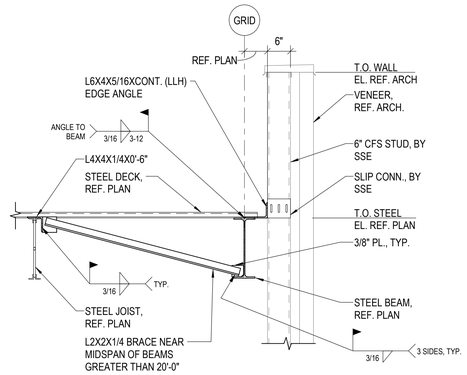
1 FRAMING AT SCREEN WALL

3/4" = 1'-0"



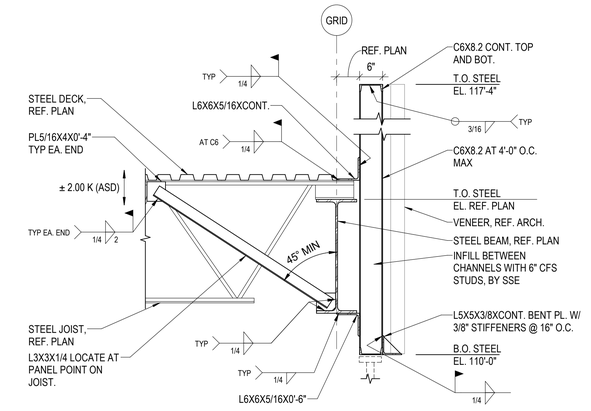
2 JOIST BRG. DETAIL

3/4" = 1'-0"



3 DECK BRG. DETAIL

3/4" = 1'-0"



4 BRICK SUPPORT SECTION

3/4" = 1'-0"

5 SECTION AT CANOPY COLUMN

3/4" = 1'-0"

6 SECTION AT CANOPY DECK EDGE

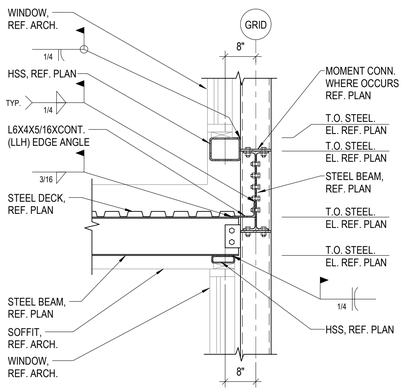
3/4" = 1'-0"

7 BRICK SUPPORT SECTION

3/4" = 1'-0"

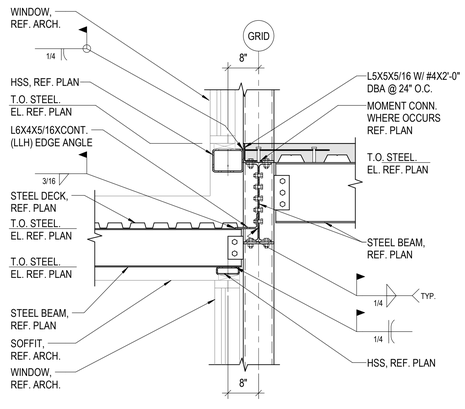
8 FRAMING SECTION

3/4" = 1'-0"



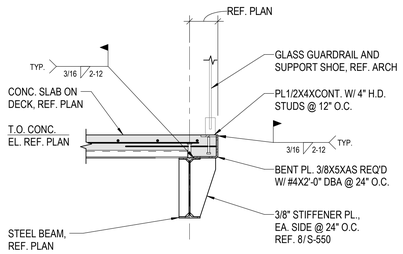
9 FRAMING SECTION AT CANOPY

3/4" = 1'-0"



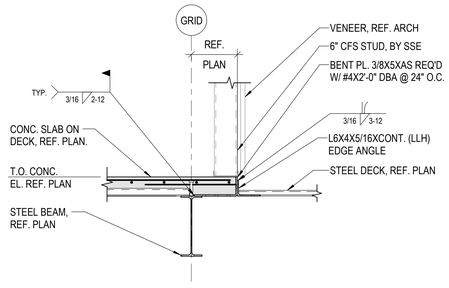
10 FRAMING SECTION AT CANOPY

3/4" = 1'-0"



11 COMPOSITE DECK EDGE

3/4" = 1'-0"



12 COMPOSITE DECK EDGE

3/4" = 1'-0"

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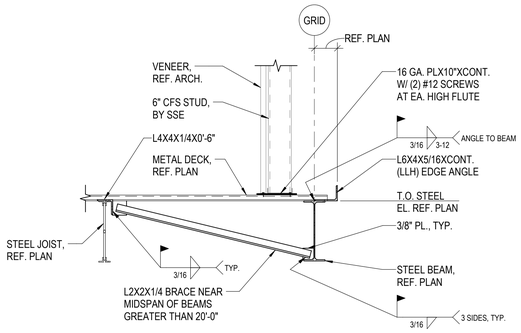
STATE OF MISSOURI
WESTON LOEHR
NUMBER PE-2022000051
03/04/2025
PROFESSIONAL ENGINEER

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CHECKED BY:		MWK
APPROVED BY:		WTL
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FRAMING DETAILS

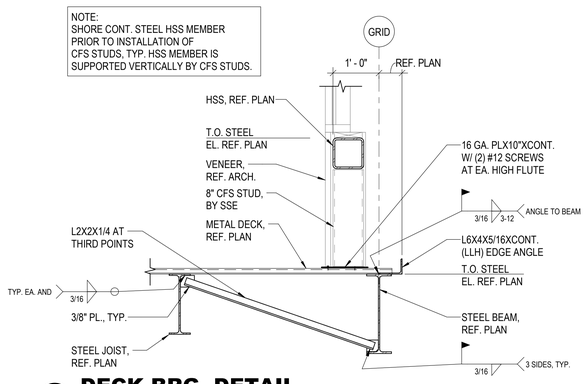
S-552

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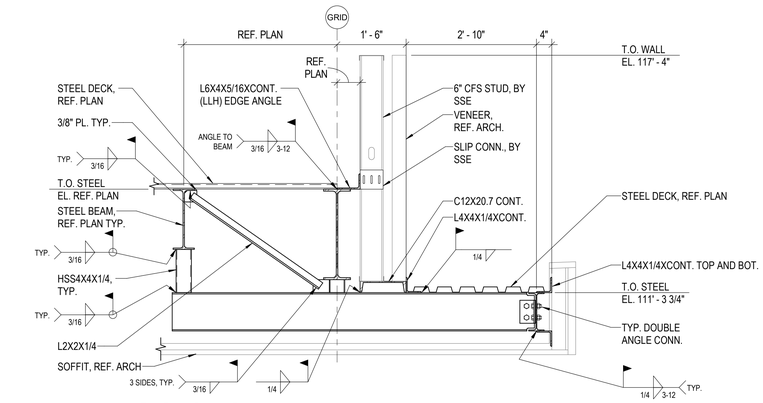
1 DECK BRG. DETAIL

3/4" = 1'-0"



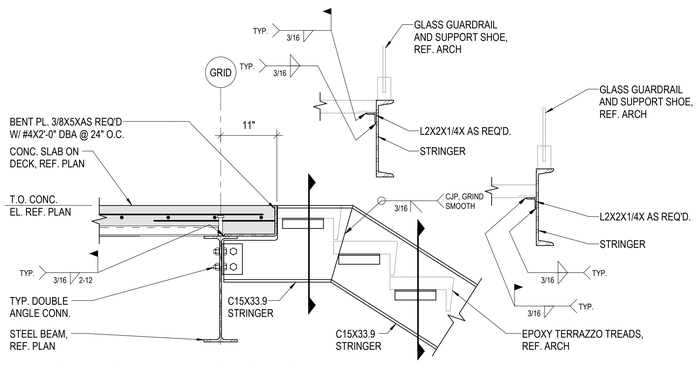
2 DECK BRG. DETAIL

3/4" = 1'-0"



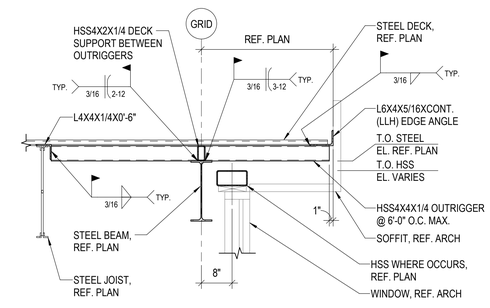
3 FRAMING SECTION

3/4" = 1'-0"



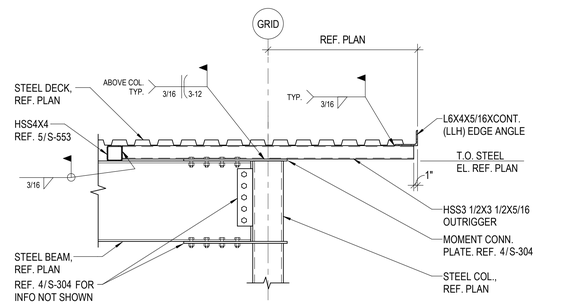
4 STAIR FRAME SECTION

1" = 1'-0"



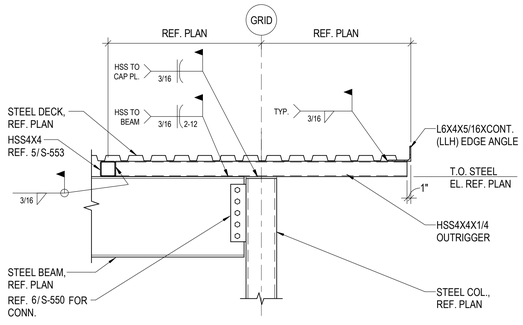
5 OUTRIGGER AT STEEL BEAM

3/4" = 1'-0"



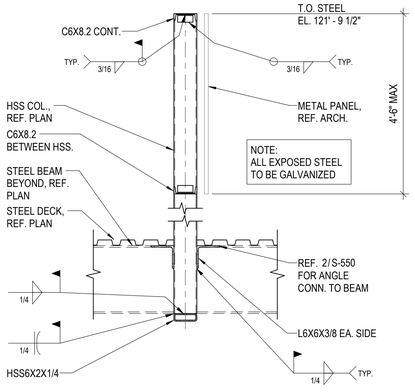
6 OUTRIGGER AT STEEL COLUMN

3/4" = 1'-0"



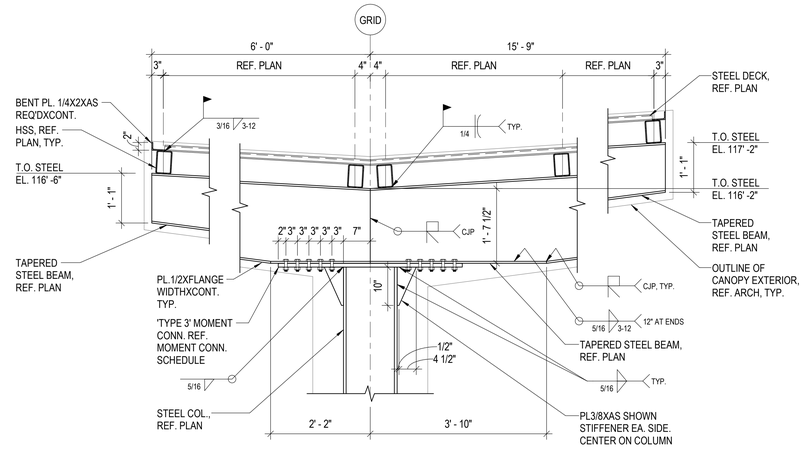
7 OUTRIGGER AT STEEL COLUMN

3/4" = 1'-0"



8 FRAMING AT SCREEN WALL

3/4" = 1'-0"



9 SECTION AT DROP-OFF CANOPY

3/4" = 1'-0"

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LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

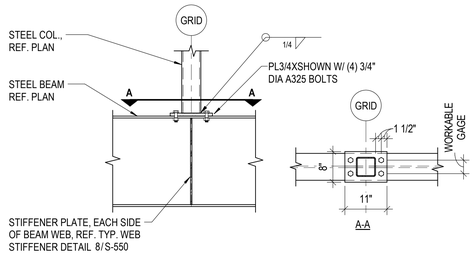


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DESIGNED BY:		Designer
DRAWN BY:		Author
CHECKED BY:		Checker
APPROVED BY:		Approver
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FRAMING DETAILS

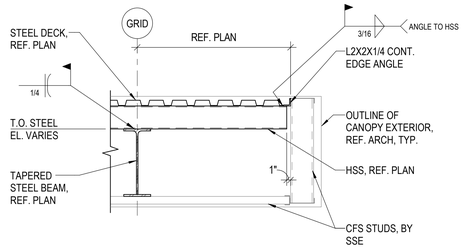
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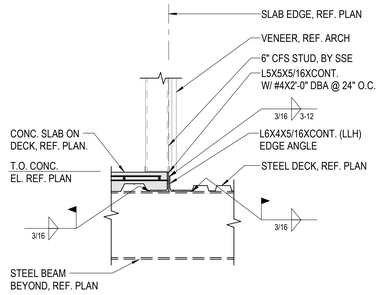
1 TRANSFER BEAM

3/4" = 1'-0"



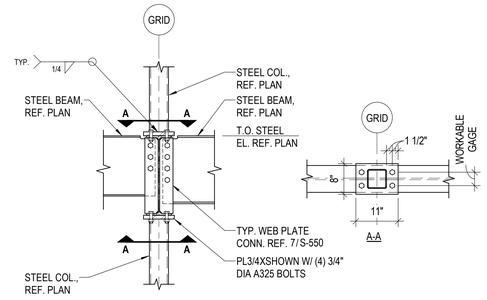
2 SECTION AT DROP-OFF CANOPY

3/4" = 1'-0"



3 COMPOSITE DECK EDGE

3/4" = 1'-0"



4 FRAMING SECTION AT COLUMN

3/4" = 1'-0"

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LEE'S SUMMIT MUNICIPAL AIRPORT
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GENERAL AVIATION TERMINAL
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FRAMING DETAILS

S-554

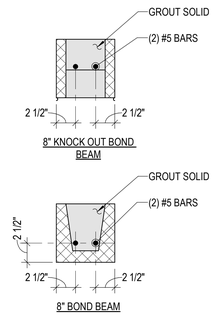
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CMU REINFORCEMENT LAP...

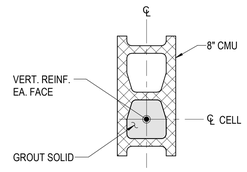
fy = 60,000 PSI f'm = 1,500 PSI

NOTES:
1. THE LAP LENGTH LISTED IS THE SAME FOR HORIZ. & VERT. BARS.
2. MULTIPLY LAP LENGTHS GIVEN BY 1.5 FOR EPOXY COATED BARS.
3. FOR CMU W/ (2) BARS PER CELL, d' ASSUMED AS 2-1/2".

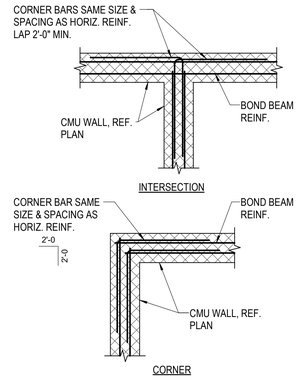
BAR SIZE (d)	8" CMU W/ (1) BAR PER CELL (IN)	8" CMU W/ (2) BAR PER CELL (IN)	CMU HOOK (IN)
3	18	18	5
4	24	24	6
5	30	36	8
6	43	70	9
7	60	98	11
8	92	151	12
9	118	198	14



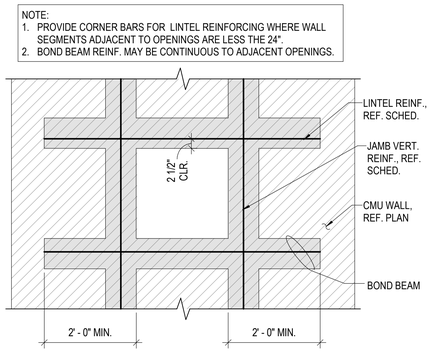
1 TYP. CMU BOND BEAM REINF.
NO SCALE



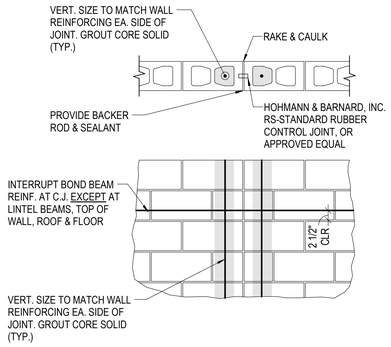
2 TYP. CMU VERTICAL CELL REINF.
NO SCALE



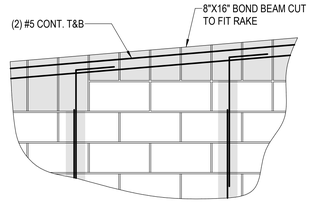
3 CORNER AND INTERSECT. REINF.
3/4" = 1'-0"



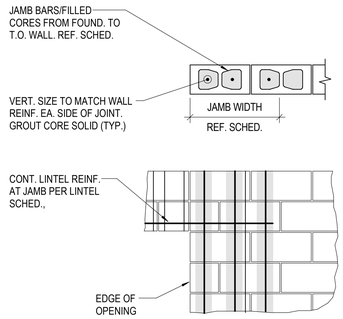
4 TYP. CMU OPENING REINF.
NO SCALE



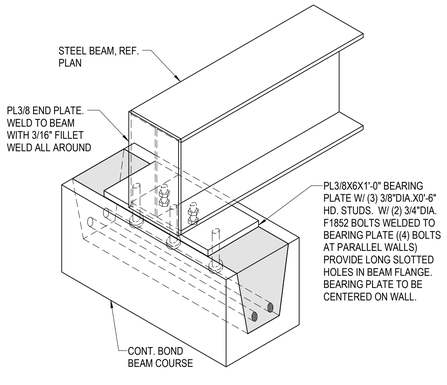
5 TYP. CMU CONTROL JOINT
NO SCALE



6 TYP. CMU WALL RAKE DETAIL
NO SCALE

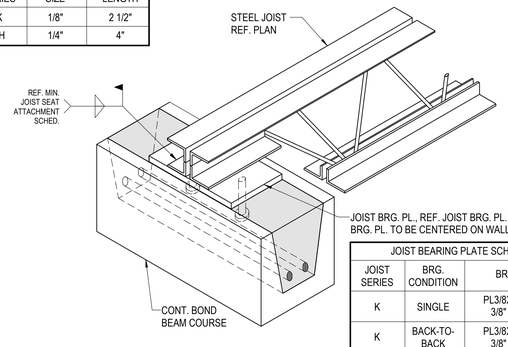


7 TYP. CMU JAMB DETAIL
3/4" = 1'-0"



8 TYP. BEAM BRG. AT CMU
NO SCALE

MINIMUM JOIST SEAT ATTACHMENT SCHEDULE (EACH SIDE OF JOIST)		
JOIST SERIES	MIN. WELD SIZE	MIN. WELD LENGTH
K	1/8"	2 1/2"
LH	1/4"	4"



JOIST BEARING PLATE SCHEDULE		
JOIST SERIES	BRG. CONDITION	BRG. PL. SIZE
K	SINGLE	PL3/8X5X0'-8" W/ (2) 3/8" DIA. HD. ST.
K	BACK-TO-BACK	PL3/8X6X1'-0" W/ (3) 3/8" DIA. HD. ST.
LH	SINGLE	PL3/8X6X1'-2" W/ (3) 3/8" DIA. HD. ST.

9 TYP. JOIST BRG. AT CMU
3/4" = 1'-0"

CMU LINTEL AND JAMB SCHEDULE

MARK	SECTION	LINTEL SIZE AND REINF.	JAMB SIZE*	SILL SIZE	NOTES
L1		8"X8" W/ (2) #5 CONT.	8" W/ (1) #5 EA. CELL	8"X8" W/ (2) #5 CONT. (WHERE APPLICABLE)	
L2		8"X16" W/ (2) #5 CONT	16" W/ (1) #5 EA. CELL	8"X16" W/ (2) #5 CONT. (WHERE APPLICABLE)	

*JAMB CELLS SHALL BE FULL HEIGHT ADJACENT TO BEAM BEARING (WHERE OCCURS)

LINTELS NOT CALLED OUT ON PLANS SHALL BE:

OPENING WIDTH	LINTEL
< 3' - 4"	8" DEEP CMU BOND BEAM W/ 2 - #5 CONT. & 8" BRG. EA. END
> 3' - 4", < 7' - 4"	16" DEEP CMU BOND BEAM W/ 2 - #5 CONT. TOP & BOT. & 16" BRG. EA. END

10 CMU LINTEL AND JAMB SCHEDULE
3/4" = 1'-0"

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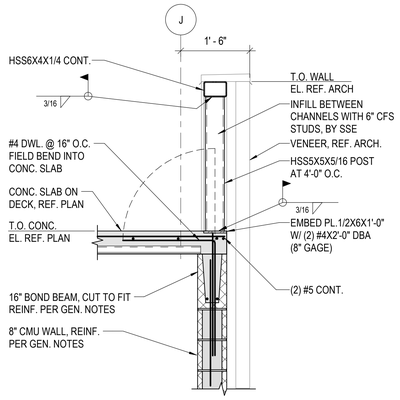
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TYPICAL CMU DETAILS

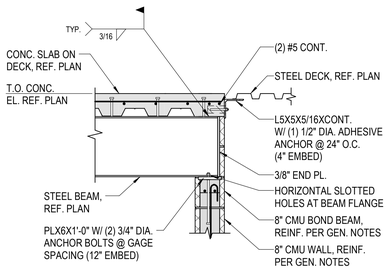
S-801

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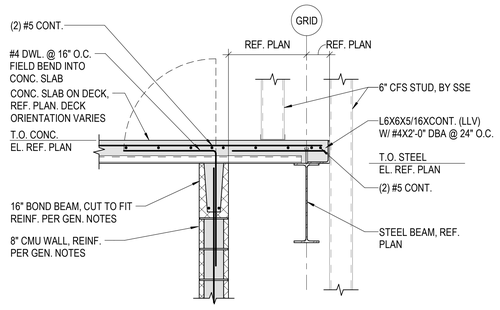
1 COMP. FRAMING AT CMU WALL

3/4" = 1'-0"



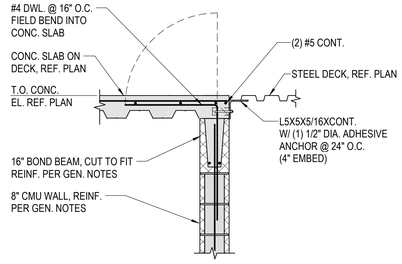
2 COMP. FRAMING AT CMU WALL

3/4" = 1'-0"



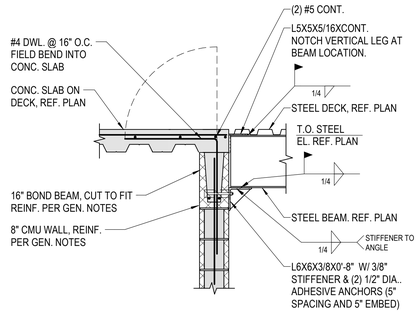
3 FRAMING SECTION AT CMU

3/4" = 1'-0"



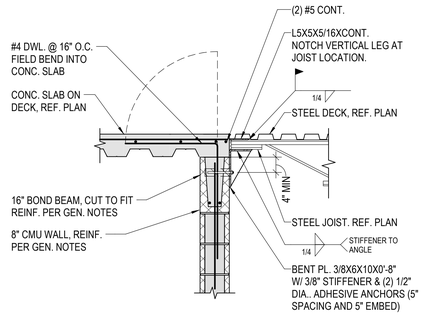
4 COMP. FRAMING AT CMU WALL

3/4" = 1'-0"



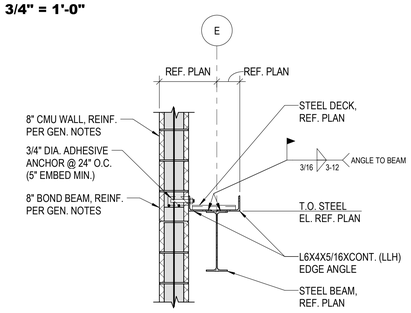
5 BEAM FRAMING INTO CMU WALL

3/4" = 1'-0"



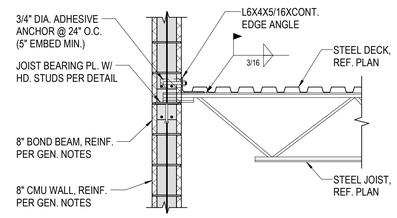
6 JOIST FRAMING INTO CMU WALL

3/4" = 1'-0"



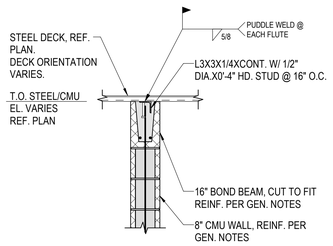
7 DECK BRG. DETAIL

3/4" = 1'-0"



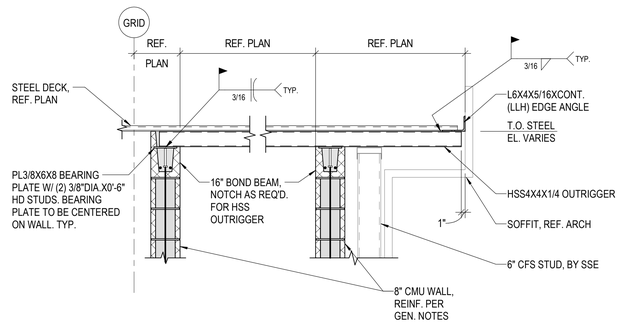
8 JOIST BRG. AT 8" CMU WALL

3/4" = 1'-0"



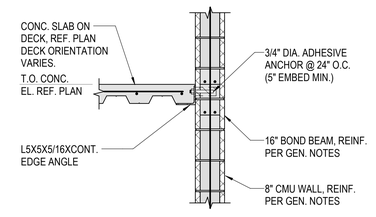
9 DECK BRG. AT 8" CMU WALL

3/4" = 1'-0"



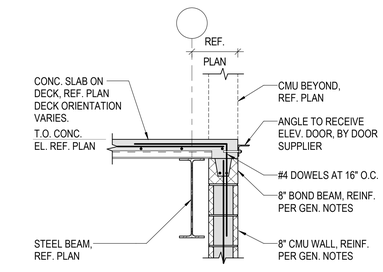
10 HSS OUTRIGGER AT ELEVATOR

3/4" = 1'-0"



11 FRAMING SECTION AT ELEVATOR

3/4" = 1'-0"



12 FRAMING SECTION AT ELEVATOR

3/4" = 1'-0"

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olsson
1301 BURLINGTON
NORTH KANSAS CITY, MO 64116

LEE'S SUMMIT MUNICIPAL AIRPORT
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL
CITY PROJECT NO. - 17932172

STATE OF MISSOURI
WESTON T. LOEHR
NUMBER PE-2022000051
03/04/2025
PROFESSIONAL ENGINEER

MARK	DATE	DESCRIPTION

ISSUED FOR:	FINAL REVIEW
PROJECT NO:	250104-000
REVIT FILE:	250104-000_STRUCT_R24.rvt
DESIGNED BY:	JSH
DRAWN BY:	DGC
CHECKED BY:	MWK
APPROVED BY:	WTL
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SHEET TITLE	

CMU DETAILS

S-802

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DUCTWORK

SYMBOLS

- EXISTING DUCTWORK
- DUCTWORK TO BE REMOVED
- NEW DUCTWORK SIZE AS INDICATED
- 90° ELBOW DOWN
- 90° ELBOW UP
- SOUND ATTENUATOR, SIZE AS INDICATED
- FLEXIBLE CONNECTION
- LINED DUCTWORK
- FLEXIBLE DUCTWORK
- RECTANGULAR ECCENTRIC DUCT TRANSITION
- RECTANGULAR CONCENTRIC DUCT TRANSITION
- SQUARE TO ROUND DUCT TRANSITION
- SUPPLY AIR
- RETURN AIR
- TURNING VANES
- CD — CONTROL DAMPER
- BD — BACKDRAFT DAMPER
- FD — FIRE DAMPER
- F/S — COMBINATION FIRE/SMOKE DAMPER
- MV — MANUAL VOLUME DAMPER
- M — MOTOR OPERATED DAMPER
- DEVICE
- WALL MOUNTED DEVICE
- DUCT MOUNTED SMOKE DETECTOR
- ACCESS DOOR, SIZE AS INDICATED
- DEVICE TYPE / INLET SIZE / FLOW — SUPPLY/EXHAUST AIR DEVICE DESIGNATION
- DEVICE TYPE / DEVICE SIZE — RETURN AIR DEVICE DESIGNATION
- THERMOSTAT

GENERAL

- NOTE DESIGNATION - DEMOLITION (AA)
- NOTE DESIGNATION - MECHANICAL NEW WORK
- NOTE DESIGNATION - ELECTRICAL NEW WORK
- NOTE DESIGNATION - PIPING/PLUMBING NEW WORK
- REVISION FROM ORIGINAL DOCUMENT
- EQUIPMENT / LOCATION &/OR NUMBER — EQUIPMENT TAG DESIGNATION
- DRAWING NUMBER / SHEET NUMBER — SECTION CUT DESIGNATION
- RE: 3/M2 — DRAWING NUMBER / SHEET NUMBER — REFERENCE DESIGNATION
- CONNECT TO EXISTING
- SPEC1 SPEC2 — PIPE SPECIFICATION CHANGE
- DOUBLE CONTAINMENT PIPE
- INSULATED EQUIPMENT # = THICKNESS XX = TYPE
- INSULATED PIPE # = THICKNESS XX = TYPE
- # = THICKNESS XX = TYPE — INSULATED PIPE WITH ELECTRIC HEAT TRACING
- PIPE SLEEVE/PIPE PENETRATION THRU WALL
- CONNECT TO EXISTING, OPTIONAL NUMBER DESIGNATION
- FLOW ARROW
- SLOPE — DIRECTION OF DOWNWARD SLOPE
- GPM OR CFM — LIQUID OR AIR FLOW RATE

LINE TYPES

- MAIN PROCESS OR UTILITY LINE
- FUTURE LINEWORK
- ASSEMBLY BOUNDARY
- SKID OR PACKAGE BOUNDARY
- SOFTWARE
- DEMOLITION
- MATCHLINE

PIPING/PLUMBING

VALVES

- ANGLE VALVE
- BACKFLOW PREVENTER
- BALL VALVE
- BALANCING VALVE (2-1/2" & SMALLER)
- BALANCING VALVE (3" & LARGER)
- BUTTERFLY VALVE
- CHECK VALVE (2-1/2" & SMALLER)
- CHECK VALVE (3" & LARGER)
- CONTROL VALVE (THREE-WAY, PNEUMATIC)
- CONTROL VALVE (TWO-WAY, PNEUMATIC)
- CONTROL VALVE (TWO-WAY, MOTORIZED)
- CONTROL VALVE (THREE-WAY, MOTORIZED)
- FLEXIBLE CONNECTION (BELLOWS TYPE)
- FLEXIBLE CONNECTION (CONVOLUTE TYPE)
- FLEXIBLE CONNECTION (BRAIDED SS TYPE)
- GAS COCK
- GATE VALVE (2-1/2" & SMALLER)
- GATE VALVE (3" & LARGER)
- GLOBE VALVE (2-1/2" & SMALLER)
- GLOBE VALVE (3" & LARGER)
- PLUG VALVE
- PRESSURE REDUCING VALVE (WATER)
- PRESSURE RELIEF VALVE
- SOLENOID VALVE
- STRAINER (2-1/2" & SMALLER)
- STRAINER (3" & LARGER)
- TRIPLE DUTY VALVE
- STEAM TRAP (INVERTED BUCKET)
- STEAM TRAP (FLOAT & THERMOSTATIC)
- PRESSURE REDUCING VALVE (STEAM)
- BALANCING VALVE
- TRIPLE DUTY BALANCING VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- DIAPHRAGM VALVE
- GATE VALVE
- GAUGE COCK
- GLOBE VALVE
- NEEDLE VALVE
- PLUG VALVE
- 3-WAY VALVE
- PRESSURE/TEMPERATURE RELIEF VALVE
- ANGLE VALVE
- RUPTURE DISC FOR PRESSURE/VACUUM RELIEF
- BFP — BACKFLOW PREVENTER WITH DRAIN
- AV — AUTOMATIC AIR VENT
- MV — MANUAL AIR VENT
- VB — VACUUM BREAKER

CONTROL VALVES

- PRESSURE REGULATOR
- PRESSURE REDUCING VALVE
- S — SOLENOID ACTUATOR
- M — MOTORIZED ACTUATOR
- PE — PNEUMATIC OPERATED ACTUATOR (CYLINDER/PISTON TYPE)
- PE — PNEUMATIC OPERATED ACTUATOR (DIAPHRAGM TYPE)
- DIAPHRAGM VALVE PNEUMATIC OPERATED ACTUATOR
- WYE PNEUMATIC OPERATED ACTUATOR (DIAPHRAGM TYPE)
- S — PANEL MOUNTED SOLENOID VALVE
- TP — REFER TO INSTRUMENT LOGIC SYMBOLS FOR TRANSDUCER TYPE

FITTINGS & ACCESSORIES

- FLANGED CONNECTION/BLIND FLANGE
- FLUSH SANITARY FITTING
- PIPE CAP
- PIPE DROP/PIPE RISE
- BOTTOM OUTLET TEE
- TOP OUTLET TEE
- UNION
- SANITARY CLAMP
- HIGH PRESSURE SANITARY CLAMP
- SCREWED CONNECTION
- RESTRICTIVE ORIFICE PLATE
- QUICK CONNECT/DISCONNECT
- COMPRESSION FITTING
- INGOLD FITTING
- BEVEL SEAT FITTING
- HOSE BARB FITTING
- FLEXIBLE CONNECTOR
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- SPRAY BALL
- SIGHT GLASS
- STRAINER ("Y" TYPE)
- STRAINER ("Y" TYPE) WITH BLOWDOWN
- MUFFLER/SILENCER
- TI 000 — THERMOMETER
- SANITARY THERMOWELL
- XX 000 — LOCALLY MOUNTED PRESSURE (PI) OR TEMPERATURE (TI) GAUGE
- SANITARY STEAM TRAP
- THERMOSTATIC STEAM TRAP
- FLOAT & THERMOSTATIC STEAM TRAP
- INVERTED BUCKET STEAM TRAP
- PRESSURE POWERED PUMP
- FILTER

ELECTRICAL

WIRING

- GROUND / NEUTRAL / HOT / "LP1" 2 — HOMERUN TO PANELBOARD. 3/4" CONDUIT. NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. "LP1" INDICATES PANEL DESIGNATION; 2 INDICATES PANEL CIRCUIT. TICK MARKS INDICATE #12 WIRING.
- "LP1" 2,4 OR 2/4 — 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.
- CONCEALED CONDUIT (BELOW FLOOR). CONTINUOUS LINE IS INDICATIVE OF CONDUIT TO BE RUN OVERHEAD.
- "J" HOOK RACEWAY
- CABLE TRAY AS DESCRIBED ON DRAWINGS
- CONDUIT UP
- CONDUIT DOWN

POWER

- 60/3 — NON-FUSED DISCONNECT SWITCH, ### INDICATES AMPACITY AND # OF POLES, PHYSICAL SIZE AS SHOWN ON PLAN.
- 60/40/3 — FUSED DISCONNECT SWITCH, 60/40/3 INDICATES FRAME AMPACITY/FUSE AMPACITY/# POLES, PHYSICAL SIZE AS SHOWN ON PLAN.
- 1 — MAGNETIC MOTOR STARTER, 1 INDICATES NEMA STARTER RATING.
- 1 — COMBINATION DISCONNECT SWITCH AND MOTOR STARTER, 1 INDICATES NEMA STARTER RATING.
- DUPLEX GROUNDING TYPE RECEPTACLE OUTLET - RATED 20-AMP.
- DOUBLE DUPLEX GROUNDING TYPE RECEPTACLE OUTLET
- DEVICE MOUNTED 6" ABOVE COUNTER (TYPICAL SYMBOL FOR FOR ALL RECEPTACLE SYMBOLS)
- WP — DUPLEX GROUNDING TYPE RECEPTACLE OUTLET WITH WEATHERPROOF COVER.
- GFCI — DUPLEX GROUND FAULT INTERRUPTER CIRCUIT TYPE RECEPTACLE OUTLET
- C — DUPLEX RECEPTACLE OUTLET - "C" INDICATES CEILING MOUNTED
- TV — DUPLEX RECEPTACLE OUTLET FOR TELEVISION. MOUNTING HEIGHT AS NOTED ON PLANS.
- SIMPLEX 125-V., 2-POLE, 3-WIRE RECEPTACLE OUTLET - WALL OR FLOOR MOUNTED
- XP — SAME AS ABOVE - EXPLOSION PROOF
- SPECIAL-PURPOSE RECEPTACLE, AMPERAGE AND VOLTAGE AS INDICATED ON PLANS. VERIFY NEMA CONFIGURATION WITH EQUIPMENT MANUFACTURER.
- SURFACE RACEWAY WITH OUTLETS AND MOUNTING AS INDICATED ON PLANS.
- JUNCTION BOX.
- J — FLOOR OR CEILING MOUNTED JUNCTION BOX.
- B — OUTLET BOX WITH BLANK COVER PLATE
- T — THERMOSTAT ROUGH-IN JUNCTION BOX
- MOTOR
- NEW PANELBOARD
- EXISTING PANELBOARD
- NEW TRANSFORMER, SIZE AS INDICATED ON PLANS.
- EXISTING TRANSFORMER. SIZE AS INDICATED ON PLANS.
- P / D — POKE THROUGH DEVICE. "P" INDICATES POWER, "D" INDICATES DATA. "T" INDICATES TELEPHONE. INSTALL AS DESCRIBED ON PLANS.
- VFD — VARIABLE FREQUENCY DRIVE
- C — WALL MOUNTED CLOCK

LIGHTING

- A — 2'x4' FLUORESCENT LIGHTING FIXTURE, 'A' INDICATES FIXTURE TYPE
- EMERGENCY FIXTURE - TYPICAL OF ALL CROSSHATCHED FIXTURES
- A — 1'x4' FLUORESCENT LIGHTING FIXTURE, 'A' INDICATES FIXTURE TYPE
- A — 2'x2' FLUORESCENT LIGHTING FIXTURE, 'A' INDICATES FIXTURE TYPE
- A — 6"x48" FLUORESCENT LINEAR
- A — RECESSED DOWNLIGHT
- A — WALL WASH FIXTURE
- OR — WALL MOUNTED FIXTURE
- A — FLUORESCENT STRIP LIGHT FIXTURE, 'A' INDICATES FIXTURE TYPE
- OR — PENDANT FIXTURE, CHAIN OR STEM MOUNTED
- EMERGENCY BUGEYE FIXTURE
- CEILING MOUNTED EXIT LIGHT (EMERGENCY POWER)
- WALL MOUNTED EXIT LIGHT (EMERGENCY POWER)

FIRE DETECTION/PROTECTION

- MH — MAGNETIC DOOR HOLDER
- SMOKE DETECTOR (ION, P, EL)
- DUCT SMOKE DETECTOR
- FIRE ALARM PULL STATION
- FIRE AUDIBLE DEVICE
- FIRE AUDIBLE/VISUAL COMBINATION
- CANDELA NUMBER DESIGNATION (TYP. FOR ALL STROBES)
- 15 — FIRE ALARM VISUAL DEVICE
- 15 — CEILING MOUNTED STROBE
- CEILING MOUNTED HORN
- FACP — FIRE ALARM CONTROL PANEL
- RAP — REMOTE ANNUNCIATOR PANEL

SPECIAL SYSTEMS

- WALL MOUNTED TELEPHONE OUTLET
- COMBINATION TELEPHONE/DATA DEVICE
- DATA JACK
- DEVICE MOUNTED 6" ABOVE COUNTER
- WAP — WIRELESS ACCESS POINT
- TELEVISION OUTLET - COAX JACK AND DUPLEX RECEPTACLE
- S — CEILING MOUNTED SPEAKER
- S — WALL MOUNTED SPEAKER
- I — INTERCOM STATION. "M" INDICATES MASTER.
- TV — COAXIAL TV JACK WITH J-BOX, FACEPLATE AND CABLING
- PJ — CEILING MOUNTED PROJECTOR WITH DUPLEX RECEPTACLE, A/V J-BOX, WITH FACEPLATE

SPECIAL SYSTEMS INSTALLATION REQUIREMENTS

1. WALL MOUNTED TELEPHONE OUTLET, TELEPHONE OUTLET FURNISHED AND INSTALLED BY OWNER. FOR WALL INSTALLATION, PROVIDE AND INSTALL A FLUSH DEVICE BOX, AND PULLSTRING IN WALL STUD SPACE TO ABOVE CEILING. MOUNT DEVICE BOX CENTERLINE AT ELEVATION NOTED ON THE PLANS.

ONE-LINE/DETAIL

- MOLDED CASE OR INSULTAED CASE CIRCUIT BREAKER
- SPD — SURGE PROTECTIVE DEVICE
- INTEGRAL DISCONNECT SWITCH
- FUSE
- DISTRIBUTION TRANSFORMER
- SHIELDED DISTRIBUTION TRANSFORMER
- VFD
- COMBINATION MOTOR STARTER/DISCONNECT
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- MOTOR STARTER DISCONNECT SWITCH
- MOTOR STARTER
- MOTOR
- TRANSIENT VOLTAGE SURGE SUPPRESSOR
- GROUND
- DELTA
- WYE

SECURITY

- CR — CARD READER
- KP — KEYPAD
- DC — DOOR CONTACT
- ML — MAGNETIC LOCK
- ES — ELECTRIC STRIKE
- ER — EXIT REQUEST
- BM — BIOMETRIC READER
- CEILING MOUNTED DOME STYLE SECURITY CAMERA
- CEILING MOUNTED AISLE STYLE SECURITY CAMERA
- MOTION SENSOR
- EMERGENCY CALL STATION
- COMBINATION CAMERA / INTERCOM

SWITCHES

- S — SINGLE-POLE, SINGLE-THROW WALL SWITCH
- S_2 — DOUBLE-POLE, SINGLE-THROW WALL SWITCH
- S_3 — THREE-WAY WALL SWITCH
- S_4 — FOUR-WAY WALL SWITCH
- S_P — SINGLE-POLE SWITCH WITH PILOT LIGHT
- S_D — LOW VOLTAGE SCENE SWITCH
- S_{D1} — LOW VOLTAGE 1 BUTTON DIMMING SWITCH
- S_{L1} — LOW VOLTAGE 1 BUTTON SWITCH
- S_{LX} — LOW VOLTAGE SWITCH WHERE X INDICATES # OF BUTTONS
- S_M — MOTOR SWITCH WITH THERMAL OVERLOAD PROTECTION
- S_K — SINGLE-POLE KEYED SWITCH
- S_{PROJ} — PROJECTOR SCREEN RAISE/LOWER SWITCH
- S_{OC} — OCCUPANCY SENSOR SWITCH
- PC — PHOTO CELL
- OS — CEILING MOUNTED OCCUPANCY SENSOR
- RC — LIGHTING RELAY ROOM CONTROLLER
- RC_D — DIMMING LIGHTING RELAY ROOM CONTROLLER

ANNOTATION

BUILDING SYSTEMS

- CA — COMPRESSED AIR PIPING
- CHWS — CHILLED WATER SUPPLY PIPING
- CHWR — CHILLED WATER RETURN PIPING
- CWFT — CONDENSER WATER FROM TOWER
- CWTT — CONDENSER WATER TO TOWER
- DR — CONDENSATE DRAIN PIPING
- D — DRAIN
- PCHWS — PROCESS CHILLED WATER SUPPLY
- PCHWR — PROCESS CHILLED WATER RETURN
- GCHWS — GLYCOL CHILLLED WATER SUPPLY
- GCHWR — GLYCOL CHILLLED WATER RETURN
- HPS — HIGH PRESSURE STEAM
- HPC — HIGH PRESSURE CONDENSATE
- HHWS — HEATING HOT WATER SUPPLY
- HHWR — HEATING HOT WATER RETURN
- HPS — HIGH PRESSURE STEAM
- HPC — HIGH PRESSURE CONDENSATE
- LPS — LOW PRESSURE STEAM
- LPC — LOW PRESSURE CONDENSATE
- MPS — MEDIUM PRESSURE STEAM
- MPC — MEDIUM PRESSURE CONDENSATE
- NG — NATURAL GAS
- PC — PUMPED CONDENSATE
- RV — REFRIGERANT VENT

PLUMBING

- CW — COLD WATER PIPING
- ICW — INDUSTRIAL COLD WATER
- IW — INDIRECT WASTE OR IRRIGATION WATER
- NPW — NON-POTABLE WATER
- HW — HOT WATER PIPING
- HWC — HOT WATER CIRCULATING PIPING
- SFT — SOFT WATER
- SW — STORM WATER
- TWS — TEMPERED WATER SUPPLY
- TWR — TEMPERED WATER RETURN
- VAC — VACUUM
- V — VENT
- W — WASTE

PROCESS

- AC — ACETYLENE
- AW — ACID WASTE
- AR — ARGON
- CIPS — CLEAN IN PLACE SUPPLY PIPING
- CIPR — CLEAN IN PLACE RETURN PIPING
- CS — CLEAN STEAM
- STM(F) — FILTERED STEAM
- DI — DE-IONIZED WATER
- DS — DISTILLED WATER
- GN — GASEOUS NITROGEN
- HE — HELIUM
- HY — HYDROGEN
- LN — LIQUID NITROGEN

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

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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

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

MEP SYMBOLS LEGEND

ME000

GENERAL ABBREVIATIONS

GENERAL ABBREVIATIONS:

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

ELECTRICAL ABBREVIATIONS:

A OR AMP	AMPER(S)
AC	ALTERNATING CURRENT
A.F.F.	ABOVE FINIS
APPROX.	APPROXIMATELY
ARCH.	ARCHITECT
AWG	AMERICAN WIRE GAUGE
BKR.	BREAKER
C	CONDUIT
COMM.	COMMUNICATIONS
D	DEEP
DISC	DISCONNECT SWITCH
DWGS.	DRAWINGS
ELECT.	ELECTRICAL
EMCS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
EQUIP.	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX	EXISTING
FLEX	FLEXIBLE METALLIC CONDUIT
GA	GAUGE
GFI	GROUND FAULT INTERRUPTER
GRS	GALVANIZED RIGID STEEL
HZ	HERTZ
INC	INCANDESCENT
ION	IONIZATION SMOKE DETECTOR
JB	JUNCTION BOX (J-BOX)
MCC	MOTOR CONTROL CENTER
N/A	NOT APPLICABLE
N.A.	NON-FUSIBLE
NL	NIGHT LIGHT
PC	PLENUM CABLE
PH	PHASE
P	PHOTOELECTRIC SMOKE DETECTOR
PNL	PANEL
PVC	POLYVINYL CHLORIDE
RM.	ROOM
SYMM.	SYMMETRICAL
SYS.	SYSTEM
TV	TELEVISION
TYP	TYPICAL
V	VOLT
VA	VOLT AMPS
W	WATTS
WP	WEATHER PROOF
XFMR.	TRANSFORMER
XP	EXPLOSION PROOF
Ø	PHASE
RE: 3/E1	RE: = REFER TO 3 = DETAIL NUMBER E1 = SHEET NUMBER

GENERAL NOTES

ELECTRICAL GENERAL NOTES

1. ELECTRICAL WORK SHALL BE IN COMPLIANCE WITH 2018 NATIONAL ELECTRIC CODE (NEC).
2. INSTALL ALL WIRING IN RACEWAYS. OPEN WIRING IS PROHIBITED.
3. 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.
4. ALL RACEWAYS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
5. PROVIDE ALL MOTORS WITH A LOCAL DISCONNECT SWITCH (UNFUSED UNLESS OTHERWISE NOTED) LOCATED AT THE MOTOR OR A MAXIMUM OF 5FT AWAY, WITHIN SIGHT.
6. NO MORE THAN SIX RECEPTACLES SHALL BE INSTALLED ON A SINGLE BRANCH CIRCUIT FOR GENERAL USE. GFCI RECEPTACLES SHALL NOT SERVE OTHER RECEPTACLES FROM THEIR LOADSIDE TERMINALS.
7. TELECOMMUNICATION OUTLET BOXES SHALL BE MINIMUM SIZE AS NEC STANDARD 6"x6"x2.5" THAT COULD CONTAIN DUAL DUPLEX ELECTRICAL OUTLETS, RECESSED TO ALLOW EMT OR FLEXIBLE CONDUIT TO TERMINATE ON THEM.
8. WALL MOUNTED JUNCTION BOXES SHALL BE EQUIPPED WITH FULL COVERED STAINLESS STEEL WALL FACEPLATES THAT SHALL COVER THE ENTIRE BOX WITHOUT TRIM RINGS ADDED.
9. TELECOM J-BOXES SHALL EMPLOY TWO EACH MODULAR CAT 6 (OR BETTER) RJ-45 JACKS FOR VOICE/DATA, VERIFY STANDARD CABLING WITH OWNER PRIOR TO BID.
10. 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.
11. CONTRACTOR SHALL COORDINATE AND EXPEDITE ALL WORK WITH OTHER TRADES AND OWNER.
12. ALL OVERCURRENT PROTECTIVE DEVICES INSTALLED UNDER THIS CONTRACT SHALL MEET THE INTERRUPTING CAPABILITY OF THE SCHEDULES. "SERIES RATING" SHALL BE ALLOWED.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR ARC FLASH STUDY AND LABELS PER NEC.
14. ALL WIRING TO BE CONTINUOUS WITHOUT SPLICES UNLESS OTHERWISE NOTED.
15. NO POWER AND CONTROL WIRING SHALL BE RUN IN SAME CONDUIT.
16. FINAL ROUTING OF CONDUITS IS TO BE DETERMINED BY THE CONTRACTOR. INFORM ENGINEER OF RECORD OF ANY MAJOR DISCREPANCY PRIOR TO PROCEEDING WITH INSTALLATION.
17. PROVIDE TYPED PANEL SCHEDULES POLE AND LOAD SERVED.
18. 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

1. PLANS ARE DIAGRAMMATIC AND SHALL NOT BE SCALED. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
2. COORDINATE ALL SCHEDULING, ELEVATIONS, SIZES, QUANTITIES, AND ROUTING OF WORK WITH OWNER AND OTHER TRADES.
3. FIELD VERIFY SIZE, LOCATION, ELEVATION AND QUANTITY OF ALL ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PIPING EQUIPMENT AND COMPONENTS THAT MAY IMPACT IMPLEMENTATION OF THIS WORK.
4. 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.
5. ALL ELECTRICAL BOXES SHALL BE GALVANIZED STEEL. BACK BOXES MOUNTED ON GALVANIZED STUDS SHALL HAVE BETWEEN STUD MOUNTING BRACKETS EQUAL TO 'CADDY' #RBS16 OR #RBS24, PROVIDE 3/4" MUD RINGS WHERE LOCATED IN WALLS WITH 5/8" THICK GYPSUM WALLBOARDS.
6. 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.
7. ALL POWER CIRCUITS SHALL HAVE A GROUNDING CONDUCTOR.
8. CONFIRM THAT NO WIRING CIRCUIT EXCEEDS 1920VA (120V).
9. ALL WALL OCCUPANCY SENSORS AND COVERPLATES SHALL BE GREY IN COLOR. ALL STANDARD TOGGLE SWITCHES SHALL BE GREY IN COLOR AN COVERPLATES SHALL BE STAINLESS STEEL. REFERENCE ELECTRICAL PAN SPECIFICATIONS.
10. FOR ANY EMERGENCY OR NIGHT LIGHT FIXTURE, A CONSTANT HOT CONDUCTOR SHALL BE ROUTED TO FIXTURE WHETHER IT IS SHOWN OR NOT.
11. EXIT LIGHT FIXTURES MOUNTED ON WALLS SHALL BE AT LEAST 6" ABOVE DOOR HEADER OR PER DRAWING ELEVATIONS.
12. REFERENCE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION ON FIXTURE TYPE AND CONTROLS.

MECHANICAL GENERAL NOTES

1. ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE (IMC).
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 SUBMIT HVAC SHEET METAL PLANS WITH ACTUAL FITTINGS AND LAYOUT PER THE SHOP FABRICATION.
4. 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.
5. PROVIDE FLEXIBLE CONNECTION AND DUCT TRANSITIONS AT CONNECTIONS TO ALL DUCTED MECHANICAL EQUIPMENT.
6. COORDINATE ROUTING OF DUCTWORK WITH ALL OTHER TRADES TO AVOID INTERFERENCES IN CEILING PLENUM.
7. MAINTAIN ALL MANUFACTURER'S REQUIRED CLEARANCES FOR ALL HVAC EQUIPMENT.
8. COORDINATE ALL CEILING INSTALLED EQUIPMENT AND DIFFUSER, REGISTER, AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING PLANS.
9. ROUND BRANCH TAKE-OFF FITTINGS TO DIFFUSERS SHALL BE BELLMOUTH TYPE EXCEPT LOCATIONS WHERE LISTED DUCT HEIGHT DOES NOT ACCOMODATE. 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.
10. 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).
11. 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.
12. CONTRACTOR SHALL REPAIR OR REPLACE LAY-IN OR GYPBOARD CEILINGS AS NECESSARY TO INSTALL NEW DUCTWORK, PIPING AND ELECTRICAL CONDUITS.
13. ALL EXISTING PLUMBING WASTE, WATER, AND VENT PIPING LOCATION AND ROUTING SHALL BE FIELD VERIFIED.
14. FIRE DAMPERS SHALL BE PROVIDED WHERE DUCTWORK PENETRATES ANY RATED ASSEMBLY. REFER TO ARCHITECTURAL CODE PLAN FOR FURTHER DETAILS.

PLUMBING GENERAL NOTES

1. ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL PLUMBING CODE (IPC).
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. MAINTAIN MANDATORY 10'-0" SEPARATION FROM ALL VENTS/EXHAUST AND OUTSIDE AIR INTAKES. REFER TO MECHANICAL PLANS PRIOR TO ROUGH-IN.
4. ALL DOMESTIC WATER, WASTE, AND VENT PIPING SHALL BE ROUTED TIGHT TO STRUCTURE. COORDINATE ROUTING WITH ALL TRADES.
5. 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.
6. UNLESS NOTED OTHERWISE, MAINTAIN MINIMUM 1/8" PER 1'-0" SLOPE ON ALL DRAINAGE PIPING.
7. ALL PLUMBING PIPING SHALL BE INSULATED / JACKETED PER SPECIFICATIONS.
8. ALL PLUMBING MATERIALS SHALL BE PER SPECIFICATIONS AND SCHEDULES.

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

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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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SHEET TITLE

MEP GENERAL NOTES AND ABBREVIATIONS

ME001

SHEET 78 OF 102

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GAS CONNECTED LOAD TABLE

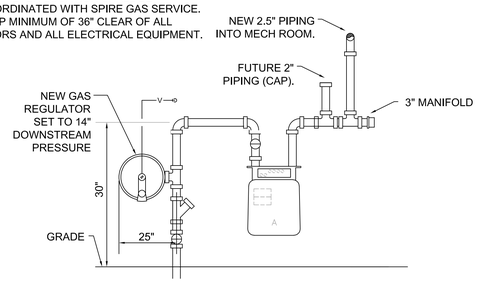
EQUIPMENT:	BTUH
TANKLESS WATER HEATERS (2)	398,000
NEW RTU-1	450,000
FUTURE	150,000
TOTAL BUILDING LOAD	998,000

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.

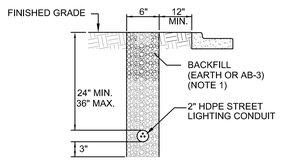
ESTIMATED GAS HEATING LOAD @ LOW PRESSURE (14"wc)

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

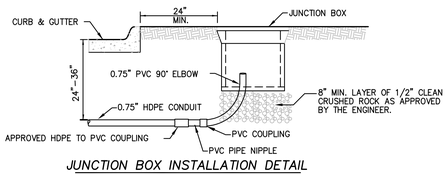


NOTE: BACKFILL IN UNPAVED AREAS SHALL BE FREE OF RUBBLE AND ROCK. CONDUITS SHALL BE PITCHED TO DRAIN.

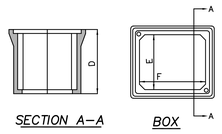
TRENCHING IN UNPAVED AREAS

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

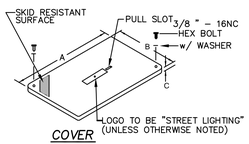
3 TRENCHING DETAILS
SCALE: NTS



JUNCTION BOX INSTALLATION DETAIL



SECTION A-A *BOX*



COVER

TYPE	DIMENSION (IN.)					
	A	B	C	D	E	F
I-JUNCTION	12⅝	12⅝	¾	12¾	9 ¾ - 10½	9 ¾ - 10½

2 EXTERIOR QUAZITE DETAIL
SCALE: NTS

SITE PLAN NOTES

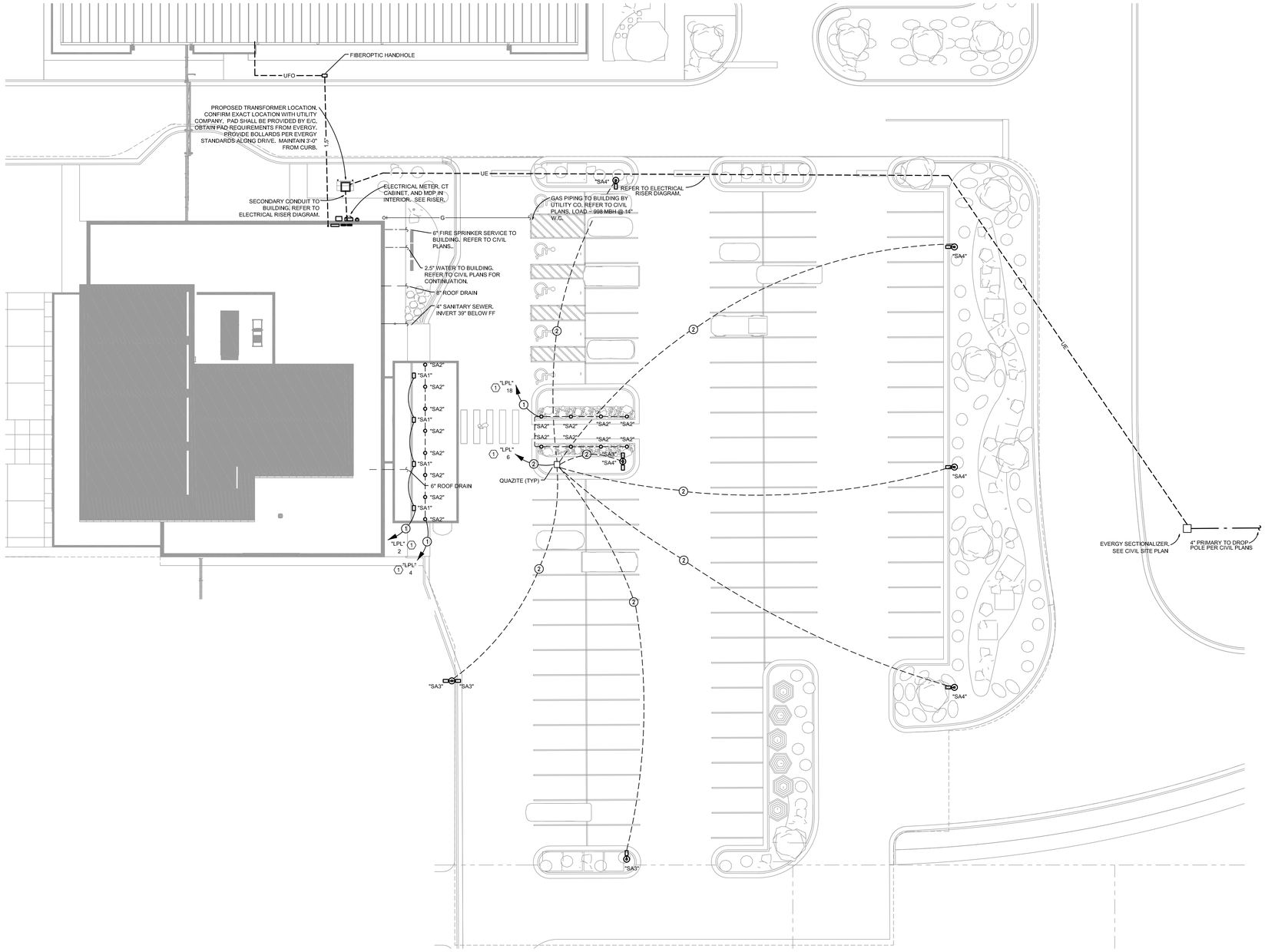
1. ROUTE HOMERUN VIA LIGHTING CONTROL SYSTEM "LCS1". REFER TO RELAY PANEL SCHEDULE FOR ZONE CONTROLLED BY RELAY PRIOR TO HOMERUN TO POWER PANEL. REFER TO DETAILS ON SHEET E300.

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

1. REFER TO CIVIL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND FOR ROUTING OF ALL UTILITIES OUTSIDE THE BUILDING.
2. 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 REQUIREMENTS OF LOCAL AUTHORITIES.
3. 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.
4. 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.
5. CONTRACTOR SHALL CONTACT EVERGY 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.
6. 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"

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

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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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SHEET TITLE

MEP SITE PLAN

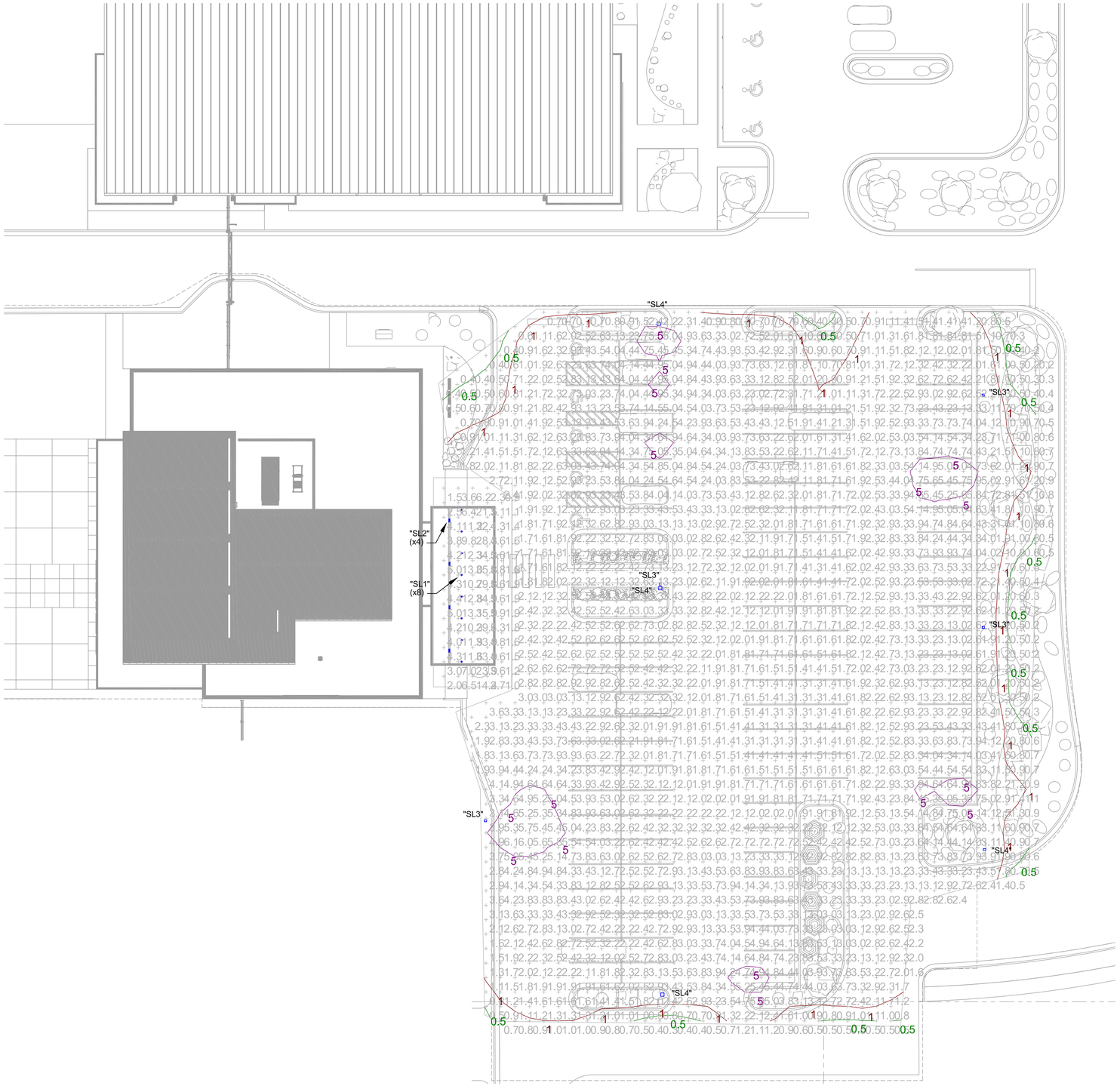
ME002

EXTERIOR LIGHT FIXTURE PHOTOMETRIC SCHEDULE

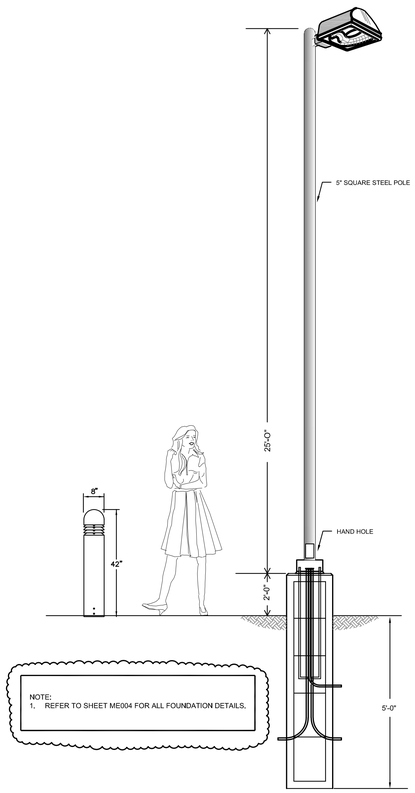
Symbol	Label	Image	QTY	Manufacturer	Catalog	Description	Number Lamps	Lamp Output	LLF	Input Power	Polar Plot
○	SL1		8	KIM LIGHTING	PA7R-CH1-12L-020-4K7	PA7R	1	1932	1	22	LXT SITE_image1.png
▭	SL2		4	KIM LIGHTING	CY2-45-4K7-2-3-3-R	CY2	1	4405	1	51.57	LXT SITE_image2.png
□	SL3		4	KIM LIGHTING	AR2-81L-700-4K7-3	AR2	1	18598	1	171.66	LXT SITE_image3.png
□	SL4		3	KIM LIGHTING	AR2-81L-700-4K7-4	AR2	1	19220	1	178.24	LXT SITE_image4.png

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

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GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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
A	01.03.25	CITY REVIEW COMMENTS

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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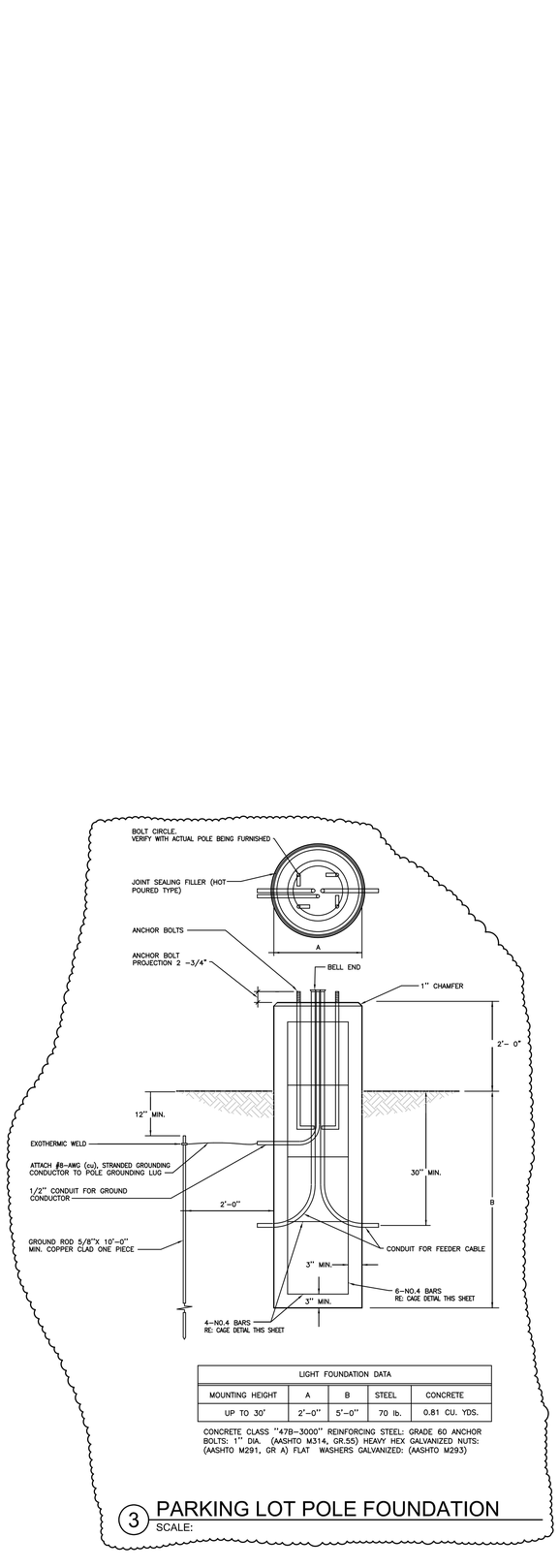
SHEET TITLE

LIGHTING SITE PHOTOMETRIC PLAN

ME003

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

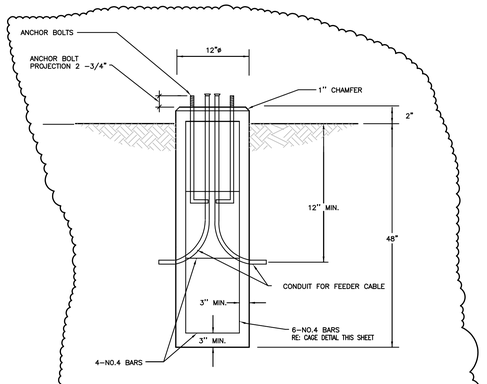
4 REBAR CAGE DETAIL
SCALE:



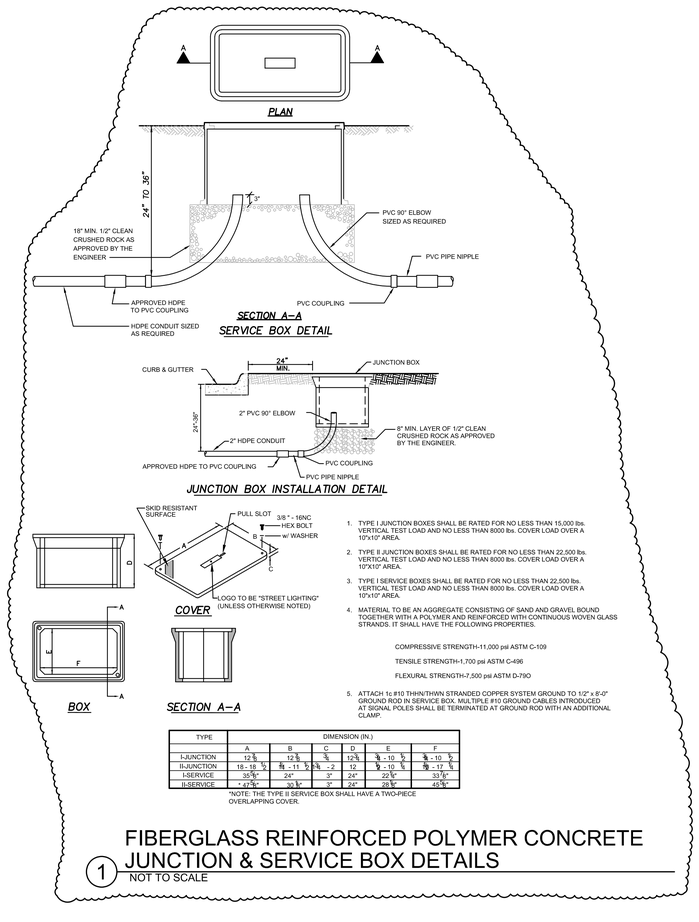
LIGHT FOUNDATION DATA				
MOUNTING HEIGHT	A	B	STEEL	CONCRETE
UP TO 30'	2'-0"	5'-0"	70 lb.	0.81 CU. YDS.

CONCRETE CLASS "47B-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:



1. TYPE I JUNCTION BOXES SHALL BE RATED FOR NO LESS THAN 15,000 lbs. VERTICAL TEST LOAD AND NO LESS THAN 8000 lbs. COVER LOAD OVER A 10"x10" AREA.
2. TYPE II JUNCTION BOXES SHALL BE RATED FOR NO LESS THAN 22,500 lbs. VERTICAL TEST LOAD AND NO LESS THAN 8000 lbs. COVER LOAD OVER A 10"x10" AREA.
3. TYPE I SERVICE BOXES SHALL BE RATED FOR NO LESS THAN 22,500 lbs. VERTICAL TEST LOAD AND NO LESS THAN 8000 lbs. COVER LOAD OVER A 10"x10" AREA.
4. MATERIAL TO BE AN AGGREGATE CONSISTING OF SAND AND GRAVEL BOUND TOGETHER WITH A POLYMER AND REINFORCED WITH CONTINUOUS WOVEN GLASS STRANDS. IT SHALL HAVE THE FOLLOWING PROPERTIES.

   COMPRESSIVE STRENGTH-11,000 psi ASTM C-109

   TENSILE STRENGTH-1,700 psi ASTM C-496

   FLEXURAL STRENGTH-7,500 psi ASTM D-790
5. ATTACH 1c #10 THHN/THWN STRANDED COPPER SYSTEM GROUND TO 1/2" x 8'-0" GROUND ROD IN SERVICE BOX. MULTIPLE #10 GROUND CABLES INTRODUCED AT SIGNAL POLES SHALL BE TERMINATED AT GROUND ROD WITH AN ADDITIONAL CLAMP.

TYPE	DIMENSION (IN.)					
	A	B	C	D	E	F
I-JUNCTION	12 1/8	12 1/8	3/4	12 1/8	9 1/2 - 10 1/2	9 1/2 - 10 1/2
II-JUNCTION	18 - 18 1/2	18 - 11 1/2	2 3/4 - 2	12	9 1/2 - 10 1/2	16 - 17 1/2
I-SERVICE	35 5/8"	24"	3"	24"	22 5/8"	33 5/8"
II-SERVICE	47 5/8"	30 3/4"	3"	24"	28 5/8"	45 5/8"

*NOTE: THE TYPE II SERVICE BOX SHALL HAVE A TWO-PIECE OVERLAPPING COVER.

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

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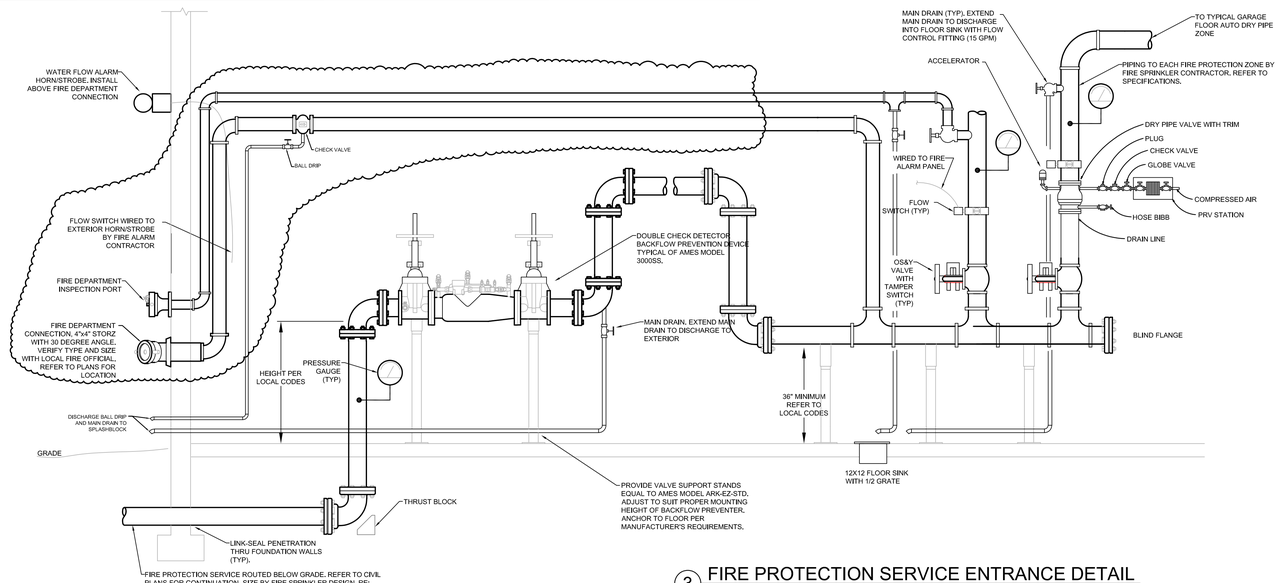
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SHEET TITLE

SITE ELECTRICAL DETAILS

ME004

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

HATCH KEY

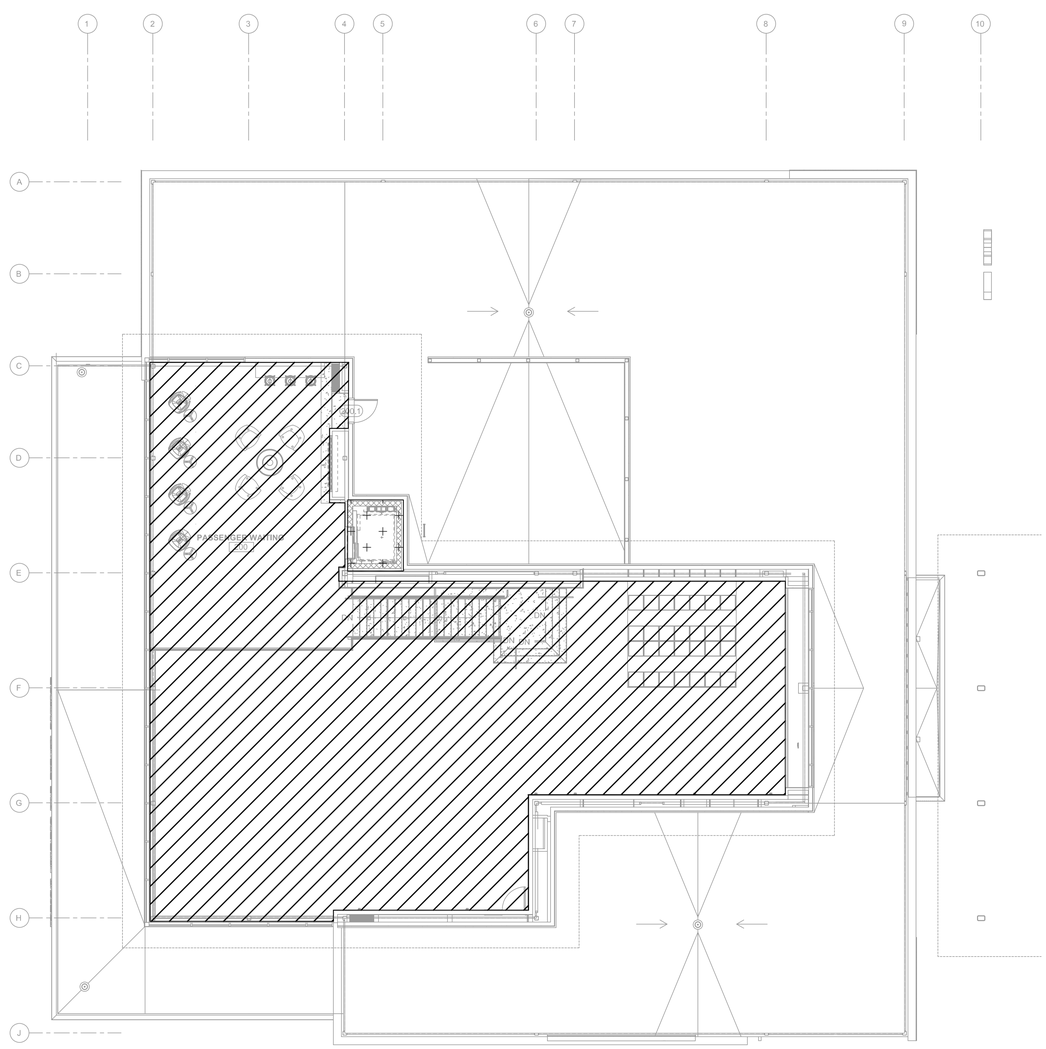
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW "LIGHT HAZARD" FIRE SPRINKLER COVERAGE PER NFPA 13 AND SPECIFICATION DIVISION 21
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW "ORDINARY HAZARD" FIRE SPRINKLER COVERAGE PER NFPA 13 AND SPECIFICATION DIVISION 21
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW "ORDINARY HAZARD" FIRE SPRINKLER COVERAGE PER SPECIFICATION DIVISION 21
- DENOTES AREA WHICH IS TO BE PROVIDED WITH NEW DRY TYPE SPRINKLER SYSTEM WHERE FREEZING COULD OCCUR FIRE SPRINKLER COVERAGE PER SPECIFICATION DIVISION 21. FURNISH ZONE WITH DRY TYPE VALVE, AIR TANK, CONTROLS, ETC.
- 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 AT IN ARCHITECTURAL SUSPENDED CEILING CLOUD PER SPECIFICATION DIVISION 21. FEED FROM SIDEWALL INTO CLOUD AREA (NOT UPPER CEILING).

GENERAL NOTES

1. SPRINKLER CONTRACTOR IS RESPONSIBLE FOR VERIFYING HYDRANT FLOWS PRIOR TO ANY DESIGN CALCULATIONS AND LAYOUTS. WHAT IS SHOWN ON THESE PLANS IS SCHEMATIC AND IS BASED UPON REDUCING PIPING 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 PSI AT 113TH PLACE AND VERDE DR.
   2.2. 65 PSI 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 WET SYSTEM FOLLOWING NFPA 13 FOR ENTIRE BUILDING EXCEPT FOR ATTIC SPACE. THIS AREA SHALL BE PROTECTED WITH A DRY TYPE SYSTEM. LOCATION OF DRY TYPE 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 LAY-IN OR HARD CEILINGS, PROVIDE SEMI-RECESSED PENDANT HEADS WITH ESCUTCHEON PLATES INSTALLED IN CEILING (ALL PARTS SHALL BE POLISHED CHROMED). 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 THIS PROJECT.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL FLOW DATA/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"

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LEES SUMMIT, MO

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SHEET TITLE

FIRE PROTECTION PLAN

FP100

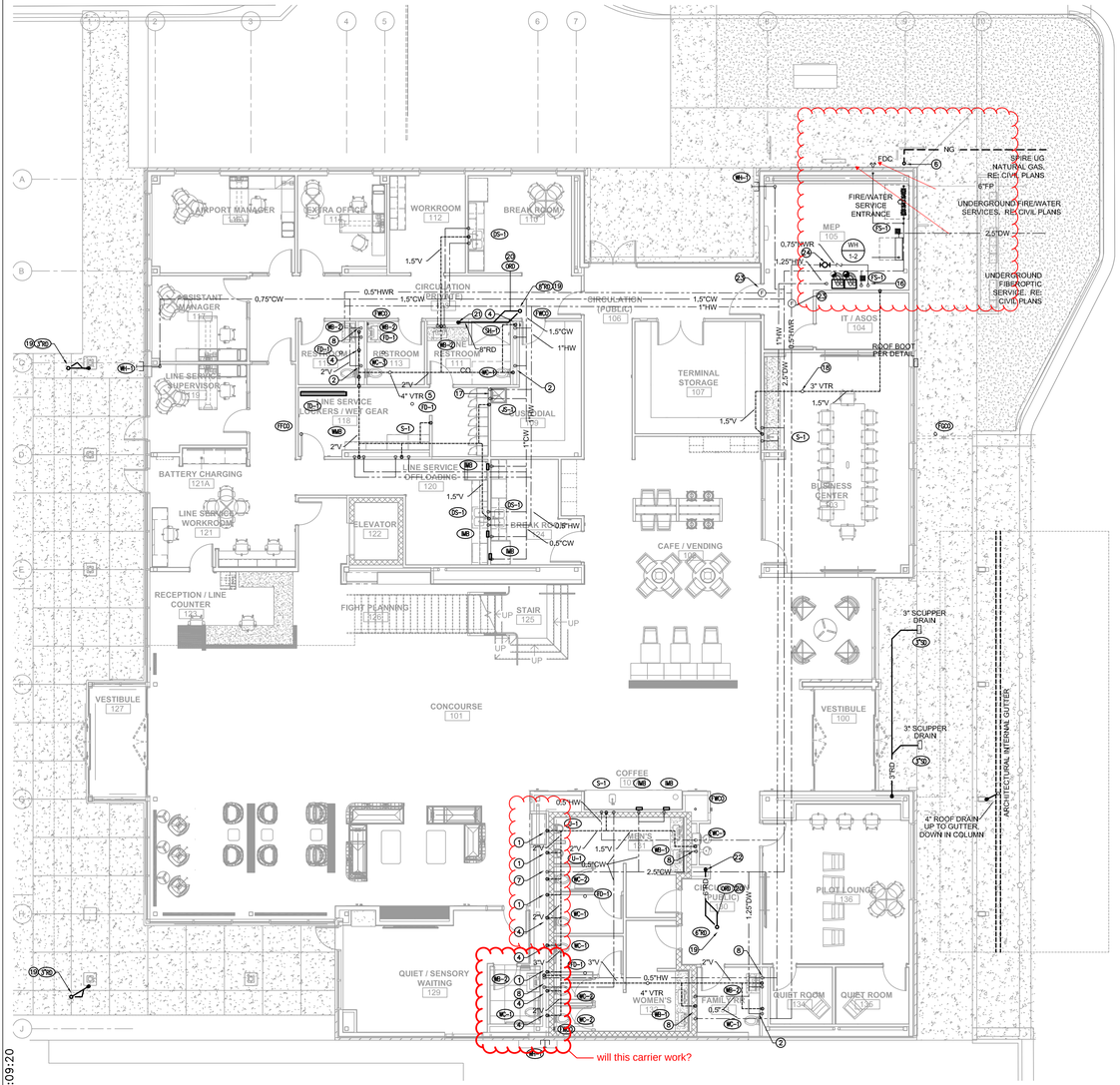
SHEET 81 OF 102

PLAN NOTES - ABOVE GRADE

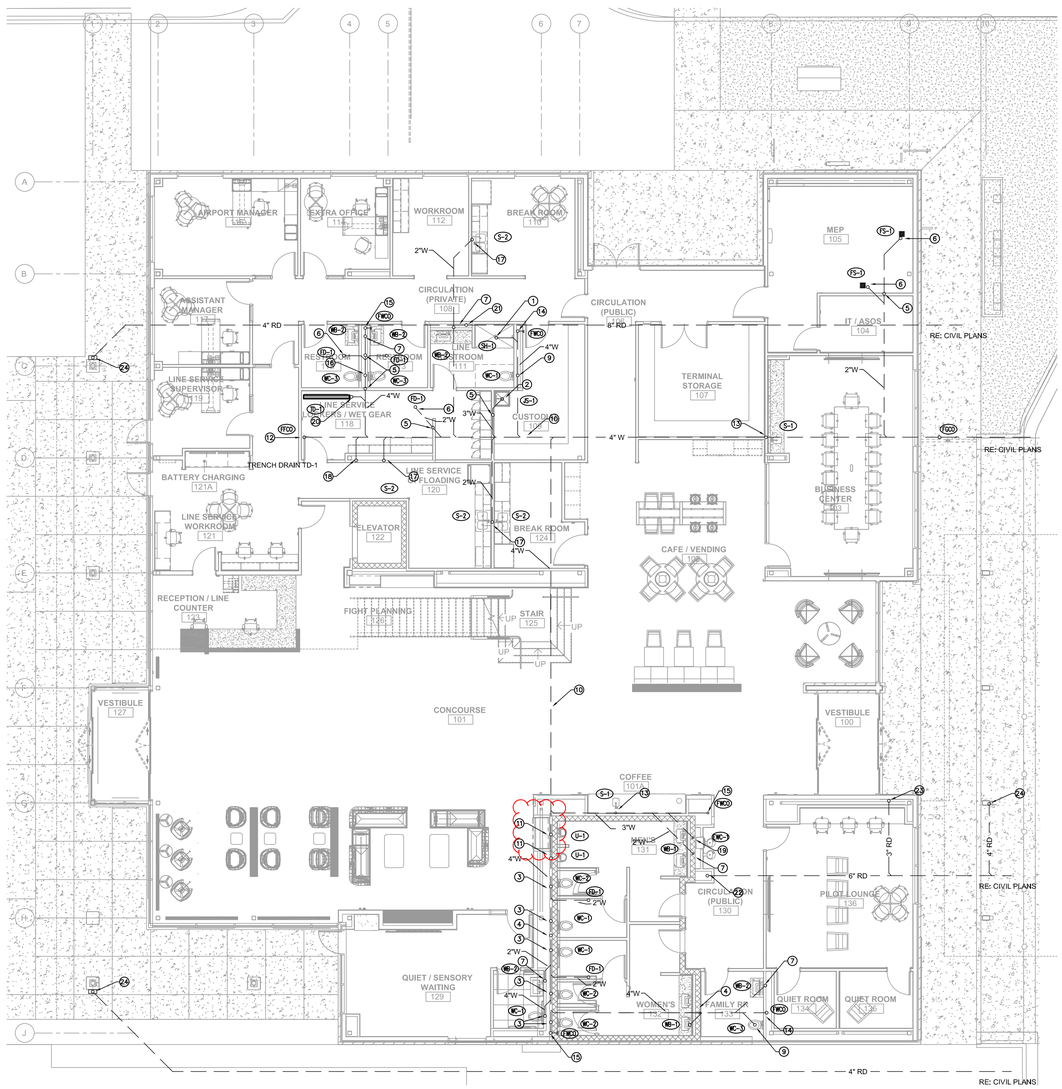
1. 1.5" VENT DOWN.
2. 1.25" COLD WATER DOWN TO WATER CLOSETS.
3. CONNECT 2" VENT UP TO 3" VENT UP THRU ROOF (VTR).
4. 2" CIRCUIT VENT DOWN.
5. 3" VENT UP TO 4" VENT THRU ROOF (VTR).
6. NEW GAS METER/REGULATOR WITH LOADS PER SCHEDULE. RE: MECH PLAN.
7. 2.5" COLD WATER DOWN TO URINALS/WATER CLOSETS. ROUTE 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 INSTANEOUS 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. OVERLFOW 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"

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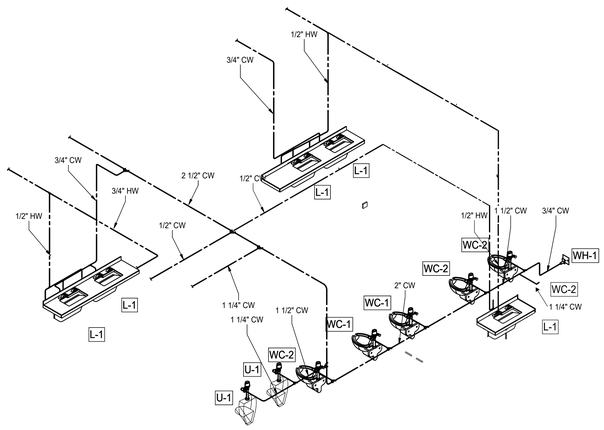
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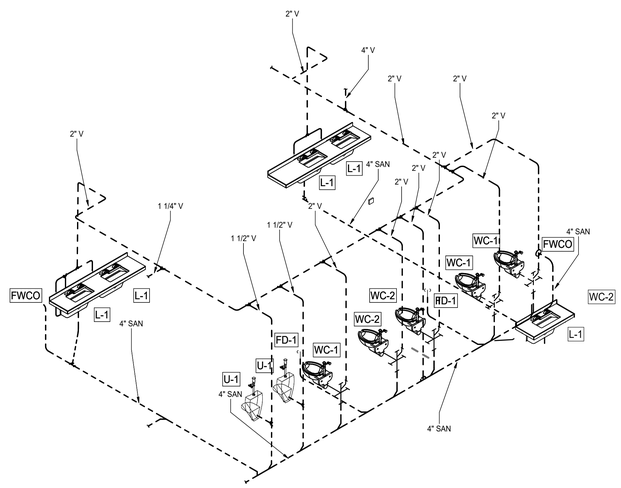
ABOVE AND BELOW GROUND PLUMBING PLANS

P-100

SHEET 82 OF 102



2 PARTIAL WATER PIPING DIAGRAM
SCALE: NONE



1 PARTIAL WASTE/VENT PIPING DIAGRAM
SCALE: NONE

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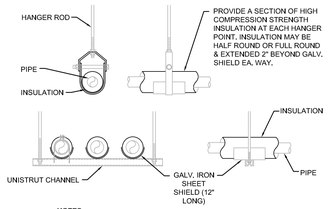
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PLUMBING DIAGRAMS

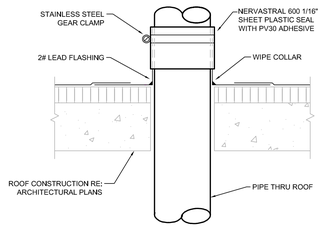
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SHEET 83 OF 102

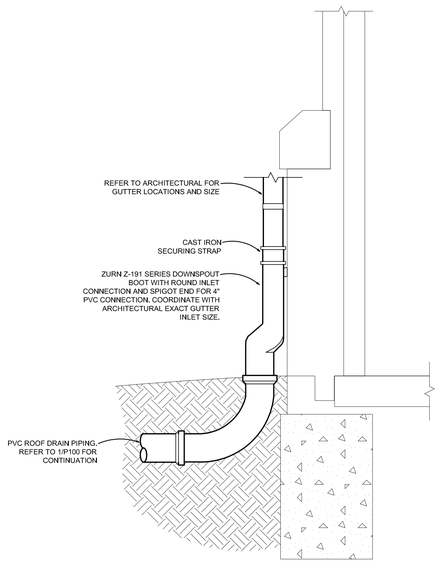


NOTES:
1. ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CORD OF JOISTS OR BEAMS,
2. PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE.

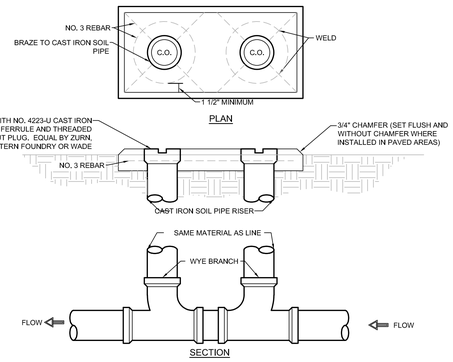
9 PIPE INSULATION DETAIL
SCALE: NONE



8 VENT THRU ROOF DETAIL
SCALE: NONE



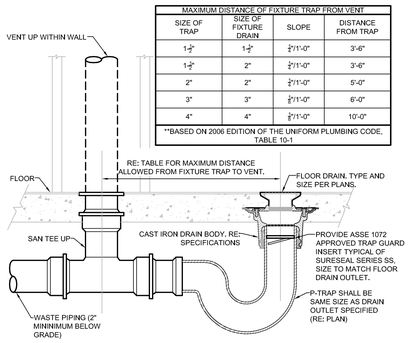
7 DOWNSPOUT BOOT DETAIL
SCALE: NONE



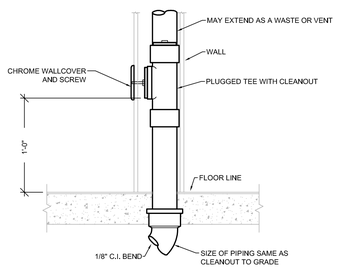
6 TWO WAY FINISHED GRADE CLEANOUT DETAIL
SCALE: NONE

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

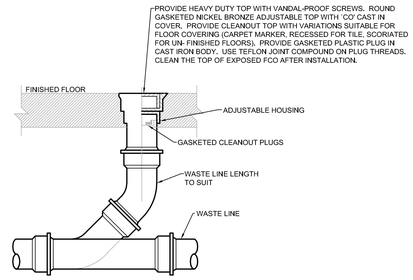
**BASED ON 2006 EDITION OF THE UNIFORM PLUMBING CODE, TABLE 10-1



5 FLOOR DRAIN DETAIL
SCALE: NONE

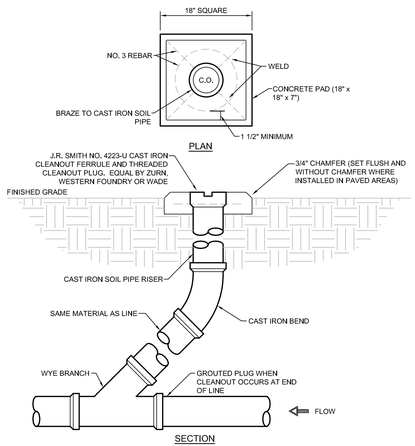


4 WALL CLEANOUT DETAIL
SCALE: NONE

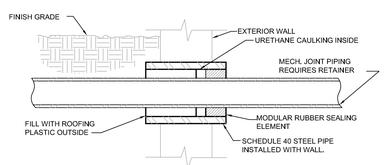


LOCATE AT BUILDING EXIT, AT ENDS OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT 50'-0" INTERVALS ON STRAIGHT RUNS, AND/OR WHERE SHOWN ON PLANS. PROVIDE BACKFILL PER ARCHITECTURAL SPECIFICATIONS. LOCATE CLEANOUTS WHERE THERE IS 1'-6" CLEAR AROUND. CONSULT LOCAL CODES FOR OTHER FCO REQUIREMENTS.

3 FLOOR CLEANOUT DETAIL
SCALE: NONE



2 FINISHED GRADE CLEANOUT DETAIL
SCALE: NONE



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

1 PIPE SLEEVE THRU EXTERIOR WALL
SCALE: NONE

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

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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

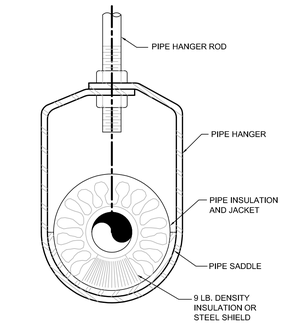
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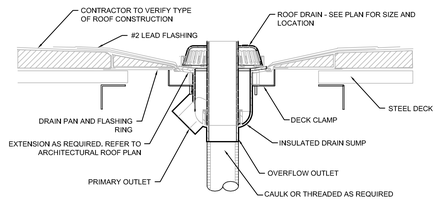
PLUMBING DETAILS

P-400

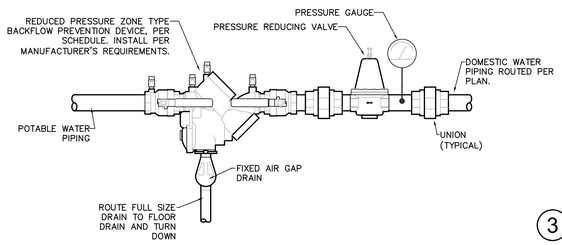
SHEET 84 OF 102



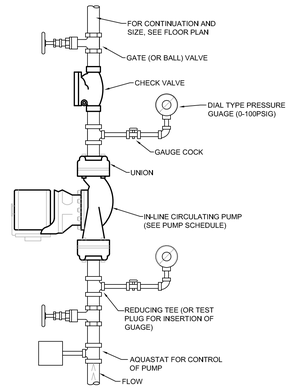
11 PIPE HANGER DETAIL
SCALE: NONE



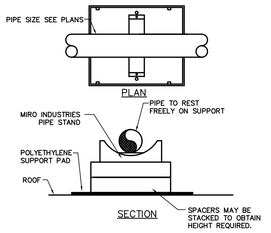
10 ROOF DRAIN DETAIL
SCALE: NONE



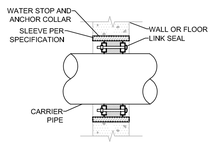
9 BACKFLOW PREVENTOR DETAIL
SCALE: NONE



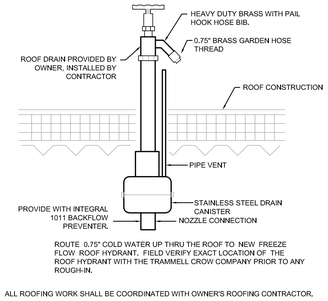
3 CIRCULATING PUMP DETAIL
SCALE: NONE



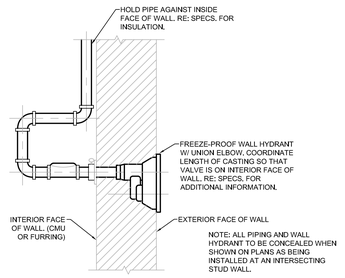
9 ROOF PIPE SUPPORT
SCALE: NONE



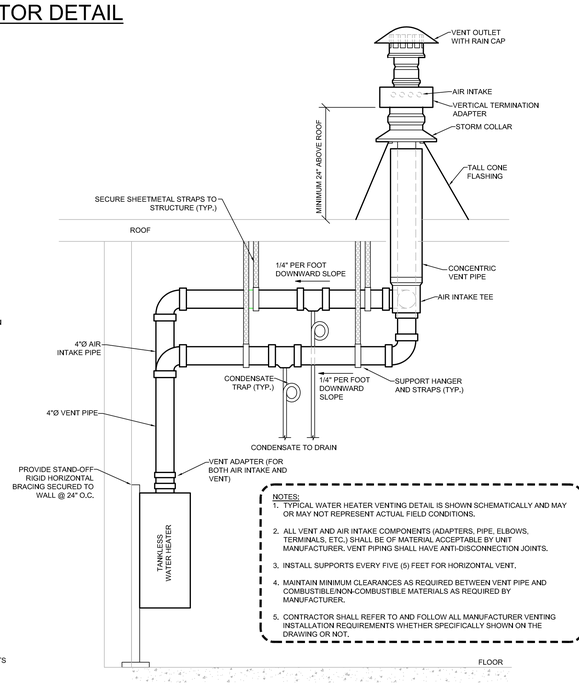
8 LINK SEAL DETAIL
SCALE: NONE



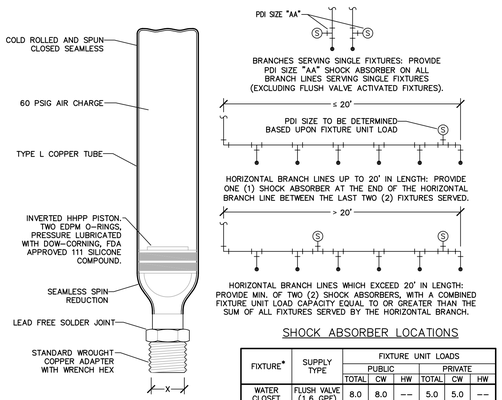
7 ROOF HYDRANT DETAIL
SCALE: NONE



6 WALL HYDRANT DETAIL
SCALE: NONE



2 TANKLESS WATER HEATER VENTING 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

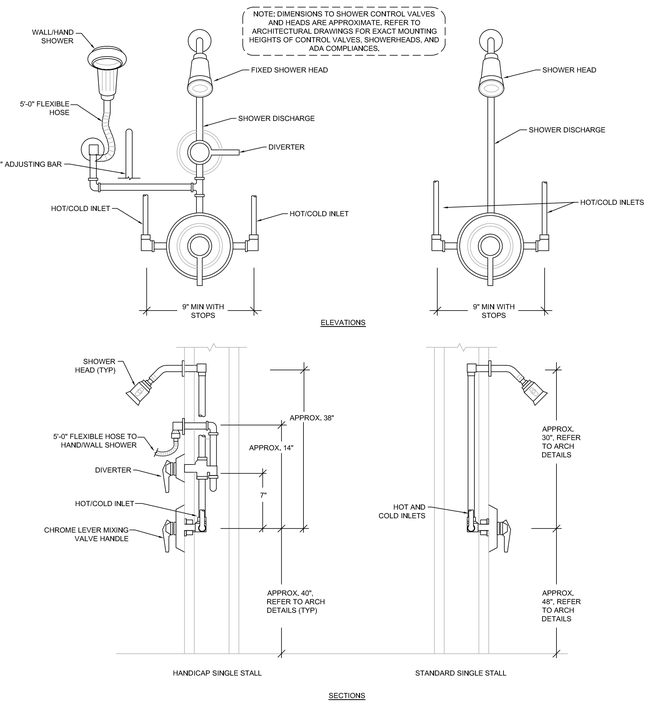
SHOCK ABSORBER LOCATIONS

FIXTURE*	SUPPLY TYPE	FIXTURE UNIT LOADS					
		PUBLIC			PRIVATE		
		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
BATHTUB	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

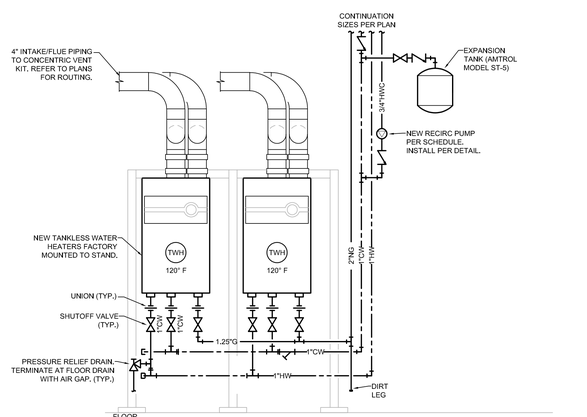
*ALL FIXTURES NOT LISTED IN TABLE SHALL HAVE FIXTURE UNIT LOAD VALUE DETERMINED BY 2006 IPC TABLE E103.3

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



4 SHOWER INSTALLATION DETAIL
SCALE: NONE



1 WATER HEATER (WH-1-2) PIPING DIAGRAM
SCALE: NONE

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LEE'S SUMMIT, MISSOURI

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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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SHEET TITLE

PLUMBING DETAILS

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PLUMBING FIXTURE SCHEDULE - SUPPLY FIXTURES

TAG	TYPE	MANUFACTURER[2]	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 TET3LN31#SS WITH 1" ANGLE STOP, 1-1/2" VACUUM BREAKER, 4"x4" STAINLESS STEEL COVER PLATE. UNIT SHALL INCLUDE A PISTON 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 TET2LN31#SS WITH 1" ANGLE STOP, 1-1/2" VACUUM BREAKER, 14"x12" STAINLESS STEEL ACCESS COVER PLATE. UNIT SHALL INCLUDE A PISTON 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	UE906UVG	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 (WHU3010). 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 OMNI-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, TBD). PROVIDE WITH TWO (2) BRADLEY WASHBAR DUO WBD1 WHICH INCLUDES SOAP DISPENSER AND FAUCET WITH TMV AND HAND DRYER. FURNISH ALL REQUIRED ACCESSORIES INCLUDING WALL BRACKETS, STAINLESS SHROUDS FOR COVERING SUPPLY/P-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 OMNI-DECK WITH CUSTOM LENGTH PER ARCH PLANS (30" AND 64"). LD-3010 SERIES WITH TERREON SOLID SURFACE DECK WITH INTEGRAL RECTANGULAR BOWLS	FINISH SHALL BE COLOR AS SELECTED BY ARCHITECT (BASIS IS BRUSHED BRONZE, TBD). PROVIDE WITH ONE (1) BRADLEY WASHBAR DUO WBD1 WHICH INCLUDES SOAP DISPENSER AND FAUCET WITH TMV AND HAND DRYER. FURNISH ALL REQUIRED ACCESSORIES INCLUDING WALL BRACKETS, STAINLESS SHROUDS FOR COVERING SUPPLY/P-TRAPS, TOP FEED SOAP REFILL, BRUSH STAINLESS IN COLOR.	2"	1-1/2"	1/2"TW	
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 SANAGLOSS 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 ARM CARRIER, AND APPROPRIATE 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 AXIOM MODEL TEL3LK10S, 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"TW	
DS-1	STAINLESS STEEL DOUBLE COMPARTMENT UNDERMOUNT SINK	ELKAY	ECTRY321719-LTBFC (CROSSTOWN)	UNDERCOUNTER MOUNTED, ASME A112.19.3 COMPLIANT, TYPE 304 (18-8) NICKEL BEARING STAINLESS STEEL DOUBLE BOWL SINK (60/40) WITH SATIN FINISH ON EXPOSED SURFACES AND SOUND DAMPENING UNDERCOATING APPLIED 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 DISV VALVES, 21" MULTI-SWIVEL SWING SPOUT, AND 1.8 GPM AERATOR, PROVIDE 1-1/2" LUSTRIOUS 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. PROVIDE WITH IN-SINK-ERATOR POWER MODEL ,75HP, 3/4 HP GARBAGE DISPOSER AND ALL REQUIRED ACCESSORIES. ABOVE SINK MOUNTED TOGGLE SWITCH.	2" (2)	1-1/2"	1/2"	1/2"
S-1	STAINLESS STEEL SINGLE COMPARTMENT SINK	ELKAY	ELUHAD1916	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 UNDERCOATING APPLIED TO CONCEALED SURFACES. SINK SHALL HAVE 5-1/2" BOWL DEPTH, RADIUS CORNERS, REAR SETBACK DRAIN OPENING, 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-16012-4 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 DISV VALVES, 8" MULTI-SWIVEL SWING SPOUT, AND 1.5 GPM AERATOR. PROVIDE 1-1/2" CHROME-PLATED CAST-BRASS TRAP WITH CLEANOUT AND WALL ESCUTCHEON. 1/2" CHROME-PLATED SUPPLIES WITH QUARTER-TURN STOPS AND WALL ESCUTCHEON. PROVIDE WITH GRID STRAINER DRAIN.	2"	1-1/2"	1/2"	1/2"
DF-1	NO-LEAD DUAL LEVEL SWIRLFLO DRINKING FOUNTAIN WITH INTEGRAL BOTTLE FILLING STATION	ELKAY	LZWS-LRPBM28K	HEAVY DUTY, FULLY EXPOSED, NSF-61 COMPLIANT, DUAL-LEVEL DRINKING FOUNTAIN WITH 18 GAUGE TYPE 300 STAINLESS STEEL BASINS AND 16 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 8 GPH AND 50°F DRINKING WATER BASED ON 90°F AMBIENT. COORDINATE ELECTRICAL REQUIREMENTS WITH E/C. PROVIDE WITH ELKAY MODEL EWF172 LEAD REDUCTION WATER FILTRATION KIT, WITH (1) SPARE REPLACEMENT FILTER FOR EACH KIT PROVIDED.	2"	1-1/2"	1/2" CHILLED DOMESTIC WATER TO FOUNTAIN & 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 TS624 - SOLID BRASS SHOWERHEAD WITH 2.5 GPM MAX FLOW RATE, 7.5"x5" SPARY 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"x12" 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 PAIL 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"x12" 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 PAIL 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 CONCEALING 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 BIBB WITH PAIL 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	MIB1	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.

PLUMBING FIXTURE SCHEDULE - DRAINAGE

TAG	TYPE	MANUFACTURER[2]	MODEL	DESCRIPTION	ACCESSORIES	CONNECTIONS[1,2]			
						WASTE	VENT	CW	HW
MS-1	24"x24" JANITORS SINK	FIAT	TSB100	ONE PIECE PRECAST TERRAZO MOP SERVICE BASIN. 12" CONTINUOUS DEPTH. TERRAZO 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 (#1453BB), QUICK DRAIN CONNECTORS, INTEGRAL TILING FLANGES, STAINLESS STEEL CAPS ON ALL SHOULDERS, WALL MOUNTED MOP SERVICE SINK WITH PAIL HOOK (830AA), HOSE AND HOSE BRACKET (832AA), SILICONE SEALANT (833AA) AND HEAVY GAUGE STAINLESS STEEL WALL GUARDS (MSG).	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 TRAP PRIMER INLET CONNECTION.	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 TRAP PRIMER INLET 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 'S' DECORATIVE POLISHED 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"x8" 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"x8" 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 9-1/4" THROAT. MODULAR CHANNEL SECTIONS SHALL BE MADE OF 0% WATER ABSORBENT HIGH DENSITY POLYETHYLENE (HDPE). CHANNELS SHALL BE PRE-SLOPED. PROVIDE WITH END OUTLET. SIZE AS NOTED ON PLAN, WITH STRAINER ON OUTLET.	PROVIDE WITH HEAVY DUTY LOAD CLASS E DUCTILE IRON SLOTTED GRATE, COMPLIANT WITH ASTM A536-84, 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 14" DIAMETER DOME STRAINER, 5" AND 6" OUTLETS TO HAVE A 18" DIAMETER DOME STRAINER. ROOF DRAIN SHALL HAVE A 25 YEAR WARRANTY.	OUTLET AS NOTED ON PLAN			
ORD	WITH COMBO DRAIN ABOVE	-	200Cx	FURNISH WITH OVERFLOW WATER FLOW SENSOR TO BE INSTALLED IN OVERFLOW PIPING CONNECTING 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 14" DIAMETER DOME STRAINER, 5" AND 6" OUTLETS TO HAVE A 18" 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 SCORIATED 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 SCORIATED 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 WATERTIGHT, 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:
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

PIPING MATERIAL SCHEDULE

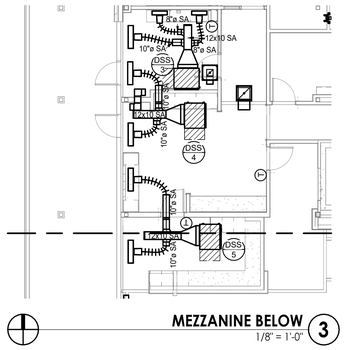
PIPING							FITTINGS		MAX. WORKING		FIELD TEST	
SYSTEM	SIZE	TYPE	SCH	GRD	ASTM	MATERIAL	MAT.	TYPE	PRESS (PSI)	TEMP (°F)	PRESS (PSI)	TIME
DOMESTIC WATER ABOVE GRADE	ALL	L	--	--	B88	CP	CP	SJ	120	40-180	150	1 HR
DOMESTIC WATER BELOW GRADE	ALL	K	--	--	B88	CP	CP	SJ	120	40-180	150	1 HR
CONDENSATE DRAIN ABOVE GRADE	ALL	M	--	--	B88	CP	CP	DR/S	10FT	40-70	10FT	1 HR
FIRE PROTECTION	ALL				PER	NFPA	13	AND	14		200	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	S	150	40-140	200	4 HR
ROOF DRAIN BELOW GRADE	ALL	DMV	40	--	2665	PVC	PVC	DR/SW	10 FT	40-80	10 FT	1 HR
ROOF DRAIN ABOVE GRADE	ALL	NH	SS	--	A74	CI	CI	DR/NH	10 FT	40-180	10 FT	1 HR
TEMPERATURE & PRESSURE RELIEF DRAIN	ALL	M	--	--	B88	CP	CP	DR/S	10FT	40-70	10FT	1 HR
NATURAL GAS ABOVE GRADE	0.5"-2.5"	SL/CW	40	A	A53	CS/BLK	CS	THRD	1	-	100	1 HR
NATURAL GAS ABOVE GRADE	ABOVE 3"	SL/CW	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	DR/SW	10 FT	40-80	10 FT	1 HR
WASTE & VENT ABOVE GRADE	ALL	NH	SS	--	A74	CI	CI	DR/NH	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.

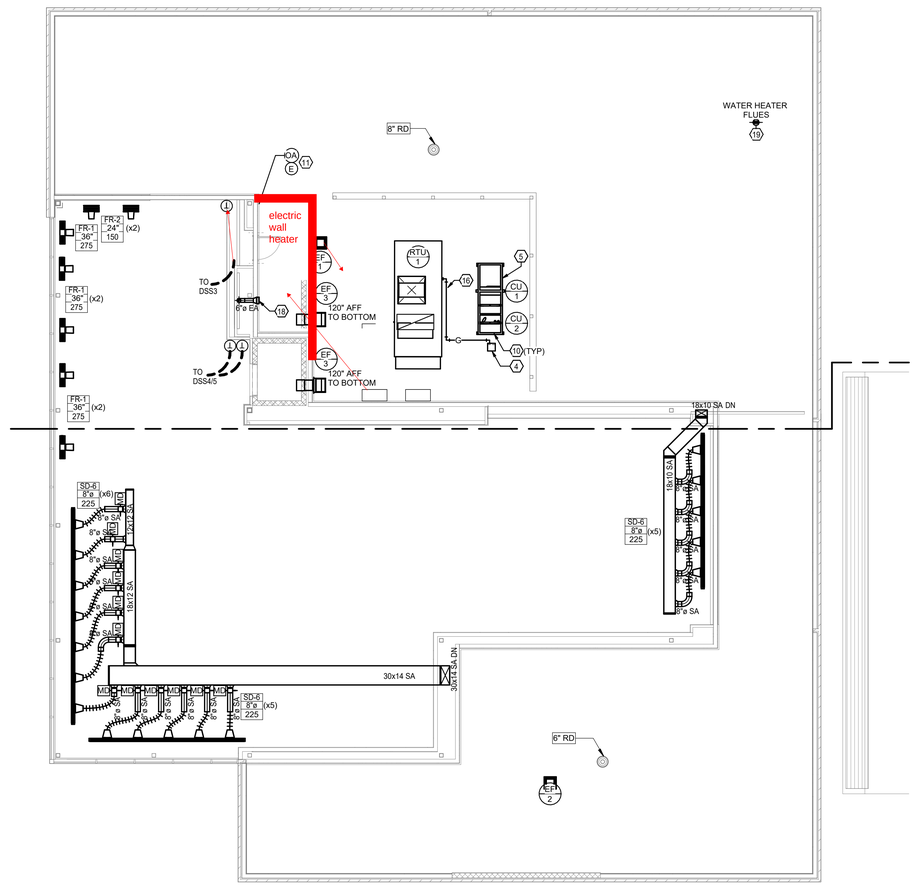
ATP - ARMCO TRUSS PIPE
BLK - BLACK
BS - BELL & SPIGOT
CI - CAST IRON
CP - COPPER
CS - CARBON STEEL
CTD - PIPE LINE SERVICE COMPANY X-TRU-COAT HIGH DENSITY POLYETHYLENE COATING EXTRUDED OVER PIPE
CW - CONTINUOUS WELD
DI - DUCTILE IRON
DR - DRAINAGE FITTING
GLV - GALVANIZED
LC - LEAD CAULKING
MI - MALLEABLE IRON
MJ - MECHANICAL JOINT
NG - NEOPRENE GASKET
NH - NO-HUB
PE - POLYETHYLENE
PVC - POLYVINYL CHLORIDE
S - BRAZED JOINT - SILVER BRAZING ALLOY
SJ - SOLDER JOINT 95-5 TIN-ANTIMONY
SL - SEAMLESS STEEL
SS - STANDARD STRENGTH - SERVICE WEIGHT
SW - SOLVENT WELD
TS - TY-SEAL
THRD - THREADED
VCP - VITRIFIED CLAY PIPE
WELD - WELDED
XH - EXTRA HEAVY

TANKLESS WATER HEATER SCHEDULE (RACK SYSTEM)

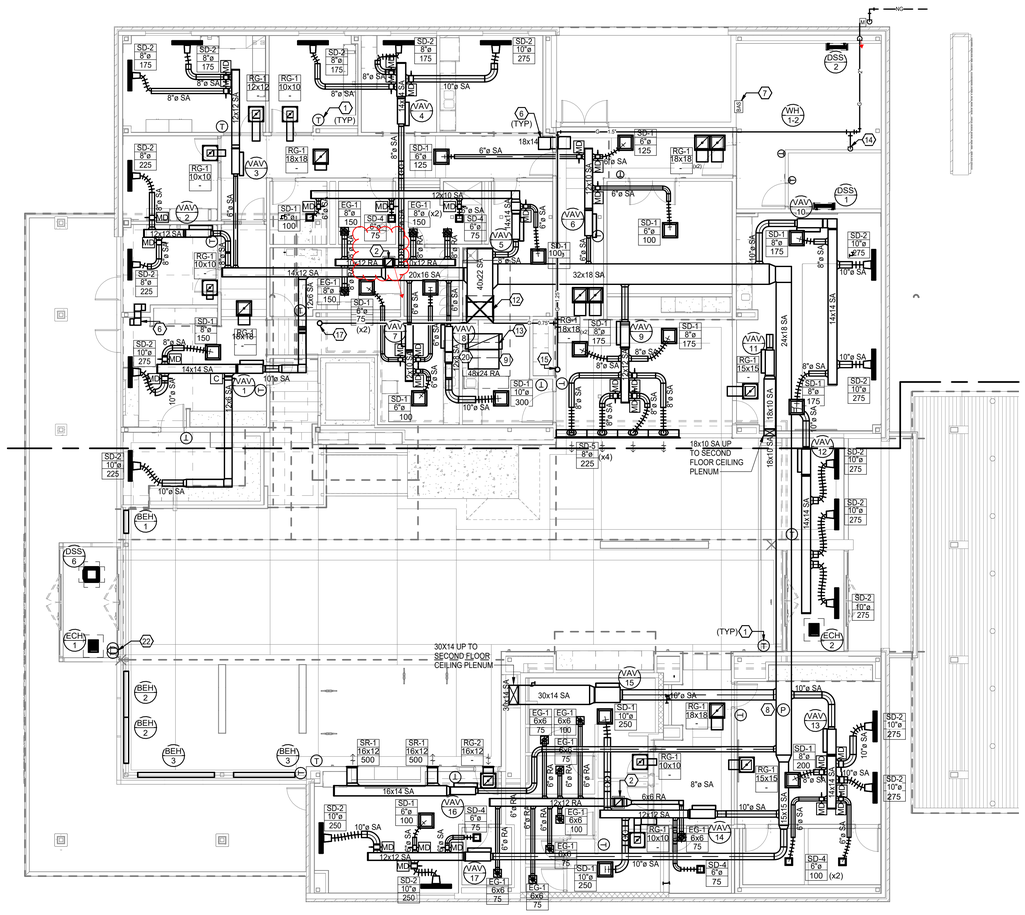
| MARK | MFR | MODEL | LOCATION | ENERGY FACTOR | TYPE | MIN. NG PRESS. ("W.C.) | MAX. NG PRESS. ("W.C.) | MIN. INPUT (mbh) | MAX. INPUT (mbh) | TEMP SETTING (°F) | GPM @ 70°F RISE | VOLT



MEZZANINE BELOW 3
1/8" = 1'-0"



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



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

MECHANICAL PLAN NOTES

1. WHEREVER A THERMOSTAT SYMBOL IS SHOWN, PROVIDE 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 VOLATGE CABLING TO BE FISHED THRU MULLION ASSEMBLIES TO ABOVE VESTIBULE CEILING.

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 PORJECT NO. - 17932172

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
LEE'S SUMMIT, MO

MARK	DATE	DESCRIPTION

PROJECT NO:	2403
CAD DWG FILE:	Lee's Summit - Hangar 2.rvt
DESIGNED BY:	CMW
DRAWN BY:	MR
CHECKED BY:	CMW
APPROVED BY:	APPROVER
COPYRIGHT 2023	

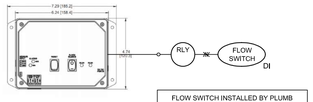
SHEET TITLE

1ST FLOOR & MEZZANINE MECHANICAL PLANS

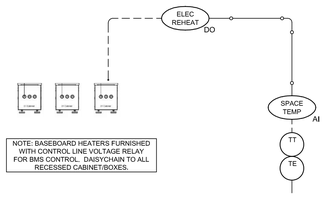
M-100

SHEET OF

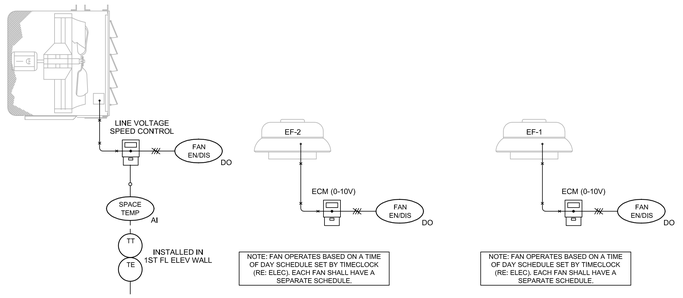
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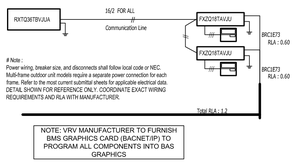
5 ROOF DRAIN MONITORING
SCALE: NONE



5 BASEBOARD HEATING CONTROL DIAGRAM
SCALE: NONE

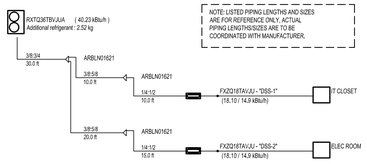


6 EXHAUST FAN CONTROL DIAGRAM
SCALE: NONE



SPLIT SYSTEM WIRING DIAGRAM CU-1

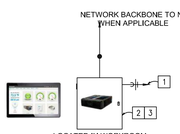
SPLIT SYSTEM WIRING DIAGRAM CU-2



SPLIT SYSTEM PIPING DIAGRAM CU-1

SPLIT SYSTEM PIPING DIAGRAM CU-2

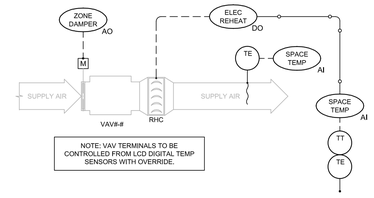
4 VRV HVAC TYPICAL EQUIPMENT DETAILS
SCALE: NONE



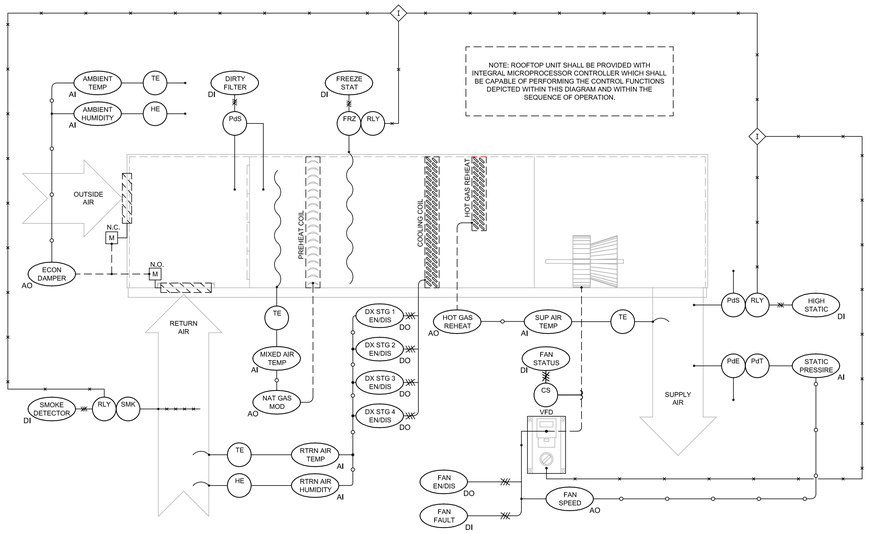
NOTES

1. 120 VAC PROVIDED BY E.C. CONTROLS CONTRACTOR TO COORDINATE WITH E.C. ON ALL NEW ENCLOSURE LOCATIONS.
2. 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.
3. ALL VAV & FAN POWERED BOX ASC'S ARE TO BE POWERED FROM TRANSFORMERS HOUSED IN NEW ENCLOSURES OR SOME OF THE FPB/VAV'S MAY BE PROVIDED WITH CONTROL TRANSFORMER BY MANUFACTURER, TCC 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
NOT TO SCALE



2 VAV TERMINAL CONTROL DIAGRAM
SCALE: NONE



1 PACKAGED ROOFTOP UNIT CONTROL DIAGRAM
SCALE: NONE

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LEE'S SUMMIT, MISSOURI

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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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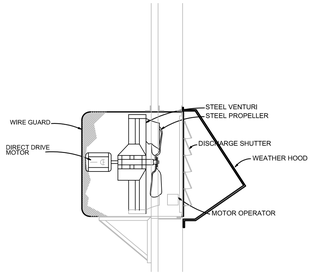
SHEET TITLE

CONTROLS DIAGRAMS

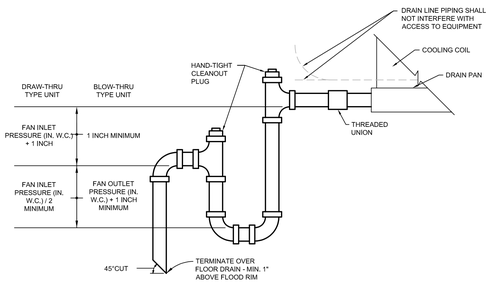
M-300

SHEET 88 OF 102

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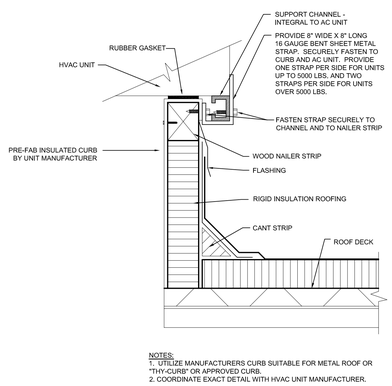


9 WALL PROP EXHAUST FAN DETAIL
SCALE: NONE



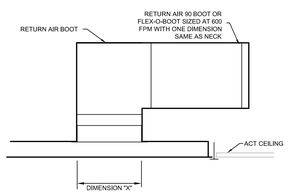
NOTES:
1. FOR EQUIPMENT WITHOUT INTERNAL CONDENSATE TRAPS.
2. PIPING TO BE PER SCHEDULE

8 CONDENSATE TRAP DETAIL
SCALE: NONE

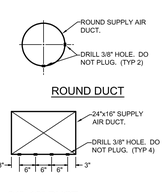


NOTES:
1. UTILIZE MANUFACTURERS CURB SUITABLE FOR METAL ROOF OR "THY-CURB" OR APPROVED CURB.
2. COORDINATE EXACT DETAIL WITH HVAC UNIT MANUFACTURER.

7 RTU CURB ATTACHMENT
SCALE:

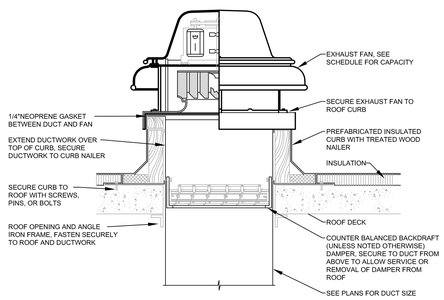


6 RETURN BOOT DETAIL
SCALE: NONE

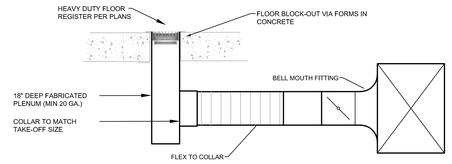


24"x16" DUCT

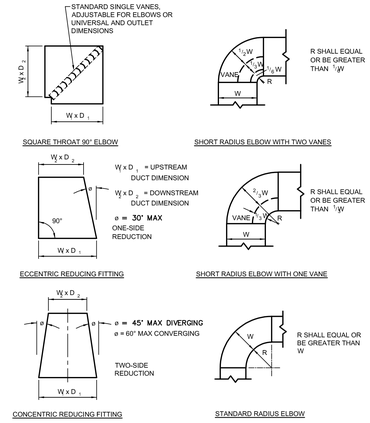
3 DUCT TRAVERSE DETAIL
SCALE: NONE



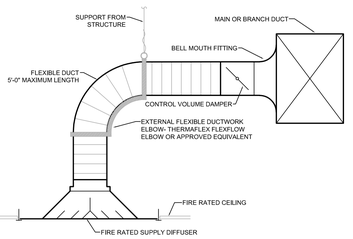
5 EXHAUST FAN DETAIL
SCALE: NONE



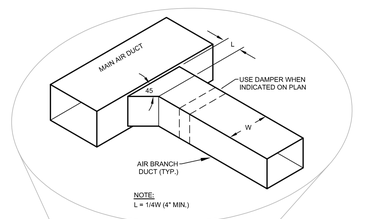
10 FLOOR REGISTER DETAIL
SCALE: NTS



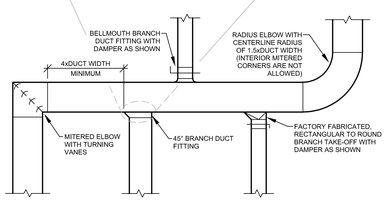
2 SHEET METAL FITTINGS
SCALE: NONE



4 CEILING DIFFUSER DETAIL
SCALE: NONE



NOTE:
L = 1/4W (4" MIN.)



1 DUCTWORK CONSTRUCTION DETAIL
SCALE: NONE

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GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

STATE OF MISSOURI
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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

MECHANICAL DETAILS

M-400

SHEET 89 OF 102

PACKAGE ROOFTOP UNIT SCHEDULE

MARK	SERVES	SUPPLY FAN				ELECTRICAL DATA			HEATING DATA (GAS)				EVAPORATOR DATA						REHEAT COIL		MANUFACTURER & MODEL	ACCESSORIES
		CFM	MIN OA	ESP("WC)	HP	VOLT/PH/HZ	MCA	MOCP	INPUT MBH	OUTPUT MBH	E.A.T.	L.A.T.	COIL ROW/FPI	GROSS CAPACITY TMBH	GROSS CAPACITY SMBH	EAT DB/WB	LAT DB/WB	REF. TYPE	CAP MBH	LAT DB/WB		
RTU-1	LS TERMINAL BUILDING	11000	1600	1.85	5.0	208/3/60	199	250	450	400	60	90	6/12	375	305	80/66	54.5/54	R-32	-	-/-	DAIKIN DPSC31B (30-TON VAV)	VFD,TB,DM,DD,R,CR,CG,AD,IB,PBP,DSC,EC,SS,HF(MERV13),T

ABBREVIATIONS:
- TB - THRU THE BASE ELECTRICAL
- DM - FACTORY INSTALLED DISCONNECT
- VFD - VARIABLE FREQ. DRIVE EC SUPPLY FAN
- OA - MINIMUM OUTSIDE AIR
- DD - DUCT DETECTOR IN RETURN AIR DUCTWORK WITH FAN SHUT-DOWN RELAY BY E/C
- R - R410A REFRIGERANT
- CR - FACTORY POWERED GFI OUTLET
- CG - COIL HAIL GUARDS
- AD - HINGED ACCESS DOORS
- IB - INSULATED BASE, NO ROOF CURB REQUIRED
- MD - MODULATING OUTDOOR AIR DAMPER CONTROLLED BY CO2 SENSOR
- PCK - PROPANE CONVERSION KIT
- DSC - DIGITAL SCROLL COMPRESSORS
- PBP - PHASE AND BROWN OUT PROTECTION
- MP - MICRO-PROCESSOR CONTROLS INTERFACE
- CO - CARBON DIOXIDE CONTROL OF MODULATING OUTDOOR AIR DAMPER WITH CARBON DIOXIDE SENSOR INSTALLED IN RA DUCTWORK
- EC - ENTHALPY CONTROLLED ECONOMIZER WITH POWERED RELIEF
- FE - GAS FLUE STACK EXTENSION BY M/C.
- PC - PLENUM CURB FOR HORIZONTAL DISCHARGE
- SS - STAINLESS STEEL HEAT EXCHANGER
- HF - HIGH EFFICIENCY THROWAWAY FILTER (MERV 13)
- LL - LOW LEAK OUTSIDE AIR DAMPER
- RH - DEHUMIDIFICATION REHEAT COIL
- HG - HOT GAS BYPASS
- T - 7-DAY PROGRAMMABLE, AUTO-CHANGEOVER, TOUCHSCREEN DISPLAY, 2 COOL/3 HEAT STAGE THERMOSTAT BY AAON (OR UNIT MANUFACTURER). WHITE RODGERS, HONEYWELL (I.E. WHITE RODGERS 1F95-1271)
- DDC- REFER TO P&ID FOR DDC CONTROLS

NOTES:
1. ALL TEMPERATURE WIRING TO BE PROVIDED AND INSTALLED BY M/C

APPROVED MANUFACTURERS (BASE BID)
AAON
DAIKIN APPLIED
YORK

CONTRACTOR NOTE:
UNIT SELECTED BY TMI, INC. TAYLOR SHEPHERD, TAYLOR.SHEPHERD@TMI-KC.COM AND MECHANICAL CONCEPTS.

CONTROLS NOTE:
CONTRACTOR SHALL INCLUDE DDC DIAKIN APPLIED INTELLIGENT SYSTEMS CONTROL MANAGER OR EQUAL WITH BACNET TOUCH SCREEN PANEL, CENTRAL CONTROL OF ALL VAV BOXES AND RTU, 7-DAY SCHEDULING. IT SHALL INCLUDE REMOTE MONITORING VIA LOCAL NETWORK, PC, SMARTPHONE, ETC. VENDOR SHALL INCLUDE CHECK, TEST, AND STARTUP. ROUTE FROM CAT-6 PATCH PANEL ETHERNET CABLING UP TO UNIT RJ45 CONNECTION ON CONTROLLER WITHIN UNIT AND AT CONTROLLER. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, CONTROL PANEL, ALL TEMPERATURE CONTROL WIRING, TEMPERATURE SENSORS, RTU FACTORY MOUNTED CONTROLLER, OUTDOOR AIR SENSOR, ETHERNET CONNECTION INTERFACE, APP STORE CONNECTIVITY, AND SOFTWARE PACKAGE.

BUILDING OCCUPANTS/OUTSIDE AIR CALCS

UNIT DESIGNATION	ROOM NO.	ROOM DESIGNATION	AREA (FT2)	SPACE CLASSIFICATION	OCCUPANTS PER 1000 SF [2]	ZONE OCCUPANTS	OUTDOOR AIR RATE CFM/PERSON [2]	OUTDOOR AIR RATE CFM/FT2 [2]	OUTDOOR AIR TO ZONE (CFM)	MINIMUM OA FOR UNIT(S)	NOTE
RTU-1	-	OFFICE SPACES	1475	OFFICE SPACE	5	12	5	0.06	150	1600 (14%)	
	-	CONCOURSE AREAS	2600	RECEPTION AREAS	30	78	5	0.06	468		
	-	LOUNGES/WAITING	1000	LOUNGE	30	30	5	0.06	210		
	-	CAFE/VENDING/BREAKROOM	1320	BREAKROOM	30	40	5	0.12	360		
	-	MECHANICAL/STORAGE/TOILET	903	STORAGE	-	-	-	0.12	100		
	-	CONFERENCE ROOMS	570	CONFERENCE ROOMS	50	26	5	0.06	193		
	-	LOBBIES/CORRIDOR	829	CORRIDOR	-	-	-	0.06	52		

NOTES:
1. ROOM DESIGNATIONS AND SPACE CLASSIFICATIONS ARE PRELIMINARY AND BASED UPON THE ASSUMED INTENDED USE OF THE SPACE. UPON TENANT INFILL PHASE, ACTUAL SPACE USAGE, AREA, AND OCCUPANCY SHALL BE USED TO CALCULATE OUTSIDE AIR REQUIREMENTS. ASSUMED INTENDED USE OF SPACE INCLUDES GENERAL OFFICE SPACE INCLUDING ENTRY LOBBY, RECEPTION AREA, AND CONFERENCE AREAS. SHOULD ACTUAL USE OF SPACE DIFFER, AS DICTATED BY TENANT INFILL PLANS, ADDITIONAL MEANS OF VENTILATION MAY BE REQUIRED FOR COMPLIANCE WITH INTERNATIONAL MECHANICAL CODE AND ASHRAE 62 GUIDELINES.
2. BASED UPON 2012 INTERNATIONAL MECHANICAL CODE, TABLE 403.3, DEFAULT VALUES.

HVAC PIPING MATERIAL SCHEDULE

PIPING							FITTINGS		MAX. WORKING		FIELD TEST	
SYSTEM	SIZE	TYPE	SCH	GRD	ASTM	MATERIAL	MAT.	TYPE	PRESS (PSI)	TEMP (°F)	PRESS (PSI)	TIME
CONDENSATE DRAIN ABOVE GRADE	ALL	M	--	--	B88	CP	CP	DR/S	10FT	40-70	10FT	1 HR
REFRIGERANT PIPING	ALL	ACR	--	--	B280	CP	CP	S	150	40-140	200	4 HR

- ATP - ARMCO TRUSS PIPE
- BLK - BLACK
- BS - BELL & SPIGOT
- CI - CAST IRON
- CP - COPPER
- CS - CARBON STEEL
- CW - CONTINUOUS WELD
- DI - DUCTILE IRON
- DR - DRAINAGE FITTING
- GLV - GALVANIZED
- LC - LEAD CAULKING
- MI - MALLEABLE IRON
- MJ - MECHANICAL JOINT
- NG - NEOPRENE GASKET
- NH - NO-HUB
- PE - POLYETHYLENE
- PVC - POLYVINYL CHLORIDE
- S - BRAZED JOINT - SILVER BRAZING ALLOY
- SJ - SOLDER JOINT 95-5 TIN-ANTIMONY
- SL - SEAMLESS STEEL
- SS - STANDARD STRENGTH - SERVICE WEIGHT
- SW - SOLVENT WELD
- THRD - THREADED
- WELD - WELDED

NOTE: NO "PULLED TEES" ALLOWED ON COPPER PIPING.

BUILDING AIR BALANCE SCHEDULE

MARK	SUPPLY AIR CFM	OUTSIDE AIR CFM	EXHAUST AIR CFM	RETURN AIR CFM	PRESSURIZATION AIR CFM
RTU-1	11000	1500	1175	9825	+325
TOTALS	11000	1500	1175	9825	+325

OUTDOOR AIR JUSTIFICATION:
SEE BUILDING OCCUPANTS SCHEDULE

NOTES:
1. UNIT OUTSIDE AIR IS FIXED BY MINIMUM POSITION ON OUTSIDE AIR DAMPER. POWERED RELIEF WILL BE CONTROLLED BY SPACE STATIC PRESSURE SENSOR.

WALL UNIT HEATER

MARK	LOCATION	SERVES	MANUFACTURER & MODEL	VOLT/PH	WATTS/AMPS	REMARKS
WH-1	REAR EXIT	ENTRY	MARLEY - ARWH3008	208/1	3000/14.4	ALL

REMARKS:
1. PROVIDE DISCONNECT SWITCH.
2. WALL BRACKET.
3. ALL OTHER HARDWARE FOR COMPLETE INSTALLATION.

DUCT PRESSURE CLASS

SYSTEM/FAN	LOCATION/DUCT INVOLVED	POSITIVE OR NEGATIVE PRESSURE	PRESSURE CLASS (IN W.G.)	DUCTWORK TYPE	INSULATION TYPE/THICKNESS (IN)
RTU-1	RECTANGULAR SUPPLY/EXHAUST	POS/NEG	4"	TDC FLANGED	1" THICK 1.5 LB/FT^3 1" THICK
RTU-1	ROUND SUPPLY/EXHAUST	POS/NEG	4"	SPIRAL	1" THICK 1.5 LB/FT^3 1" THICK

NOTES:
1. WHERE NOTED AS DUCTWORK WRAP, REFER TO SPECIFICATIONS FOR MAKE, DENSITY, R-VALUE
2. THIS SCHEDULE REFERS TO NEW DUCT ONLY.

DUCT PRESSURE CLASS

		SMACNA LEAKAGE CLASS	
1" OR 2" PRESSURE CLASS	SEAL CLASS "C"	TRAVERSE JOINTS ONLY APPLICABLE SEALING	RECT - 24 / ROUND - 12
3" PRESSURE CLASS	SEAL CLASS "B"	TRAVERSE JOINTS AND SEAMS APPLICABLE SEALING	RECT - 12 / ROUND - 6
4", 6" OR 10" PRESSURE CLASS	SEAL CLASS "A"	TRAVERSE JOINTS, SEAMS, AND ALL WALL PENETRATIONS	RECT - 6 / ROUND - 3

APPLICATION / INSULATION

SYSTEM	DESCRIPTION
RTU-1	DUCT WRAP
RETURN	ARMACELL ACCOUSTIC FIBER-FREE LINER

VARIABLE AIR VOLUME BOX SCHEDULE

MARK	MAKE	MODEL	INLET	OUTLET SIZE	AIRFLOW		HTG COIL (ELECTRIC)					PRESSURE	CONTROLS		NC	ACCESSORIES
					CLG/MIN	HTG	EAT	LAT	VOLT/PH	KW/STAGE	MOCP	ISP	ESP	TYPE	DIAG	
VAV-1	DIAKIN	MQTH15	10"Ø	14x10	650/125	500	60	90	208/1	5.0/2	35	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-2	DIAKIN	MQTH15	8"Ø	12x10	450/100	375	60	90	208/1	4.0/2	30	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-3	DIAKIN	MQTH15	6"Ø	12x10	375/75	300	60	90	208/1	2.5/2	20	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-4	DIAKIN	MQTH15	10"Ø	14x10	625/100	500	60	90	208/1	5.0/2	30	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-5	DIAKIN	MQTH15	6"Ø	12x10	350/75	300	60	90	208/1	2.5/2	20	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-6	DIAKIN	MQTH15	6"Ø	12x10	350/75	300	60	90	208/1	2.5/2	20	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-7	DIAKIN	MQTH15	6"Ø	12x10	350/75	300	60	90	208/1	2.5/2	20	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-8	DIAKIN	MQTH15	6"Ø	12x10	300/75	250	60	90	208/1	2.5/2	20	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-9	DIAKIN	MQTH15	12"Ø	16x14	1550/300	1250	60	90	208/3	12.0/SCR	50	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-10	DIAKIN	MQTH15	10"Ø	14x10	900/200	750	60	90	208/3	7.5/SCR	30	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-11	DIAKIN	MQTH15	12"Ø	16x14	1500/300	1300	60	90	208/3	12.0/SCR	50	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-12	DIAKIN	MQTH15	10"Ø	14x12	825/175	725	60	90	208/3	7.5/SCR	30	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-13	DIAKIN	MQTH15	10"Ø	14x12	900/200	750	60	90	208/3	7.5/SCR	30	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-14	DIAKIN	MQTH15	10"Ø	14x12	600/100	500	60	90	208/1	5.0/2	30	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-15	DIAKIN	MQTH15	14"Ø	18x14	2000/400	1600	60	90	208/3	15.0/SCR	60	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-16	DIAKIN	MQTH15	10"Ø	14x12	1000/200	800	60	90	208/3	8.0/SCR	30	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L
VAV-17	DIAKIN	MQTH15	10"Ø	14x12	625/100	500	60	90	208/1	5.0/2	30	1.0	0.3	DDC	M300	<30	DDC,DM,ELEC,T,CT,CS,LP,FS,L

- A - ATTENUATOR
- AV - AIR VALVE / DAMPER
- C - CONTROLLER
- CON - CONSTANT VOLUME
- CT - CONTROL TRANSFORMER (NOTE 6)
- DDC - DIRECT DIGITAL CONTROLS
- DM - HEATER DISCONNECTING MEANS
- ELEC - ELECTRIC
- ESP - EXTERNAL STATIC PRESSURE
- F - FILTERS
- FA - FAN ACCESS PANEL
- FS - HEATER AIR FLOW SWITCH
- CS - CROSS HAIR AVERAGING FLOW SENSOR
- LP - LOW PROFILE HEIGHT
- ISP - INTERNAL STATIC PRESSURE
- L - "FIBRE-FREE" LINING
- ML - MINIMUM VOLUME LIMITER
- MR - MORNING WARM-UP RELAY
- MV - MAXIMUM VOLUME LIMITER
- NR - NIGHT SHUT-OFF RELAY
- SI - SIDE PLENUM INLET
- T - DIGITAL TEMPERATURE SENSOR (GUI SCREEN)
- TI - TOP PLENUM INLET
- VA - VALVE / DAMPER ACCESS PANEL
- VAV - VARIABLE AIR VOLUME
- VR - PNEUMATIC VOLUME REGULATOR
- 2WV - 2-WAY CONTROL VALVE PACKAGE
- 3WV - 3-WAY CONTROL VALVE PACKAGE

NOTES:
1. PROVIDE UNIT MOUNTED DISCONNECT.
2. CONTROL WIRING TO BE 24V. COORDINATE PRIMARY VOLTAGE WITH ELECTRICAL CONTRACTOR.

DUCTLESS SPLIT SYSTEM SCHEDULE

SUSPENDED/WALL AIR CONDITIONER

MARK	MFG.	MODEL #	CFM LO/HI	*E.S.P.	FAN KW	COOLING CAPACITY E.A.T.	COOLING CAPACITY THC	HEAT CAPACITY MBH	ELECTRICAL DATA VOLT/PH	MCA	MOCP	ACCESSORIES	ASSOC. HP
DSS-1	DIAKIN	FXZQ18TAVJU	400/600	0.15	0.05	75/63	16.0	18.0	208/1	1.8	15	T,C,IC,SP,R,A,FS,LS	1
DSS-2	DIAKIN	FXZQ18TAVJU	400/600	0.15	0.05	75/63	16.0	18.0	208/1	0.6	15	T,C,IC,SP,R,A,FS,LS	1
DSS-3-5	DIAKIN	FXMQ24PVJU	400/680	0.15	0.02	75/63	20.6	28.0	208/1	1.8	15	T,C,IC,SP,R,A,FS,LS	2
DSS-6	DIAKIN	FXZQ18TAVJU	200/400	0.15	0.02	75/63	10.0	14.0	208/1	0.8	15	T,C,IC,SP,R,A,FS,LS	1

HEAT PUMP CONDENSING UNIT

MARK	MFG.	MODEL #	AMB. TEMP.	HTG MBH	CLG THC MBH	V/PH	MCA	MOCP	ACCESSORIES
CU-1	DIAKIN	RXTQ36TBVJUA	105			208/1	29.1	35	LA,C,SP,T,R,LS
CU-2	DIAKIN	RXYQ96AAYDA	105	73.0	80.0	208/3	42	60	LA,C,SP,T,R,LS

ABBREVIATIONS:
- LA - LOW AMBIENT CONTROL (-10°F)
- C - CONDENSATE DRAIN KIT
- IC - INTERGRAL CONTROLS
- WB - WIND BAFFLE
- SP - SINGLE POWER SUPPLY TO INDOOR AND OUTDOOR UNIT
- T - 7 DAY PROGRAMMABLE CONTROLLER (PQRCVSL0QW)
- RC - ROOF CURB WITH CAP AND PIPE SLEEVE
- R - R410A REFRIGERANT
- A - AUTOMATIC CHANGEOVER FROM HEATING/COOLING
- FS - AUTOMATIC FAN SPEED CONTROL
- LS - ANY REQUIRED REFRIGERANT ACCESSORIES IF REQUIRED (LINE SETS, ETC)

*E.S.P. - DOES NOT INCLUDE FILTER LOSS

WALL UNIT HEATER

MARK	LOCATION	SERVES	MANUFACTURER & MODEL	VOLT/PH	WATTS/AMPS	REMARKS
EWH-1	REAR EXIT	ENTRY	MARLEY - ARWH3008	208/1	3000/14.4	ALL
EWH-2	VESTIBULE	ENTRY	MARLEY - ARWH3008	208/1	3000/14.4	ALL

REMARKS:
1. PROVIDE DISCONNECT SWITCH.
2. WALL BRACKET.
3. ALL OTHER HARDWARE FOR COMPLETE INSTALLATION.

RECESSED BASEBOARD ELECTRIC HEATING

MARK	LOCATION	SERVES	MANUFACTURER & MODEL	VOLT/PH	WATTS/AMPS	REMARKS
BEH-1	128 LOBBY	ENTRY	RAYWALL 9900 SERIES, F9936-01-200	208/1	600/2.88	ALL
BEH-2	128 LOBBY	ENTRY	RAYWALL 9900 SERIES, F9972-01-200	208/1	1200/5.77	ALL
BEH-3	128 LOBBY	ENTRY	RAYWALL 9900 SERIES, F9912-01-200	208/1	2000/8.33	ALL

REMARKS:
1. PROVIDE DISCONNECT SWITCH.
2. ACCESSORIES - LEVELING FEET, STAINLESS STEEL ELEMENT, 3/4" WIREWAY AND KNOCKOUTS EACH END.
3. CONTROL RELAY FOR CONTROLS BY BMS.
4. HEAVY DUTY BAR GRATE, EXTRUDED ALUMINUM, CLEAR ANODIZED FINISH

AIR DISTRIBUTION DEVICES

MARK	SERVES	COLOR	DAMPER	PATTERN	SIZE	MAX NC	MAX PD IN WC	MANUFACTURER & MODEL	REMARKS
SD-1	SUPPLY	WHITE	-	4-WAY	24x24	30	0.1	TITUS OMNI-24x24-XX-3	1-6
SD-2	SUPPLY	WHITE	-	2-WAY	48"x6"	30	0.1	TITUS TBDI-80, 3 SLOT, 1" WIDTH	1-6, 8
SD-3	SUPPLY	WHITE	-	2-WAY	24"x6"	30	0.1	TITUS TBDI-80, 3 SLOT, 1" WIDTH	1-6, 8
SD-4	SUPPLY	WHITE	-	4-WAY	12"x12"	30	0.1	TITUS OMNI-12x12-XX-3	1-6
SD-5	SUPPLY	WHITE	-	JET THROW	CONT.	30	0.1	FL-25-JT-26 (16FT), FBPI-2-48*	1,10
SD-6	SUPPLY	WHITE	-	JET THROW	CONT.	30	0.1	FL-25-JT-26 (16FT), FBPI-2-48*	1,10
SR-1	SUPPLY	WHITE	OBD	DOUBLE DEFLECTION	VARIES	30	0.1	TITUS 300RL-1-XX	1-5,7
RG-1	RETURN	WHITE	-	PERFORATED	24"x24"	25	0.1	TITUS PAR-24x24-XX-3	1-3
RG-2	RETURN	WHITE	-	FIXED	VARIES	25	0.1	TITUS 350-1-XX	1-3
RG-3	RETURN	WHITE	-	PERFORATED	12"x12"	25	0.1	TITUS PAR-12x12-XX-3	1-3
EG-1	EXHAUST	ALUMINUM	YES	FIXED	VARIES	25	0.1	TITUS 23RL-AA	1-2
FR-1	SUPPLY	ALUMINUM	NO	2-WAY	6"Wx36"L	25	0.1	TITUS CT581	11
FR-2	SUPPLY	ALUMINUM	NO	2-WAY	6"Wx24"L	25	0.1	TITUS CT581	11

REMARKS:
1. VERIFY BORDER TYPE REQUIRED (TYPE 1 GYP CEILING / FLANGE, TYPE 3 LAY-IN).
2. NECK SIZE INDICATED ON PLANS.
3. STEEL CONSTRUCTION. WHITE IN COLOR.
4. FRONT BLADES PARALLEL WITH LONG DIMENSION.
5. SIZE INDICATED ON PLANS.
6. PERFORATED FACE TO BE FLUSH WITH CEILING.
7. PROVIDE WITH INTERNAL BALANCE DAMPER
8. INSULATED PLENUM WITH OVAL DUCT COLLAR FOR SLOT DIFFUSER
9. PERFORATED FACE AND ASSOCIATED BORDER (LAY-IN). BOOT PER PLANS
10. TITUS FLOW BAR CONTINUOUS DIFFUSER, SINGLE 2" SLOT. INSTALL INSULATED PLENUMS IN 48" LENGTHS BEHIND DIFFUSER WITH SIZE AS INDICATED.

NOTES:
1. DIFFUSERS ARE FOUR WAY THROW, UNLESS NOTED DIFFERENT ON DRAWINGS
2. EQUIVALENT SUBSTITUTION BY PRICE, NAILOR, KRUEGER

NOTES CONT:
11. FLOOR REGISTER INSTALLED IN CONCRETE FLOOR WITH FIELD INSTALLED PLENUM. REFER TO INSTALLATION DETAIL. REGISTER TO BE ALUMINUM IN COLOR.

EXHAUST FAN SCHEDULE

TAG	CFM	SP (IN. W.C.)	MOTOR HP/WATTS	RPM	DRIVE TYPE	SERVICE/MOUNTING	ELECTRICAL	MANUFACTURER MODEL NUMBER	ACCESSORIES	DRAWING LOCATION
EF-1	550	0.35	1/4	1725	DIRECT	BATHROOM EXHAUST/ROOF	120V/1PH	COOK ACED-EC(101C17DEC)	RC,DM,GBD,SC	-
EF-2	700	0.35	1/4	1725	DIRECT	BATHROOM EXHAUST/ROOF	120V/1PH	COOK ACED-EC(101C17DEC)	RC,DM,GBD,SC	-
EF-3	500	0.15	1/20	1550	DIRECT	ELEVATOR EXHAUST/WALL	120V/1PH	COOK XPD-10 (10XW28D15)	WC,GBD,SC,WS,WH,T	-

ABBREVIATIONS:
- RC - ROOF CURB
- DM - DISCONNECTING MEANS
- GBD - GRAVITY BACKDRAFT DAMPER
- WC - WALL COLLAR
- DM - DISCONNECT MEANS
- GBD - GRAVITY BACKDRAFT DAMPER
- MBD - MOTORIZED BACKDRAFT DAMPER
- SC - SPEED CONTROLLER (0-10V)
- AS - HEAVY DUTY MOTORIZED ALUMINUM SHUTTER
- WG - WIRE GUARD
- IG - SQUARE INLET GRILLE SG-10 WITH DAMPER BD-10
- T - BMS INSTALLED TEMP SENSOR IN SHAFT TO RAMP SPEED 0-10V BASED UPON 80 DEG F SETPOINT
- RJ - COOK MODEL RJR100
- WCA - COOK MODEL
- WCR6 - ALUM WALL CAP WITH BACKDRAFT DAMPER
- WS - COOK MODEL GSS STANDARD DUTY ALUMINUM GRAVITY SHUTTER
- WH - COOK WEATHER HOOD

CONTRACTOR NOTE:
EXHAUST FANS TO BE CONTROLLED FROM BMS VIA TIME OF DAY SCHEDULING.

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GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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

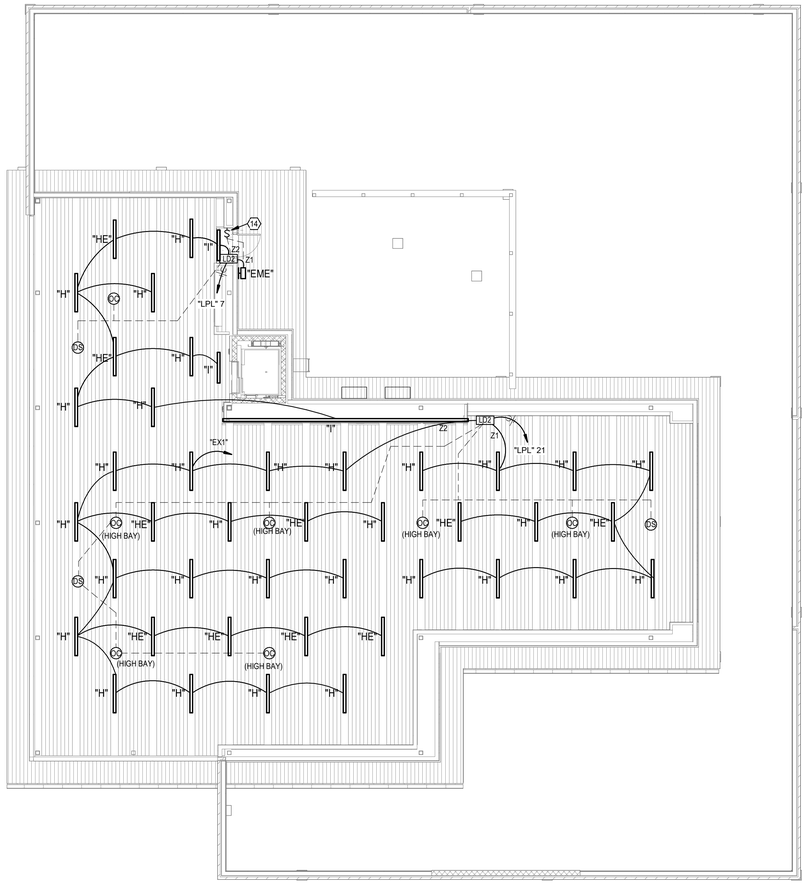
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CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt
DESIGNED BY:	CMW
DRAWN BY:	DM
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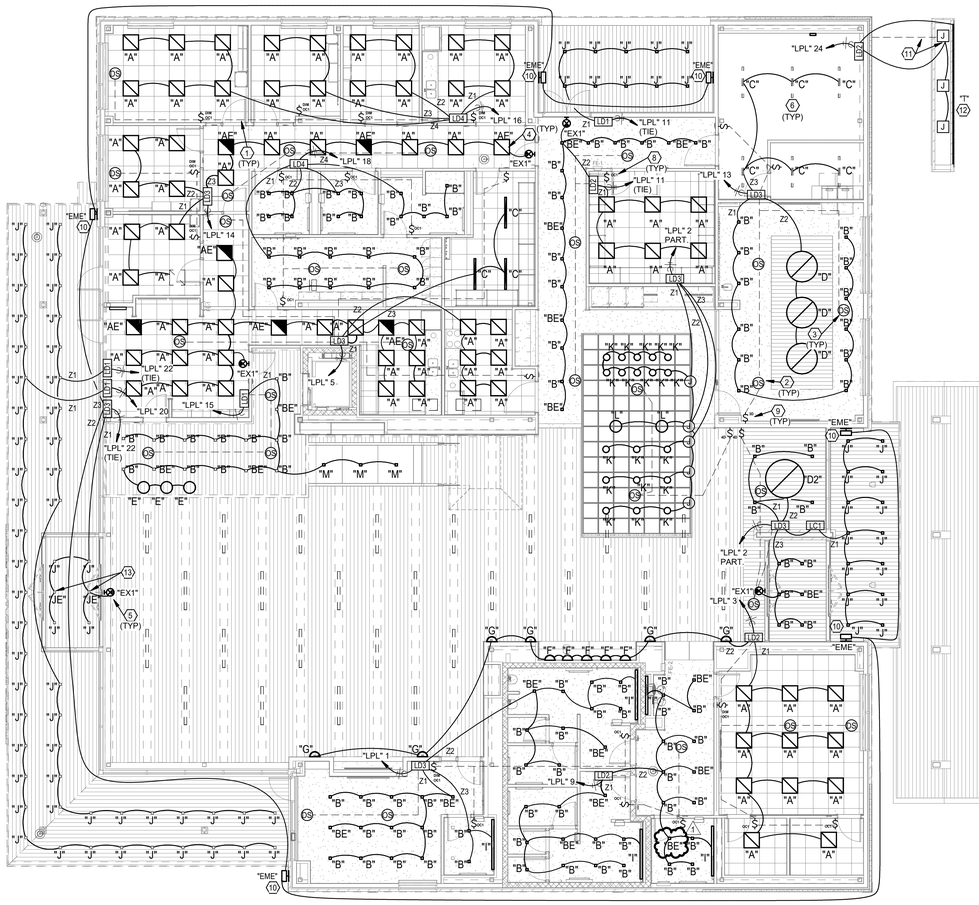
MECHANICAL SCHEDULES

M-500

SHEET 90 OF 102



Mezzanine Level
1/8" = 1'-0" (2)



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

LIGHTING PLAN NOTES

1. ROUTE CAT-6 CABLING FOR ALL CONTROL DEVICES TO CONTROLLER.
2. DUAL TECHNOLOGY (PIR/US) 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 LID 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 (PIR/US) 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 DAYLIHGTING, 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, #12G., 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 "JE" TYPE LIGHT FIXTURE WITH SURE-LITES EBPLEDL 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, ECT. 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" (I.E "DE", "BE", ETC.) SHALL BE CONNECTED TO CIRCUIT SHOWN THAT SHALL AUTOMATICALLY SWTCH TO EMERGENCY POWER IN THE EVEN 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.

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LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

MARK	DATE	DESCRIPTION
A	01.03.25	CITY REVIEW COMMENTS

PROJECT NO:	2403
CAD DWG FILE:	Lee's Summit - Hangar 2.rvt
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LIGHTING PLANS

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VAV/ELEC HEAT FEEDER SCHEDULE

MARK	HTG COIL (ELECTRIC)			PANEL	FEEDER
	VOLT/PH	KW	MOCP		
VAV-1	208/1	5,0	35	LPH/1	2 - #8 AND 1-#10G IN 0,75" C
VAV-2	208/1	4,0	30	LPH/2	2 - #10 AND 1-#10G IN 0,75" C
VAV-3	208/1	2,5	20	LPH/5	2 - #12 AND 1-#10G IN 0,75" C
VAV-4	208/1	5,0	35	LPH/6	3 - #8 AND 1-#10G IN 0,75" C
VAV-5	208/1	2,5	20	LPH/9	2 - #12 AND 1-#12G IN 0,75" C
VAV-6	208/1	2,5	20	LPH/10	2 - #12 AND 1-#12G IN 0,75" C
VAV-7	208/1	2,5	20	LPH/13	2 - #12 AND 1-#12G IN 0,75" C
VAV-8	208/1	2,5	20	LPH/14	2 - #12 AND 1-#12G IN 0,75" C
VAV-9	208/3	12,0	45	LPH/17	3 - #8 AND 1-#10G IN 0,75" C
VAV-10	208/3	7,5	30	LPH/18	3 - #10 AND 1-#10G IN 0,75" C
VAV-11	208/3	12,0	45	LPH/23	3 - #8 AND 1-#10G IN 0,75" C
VAV-12	208/3	7,5	30	LPH/24	3 - #10 AND 1-#10G IN 0,75" C
VAV-13	208/3	7,5	30	LPH/29	3 - #10 AND 1-#10G IN 0,75" C
VAV-14	208/1	5,0	35	LPH/30	2 - #10 AND 1-#10G IN 0,75" C
VAV-15	208/3	15,0	60	MDP-7	3 - #6 AND 1-#10G IN 1" C
VAV-16	208/3	8,0	30	LPH/34	3 - #10 AND 1-#10G IN 0,75" C
VAV-17	208/1	5,0	35	LPH/40	2 - #10 AND 1-#10G IN 0,75" C
BES-1/2	208/1	3,0	20	LPH/43	2 - #12 AND 1-#12G IN 0,75" C
BES-3	208/1	2,0	20	LPH/47	2 - #12 AND 1-#12G IN 0,75" C
BES-3	208/1	2,0	20	LPH/52	2 - #12 AND 1-#12G IN 0,75" C
EWH-1	208/1	3,0	20	LPH/44	2 - #12 AND 1-#12G IN 0,75" C
EWH-2	208/1	3,0	20	LPH/48	2 - #12 AND 1-#12G IN 0,75" C
WH-1/WH-2	120/1	0,5	20	LPH/56	2 - #12 AND 1-#12G IN 0,75" C
ERV INDOOR	208/1	0,5	20	LPH/55	2 - #12 AND 1-#12G IN 0,75" C
ERV INDOOR	208/1	0,5	20	LPH/63	2 - #12 AND 1-#12G IN 0,75" C
CU-1	208/1	5,5	35	LPH/51	2 - #8 AND 1-#12G IN 0,75" C
CU-2	208/3	7,5	60	LPH/59	3 - #6 AND 1-#12G IN 0,75" C

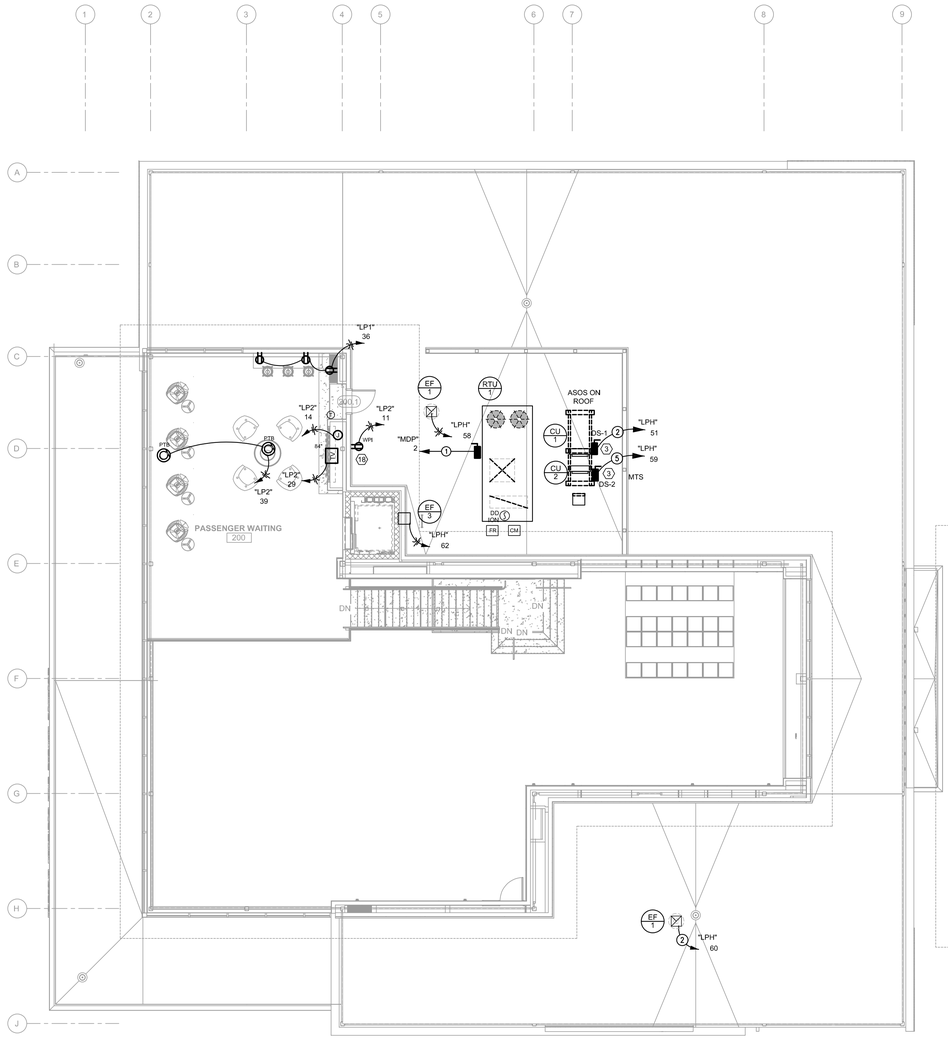
*REFER TO MECHANICAL PLANS FOR LOCATIONS AND EXACT SIZES OF HEATERS. VAV BOXES MAY NOT BE IN EXACT LOCALE. EXACT LOCATION OF T-SENSORS PER MECH

POWER PLAN NOTES

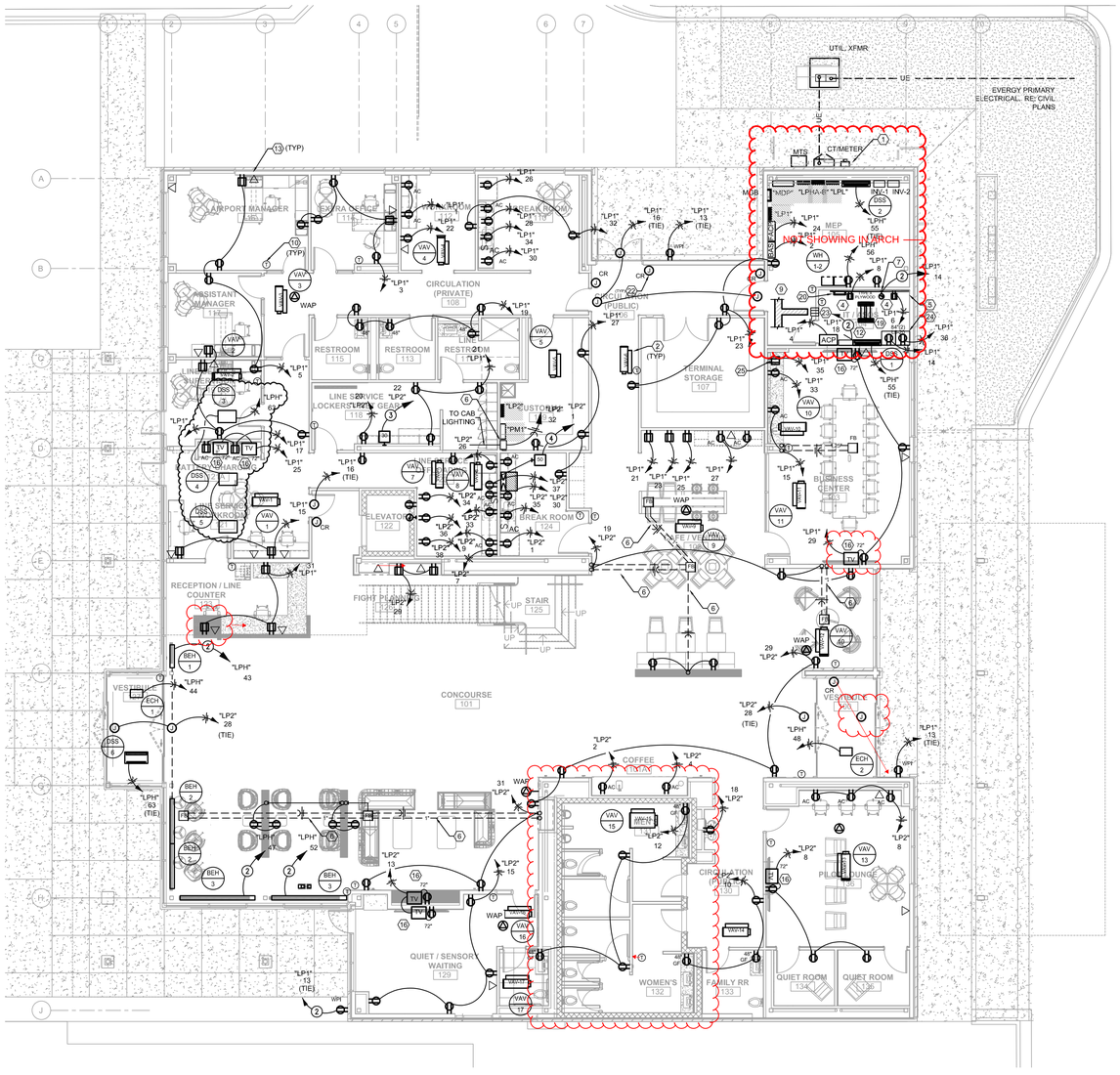
1. LOCATION OF MAIN DISCONNECT/MANUAL TRANSFER SWITCH WITH HOOK-UP, CT CABINET (36" WIDE, LOCKABLE), METER. SURFACE MOUNT ON WALL.
2. FACTORY INSTALLED DISCONNECTING MEANS/BREAKER FURNISHED WITH VAV EQUIPMENT. SEE SCHEDULE ON THIS SHEET FOR ALL FEEDERS TO HVAC EQUIPMENT.
3. NEW NEMA 3R DISCONNECT "DS1" 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 A/V 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 FURNITURE 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 WB212-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 20A/2P 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 A/V 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 HUBBEL 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 EZPASS THRU-WALL BARRIER (3 SECTIONS PARTITIONS FOR EACH NETWORK). EZPASS FURNISHED AND INSTALLED BY E/C.
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.
25. QUAD OUTLET AND SPECIAL A/V OUTLET INSTALLED UNDERCABINET FOR CRESTRON EQUIPMENT. RE: ELEV.
26. CONDUIT FROM BELOW SLAB UP INSIDE OF WALL WITH JUNCTION BOX ROUTING TO DUPLEX OUTLETS IN WALL.

FEEDER SCHEDULE

1. (4)-#250MCM 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)-#6 AND (1) #10 GROUND IN 3/4" CONDUIT.



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



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

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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
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APPROVED BY:	Approver
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SHEET TITLE

POWER PLANS

E-110

SHEET 92 OF 102

COMMUNICATIONS CABLING LEGEND

DEVICE	CABLE TYPE	CABLE QTY (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
4K	CAT-6	1	GREEN	TV OR AUDIOVISUAL FLAT PANEL DISPLAY.	NOTE 2	COORDINATE FINAL ROUGH-IN REQUIREMENTS WITH A/V CONTRACTOR. PROVIDE BACKING FOR DISPLAY MOUNTING PER DETAIL.
CCTV	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 A/V CONTRACTOR.
3. COORDINATE WITH SECURITY CONTRACTOR.
4. UNLESS NOTED OTHERWISE ON PLANS.
5. VERIFY CABLE COLOR CODING WITH ENGINEER AND OWNER DURING SUBMITTAL PROCES 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. 48-RU, BLACK, 2-POST TELECOMMUNICATIONS RACK WITH 6" DUAL-SIDED (FRONT/BACK) VERTICAL CABLE MANAGER.
2. PROVIDE BLACK LADDER TYPE CABLE RUNWAY 16" WIDE. CABLE TRAY SHALL BE MOUNTED 12" ABOVE THE EQUIPMENT RACKS UTILIZING RACK STAND-OFF KITS. PROVIDE RADIUS 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 E/C.
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 E/C. REFER TO DOOR WIRING DIAGRAMS.
7. TYPICAL POE CAMERA FURNISHED BY OWNER SECURITY CONTRACTOR. ALL CAT-6 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 CONTACTS, CONTROLLER.
12. TELECOM GROUND BAR MOUNTED ON 3/4" TYPE X PLYWOOD.
13. INSTALL WIREMOLD EXPASS 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 II FOR PULLING OF 6-STRAND MULTI-MODE FIBER FROM HANGAR NETWORK. OWNER SHALL COORDINATE WORK WITH OWNER IT GROUP. FURNISH PULL-WIRE, INSTALL QUAZITE 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 "PM1".
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 FACP 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.

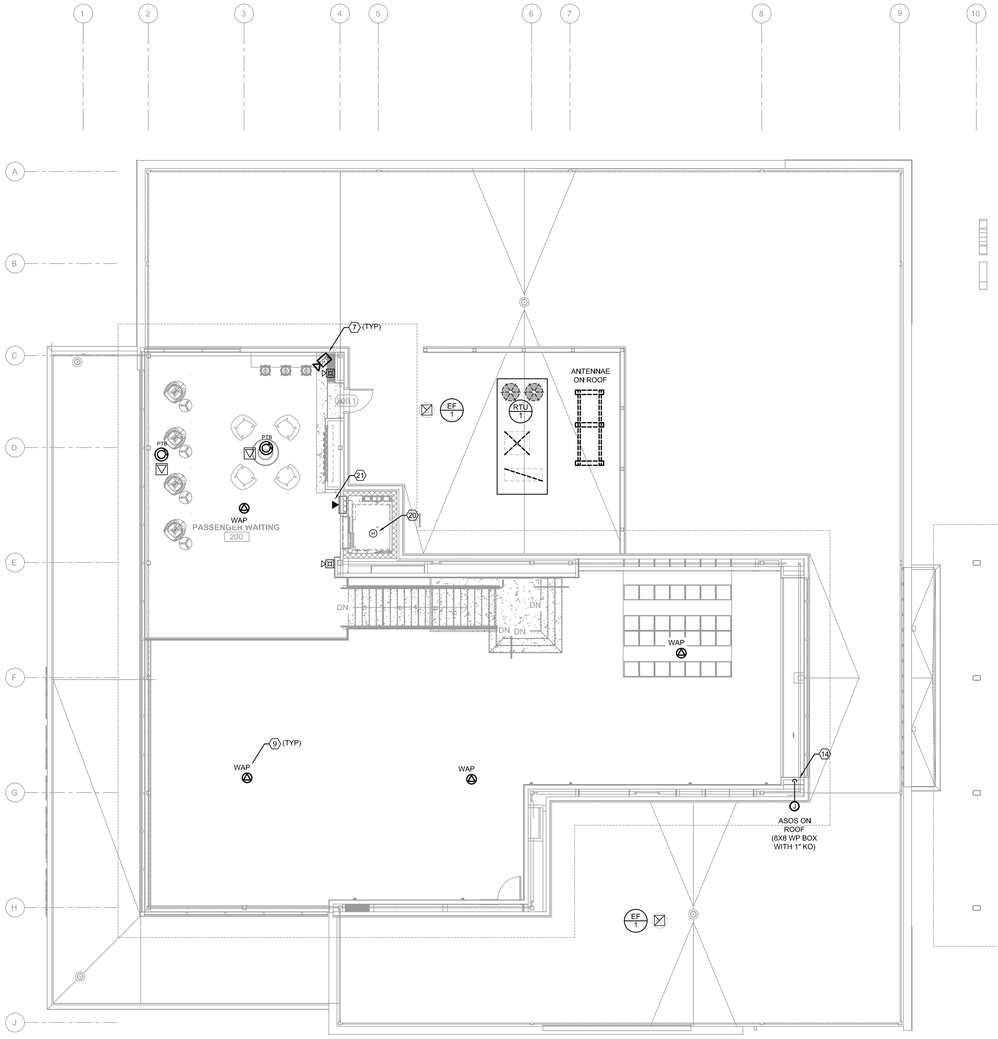
GENERAL NOTES:

A. HORIZONTAL CABLING FOR SECURITY CAMERAS AND/OR OTHER SECURITY EQUIPMENT SHALL BE WIRED TO TELECO RACK.

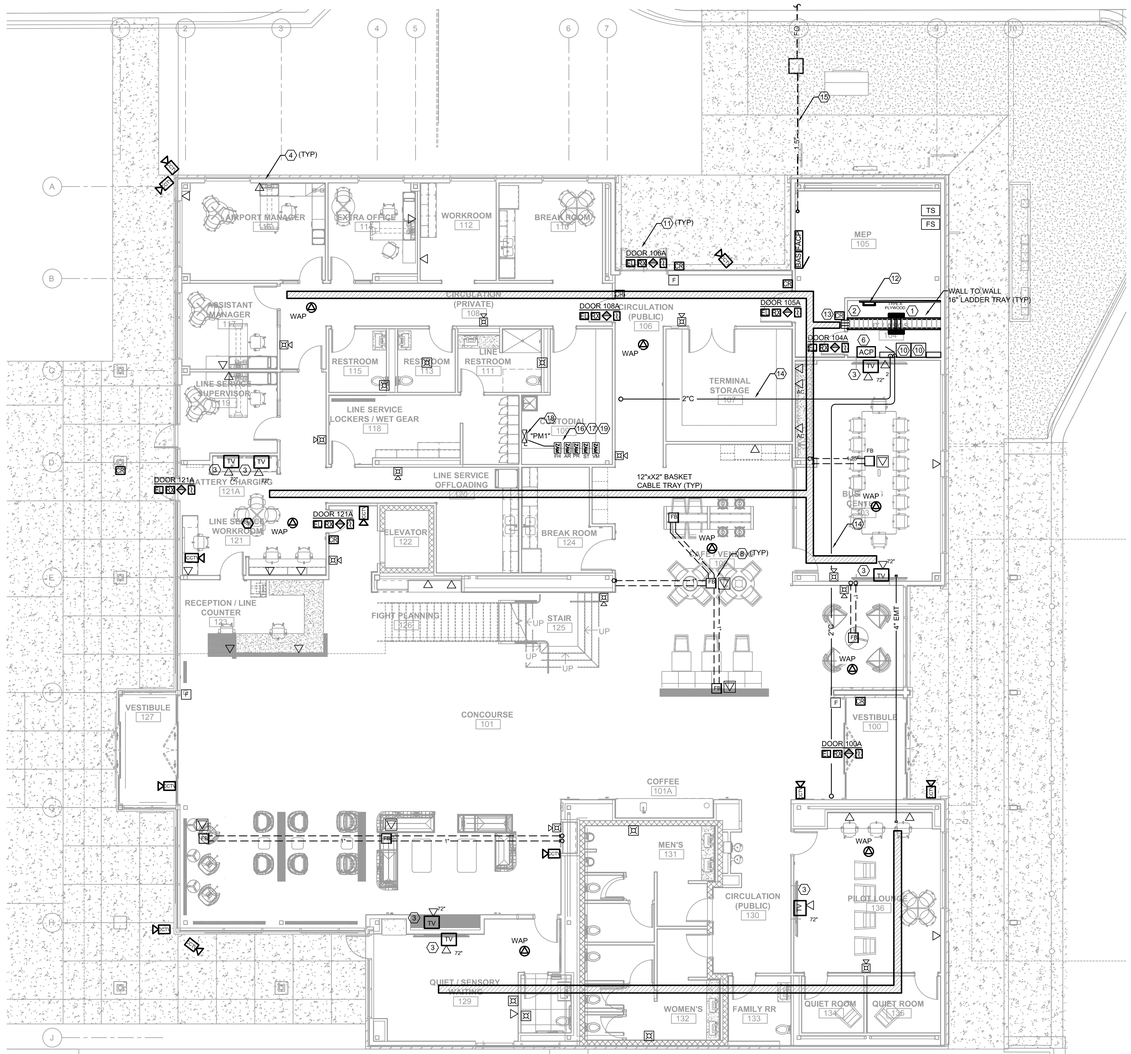
B. REFER TO OVERALL FLOOR PLANS FOR CABLE TRAY ROUTING. ALL TRAY INSTALLED BY E/C.

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"

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LEE'S SUMMIT, MISSOURI

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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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SHEET TITLE

SPECIAL SYSTEMS PLAN

E-120

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ELECTRICAL ROOF PLAN NOTES

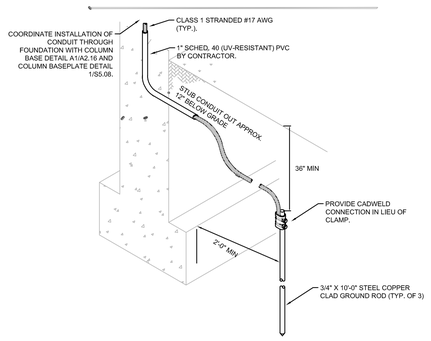
1. FURNISH AND INSTALL 3/8" DIAMETER COPPER LIGHTNING AIR TERMINAL 18" LONG WITH SHARP BARE COPPER POINTS (TYPICAL). AIR TERMINAL SHALL EXTEND A MINIMUM OF 10" ABOVE SURROUNDING OBJECTS (WALLS). SPACE TERMINALS AT 20'-0".
2. INSTALL CLASS 2 STRANDED COPPER CONDUCTOR WTIH #17 AWG STRANDS FOR MAIN/BONDING CONDUCTOR THROUGHOUT LIGHTNING PROTECTION SYSTEM. FASTEN TO STRUCTURE EVERY 3'-0" MINIMUM.
3. ROUTE DOWN CONDUCTOR DOWN THROUGH BUILDING AND CAD WELD TO A 10'X3/4" 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

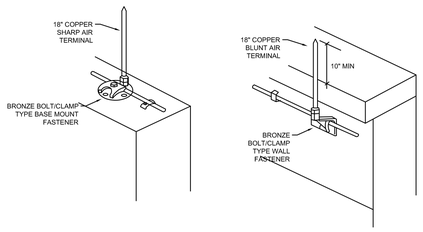
1. LIGHTNING PROTECTION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 780. SHOP DRAWINGS SHALL BE PROVIDED THAT INCLUDE ALL APPROPRIATE WIRE, TERMINALS, CONNECTION INFORMATION, DETAILED DIMENSIONS OF ALL EQUIPMENT, ETC.
2. LIGHTNING PROTECTION SYSTEM GROUNDING SHALL BE TIED INTO ELECTRICAL/TELEPHONE 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

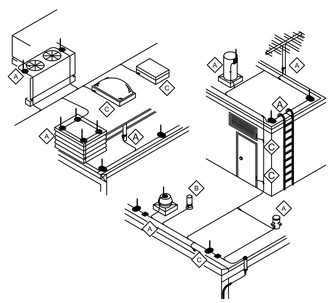
1. REFER TO SHEET E-320 FOR ALL WIRING AND SOLAR ARRAY WORK ON ROOF.
2. POTENTIAL AVAILABILITY OF RENEWABLE ENERGY SOURCE IS ~45 KW OF OFFSET ENERGY.
3. ARRAY CURRENTLY ORIENTATED SOUTH AT 27 DEG ON SINGLE ROW ARRAY FRAMING.



5 LIGHTNING PROTECTION GROUND ROD DETAIL
SCALE: NTS



4 LIGHTNING PROTECTION AIR TERMINAL DETAIL
SCALE: NTS



DETAIL NOTES

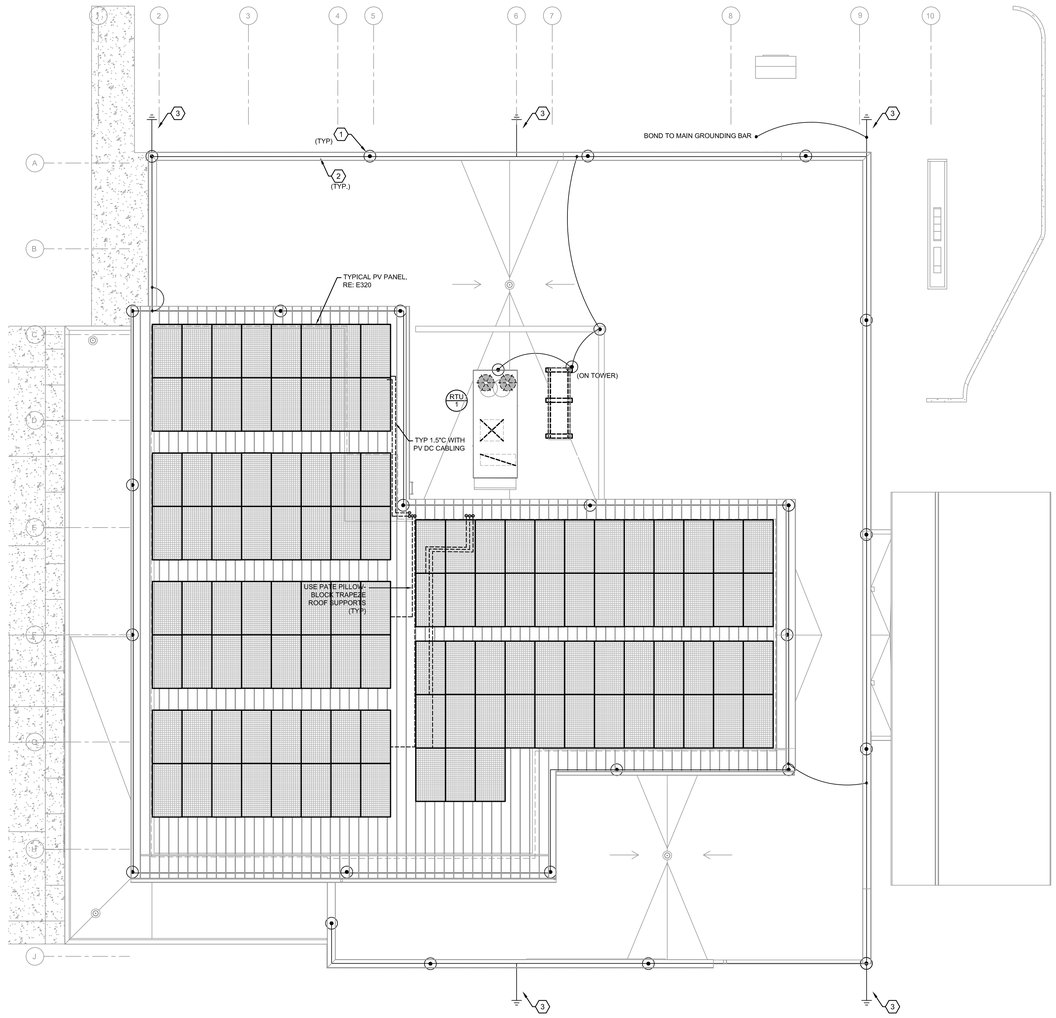
A. TYPICAL BODIES OF CONDUCTANCE AS NOTED BELOW. USE FULL SIZE CONDUCTOR AND APPROPRIATE FITTING SHOWN FOR CONNECTION.

B. (PLUMBING STACK) REQUIRES BONDING WITH MAIN SIZE CABLE ONLY IF WITHIN 6'-0" (1,828mm) OF LIGHTNING PROTECTION SYSTEM.

C. TYPICAL BODIES OF INDUCTANCE AS NOTED BELOW. USE SECONDARY SIZE (SMALLER) CONDUCTOR AND APPROPRIATE FITTING SHOWN FOR CONNECTION.

D. 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.

3 LIGHTNING PROTECTION AIR TERMINAL DETAIL
SCALE: NTS



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

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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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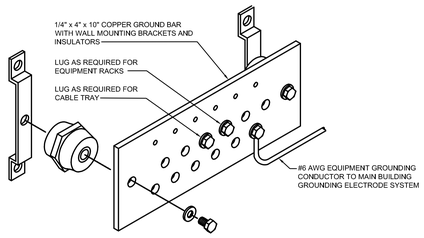
SHEET TITLE

ROOF LIGHTNING PROTECTION PLAN

E-130

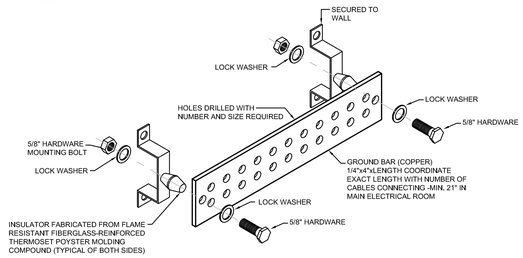
SHEET 94 OF 102

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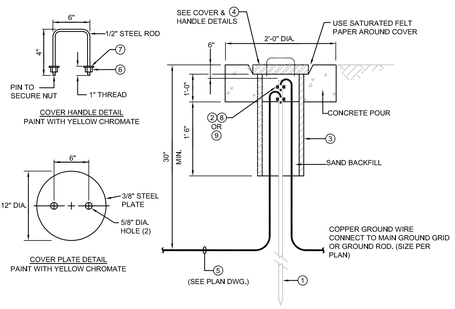


GENERAL NOTES APPLICABLE TO THIS DETAIL:
A. NOT ALL PARTS AND PART NUMBERS ARE SHOWN IN THE DETAIL. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR A COMPLETE WORKING INSTALLATION, INCLUDING MISCELLANEOUS APPURTENANCES REQUIRED BUT NOT SHOWN.
B. INSTALL A GROUND BAR IN EACH AND EVERY TELECOM ROOM AS SHOWN.

6 IT ROOM GROUND BAR DETAIL
SCALE: NTS



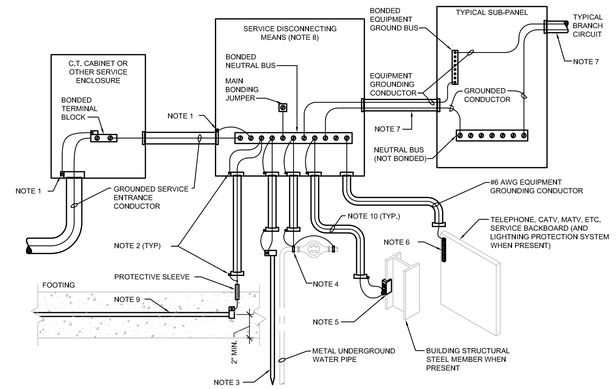
5 MAIN GROUND BAR DETAIL
SCALE: NTS



ITEM	BILL OF MATERIAL
1	GROUND ROD, 3/4" DIA. x 10' LONG, COPPER CLAD STEEL
2	CONNECTOR, #4 SOLID THRU #2/0 STR, CABLE TO GND. ROD, BURNDY #GAR-6426
3	PVC PIPE, 10" DIA. x 2'-6" LONG, SCHEDULE 40
4	COVER PLATE & HANDLE, FIELD FABRICATE PER DETAIL
5	GROUND WIRE, SDB COPPER
6	SQUARE NUT, 1/2", UNISTRUT #HSQN050EG
7	FLAT WASHER, 1/2", UNISTRUT #HFLW050EG
8	CONNECTOR, #2/0 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.

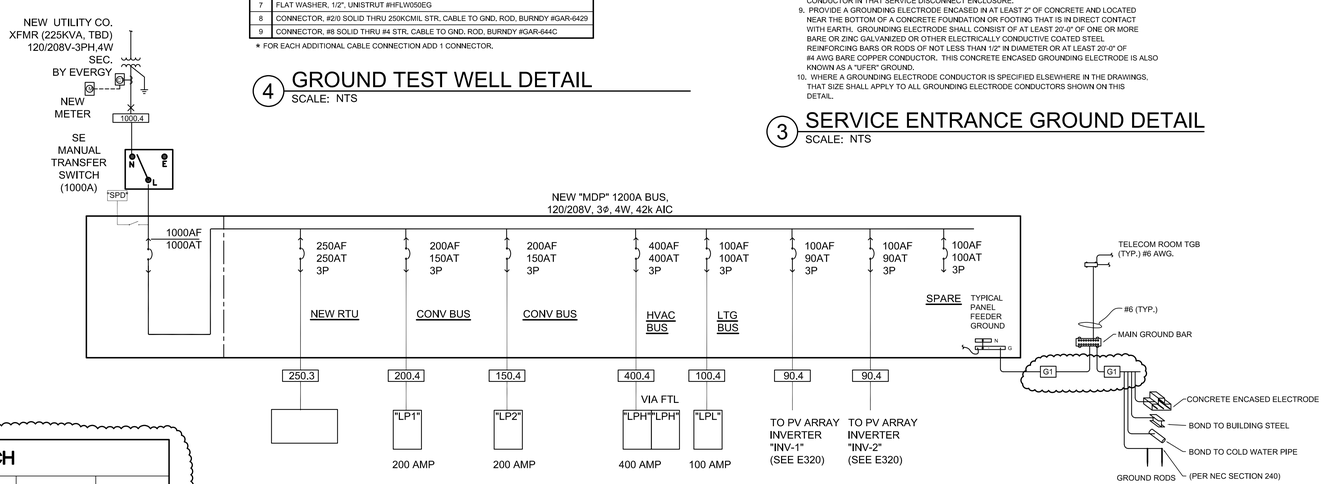
4 GROUND TEST WELL DETAIL
SCALE: NTS



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

SERVICE ENTRANCE MANUAL TRANSFER SWITCH

MARK	MANUF.	MODEL	SERVICE RATED ^	RATING (AMPS)	VOLT/PH POLE	TYPE	SOURCE 1	SOURCE 2	ENCLOSURE RATING	ENCLOSURE MOUNTING	ACCESSORIES	ALTERNATES
"MTS1"	ASCO	300 SERIES 3QC-NC-N-A-3-1000-F-B-X-M	YES UL 891	1000A	208V-3PH 3-POLE	OPEN TRANSITION	UTILITY - 1000A CB	ROLL-UP GEN SERIES 16 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, PL,AC2,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 (120V), 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		#8 AWG	1-1/4"	RE: CONDUIT APPLICATION SCHEDULE
50.3	50A	1	#6 AWG	-	#10 AWG	1"	RE: CONDUIT APPLICATION SCHEDULE

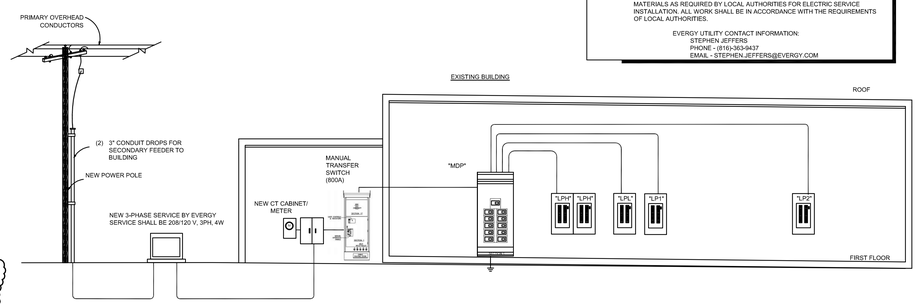
GROUNDING ELECTRODE CONDUCTOR REQUIRED SIZE

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)

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

1. COORDINATE WITH AEP/SWEPCO 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 EVERGY 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.

EVERGY UTILITY CONTACT INFORMATION:
STEPHEN JEFFERS
PHONE - (816)-363-9437
EMAIL - STEPHEN.JEFFERS@EVERGY.COM



1 NEW WORK RISER DIAGRAM
SCALE: NOT TO SCALE

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

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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

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

LEES SUMMIT MUNICIPAL AIRPORT
LEES SUMMIT, MO

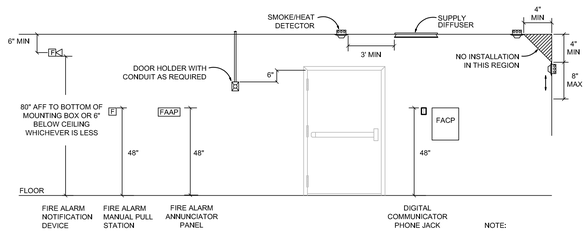
MARK	DATE	DESCRIPTION
A	01.03.25	CITY REVIEW COMMENTS

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

ELECTRICAL RISERS AND DETAILS

E-300



NOTE:

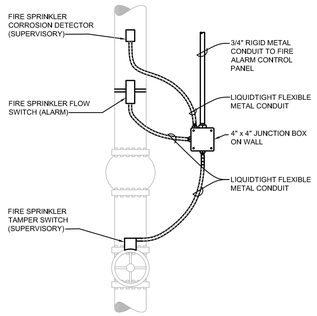
TYPICAL MOUNTING HEIGHTS UNLESS NOTED OTHERWISE.

AJUST MOUNTING HEIGHT TO BLOCK COURSING WHERE APPLICABLE.

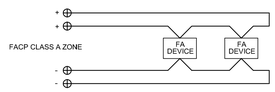
NOTES:

1. TYPICAL MOUNTING HEIGHTS UNLESS OTHERWISE NOTED.

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



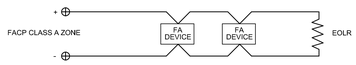
6 FIRE SPRINKLER CONNECTION DETAIL
SCALE: NTS



NOTES:

1. PROVIDE A POSITIVE "PAIR" OF WIRES AND A NEGATIVE "PAIR" OF WIRES FROM FIRE ALARM CONTROL PANEL OUT TO EACH DEVICE.
2. IF A BREAK OCCURS ANYWHERE IN THE CIRCUIT, EVERY DEVICE SHALL REMAIN ACTIVE. A TROUBLE ALARM SHALL BE ACTIVATED AT THE FIRE ALARM CONTROL PANEL.

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



NOTES:

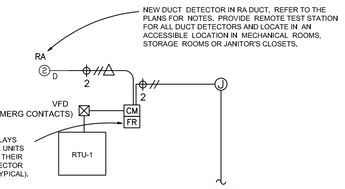
1. PROVIDE TWO (2) WIRES OUT TO EACH DEVICE AND AN END OF LINE RESISTOR AT THE END OF THE CIRCUIT.
2. FIRE ALARM CONTROL PANEL SHALL MEASURE THE CURRENT BEING CONSUMED IN THE CIRCUIT. IF THE PANEL DETECTS TOO LITTLE CURRENT - INDICATIVE OF AN "OPEN" CIRCUIT, A TROUBLE ALARM SHALL SOUND. IF THE PANEL DETECTS TOO HIGH CURRENT - INDICATIVE OF A "SHORT", AN ALARM CONDITION SHALL OCCUR.
3. IF A BREAK IN THE CIRCUIT OCCURS, DEVICES DOWNSTREAM OF THE BREAK WILL BE INOPERABLE UNTIL THE BREAK IN THE CIRCUIT IS REPAIRED.

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

FIRE ALARM SYSTEM

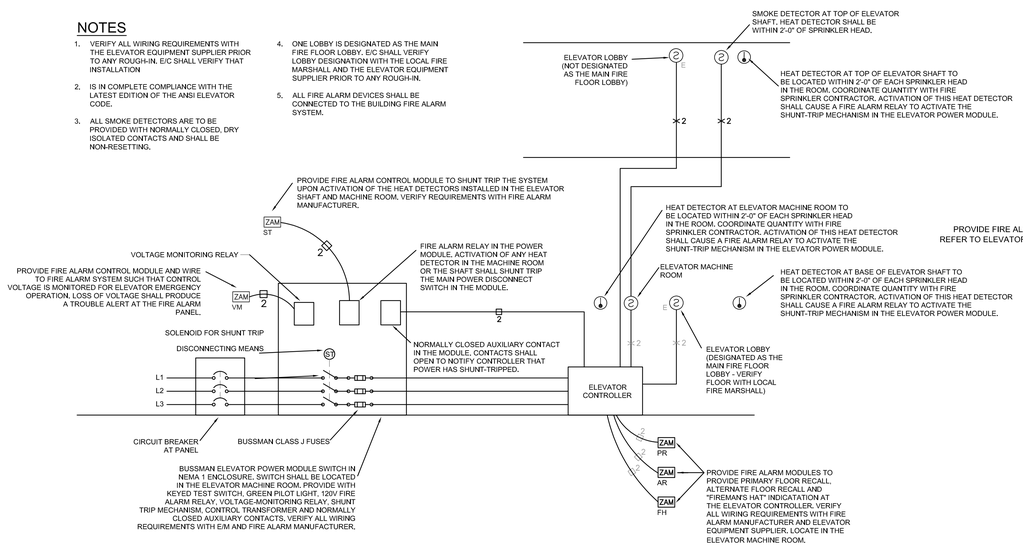
SEQUENCE OF OPERATION		
ACTIVATED DEVICE	LOCATION	ACTION
CEILING SMOKE DETECTOR	CORRIDORS/LOBBIES	GENERAL BUILDING ALARM
SMOKE ALARM WITH SOUNDER	RESIDENT ROOMS	LOCALIZED ALARM
MANUAL PULL STATION	ALL FLOORS EXITS	GENERAL BUILDING ALARM
DOOR HOLD OPEN	ALL FLOORS	GENERAL BUILDING ALARM DOORS CLOSE
HEAT 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, MAPNET TYPE
NOTE: 3. THE EXISTING SYSTEM AND FIRE ALARM CONTROL PANEL DOES NOT HAVE MASS COMMUNICATION CAPABILITY OR UL RATINGS.

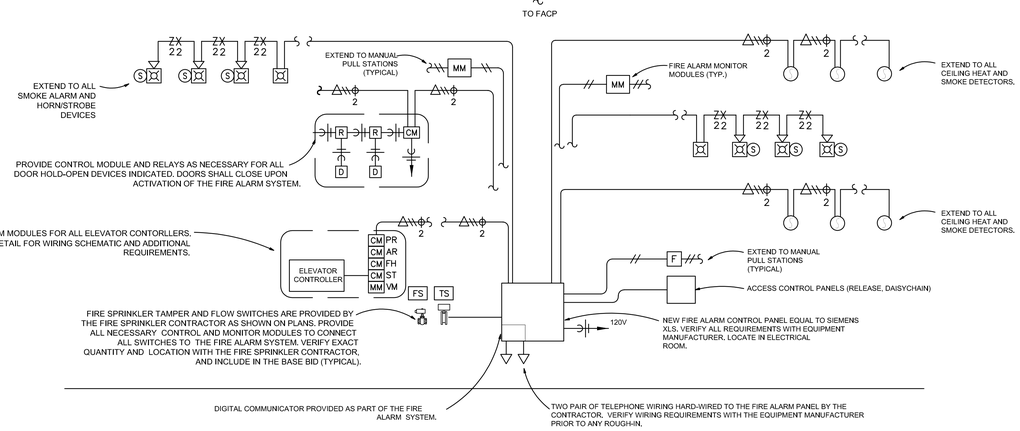


NOTES

1. VERIFY ALL WIRING REQUIREMENTS WITH THE ELEVATOR EQUIPMENT SUPPLIER PRIOR TO ANY ROUGH-IN. E/C SHALL VERIFY THAT INSTALLATION
2. IS IN COMPLETE COMPLIANCE WITH THE LATEST EDITION OF THE ANSI ELEVATOR CODE.
3. ALL SMOKE DETECTORS ARE TO BE PROVIDED WITH NORMALLY CLOSED, DRY ISOLATED CONTACTS AND SHALL BE NON-RESETTING.
4. ONE LOBBY IS DESIGNATED AS THE MAIN FIRE FLOOR LOBBY. E/C SHALL VERIFY LOBBY DESIGNATION WITH THE LOCAL FIRE MARSHALL AND THE ELEVATOR EQUIPMENT SUPPLIER PRIOR TO ANY ROUGH-IN.
5. ALL FIRE ALARM DEVICES SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM.



2 MACHINE-LESS ELEVATOR WIRING SCHEMATIC
SCALE: NTS



FIRE ALARM WIRING LEGEND:

- FIREFIGHTERS TELEPHONE CABLE
- STROBE CABLE
- SPEAKER CABLE
- ZAM POWER
- MAPNET CABLE
- SINGLE STATION SMOKE DETECTOR MONITOR CABLE
- DUCT DETECTOR POWER

GENERAL FIRE ALARM NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE ALL DEVICES WITH THE NEW FIRE ALARM SYSTEM. CONTRACTOR SHALL CONTACT E/M FOR EXTENSION OF THE SYSTEM IF REQUIRED, AND INCLUDE ANY EXTRAS INCURRED BY THE MANUFACTURER TO ACCOMODATE NEW DEVICES, EXTENDER/TRANSPONDER 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.
2. 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.
3. 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

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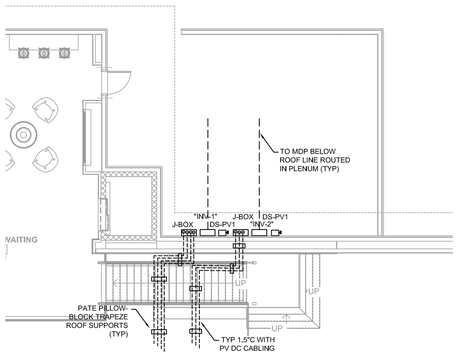
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CHECKED BY:	WAI
APPROVED BY:	Approver
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SHEET TITLE

FIRE ALARM DIAGRAMS

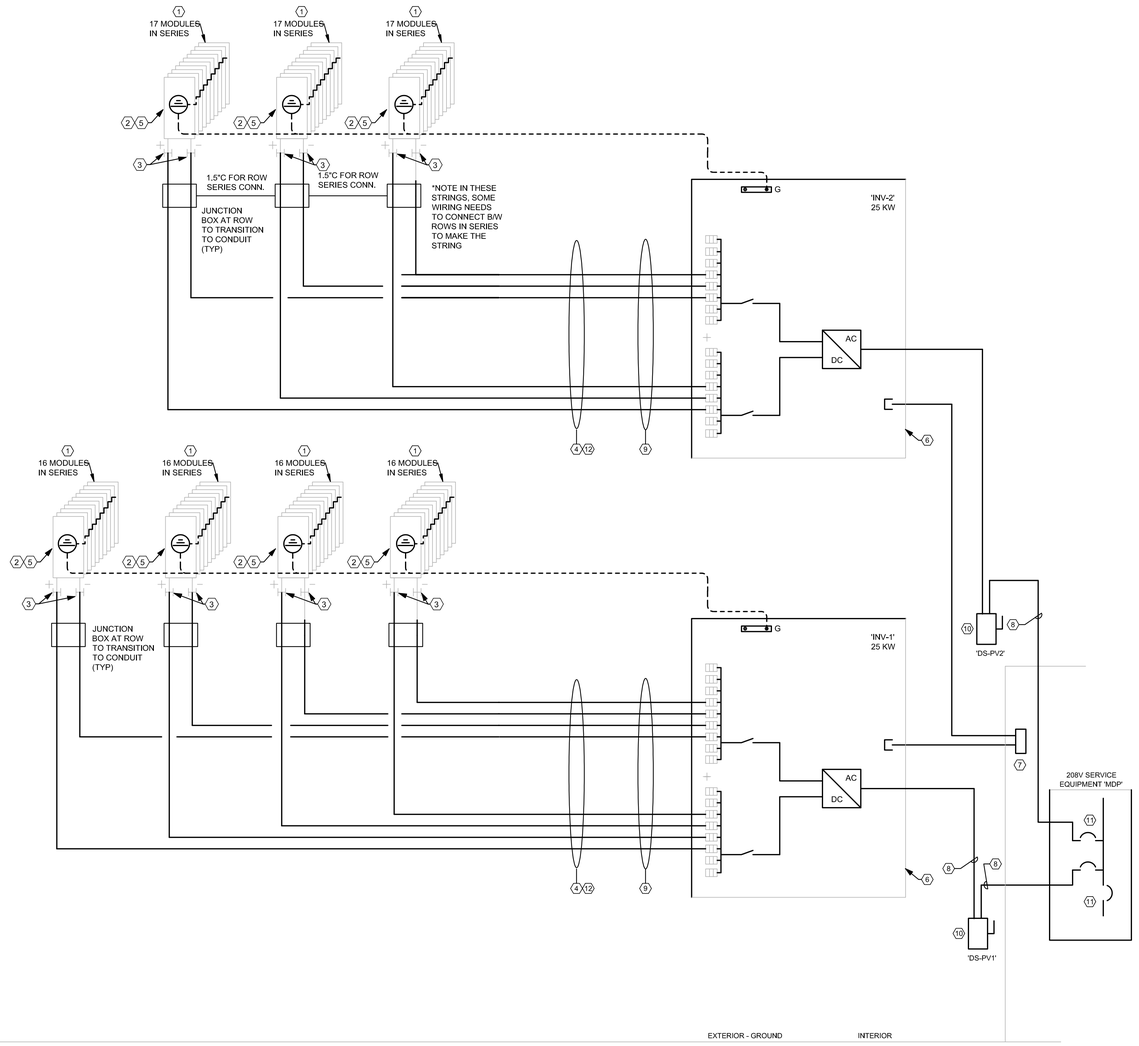
E-310

SHEET 96 OF 102



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-DE16M 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. CPS SCA25KTL-DO/US-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, #6G-1-1/4"C. 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. 100/3, 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.

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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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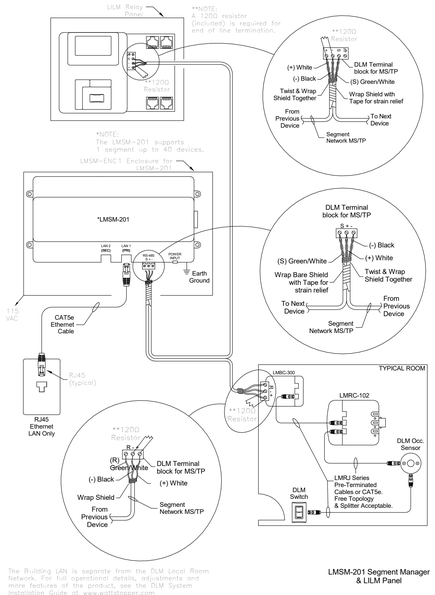
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PV ARRAY DIAGRAMS

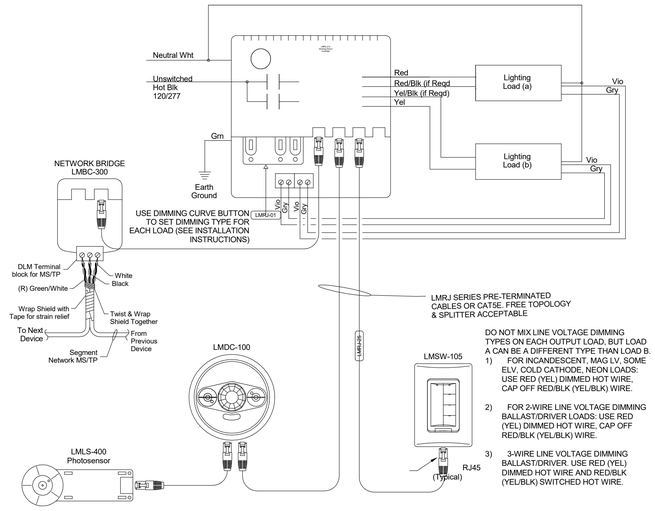
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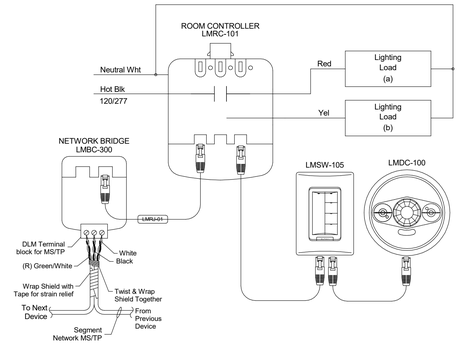
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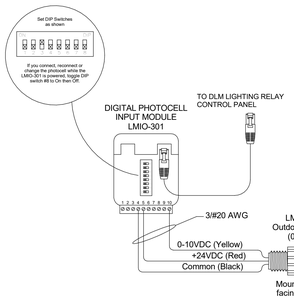
4 DLM LIGHTING CONTROL SEGEMENT DIAGRAM
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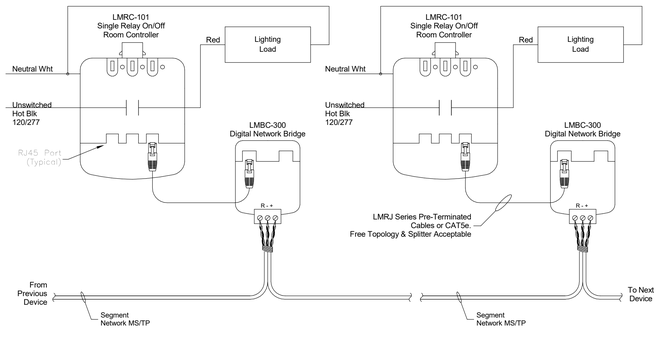
2 DIMMING CONTROL WIRING DIAGRAM W/ DAYLIGHT
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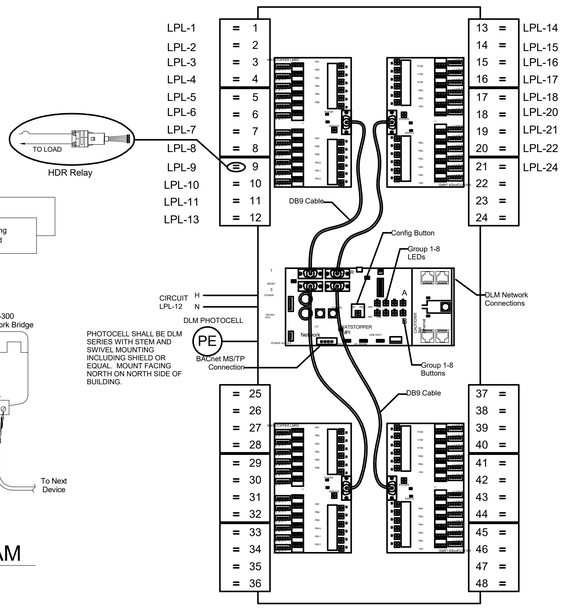
1 DLM LIGHTING CONTROL WIRING DIAGRAM
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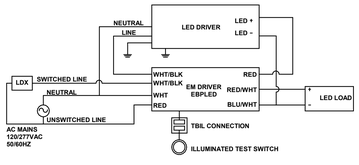
5 DLM PHOTOCELL WIRING DIAGRAM
SCALE: N.T.S.



4 DLM LIGHTING CONTROL NETWORK DIAGRAM
SCALE: N.T.S.



3 DLM LIGHTING CONTROL PANEL
SCALE: N.T.S.



6 EMERGENCY BATTERY WIRING DIAGRAM
SCALE: N.T.S.

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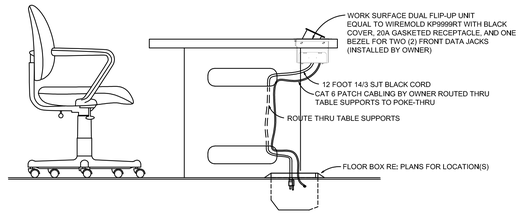
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DESIGNED BY:	SH
DRAWN BY:	OH
CHECKED BY:	AF
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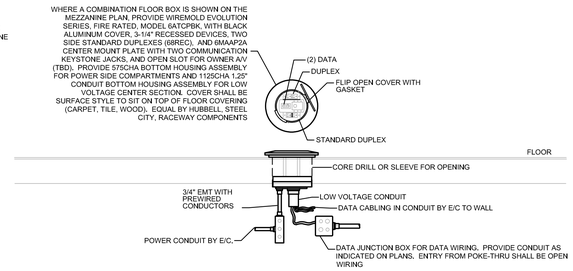
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ELECTRICAL DETAILS

E-400
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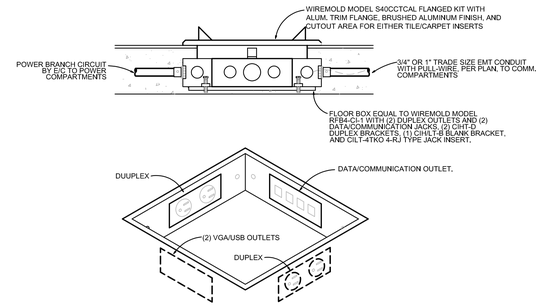
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10 WORK SURFACE MODULE INSTALLATION DETAIL
SCALE: N.T.S.



11 POKE-THRU FLOOR BOX DETAIL
SCALE: NTS

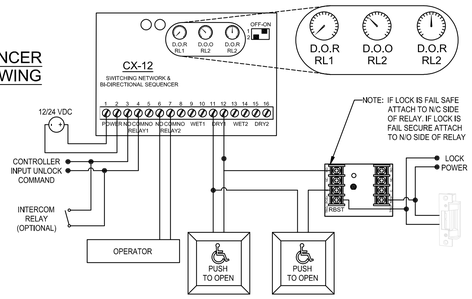


A) LARGE BOX - CONFERENCE ROOMS

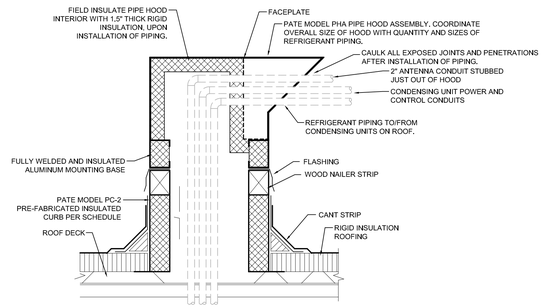
4 FLOOR BOX DETAIL
SCALE: NTS

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

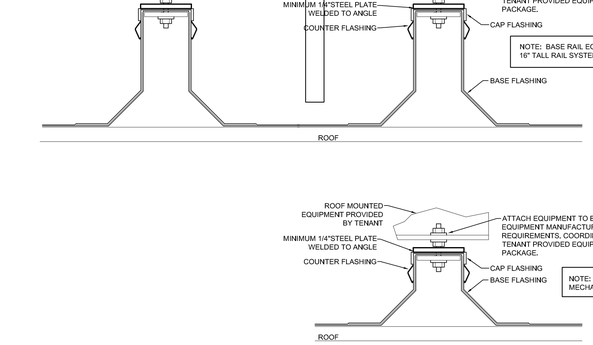
A. DISABLE EXTERIOR BUTTON FROM TRIGGERING DOOR OPERATOR WHEN DOOR LOCK IS IN LOCKED POSITION.
B. ALLOW EXTERIOR BUTTON TO ACTIVATE THE OPERATOR WHEN DOOR LOCK IS IN UNLOCKED POSITION BY ANY OF THE FOLLOWING MEANS: CARD READ, INTERCOM, OR SCHEDULED UNLOCK EVENT.
C. ALLOW INTERIOR BUTTON TO UNLOCK DOOR AND ACTIVATE THE OPERATOR AFTER A SHORT DELAY TO ENSURE DOOR IS FULLY UNLOCKED BEFORE OPERATING.
D. 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, THUS A SECONDARY RELAY MUST BE USE TO ACTUALLY DISABLE THE OUTSIDE BUTTON. THE SECONDARY RELAY SHALL BE INSTALLED IN PARALLEL WITH LOCK POWER.
E. 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.



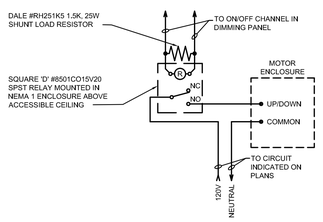
7 ACCESS CONTROL SYSTEM ADA DOOR INTERFACE
SCALE: NTS



3 PIPE CURB DETAIL
SCALE: NONE

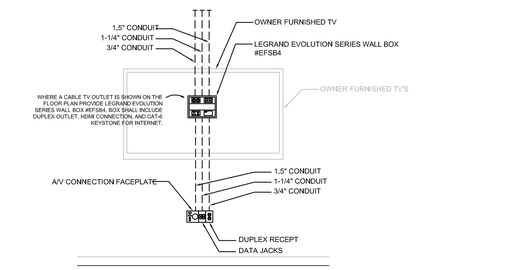


9 ROOF EQUIPMENT/ANTENNA SUPPORT
SCALE: NONE

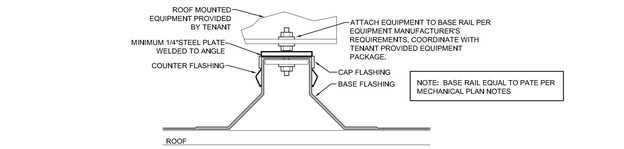


A/V EQUIPMENT CONTROL DETAIL

6 TYPICAL A/V SCREEN DETAIL
SCALE: NTS



2 TYPICAL A/V ROUGH-IN DETAIL
SCALE: NTS



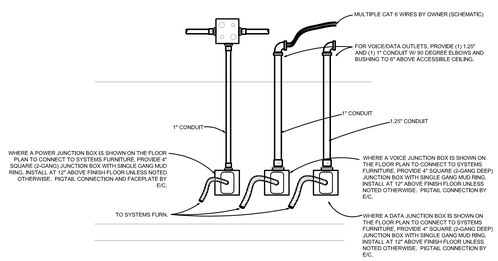
TELECOMM CONDUIT FILL SCHEDULE							
TYPE	MAXIMUM AMOUNT OF CABLE FOR A 40% FILL PER CONDUIT SIZE						
	0.75"	1"	1.25"	1.5"	2"	2.5"	3"
CAT 6	3	6	9	14	24	38	55

TYPICAL COMMUNICATION WALL BOX

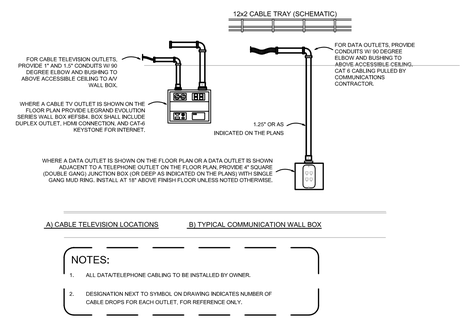
GENERAL NOTES

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

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



5 SYSTEMS FURNITUREROUGH-IN DETAILS
SCALE: NTS



A) CABLE TELEVISION LOCATIONS B) TYPICAL COMMUNICATION WALL BOX

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

1 COMMUNICATIONS ROUGH-IN DETAILS
SCALE: NTS

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1701 WALNUT STREET, SUITE 300
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KC - LEE'S SUMMIT REGIONAL GENERAL AVIATION TERMINAL
LEE'S SUMMIT, MISSOURI CITY PORJECT NO. - 17932172

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

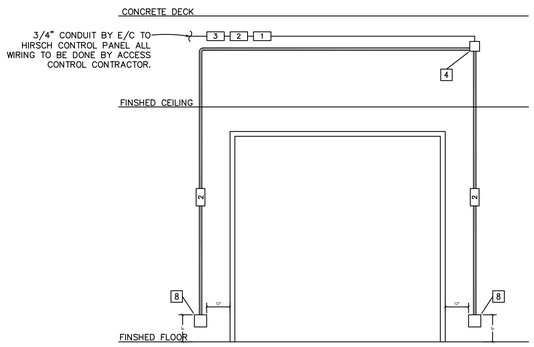
PROJECT NO:	2403
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt
DESIGNED BY:	CMW
DRAWN BY:	DM
CHECKED BY:	WAI
APPROVED BY:	Approver
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SHEET TITLE

ELECTRICAL DETAILS

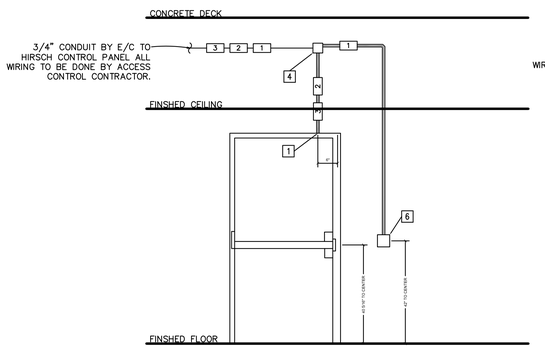
E-410

SHEET 98 OF 102



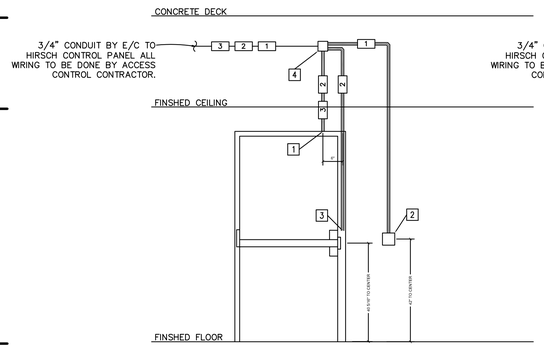
A SLIDER DOOR WITH DOOR CONTACT, CARD READER, REQUEST TO EXIT

NOT TO SCALE



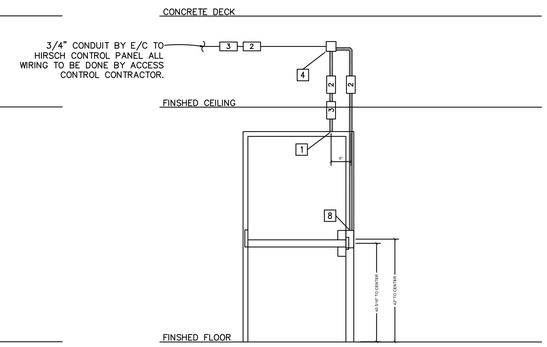
B SINGLE DOOR WITH DOOR CONTACT, MAG LOCK CARD READER, REQUEST TO EXIT, ELECTRIC HINGE

NOT TO SCALE



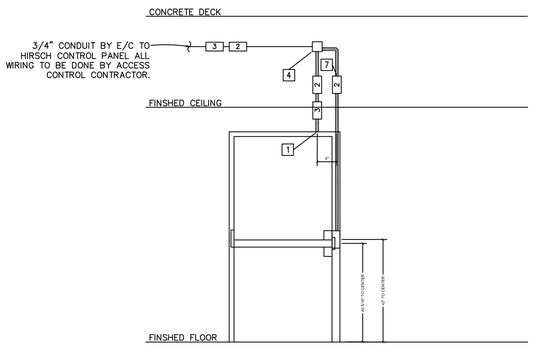
C SINGLE DOOR WITH DOOR CONTACT, ELECTRONIC STRIKE, CARD READER, REQUEST TO EXIT

NOT TO SCALE



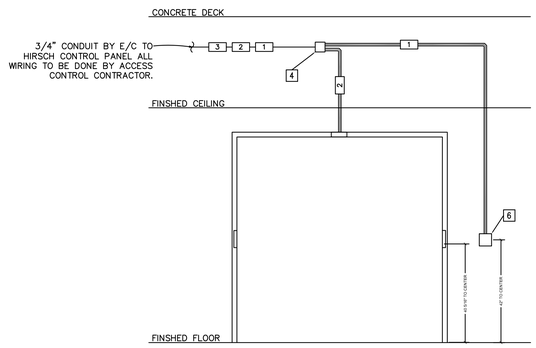
D SINGLE DOOR WITH DOOR CONTACT, ELECTRONIC STRIKE, (2) CARD READERS, REQUEST TO EXIT

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

1 PROVIDE 1/2" EMT CONDUIT STUBBED INTO DOOR FRAME FOR DOOR CONTACT AND REQUEST TO EXIT SENSOR.

2 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 GANGE MUD RING SIZED FOR DEPTH OF FINISHED WALL, PROVIDE 1/2" EMT STUBBED TO JUNCTION BOX.

3 PROVIDE 1/2" EMT STUBBED INTO DOOR FRAME TO STRIKE POCKET.

4 PROVIDE 6"x6"x4" JUNCTION BOX MOUNTED ABOVE FINISHED CEILING AND BELOW CONCRETE DECK. CONNECT ALL EMT CONDUITS TO THIS JUNCTION BOX.

5 VERIFY ACCESSABLE PATHWAY FROM CONDUIT STUB TO SECOND DOOR CONTACT.

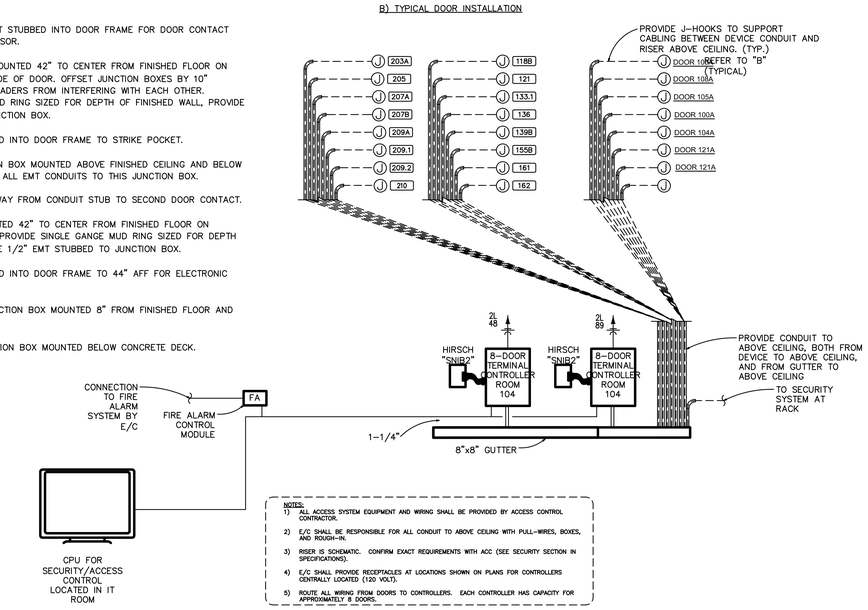
6 PROVIDE 4 SQ JBOX MOUNTED 42" TO CENTER FROM FINISHED FLOOR ON UNSECURE SIDE OF DOOR. PROVIDE SINGLE GANGE MUD RING SIZED FOR DEPTH OF FINISHED WALL, PROVIDE 1/2" EMT STUBBED TO JUNCTION BOX.

7 PROVIDE 1/2" EMT STUBBED INTO DOOR FRAME TO 44" AFF FOR ELECTRONIC STRIKE & CARD READER.

8 PROVIDE SINGLE GANG JUNCTION BOX MOUNTED 8" FROM FINISHED FLOOR AND 12" FROM DOOR FRAME.

9 PROVIDE 4" SQUARE JUNCTION BOX MOUNTED BELOW CONCRETE DECK.

B) TYPICAL DOOR INSTALLATION



NOTES:
1) ALL ACCESS SYSTEM EQUIPMENT AND WIRING SHALL BE PROVIDED BY ACCESS CONTROL CONTRACTOR.
2) E/C SHALL BE RESPONSIBLE FOR ALL CONDUIT TO ABOVE CEILING WITH PULL-WIRES, BOXES, AND ROUGH-IN.
3) RISER IS SCHEMATIC. CONFIRM EXACT REQUIREMENTS WITH ACC (SEE SECURITY SECTION IN SPECIFICATIONS).
4) E/C SHALL PROVIDE RECEPTACLES AT LOCATIONS SHOWN ON PLANS FOR CONTROLLERS CENTRALLY LOCATED (120 VOLT).
5) ROUTE ALL WIRING FROM DOORS TO CONTROLLERS. EACH CONTROLLER HAS CAPACITY FOR APPROXIMATELY 8 DOORS.

A) SYSTEM RISER

1 ACCESS SYSTEM DETAIL

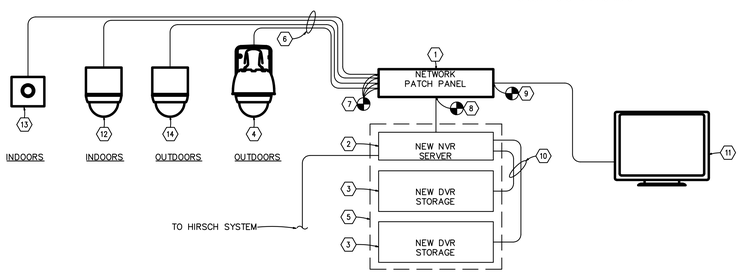
SCALE: N.T.S.

SECURTIY EQUIPMENT WIRING LEGEND

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

NOTES

1. CONTRACTOR SHALL FIELD VERIFY EXISTING NETWORK PATCH PANEL TO SERVE NEW IP SECURITY CAMERA SYSTEM. COORDINATE ALL EXISTING NETWORK REQUIREMENTS AND LOCATION WITH OWNER.
2. NEW NETWORK VIDEO RECORDER (NVR) EQUIVALENT TO AMERICAN DYNAMICS VIDECEDGE 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.
3. NEW RAID STORAGE SYSTEM EQUIVALENT TO AMERICAN DYNAMICS 30TB. RAID STORAGE SYSTEM SHALL HAVE A CAPACITY OF 30.0 TB OR HIGHER.
4. 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.
5. 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.
6. PROVIDE CAT-6 CABLING OR OTHER TYPE OF CABLING AS REQUIRED BY SECURITY MANUFACTURER FROM NETWORK PATCH PANEL TO NEW SECURITY CAMERAS. CONFIRM ALL CABLING REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
7. PROVIDE AND CONNECT NEW CAT-6 CABLING FROM NEW NVR SERVER TO NEW NETWORK PATCH PANEL. CONFIRM ALL CABLING TYPE AND REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
8. PROVIDE NEW CAT-6 CABLING FROM NEW NVR SERVER AND CONNECT TO EXISTING NETWORK PATCH PANEL. CONFIRM ALL CABLING TYPE AND REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
9. IF REQUIRED, CONTRACTOR SHALL PROVIDE NEW CAT-6 CABLING FROM NEW NETWORK PATCH PANEL TO NEW HOST COMPUTER.
10. PROVIDE NEW SCSI CABLING FROM NEW NVR SERVER TO NEW RAID STORAGE UNITS. CONFIRM ALL CABLING TYPE AND REQUIREMENTS WITH SECURITY SYSTEM MANUFACTURER.
11. 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.
12. 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.
13. 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.
14. 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.



GENERAL NOTES:
1. 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.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COMPLETE IP SECURITY SYSTEM. ALL REQUIRED EQUIPMENT, ACCESSORIES, CABLING, ETC. SHALL BE PROVIDED BY CONTRACTOR AND SHALL BE DETERMINED BASED ON WHICH MANUFACTURER WILL BE SPECIFIED.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR NEW SECURITY SYSTEM.

3 SECURITY SYSTEM RISER DIAGRAM

SCALE: NTS

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LEE'S SUMMIT, MISSOURI

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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 DETAILS

E-420

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
LDX	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
S_2	WALL	DIGITAL LIGHTING MANAGEMENT SYSTEM (DLM) LOW VOLTAGE PUSHBUTTON SWITCH TWO BUTTONS AS FOLLOWS: "OFF", "ON"	WATTSTOPPER LMSW-102	PER ROOM / ZONE	GREY	2,3
S_3	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
S_4	WALL	DIGITAL LIGHTING MANGEMENT SYSTEM (DLM) LOW VOLTAGE PUSHBUTTON SWITCH FOUR BUTTONS AS FOLLOWS: "OFF", "1", "2", "3"	WATTSTOPPER LMSW-104	PER ROOM / ZONE	GREY	2,3,4
S_{4D}	WALL	DIGITAL LIGHTING MANGEMENT 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	
S_{OS1}	WALL	LINE VOLTAGE OCCUPANCY SENSOR WALL SWITCH PASSIVE INFRARED	WATTSTOPPER PW-101	PER ROOM	GREY	3
S_{OS2}	WALL	LINE VOLTAGE OCCUPANCY SENSOR WALL SWITCH PASSIVE INFRARED, DUAL RELAY	WATTSTOPPER PW-200	PER ROOM	GREY	3
RP1	WALL MOUNTED	ARCHITECURAL DIMMING PANEL, BACNET ENABLED 16 ZONES 0-10VOLT DIMMING / 16 HIGH-VOLTAGE RELAYS RP1 WITH IC-DIN-II-LITE RP1 WITH SERIAL DATA INTERFACE FOR COMMUNICATION TO DLM CONTROLLERS	WATTSTOPPER LCAP44A A-6 LMDI-100 BACNET-IP-IC IC-DIN-II-LITE LVOS-0-10-PWM (4)	EXTERIOR BUILDING LIGHTING AND INTERIOR COMMON SPACES	N/A	3
RP2E	WALL MOUNTED	ARCHITECURAL DIMMING PANEL 12 ZONES 0-10VOLT DIMMING / 12 HIGH-VOLTAGE RELAYS RP2E WITH (3) EMERGENCY LIGHTING RELAYS RP2E WITH (3) EMERGENCY LIGHTING TEST SWITCH NETWORK TO RP1 FOR CONTROL	WATTSTOPPER LCAP44A A-6 LMDI-100 VA-RRU-1-277(3) VA-EPC-DFS-277V (3) LVOS-0-10-PWM (3)	EXTERIOR BUILDING LIGHTING AND INTERIOR COMMON SPACES	N/A	3
PC	EXTERIOR WALL	DIGITAL PHOTO CELL INPUT MODULE AND EXTERIOR PHOTOCELL	WATTSTOPPER LMIO-301 LMPO-200	EXTERIOR BUILDING LIGHTING	N/A	3

NOTES:
1) REFER TO LIGHTING CONTROL SEQUENCE FOR CONTROL SETTINGS.
2) WALL STATIONS SHALL INCLUDE ENGRAVING TO STATE BUTTON FUNCTION. REFER TO OWNER FOR ENGRAVING PREFERENCES.
3) APPROVED LIGHTING CONTROL EQUALS INCLUDE: ACUITY BRANDS nLIGHT, CRESTRON SPACE BUILDER, HUBBELL NX, CRESTRON
4)

ELEVATOR POWER MODULE SCHEDULE

MARK	LOAD		MANUFACTURER	SWITCH		FUSE		ENCLOSURE NEMA TYPE	ACCESSORIES
	EQUIPMENT SERVED	VOLTS	MODEL	AMP	POLE	AMP	TYPE		
"PM1"	ELEVATOR P1	208	BUSSMAN-#PS1T20KRBF1	100	3	100	AJT	1	CT,FR,K,RP,MR,VMR, AUX

ABBREVIATIONS:
GD - GENERAL DUTY
HD - HEAVY DUTY
SN - SOLID NEUTRAL
CT - CONTROL POWER TRANSFORMER
FR - FIRE SAFETY INTERFACE RELAY
K - KEYED TEST SWITCH
RP - RED PILOT LIGHT
MR - MECHANICAL INTERLOCK AUXILIARY RELAY
VMR - FIRE ALARM VOLTAGE MONITORING RELAY
AUX - AUXILIARY ALARM CONTACT

NOTES:
1. ELEVATOR FUSE REQUIREMENTS SHALL BE VERIFIED WITH THE ELEVATOR EQUIPMENT MANUFACTURER PRIOR TO ANY ROUGH-IN OR ORDER OF SWITCHES.

LIGHTING FIXTURE SCHEDULE

R	MANUFACTURER	MODEL	DESCRIPTION	LAMP TYPE	LAMP CCT	VA	VOLTAGE	DIMMING	COMMENTS
A	COOPER LIGHTING	22SR-LD2-59-C-UNV-L835-CD1-U	RECESSED 2X2 DIRECT/INDIRECT TROFFER	LED	3500 K	50	UNV	0-10V	
AE	COOPER LIGHTING	22SR-LD2-59-C-UNV-EL7W-L835-CD1-U+E1	RECESSED 2X2 DIRECT/INDIRECT TROFFER	LED	3500 K	50	UNV	0-10V	FURNISH WITH EMERGENCY BATTER PACK FOR MINIMUM 1100 LUMENS
B	COOPER LIGHTING	LDSQ4D-35B-90-35-D010	4" SQUARE DOWNLIGHT	LED	3500 K	33	UNV	0-10V	
BE	COOPER LIGHTING	LDSQ4D-35B-90-35-D010-EM7	4" SQUARE DOWNLIGHT	LED	3500 K	33	UNV	0-10V	FURNISH WITH EMERGENCY BATTER PACK FOR MINIMUM 1100 LUMENS
C	METALUX	4SNX-48SL-SLW-UNV-L835-CD-1	LED STRIPLIGHT	LED	3500 K	33	UNV	0-10V	
D	BUZZISPACE	BUZZLIET XL	DECORATIVE PENDANT	LED	3500 K	70	120 V	0-10V	
D2	BUZZISPACE	BUZZLIET XXL	DECORATIVE PENDANT	LED	3500 K	70	UNV	0-10V	
E	EUREKA	4256-24-LED-25-80-120V-DV	DECORATIVE PENDANT	LED	3500 K	33	120 V	0-10V	
EME	<varies>	<varies>	<varies>	LED	4000 K	45	<varies>	<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	B2SQSLED-1000-80-35-SO-5-DMLED-BLK-UNV-DP-1	SURFACE MOUNT LINEAR FIXTURE	LED	3500 K	43	UNV	0-10V	
HE	AXIS LIGHTING	B2SQSLED-1000-80-35-SO-5-DMLED-BLK-UNV-DP+E1	SURFACE MOUNT LINEAR FIXTURE	LED	3500 K	43	UNV	0-10V	FURNISH WITH EMERGENCY BATTER PACK FOR MINIMUM 1100 LUMENS
I	AXIS LIGHTING	GPSLED-NL-300-80-3500-FL-BLK-UNV-DP	SURFACE MOUNT WALL GRAZE FIXTURE	LED	3500 K	40	UNV	0-10V	
J	COOPER LIGHTING	HCSQ4-40-D010-HM4-3040-835	EXTERIOR DOWN LIGHT	LED	4000 K	43	120 V	0-10V	WET LOCATION LISTED
JE	COOPER LIGHTING	HCSQ4-40-D010-EM06-HM4-3040-835	EXTERIOR DOWN LIGHT	LED	4000 K	43	UNV	0-10V	WET LOCATION LISTED, FURNISH WITH EMERGENCY BATTER PACK FOR MINIMUM 1100 LUMENS
K	BEGA	B50539-K35-B13183	DECORATIVE PENDANT	LED	3500 K	20	120 V	0-10V	
L	BUZZISPACE	BUZZIPROP LED PENDANT LIGHT	DECORATIVE PENDANT	LED	3000 K	20	120 V	N/A	
M	COOPER LIGHTING	LDSQA2B-20-90-35-D010	2" SQUARE DOWNLIGHT	LED	3500 K	22	UNV	0-10V	
SL1	KIM LIGHTING	PA7R-FT-DH-3-12L-020-47K-44IRB-S20I-BLT-UNV	SITE BOLLARD	LED	4000 K	80	UNV	N/A	
SL2	KIM LIGHTING	CYZ-45-4K8-2-SP-3-UNV-BLT-F-LFSW	SITE UP/DOWN LIGHT	LED	4000 K	52	UNV	N/A	IP66
SL3	KIM LIGHTING	ALT2-100L160-4K8-3-UNV-ASQ-BLT	SITE LIGHTING POWER POLE	LED	4000 K	160	UNV	0-10V	
SL4	KIM LIGHTING	ALT2-100L160-4K8-4-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	WET LOCATION LISTED

LIGHTING FIXTURE SCHEUDLE NOTES:

1. EQUALS BY LITHONIA, HUBBEL, LSI, ACUITY.

2. DECORATIVE PENDANT EQUAL REQUIRES APPROVAL BY ARCHITECT PRIOR TO SUBMITTAL.

LIGHTING CONTROL SEQUENCE

SPACE TYPE / ROOM NAME	CONTROLS: LINE VOLT MANUAL SWITCH	LINE VOL WALL OCCUPANCY SWITCH	LOW VOLT WALL STATION	LOW VOLT DIMMING WALL STATION	PHOTOSENSOR ON/OFF	ASTRONOMIC TIME CLOCK PERMISSION	MANUAL ON ONLY	OCCUPANCY SENSOR 33% AUTO ON	OCCUPANCY SENSOR 50% AUTO ON	OCCUPANCY SENSOR 100% AUTO ON	BUILDING EXTERIOR SENSOR	OPERATING HOURS SCHEDULE	OPERATING HOURS 25% AUTO ON	OPERATING HOURS 33% AUTO ON	OPERATING HOURS 50% AUTO ON	DAYLIGHT SENSOR DIMMING	WIRING DIAGRAM REFERENCE	SEQUENCE OF OPERATIONS	NOTES / OTHER COMMENTS
EXTERIOR - PARKING					X	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	
QUIET/WAITING & PILOT LOUNGE				X					X			X						E400	2	
PRIVATE OFFICE / WORK ROOM		X							X			X							2	
CONCOURSE				X					X			X	X	X		X		E400	3,4,11	
RECEPTION COUNTER				X					X			X						E400	2,4	
CAFÉ/VENDING			X						X			X	X	X				E400	2,3,11	
ENTRY									X	X		X	X		X	X		E400	5,11	
ENTRY STAIRS									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		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			E400	6,9	
WORK ROOM / BREAK ROOM			X						X				X	X		X		E400	6,10,11	
CORRIDORS										X			X			X			5,11	

SEQUENCE OF OPERATIONS

1 TIME CLOCK PERMISSION ON FROM 4 PM TO 8 AM. PHOTOSENSOR ON AND OFF. DIMMING AND BI-LEVEL FUNCTIONALITY AS DESCRIBED IN COMMENTS.

2 OCCUPANCY SENSOR 50% ON. TASK LIGHTS MANUAL ON AT LOCAL SWITCH, IF APPLICABLE. ALL LIGHTS OCCUPANCY SENSOR OFF.

3 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.

4 PRESENTATION SETTING DIMS ALL LIGHTS TO 50% AND TURNS OFF ZONE ADJACENT TO PRESENTATION SCREEN.

5 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.

6 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.

7 PRESENTATION SETTING DIMS LINEAR PENDANT TO 10% AND TURNS OFF DOWNLIGHTS.

8 OCCUPANCY SENSOR 100% ON. ALL LIGHTS OCCUPANCY SENSOR OFF.

9 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.

10 TIME PERMISSIONS. DURING OPERATING HOURS, LIGHT LEVELS ON AT 50%. AFTER HOURS, LIGHTS OFF WHEN UNOCCUPIED, AUTO ON TO 55% WHEN OCCUPIED.

11 SPACE CONTROLS NETWORKED TO RELAY PANEL "RP1" FOR TIME CLOCK FUNCTIONALITY.

FLOOR BOX DEVICE SCHEDULE

TAG NO.	MAKE: MODEL	COLOR	MANUF	COVER	POWER: MODEL	QTY	DEPTH	COMM: MODEL	LOCALE	AUDIO/ VISUAL	NOTES
FB-1	EVOLUTION RFB4-C1-1	BRUSHED NI BLACK	WIREMOLD	S40CCTCAL	CIHT-D	2	3"	CIL7-4TWO -4-RJ	CENTER	AV	CS,LF,CT,LVD

ABBREVIATIONS
FR - FIRE RATED
CS - CONCELAED SERVICE
LF - LEVELING FEET
CT - CARPET/TILE FLANGE KIT, BA FINISH TRIM, CARPET INSERT
LVD - LOW VOLTAGE DIVIDER
AV - A/V PLATE CIHLT-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.

CONDUIT APPLICATION SCHEDULE

APPLICATION	MATERIAL	FITTING TYPE (IF APPLICABLE)	NOTES
SERVICE ENTRANCE CONDUIT ABOVE GRADE ONLY	RIGID STEEL	-	-
FEEDERS 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
INTERCOM/SECURITY SYSTEM	OPEN	-	3

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

DISCONNECT SWITCH SCHEDULE

TAG NO.	LOAD: EQUIPMENT SERVED	VOLTS	SWITCH: DUTY	AMP	POLE	FUSE: AMP	POLE	TYPE	ENCLOSURE NEMA TYPE	NOTES
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
SS - STAINLESS STEEL, DUST TIGHT
GD - GENERAL DUTY
GB - GROUND BAR
SN - SOLID NEUTRAL
L - LOCKABLE

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

EQUIVALENT MANUFACTURERS BY SQUARE D, GE, SIEMENS, EATON

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 PORJECT NO. - 17932172

STATE OF MISSOURI
CORY WILSON
NUMBER PE-2010009876
01.03.2025
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 - 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

11/27/2024 9:17:31 AM

MAIN DISTRIBUTION PANEL SCHEDULE

PANEL DESIGNATION: NEW "MDP" | MANUFACTURER: SQUARE D | TYPE: I-LINE | MOUNTING: SURFACE | MTG SP: 84" | VOLTAGE: 120/208V, 3 PHASE, 4 WIRE | MAINS: 1000 AMP MLO | MIN. AIC: 42K | DIMENSIONS: 42" WIDE, 8.5" DEEP

CKT NO	LOAD DESCRIPTION	** CIRCUIT BREAKER	TYPE	LOAD (VA)	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	LOAD (VA)	** CIRCUIT BREAKER	TYPE	LOAD DESCRIPTION	CKT NO
1	NEW PANEL "LPH"	400	KC	45417	64417			19000	250	KC	NEW 30-TON RTU	2
	"	3		41417		60417		19000	3		"	
	"	3		38667			57667	19000	3		"	
3	NEW PANEL "LP1"	150	KC	10800	20000			9200	100	FC	ELEVATOR (20 HP)	4
	"	3		9800		19000		9200	3		"	
	"	3		10200			19400	9200	3		"	
5	NEW PANEL "LP2"	150	KC	11500	19500			8000	100	FC	NEW PANEL "LPL"	5
	"	3		10800		18800		8000	3		"	
	"	3		12600			20600	8000	3		"	
7	VAV-15 (15 KW)	60	FC	5000	5000				100	FC	SPARE	
	"	3		5000		5000			3		"	
	"	3		5000			5000		3		"	
7	SPACE	-			-				-		SPACE	
	"	3				-			3		"	
	"	3							3		"	

		PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	
	TOTAL CONNECTED PHASE LOADS	108625	103717	102667	VA
	* COOLING DIVERSIFIED LOAD	77125	74225	75600	VA
	* HEATING DIVERSIFIED LOAD	79562	74862	75000	VA
	PHASE LOADS	663	623	630	AMPS
	FUTURE FACTOR	1,25			
	MINIMUM PANEL/FEEDER SIZE	828			AMPS

ABBREVIATIONS:
AF - ARC FAULT CIRCUIT INTERRUPTER
GFI - GROUND FAULT CIRCUIT INTERRUPTER
HLO - HANDLE LOCK 'OFF'

NOTES/ACCESSORIES:
* DIVERSIFIED LOADS INDICATED HAVE BEEN CALCULATED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
** PROVIDE NEW BREAKERS, SIZE AND TYPE, AS SHOWN. SERIES RATINGS SHALL BE ALLOWED, NEW BREAKER SHALL BE BOLT-ON TYPE
*** PROVIDE UPDATED TYPED CIRCUIT DIRECTORY

TERMINAL BUILDING ELECTRICAL LOAD SIZING TABLE

ITEM	EQUIPMENT SERVED / TYPE	LOAD VA	DIVERSITY	SIZING LOAD	NOTES
1					
2	RECEPTACLES - GENERAL	33,000	0,65	21,500 VA	FIRST 10KVA + (1/2 * REMAINING LOAD)
3	COMPUTER LOADS - GENERAL	6,000	1,0	6,000 VA	NON-LINEAR LOADS
4	SERVER / LAN ROOM LOADS	6,000	1,0	5,000 VA	NON-LINEAR CONTINOUS LOADS
5	INTERIOR LIGHTING	9,250	1,0	9,250 VA	
6	EXTERIOR LIGHTING	4,000	1,0	4,000 VA	
7	EXHAUST SYSTEMS (GENERAL)	3,128	1,0	3,128 VA	ALL LESS THAN 1,5 HP EACH
8					
9	KITCHEN EQUIPMENT	4,500	0,75	3,475 VA	DIVERSIFIED AT 75% PER NEC
10	ELEVATORS	27,600	1,0	27,600 VA	ONE AT 20 HP
11	LAUNDRY EQUIPMENT	3,800	0,5	3,000 VA	RESIDENTIAL STYLE AT ALL LOCATIONS
12	RTU - 1 @ 30 TONS	67,830	1,0	67,830 VA	VFD CONTROL / STAGED COOLING
13	ELECTRIC HEAT	100,000	0,33	33,000 VA	COOLING GOVERNS
14	VRF SYSTEMS	19,878	1,0	19,878 VA	(2) OUTDOOR UNITS, (7) INDOOR UNITS
15	TEMPERATURE CONTROLS	1,500	1,0	1,500 VA	DDC SYSTEM
16	DOMESTIC WATER BOILERS	1,500	1,0	1,500 VA	YEAR ROUND
17	FIRE ALARM, SECURITY, WHITE NOISE	4,000	1,0	4,000 VA	LOW VOLTAGE SYSTEMS
18	BASEBOARD RADIANT HEATERS	11,500	0,25	2,875 VA	OFF-SEASON DEMAND
19	MISCELLANEOUS LOADS	7,500	0,5	3,750 VA	MISC EQUIPMENT, ASOS TOWER
20					
21					
	TOTAL			217,056 VA	608 AMPS AT 120/208-3PH VOLT
				1,25	DESIGN VARIANCE - FUTURE FACTOR (FOR SERVICE SIZING)
				271,320 VA	760 AMPS AT 120/208-3PH VOLT
				1000 AMPS	SERVICE SIZE FROM TRANSFORMER

NOTES:
1. ALL LOAD SIZING IS IN ACCORDANCE WITH THE 2011 NEC.
2. SIZE OF UTILITY TRANSFORMER IS AT UTILITY COMPANIES DISCRETION AND DIVERSITIES. IT IS ASSUMED EVERGY WILL HAVE A 250-300 KVA PAD MOUNT.

EVERGY IS EXPECTED TO HAVE JUST SINGLE UTILITY ENTRANCE - 12,47 KV TO 208/120V-3PH,4W PAD MOUNTED TRANSFORMER. METERING WILL BE FROM EXTERIOR METER AND CT CABINET.

CIRCUIT BREAKER PANELBOARD SCHEDULE

PANEL DESIGNATION: NEW "LP1" | MANUFACTURER: SQUARE D | TYPE: NQOD | MOUNTING: SURFACE | POLES: 42 | VOLTAGE: 120/208V, 3 PHASE, 4 WIRE | MIN. AIC: 22K | MAINS: 200 AMP MLO | DIMENSIONS: 20" WIDE, 6.5" DEEP

CKT NO	LOAD DESCRIPTION	** CIRCUIT BREAKER	TYPE	LOAD (VA)	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	LOAD (VA)	** CIRCUIT BREAKER	TYPE	LOAD DESCRIPTION	CKT NO
1	OFFICE RECEPTS	20		360	2468			900	20		BUILDING AUTOMATION SYSTEM	2
3	OFFICE RECEPTS	20		1500		2468		900	20		SECURITY/ACCESS CONTROL	4
5	OFFICE RECEPTS	20		1500			1860	960	20		IT ROOM QUAD	6
7	OFFICE RECEPTS	20		900	1320			960	20		IT ROOM QUAD	8
9	CONF RECEPTACLES/TV	20		360		1860		2200	30		RACK NEMA 5-20P UPS / PDU DROP	10
11	CONF RECEPTACLES/FLOOR BOX	20		720			2220	500	20		LIGHTING CONTROL PANEL	12
13	EXTERIOR OUTLETS	20	GFI	720	1620			900	20		WHITE NOISE RACK (L5-20R)	14
15	WORK ROOM OUTLETS	20		1080		1620		900	20		ACCESS CONTROL DOORS	16
17	CHARGING COUNTER OUTLETS	20		1080			1800	1000	20		CELL BOOSTER/SATELLITE (ASOS)	18
19	TOILET RECEPTS	20	GFI	1080	1080			1000	2		"	20
21	LOCKER ROOM RECEPTS	20		900		2000		1000	20		FLOOR COPIER (LOCATION TBD)	22
23	STORAGE RECEPTS	20		900			2000	1000	20		FIRE ALARM CONTROL PANEL	24
25	MONITORS AT CHARGING STATION	20		900	1900			1000	20	GFI	BREAK ROOM REFRIGERATOR	26
27	CUSTODIAL OUTLETS	20		900		1900		1000	20	GFI	BREAK ROOM DISHWASHER	28
29	PLANNING COUNTER RECEPTS	20		900			1900	1000	20	GFI	BREAK ROOM MICROWAVE	30
31	RECEPTION/CORRIDOR OUTLETS	20		900	1900			1000	20	GFI	BREAK / WORK RM AC RECEPTS	32
33	CONF ROOM COFFEE MAKER	20		1000		2000		1000	20	GFI	BREAK ROOM GARBAGE DISP.	34
35	CONF ROOM U/C QUAD FOR CRESTRON	20		1000			2000	1000	20		CRESTRON RACK (L5-20R)	36
37	CONF ROOM MOTORIZED SHADES	20		400	0				20		MEZZANINE WORK STATION OUTLETS	38
39	SPARE	20				0			20		SPARE	40
41	SPARE	20					0		20		SPARE	42
								-	-			
								-	-			
								-	-			

		PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	
	TOTAL CONNECTED PHASE LOADS	12368	11948	11880	VA
	* COOLING DIVERSIFIED LOAD	10545	9792	9734	VA
	* HEATING DIVERSIFIED LOAD	10545	9792	9734	VA
	PHASE LOADS	86	83	83	AMPS
	FUTURE FACTOR	1,25			
	MINIMUM PANEL/FEEDER SIZE	109			AMPS

ABBREVIATIONS:
AF - ARC FAULT CIRCUIT INTERRUPTER
GFI - GROUND FAULT CIRCUIT INTERRUPTER
HLO - HANDLE LOCK 'OFF'

NOTES/ACCESSORIES:
* DIVERSIFIED LOADS INDICATED HAVE BEEN CALCULATED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
** PROVIDE NEW BREAKERS, SIZE AND TYPE, AS SHOWN. SERIES RATINGS SHALL BE ALLOWED, NEW BREAKER SHALL BE BOLT-ON TYPE
*** PROVIDE UPDATED TYPED CIRCUIT DIRECTORY

CIRCUIT BREAKER PANELBOARD SCHEDULE

PANEL DESIGNATION: NEW "LP2" | MANUFACTURER: SQUARE D | TYPE: NQOD | MOUNTING: SURFACE | POLES: 54 | VOLTAGE: 120/208V, 3 PHASE, 4 WIRE | MIN. AIC: 22K | MAINS: 200 AMP MLO | DIMENSIONS: 20" WIDE, 6.5" DEEP

CKT NO	LOAD DESCRIPTION	** CIRCUIT BREAKER	TYPE	LOAD (VA)	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	LOAD (VA)	** CIRCUIT BREAKER	TYPE	LOAD DESCRIPTION	CKT NO
1	BREAK RANGE (6-50R)	50		3000	2468			900	20		COFFEE COUNTER OUTLET	2
3	"	2		3000		2468		900	20		COFFEE COUNTER OUTLET	4
5	BREAK ROOM REFRIGERATOR	20	GFI	900			1860	900	20		PILOT LOUNGE OUTLETS	6
7	BREAK ROOM DISHWASHER	20	GFI	360	1320			900	20		PILOT TV/OUTLETS	8
9	BREAK ROOM MICROWAVE	20	GFI	720		1860		900	20	GFI	TOILET OUTLETS	10
11	ROOFTOP WP RECEPT	20	GFI	720			2220	900	20	GFI	TOILET OUTLETS	12
13	WAITING OUTLETS	20		720	1620			900	20		FIRE PLACE	14
15	WAITING OUTLETS/TV	20		720		1620		900	20		MEZZANINE OUTLETS	16
17	PLANNING RECEPT / TV	20		720			1800	900	20		ELECTRIC DRINKING FOUNTAIN	18
19	CAFE RECEPTS / FLOOR BOX	20		1000	1080			900	20		WASHING MACHINE	20
21	CAFE KITCHEN QUAD	20		1000		2000		1500	30		CLOTHES DRYER	22
23	CAFE KITCHEN QUAD	20		1000			2000	1500	2		"	24
25	CAFE KITCHEN QUAD	20		1000	1900			900	20		ICE MACHINE	26
27	CAFE POS	20		1000		1900		900	20		AUTOMATIC DOORS AT VESTIBULES	28
29	LOBBY/CONCOURSE OUTLETS	20		1000			1900	900	20		RES, RANGE RECIRC HOOD/OUTLETS	30
31	LOBBY/CONCOURSE OUTLETS	20		1000	1900			900	20		ELEVATOR CAB LTG, RECEPTS	32
33	GARBAGE DISPOSER	20	GFI	1000		1800		800	20		VERTICAL REFRIGERATOR	34
35	GARBAGE DISPOSER	20	GFI	1000			1800	800	20		VERTICAL REFRIGERATOR	36
37	BREAKROOM U/C REFRIGERATOR	20	GFI	900	1700			800	20		VERTICAL REFRIGERATOR	38
39	MEZZANINE POKE-THRU BOXES	20		900		0			20		WAITING ROOM MOTORIZED SHADES	40
41	SPARE	20					0		20		SPARE	42
								-	-			
								-	-			
								-	-			

		PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	
	TOTAL CONNECTED PHASE LOADS	12668	11048	10980	VA
	* COOLING DIVERSIFIED LOAD	9545	8792	8734	VA
	* HEATING DIVERSIFIED LOAD	9138	8519	8455	VA
	PHASE LOADS	83	78	78	AMPS
	FUTURE FACTOR	1,25			
	MINIMUM PANEL/FEEDER SIZE	105			AMPS

ABBREVIATIONS:
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GFI - GROUND FAULT CIRCUIT INTERRUPTER
HLO - HANDLE LOCK 'OFF'

NOTES/ACCESSORIES:
* DIVERSIFIED LOADS INDICATED HAVE BEEN CALCULATED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
** PROVIDE NEW BREAKERS, SIZE AND TYPE, AS SHOWN. SERIES RATINGS SHALL BE ALLOWED, NEW BREAKER SHALL BE BOLT-ON TYPE
*** PROVIDE UPDATED TYPED CIRCUIT DIRECTORY

CIRCUIT BREAKER PANELBOARD SCHEDULE

PANEL DESIGNATION: NEW "LPH" (SECT 1) | MANUFACTURER: SQUARE D | TYPE: NQOD | MOUNTING: SURFACE | POLES: 42 | VOLTAGE: 120/208V, 3 PHASE, 4 WIRE | MIN. AIC: 22K | MAINS: 400 AMP FTL*** | DIMENSIONS: 20" WIDE, 6.5" DEEP

CKT NO	LOAD DESCRIPTION	** CIRCUIT BREAKER	TYPE	LOAD (VA)	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	LOAD (VA)	** CIRCUIT BREAKER	TYPE	LOAD DESCRIPTION	CKT NO
1	VAV-1 (5,0 KW)	35		2500	4500			2000	30		VAV-2 (4,0 KW)	2
3	"	2		2500		4500		2000	2		"	4
5	VAV-3 (2,5 KW)	20		1250			3750	2500	35		VAV-4 (5,0 KW)	6
7	"	2		1250	3750			2500	2		"	8
9	VAV-5 (2,5 KW)	20		1250		2500		1250	20		VAV-6 (2,5 KW)	10
11	"	2		1250			2500	1250	2		"	12
13	VAV-7 (2,5 KW)	20		1250	2500			1250	20		VAV-8 (2,5 KW)	14
15	"	2		1250		2500		1250	2		"	16
17	VAV-9 (12,0 KW)	45		4000			6500	2500	30		VAV-10 (7,5 KW)	18
19	"	3		4000	6500			2500	3		"	20
21	"	3		4000		6500		2500	3		"	22
23	VAV-11 (12,0 KW)	45		4000			6500	2500	30		VAV-12 (7,5 KW)	24
25	"	3		4000	6500			2500	3		"	26
27	"	3		4000		6500		2500	3		"	28
29	VAV-13 (7,5 KW)	30		2500			5000	2500	35		VAV-14 (5,0 KW)	30
31	"	3		2500	5000			2500	2		"	32
33	"	3		2500		5167		2667	30		VAV-16 (8,0 KW)	34
35	SPARE	20					2667	2667	3		"	36
37	SPARE	20			2667			2667	3		"	38
39	SPARE	20		0		2500		2500	35		VAV-17 (5,0 KW)	40
41	SPARE	20					2500	2500	2		"	42
					9000			7750	-		FEED THRU LUGS TO SECTION 2	
						8750		6000	-		"	
							6750	6750	-		"	

		PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	
	TOTAL CONNECTED PHASE LOADS	39167	37167	36167	VA
	* COOLING DIVERSIFIED LOAD	-	-	-	VA
	* HEATING DIVERSIFIED LOAD	35320	33450	32250	VA
	PHASE LOADS	294	278	272	AMPS
	FUTURE FACTOR	1,25			
	MINIMUM PANEL/FEEDER SIZE	367			AMPS

ABBREVIATIONS:
AF - ARC FAULT CIRCUIT INTERRUPTER
GFI - GROUND FAULT CIRCUIT INTERRUPTER
HLO - HANDLE LOCK 'OFF'

NOTES/ACCESSORIES:
* DIVERSIFIED LOADS INDICATED HAVE BEEN CALCULATED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
** PROVIDE NEW BREAKERS, SIZE AND TYPE, AS SHOWN. SERIES RATINGS SHALL BE ALLOWED, NEW BREAKER SHALL BE BOLT-ON TYPE
*** FEED THRU LUGS TO SECTION 2

CIRCUIT BREAKER PANELBOARD SCHEDULE

PANEL DESIGNATION: NEW "LPL" | MANUFACTURER: SQUARE D | TYPE: NQOD | MOUNTING: SURFACE | POLES: 30 | VOLTAGE: 120/208V, 3 PHASE, 4 WIRE | MIN. AIC: 22K | MAINS: 100 AMP MLO | DIMENSIONS: 20" WIDE, 6.5" DEEP

CKT NO	LOAD DESCRIPTION	** CIRCUIT BREAKER	TYPE	LOAD (VA)	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	LOAD (VA)	** CIRCUIT BREAKER	TYPE	LOAD DESCRIPTION	CKT NO
1	LOBBY LIGHTING	20		1500	2400			900	20		EXTERIOR LIGHTING	2
3	LOBBY LIGHTING	20		1500		2400		900	20		EXTERIOR LIGHTINGG	4
5	LOBBY LIGHTING	20		1500			1975	475	20		EXTERIOR POLE LIGHTING	6
7	MEZZANINE LIGHTING	20		900	1375			475	2		"	8
9	LOUNGE/WAITING/RESTROOM LTG	20		1500		2500		1000	20		EXTERIOR CANOPIES/ENTRY LTG	10
11	ENTRY/COFFEE/CAFE LIGHTING	20		720			2220	1500	20		LIGHTING CONTROL PANEL	12
13	RECEPT/LINE SERV/PLANNING LTG	20		900	1800			900	20		OFFICES 116, 117, 119 LIGHTING	14
15	BREAK ROOM, WALL GRAZ LTG	20		500		1400		900	20		OFFICES 114, BREAK/WORK 110-112 LTG	16
17	CONF 103 LTG	20		600			1600	1000	20		RESTROOMS/LOCKER/WET GEAR LTG	18
19	MEP/IT ROOM LIGHTING	20		600	1600			1000	20		CORRIDOR/STORAGE/CUSTODIAL LTG	20
21	SPARE	20		1000		2000		1000	20		AIRSIDE CANOPY LIGHTING	22
23	SPARE	20		1000			2000	1000	20		SPARE	24
25	SPARE	20			0			1000	20		SPARE	26
27	SPARE	20				0		1000	20		SPARE	28
29	SPARE	20					0	1000	20		SPARE	30
								-	-			
								-	-			
								-	-			

		PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	
	TOTAL CONNECTED PHASE LOADS	7175	8300	7795	VA
	* COOLING DIVERSIFIED LOAD	7175	8300	7795	VA
	* HEATING DIVERSIFIED LOAD	7175	8300	7795	VA
	PHASE LOADS	60	69	65	AMPS
	FUTURE FACTOR	1,25			
	MINIMUM PANEL/FEEDER SIZE	86			AMPS

ABBREVIATIONS:
AF - ARC FAULT CIRCUIT INTERRUPTER
GFI - GROUND FAULT CIRCUIT INTERRUPTER
HLO - HANDLE LOCK 'OFF'

NOTES/ACCESSORIES:
* DIVERSIFIED LOADS INDICATED HAVE BEEN CALCULATED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
** PROVIDE NEW BREAKERS, SIZE AND TYPE, AS SHOWN. SERIES RATINGS SHALL BE ALLOWED, NEW BREAKER SHALL BE BOLT-ON TYPE
*** PROVIDE UPDATED TYPED CIRCUIT DIRECTORY

CIRCUIT BREAKER PANELBOARD SCHEDULE

PANEL DESIGNATION: NEW "LPH" (SECT 2) | MANUFACTURER: SQUARE D | TYPE: NQOD | MOUNTING: SURFACE | POLES: 30 | VOLTAGE: 120/208V, 3 PHASE, 4 WIRE | MIN. AIC: 22K | MAINS: 400 AMP MLO | DIMENSIONS: 20" WIDE, 6.5" DEEP

CKT NO	LOAD DESCRIPTION	** CIRCUIT BREAKER	TYPE	LOAD (VA)	PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	LOAD (VA)	** CIRCUIT BREAKER	TYPE	LOAD DESCRIPTION	CKT NO
43	BEH-1/BEH-2/BEH-2	20		1500	3000			1500	20		EWH-1 (3,0 KW)	44
45	"	2		1500		3000		1500	2		"	46
47	BEH-3 (2,0 KW)	20		1000			2500	1500	20		EWH-2 (3,0 KW)	48
49	"	2		1000	2500			1500	2		"	50
51	VRF COND UNIT (VERIFY MOCP)	35		1500		2500		1000	20		BEH-3 (2,0 KW)	52
53	"	2		1500			2500	1000	2		"	54
55	INDOOR VRF UNITS (VERIFY MOCP)	15		250	750			500	20		WATER HEATER WH-1/WH-2	56
57	"	2		250		250		500	20		EXHAUST FAN EF1	58
59	VRF COND UNIT (VERIFY MOCP)	45		2200			2700	500	20		EXHAUST FAN EF2	60
61	"	2		2200	2700			500	20		EXHAUST FAN EF3	62
63	INDOOR VRF UNITS (VERIFY MOCP)	15		250		250			20		SPARE	64
65	"	2		250			250		20		SPARE	66
67	SPARE	20			0				20		SPARE	68
69	SPARE	20				0			20		SPARE	70
71	SPARE	20					0		20		SPARE	72
					-			-	-			
						-		-	-			
							-	-	-			

		PHASE LOADS A	PHASE LOADS B	PHASE LOADS C	
	TOTAL CONNECTED PHASE LOADS	8750	6000	7750	VA
	* COOLING DIVERSIFIED LOAD	4000	2900	3250	VA
	* HEATING DIVERSIFIED LOAD	8750	6000	7750	VA
	PHASE LOADS	75	50	70	AMPS
	FUTURE FACTOR	1,25			
	MINIMUM PANEL/FEEDER SIZE	87			AMPS

ABBREVIATIONS:
AF - ARC FAULT CIRCUIT INTERRUPTER
GFI - GROUND FAULT CIRCUIT INTERRUPTER
HLO - HANDLE LOCK 'OFF'

NOTES/ACCESSORIES:
* DIVERSIFIED LOADS INDICATED HAVE BEEN CALCULATED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
** PROVIDE NEW BREAKERS, SIZE AND TYPE, AS SHOWN. SERIES RATINGS SHALL BE ALLOWED, NEW BREAKER SHALL BE BOLT-ON TYPE
*** FEED WITH WIRING FROM SECTION 1 FTL

LEGEND

MDP | LP1 | LP2

LOAD | LPH-1 | LPH-2

LPL

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

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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
A	01.03.25	CITY REVIEW COMMENTS

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

ELECTRICAL SCHEDULES

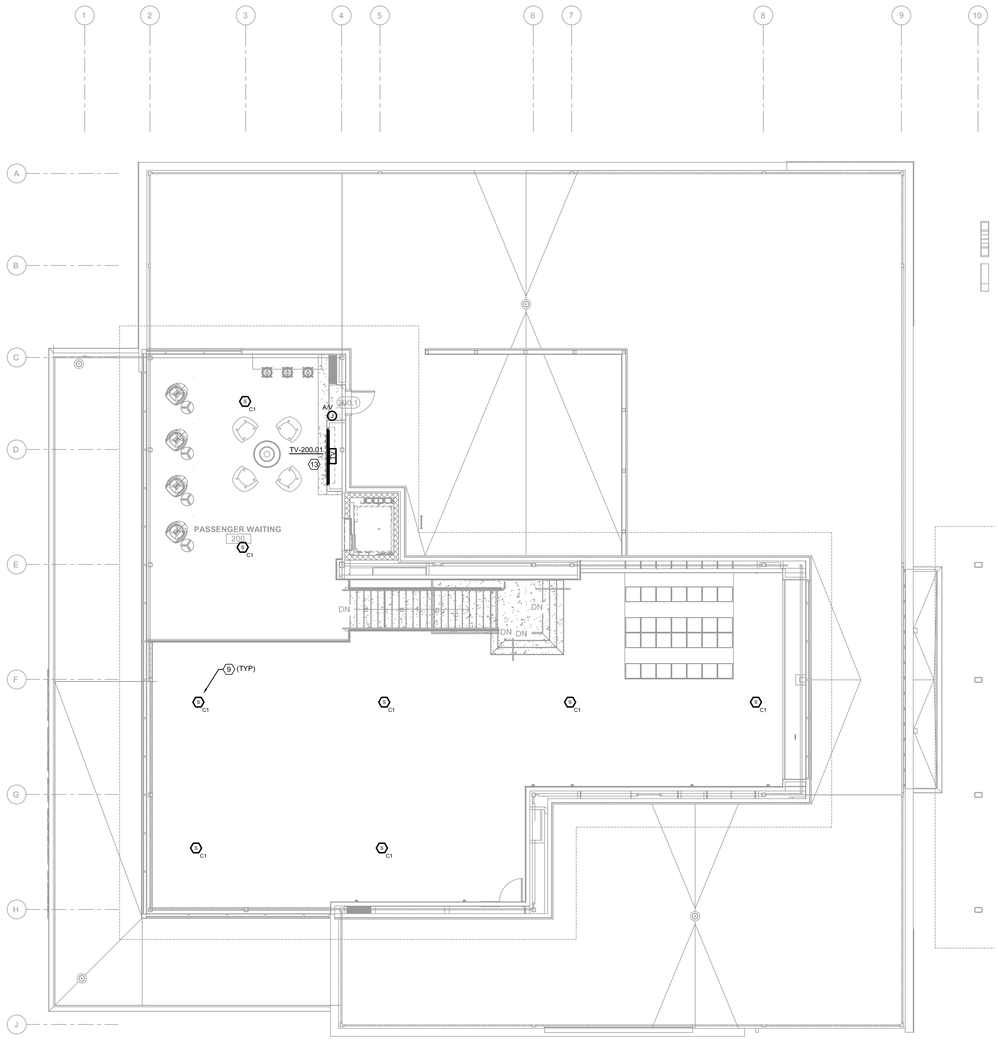
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SHEET 102 OF 102

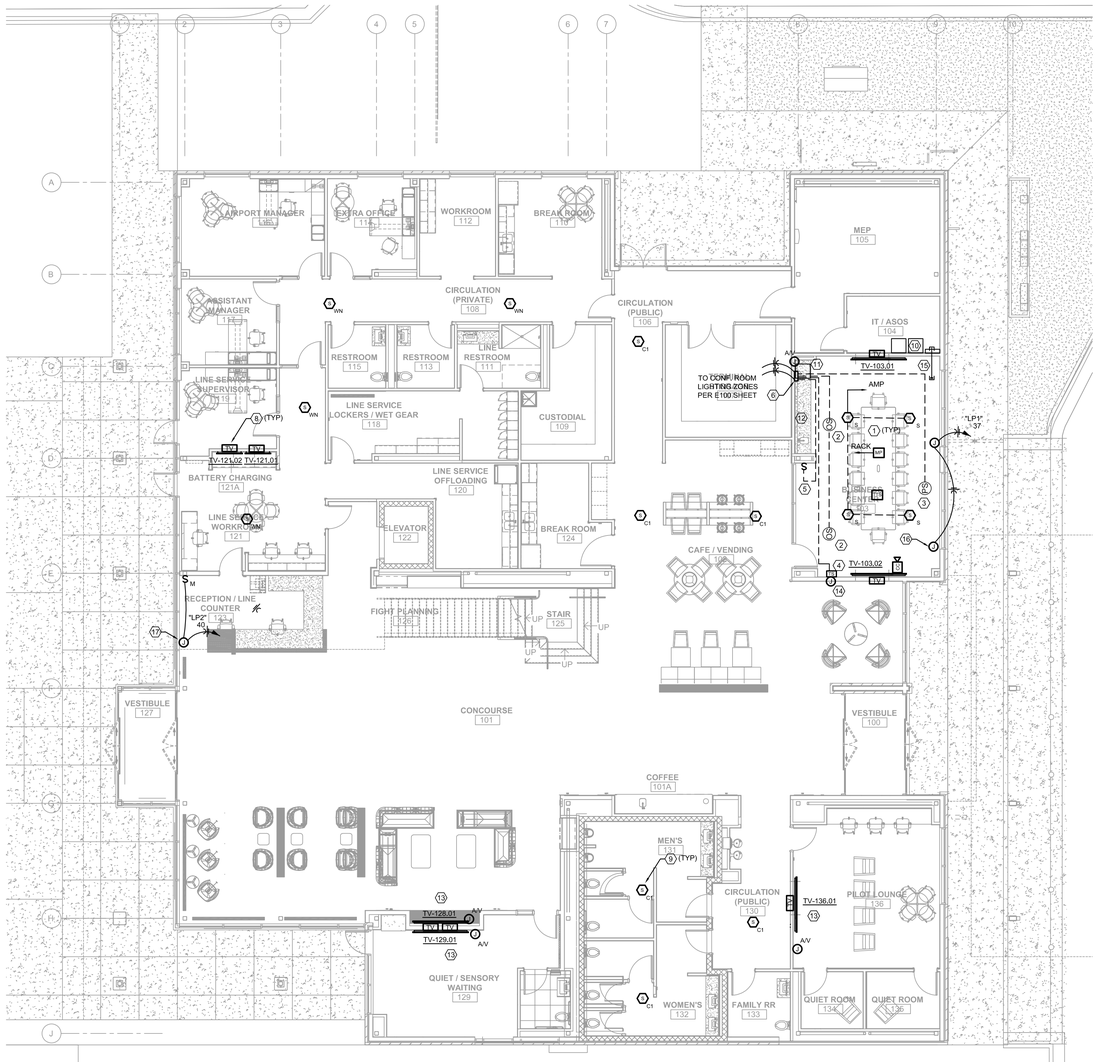
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PLAN NOTES: (#)

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 CAMEO KEYPAD AND DECORA FACEPLATE C2N-CBD-TS (CB6-BTN)
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 A/V 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 A/V RACK FOR CRESTRON AND INPUT DEVICES.
12. REFER TO A/V WALL ELEVATION FOR ROUGH-IN REQUIREMENTS (103)
13. REFER TO A/V WALL ELEVATION FOR ROUGH-IN REQUIREMENTS (TYPICAL STANDALONE TV)
14. PROVIDE CUSTOM BACKBOX AND 1" CONDUIT TO ABOVE ACCESSIBLE CEILING FOR CRESTRON 7" A/V 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"

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LEE'S SUMMIT, MISSOURI CITY PORJECT NO. - 17932172

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

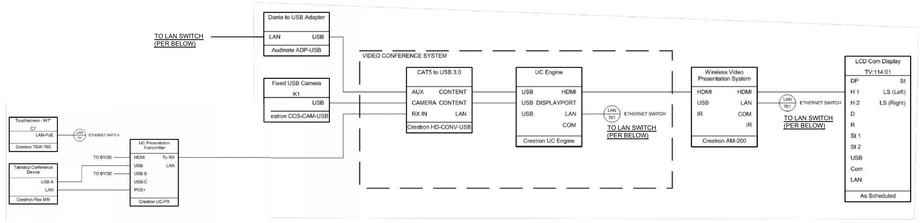
PROJECT NO:	2403
CAD DWG FILE:	Lee's Summit - Terminal MEP.rvt
DESIGNED BY:	CMW
DRAWN BY:	DM
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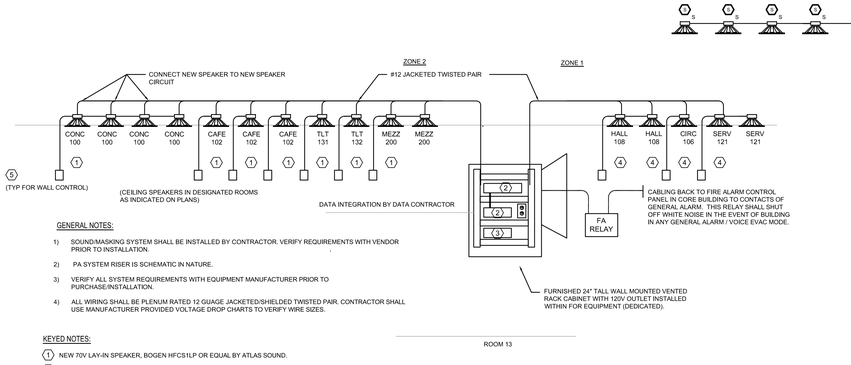
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AUDIO/VISUAL PLANS

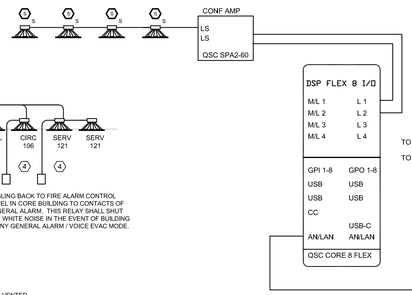
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SHEET 103 OF 102

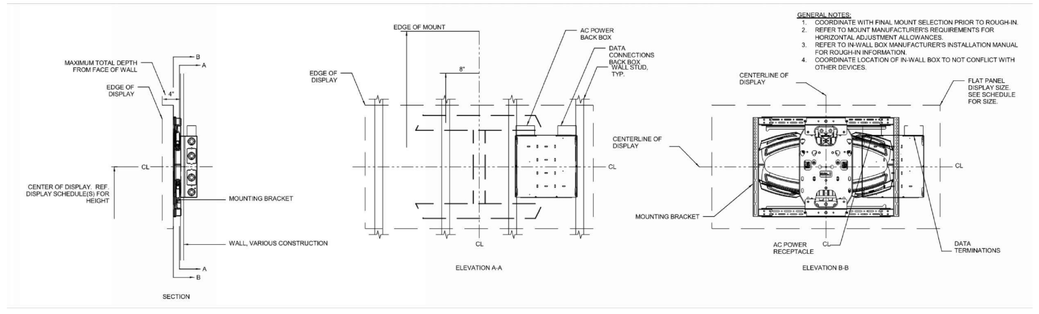




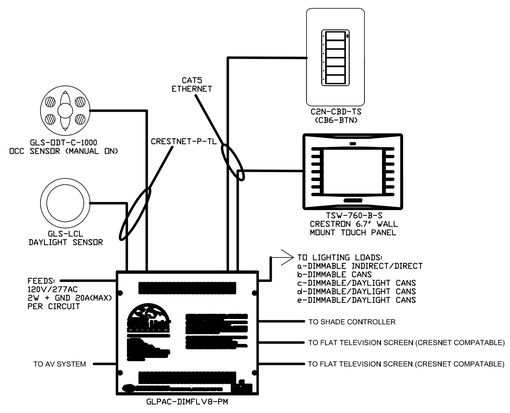
5 PA/WHITE NOISE SPEAKER DIAGRAM
SCALE: NTS



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



4 FLAT PANEL DISPLAY TYPICAL MOUNTING DETAIL
SCALE: NTS



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

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

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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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AUDIO/VISUAL DETAILS

AV400

SHEET 103 OF 102

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
Δ_{C1}	SP-C1	MUSAK SPEAKER	70V	ALL	BOGEN #: BOGEN HFCS1LP (BLACK UPPER, WHITE LOWER CEILINGS)	CEILING / FLUSH	T-BAR LAY-IN (CUT IN WOOD/GYP CEILINGS)	CONTRACTOR/CONTRACTOR	1 2 3
Δ_{WN}	SP-WN	WHITE NOISE SPEAKER	70V	OFFICE AREA	ATLAS SOUND #: M1000R-W (WHITE)	CEILING / FLUSH	T-BAR MOUNT	CONTRACTOR/CONTRACTOR	1 2 4
Δ_{S}	SP-S	CONF ROOM AUDIO SPEAKERS	70V	CONF ROOM	COMMUNITY #: D6-70V (15 WATT)	CEILING/FLUSH	CUT-IN	CONTRACTOR/CONTRACTOR	1 2

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 TAMB22PS.
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 CEILINGS)	CONTRACTOR/CONTRACTOR	1
CC	CC	VIDEO CONFERENCING CAMERA		CONF ROOM	CRESTRON #: CCS-CAM-USB	SHELF/TV		CONTRACTOR/CONTRACTOR	
	-	VIDEO CONFERENCING SYSTEM		CONF ROOM	CRESTRON #: CAT6 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 W7"		CONF ROOM	CRESTRON #: FLEX MM UC-MM30-R	WORK SURFACE TABLE		CONTRACTOR/CONTRACTOR	
AMP	AMP	CONF SPEAKER AMPLIFIER TYPE 60VM		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

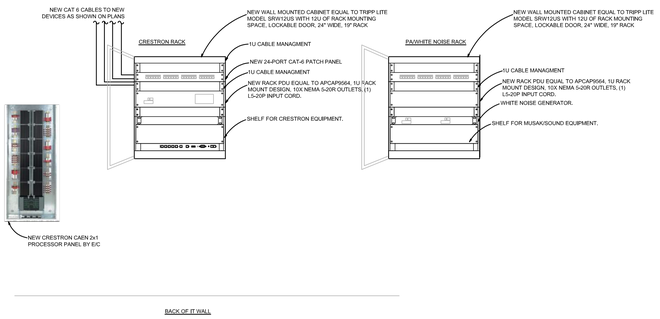
1. CABLING TO USB CONVERTER PER DIAGRAM
2.
3.

AUDIO/VISUAL FLAT PANEL DISPLAY SCHEDULE

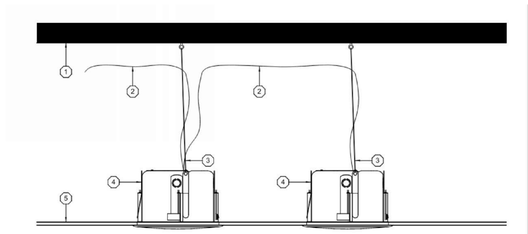
SYMBOL	ID	DESCRIPTION	SIZE	LOCATION	B.O.D. MANUFACTURER & MODEL No.	INSTALL HEIGHT AFF (CENTER OF DISPLAY)	TYPE	INSTALLED/PROVIDED BY:	ADDITIONAL NOTES
	TV-103:01	LCD COMM DISPLAY - 2160/75 (4K)	75"	CONFERENCE	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	1 2 3 4
	TV-103:02	LCD COMM DISPLAY - 2160/75 (4K)	75"	CONFERENCE	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	1 2 3 4
	TV-129:01	LCD COMM DISPLAY - 2160/75 (4K)	75"	QUIET/WAITING	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	1 2 4
	TV-136:01	LCD COMM DISPLAY - 2160/75 (4K)	75"	PILOT LOUNGE	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	1 2 4
	TV-101:01	LCD COMM DISPLAY - 2160/86 (4K)	86"	CONCOURSE	LG #: 86UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	1 2
	TV-121:01	LCD COMM DISPLAY - 2160/50 (4K)	50"	LINE SERVICE	LG #: 50UR340C	68"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	1 2
	TV-121:02	LCD COMM DISPLAY - 2160/50 (4K)	50"	LINE SERVICE	LG #: 50UR340C	68"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	1 2
	TV-200:01	LCD COMM DISPLAY - 2160/75 (4K)	75"	QUIET/WAITING	LG #: 75UR340C	75"	WALL - ARTICULATING	CONTRACTOR/CONTRACTOR	1 2 4

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 A/V RACK CABINET DETAILS
SCALE:



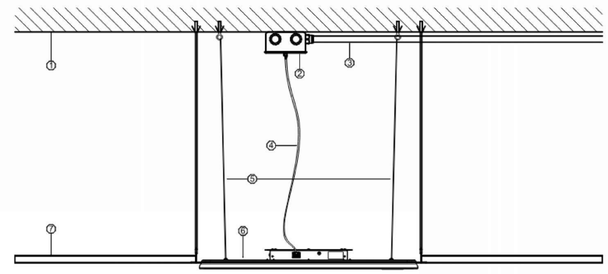
GENERAL NOTES:

1. DETAIL APPLIES TO LOCATIONS WHERE LOUDSPEAKERS ARE MOUNTED WITHIN ACCESSIBLE CEILING.
2. DETAIL SHOWN FOR CONCEPT ONLY. SHOP DRAWING REQUIRED SHOWING FINAL CONFIGURATION WITH APPROVED STRUCTURAL MOUNTING METHOD.
3. COMPLY WITH MANUFACTURER'S MOUNTING REQUIREMENTS AND INSTALL ALL SAFETY CABLES PER INSTRUCTIONS.
4. MOUNTING HEIGHT, SPACING, AND CABLE/CONDUIT LENGTH VARIES BY LOCATION. REFER TO PLANS AND SECTIONS.
5. LOCATE CONDUIT SUCH THAT WIRE MAY BE PULLED AFTER FINISHED CEILING IS IN PLACE.

KEYED NOTES:

1. STRUCTURE
2. CABLE PATHWAY AS SHOWN ON PLANS. ATTACH TO STRUCTURE.
3. SAFETY CABLE PER MANUFACTURER'S RECOMMENDED INSTALLATION PRACTICES.
4. CEILING LOUDSPEAKER MOUNTED WITHIN ACCESSIBLE CEILING. REFER TO DRAWINGS AND SPECS FOR ADDITIONAL INFORMATION.
5. FINISHED CEILING AS SCHEDULED.

4 CEILING LOUDSPEAKER MOUNTING DETAILS
SCALE: NTS



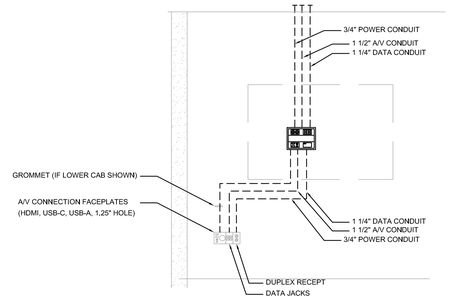
GENERAL NOTES:

1. DETAIL APPLIES TO LOCATIONS WHERE CEILING MICROPHONE ARRAYS ARE MOUNTED IN AN ACCESSIBLE CEILING.
2. DETAIL SHOWN FOR CONCEPT ONLY. SHOP DRAWING REQUIRED SHOWING FINAL CONFIGURATION WITH APPROVED STRUCTURAL MOUNTING METHOD.
3. COMPLY WITH MANUFACTURER'S MOUNTING REQUIREMENTS AND INSTALL ALL SAFETY CABLES PER INSTRUCTIONS.
4. MOUNTING HEIGHT, SPACING, AND CABLE/CONDUIT LENGTH VARIES BY LOCATION. REFER TO PLANS AND SECTIONS.

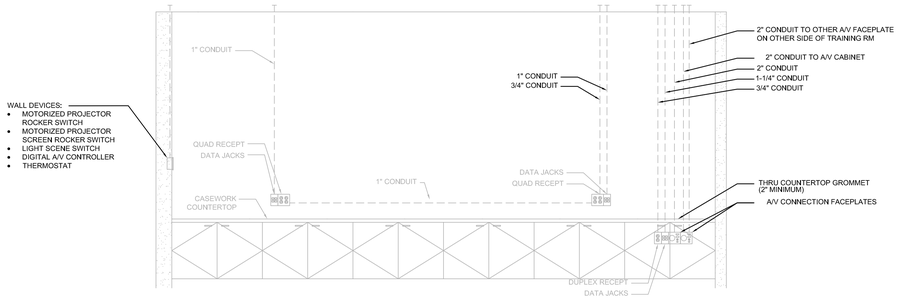
KEYED NOTES:

1. STRUCTURAL SLAB.
2. DATA CABLE, TERMINATION, AND PLATE PROVIDED BY STRUCTURED CABLING.
3. CABLE CONTAINMENT AS REQUIRED BY AHJ, PROVIDED BY EC.
4. PLENUM RATED PATCH CABLE PROVIDED BY AVC.
5. SAFETY CABLE SECURED AS PER MANUFACTURER INSTRUCTIONS PROVIDED BY AVC.
6. CEILING MICROPHONE ARRAY
7. CEILING AS SCHEDULED PROVIDED BY GC.

3 CEILING MICROPHONE ARRAY MOUNTING DETAIL
SCALE: NTS



2 A/V ROUGH-IN ELEVATION - TYPICAL REMOTE TV
SCALE: NTS



1 A/V ROUGH-IN ELEVATION - CONF ROOM 103
SCALE: NTS

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LEE'S SUMMIT, MISSOURI

GENERAL AVIATION TERMINAL
CITY PORJECT NO. - 17932172

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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SHEET TITLE

AUDIO/VISUAL DETAILS & SCHEDULES

AV500

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