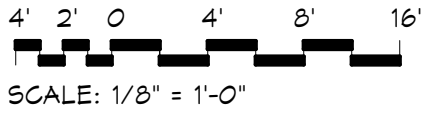


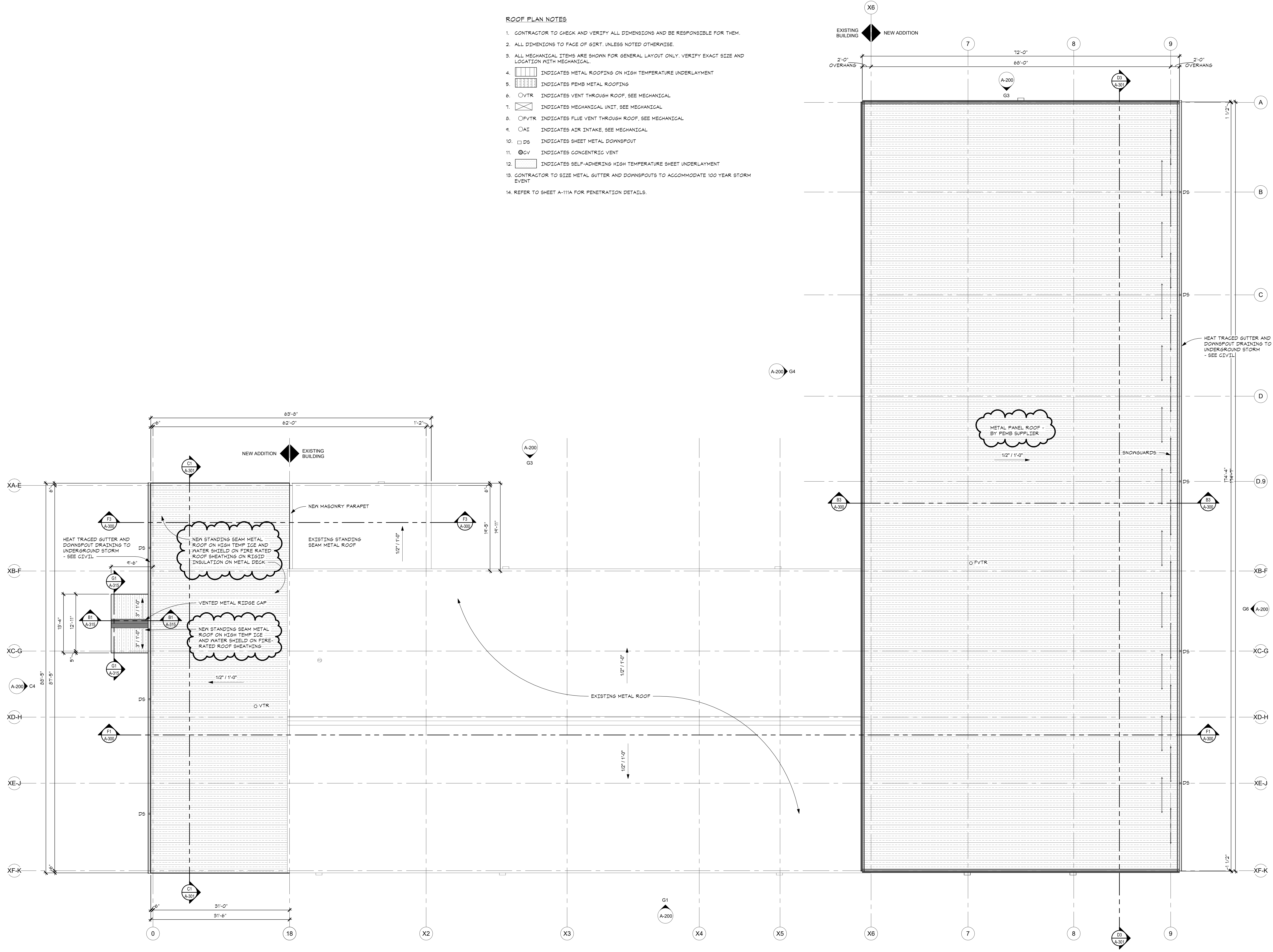
C:\Users\mblack\Documents\2319_ARCH-Clinton County
 Maintenance Facility Expansion - mblack\Z\W\Y.rvt
 1/23/2023 9:57:47 AM

NORTH
MEZZANINE PLAN
 SCALE - 1/8" = 1'-0"



ROOF PLAN NOTES

1. CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND BE RESPONSIBLE FOR THEM.
2. ALL DIMENSIONS TO FACE OF GIRT, UNLESS NOTED OTHERWISE.
3. ALL MECHANICAL ITEMS ARE SHOWN FOR GENERAL LAYOUT ONLY. VERIFY EXACT SIZE AND LOCATION WITH MECHANICAL.
4. [Hatched pattern] INDICATES METAL ROOFING ON HIGH TEMPERATURE UNDERLAYMENT
5. [Dotted pattern] INDICATES FEMB METAL ROOFING
6. ○VTR INDICATES VENT THROUGH ROOF, SEE MECHANICAL
7. [Cross-hatched pattern] INDICATES MECHANICAL UNIT, SEE MECHANICAL
8. ○PVTR INDICATES FLUE VENT THROUGH ROOF, SEE MECHANICAL
9. ○AI INDICATES AIR INTAKE, SEE MECHANICAL
10. □DS INDICATES SHEET METAL DOWNSPOUT
11. ○CV INDICATES CONCENTRIC VENT
12. [Stippled pattern] INDICATES SELF-ADHERING HIGH TEMPERATURE SHEET UNDERLAYMENT
13. CONTRACTOR TO SIZE METAL GUTTER AND DOWNSPOUTS TO ACCOMMODATE 100 YEAR STORM EVENT
14. REFER TO SHEET A-111A FOR PENETRATION DETAILS.



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ROOF PLAN

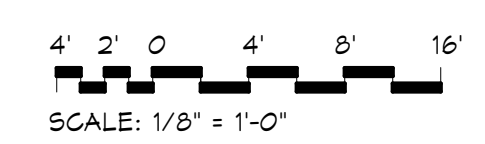
SHEET TITLE

23-319

PROJECT NUMBER

A-103

SHEET NUMBER



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 MAINTENANCE FACILITY EXPANSION_malki\Z\WV.rvt
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FLOOR PLAN NOTES

1. CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS AND PROMPTLY NOTIFY ARCHITECTURE OF ANY DISCREPANCIES.
2. FINISH FLOOR ELEVATION OF 100'-0" AT FIRST FLOOR. SEE CIVIL FOR USGS OR NAVD88 ELEVATION.
3. ALL EXTERIOR SLABS TO SLOPE AWAY FROM BUILDING. SEE CIVIL.
4. WHERE FLOOR DRAINS OCCUR, SLOPE FLOOR TO DRAIN.
5. WINDOWS DESIGNATED AS W1 OR W2 ARE CLERESTORY WINDOWS. SEE EXTERIOR ELEVATIONS FOR HEIGHTS.
6. DIMENSIONS READ FROM FACE OF OUTSIDE FACE OF PEMB METAL GIRT, FACE OF CMU, FINISH FACE OF STUD PARTITIONS, AND/OR PEMB RIGID FRAME CENTERLINE UNLESS NOTED OTHERWISE.
7. REFER TO SHEET A-110 FOR EQUIPMENT AND SIGNAGE SCHEDULES.
8. PROVIDE FOR FUTURE EXPANSION AT GRID LINE XF-K BETWEEN X6 AND 8. GIRTS, METAL SIDING, AND WIND COLUMNS TO BE REMOVED FOR FUTURE ADDITION. THE CONCRETE FOUNDATION AT THAT WALL WILL BE NO HIGHER THAN 8' BELOW FINISH LEVEL; SEE STRUCTURAL AND WALL SECTIONS.
9. SEE SHEET A-110 FOR SIGNAGE TYPES, DETAILS, AND SCHEDULE.

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COMPOSITE
 PLANS -
 ALTERNATE

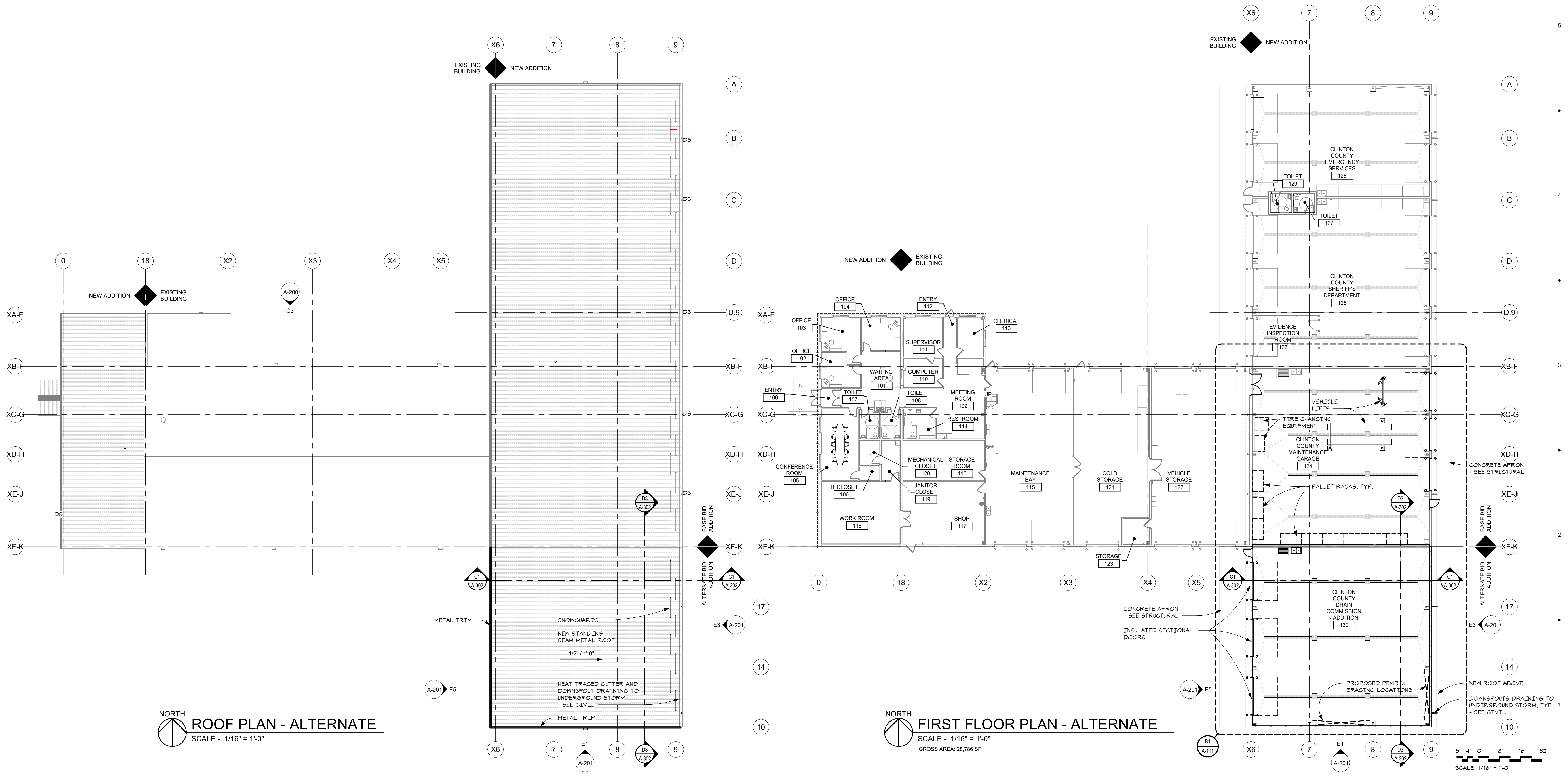
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23-319

PROJECT NUMBER

A-104

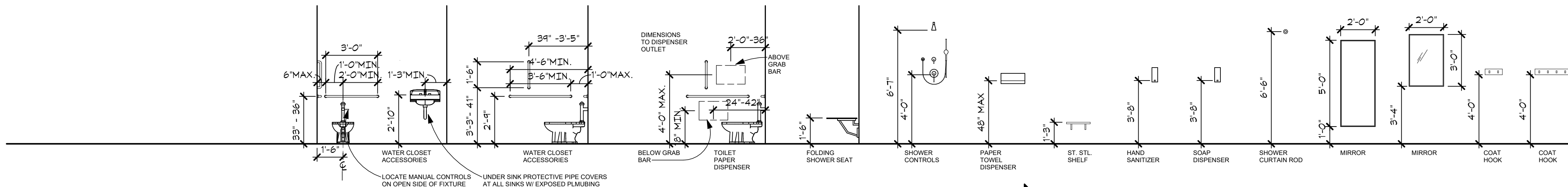
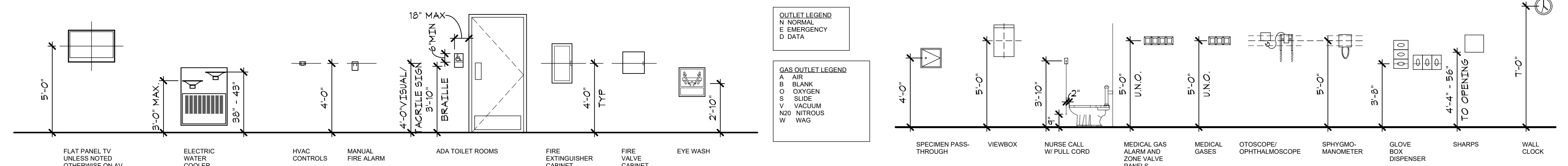
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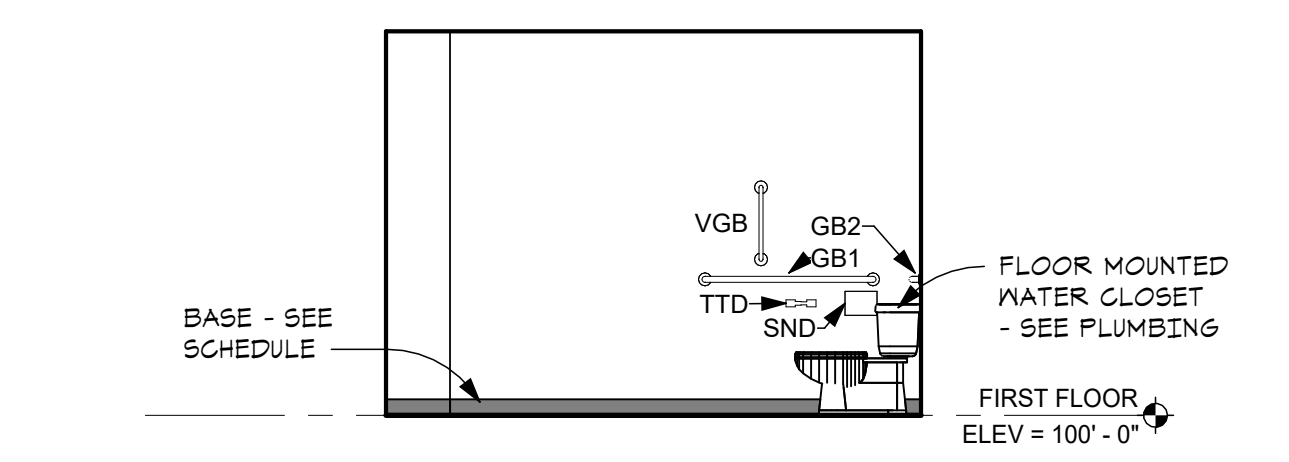
SIGNAGE SCHEDULE			
MARK	ROOM NAME	ROOM NUMBER	QUANTITY
A - UNISEX			
07	TOILET	107	1
08	TOILET	108	1
27	TOILET	127	1
24	TOILET	124	1
B - ROOM			
02	OFFICE	102	1
03	OFFICE	103	1
04	OFFICE	104	1
05	CONFERENCE ROOM	105	1
06	IT CLOSET	106	1
09	MEETING ROOM	109	1
10	COMPUTER	110	2
11	SUPERVISOR	111	1
13	CLERICAL	113	1
14	MENS	114	1
15	MAINTENANCE BAY	115	2
16	STORAGE ROOM	116	1
17	SHOP	117	1
18	WORK ROOM	118	1
19	JANITOR'S CLOSET	119	1
20	MECHANICAL CLOSET	120	1
21	COLD STORAGE	121	2
22	VEHICLE STORAGE	122	2
23	STORAGE	123	1
24	CLINTON COUNTY DRAIN COMMISSION	124	1
26	EVIDENCE INSPECTION ROOM	126	1
C - EXIT			
01	WAITING AREA	101	1
12	ENTRY	112	1
17.1	SHOP	117	1
21.1	COLD STORAGE	121	1
24.1	CLINTON COUNTY DRAIN COMMISSION	124	1
25	CLINTON COUNTY SHERIFFS DEPARTMENT	125	1
28	CLINTON COUNTY EMERGENCY SERVICES	128	1
GRAND TOTAL : 36			

REMARKS:
 1. SEE FLOOR PLANS ON A-101 AND A-110 FOR SIGNAGE LOCATIONS.
 2. SEE SIGNAGE TYPES BELOW ON THIS SHEET.



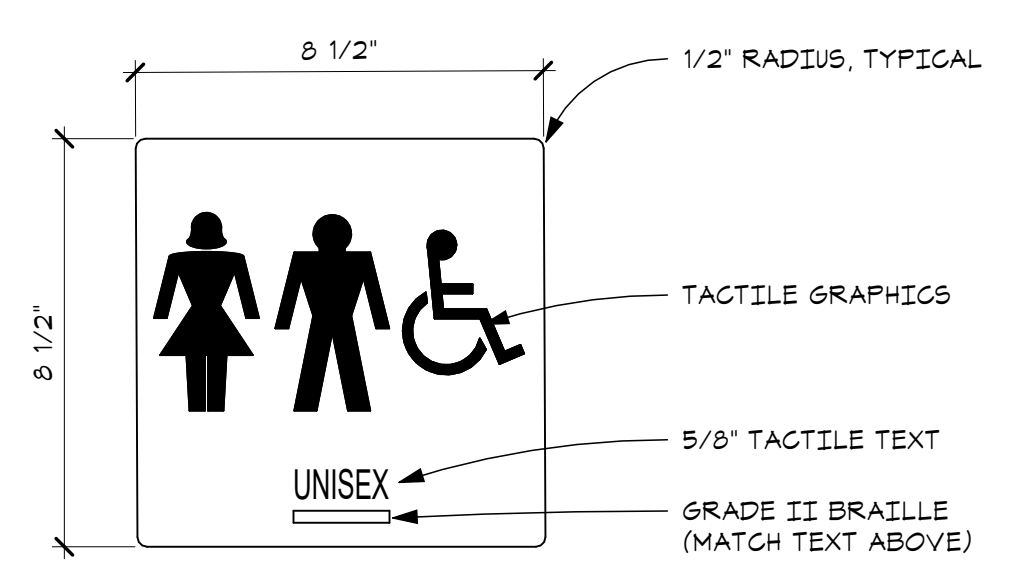
G5 ADMIN TOILET - PLUMBING WALL
 A-110 A-110 SCALE - 1/4" = 1'-0"

E5 BATHROOM - FIXTURE WALL
 A-110 A-110 SCALE - 1/4" = 1'-0"



G4 ADMIN TOILET - GRAB BAR WALL
 A-110 A-110 SCALE - 1/4" = 1'-0"

E4 BATHROOM - GRAB BAR WALL
 A-110 A-110 SCALE - 1/4" = 1'-0"



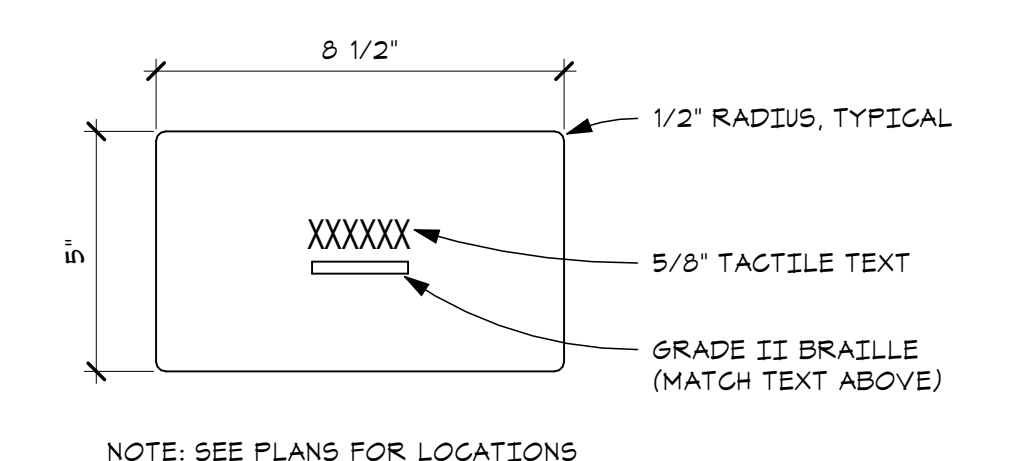
NOTE: MOUNT BOTTOM OF SIGN AT 4'-8" A.F.F.

J3 SIGN TYPE A
 A-110 SCALE - 3" = 1'-0"



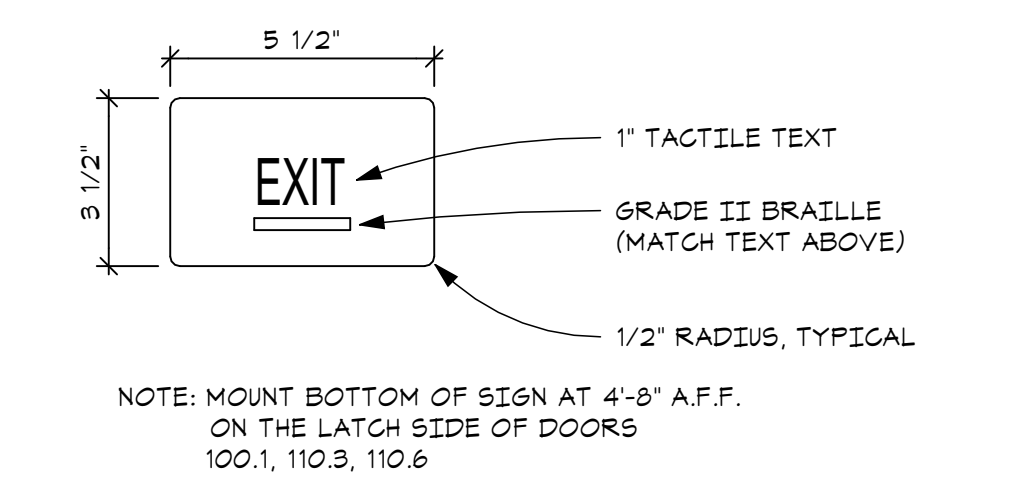
G3 ADMIN TOILET - DOOR WALL
 A-110 A-110 SCALE - 1/4" = 1'-0"

E3 BATHROOM - DOOR WALL
 A-110 A-110 SCALE - 1/4" = 1'-0"



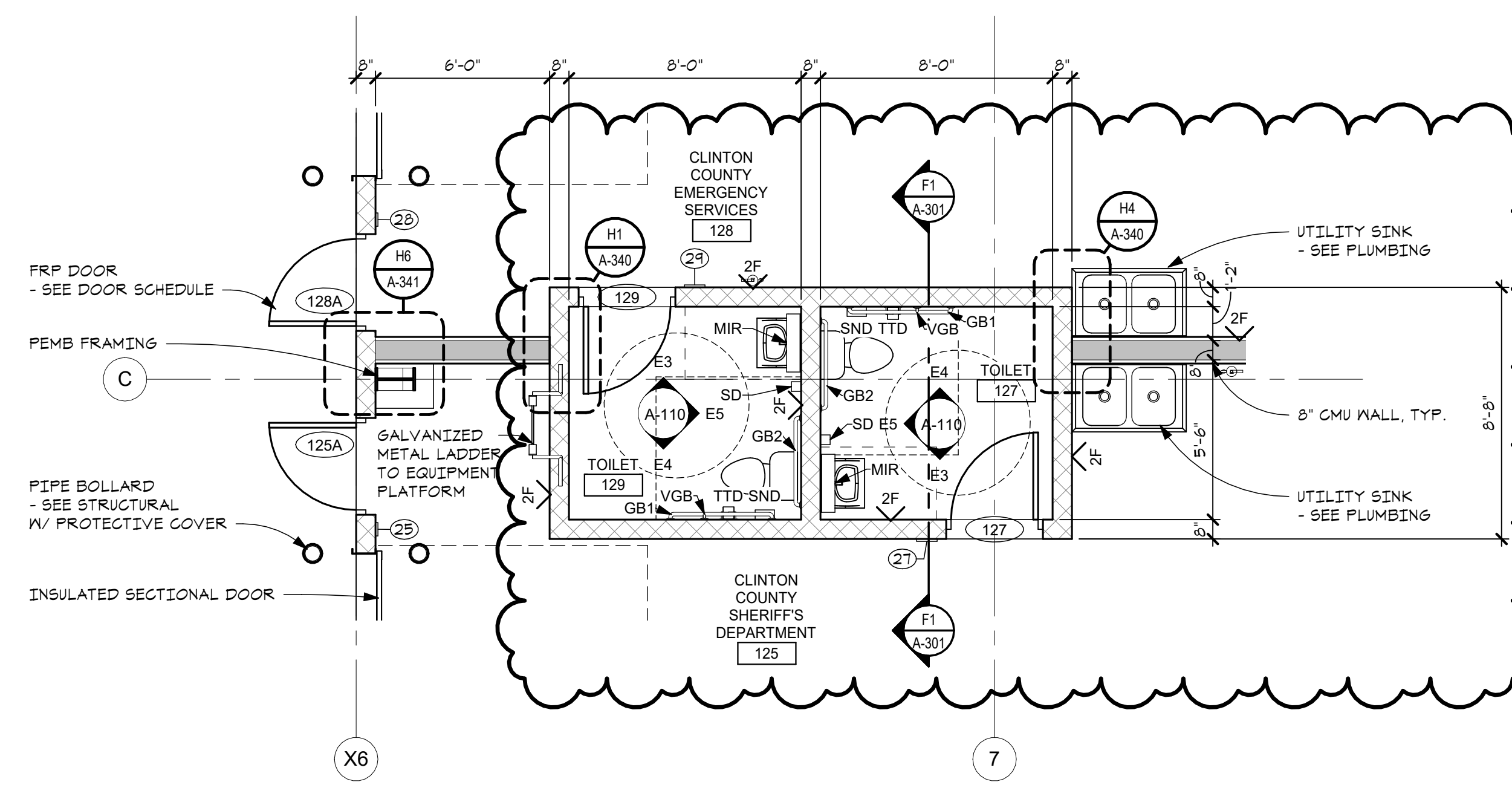
NOTE: SEE PLANS FOR LOCATIONS

J2 SIGN TYPE B
 A-110 SCALE - 3" = 1'-0"

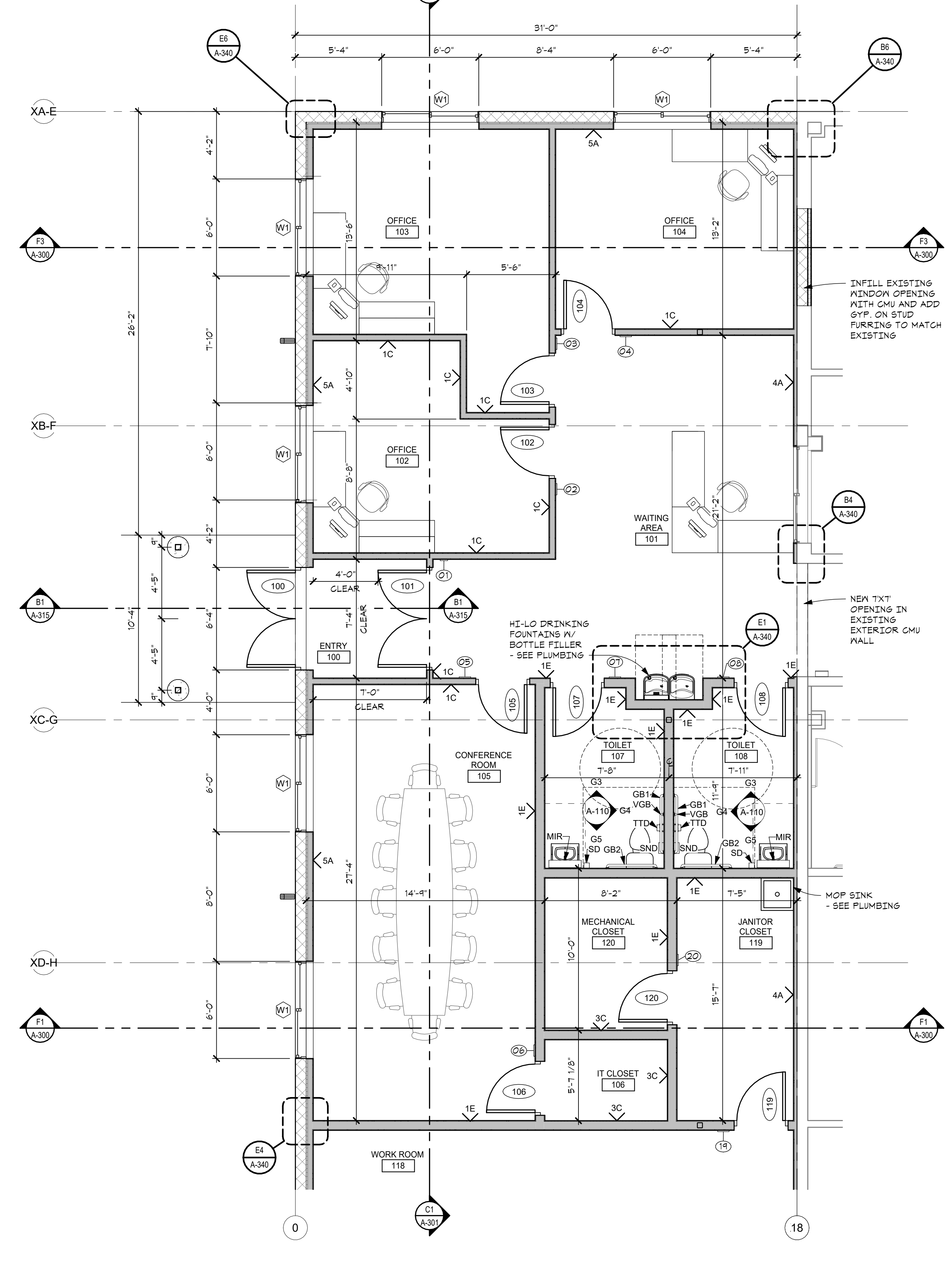


NOTE: MOUNT BOTTOM OF SIGN AT 4'-8" A.F.F. ON THE LATCH SIDE OF DOORS 100.1, 110.3, 110.6

J1 SIGN TYPE C
 A-110 SCALE - 3" = 1'-0"



F1 ENLARGED GARAGE BATHROOMS
 A-110 A-110 SCALE - 1/4" = 1'-0"



B1 ENLARGED ADMIN ADDITION
 A-110 A-110 SCALE - 1/4" = 1'-0"

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ENLARGED FLOOR PLANS

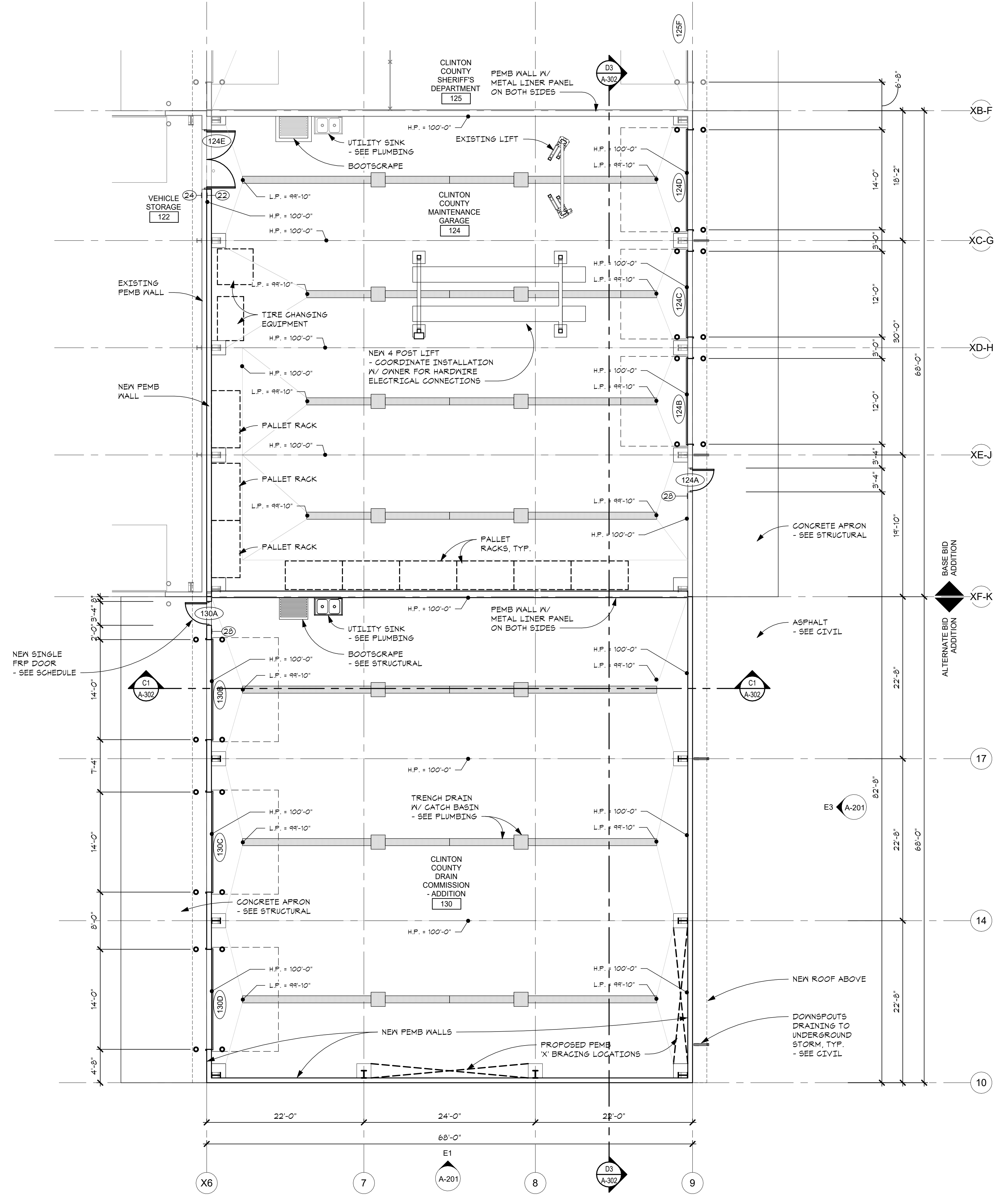
SHEET TITLE

23-319

PROJECT NUMBER

A-110

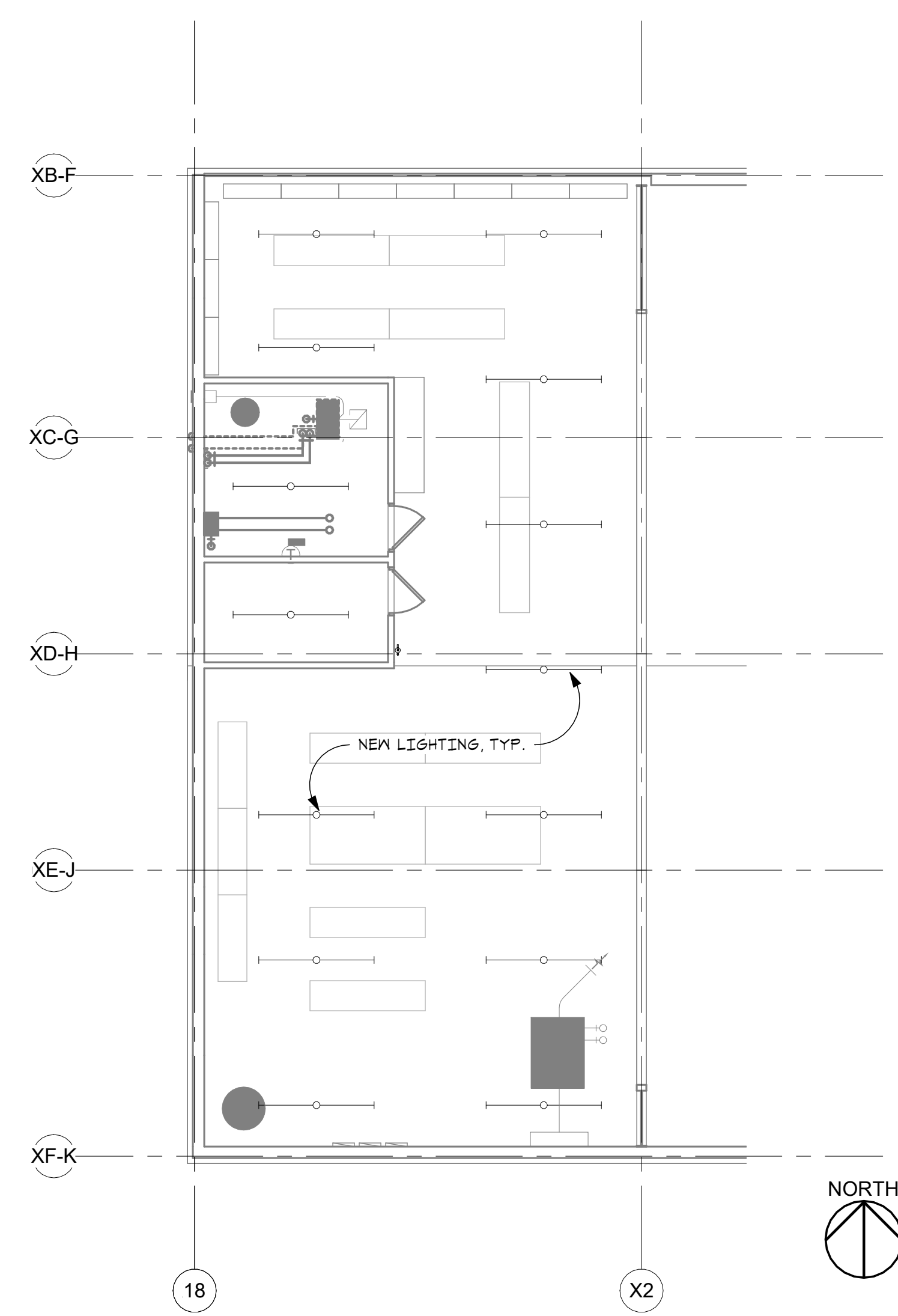
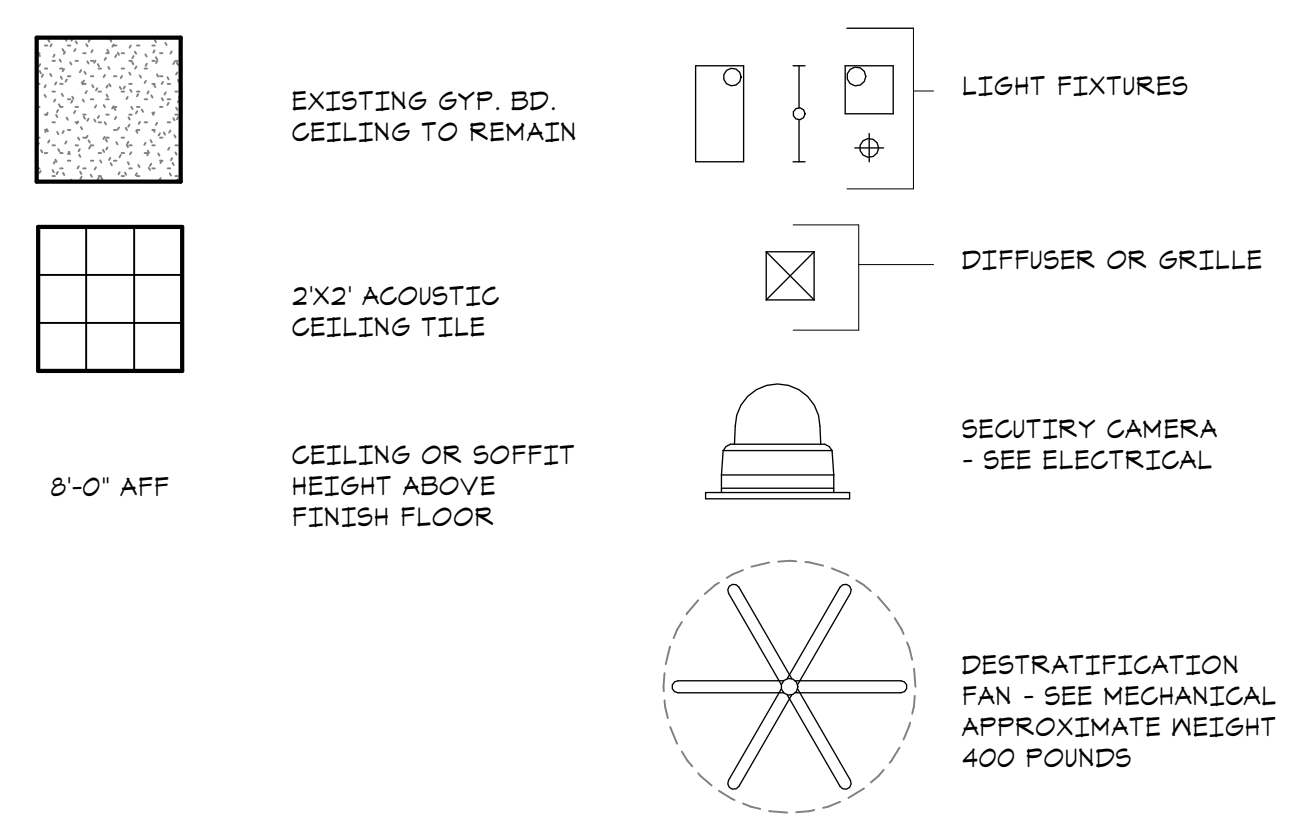
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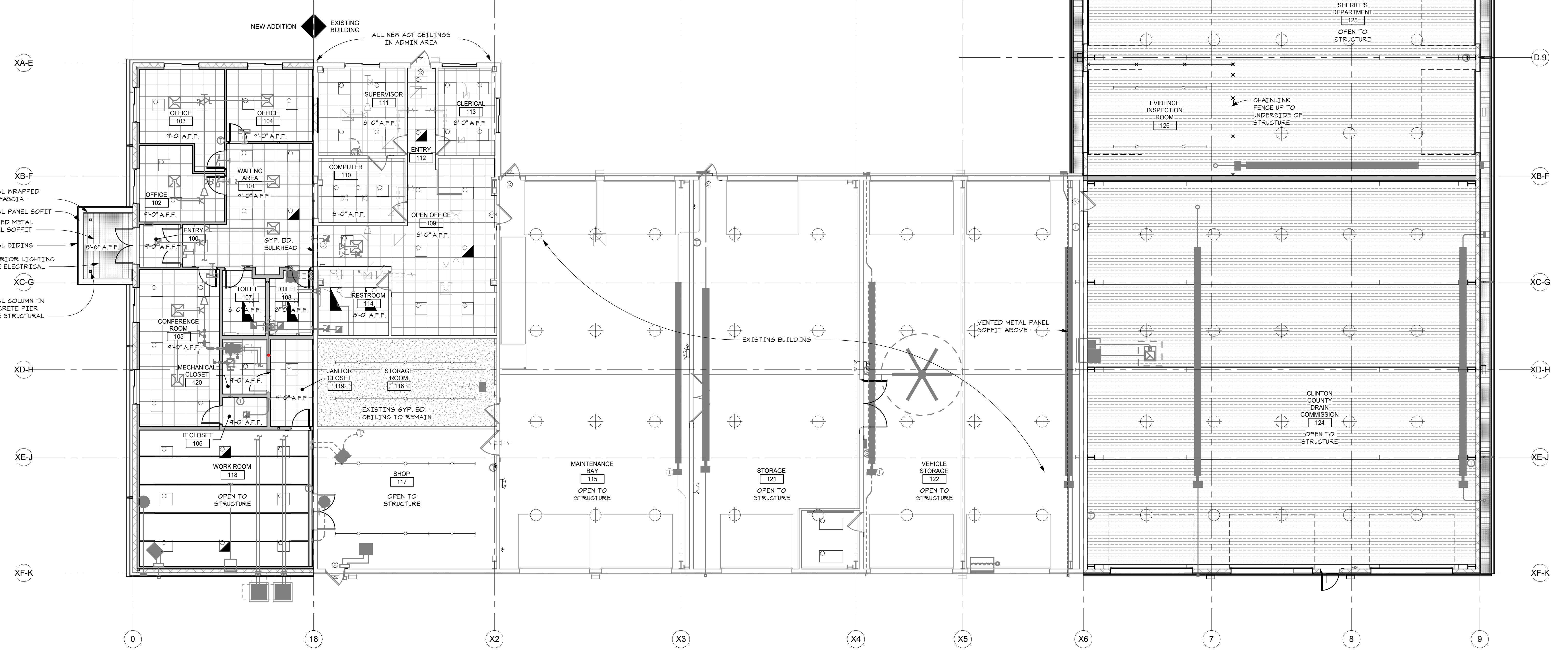
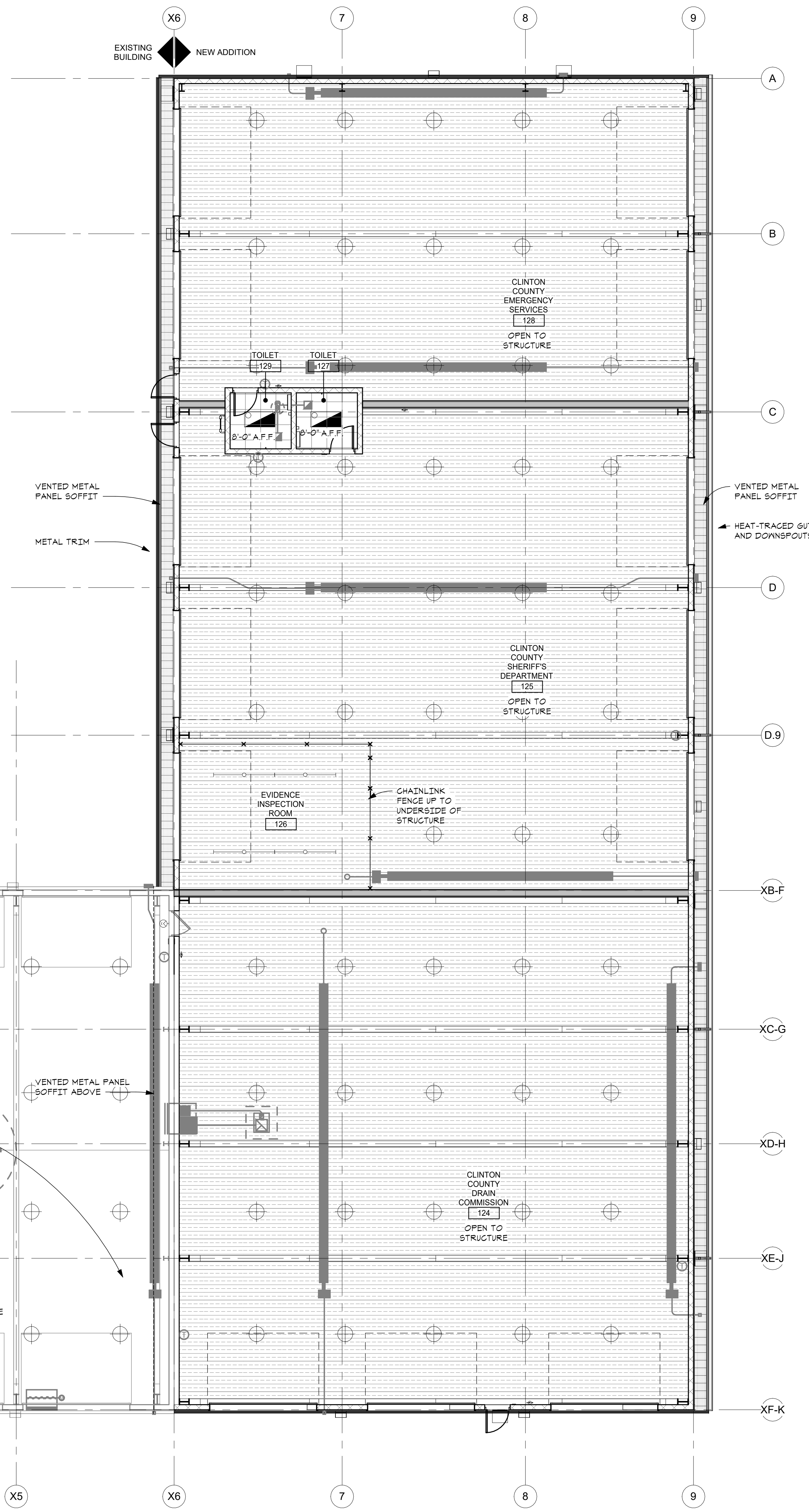
**ENLARGED FLOOR PLAN -
 ALTERNATE**
 SCALE = 1/8" = 1'-0"

REFLECTED CEILING LEGEND:

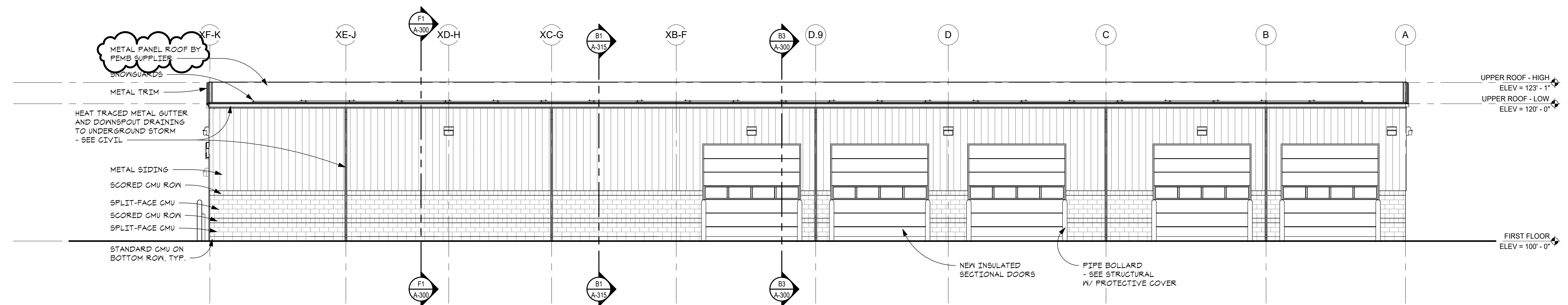
- SEE PLAN FOR CEILING HEIGHTS
- REFER TO ELECTRICAL / MECHANICAL FOR FIXTURE AND EQUIPMENT



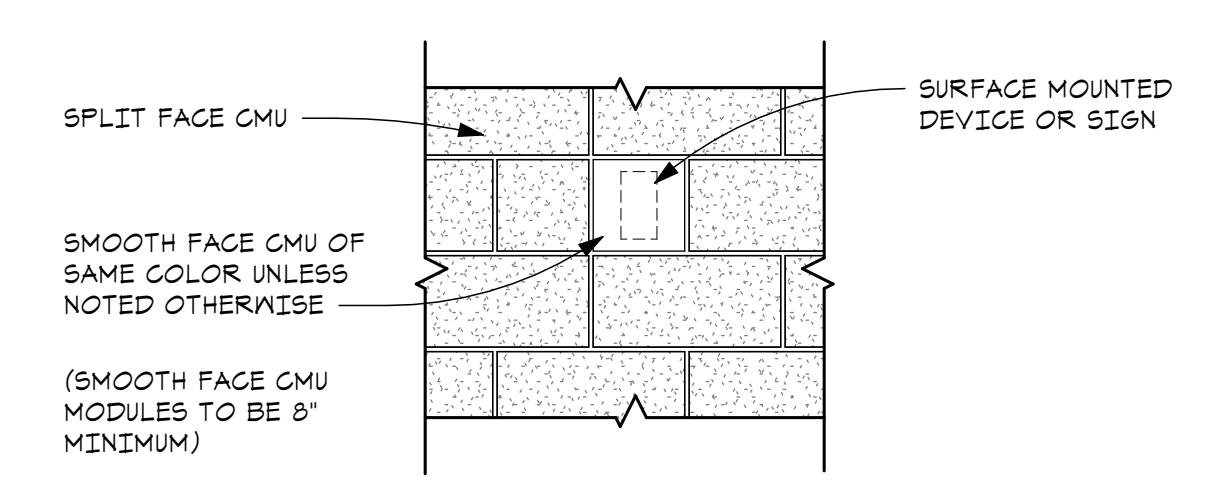
NORTH
MEZZANINE REFLECTED CEILING PLAN
 SCALE - 1/8" = 1'-0"



NORTH
FIRST FLOOR REFLECTED CEILING PLAN
 SCALE - 1/8" = 1'-0"

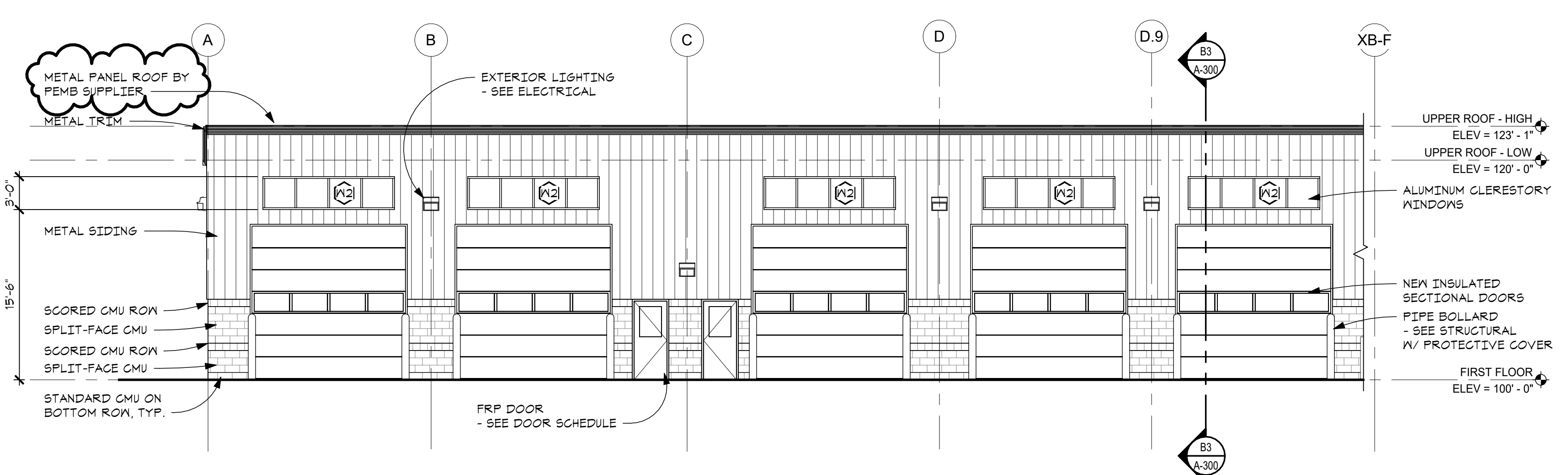


G6 EAST ELEVATION
 A-200 A-101 SCALE - 1/8" = 1'-0"

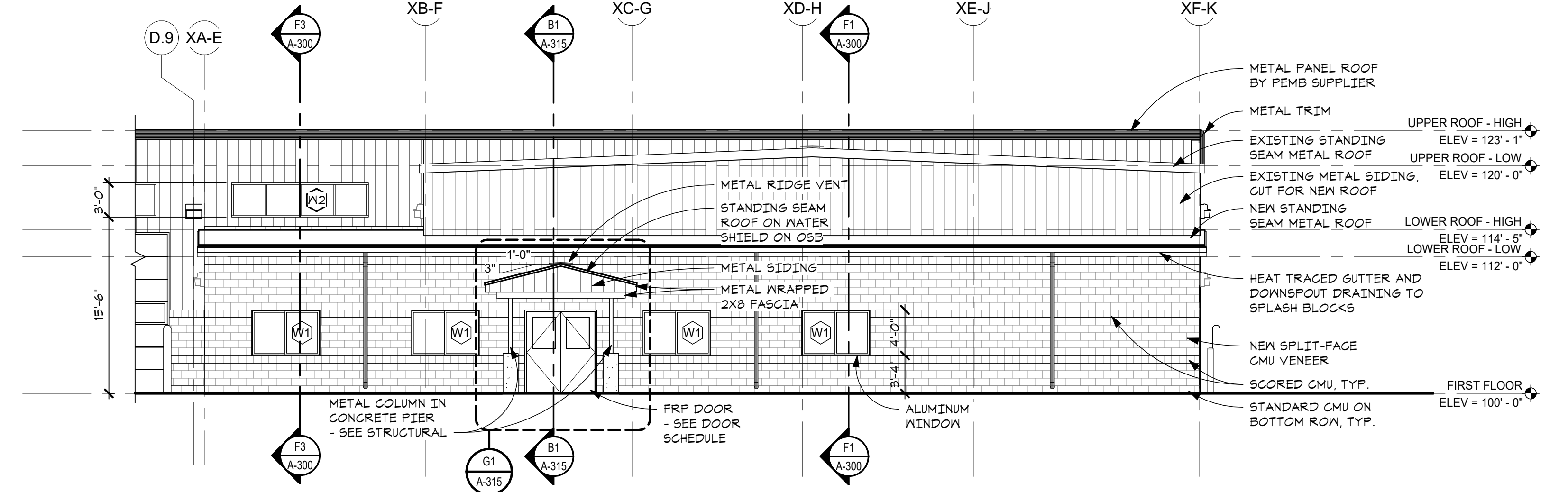


A7 MASONRY COURSING DETAIL
 A-200 SCALE - 3/4" = 1'-0"

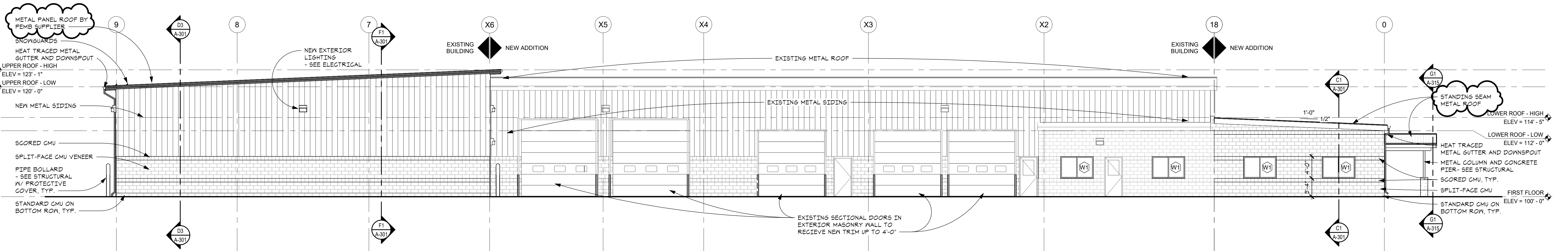
NOTE:
 1. AT ALL SURFACE APPLIED ACCESSORIES (SIGNAGE, PLUMBING FIXTURES, OUTLETS, DISCONNECTS, LIGHTS, ETC.) PROVIDE SMOOTH FACE CMU. SEE DETAIL ABOVE.
 2. PROVIDE SMOOTH FACE CMU AT BOTTOM COURSE.
 3. PROVIDE SCORED CMU TOP COURSE.



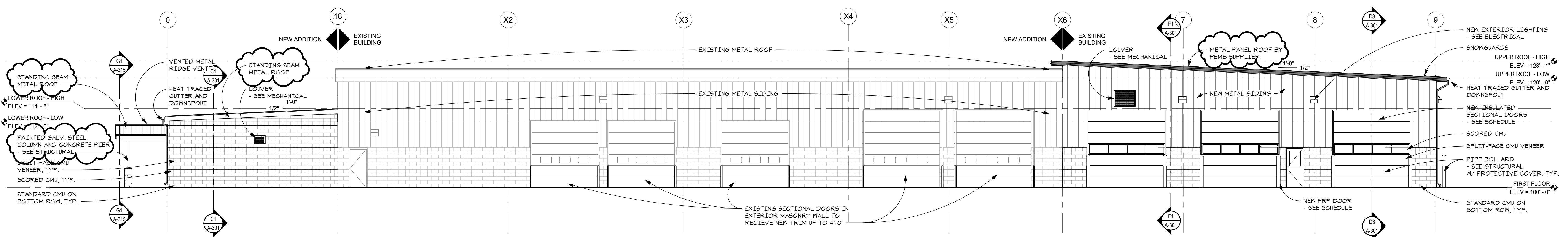
G4 WEST ELEVATION - GARAGE
 A-200 A-101 SCALE - 1/8" = 1'-0"



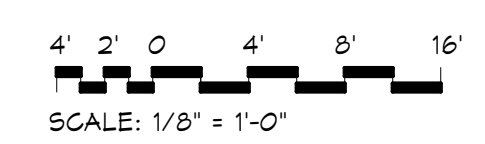
C4 WEST ELEVATION - ADMIN
 A-200 A-101 SCALE - 1/8" = 1'-0"



G3 NORTH ELEVATION
 A-200 A-101 SCALE - 1/8" = 1'-0"



G1 SOUTH ELEVATION
 A-200 A-101 SCALE - 1/8" = 1'-0"



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EXTERIOR ELEVATIONS

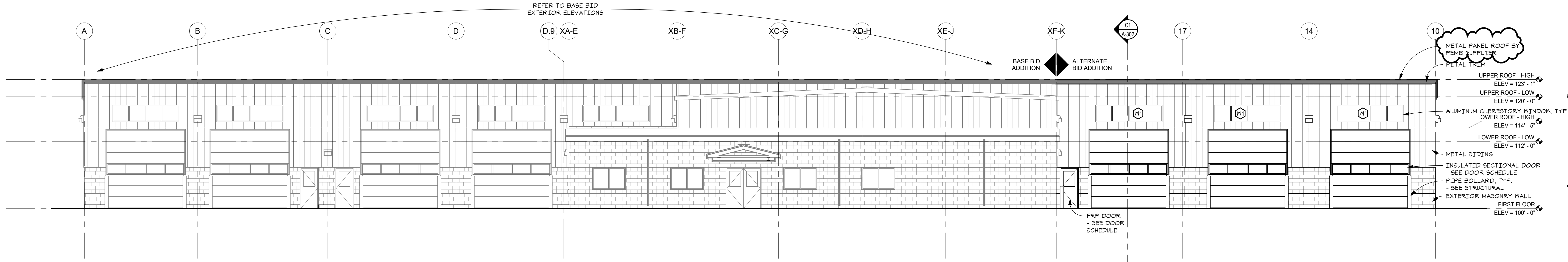
SHEET TITLE

23-319

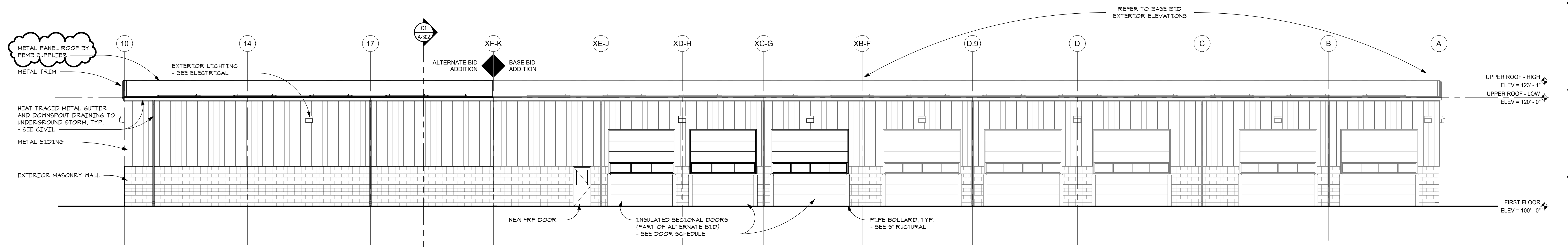
PROJECT NUMBER

A-200

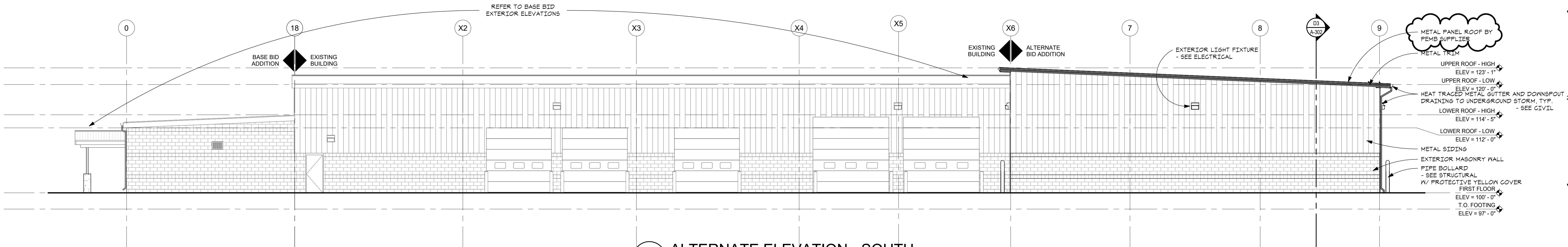
SHEET NUMBER



E5 ALTERNATE ELEVATION - WEST
 A-201 A-104 SCALE - 1/8" = 1'-0"



E3 ALTERNATE ELEVATION - EAST
 A-201 A-104 SCALE - 1/8" = 1'-0"



E1 ALTERNATE ELEVATION - SOUTH
 A-201 A-104 SCALE - 1/8" = 1'-0"

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EXTERIOR ELEVATIONS - ALTERNATE

SHEET TITLE

23-319

PROJECT NUMBER

A-201

SHEET NUMBER

- GENERAL NOTES**
1. PROVIDE ADDITIONAL FRAMING FOR THE ATTACHMENT OF OVERHEAD DOOR TRACK, COUNTERBALANCE SPRINGS, OPENER AS REQUIRED, AND ANY MISCELLANEOUS EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION.
 2. TOP AND BOTTOM ROW ON SPLIT-FACE CMU VENEER TO BE FLIPPED TO BE STANDARD FLAT-FACE CMU OF THE SAME COLOR.
 3. SPLIT-FACE CMU TO BE STANDARD FLAT-FACE CMU AT ALL WALL MOUNTED EQUIPMENT AND FEATURE LOCATIONS.

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BUILDING
 SECTIONS

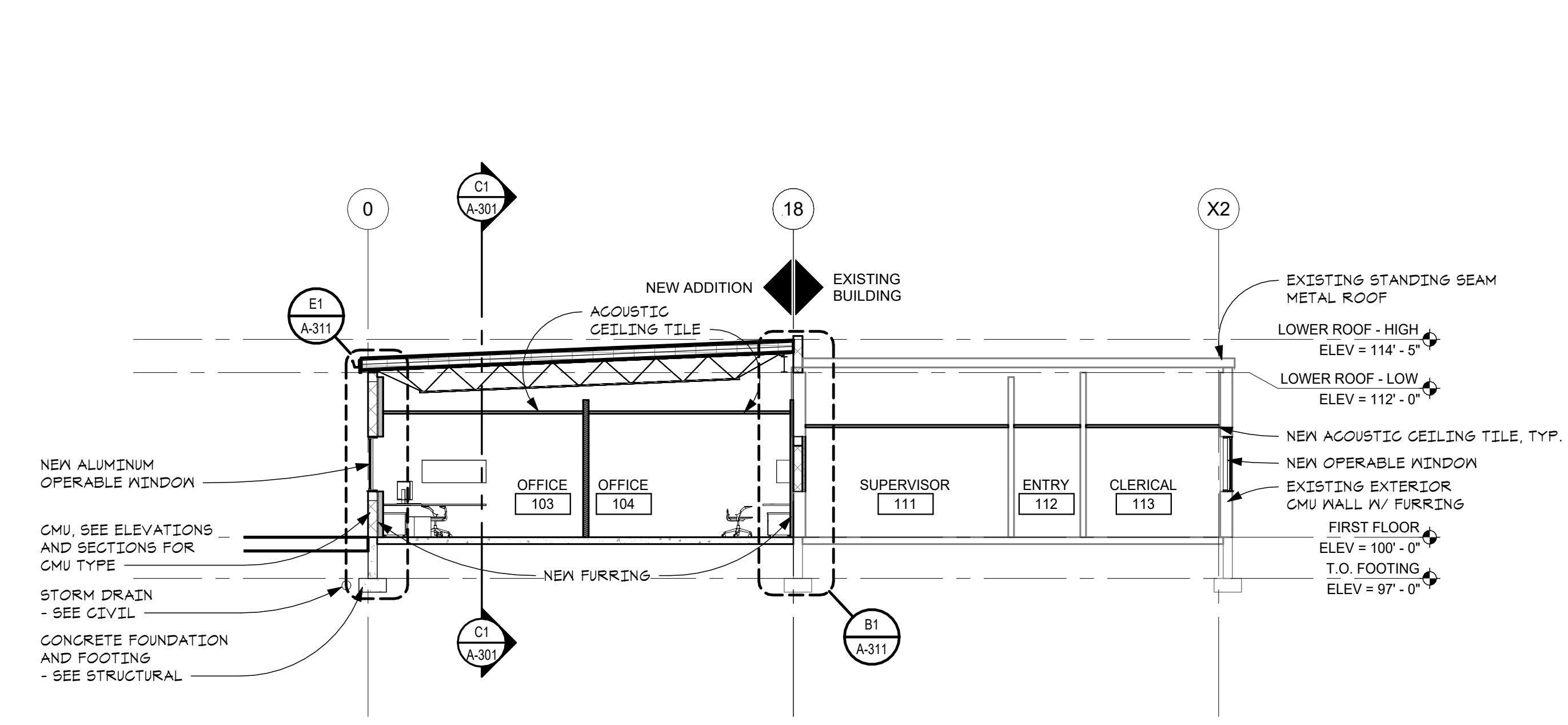
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23-319

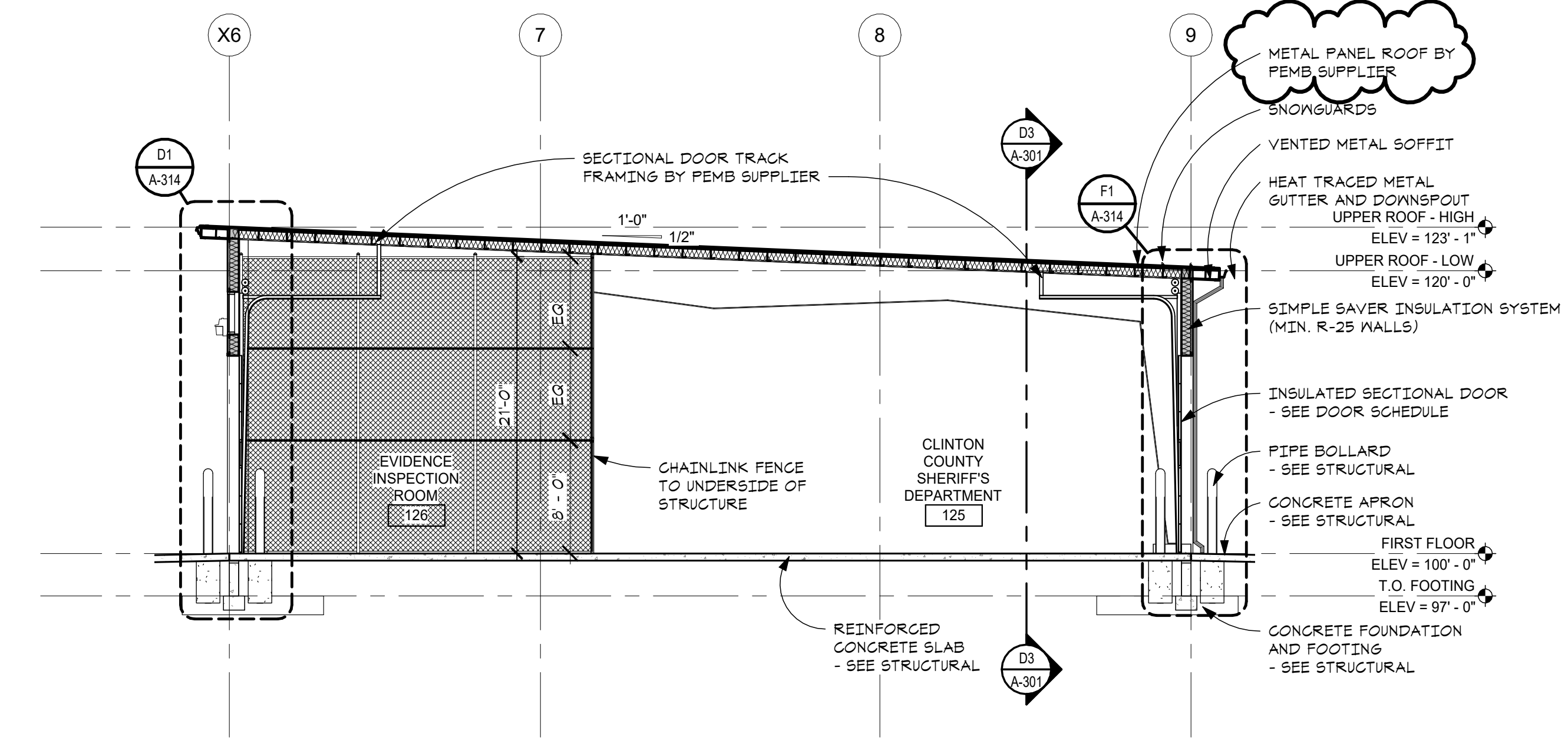
PROJECT NUMBER

A-300

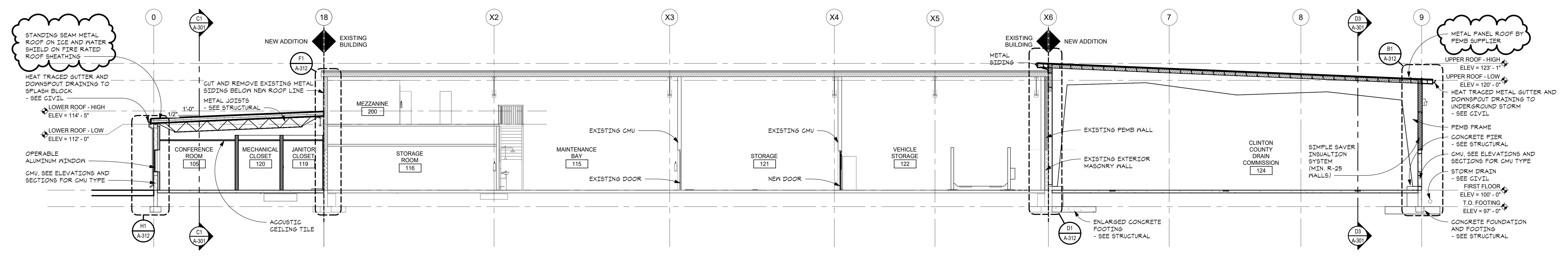
SHEET NUMBER



F3 BUILDING SECTION
 A-300/A-101 SCALE - 1/8" = 1'-0"



B3 BUILDING SECTION
 A-300/A-101 SCALE - 1/8" = 1'-0"



F1 BUILDING SECTION
 A-300/A-101 SCALE - 1/8" = 1'-0"

- GENERAL NOTES**
1. PROVIDE ADDITIONAL FRAMING FOR THE ATTACHMENT OF OVERHEAD DOOR TRACK, COUNTERBALANCE SPRINGS, OPENER AS REQUIRED, AND ANY MISCELLANEOUS EQUIPMENT REQUIRED FOR A COMPLETE INSTALLATION.
 2. TOP AND BOTTOM ROW ON SPLIT-FACE CMU VENEER TO BE FLIPPED TO BE STANDARD FLAT-FACE CMU OF THE SAME COLOR.
 3. SPLIT-FACE CMU TO BE STANDARD FLAT-FACE CMU AT ALL WALL MOUNTED EQUIPMENT AND FEATURE LOCATIONS.

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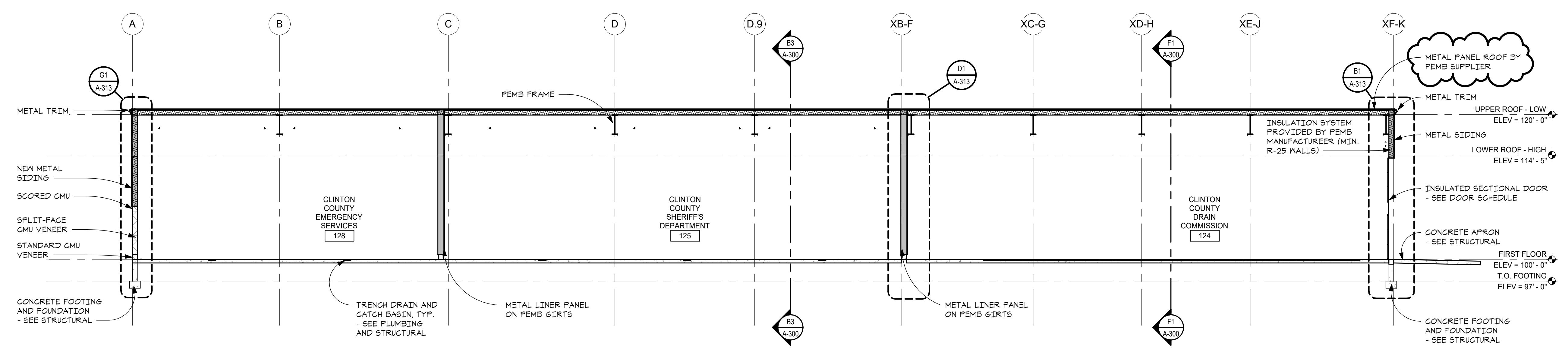
CONSULTANT

BUILDING
 SECTIONS

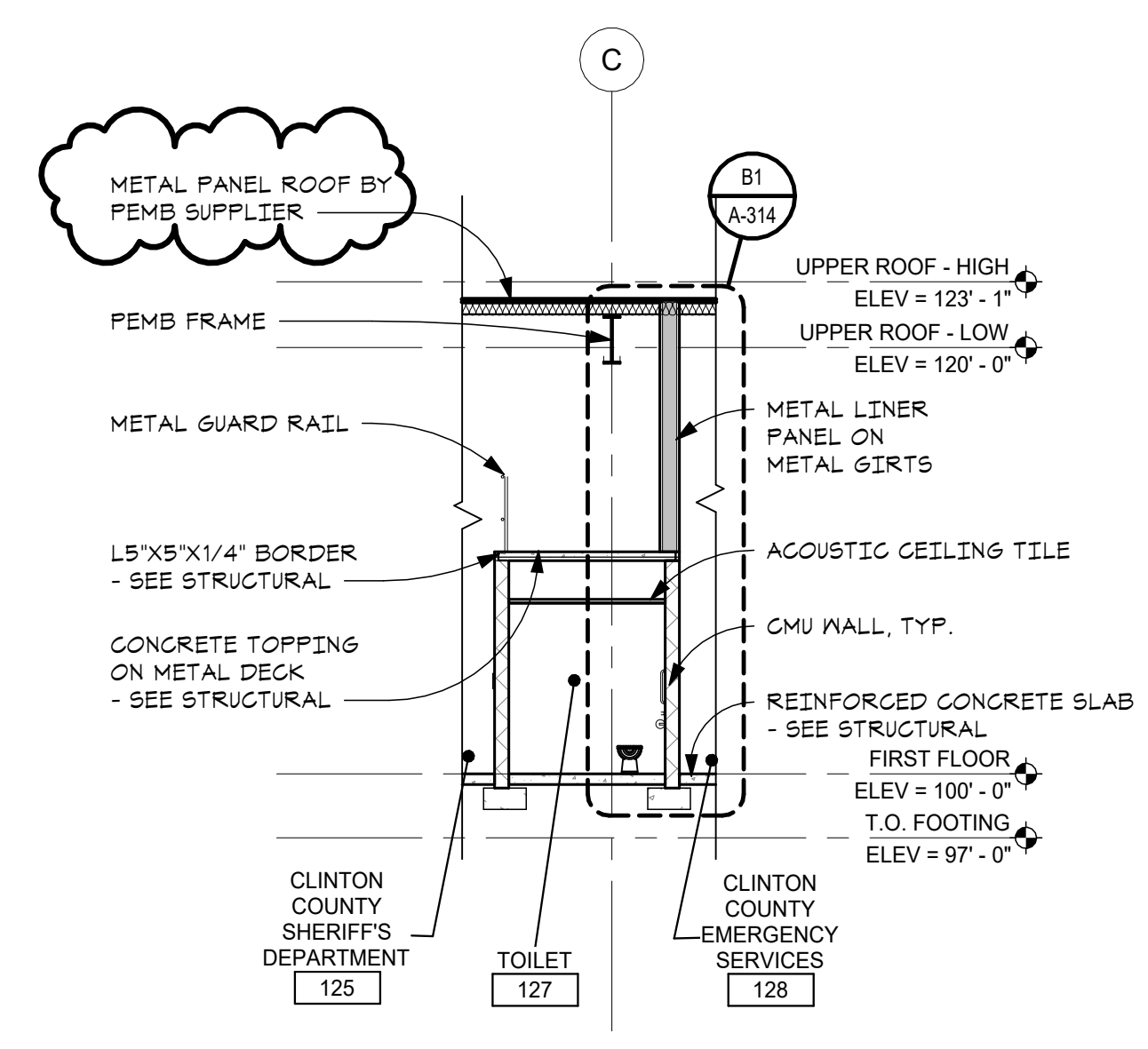
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23-319
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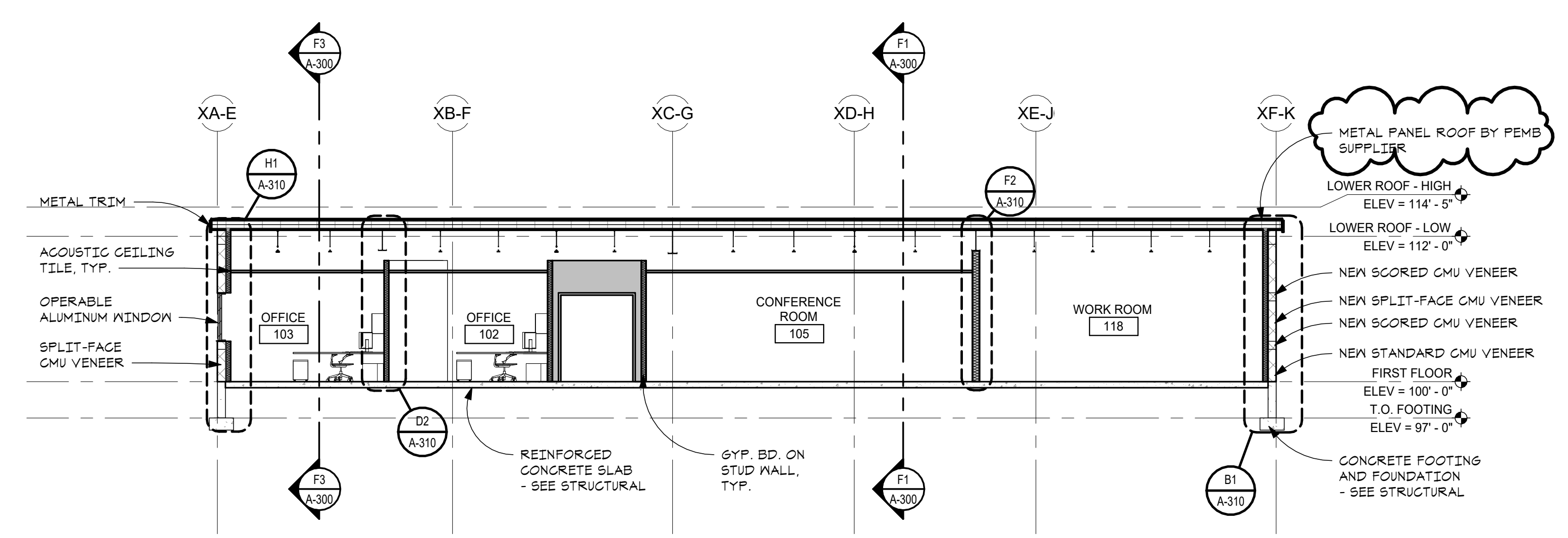
A-301
 SHEET NUMBER



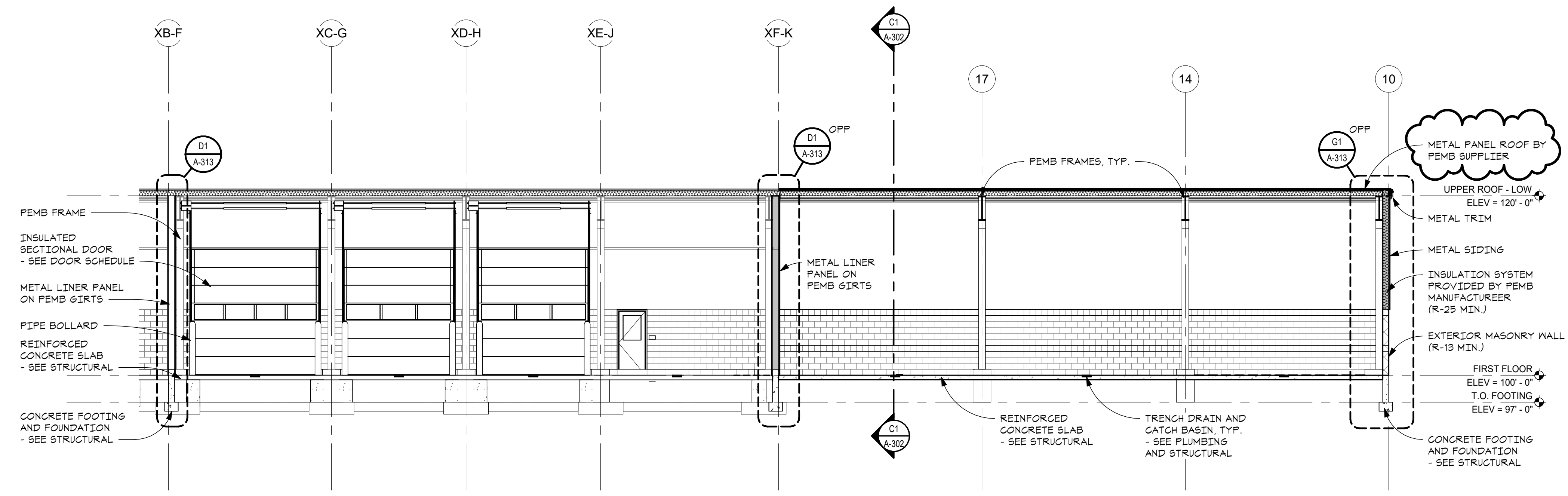
D3 BUILDING SECTION
 SCALE - 1/8" = 1'-0"



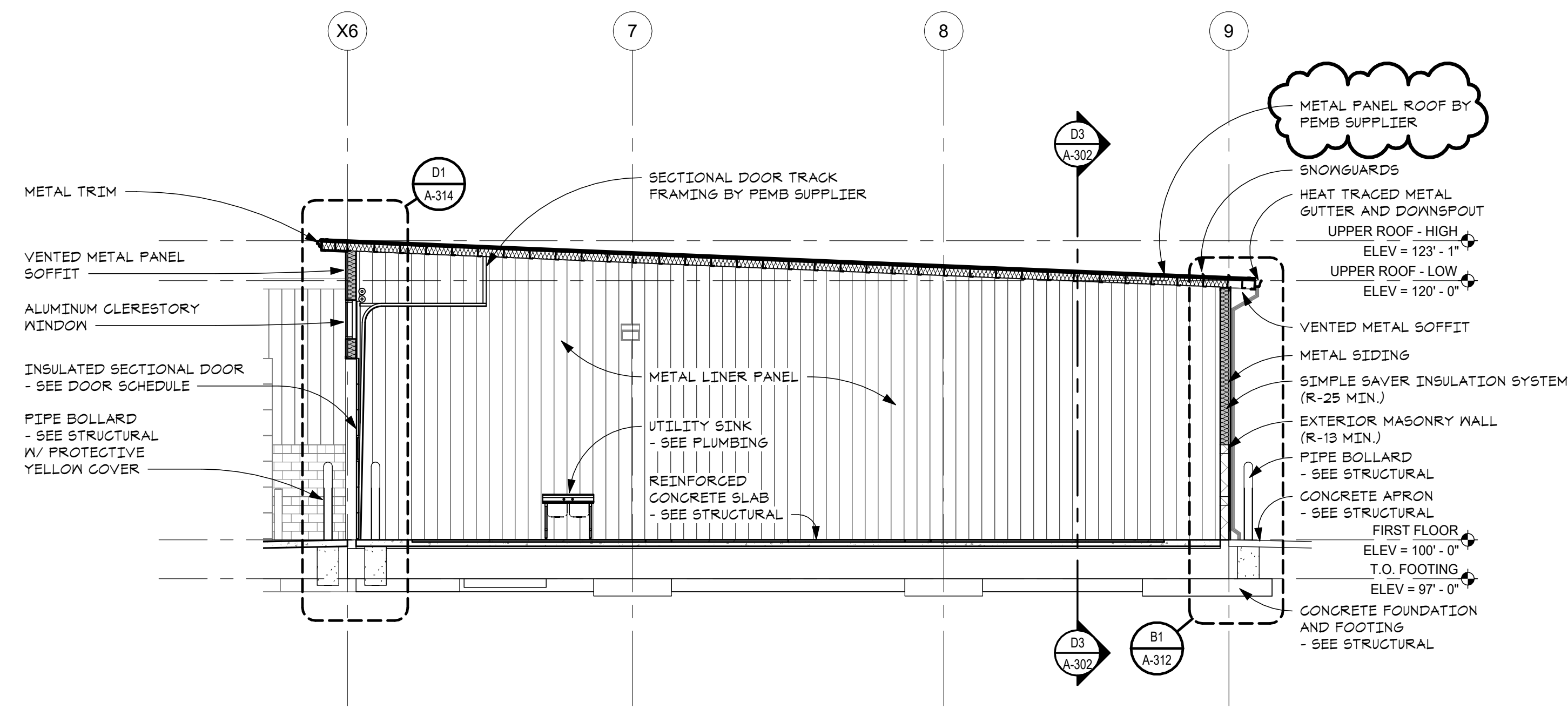
F1 BUILDING SECTION
 SCALE - 1/8" = 1'-0"



C1 BUILDING SECTION
 SCALE - 1/8" = 1'-0"

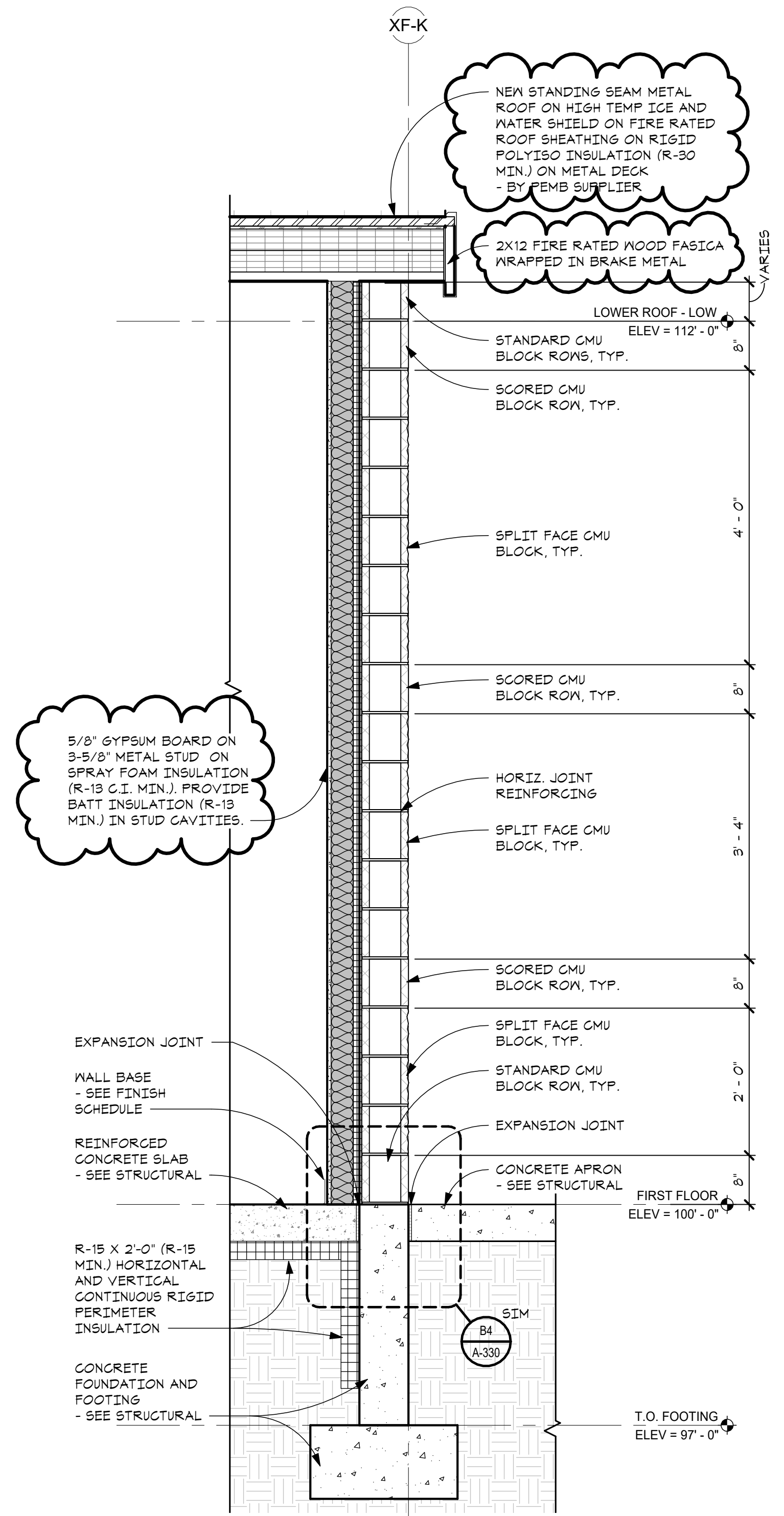
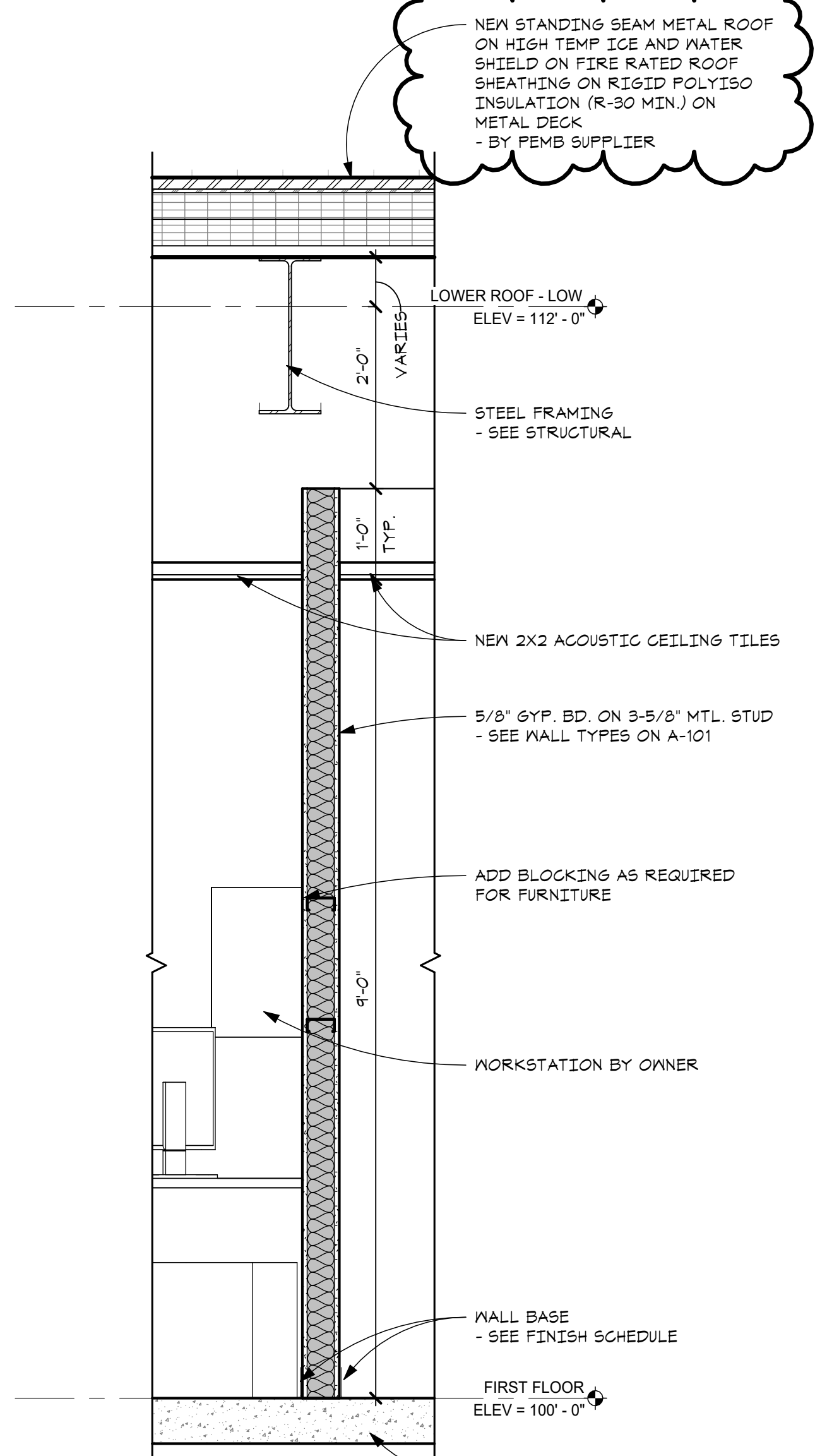
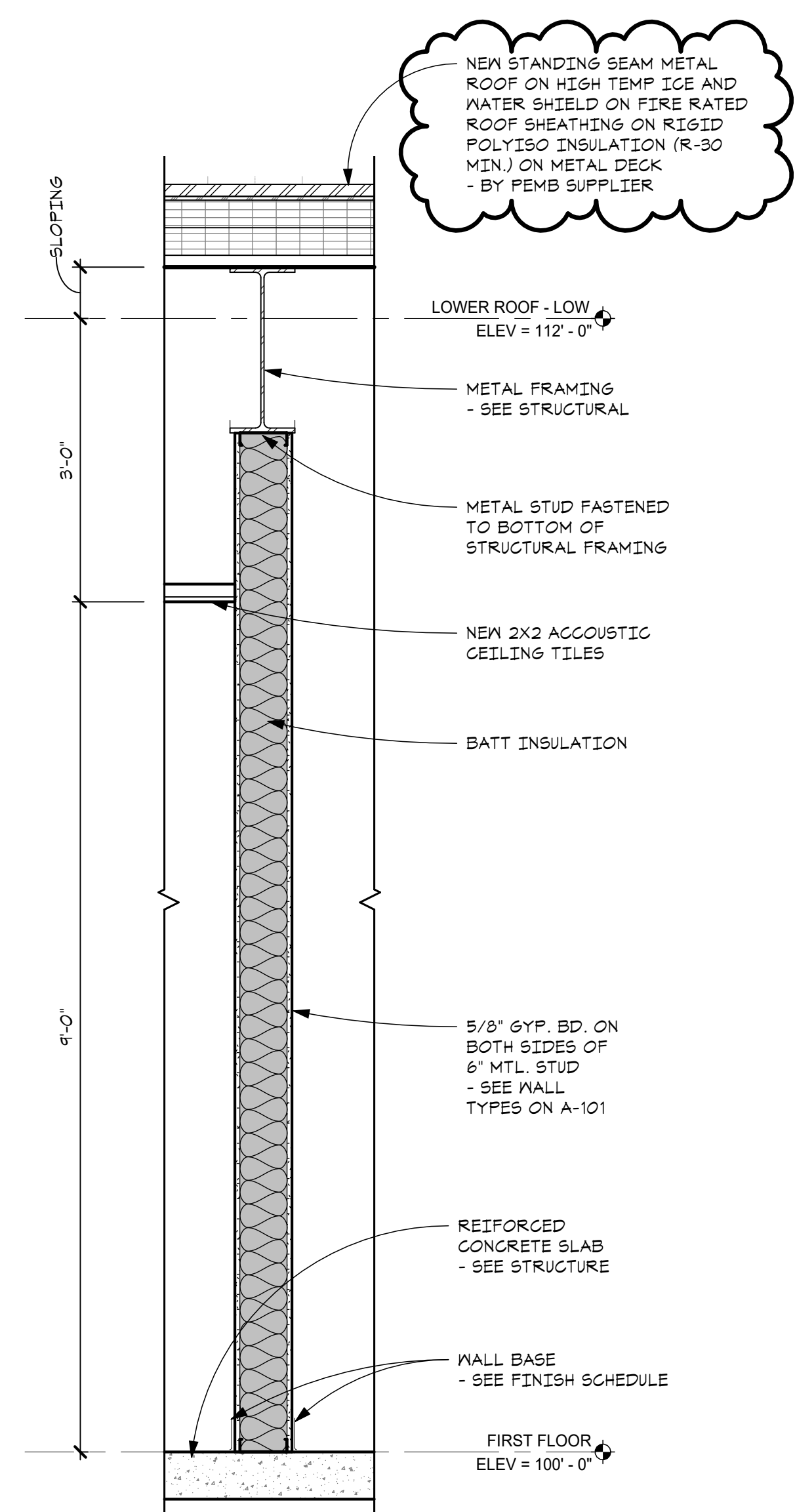
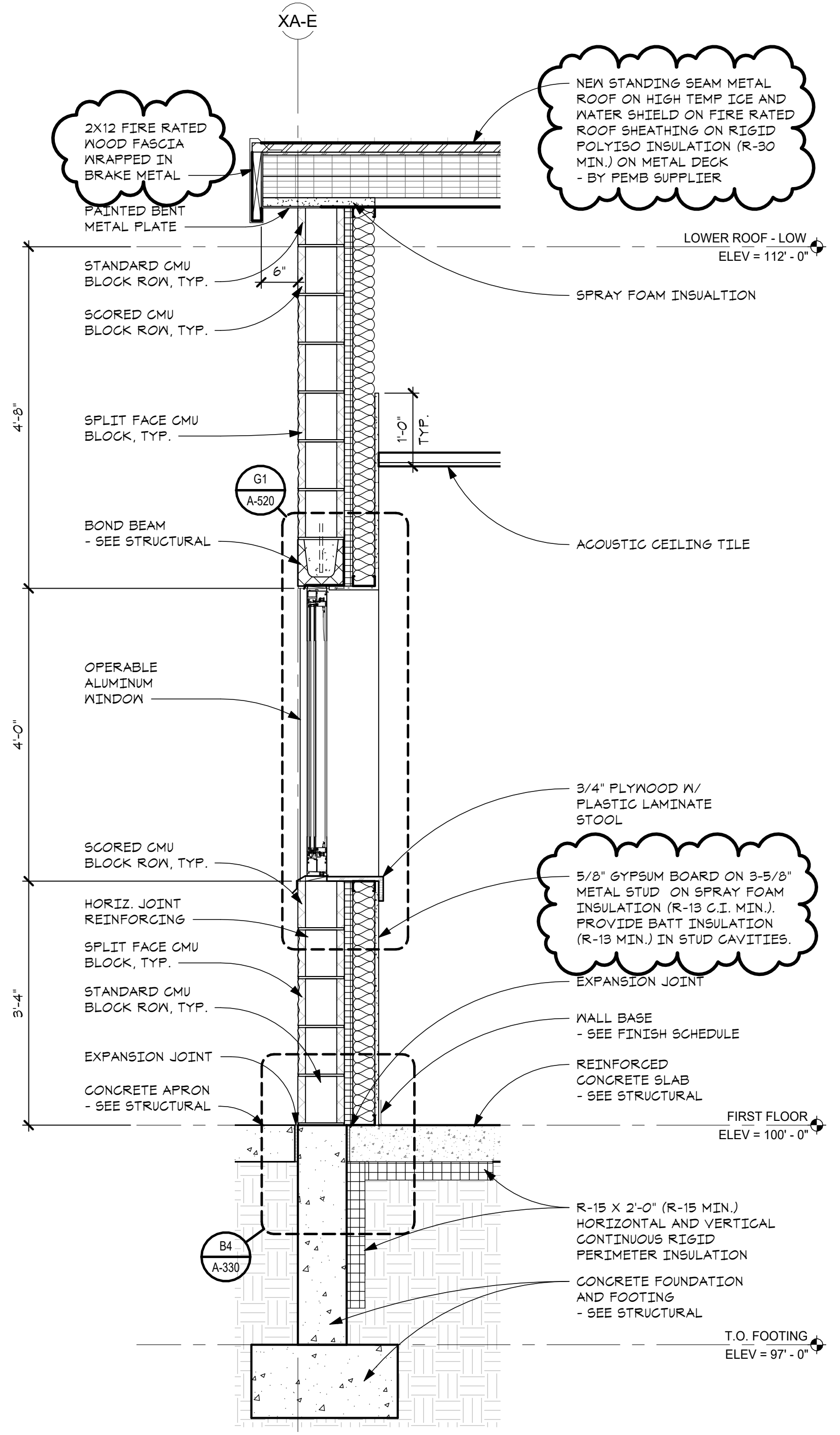


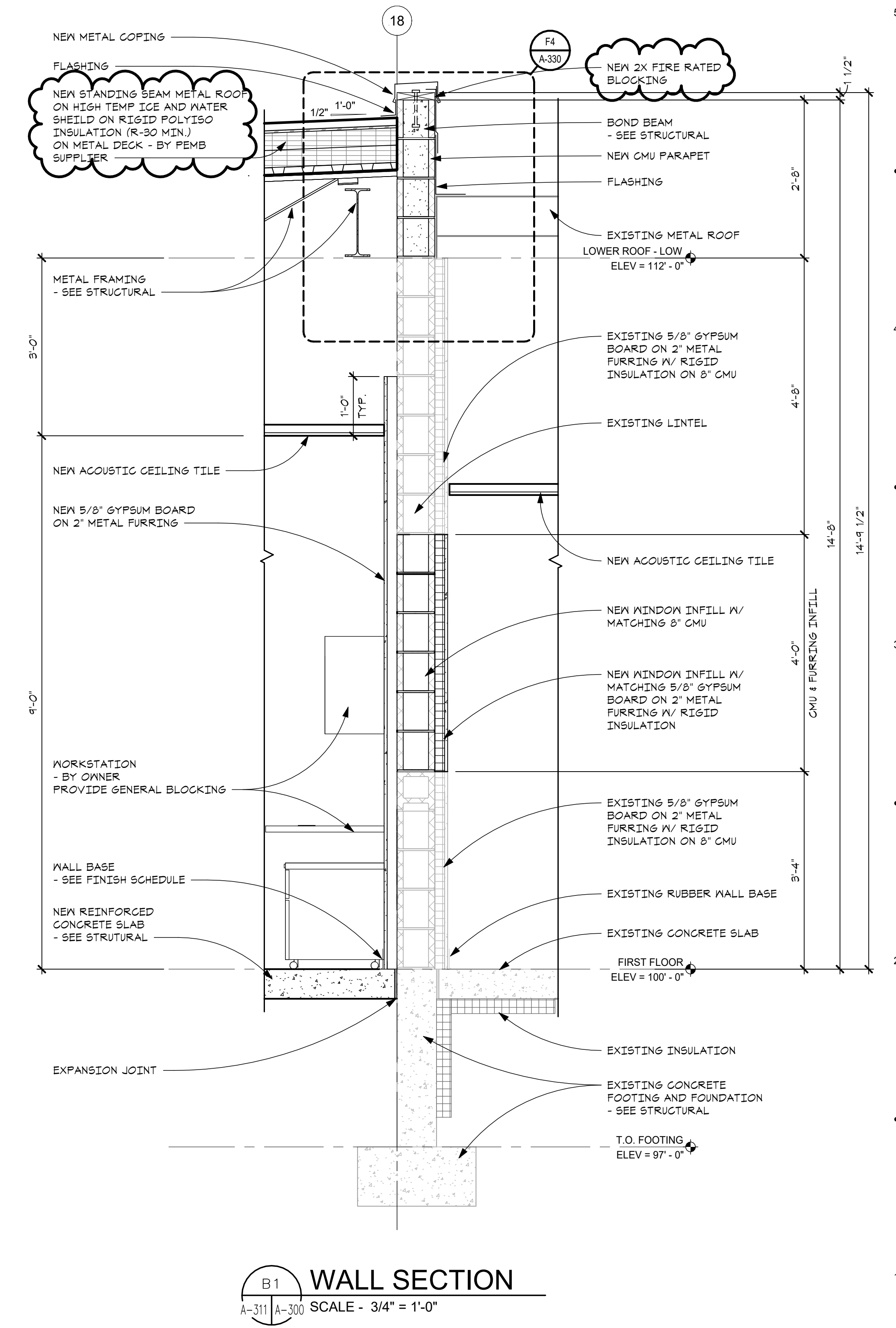
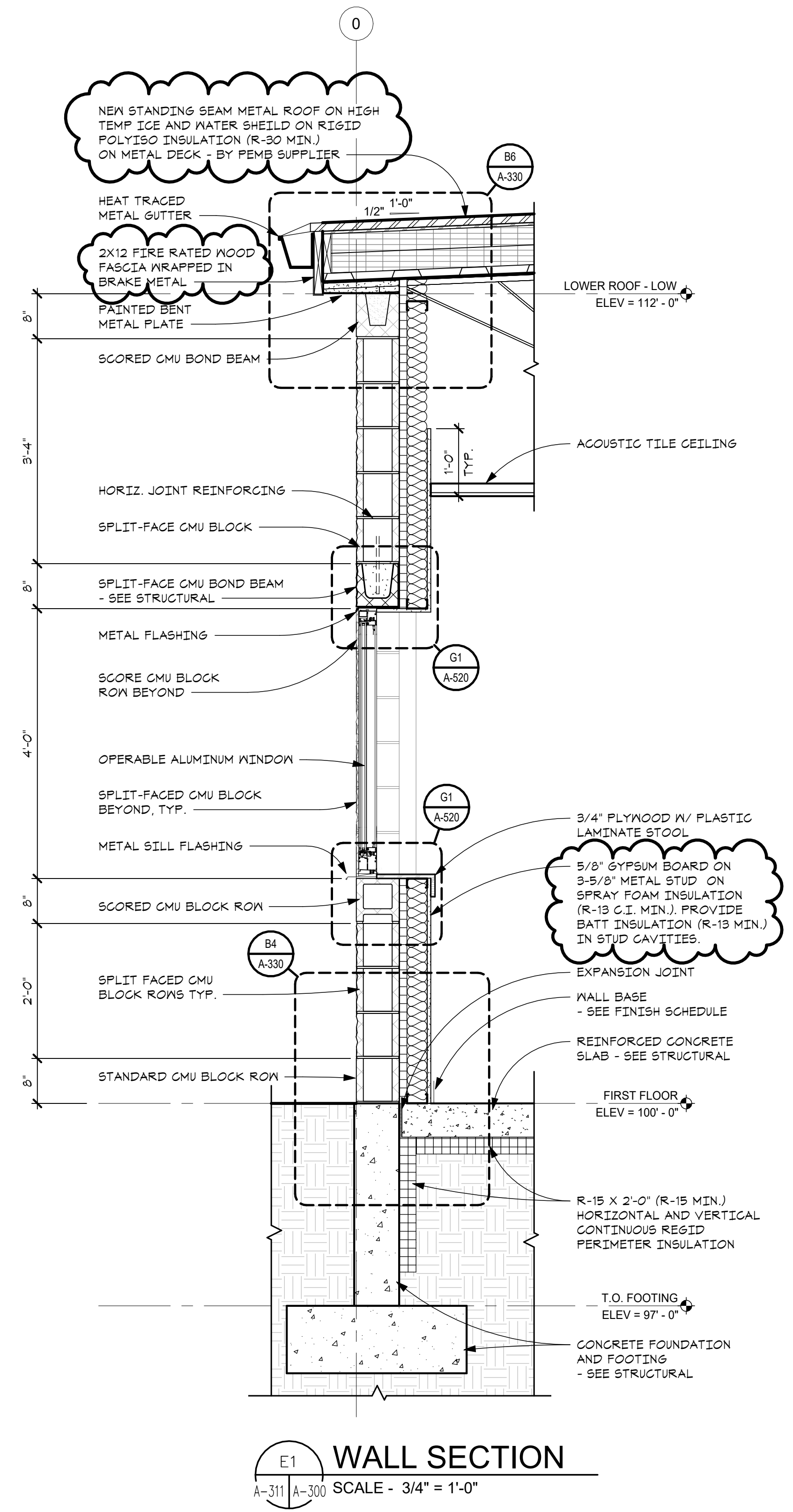
D3 BUILDING SECTION - ALTERNATE
 A-302 | A-104 SCALE - 1/8" = 1'-0"

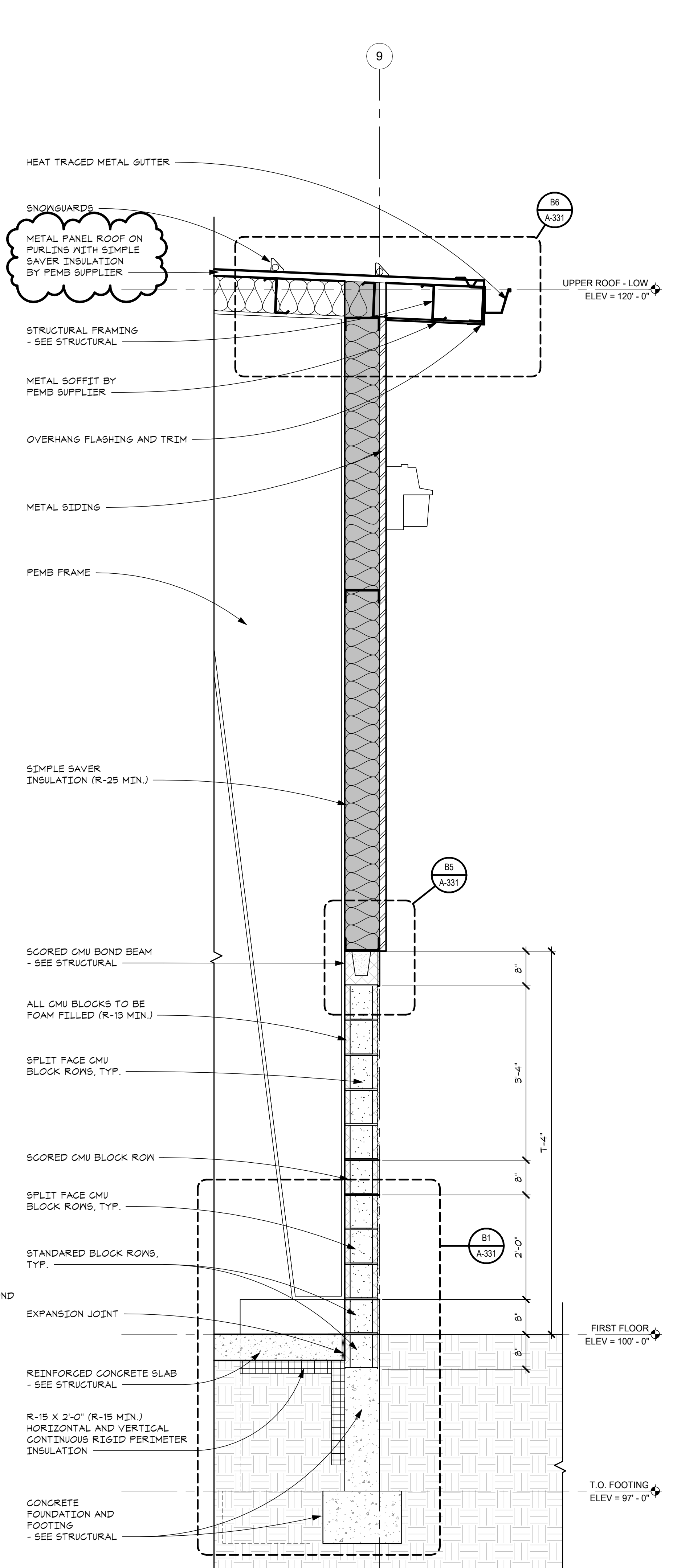
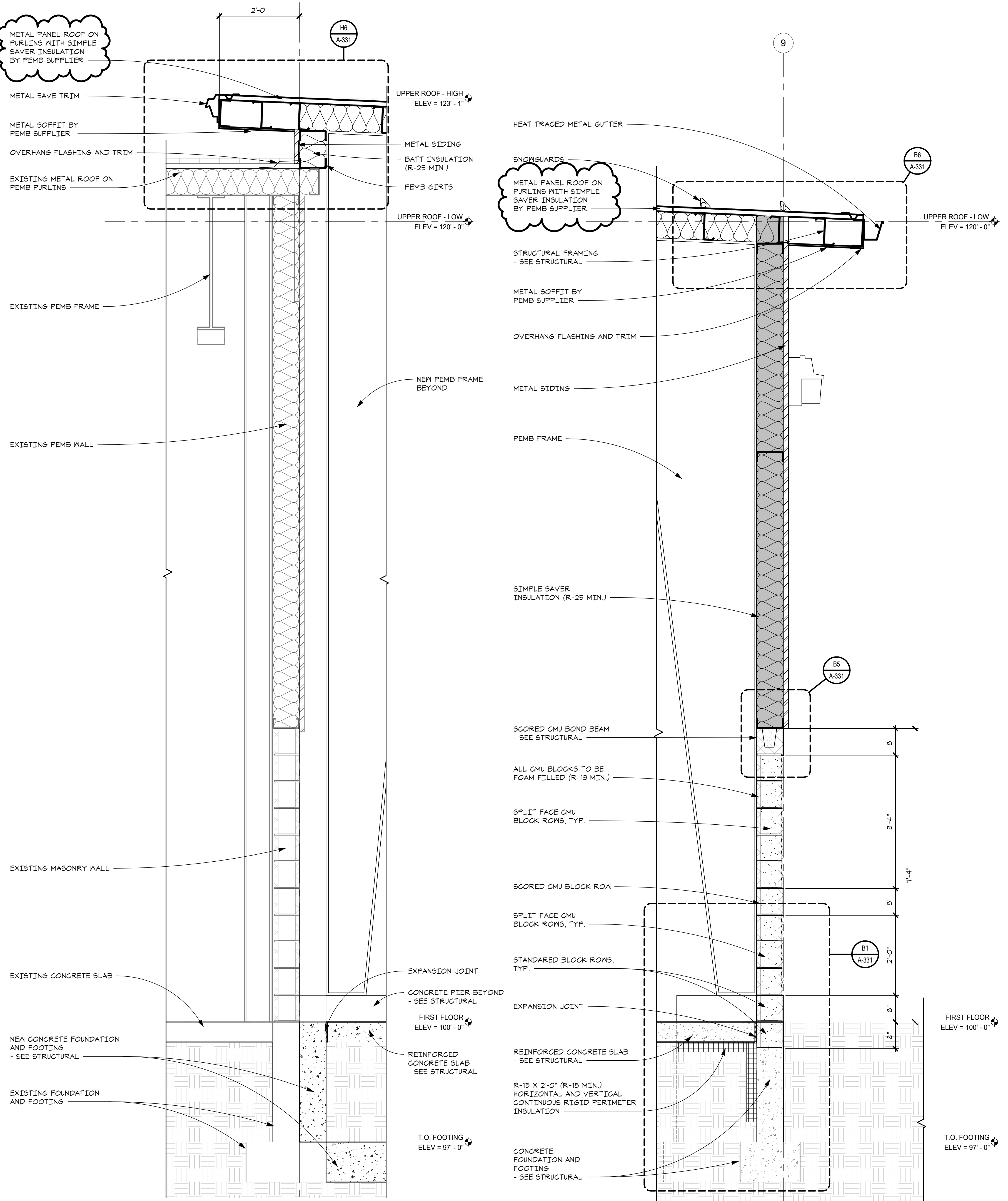
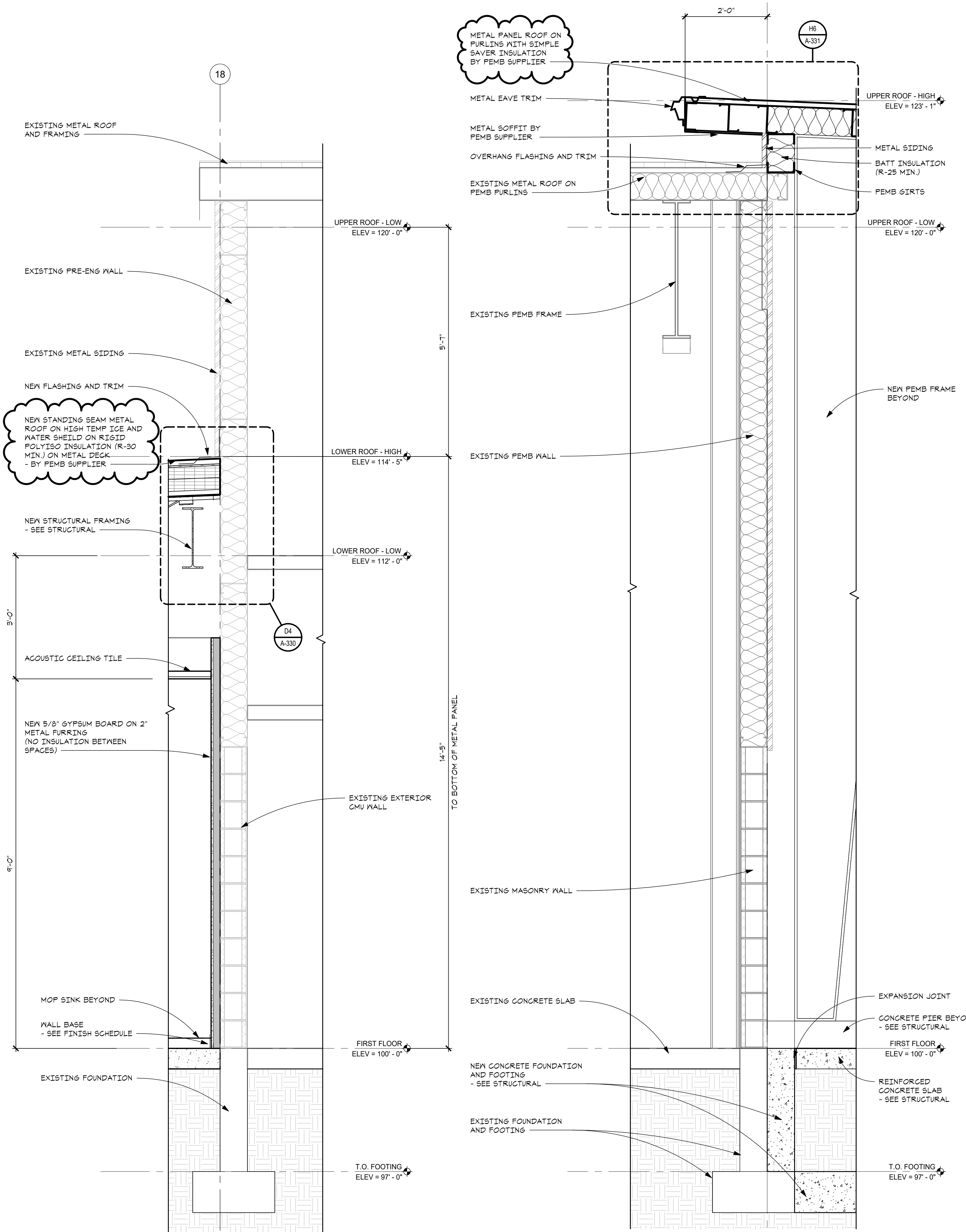
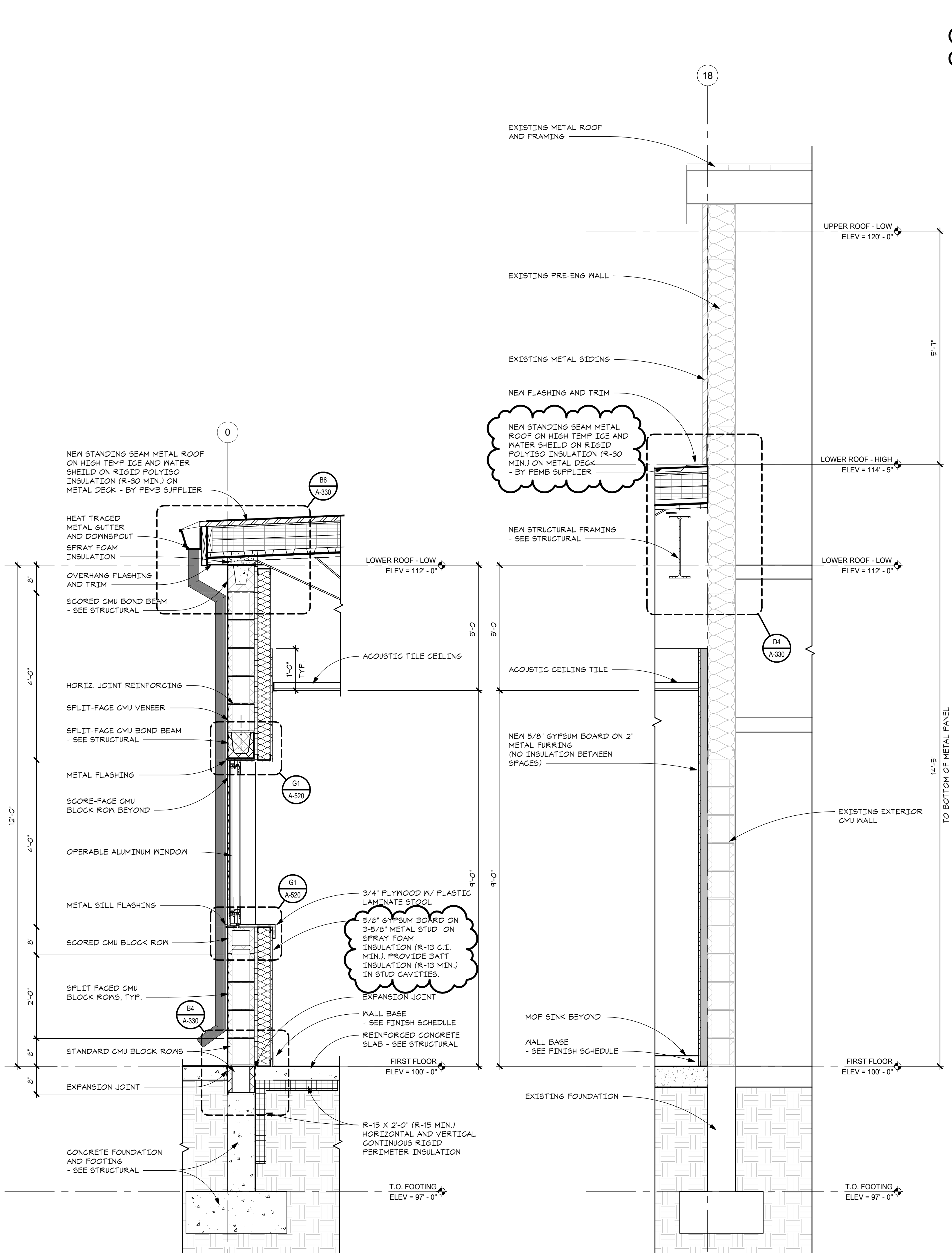


C1 BUILDING SECTION - ALTERNATE
 A-302 | A-104 SCALE - 1/8" = 1'-0"

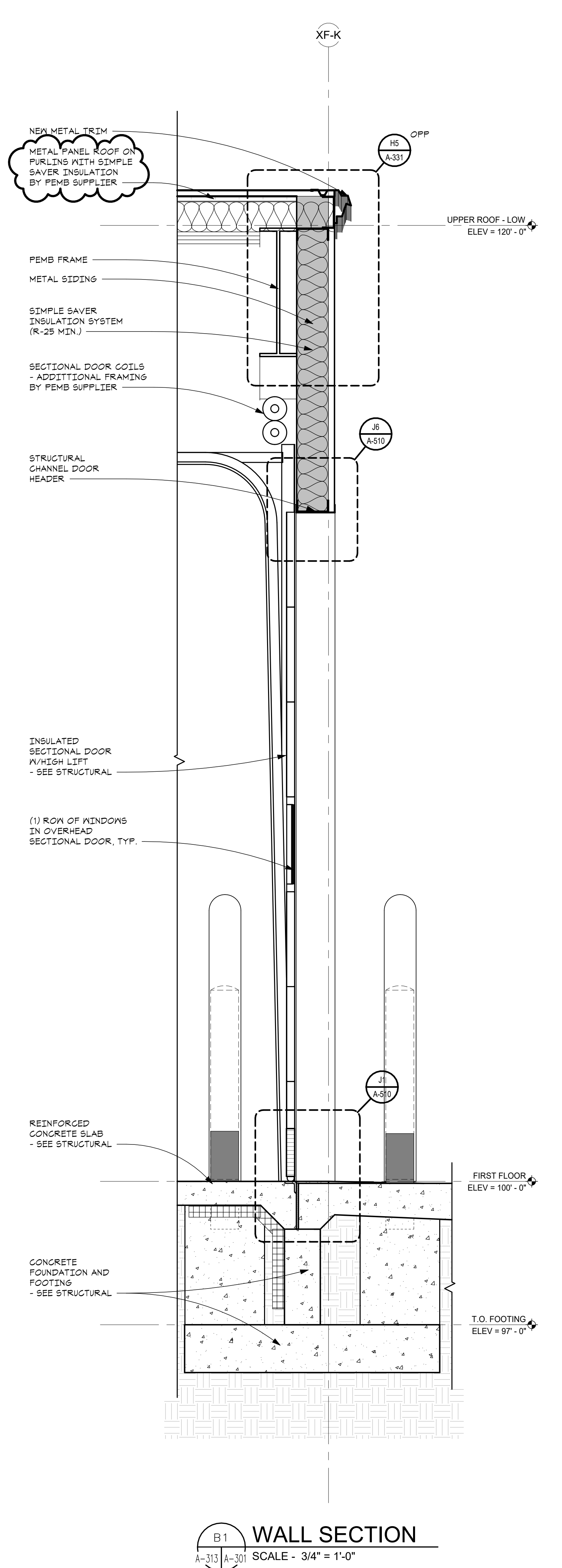
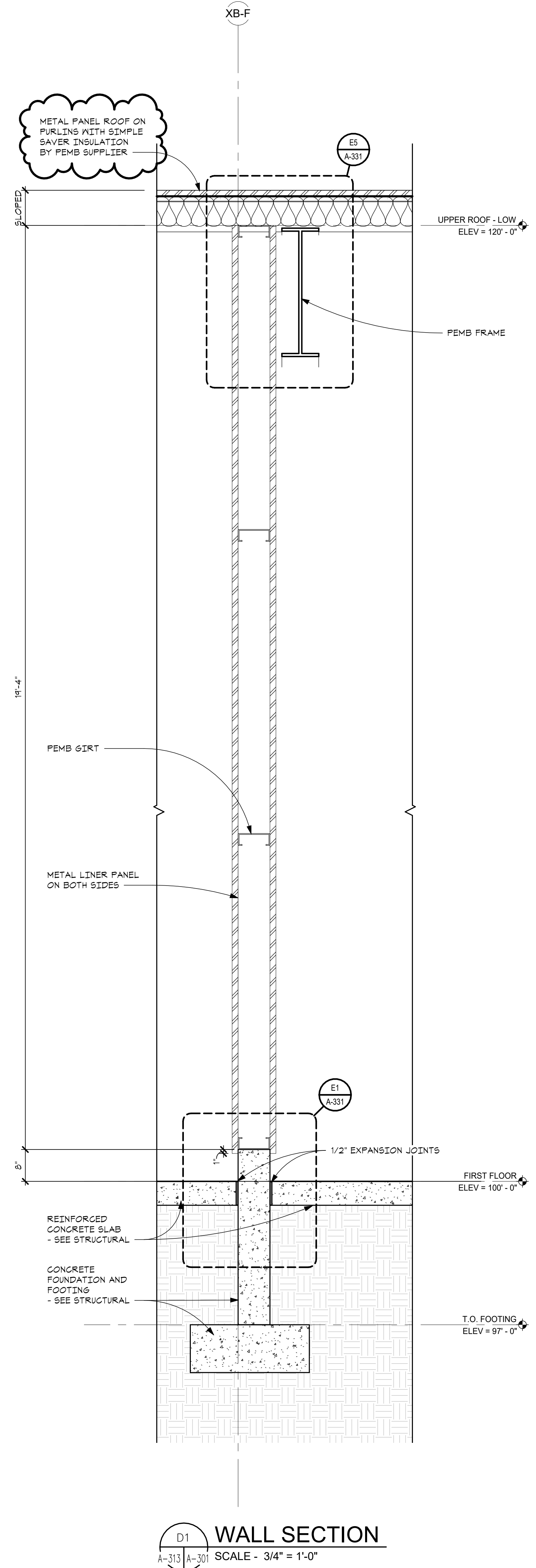
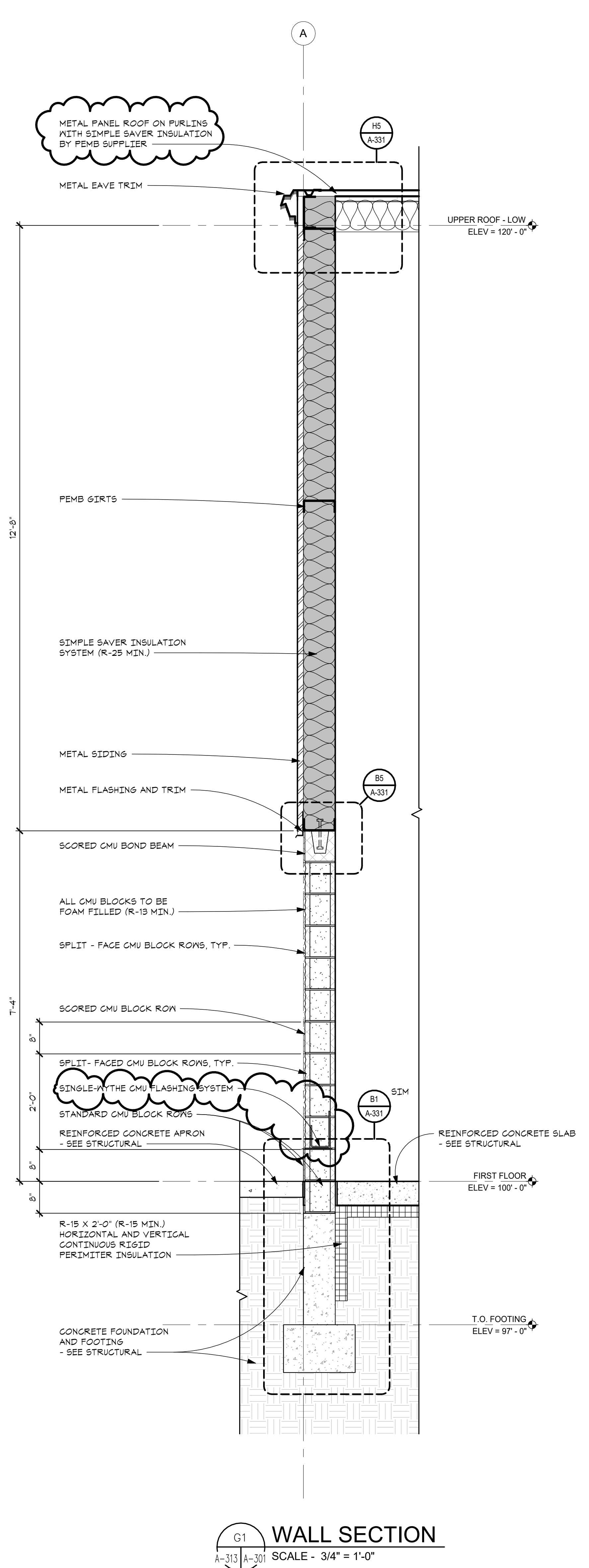
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 MAINTENANCE FACILITY EXPANSION - mburke\2319.rvt

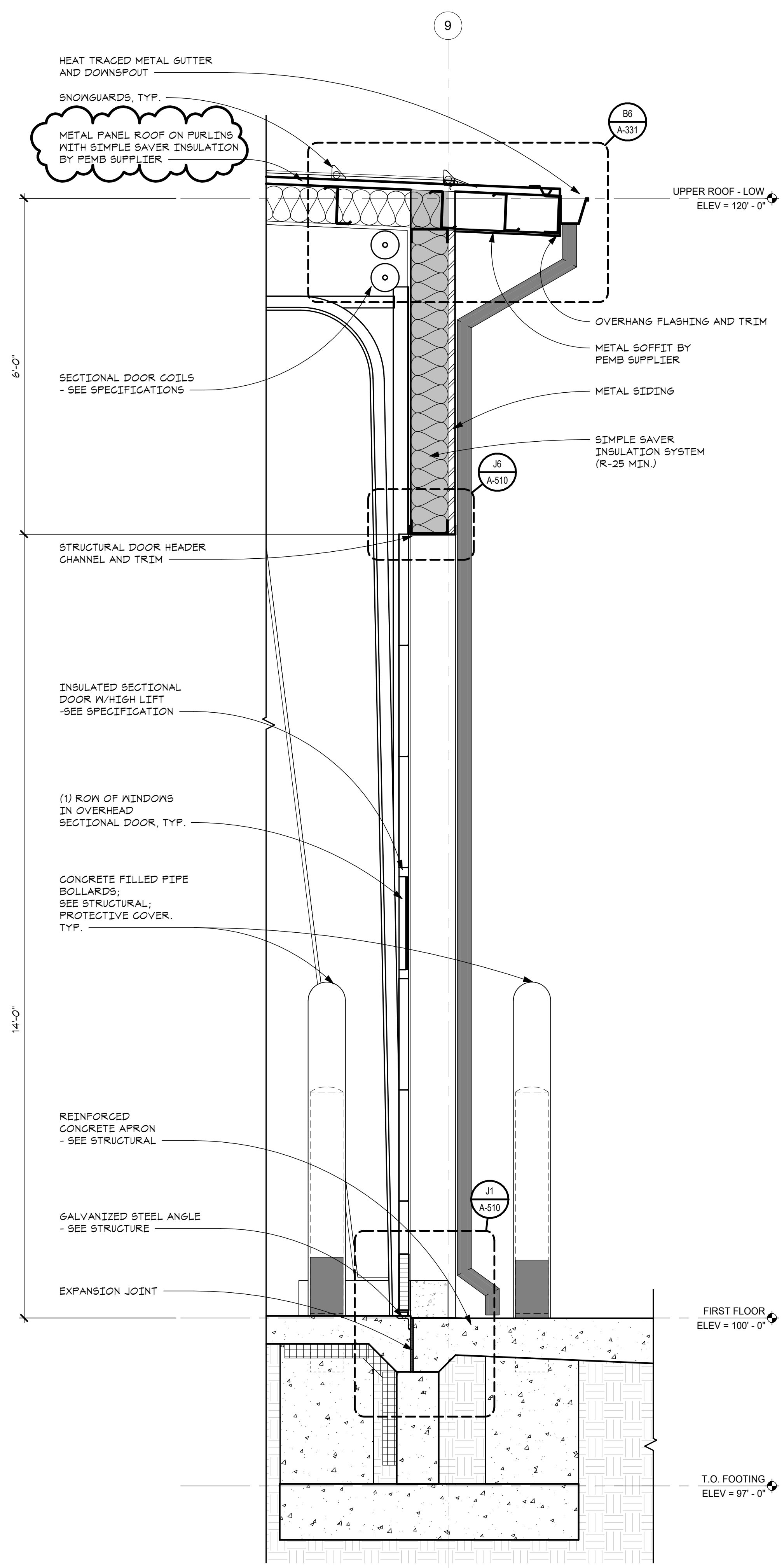




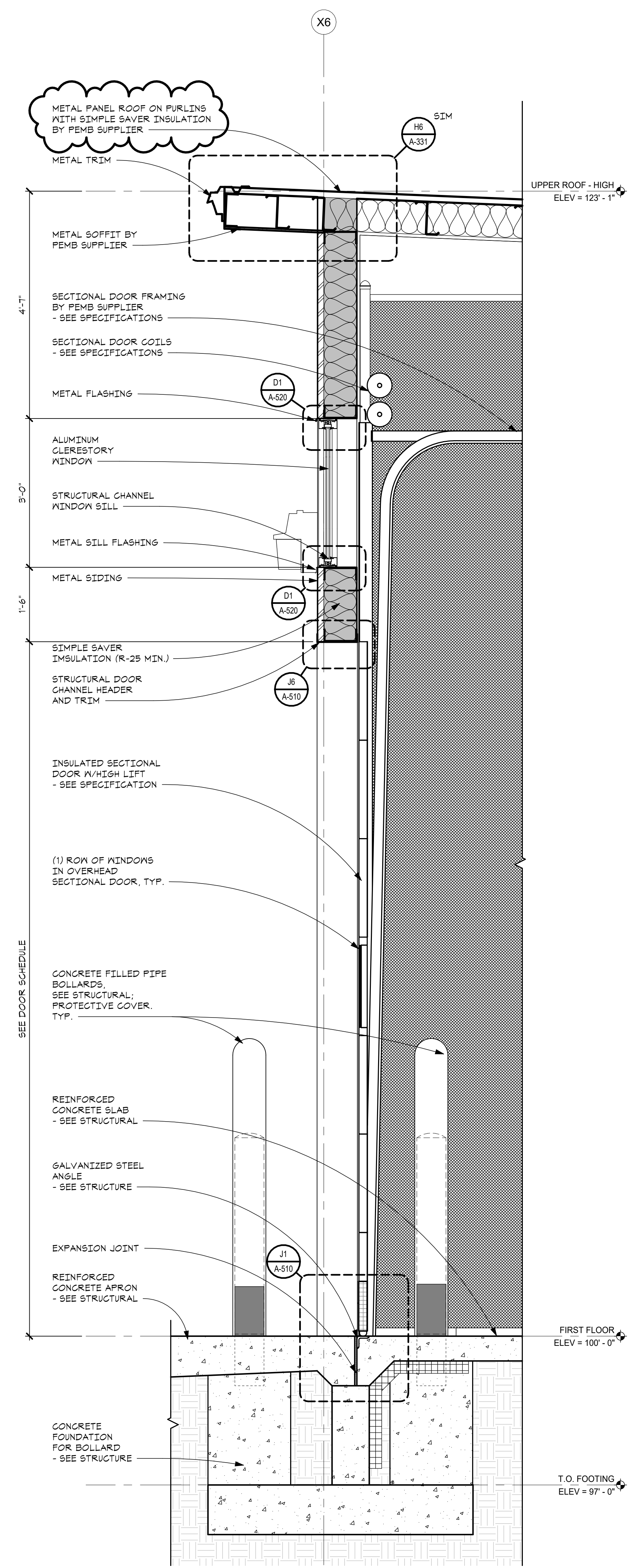


C:\Users\mblack\Documents\2319_ARCH-Clinton County
 Maintenance Facility Expansion - mark@hobbs-black.com

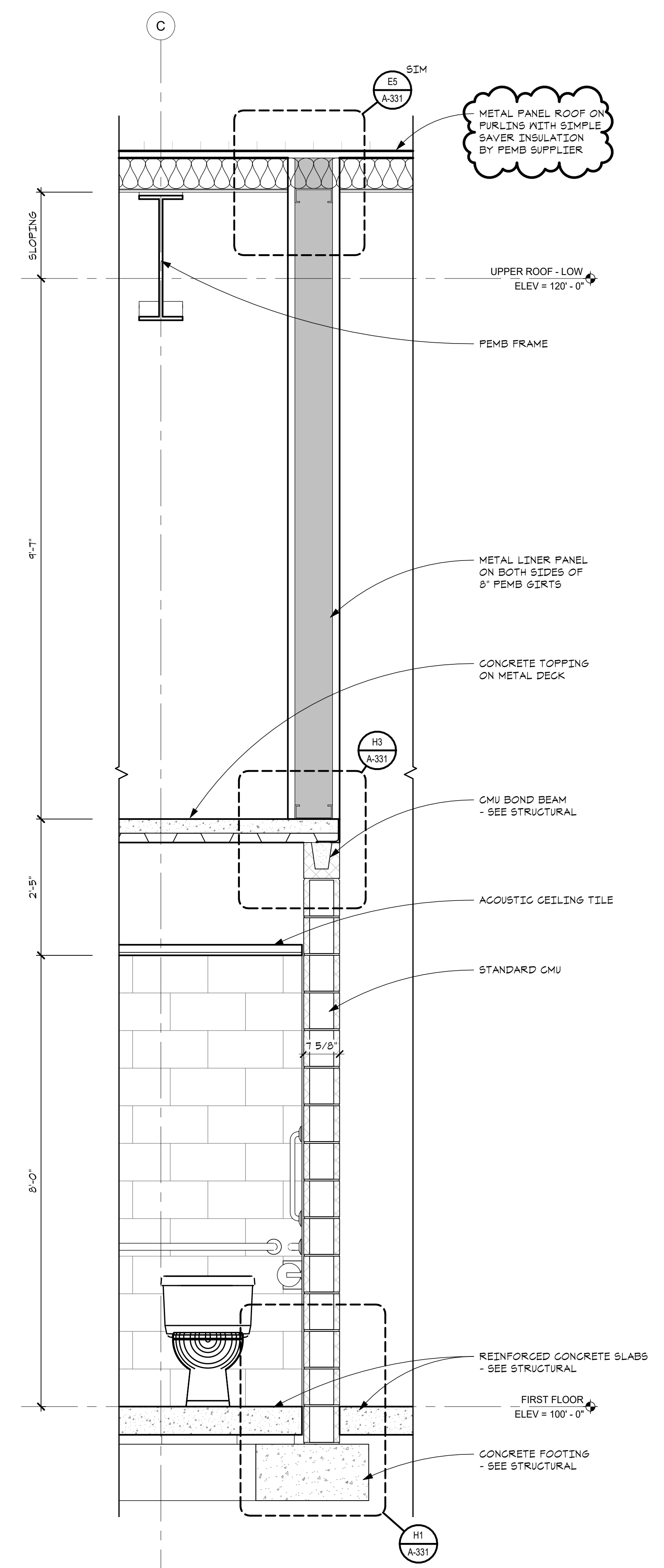




F1 WALL SECTION
 A-314 A-300 SCALE - 3/4" = 1'-0"

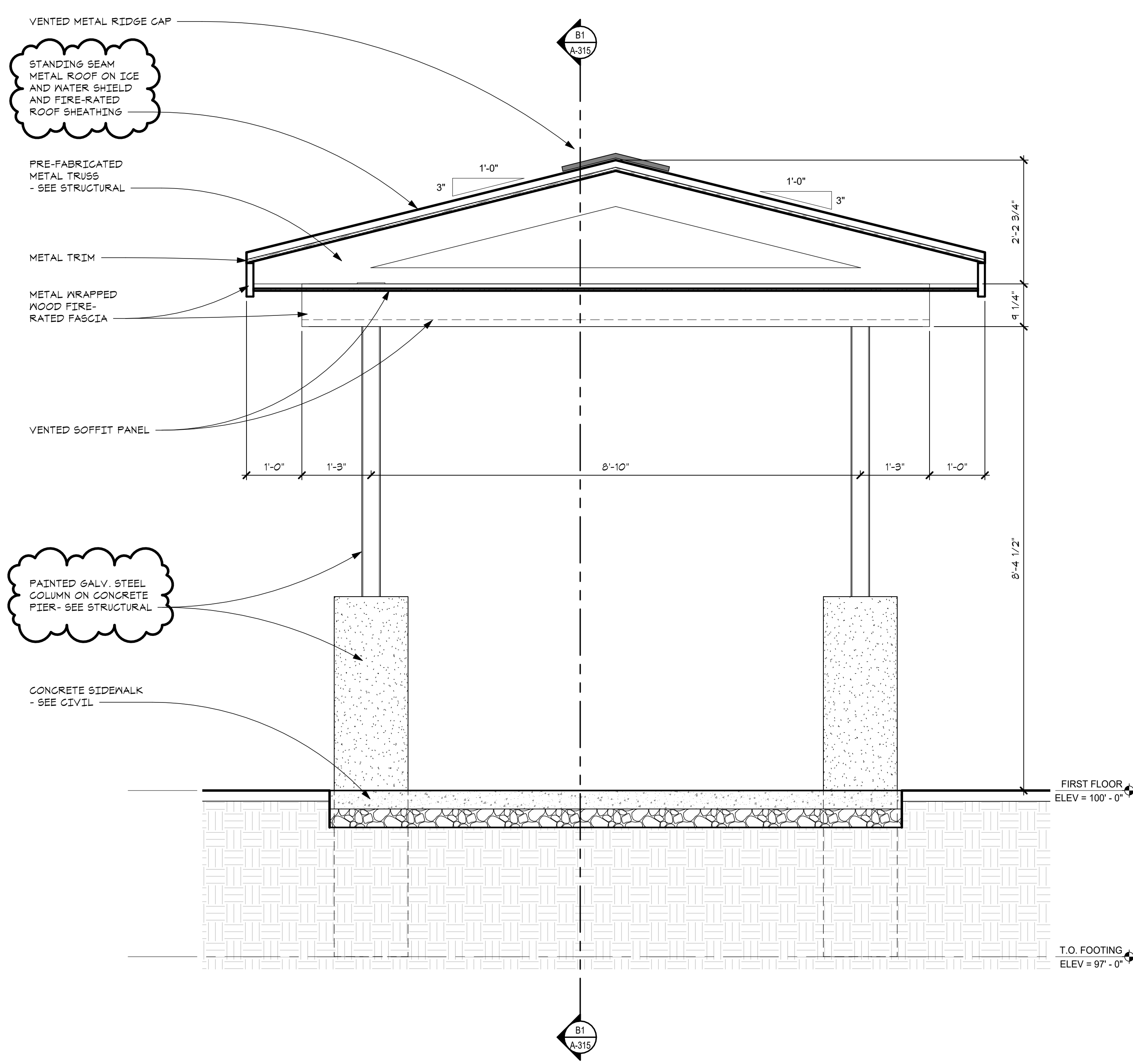


D1 WALL SECTION
 A-314 A-300 SCALE - 3/4" = 1'-0"

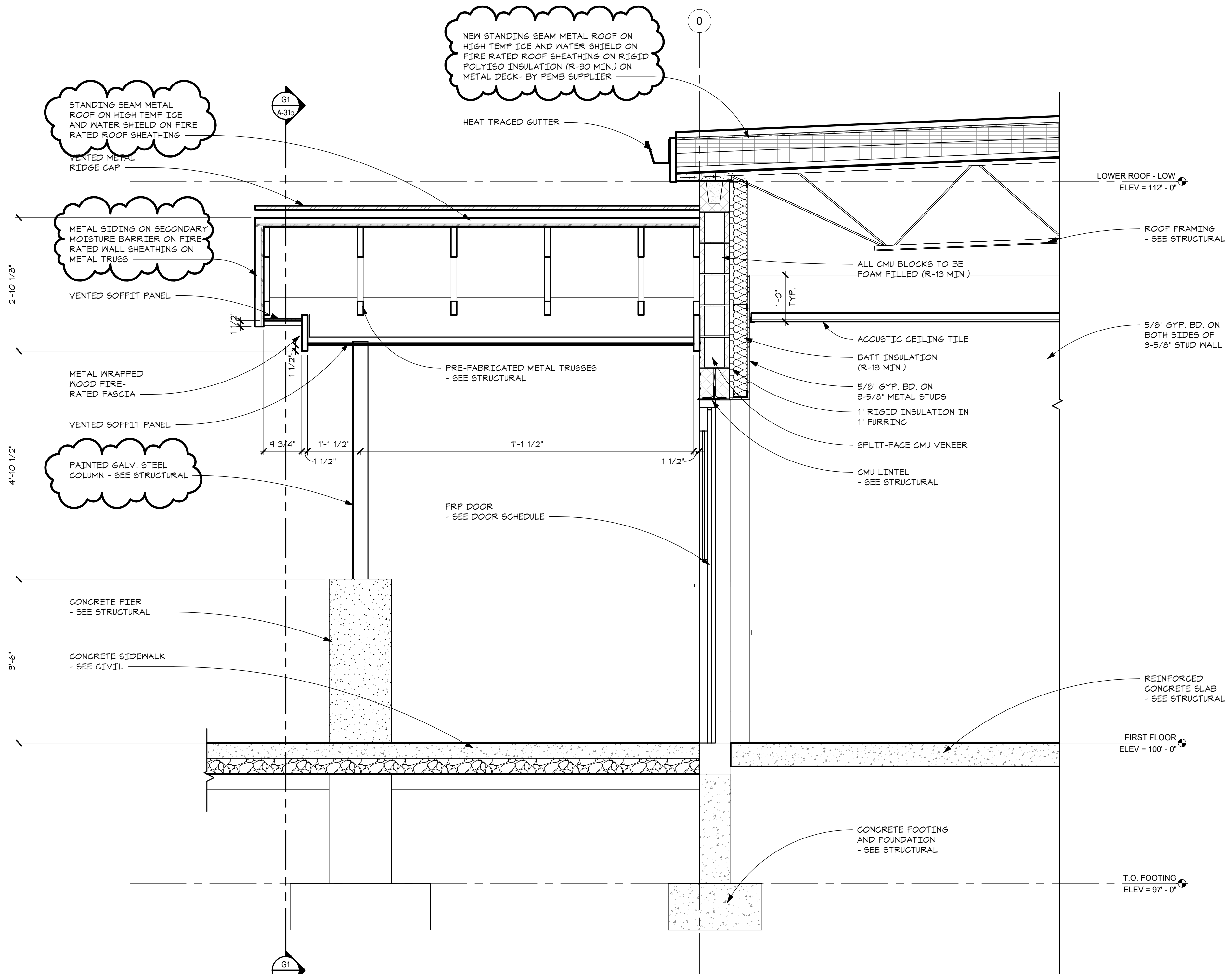


B1 WALL SECTION
 A-314 A-300 SCALE - 3/4" = 1'-0"

C:\Users\maki\Documents\2319_ARCH-Clinton County
 1/22/2023 9:56:12 AM Expansion_markup2319.rvt

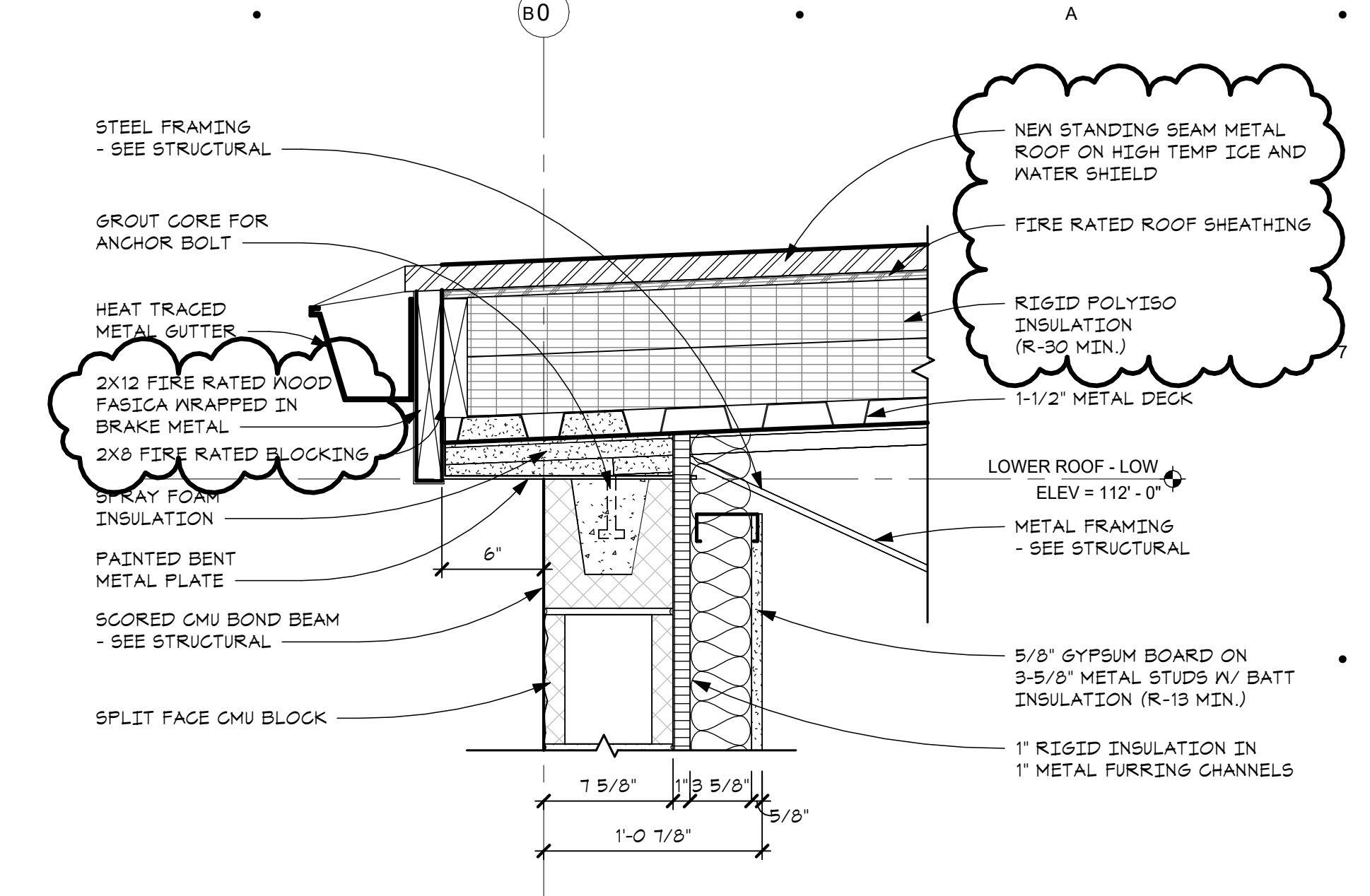


G1 CANOPY SECTION
 SCALE - 3/4" = 1'-0"

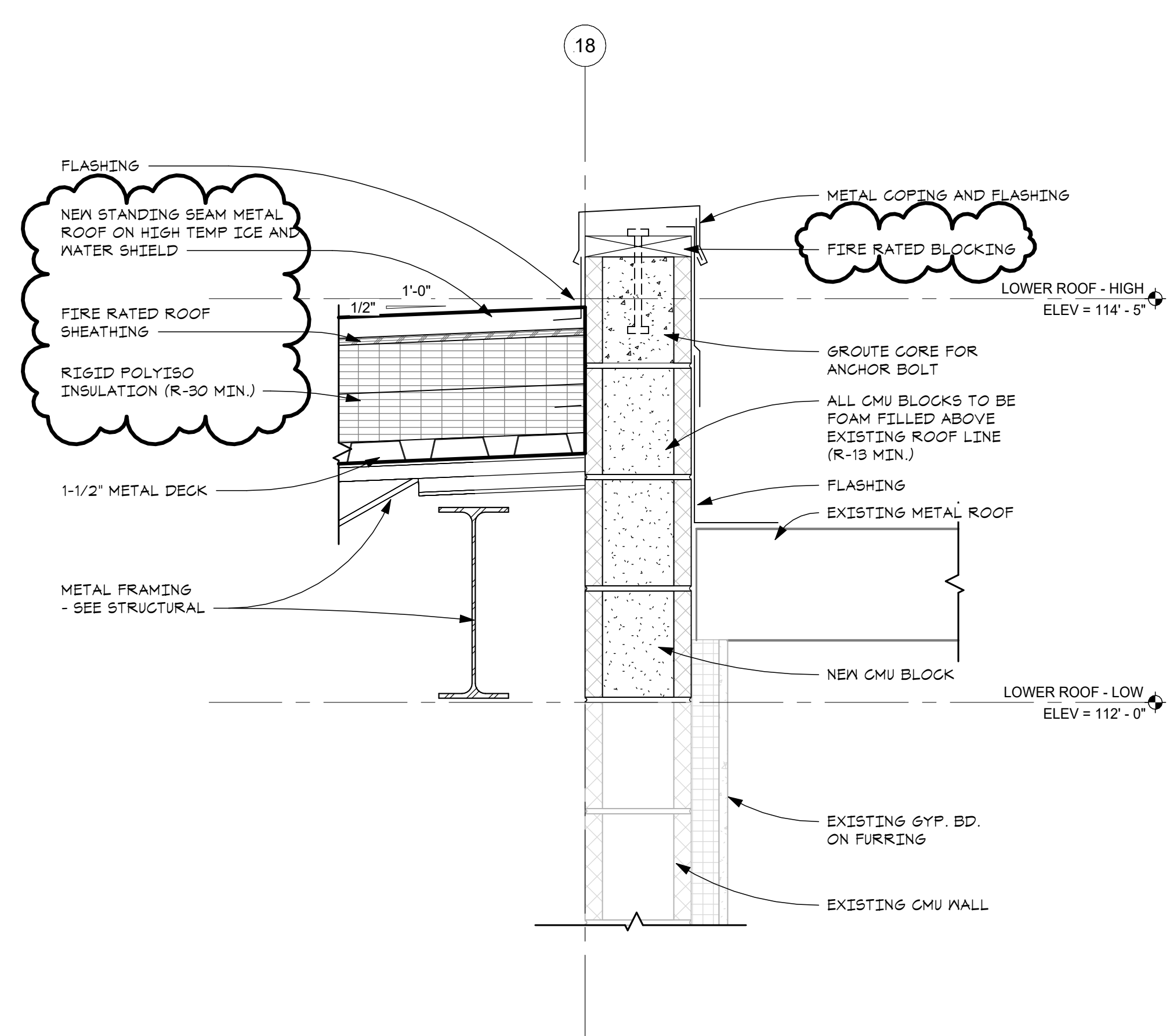


B1 CANOPY SECTION
 SCALE - 3/4" = 1'-0"

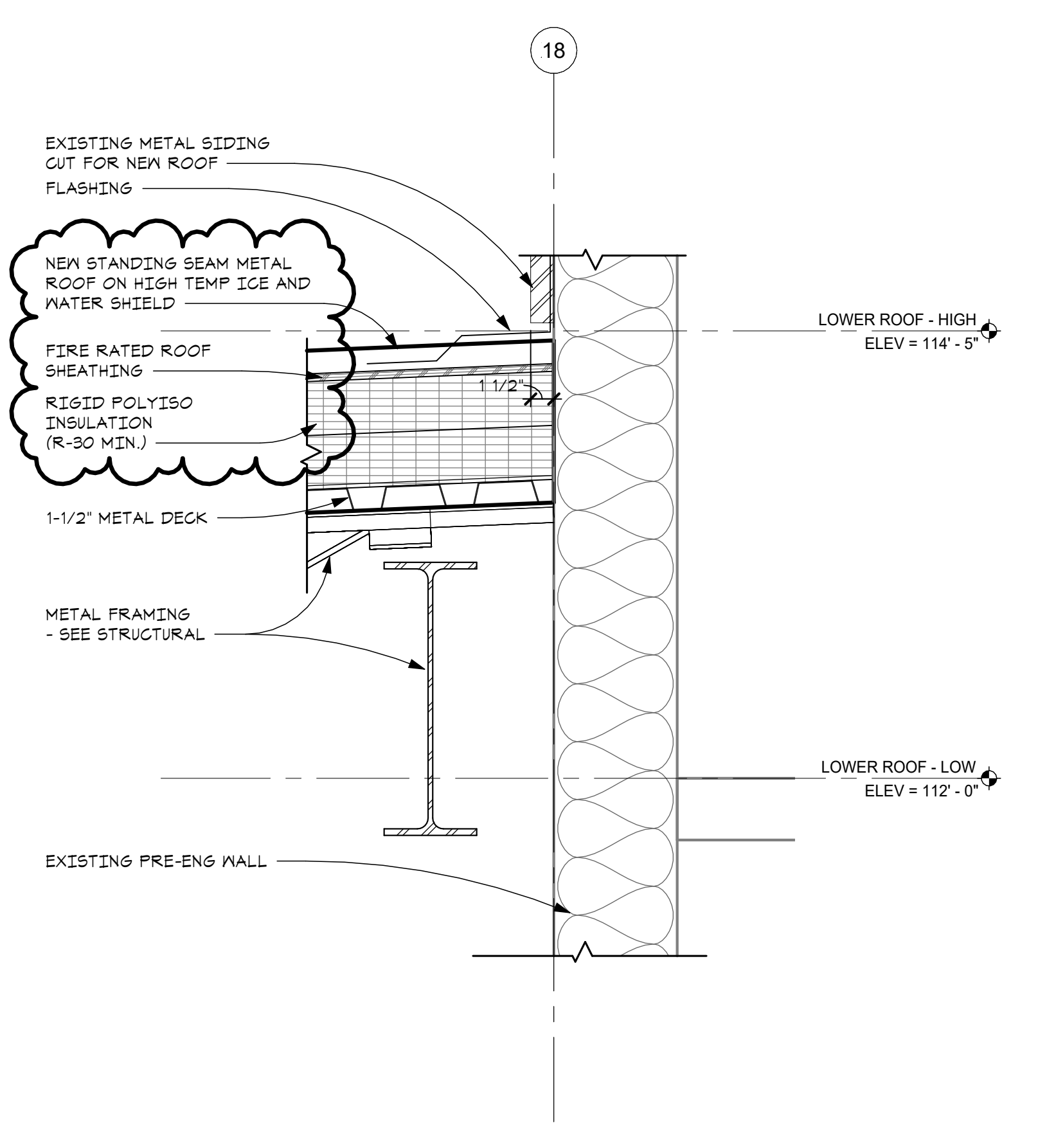
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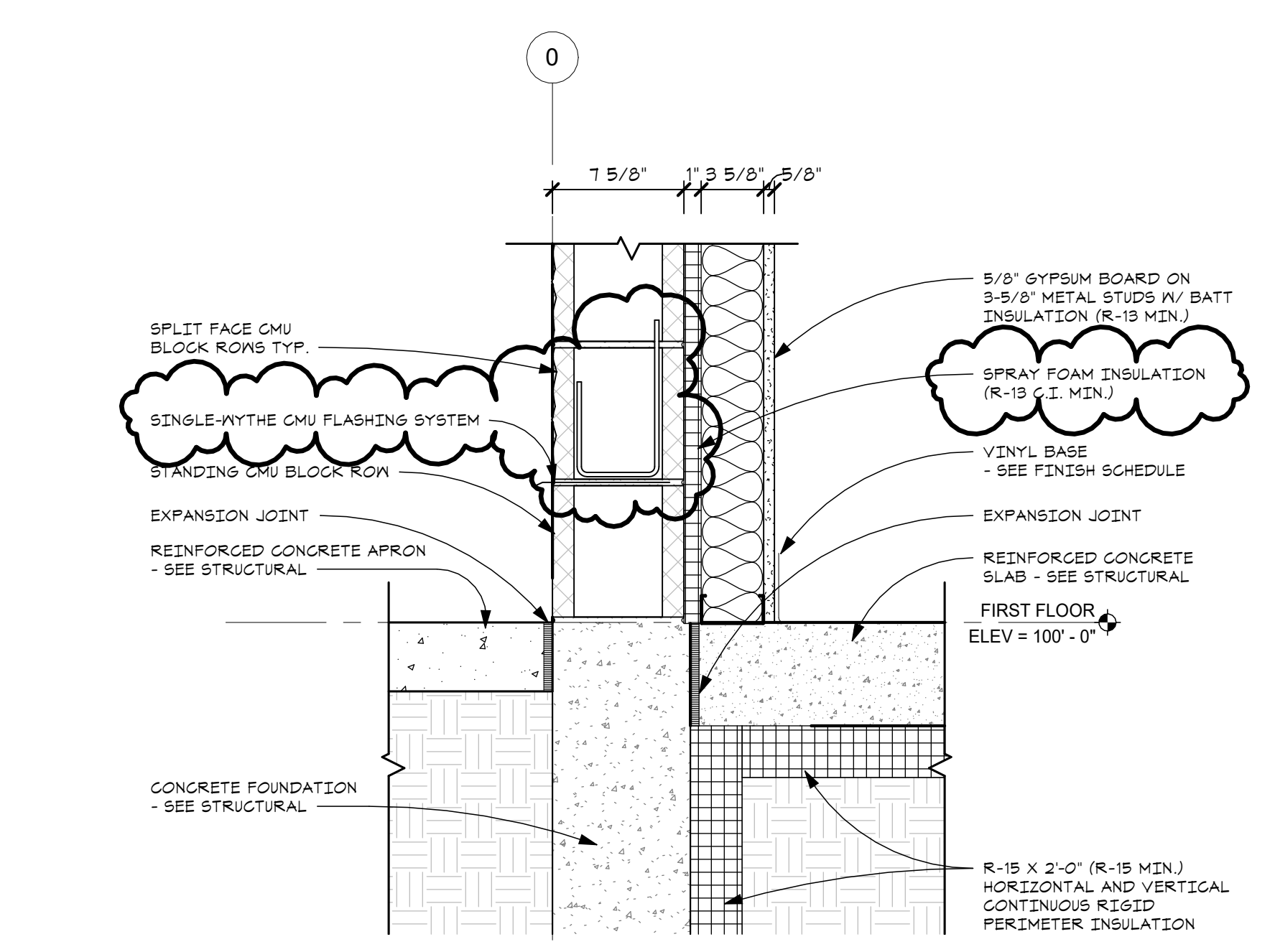
B6 ENLARGED ADMIN ROOF EAVE DETAIL
 SCALE - 1 1/2" = 1'-0"



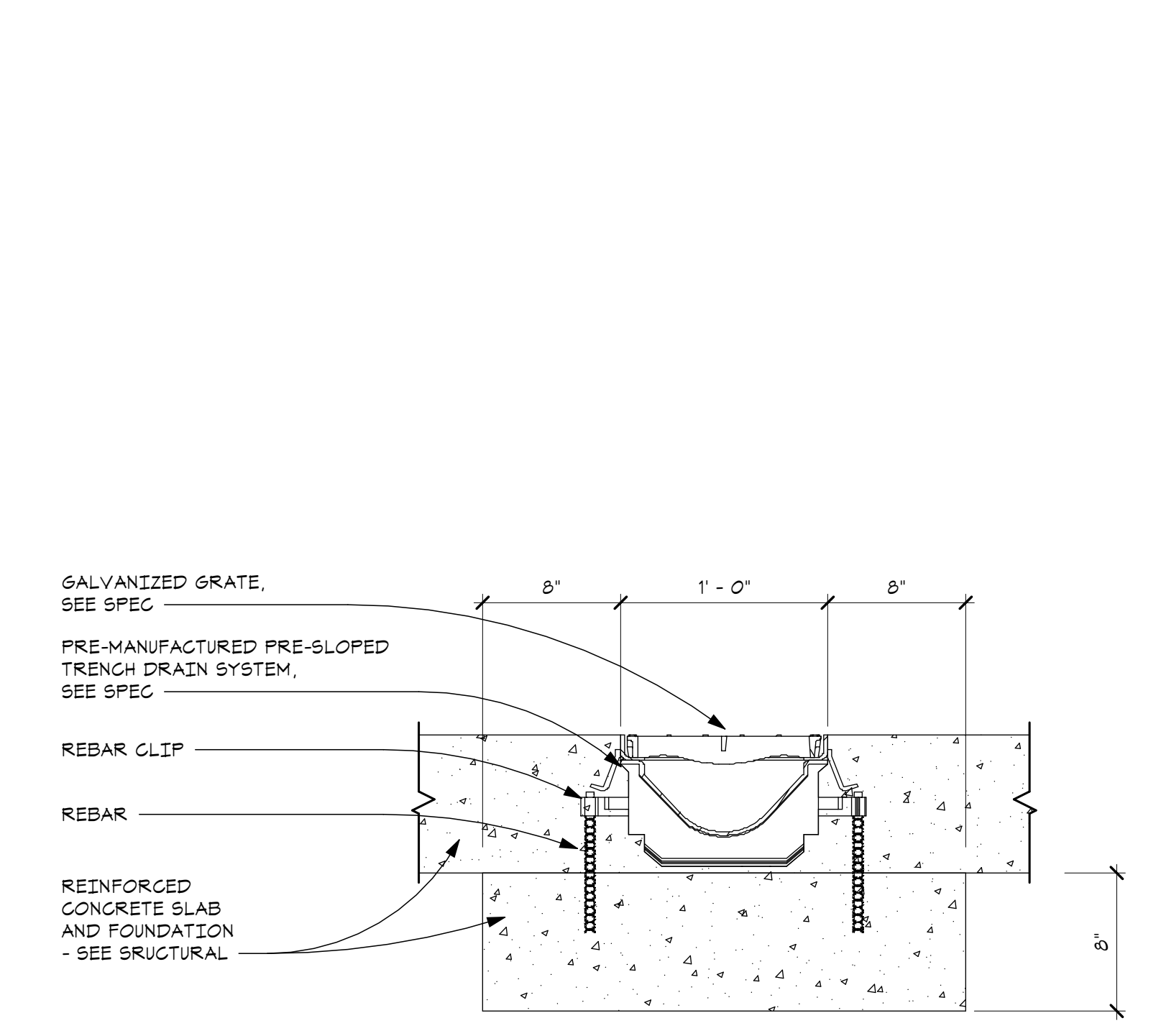
F4 ENLARGED ADMIN ROOF AND PARAPET DETAIL
 SCALE - 1 1/2" = 1'-0"



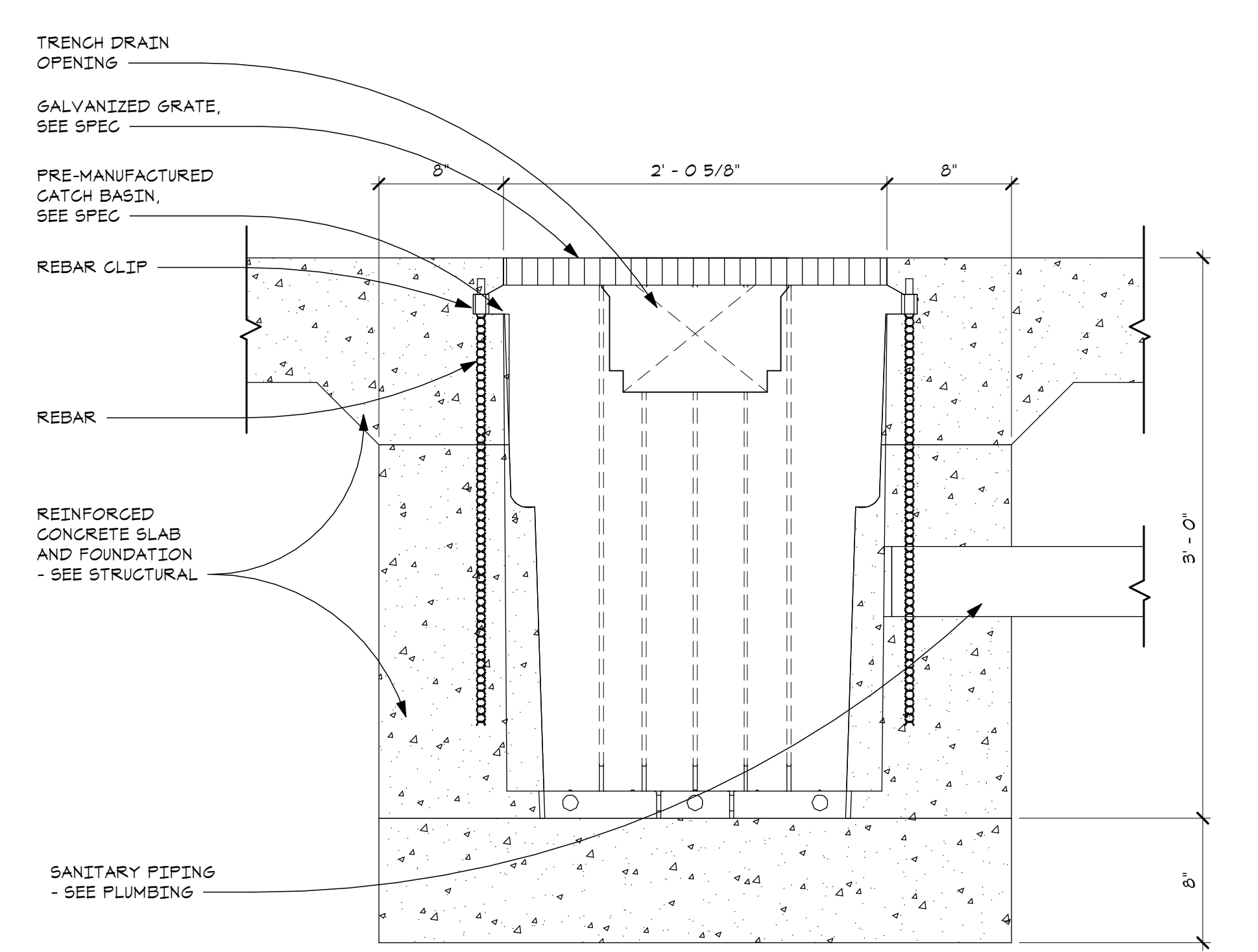
D4 ENLARGED ADMIN ROOF CONNECTION TO EXISTING DETAIL
 SCALE - 1 1/2" = 1'-0"



B4 ENLARGED CMU WALL BASE DETAIL
 SCALE - 1 1/2" = 1'-0"



D1 TRENCH DRAIN DETAIL
 SCALE - 1 1/2" = 1'-0"



B1 CATCH BASIN DETAIL
 SCALE - 1 1/2" = 1'-0"

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ENLARGED SECTION DETAILS

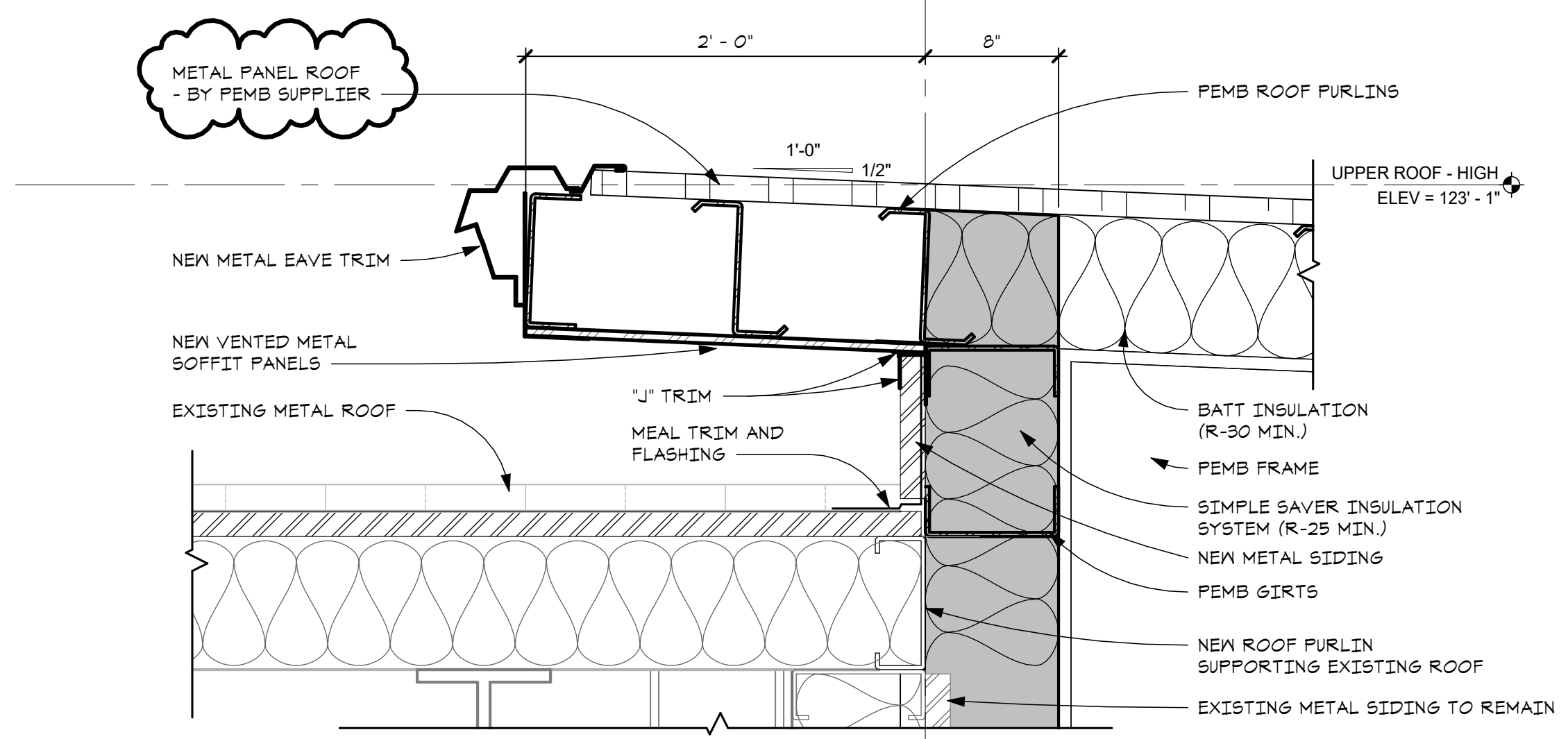
SHEET TITLE

23-319

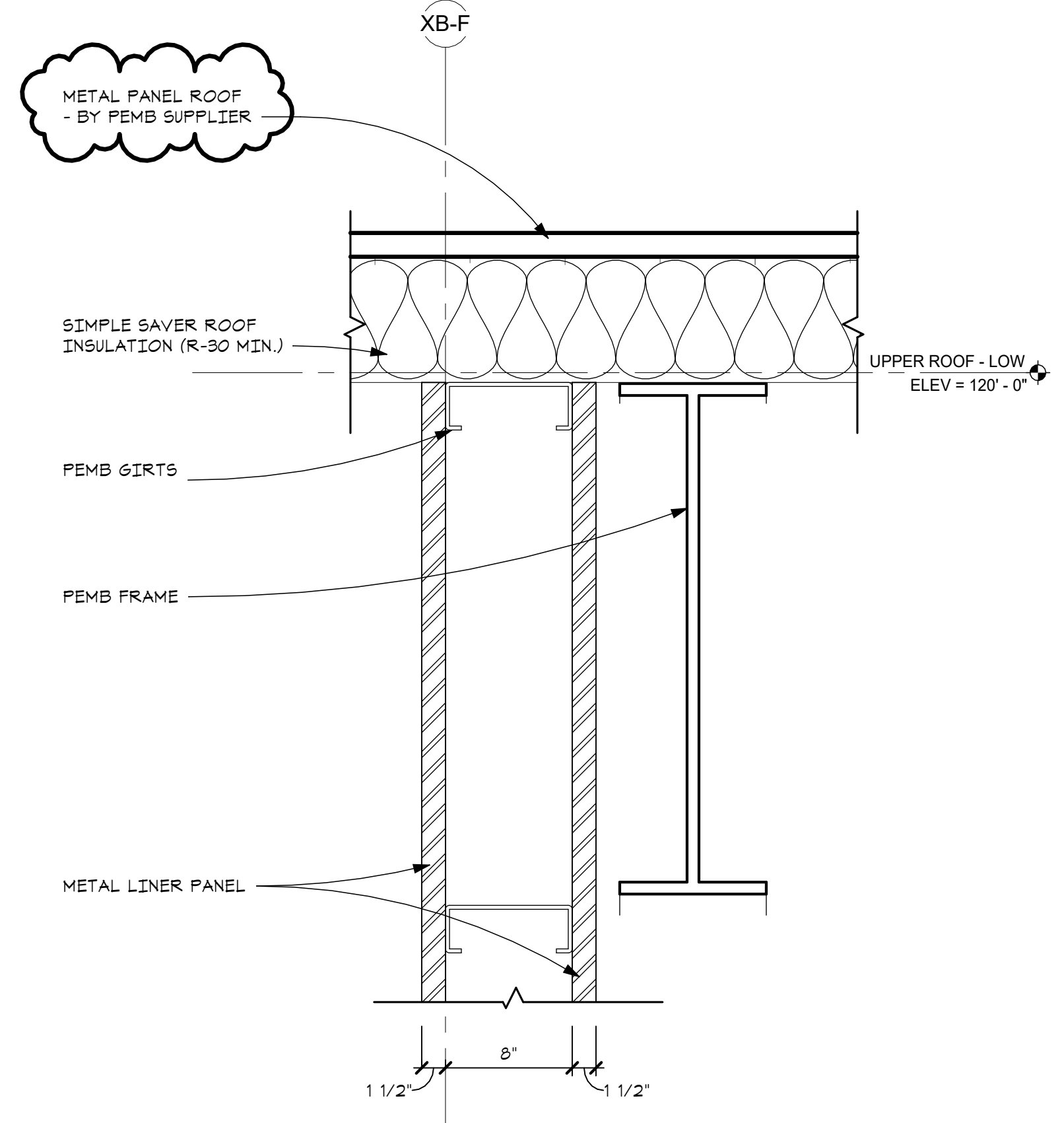
PROJECT NUMBER

A-330

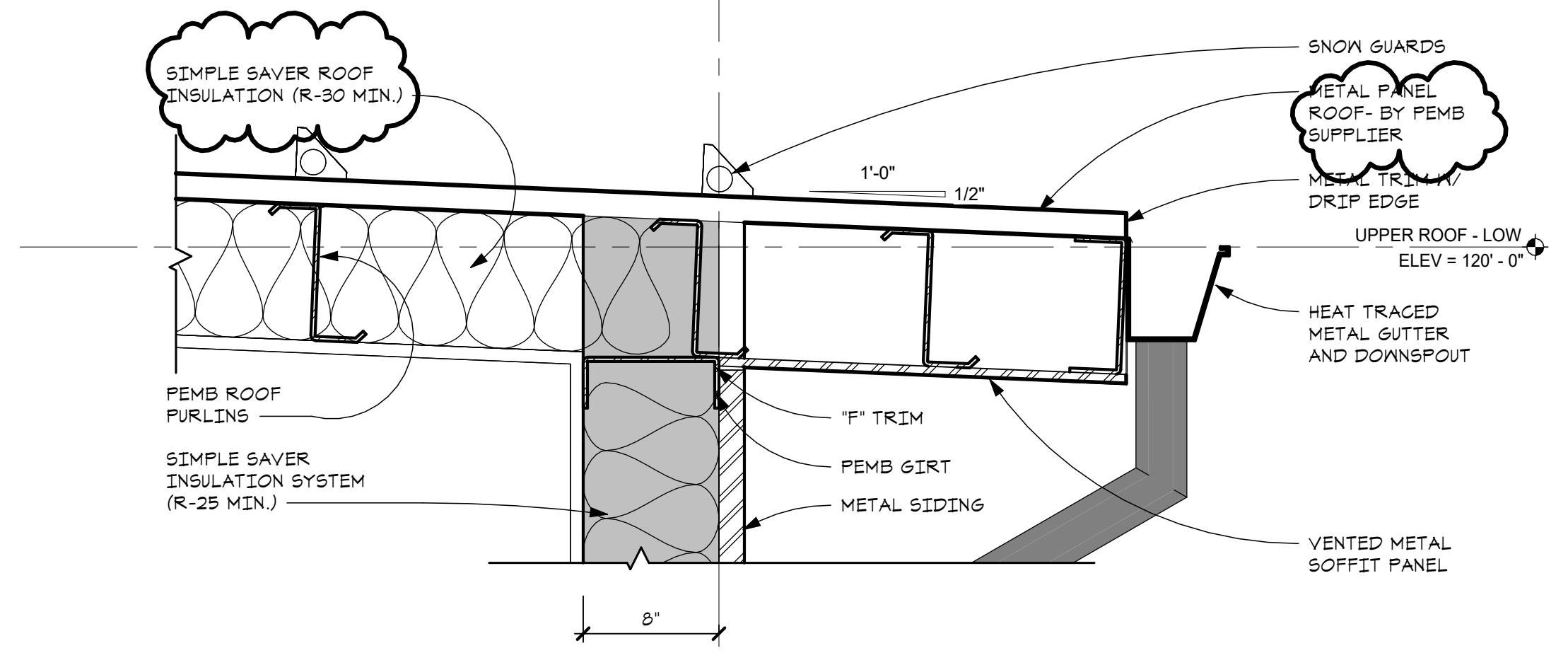
SHEET NUMBER



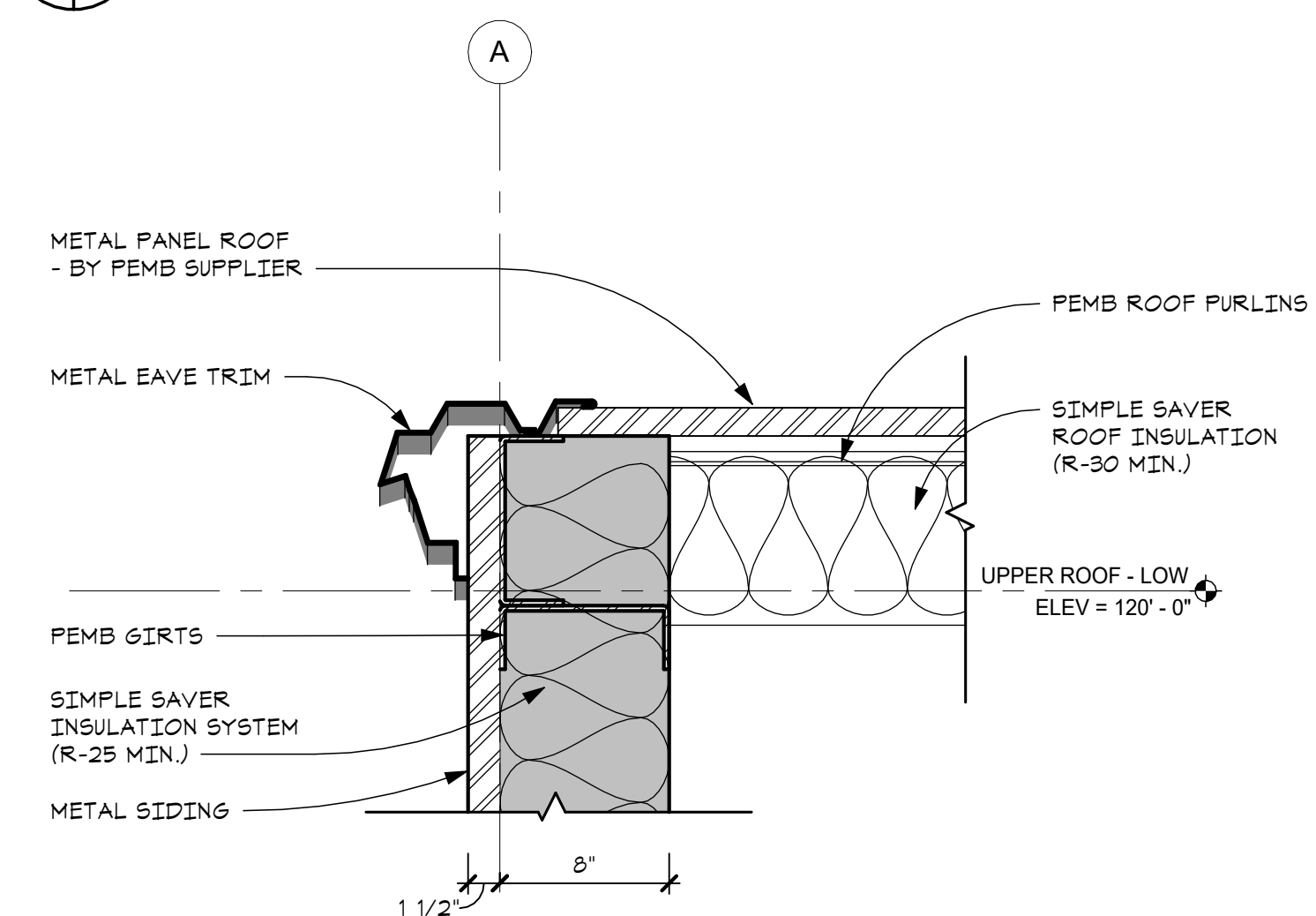
ENLARGED PRE-ENG ROOF OVERHANG DETAIL
 H6
 A-331 | A-312
 SCALE - 1 1/2" = 1'-0"



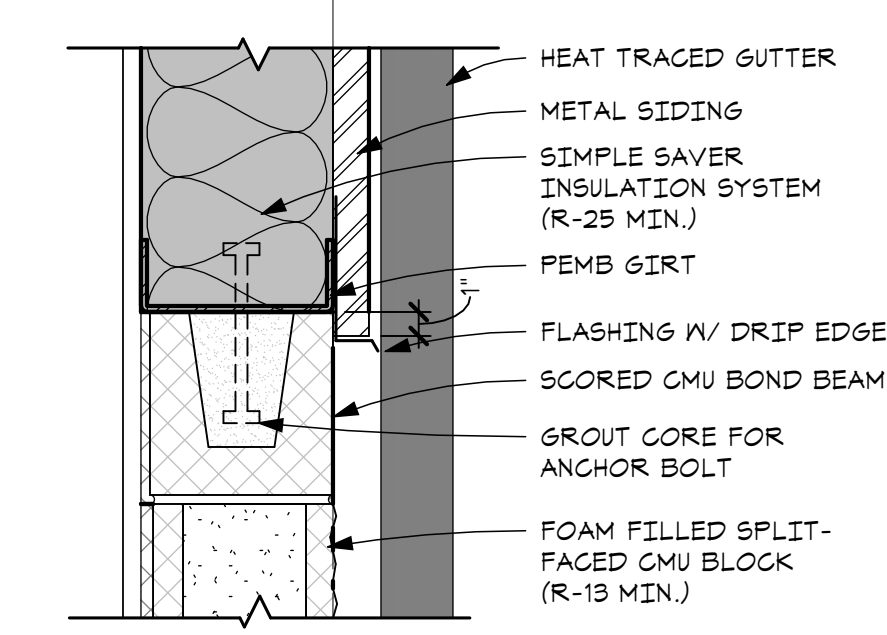
ENLARGED SEPARATION WALL CONNECTION TO ROOF DETAIL
 E5
 A-331 | A-313
 SCALE - 1 1/2" = 1'-0"



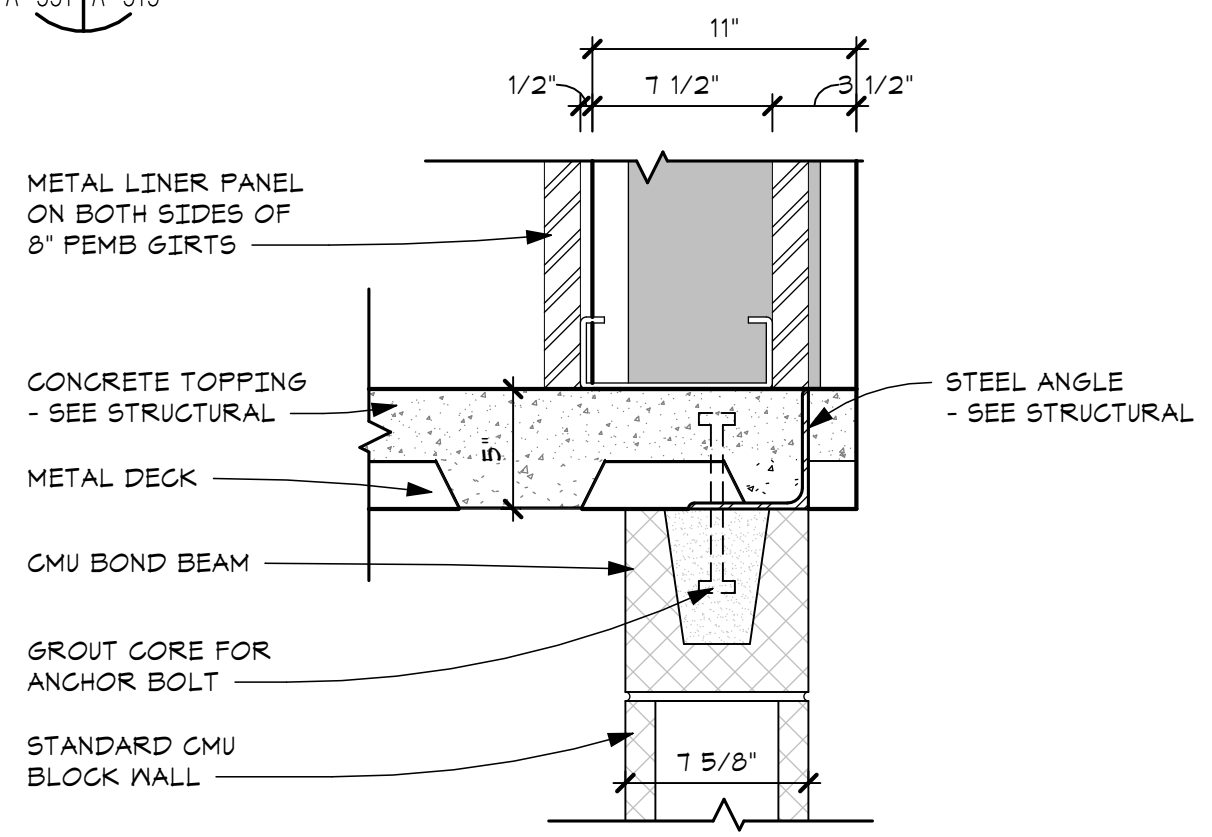
ENLARGED PRE-ENG ROOF OVERHANG DETAIL
 B6
 A-331 | A-312
 SCALE - 1 1/2" = 1'-0"



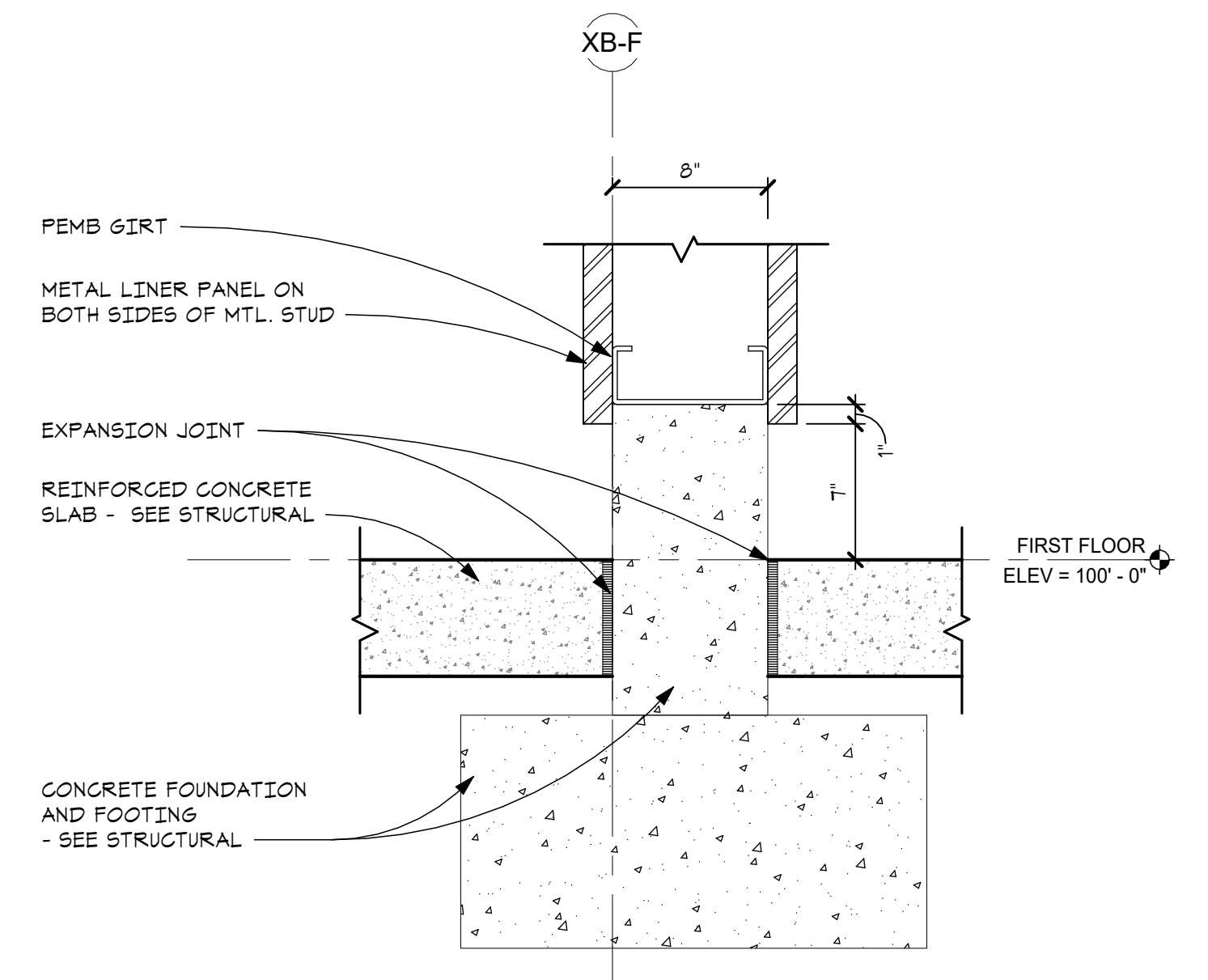
ENLARGED PRE-ENG RAKE DETAIL
 H5
 A-331 | A-313
 SCALE - 1 1/2" = 1'-0"



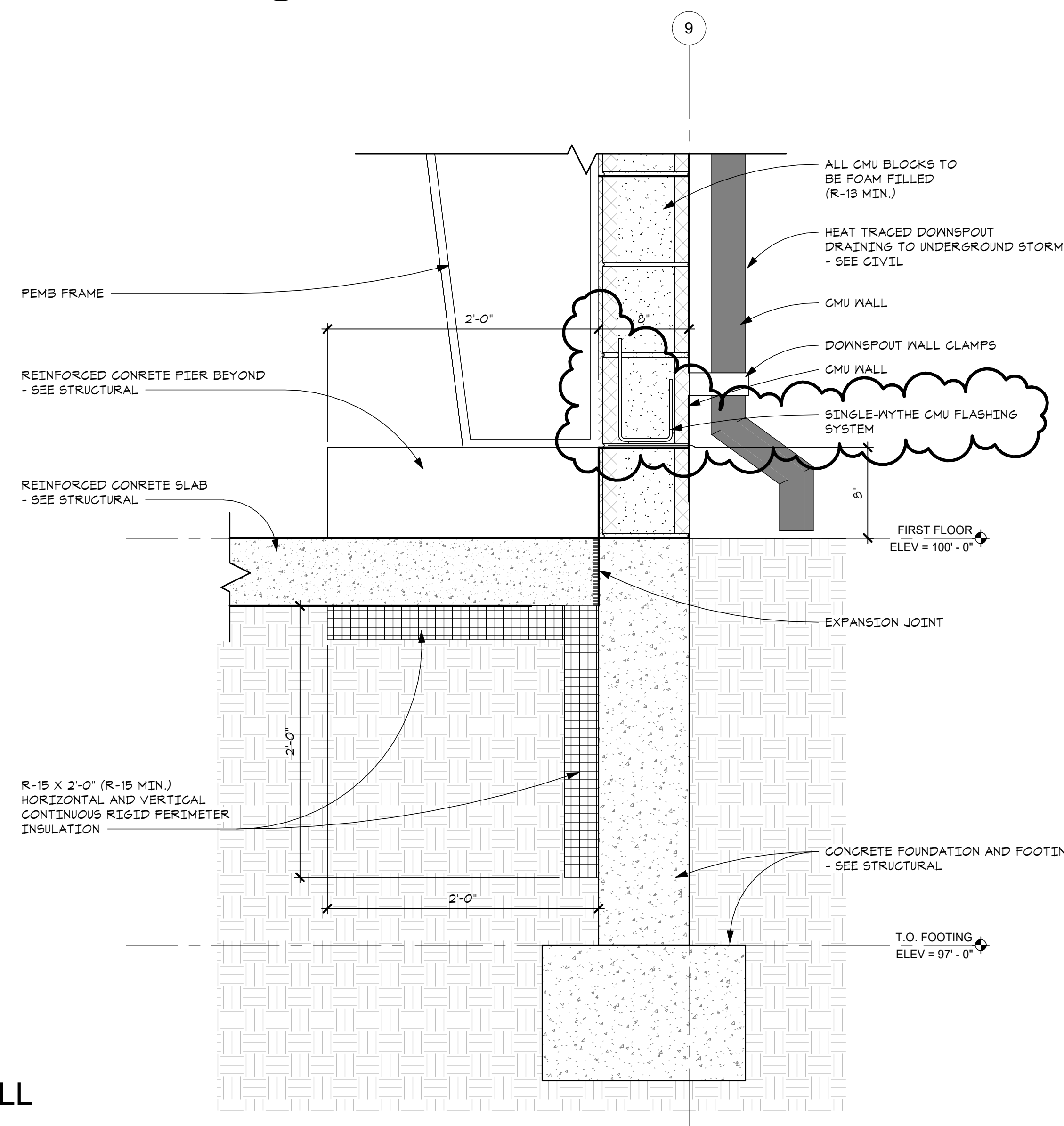
ENLARGED PRE-ENG CONNECTION TO CMU DETAIL
 B5
 A-331 | A-312
 SCALE - 1 1/2" = 1'-0"



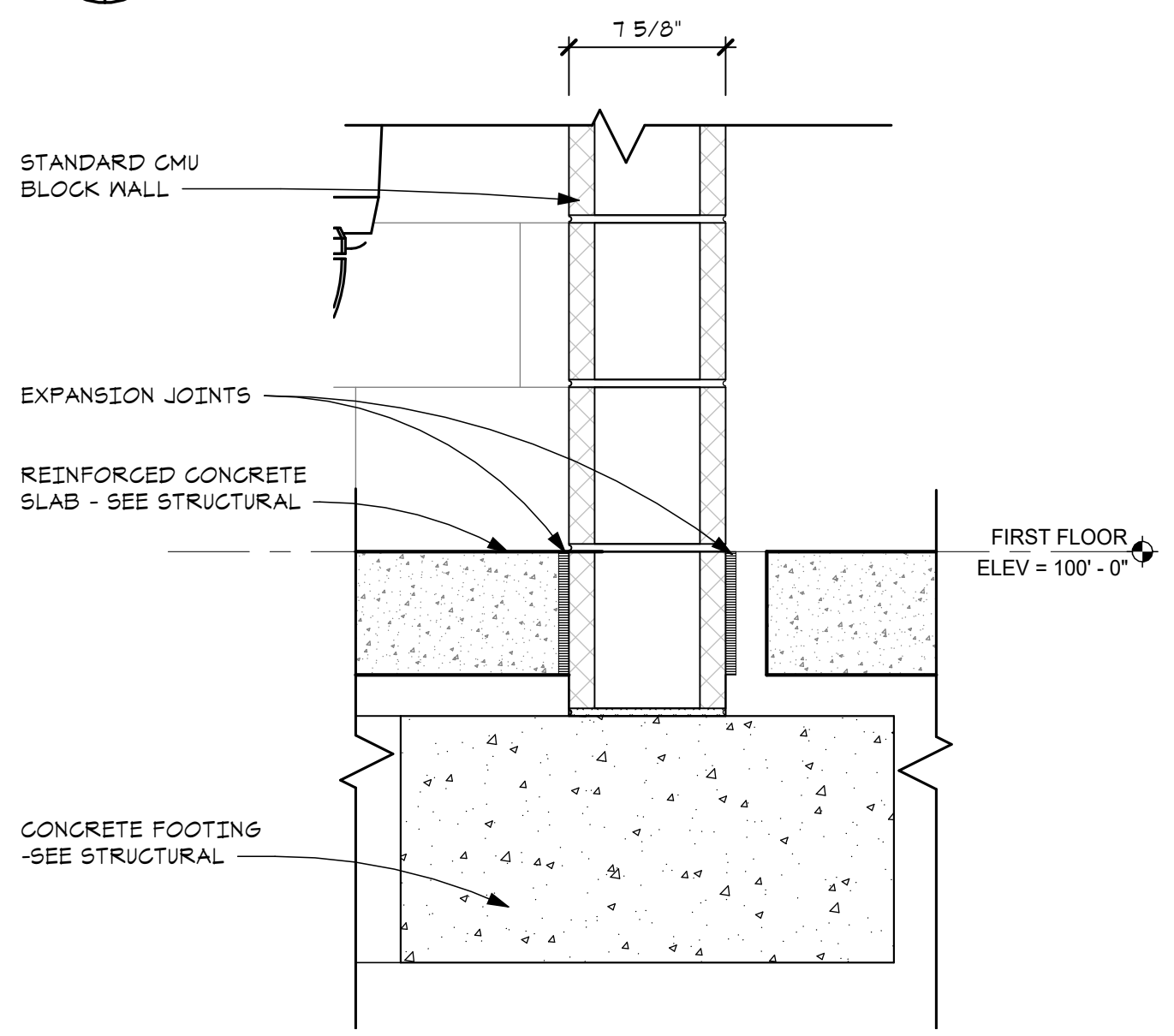
ENLARGED EQUIPMENT PLATFORM EDGE DETAIL
 H3
 A-331 | A-314
 SCALE - 1 1/2" = 1'-0"



ENLARGED PRE-ENG SEPARATION WALL BASE
 E1
 A-331 | A-313
 SCALE - 1 1/2" = 1'-0"



ENLARGED PER-ENG CMU WALL BASE
 B1
 A-331 | A-312
 SCALE - 1 1/2" = 1'-0"



ENLARGED CMU WALL BASE
 H1
 A-331 | A-314
 SCALE - 1 1/2" = 1'-0"

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ENLARGED SECTION DETAILS

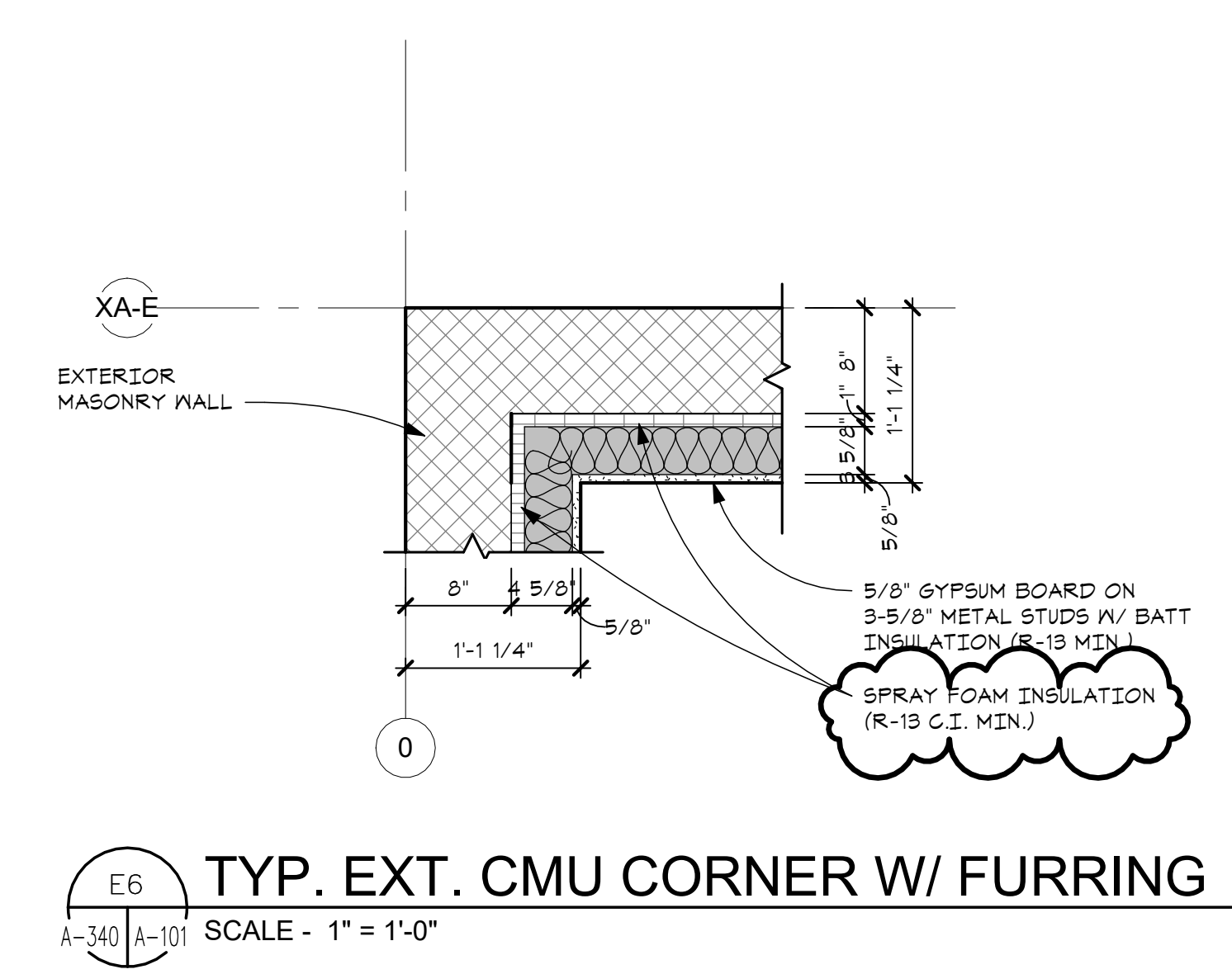
SHEET TITLE

23-319

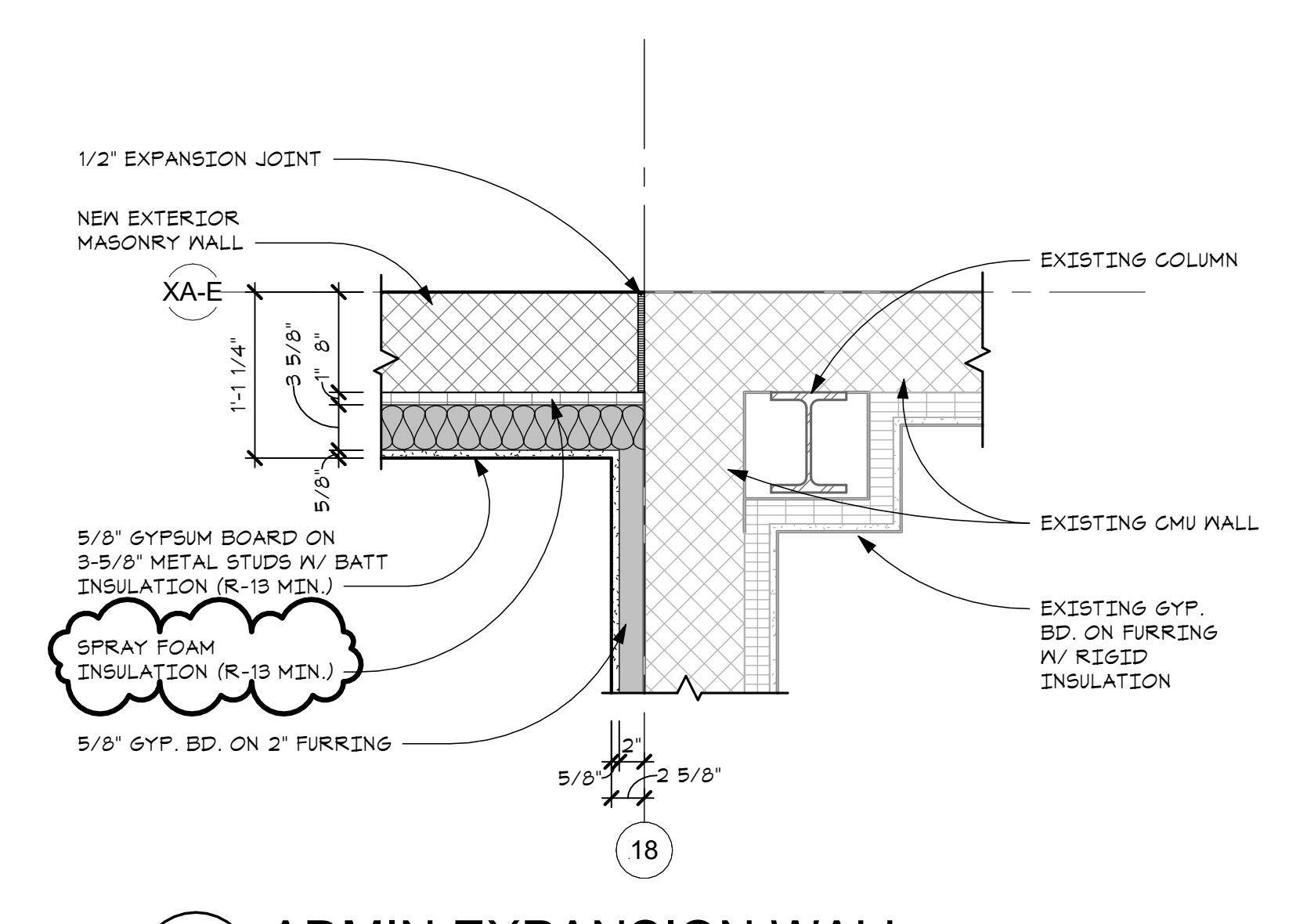
PROJECT NUMBER

A-331

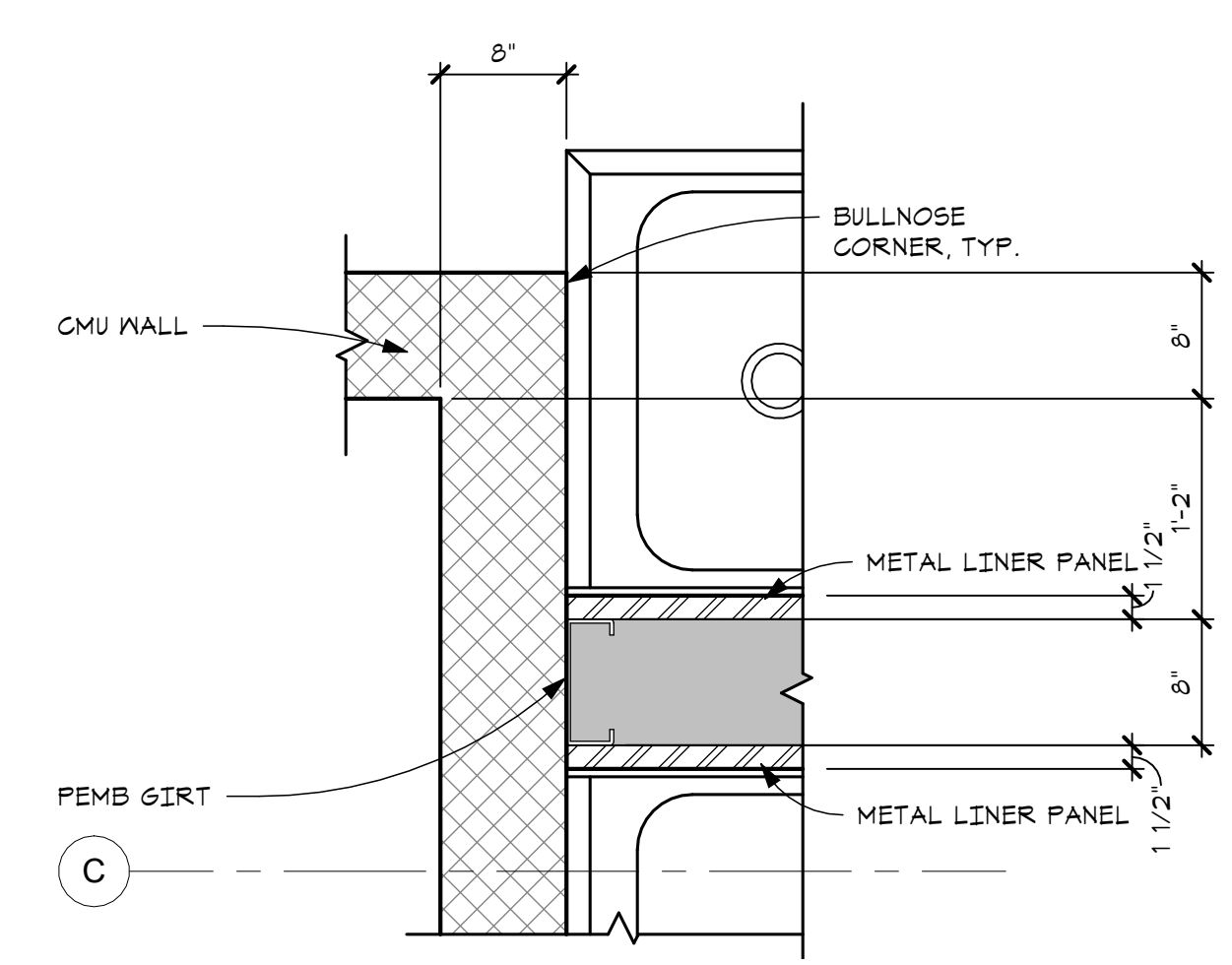
SHEET NUMBER



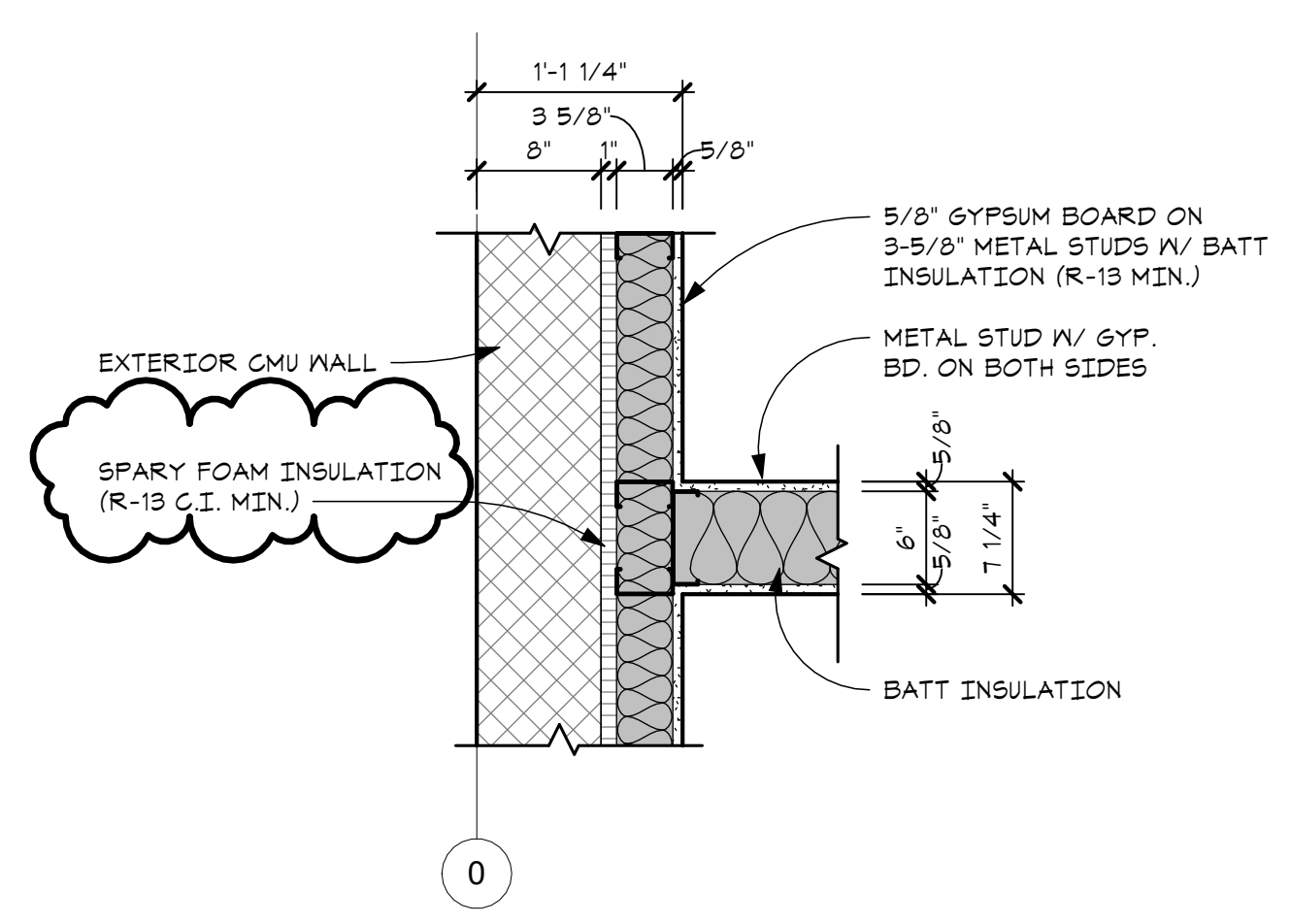
E6 TYP. EXT. CMU CORNER W/ FURRING
 SCALE - 1" = 1'-0"



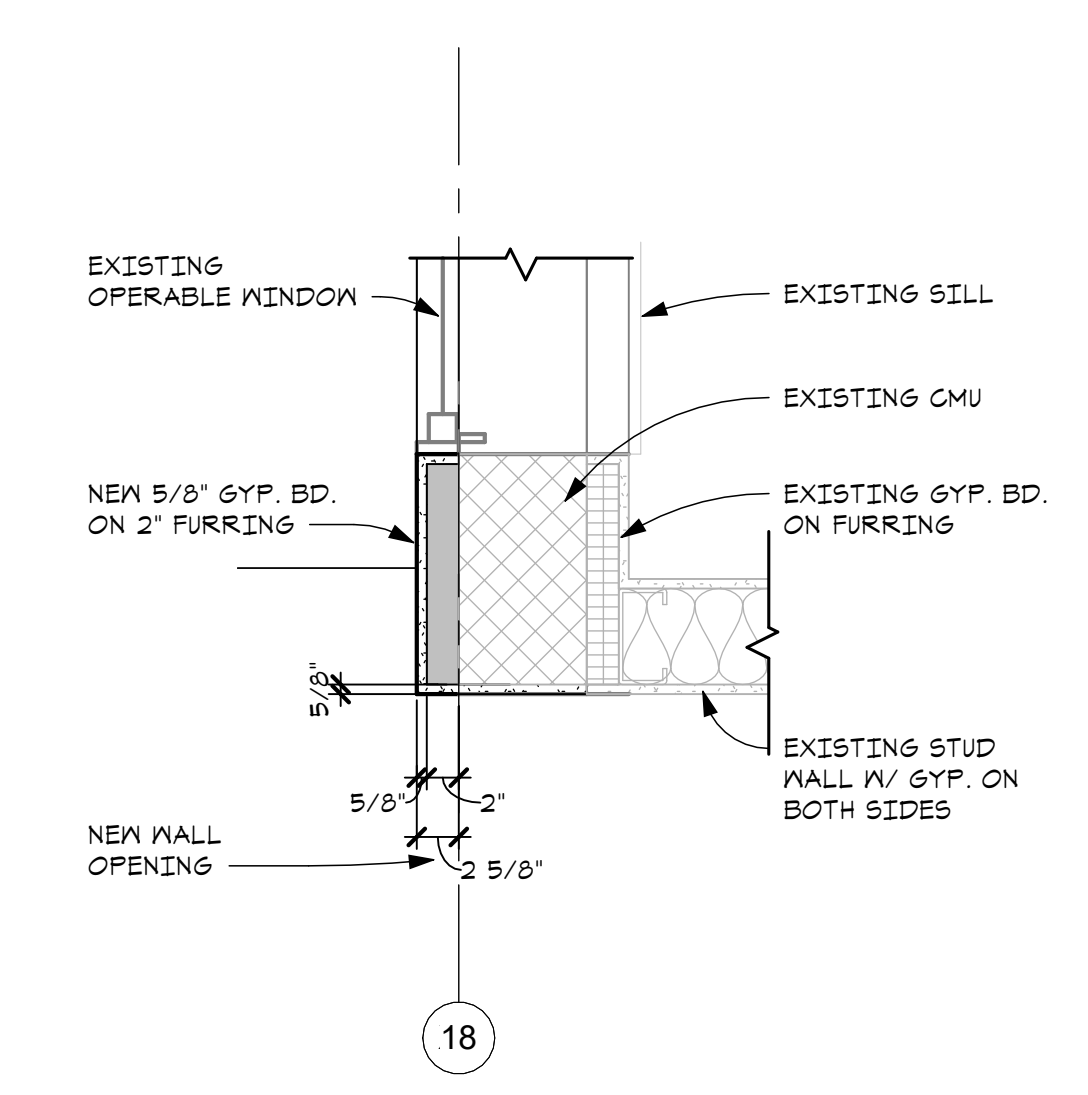
B6 ADMIN EXPANSION WALL
 SCALE - 1" = 1'-0"



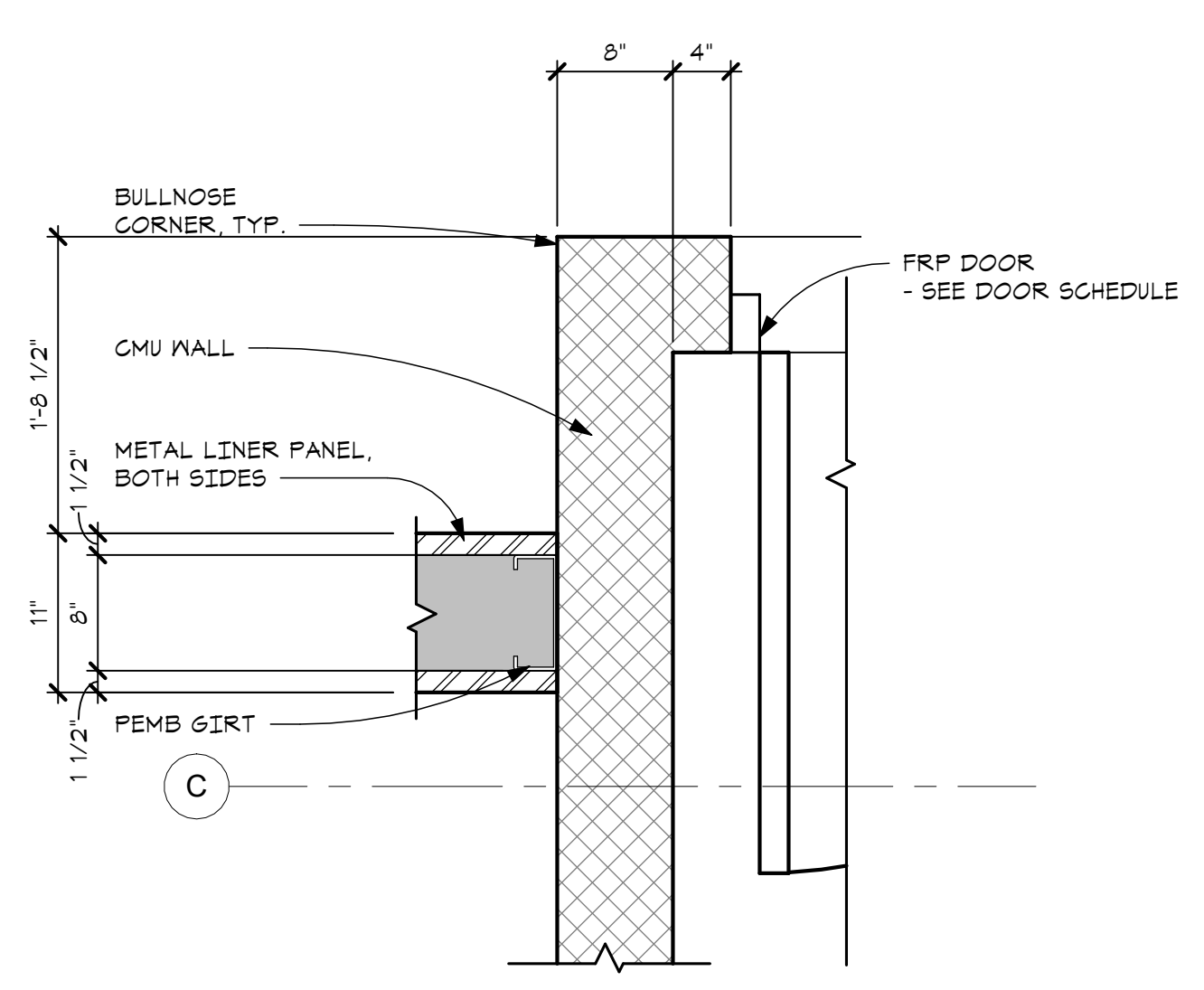
H4 CMU AND SEPARATION WALL
 SCALE - 1" = 1'-0"



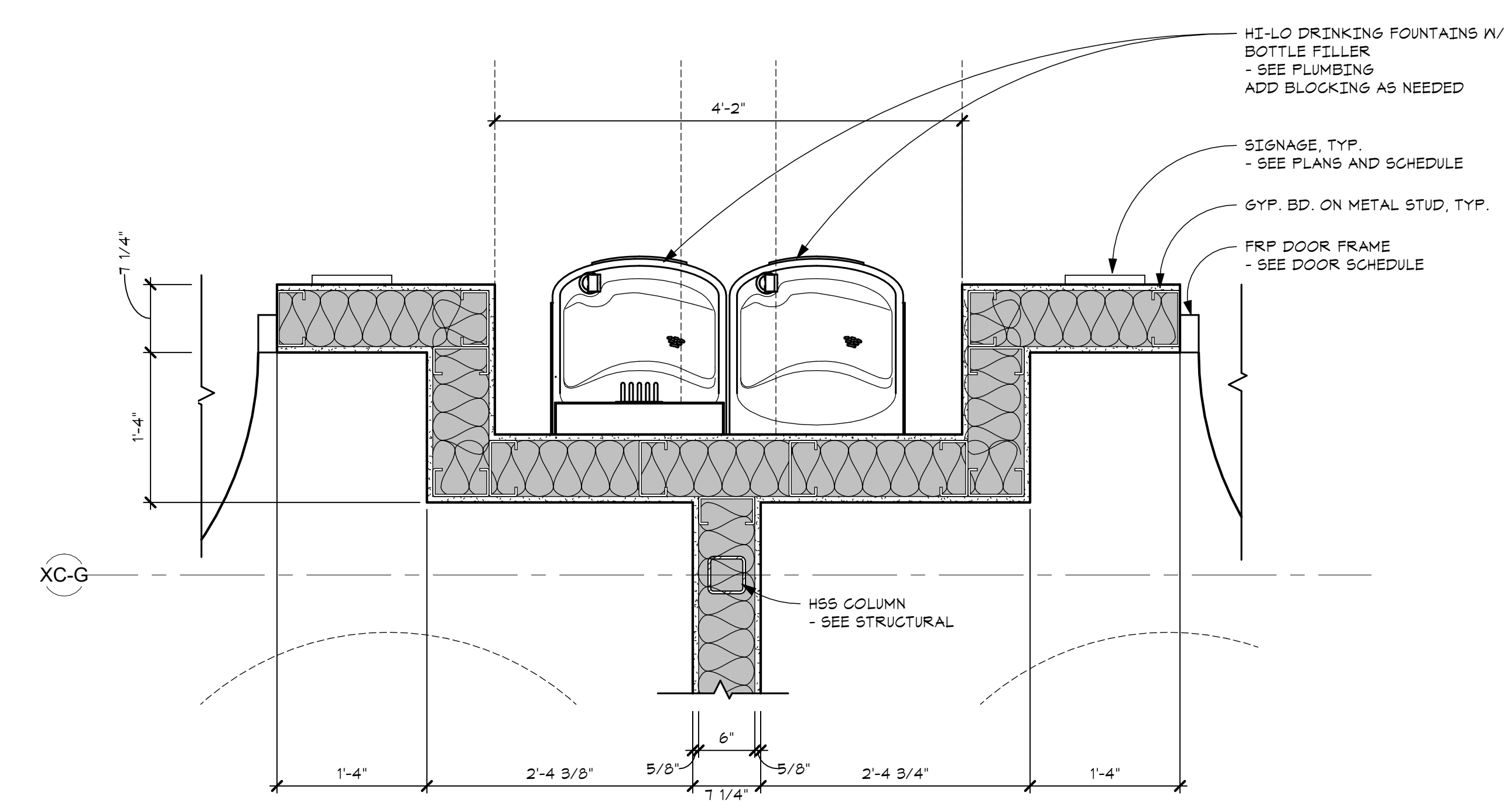
E4 CMU WALL W/ PERPENDICULAR STUD WALL
 SCALE - 1" = 1'-0"



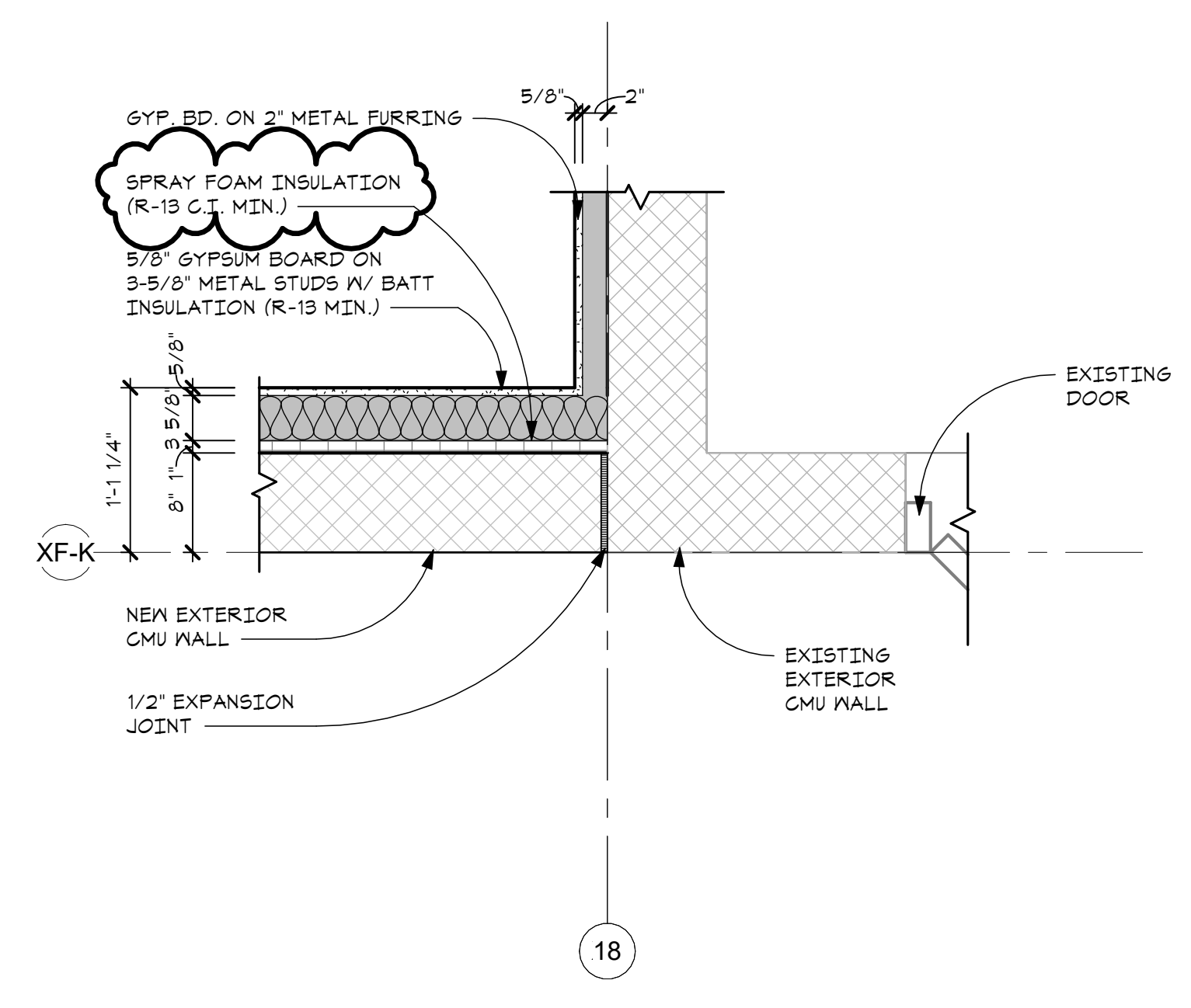
B4 NEW OPENING JAMB IN EXISTING CMU
 SCALE - 1" = 1'-0"



H1 CMU AND SEPARATION WALL
 SCALE - 1" = 1'-0"



E1 DRINKING FOUNTAIN ALCOVE
 SCALE - 1" = 1'-0"



B1 ADMIN EXPANSION WALL
 SCALE - 1" = 1'-0"

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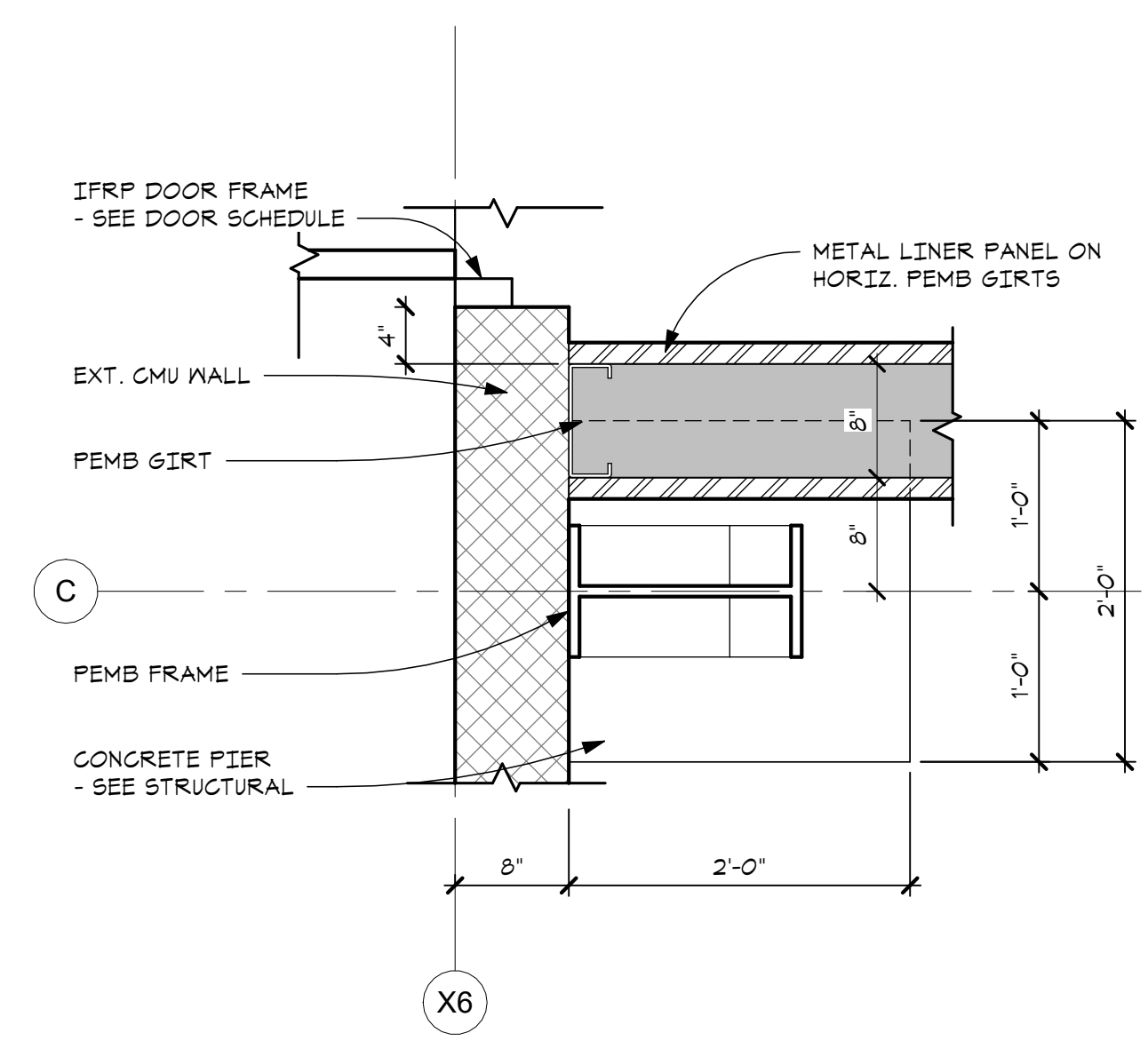
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23-319

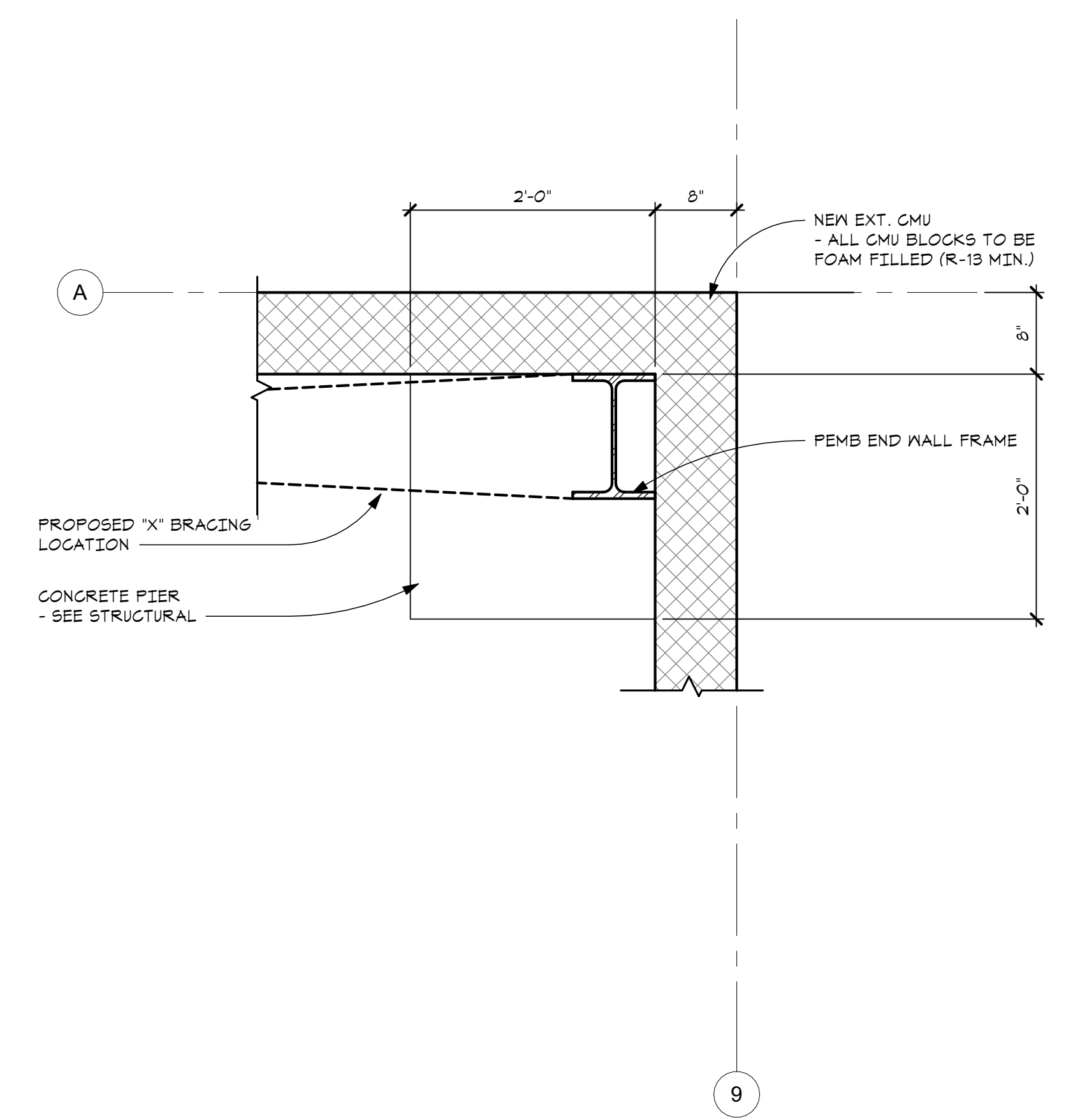
PROJECT NUMBER

A-340

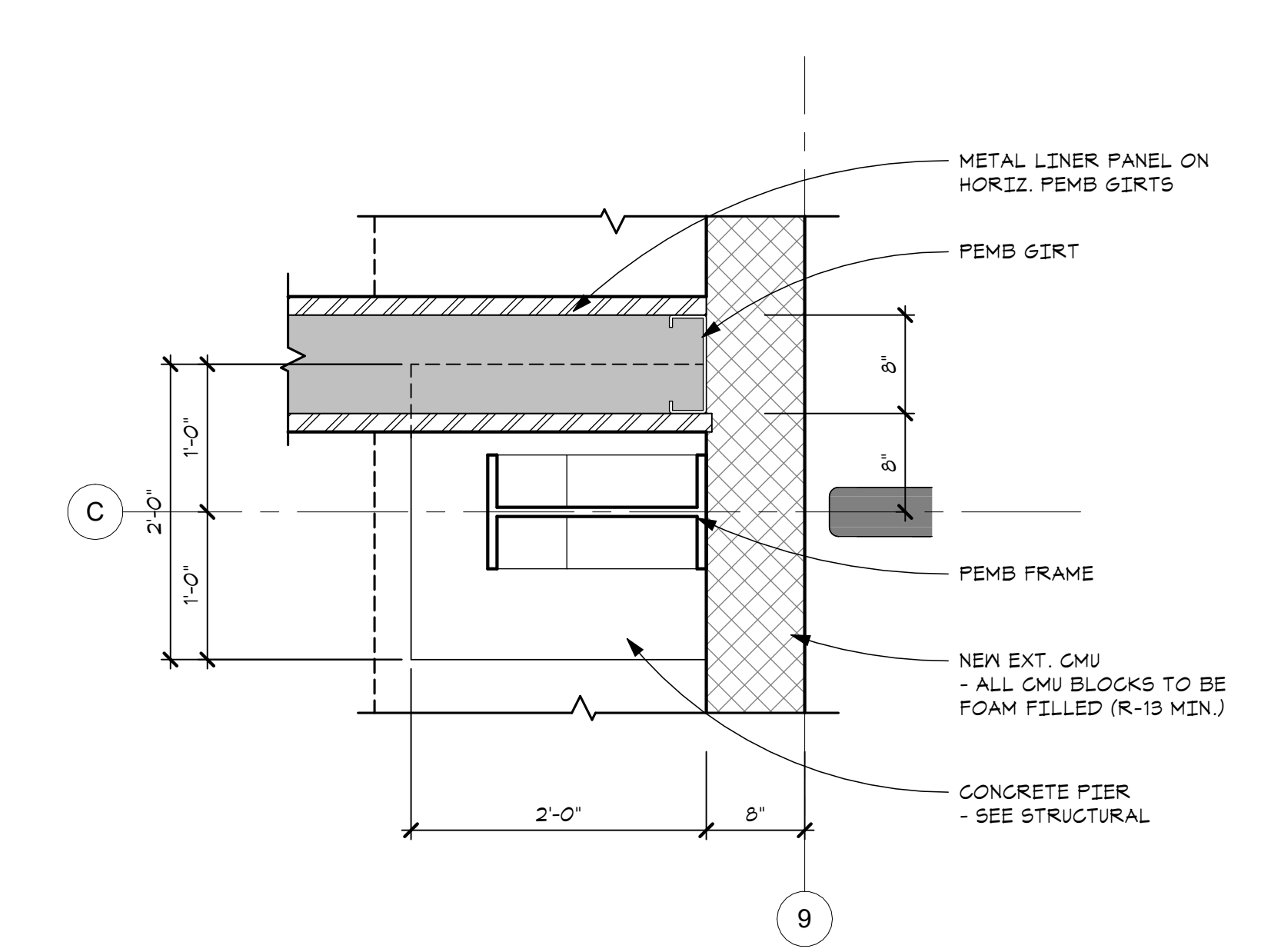
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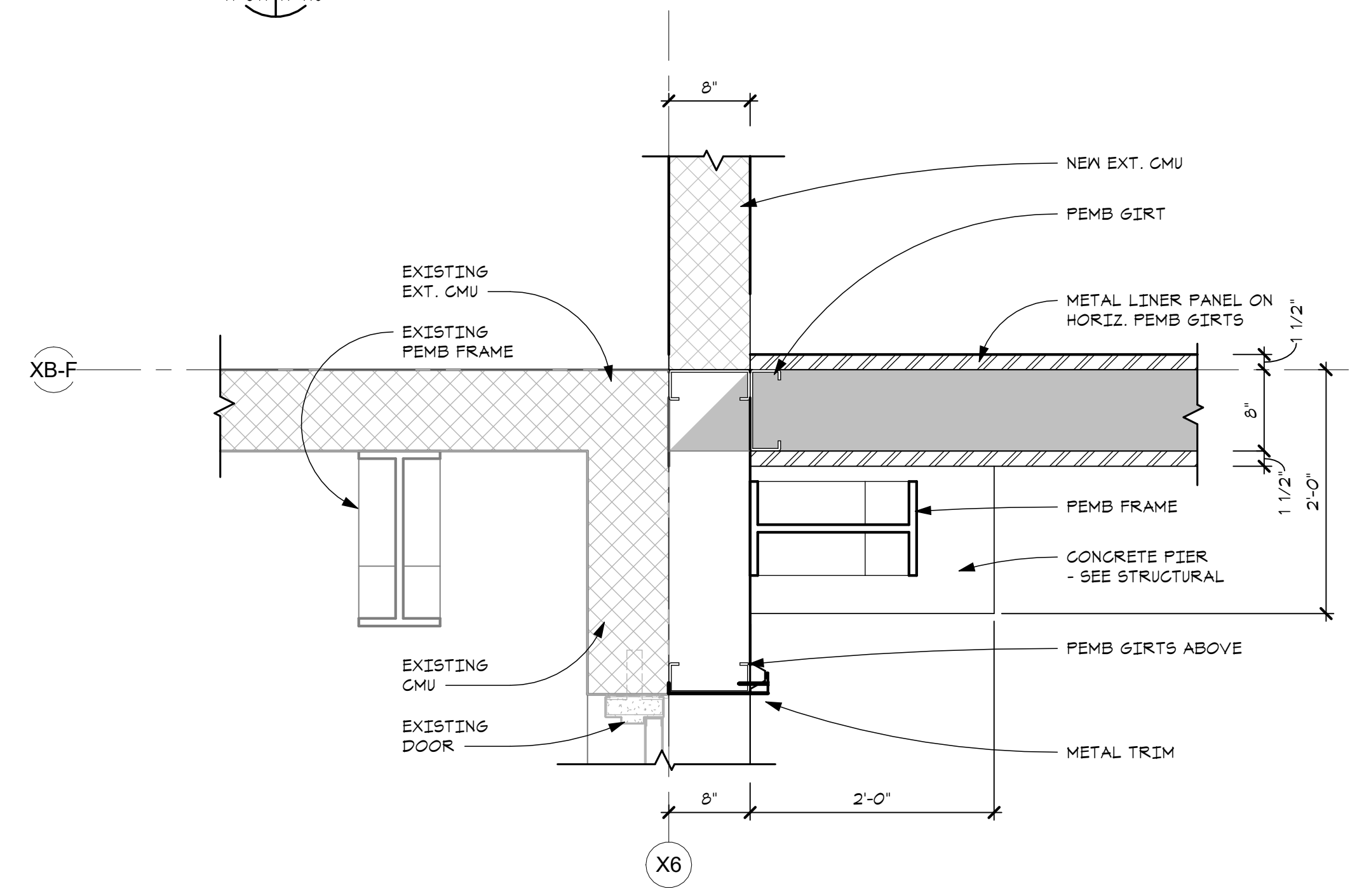
H6 SEPARATION AND EXT WALL DETAIL
 A-341 A-101 SCALE - 1" = 1'-0"



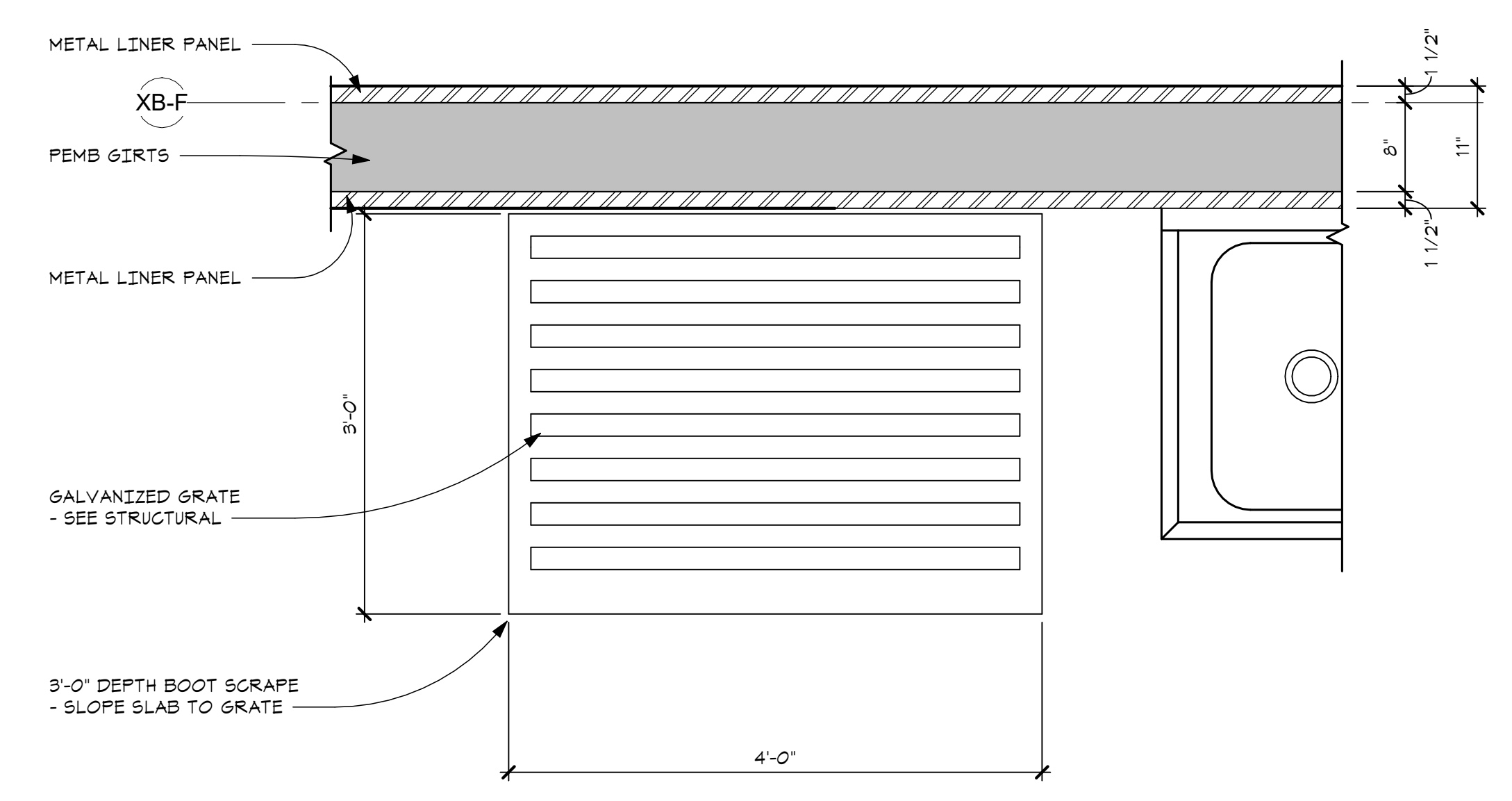
E6 TYP. PERMANENT WALL CORNER
 A-341 A-101 SCALE - 1" = 1'-0"



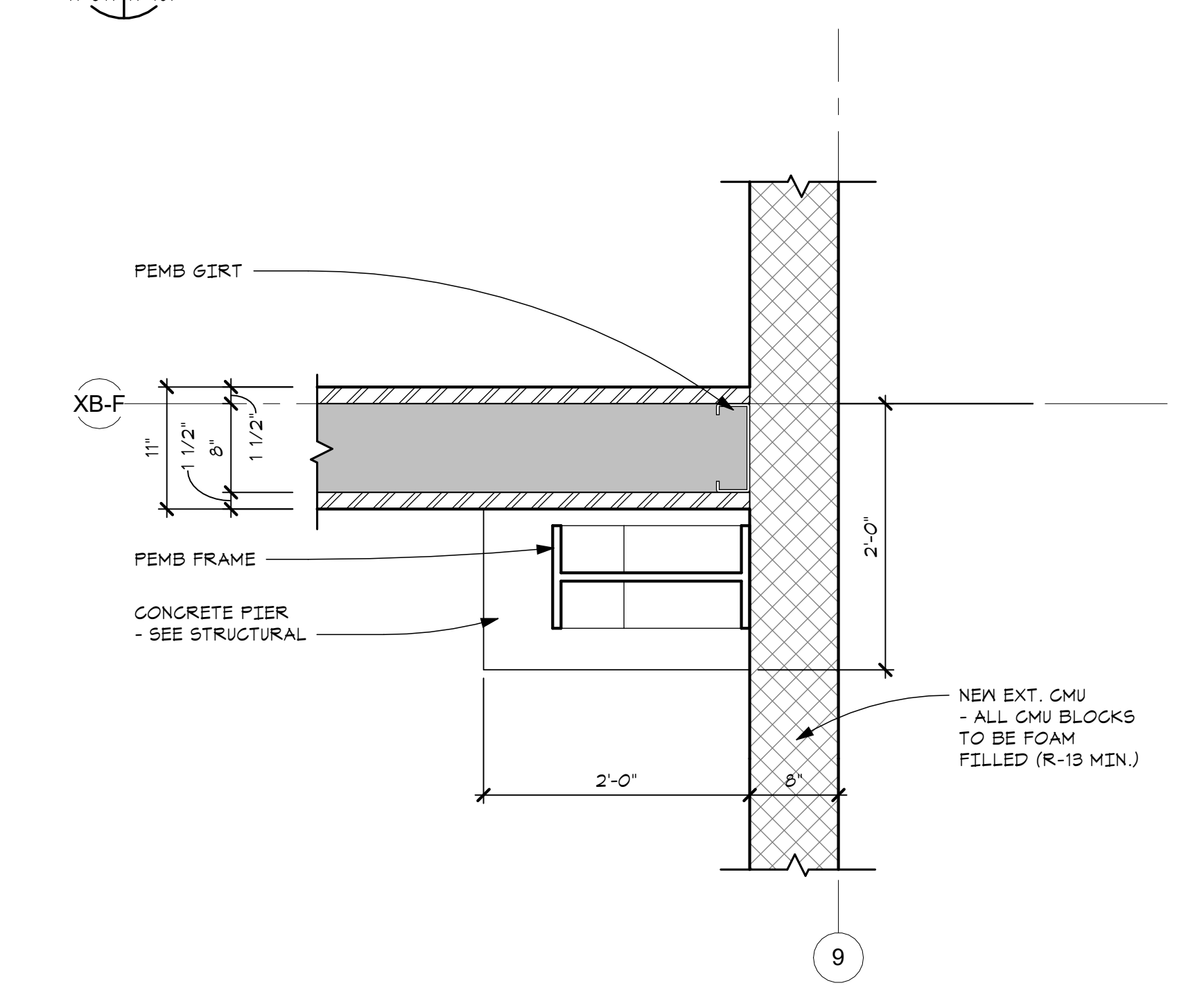
B6 SEPARATION AND EXT WALL DETAIL
 A-341 A-101 SCALE - 1" = 1'-0"



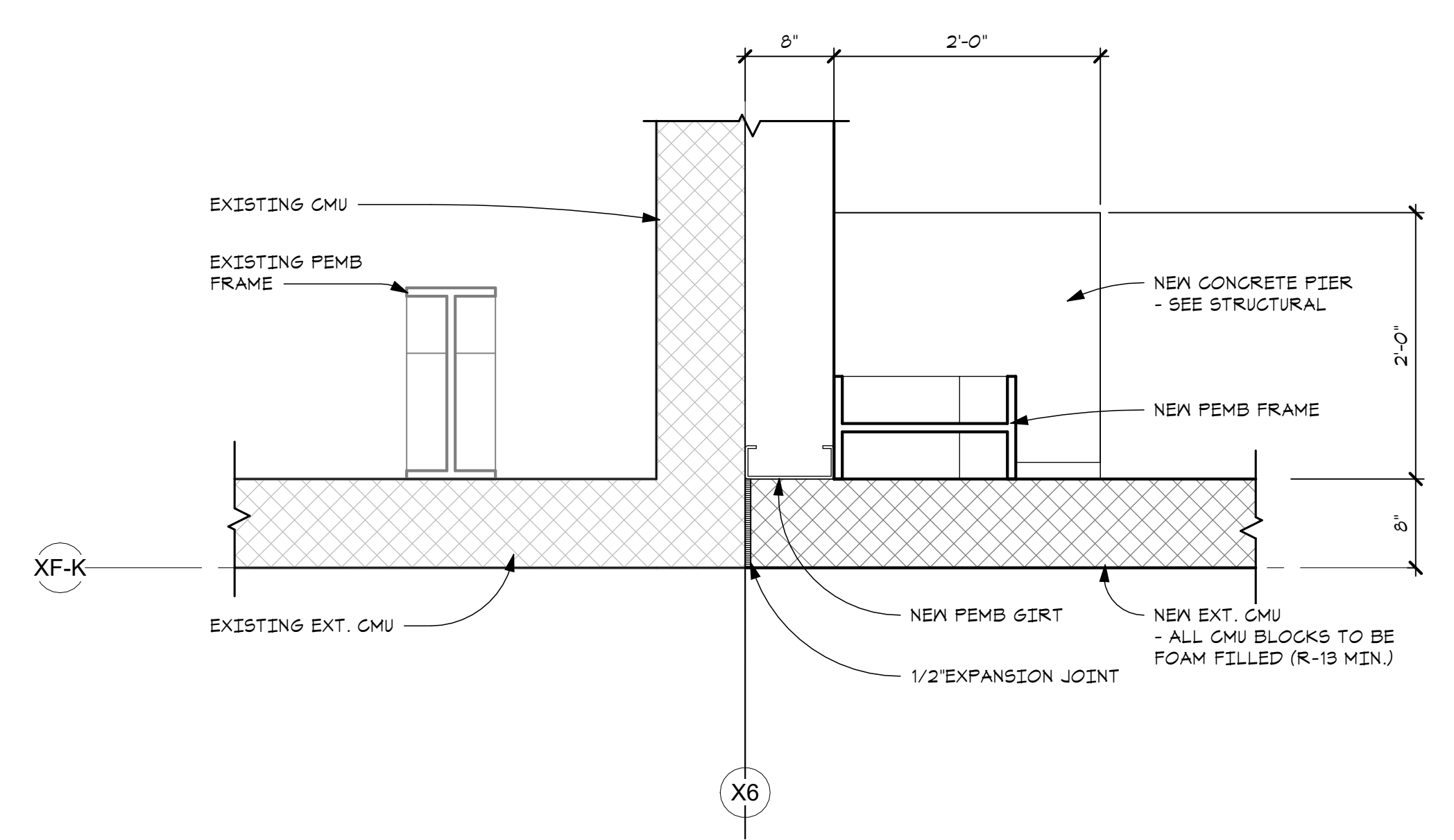
H3 SEPARATION, EXT. AND EXIST. WALL DETAIL
 A-341 A-101 SCALE - 1" = 1'-0"



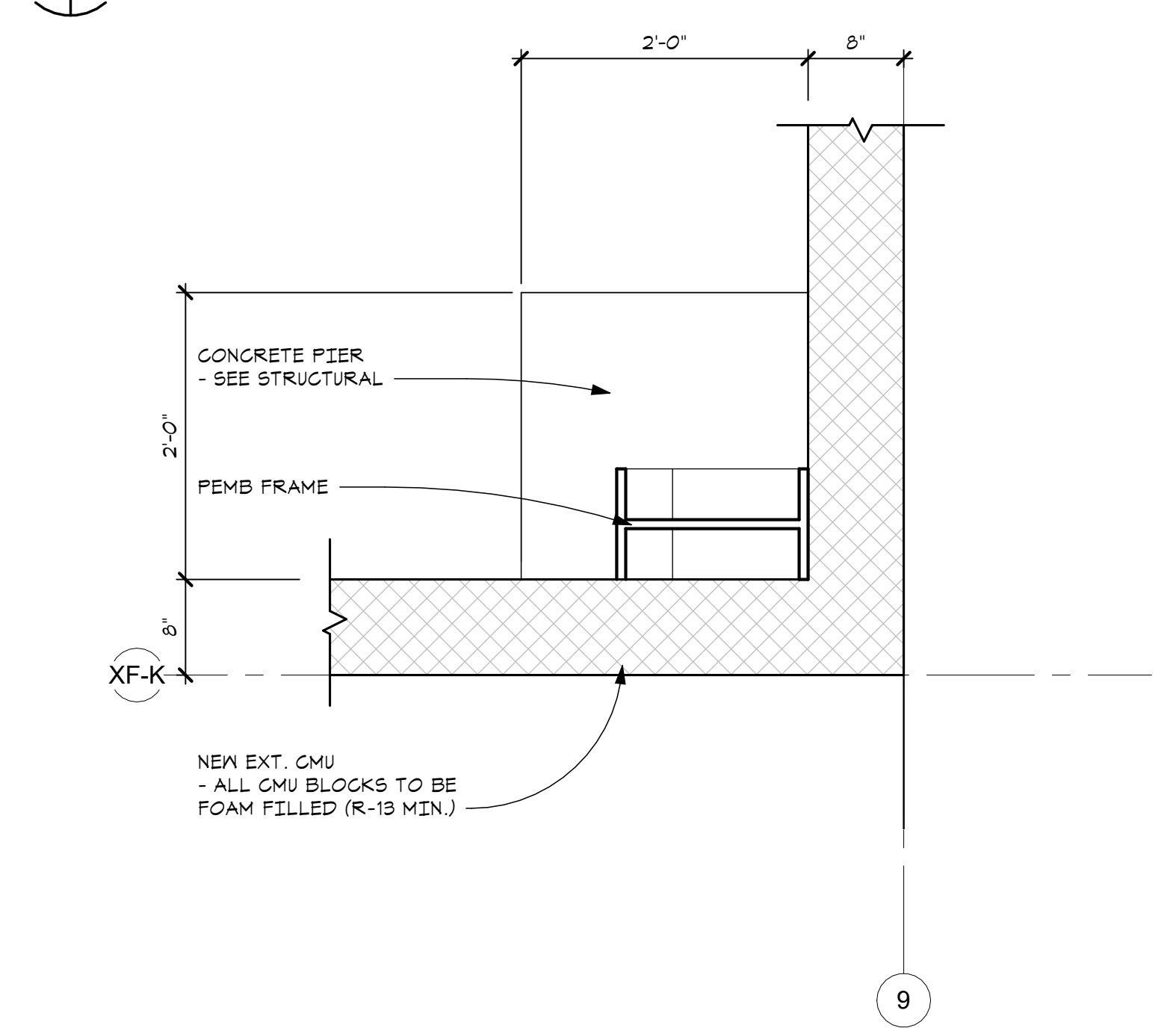
E2 BOOTSCRAPE DETAIL
 A-341 A-101 SCALE - 1" = 1'-0"



B3 SEPARATION AND EXT WALL DETAIL
 A-341 A-101 SCALE - 1" = 1'-0"



H1 FUTURE EXPANSION CORNER
 A-341 A-101 SCALE - 1" = 1'-0"



B1 FUTURE EXPANSION CORNER
 A-341 A-101 SCALE - 1" = 1'-0"

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ENLARGED PLAN
 DETAILS

SHEET TITLE

23-319

PROJECT NUMBER

A-341

SHEET NUMBER

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TYPICAL ROOF
 DETAILS

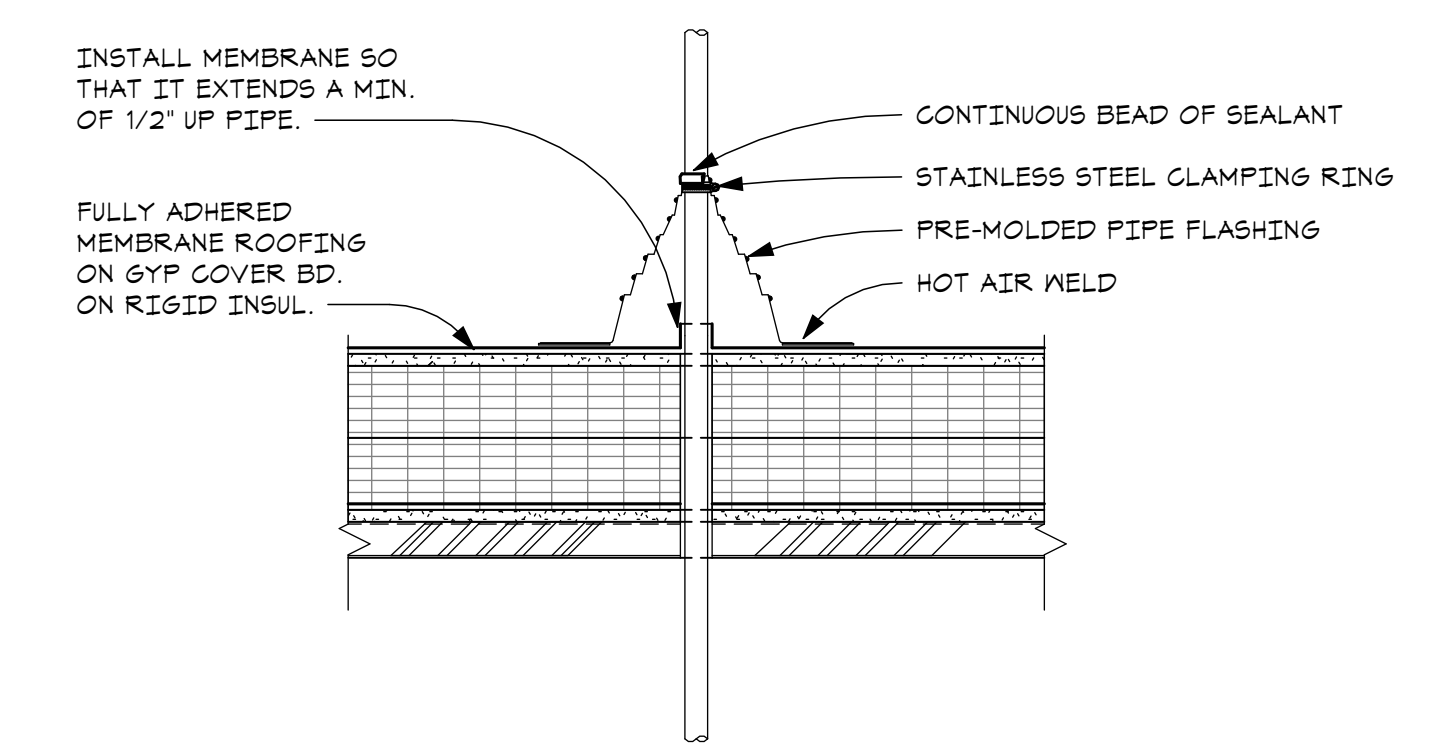
SHEET TITLE

23-319

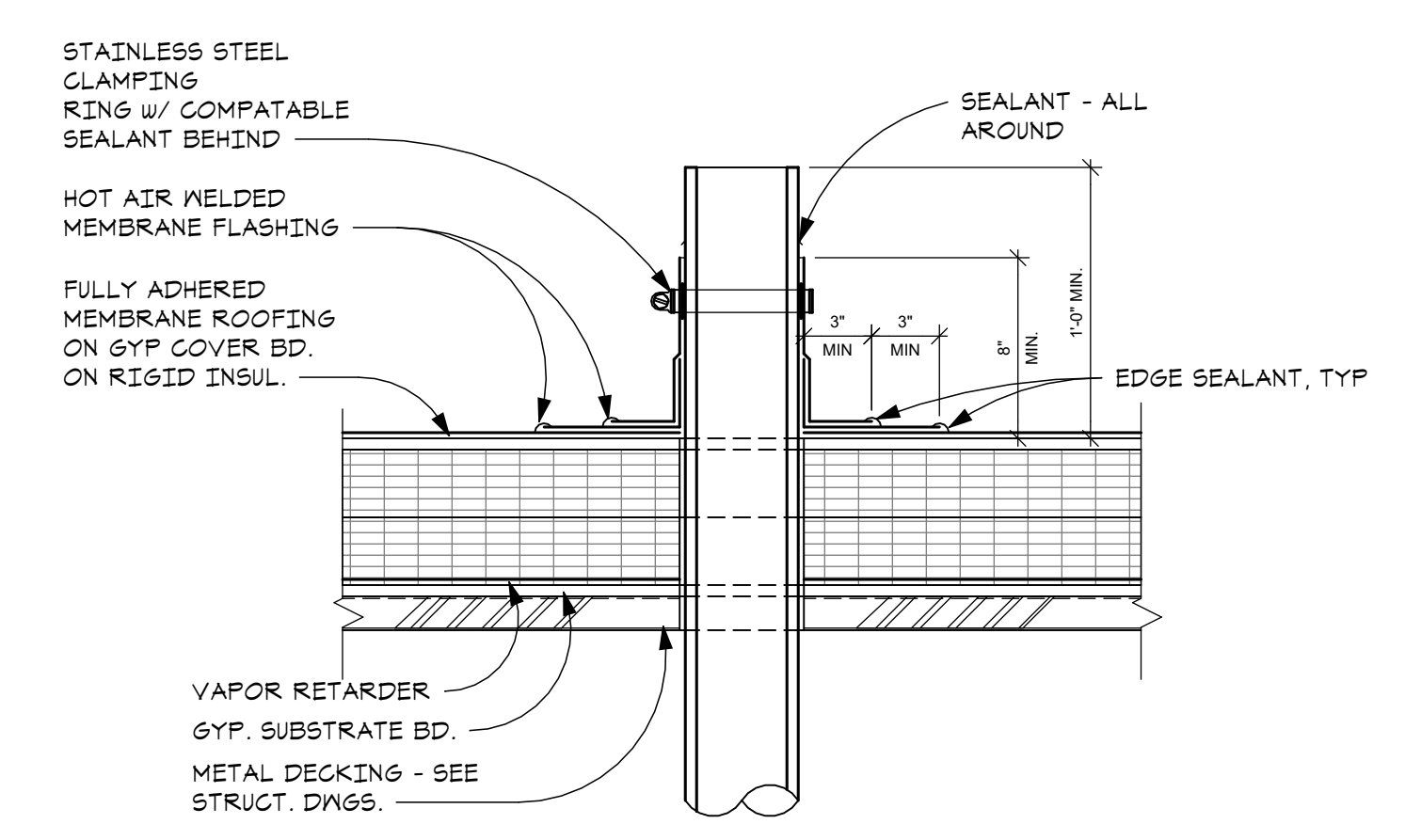
PROJECT NUMBER

A-360

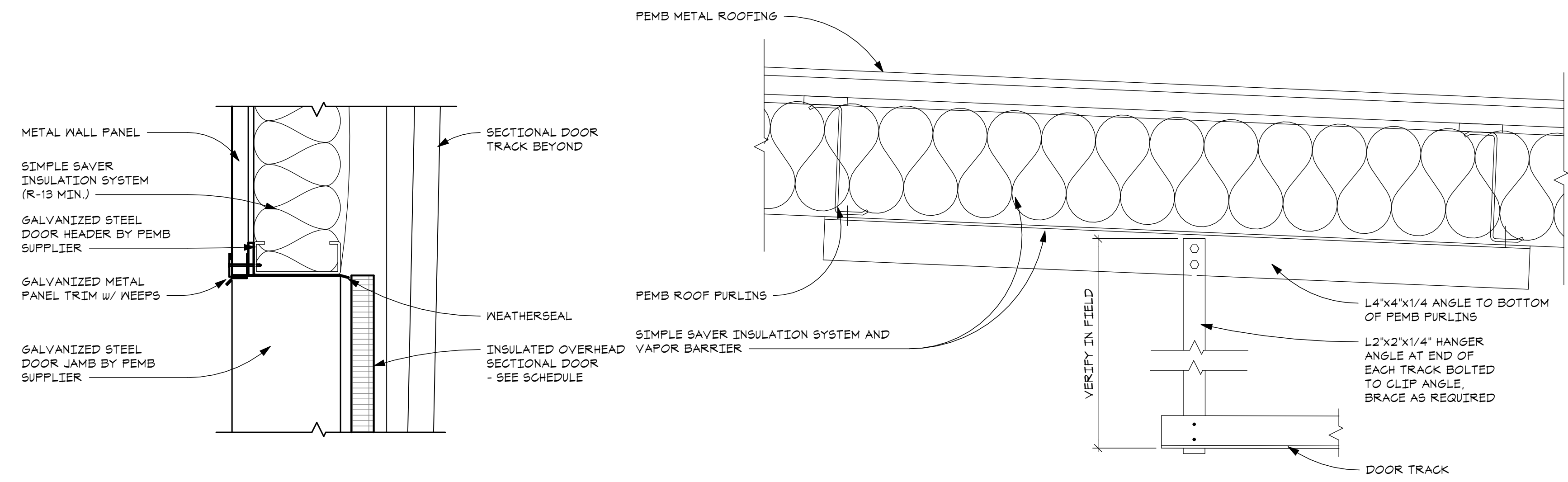
SHEET NUMBER



B.3 SINGLE PIPE/CONDUIT ROOF PENETRATION
 SCALE - 1 1/2" = 1'-0"

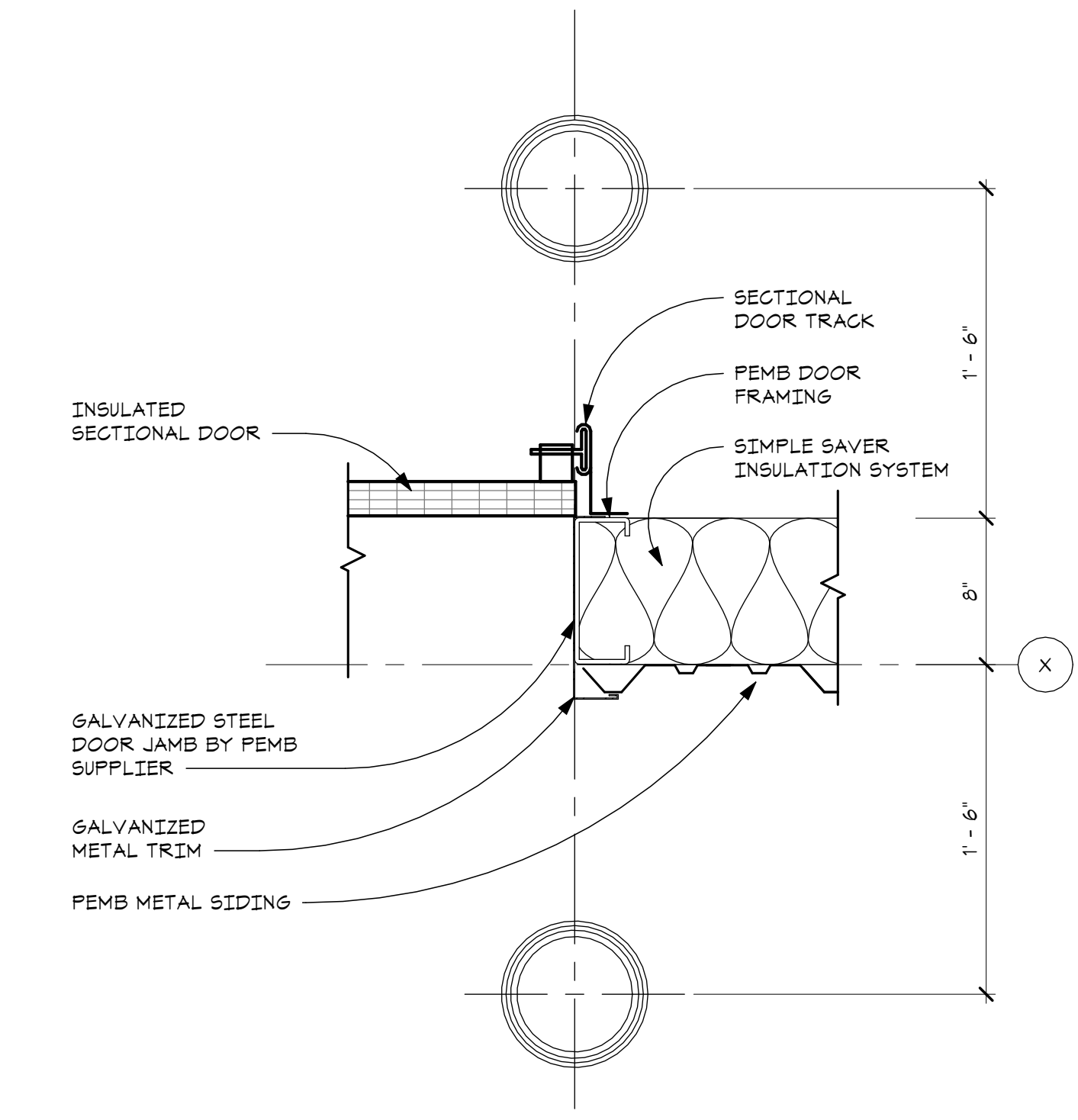


B.1 TYP PLUMBING VENT
 SCALE - 1 1/2" = 1'-0"

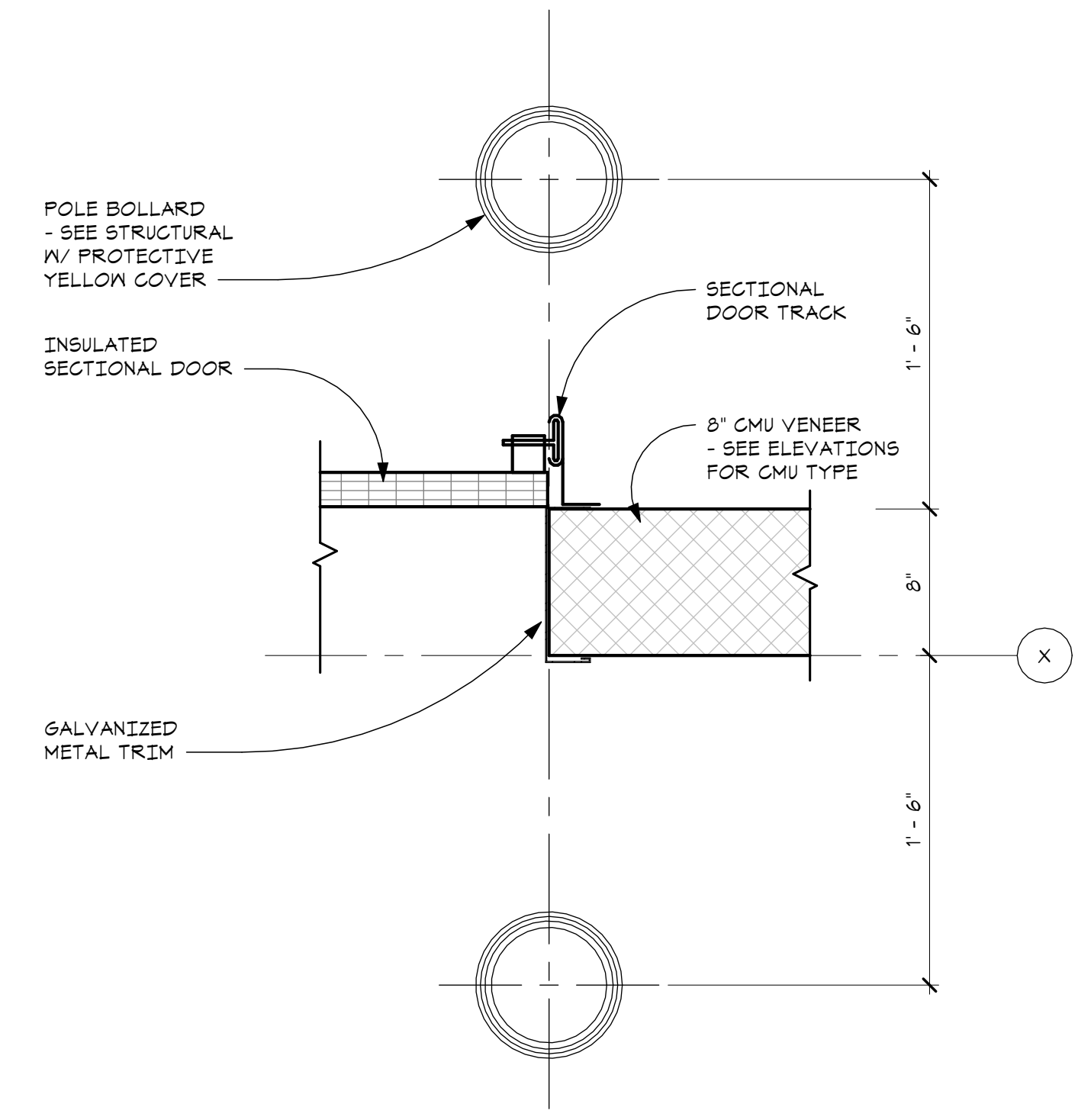


J6 INT. COILING DOOR - HEAD DETAIL
 SCALE - 1 1/2" = 1'-0"

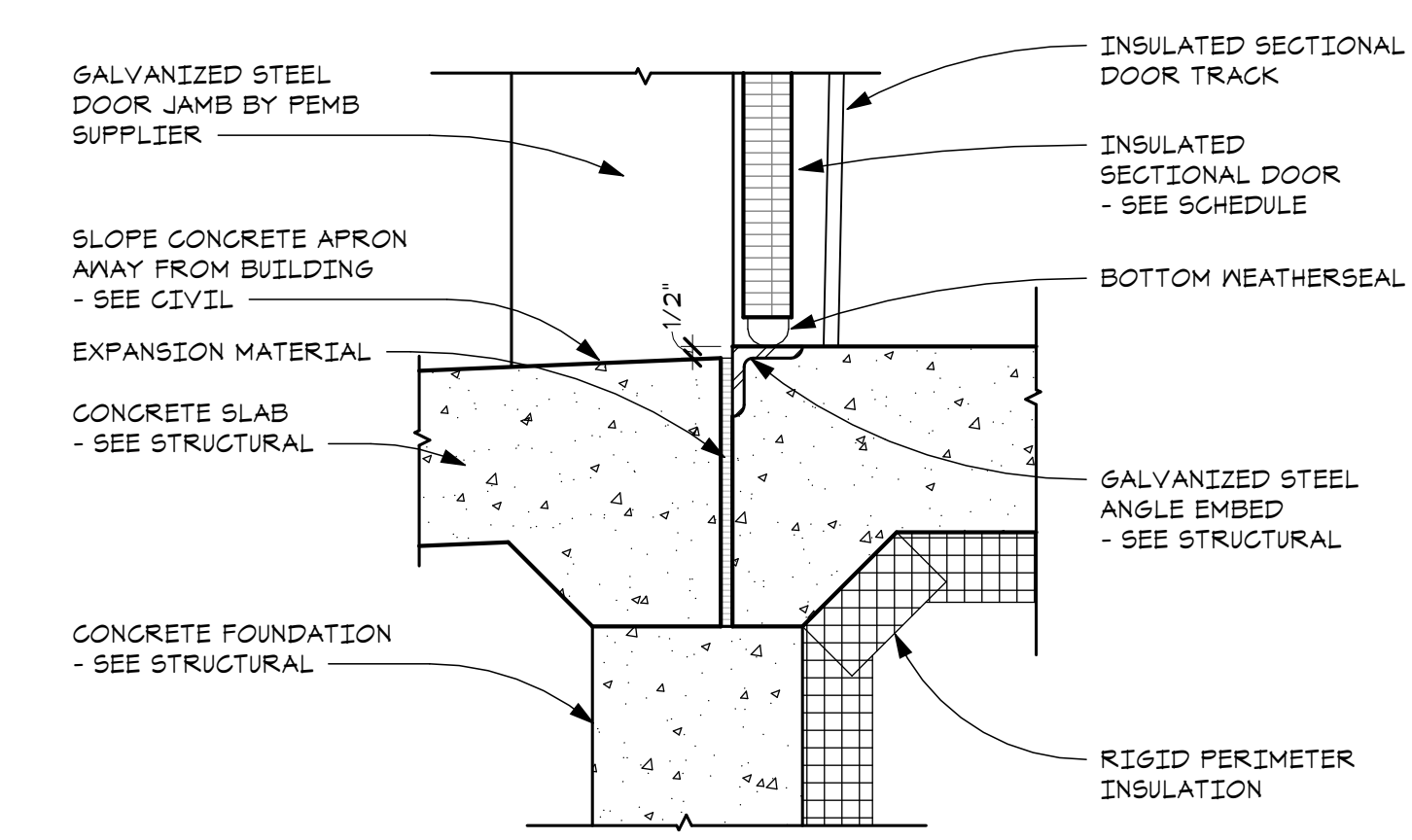
F6 TRACK SUPPORT AT SECTIONAL DOOR
 SCALE - 1 1/2" = 1'-0"



J3 EXT. SECTIONAL DOOR - JAMB DETAIL (ABOVE 7'4")
 SCALE - 1 1/2" = 1'-0"



F3 EXT. SECTIONAL DOOR - JAMB DETAIL (BELOW 7'4")
 SCALE - 1 1/2" = 1'-0"



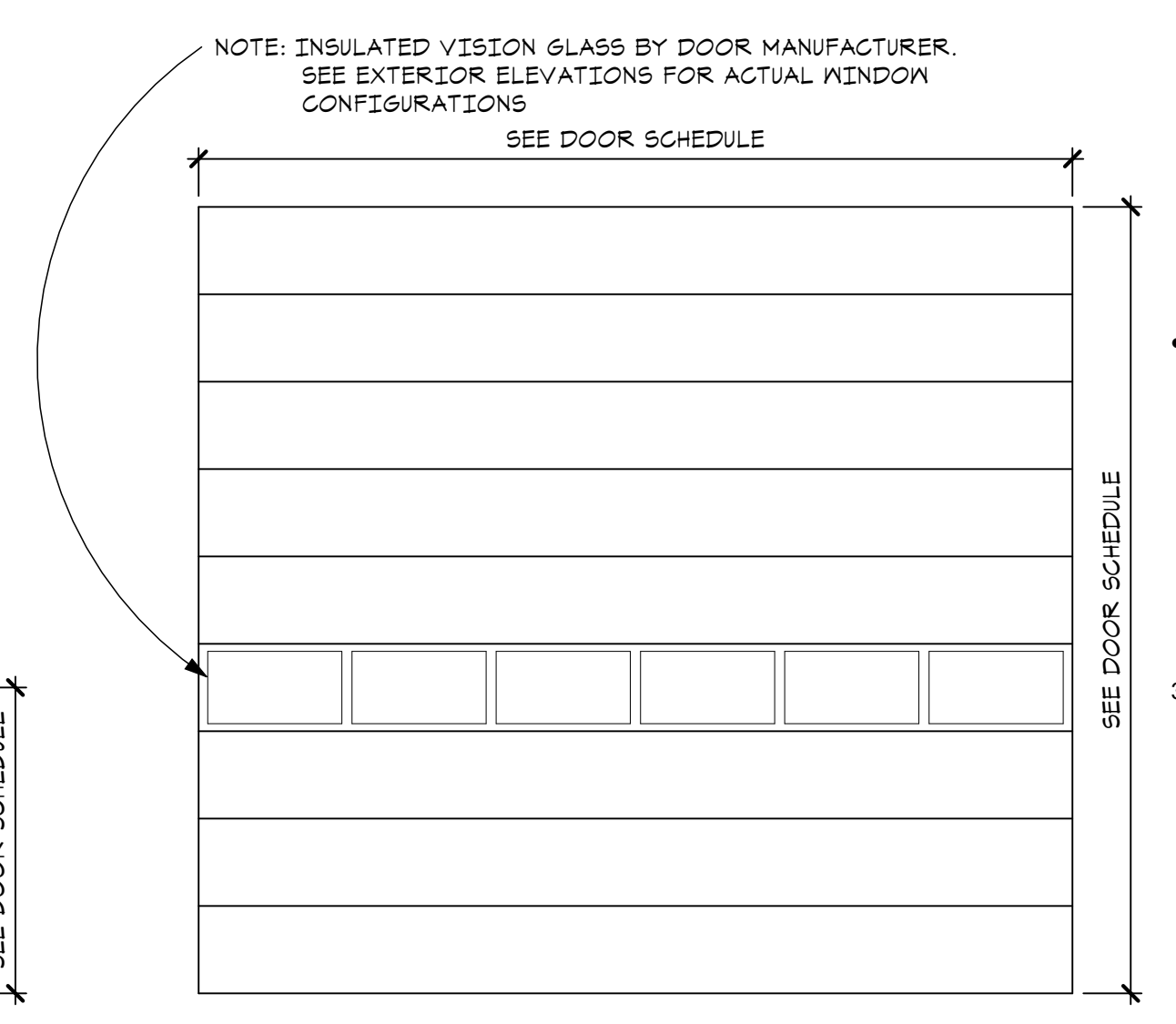
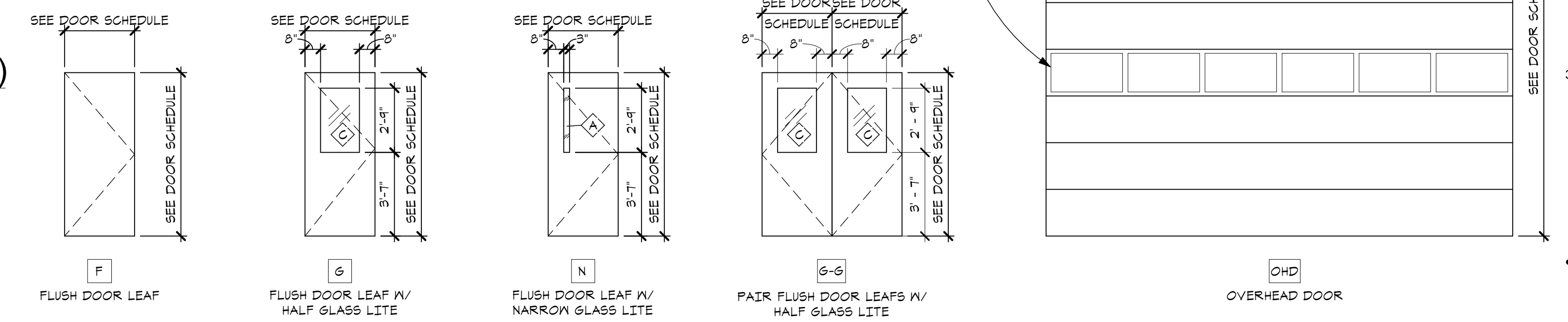
J1 EXT. SECTIONAL DOOR - SILL DETAIL
 SCALE - 1 1/2" = 1'-0"

DOOR & FRAME SCHEDULE												
DOOR NO.	DOOR / OPENING SIZE K X H	DOOR			HWYR. SET	FRAME			DETAILS			REMARKS
		MATERIAL	TYPE	FINISH		MATERIAL	TYPE	FINISH	HEAD	JAMB	SILL	
FIRST FLOOR												
100	(2) 3'-0" x 7'-2"	ALUM	G-G	PRE	06	ALUM	2	PRE	E5/A-511	E5/A-511	E1/A-511	2
101	(2) 3'-0" x 7'-2"	ALUM	G-G	PRE	10	ALUM	2	PRE	H7/A-511	H5/A-511	H3/A-511	-
102	3'-0" x 7'-0"	FRP	N	PRE	02	ALUM	1	PRE	H7/A-511	H5/A-511	H1/A-511	-
103	3'-0" x 7'-0"	FRP	N	PRE	02	ALUM	1	PRE	H7/A-511	H5/A-511	H1/A-511	-
104	3'-0" x 7'-0"	FRP	N	PRE	02	ALUM	1	PRE	H7/A-511	H5/A-511	H1/A-511	-
105	3'-0" x 7'-0"	FRP	G	PRE	07	ALUM	1	PRE	H7/A-511	H5/A-511	H1/A-511	2
106	3'-0" x 7'-0"	FRP	N	PRE	03	ALUM	1	PRE	H7/A-511	H5/A-511	H1/A-511	2
107	3'-0" x 7'-0"	FRP	F	PRE	01	ALUM	1	PRE	H7/A-511	H5/A-511	H3/A-511	-
108	3'-0" x 7'-0"	FRP	F	PRE	01	ALUM	1	PRE	H7/A-511	H5/A-511	H3/A-511	-
110	(2) 3'-0" x 7'-2"	FRP	G-G	PRE	03	ALUM	2	PRE	E5/A-511	E5/A-511	A1/A-511	-
111	3'-0" x 7'-0"	FRP	F	PRE	04	ALUM	1	PRE	H7/A-511	H5/A-511	A1/A-511	-
120	3'-0" x 7'-0"	FRP	F	PRE	04	ALUM	1	PRE	H7/A-511	H5/A-511	A1/A-511	-
122C	(2) 4'-0" x 7'-0"	FRP	G-G	PRE	03	ALUM	2	PRE	A5/A-511	A3/A-511	A1/A-511	-
124A	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
124B	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
124C	3'-0" x 7'-2"	IFRP	G	PRE	05	FRP	1	PRE	C7/A-511	A3/A-511	C1/A-511	2
124D	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
125A	3'-0" x 7'-2"	IFRP	G	PRE	05	FRP	1	PRE	C7/A-511	A3/A-511	C1/A-511	2
125B	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
125C	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
125D	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
125E	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
125F	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
126	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
121	3'-0" x 7'-2"	FRP	F	PRE	01	ALUM	1	PRE	A5/A-511	A3/A-511	A1/A-511	-
128A	3'-0" x 7'-2"	IFRP	G	PRE	05	FRP	1	PRE	C7/A-511	A3/A-511	C1/A-511	2
128B	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
128C	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
128D	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
128E	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
129	3'-0" x 7'-2"	FRP	F	PRE	01	ALUM	1	PRE	A5/A-511	A3/A-511	A1/A-511	-

DOOR & FRAME SCHEDULE - ALTERNATE												
DOOR NO.	DOOR / OPENING SIZE K X H	DOOR			HWYR. SET	FRAME			DETAILS			REMARKS
		MATERIAL	TYPE	FINISH		MATERIAL	TYPE	FINISH	HEAD	JAMB	SILL	
FIRST FLOOR												
124A	3'-0" x 7'-2"	IFRP	G	PRE	01	FRP	1	PRE	C7/A-511	A3/A-511	C1/A-511	2
124B	12'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
124C	12'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
124D	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
124E	(2) 4'-0" x 8'-0"	FRP	G-G	PRE	03	ALUM	2	PRE	C5/A-511	C3/A-511	A1/A-511	-
130A	3'-0" x 7'-2"	IFRP	G	PRE	01	FRP	1	PRE	C7/A-511	A3/A-511	C1/A-511	2
130B	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
130C	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-
130D	14'-0" x 14'-0"	STL	OHD	PRE	04	STL	-	PRE	E6/A-510	B3 & E3/A-510	E1/A-510	-

REMARKS
 1. ALL DOORS TO BE 1-3/4" THICK U.O.
 2. DOOR TO HAVE ACCESS CONTROL MATCHING EXISTING.

GLASS TYPE SCHEDULE	
TYPE	DESCRIPTION
(A)	1" INSULATED, TEMPERED, LOW-E COATED, CLEAR, TEMPERED
(B)	1" INSULATED, CLEAR, UNTREATED
(C)	1/4" MONOLITHIC, TEMPERED, CLEAR, TEMPERED
(D)	1" INSULATED, LOW-E COATED, CLEAR, TEXTURED



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DOOR SCHEDULE, TYPES, AND DETAILS

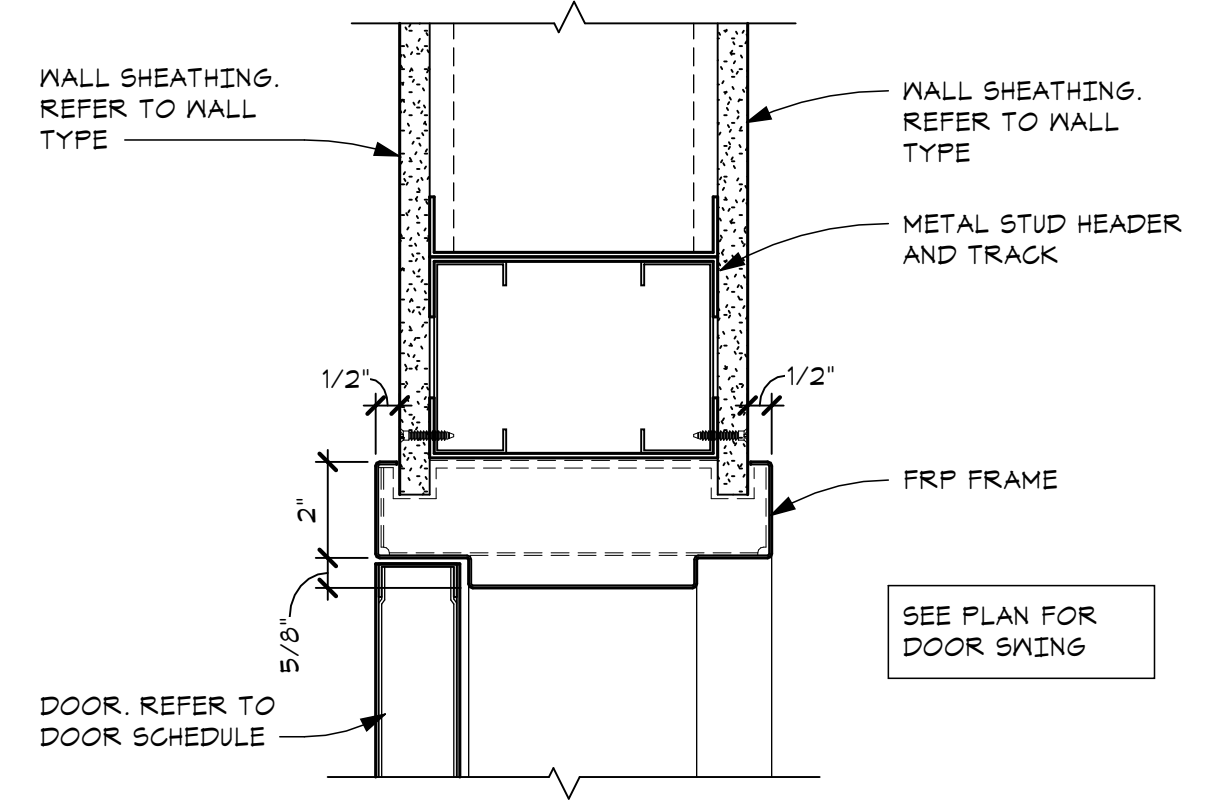
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23-319

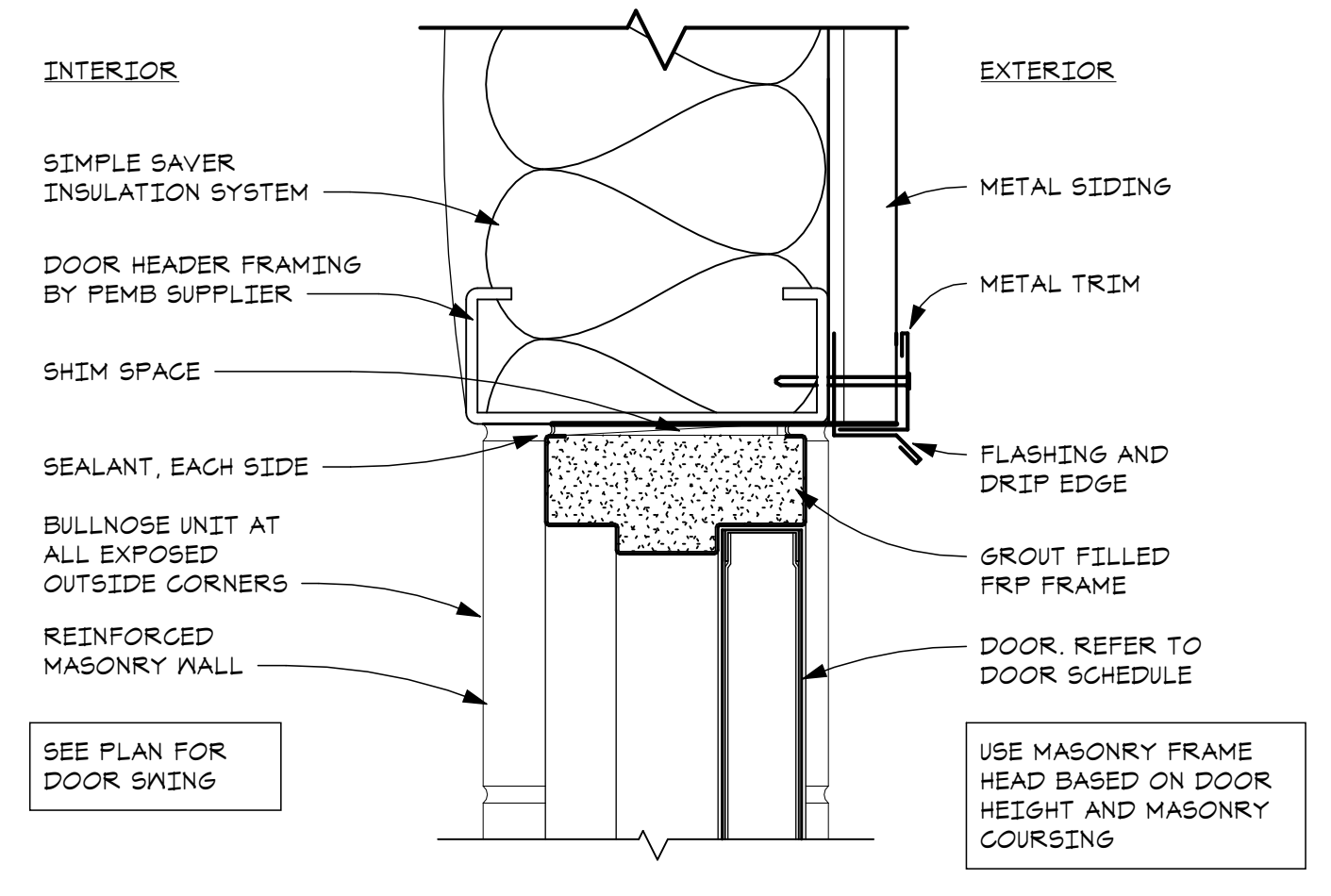
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A-510

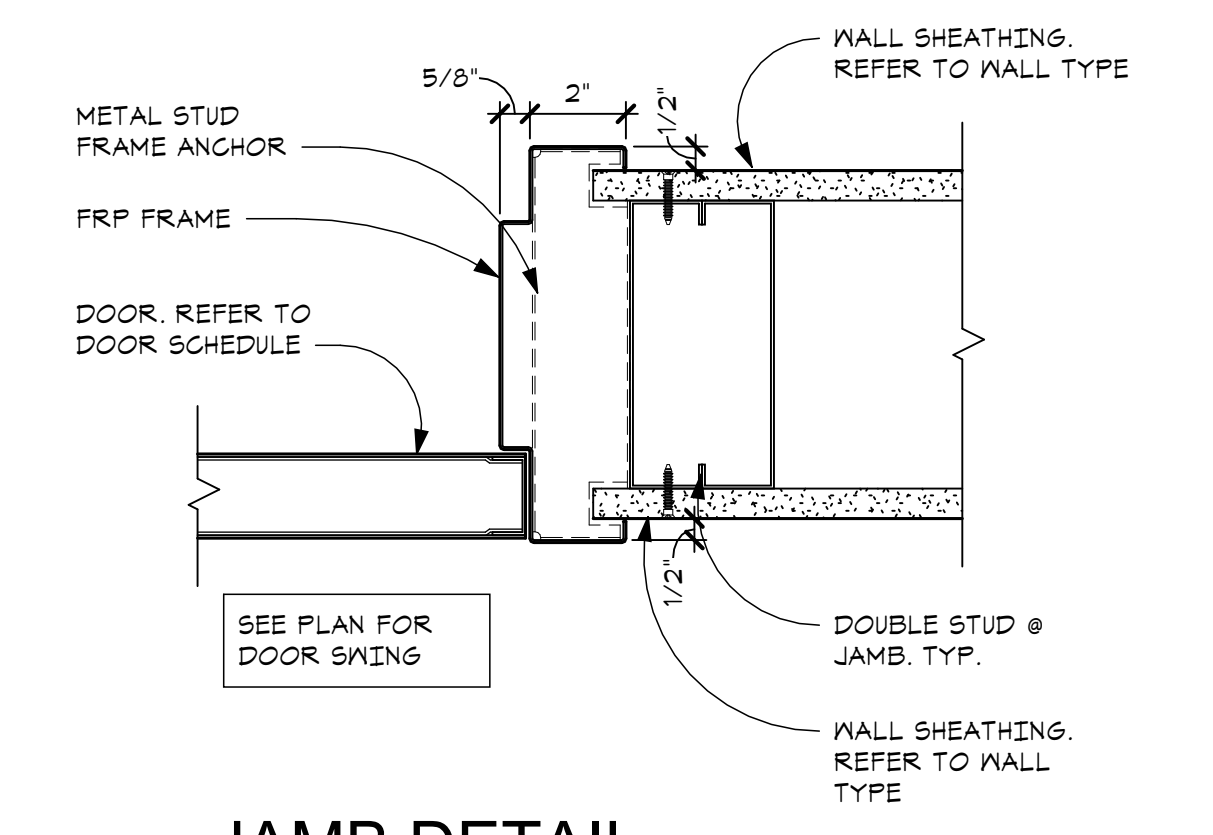
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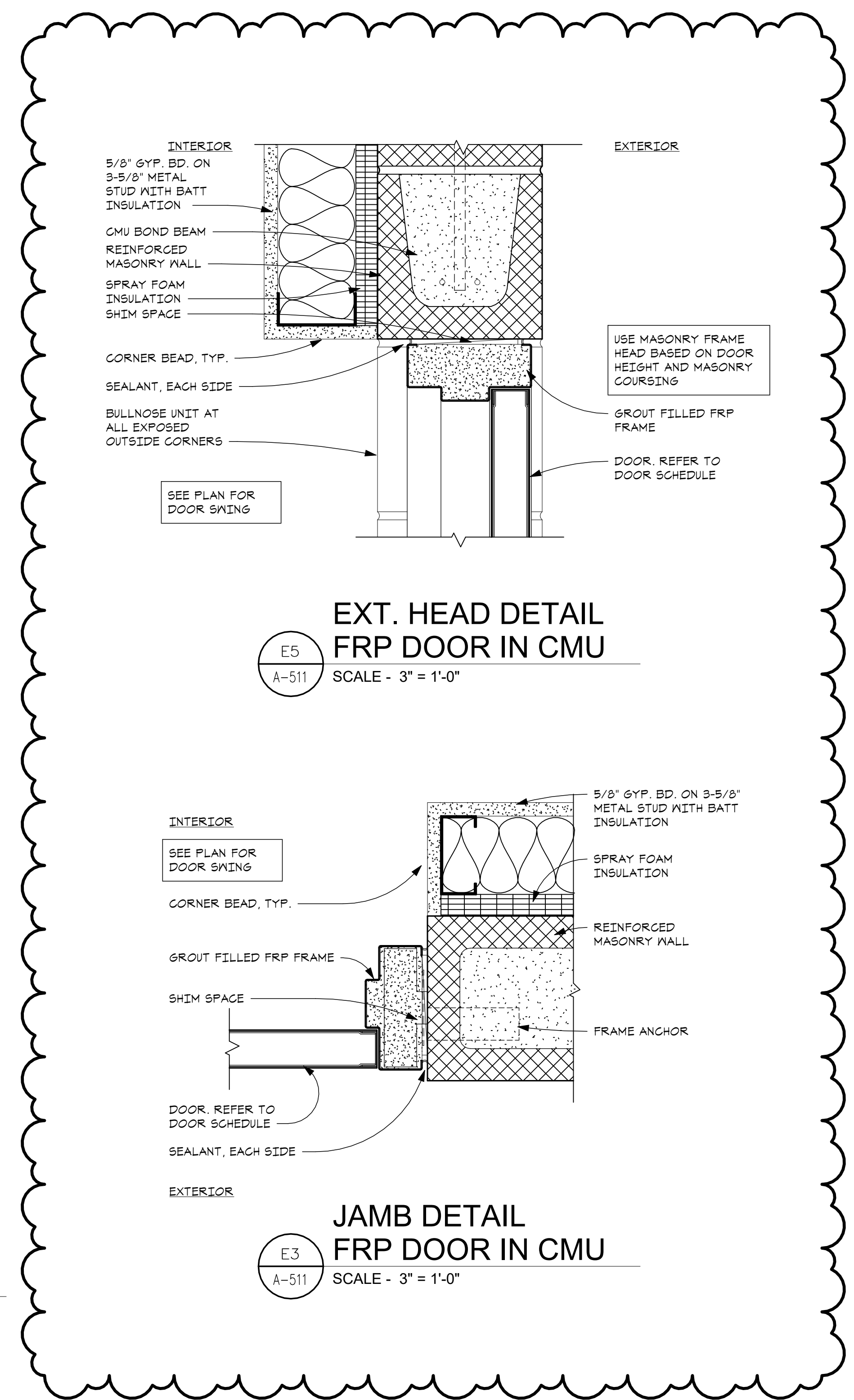
H7
A-511
HEAD DETAIL
FRP DOOR - STUD WALL
 SCALE - 3" = 1'-0"



C7
A-511
EXT. HEAD DETAIL
FRP DOOR IN CMU AND PEMB
 SCALE - 3" = 1'-0"

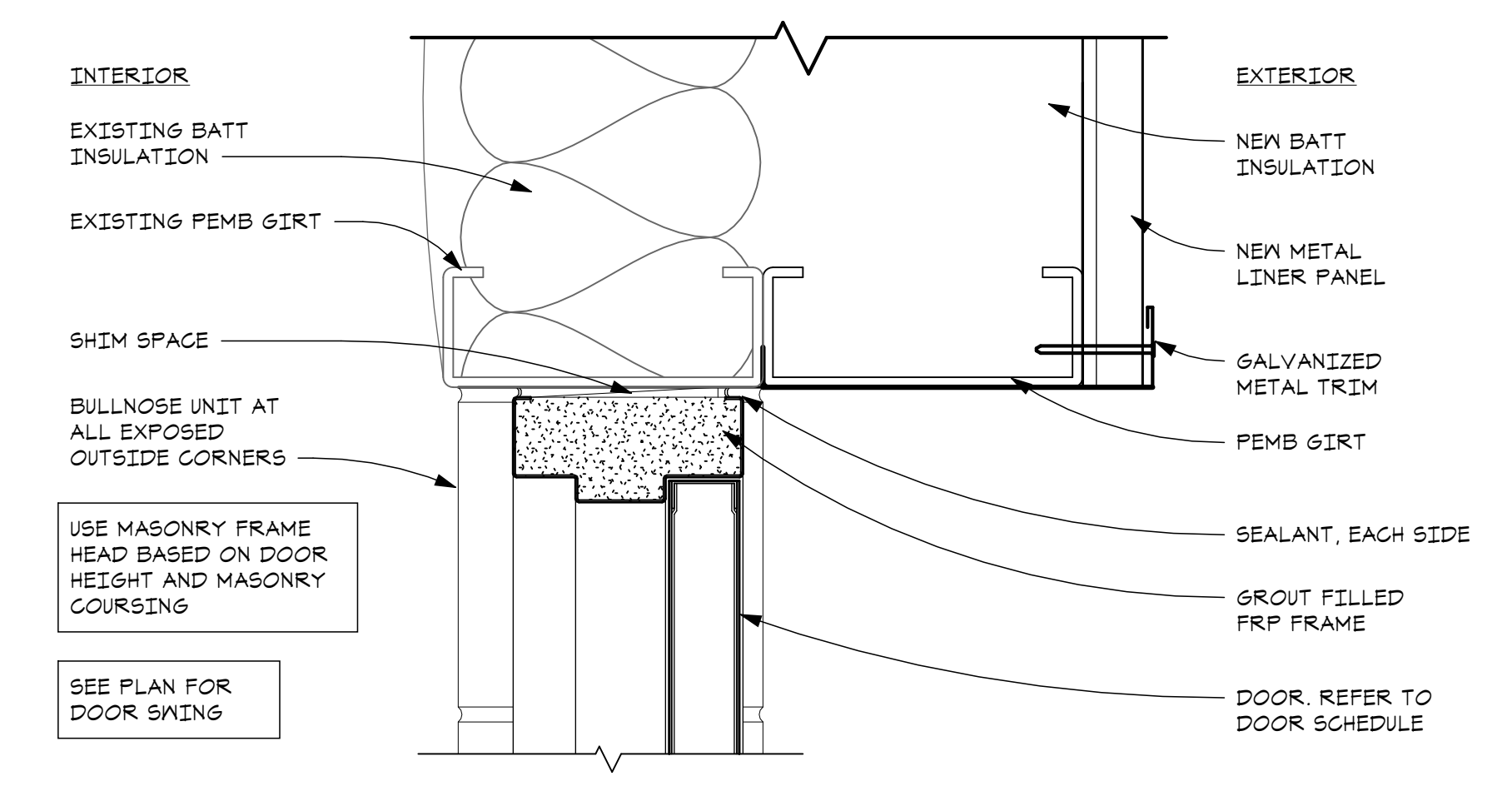


H5
A-511
JAMB DETAIL
FRP DOOR - STUD WALL
 SCALE - 3" = 1'-0"

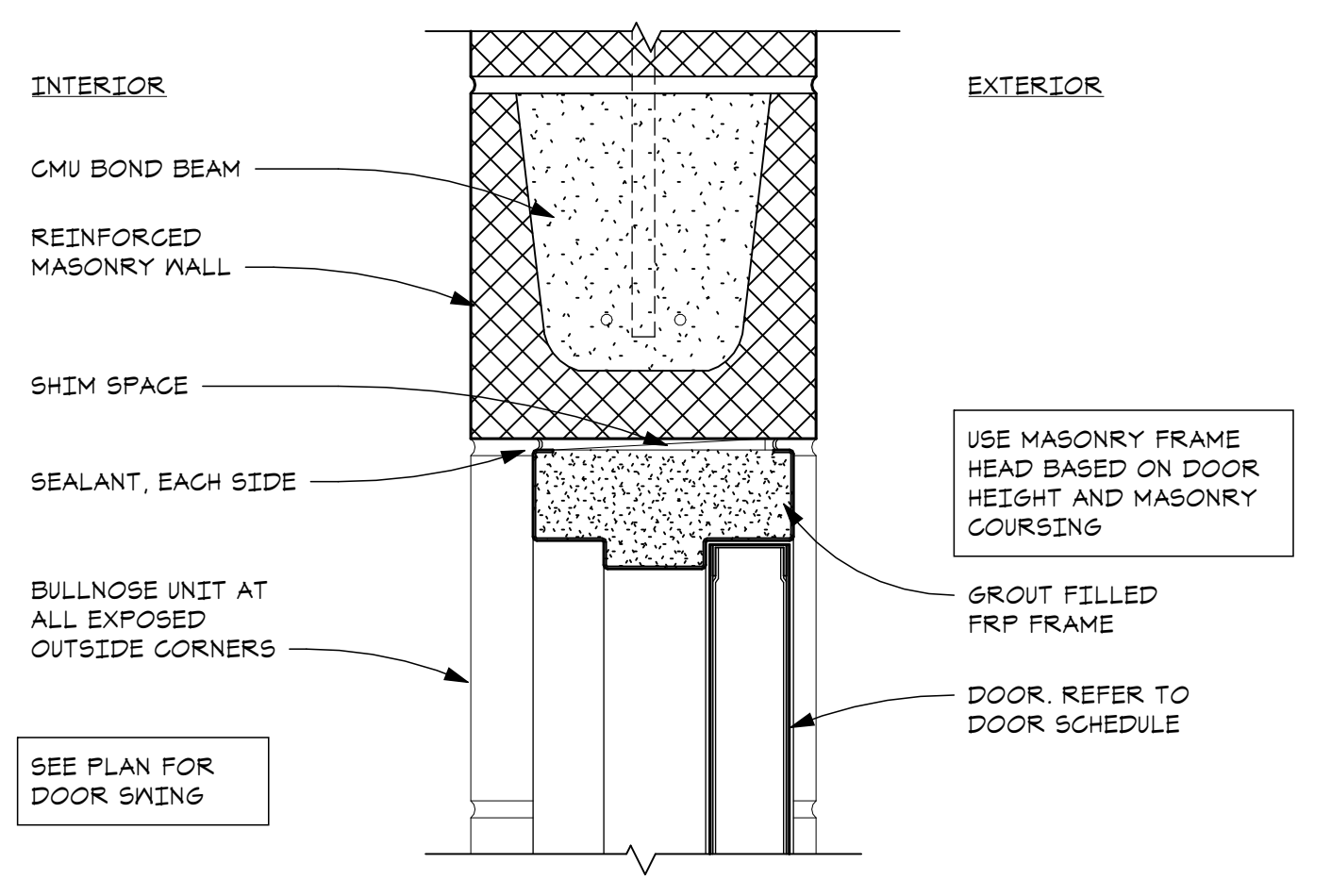


E5
A-511
EXT. HEAD DETAIL
FRP DOOR IN CMU
 SCALE - 3" = 1'-0"

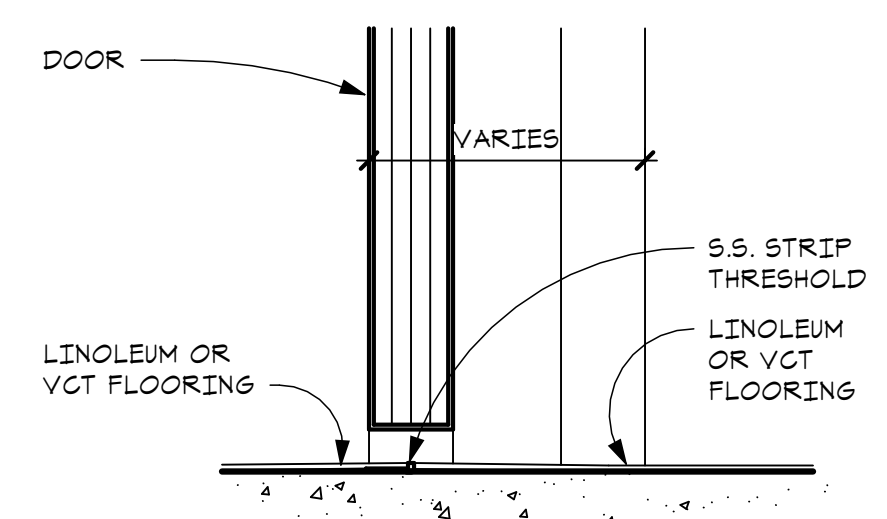
E3
A-511
JAMB DETAIL
FRP DOOR IN CMU
 SCALE - 3" = 1'-0"



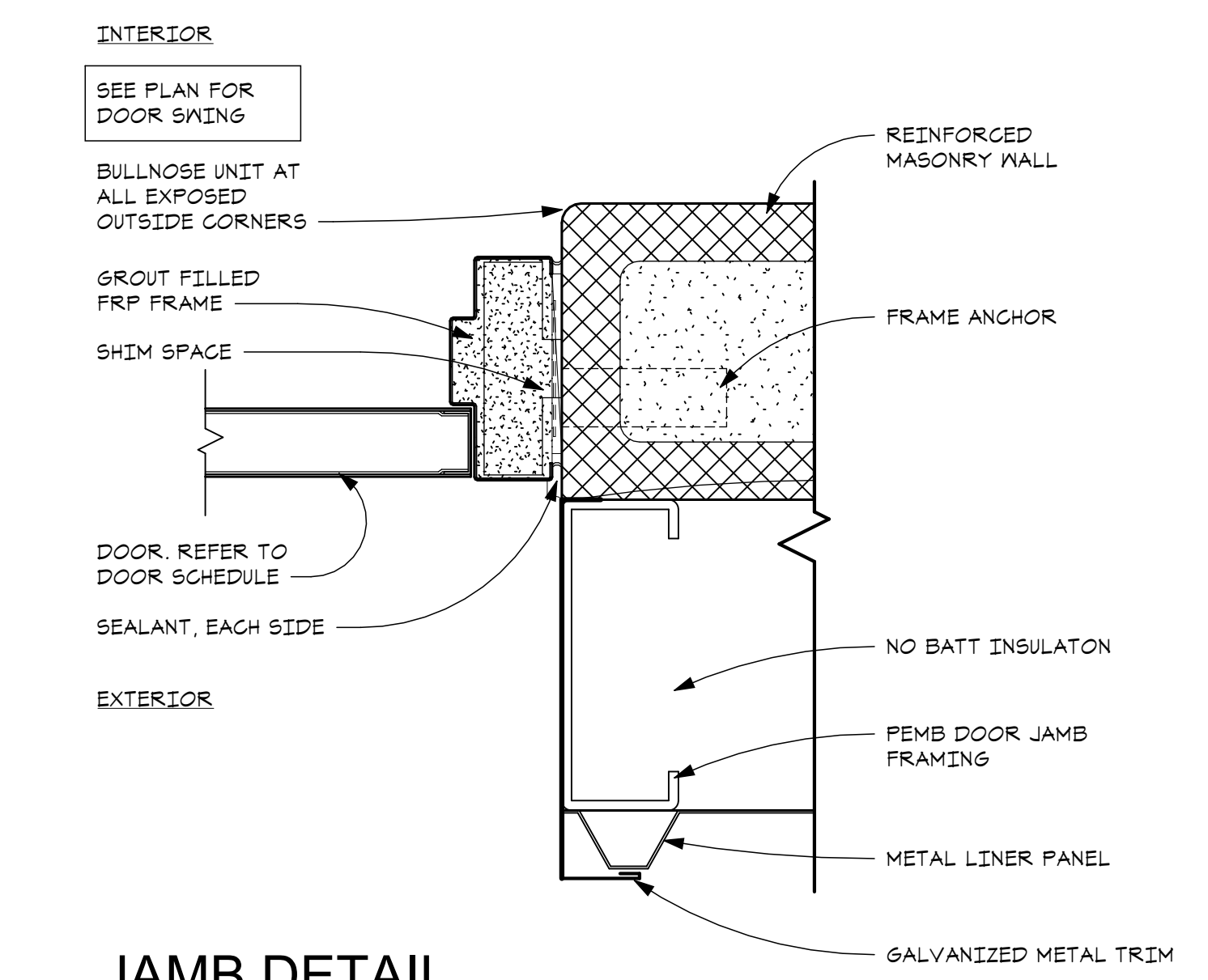
C5
A-511
INT. HEAD DETAIL
FRP DOOR IN CMU
 SCALE - 3" = 1'-0"



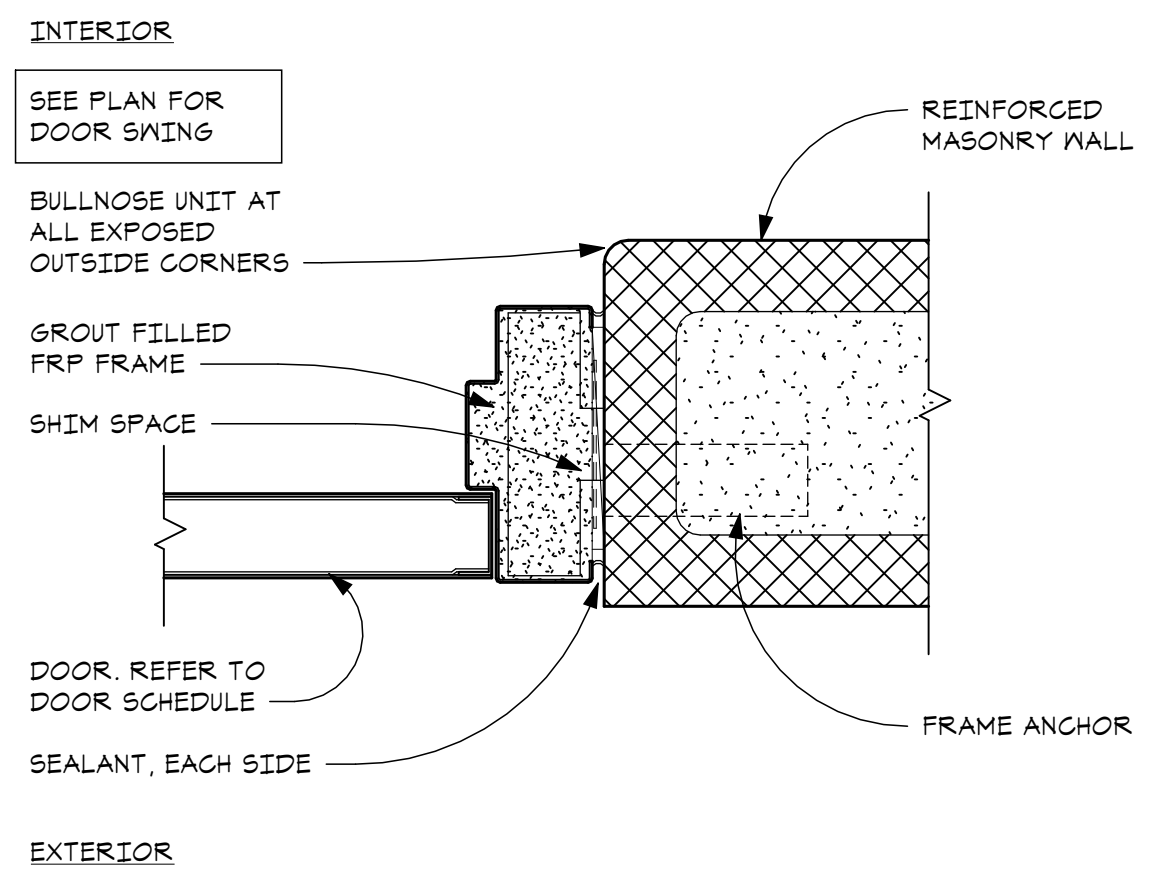
A5
A-511
INT. HEAD DETAIL
FRP DOOR IN CMU
 SCALE - 3" = 1'-0"



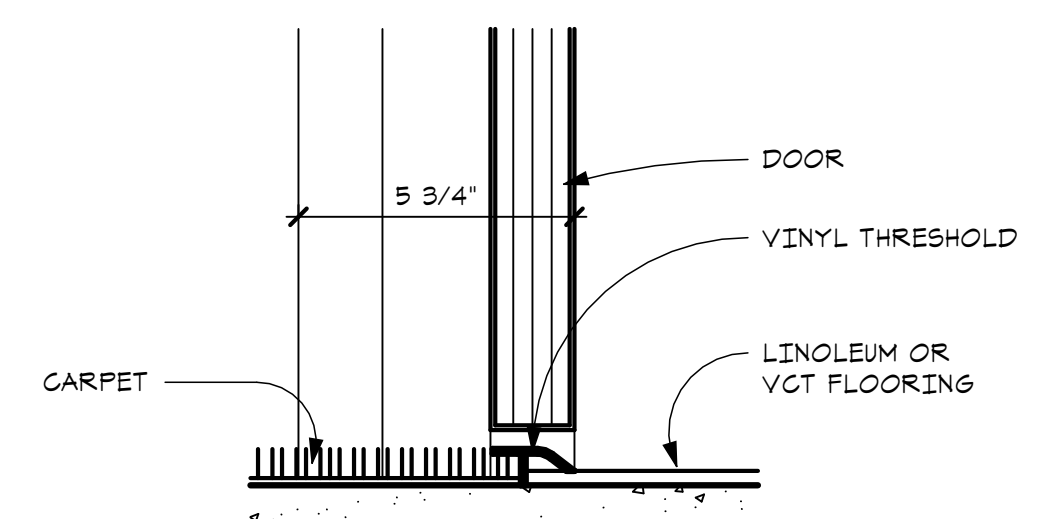
H3
A-511
TRANSITION DETAIL - VCT TO VCT
 SCALE - 3" = 1'-0"



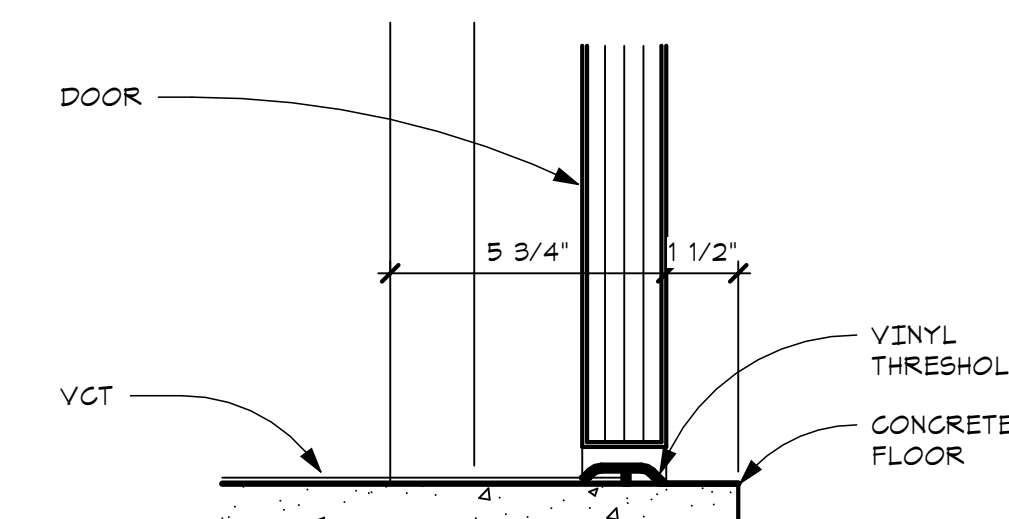
C3
A-511
JAMB DETAIL
FRP DOOR IN CMU
 SCALE - 3" = 1'-0"



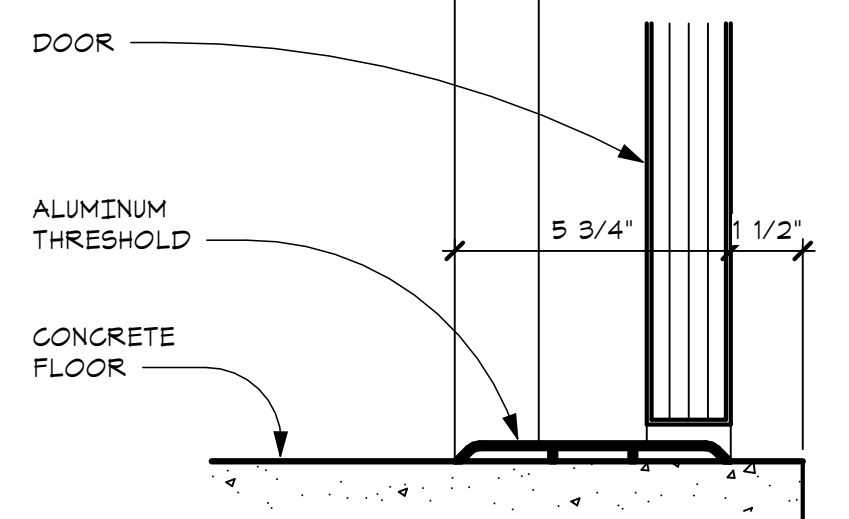
A3
A-511
JAMB DETAIL
FRP DOOR IN CMU
 SCALE - 3" = 1'-0"



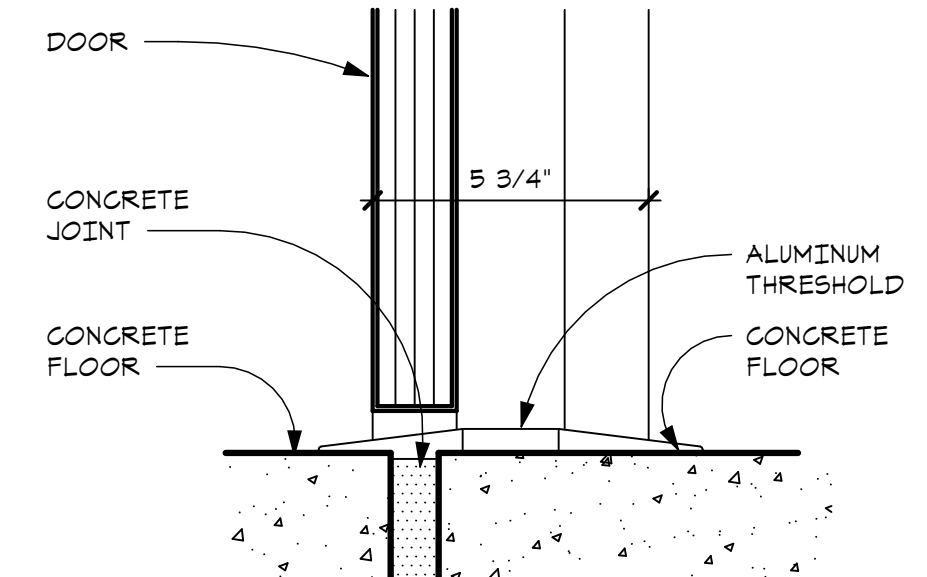
H1
A-511
TRANSITION DETAIL CPT TO VCT
 SCALE - 3" = 1'-0"



E1
A-511
TRANSITION DETAIL - SLAB EDGE TO VCT
 SCALE - 3" = 1'-0"

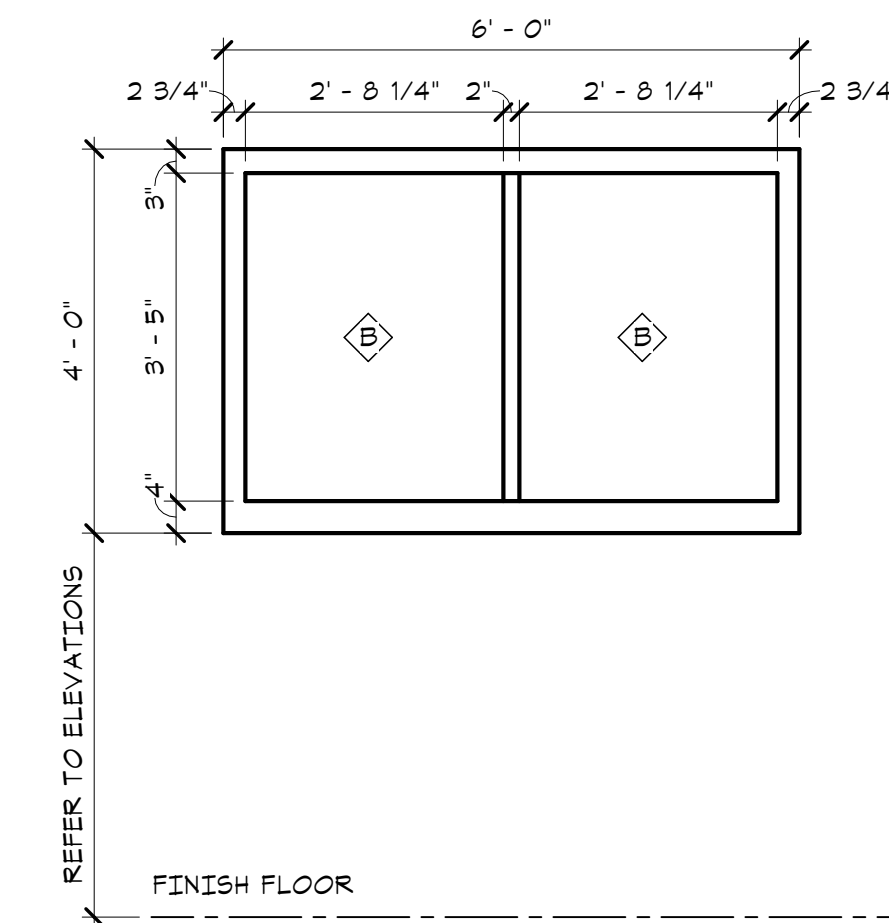


C1
A-511
TRANSITION DETAIL - CONC TO SLAB EDGE
 SCALE - 3" = 1'-0"

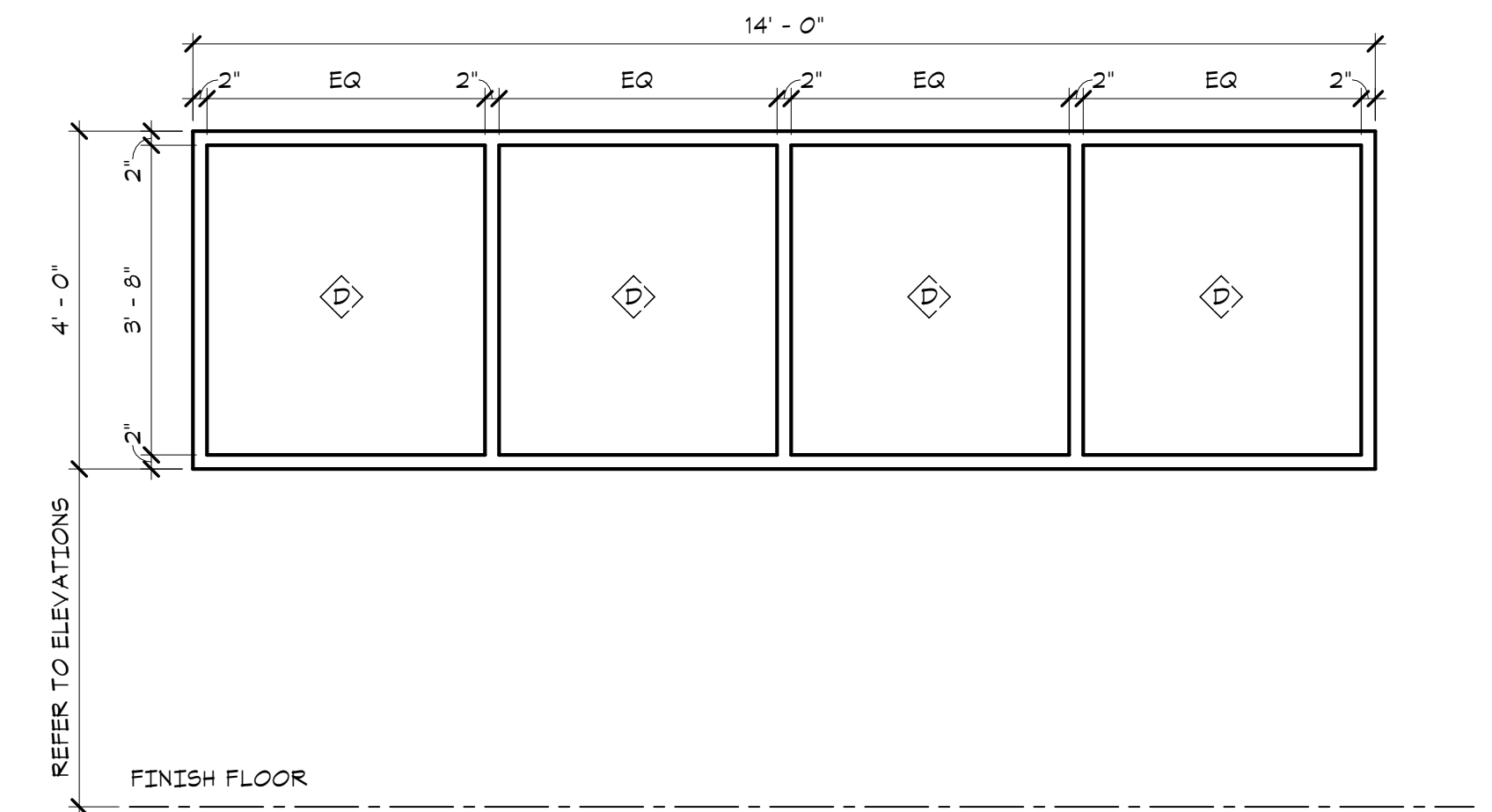


A1
A-511
TRANSITION DETAIL - CONC TO CONC
 SCALE - 3" = 1'-0"

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 Maintenance Facility Expansion - markwz\DWG.dwg
 1/22/2023 9:56:25 AM

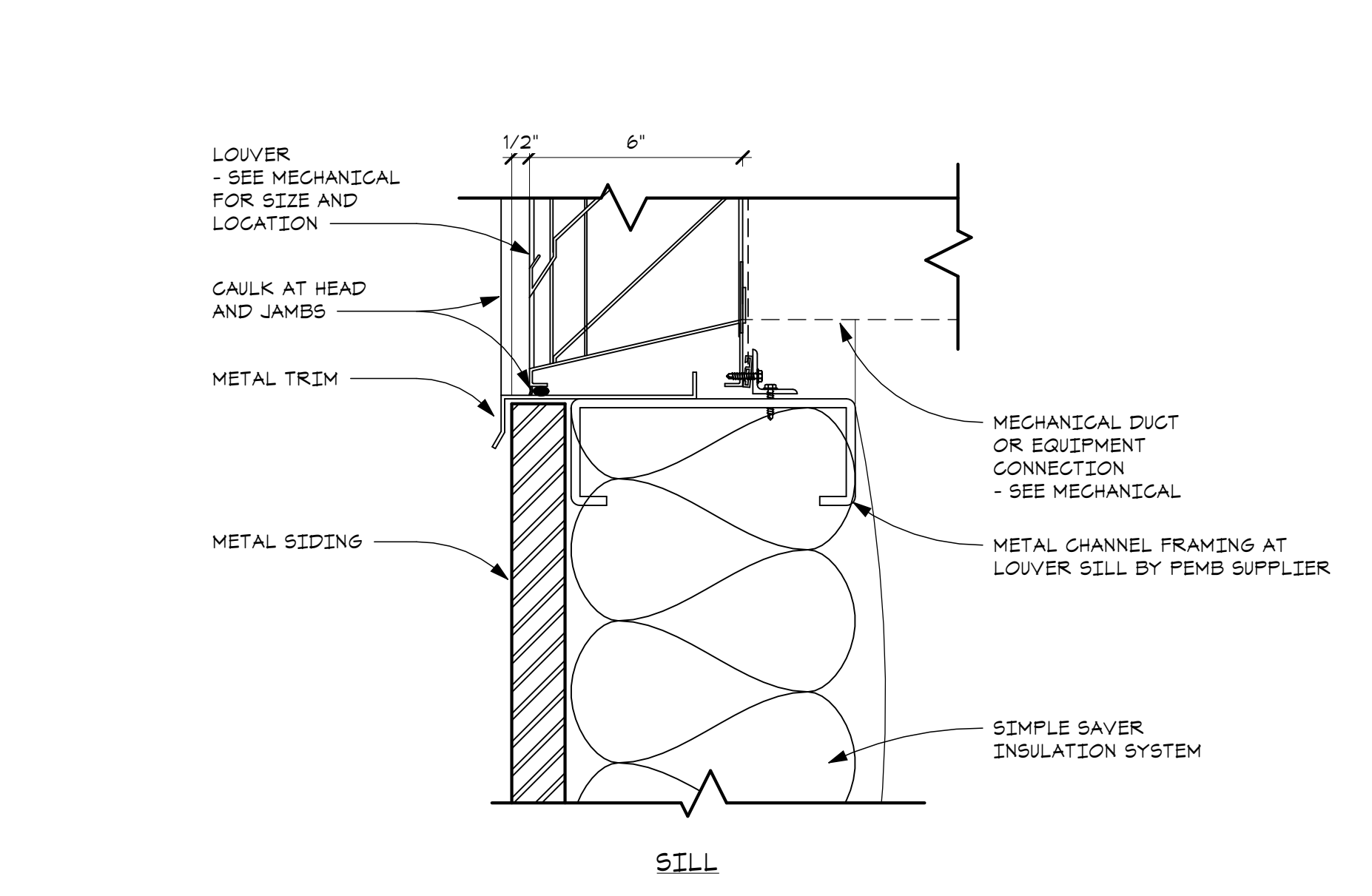
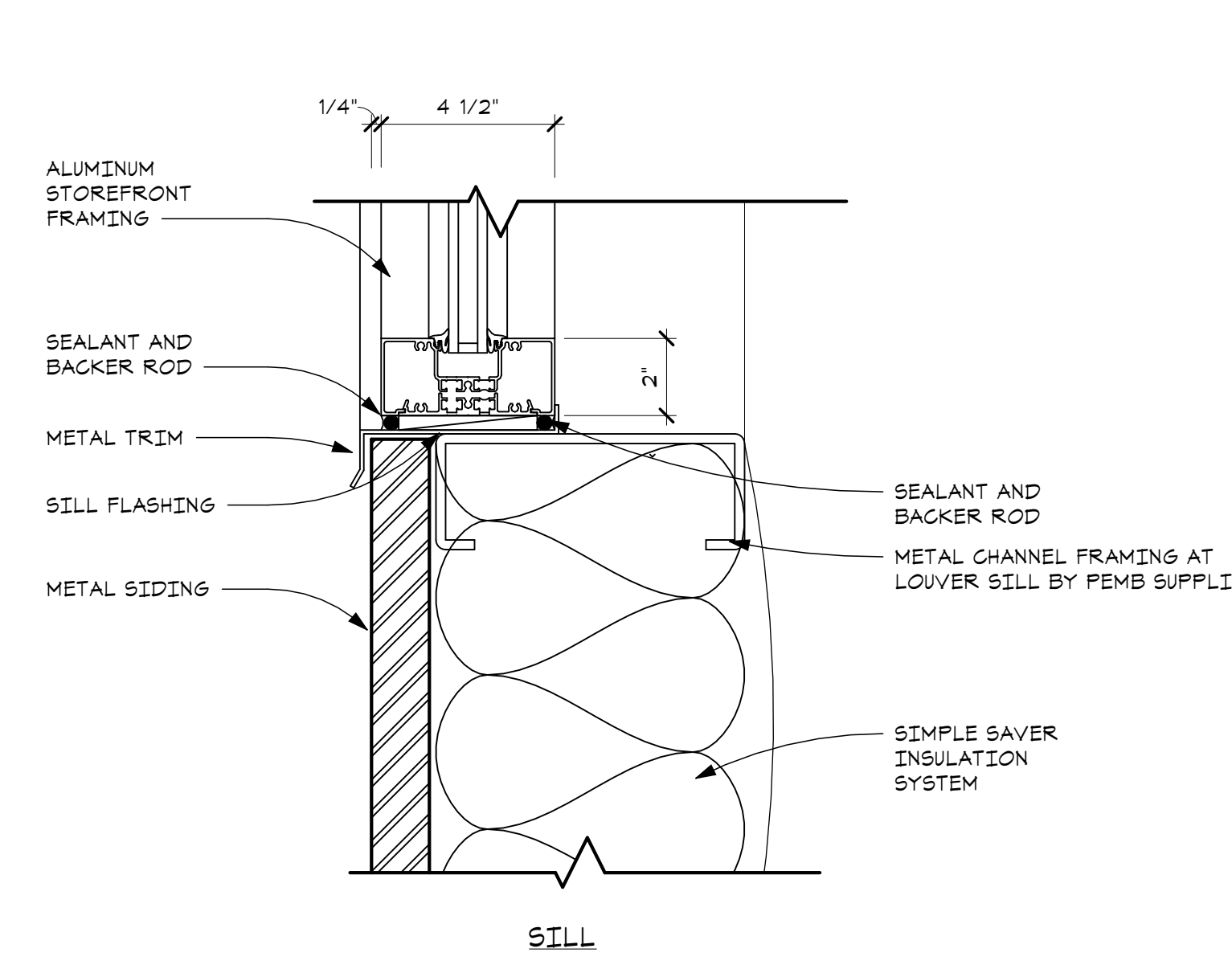
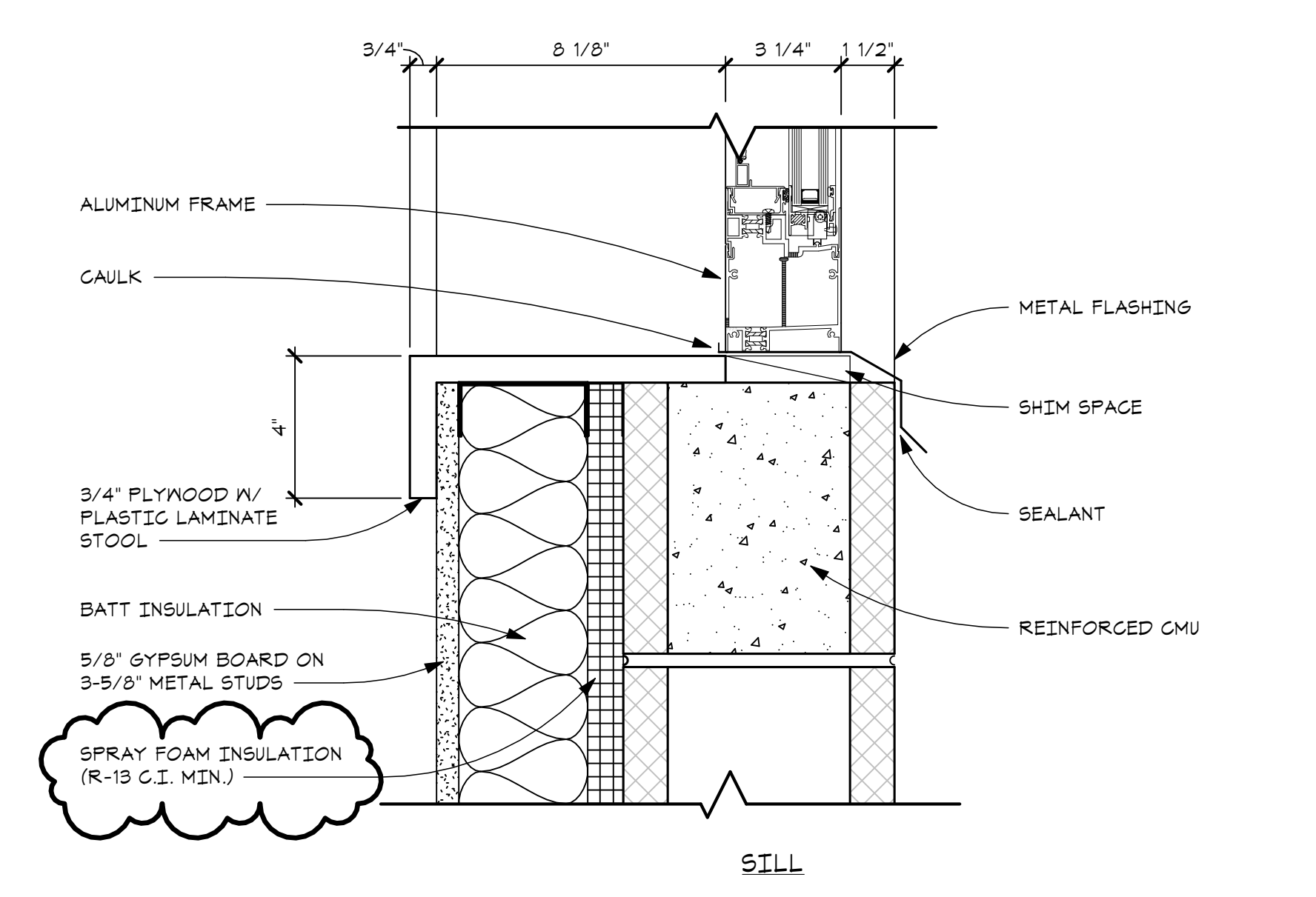
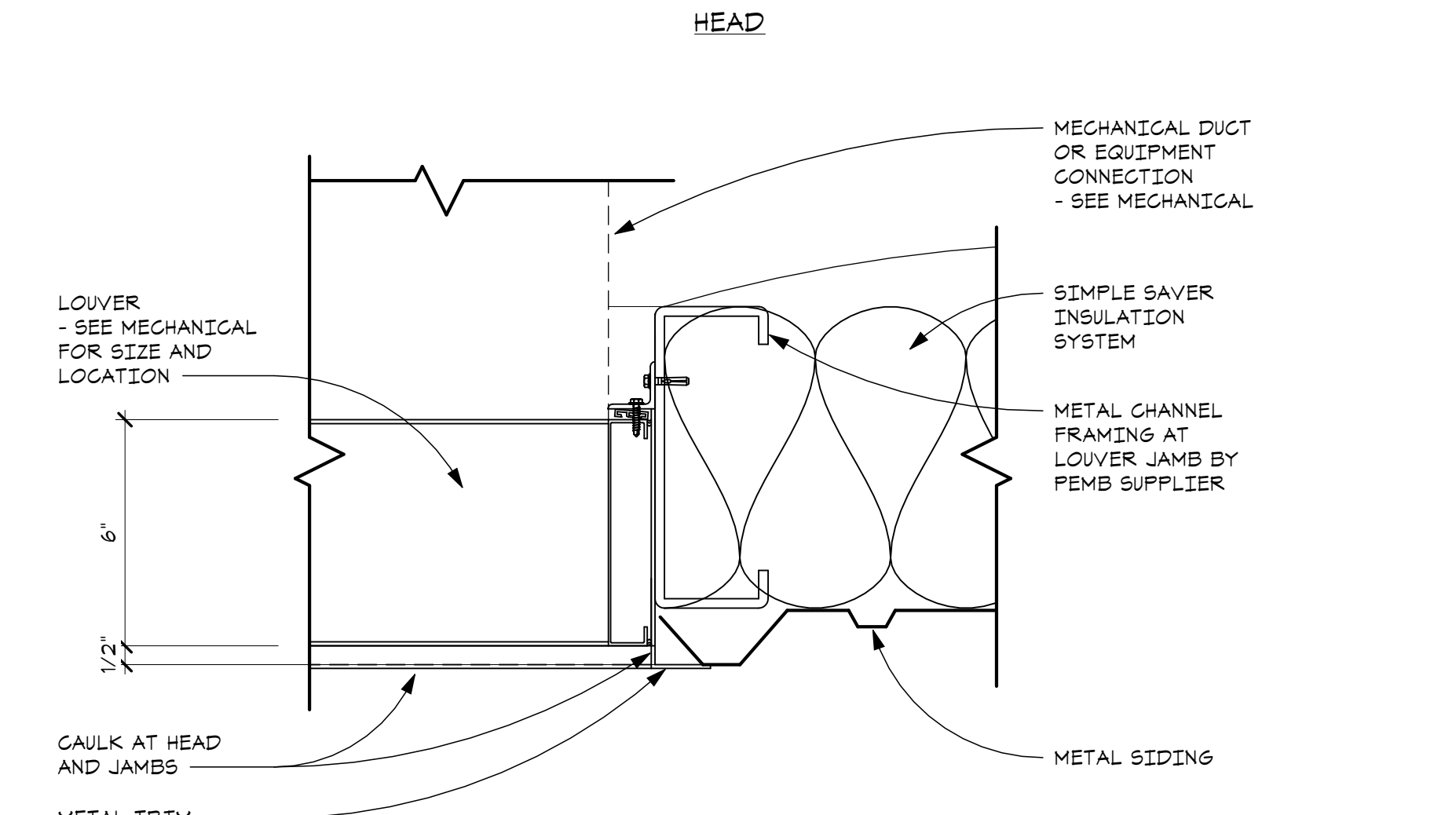
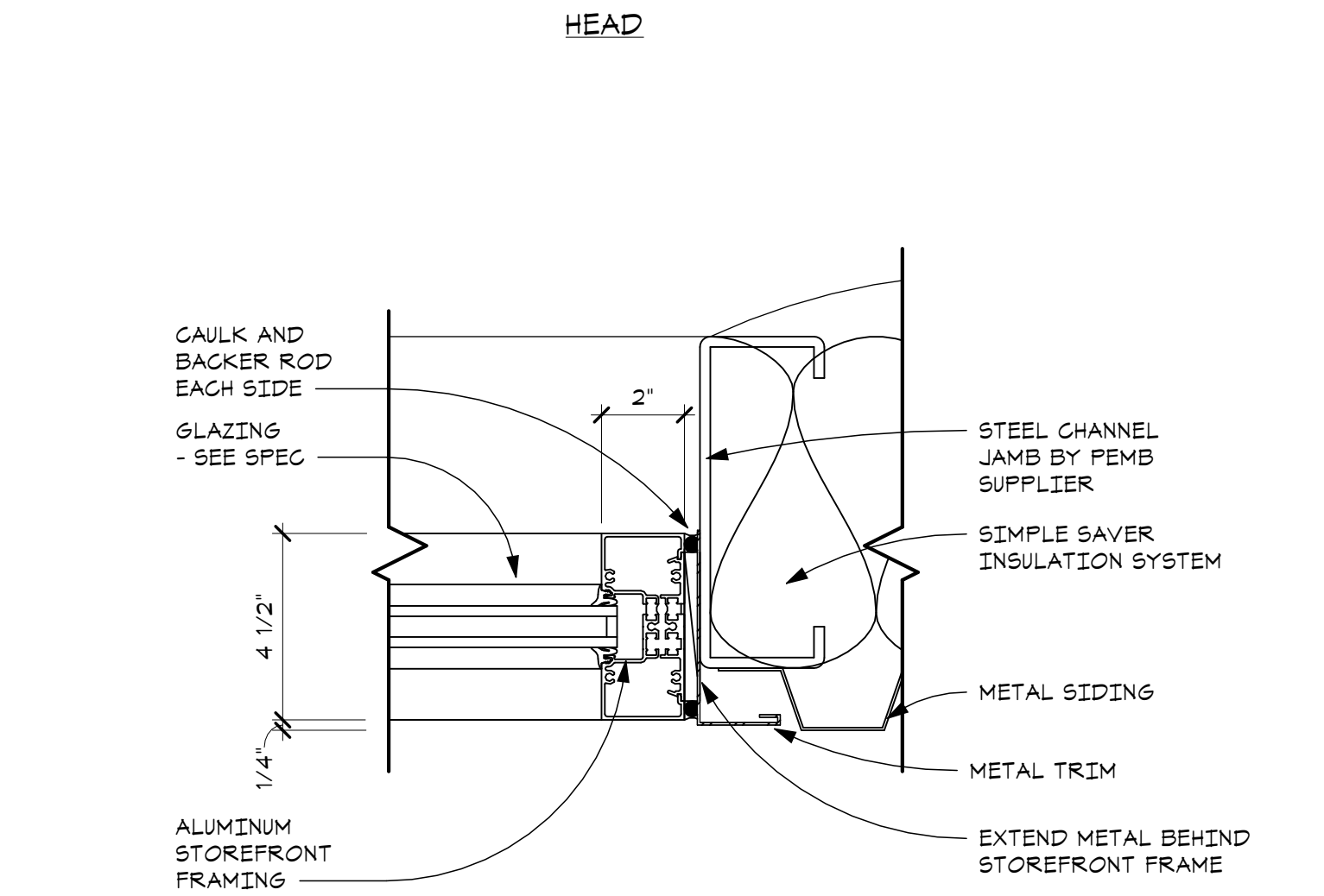
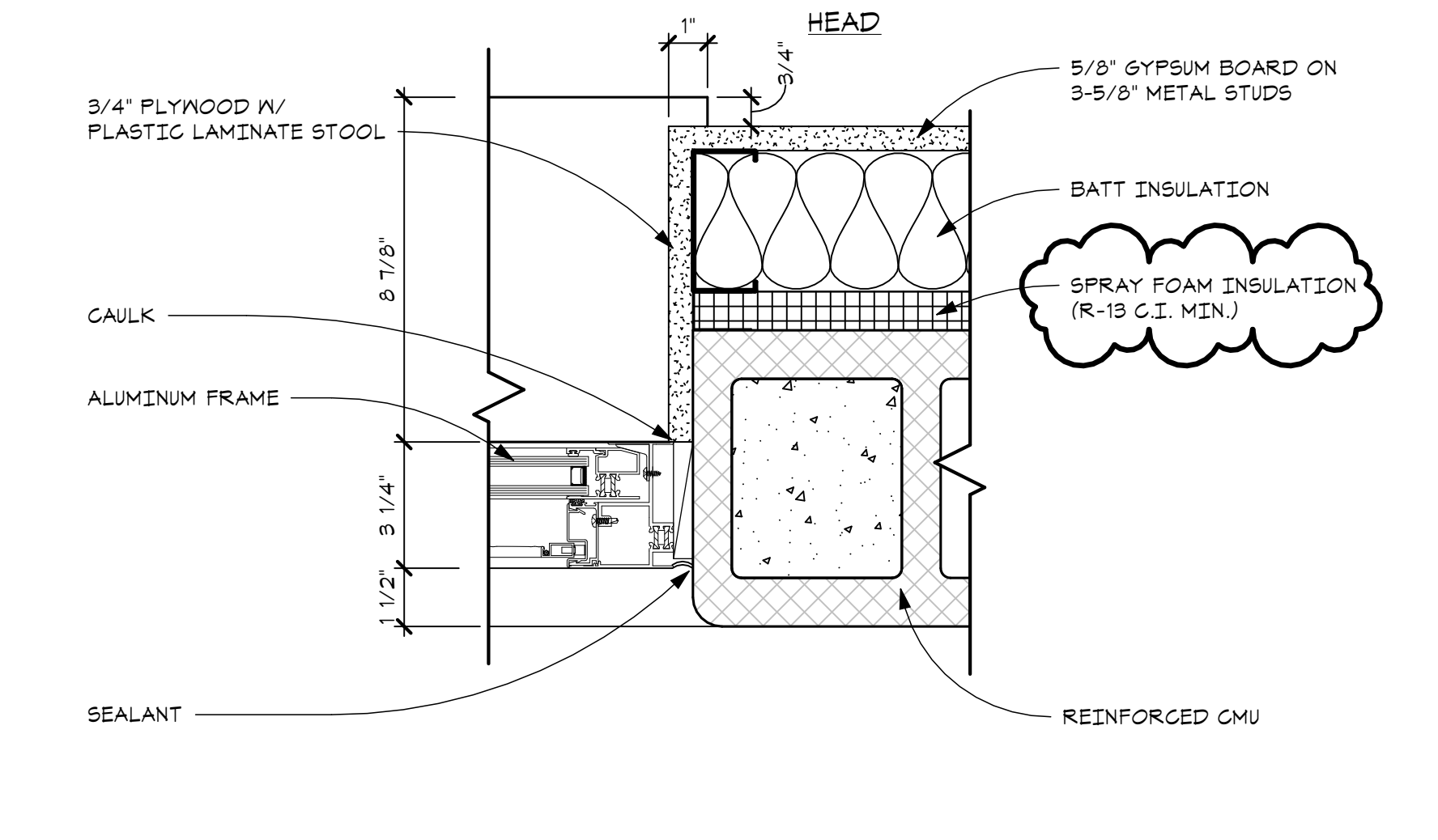
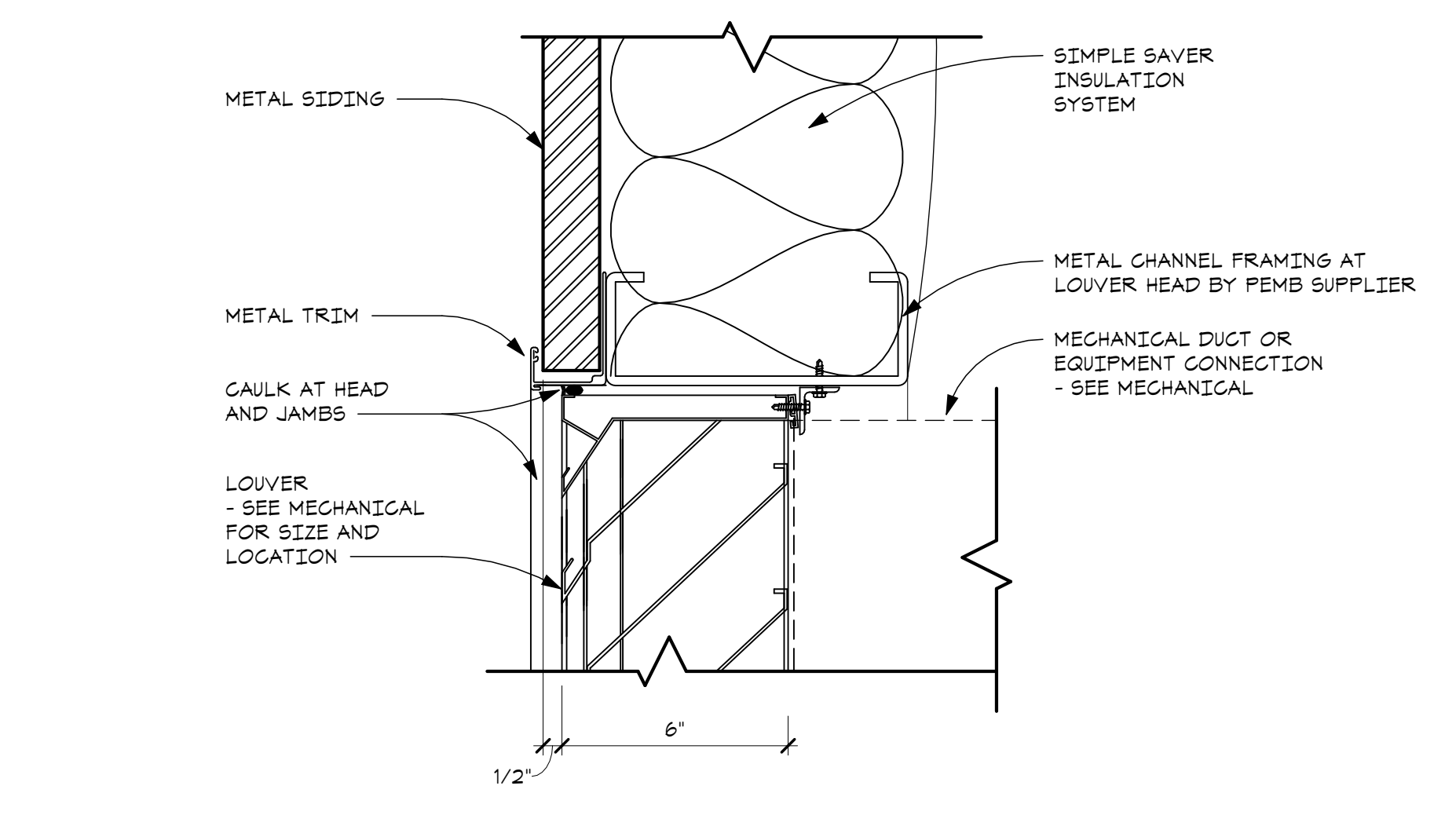
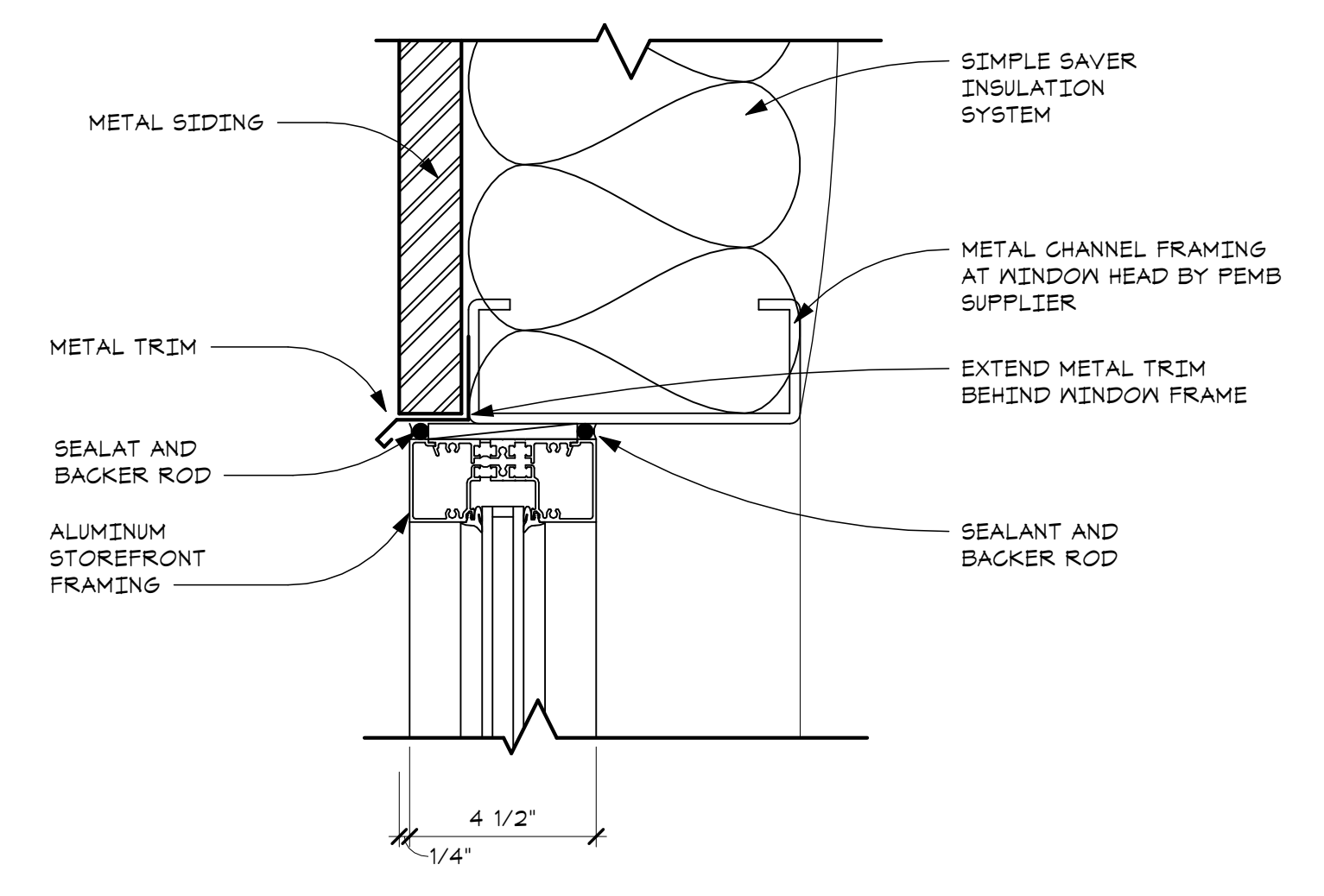
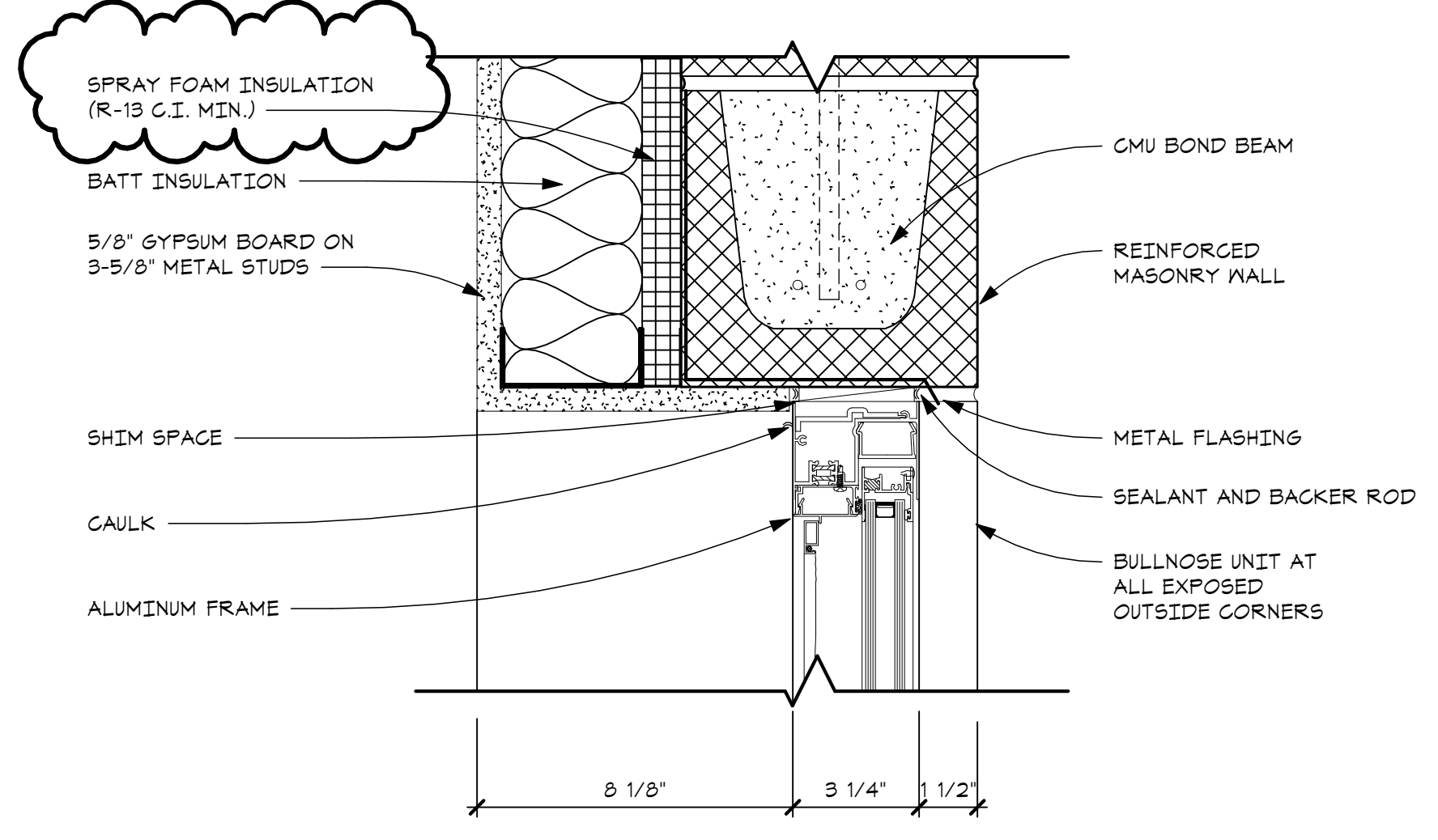


WINDOW TYPE - W1



WINDOW TYPE W2

GLASS TYPE SCHEDULE		
TYPE	THICKNESS	DESCRIPTION
△	1" INSULATED, TEMPERED	LOW-E COATED, CLEAR, TEMPERED
◻	1" INSULATED	CLEAR, UNTREATED
◇	1/4" MONOLITHIC, TEMPERED	CLEAR, TEMPERED
◊	1" INSULATED	LOW-E COATED, CLEAR, TEXTURED



G1 OPERABLE WINDOW DETAILS
 SCALE - 3" = 1'-0"

D1 CLERESTORY WINDOW DETAILS
 SCALE - 3" = 1'-0"

B1 LOUVER DETAILS
 SCALE - 3" = 1'-0"

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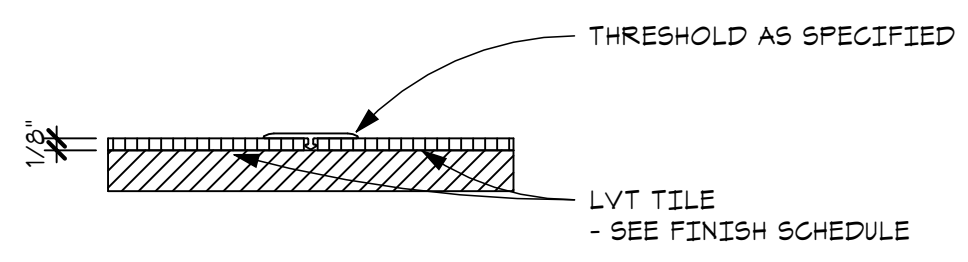
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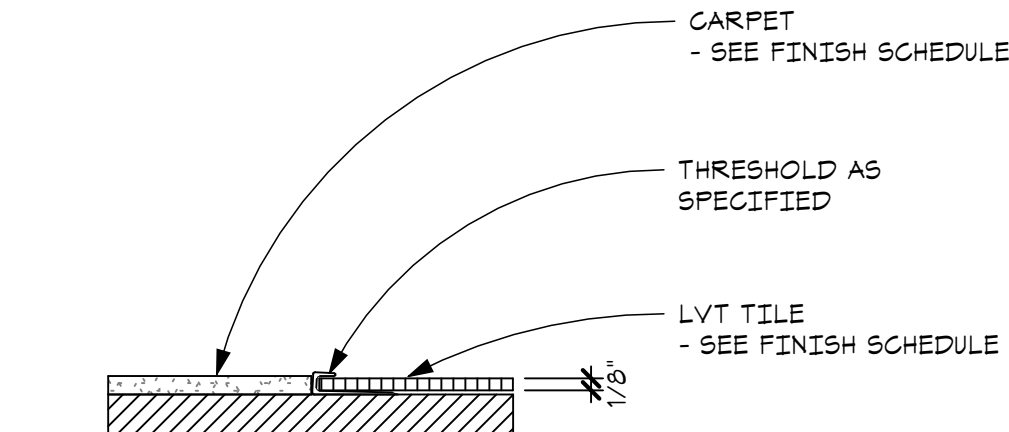
WINDOW SCHEDULE, TYPES AND DETAILS
 SHEET TITLE

23-319
 PROJECT NUMBER

A-520
 SHEET NUMBER



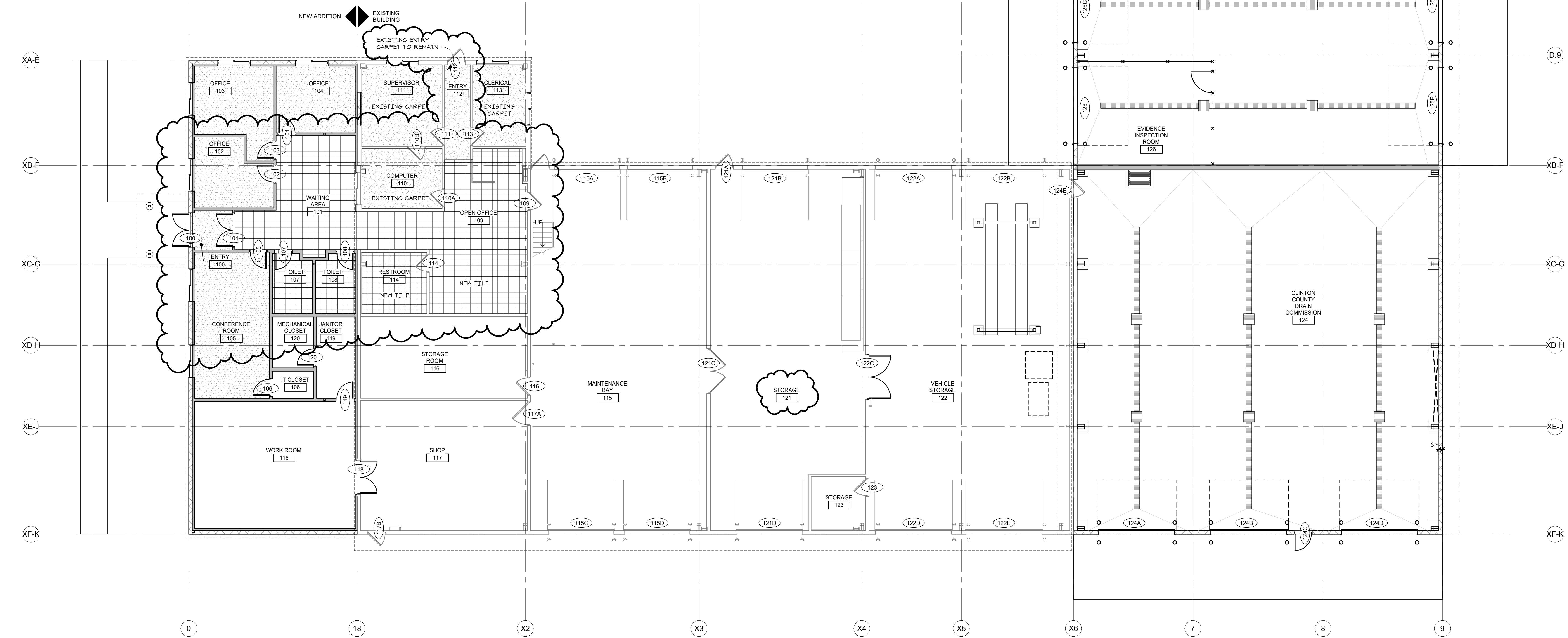
J7 LVT/LV THRESHOLD DETAIL
 A-600 SCALE - 6" = 1'-0"



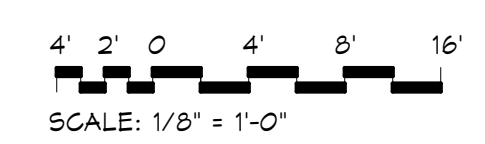
J6 LVT/CPT THRESHOLD DETAIL
 A-600 SCALE - 6" = 1'-0"

ROOM FINISH SCHEDULE									
ROOM NO.	ROOM NAME	FLOOR FINISH	BASE	WALL				CEILING	REMARKS
				NORTH	EAST	SOUTH	WEST		
FIRST FLOOR									
100	ENTRY	CPT	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	OFFICE
101	WAITING AREA	LVT	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	OFFICE
102	OFFICE	CPT-1	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	OFFICE
103	OFFICE	CPT-1	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	OFFICE
104	OFFICE	CPT-1	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	OFFICE
105	CONFERENCE ROOM	CPT-1	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	CONFERENCE ROOM
106	IT CLOSET	SC	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	OFFICE
107	TOILET	LVT-1	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	OFFICE
108	TOILET	LVT-1	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	OFFICE
109	OPEN OFFICE	LVT-1	RB-1	EXST/PNT-2	EXST/PNT-2	EXST/PNT-2	EXST/PNT-2	EXST/ACT/GYP	OFFICE
110	COMPUTER	EXST	EXST	EXST	EXST	EXST	EXST	EXST	OFFICE
111	SUPERVISOR	EXST	EXST	EXST	EXST	EXST	EXST	EXST	OFFICE
112	ENTRY	EXST	EXST	EXST	EXST	EXST	EXST	EXST	OFFICE
113	CLERICAL	EXST	EXST	EXST	EXST	EXST	EXST	EXST	OFFICE
114	RESTROOM	LVT-1	RB-1	EXST	EXST	EXST	EXST	EXST	OFFICE
115	MAINTENANCE BAY	EXST	EXST	EXST	EXST	EXST	EXST	EXST	GARAGE
116	STORAGE ROOM	EXST	EXST	EXST	EXST	EXST	EXST	EXST	STORAGE
117	SHOP	EXST	EXST	EXST	EXST	EXST	EXST	EXST	WORK ROOMS
118	WORK ROOM	SC	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	VINYL	WORK ROOMS
119	JANITOR CLOSET	SC	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	ACT	STORAGE
120	MECHANICAL CLOSET	SC	RB-1	PNT-1	PNT-1	PNT-1	PNT-1	ACT	STORAGE
121	STORAGE	EXST	EXST	EXST	EXST	EXST	EXST	EXST	STORAGE
122	VEHICLE STORAGE	EXST	EXST	EXST	EXST	EXST	EXST	EXST	STORAGE
123	STORAGE	EXST	EXST	EXST	EXST	EXST	EXST	EXST	STORAGE
124	CLINTON COUNTY DRAIN COMMISSION	SC	NONE	CMU/PNT-1/MLP	CMU/PNT-1/VINYL	CMU/PNT-1/MLP	VINYL	VINYL	STORAGE
125	CLINTON COUNTY SHERIFFS DEPARTMENT	SC	NONE	MLP/CMU/PNT-1	CMU/PNT-1/VINYL	CMU/PNT-1/MLP	CMU/PNT-1/VINYL	VINYL	STORAGE
126	EVIDENCE INSPECTION ROOM	SC	NONE	CL	CMU/PNT-1/MLP	CMU/PNT-1/VINYL	VINYL	STORAGE	
127	TOILET	SC	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	STORAGE
128	CLINTON COUNTY EMERGENCY SERVICES	SC	NONE	CMU/PNT-1/VINYL	CMU/PNT-1/VINYL	MLP/CMU/PNT-1	CMU/PNT-1/VINYL	VINYL	STORAGE
MEZZANINE	TOILET	SC	RB-1	PNT-2	PNT-2	PNT-2	PNT-2	ACT	STORAGE

- LOWER ROOF - LOW**
- | | | | | | | | | | |
|-----|-----------|------|------|------|------|------|------|------|---------|
| 200 | MEZZANINE | EXST | EXST | EXST | EXST | EXST | EXST | EXST | STORAGE |
|-----|-----------|------|------|------|------|------|------|------|---------|
- GENERAL:**
 MECH = MECHANICAL
 EXST = EXISTING
 STORAGE = STORAGE
- FLOORS:**
 SC = SEALED CONCRETE - TIAH BY M.R. MEADOWS
 LVT-1 = SHAW TERRAZIN II 6"x48" - COLOR: SEQUOIA
 CPT-1 = SHAW PATI 24"x24" TILE - COLOR: PORTABELLA
- FLOOR BASE:**
 RB-1 = RUBBER BASE
- WALLS:**
 PNT-1 = SHERWIN WILLIAMS #5660TD HERON PLUME
 PNT-2 = SHERWIN WILLIAMS #5660D2 VERSATILE GREY
 CMU = CONCRETE MASONRY UNIT
 VINYL = SIMPLE SAVER INSULATION VINYL COVER
 MLP = METAL LINER PANEL
 CL = CHAINLINK FENCING
 PW = PLYWOOD
- CEILING:**
 ACT = ACOUSTIC PANEL CEILING
 GYP = GYPSUM BOARD CEILING
 EXP = EXPOSED
- NOTES:**
 1. DO NOT PAINT PEMB SYSTEM COMPONENTS
 2. DO NOT PAINT EXISTING CONSTRUCTION UNLESS NOTED OTHERWISE



FIRST FLOOR FINISH PLAN
 SCALE - 1/8" = 1'-0"



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PROJECT
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FINISH PLAN
 SHEET TITLE
 23-319
 PROJECT NUMBER
 A-600
 SHEET NUMBER

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INSTANTANEOUS DOMESTIC WATER HEATER SCHEDULE												
TAG	MODEL	LOCATION	MIN/MAX BTU	MIN/MAX FLOW RATE (GPM)	MIN ACTIVATION FLOW RATE (GPM)	FLOW RATE (90 DEG TEMP RISE)	COMBUSTION AIR SIZE	VENT SIZE	VOLTAGE	ELECTRICAL PHASE	AMPS	COMMENTS
HW-1	CJ-1991	MEZZANINE MECH	15,200 / 186,000	26 - 9.8	0.4	4.2 GPM	2"	2"	120	1	4	1,2,3,4,5

NOTES:
 1. BASED ON RINNAI
 2. HORIZONTAL CONCENTRIC VENT KIT
 3. CONDENSATE NEUTRALIZATION KIT
 4. DISCONNECT BY EC
 5. MAINTENANCE INDICATION SWITCH FOR GAS MONITORING

PLUMBING FIXTURE SCHEDULE												
TAG	FIXTURE	ROUGH-IN CONNECTION SIZE				FAUCET TYPE	FIXTURE SIZE	ACCESSORIES AND COMMENTS				
		CW	HW	SAN	VENT							
EW-1	ELECTRIC WATER COOLER WALL HUNG BI-LEVEL											WATER COOLER CARRIER, BOTTLE FILL STATION, BOTTLE FILL STATION, BASED ON ELKAY L28WSSK
WC-1	FLOOR MOUNTED TANK TYPE WATER CLOSET (B.F.)	1"		4"	2"							COMMERCIAL SEAT
LAV-1	WALL HUNG LAVATORY (B.F.)	1/2"	1/2"	1 1/2"	1 1/4"	ELECTRIC FAUCET & SOAP COMBINATION, HARD WIRED SENSOR OPERATED (120 VOLT)	20-1/2x18					LAVATORY CARRIER, UNDERSINK TWV - STD ASSE 1070, 120 VOLT TO LOW VOLTAGE TRANSFORMER (LOCATED IN CEILING)
FD-1	FINISH AREA FLOOR DRAIN											5" ROUND TOP SEE PLAN FOR SANITARY SIZE
SK-1	UTILITY SINK	1/2"	1/2"	1 1/2"	1 1/2"	SWING SPOUT WITH 4" WRIST BLADES	48x30x12-3/4					FREESTANDING, DOUBLE COMPARTMENT, BASED ON ELKAY RIGIDBILT MODEL RNSF62362
SK-2			1/2"	1/2"		SERVICE SINK FAUCET						HOSE RACK
HB-1	HOSE BIBB	3/4"				WHEEL HANDLE						AUTO DRAINING, HOSE CONNECTION, VACUUM BREAKER, HOSE RACK AT LOCATIONS SHOWN ON PLANS
MS-1	MOP SINK	1/2"	1/2"	3"	1-1/2"	SERVICE SINK FAUCET	24" x 24" x 10"					MOULDED HIGH DENSITY MOP BASIN BASED ON PROFLO, HOSE AND MOP RACK, SPLASH GUARDS, SERVICE SINK FAUCET BASED ON CHICAGO FAUCET MODEL 987-CCP
UR-1	WALL HUNG URINAL (B.F.)	3/4"		2"	1-1/2"	HARD WIRED SENSOR OPERATED FLUSH VALVE WITH OVERIDE BUTTON (120 VOLT)						URINAL CARRIER, 120 VOLT TO LOW VOLTAGE TRANSFORMER (LOCATED IN CEILING)
TD-1	TRENCH DRAIN			4"			12"x31 1/2" (EXCLUDES CATCH BASIN LENGTH)					BASED ON ZURN Z882, 12" INTERNAL DRAIN WIDTH, CONSISTING OF (3) 9" SECTIONS AND (1) Z887 CATCH BASIN, CATCH BASIN 24" WIDE x 24" LONG x 38" DEEP, GRATE BASED ON DUCTILE IRON SLOTTED GRATE CERTIFIED FOR LOAD CLASS D, CORROSION RESISTANT COATING, MINIMUM 1% BUILT IN SLOPE.
TD-2	TRENCH DRAIN			4"			12"x34 3/8" (INCLUDES CATCH BASIN LENGTHS)					BASED ON ZURN Z882, 12" INTERNAL DRAIN WIDTH, CONSISTING OF (3) 9" SECTIONS AND (1) Z887 CATCH BASIN, CATCH BASIN 24" WIDE x 24" LONG x 38" DEEP, GRATE BASED ON DUCTILE IRON SLOTTED GRATE CERTIFIED FOR LOAD CLASS D, CORROSION RESISTANT COATING, MINIMUM 1% BUILT IN SLOPE.

CIRCULATING PUMP SCHEDULE													
TAG	MODEL	LOCATION	SYSTEM	FLUID	GPM	HEAD (FT)	TEMP °F	TYPE	ELECTRICAL			COMMENTS	
									VOLTS	PHASE	WATTS	FLA	
P-1	NBF-45	TOILET ROOM 129 (ON CEILING DECK)	DOM HW	HW	0.5	12	115	---	120	1	270	2.30	1,2,3

NOTES:
 1. BASED ON BELL & GOSSETT
 2. DISCONNECT BY EC
 3. BRONZE BODY

DOMESTIC ELECTRIC WATER HEATER SCHEDULE											
TAG	MODEL	LOCATION	GALLON CAPACITY	GPH @ 100°F RISE	ELECTRICAL				HOT WATER TEMP.	COMMENTS	
					VOLTAGE	WATTS	PHASE	DISC. BY			
DWH-1	LES-30 DAK	TOILET ROOM 129 (ON CEILING DECK)	30	21	240	(2) 4,500	1	EC	120	1,2,3,4,5	

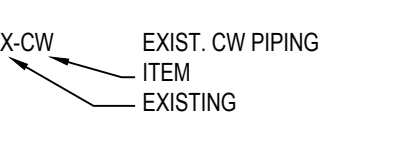
NOTES:
 1. BASED ON LOCHINVAR
 2. HEATING ELEMENTS SHALL OPERATE / STANDBY MODE (ONLY ONE ELEMENT OPERATING AT A TIME, NOT RATED FOR SIMULTANEOUS OPERATION)
 3. TEMPERATURE AND PRESSURE RELIEF VALVE
 4. DRIP PAN
 5. ELEMENT QUANTITY: 2
 ABBREVIATIONS:
 EC - ELECTRICAL CONTRACTOR

GAS REGULATOR SCHEDULE						
TAG	SERVES	INLET PRESSURE	OUTLET PRESSURE	CAPACITY REQUIRED (CFH)	ANSI STANDARD	COMMENTS
R-1	HH-1	1 1/2"	9"	290	ANSI Z21.80	1

NOTES:
 1. BASED ON MAXITROL

PLUMBING ABBREVIATIONS

AD	AREA DRAIN	NTS	NOT TO SCALE
ASR	AUTOMATIC SPRINKLER RISER	ORD	OVERFLOW ROOF DRAIN
BFS	BELOW FLOOR SLAB	OXY	OXYGEN
BWV	BACK WATER VALVE		
CB	CATCH BASIN	P	PUMP
CI	CAST IRON	PD	PRESSURE DROP
CO	CLEAN OUT	PVC	POLY-VINYL-CHLORIDE
CV	CONTROL VALVE		
DF	DRINKING FOUNTAIN	RC	RAIN CONDUCTOR
DA	DOWN	RD	ROOF DRAIN
DN	DOWN	RI	ROUGH-IN
DWH	DOMESTIC WATER HEATER	REGD	REQUIRED
E.T.C.	ELECTRICAL TRADES CONTRACTOR	SAN	SANITARY
EWC	ELECTRIC WATER COOLER	SHWR	SHOWER
EXIST	EXISTING	SK	SINK
		SP	STAND PIPE
		SQ. FT.	SQUARE FEET
FD	FLOOR DRAIN	SS	SERVICE SINK
FC	FINAL CONNECTIONS	ST	STORM
FDC	FIRE DEPT. CONNECTION	SWW	STOP & WASTE
FF	FINISH FLOOR	STR	STRAINER
FHV	FIRE HOSE VALVE	SV	STACKED VENT
FT	FEET	TYP.	TYPICAL
GAL	GALLON	UR	URINAL
GD	GARBAGE DISPOSAL		
GI	GREASE INTERCEPTOR	VB	VACUUM BREAKER
GPH	GALLONS PER HOUR	VS	VENT STACK
GPM	GALLONS PER MINUTE	V.F.D	VARIABLE FREQUENCY DRIVE
		VTR	VENT THRU ROOF
HB	HOSE BIBB	W	WASTE
HD	HEAD (FT)	WB	WET BULB
HP	HORSE POWER	WC	WATER CLOSET
ID	INSIDE DIAMETER	WH	WALL HYDRANT
IE	INVERT ELEVATION	WS	WASTE STACK
		W&V	WASTE AND VENT
LAV	LAVATORY		
LT	LAUNDRY TRAY		
MA	MEDICAL AIR		
MAX	MAXIMUM		
MCC	MEDICAL GAS CONSOLE		
MH	MAN HOLE		
MIN	MINIMUM		
MS	MOP SINK		
M.T.C.	MECHANICAL TRADES CONTRACTOR		



PLUMBING SYMBOLS LEGEND

PLUMBING PIPING	PLUMBING VALVES	PLUMBING EQUIPMENT
<ul style="list-style-type: none"> — CW ——— COLD WATER — CW - - - - - COLD WATER BELOW FINISH SLAB — HW ——— HOT WATER — HW - - - - - HOT WATER BELOW FINISH SLAB — HWR ——— HOT WATER RETURN — HWR - - - - - HOT WATER RETURN BELOW FINISH SLAB — SW ——— SOFTENED WATER — SW - - - - - SOFTENED WATER BELOW FINISH SLAB — SWR ——— SOFTENED WATER RETURN — SWR - - - - - SOFTENED WATER RETURN BELOW FINISH SLAB — TW ——— TEMPERED WATER — TW ——— TEMPERED WATER BELOW FINISH SLAB — TWR ——— TEMPERED WATER RETURN — TWR - - - - - TEMPERED WATER RETURN BELOW FINISH SLAB — DI ——— DEIONIZED WATER — DI - - - - - DEIONIZED WATER BELOW FINISH SLAB — RO ——— REVERSE OSMOSIS WATER — RO - - - - - REVERSE OSMOSIS WATER RETURN BELOW FINISH SLAB — FP ——— FIRE PROTECTION — G ——— GAS (NATURAL) — LP ——— GAS (LIQUID PETROLEUM) — ARV ——— ACID RESISTANT — ARW ——— VENT ACID RESISTANT WASTE — ARW - - - - - ACID RESISTANT WASTE BELOW FINISH SLAB — RC ——— RAIN CONDUCTOR — ST ——— STORM BELOW FINISH SLAB — ORC ——— OVERFLOW RAIN CONDUCTOR — ORC - - - - - OVERFLOW RAIN CONDUCTOR BELOW FINISH SLAB — SAN ——— SANITARY WASTE — SAN - - - - - SANITARY WASTE BELOW FINISH SLAB — V - - - - - VENT PIPING — V - - - - - VENT PIPING BELOW FINISH SLAB — CA ——— COMPRESSED AIR — O2 ——— OXYGEN — N2 ——— NITROGEN — MA ——— MEDICAL AIR — VAC ——— VACUUM — - - - - - DEMOLITION 	<ul style="list-style-type: none"> — GATE VALVE — GAS COCK — CHECK VALVE — BALANCE COCK — CIRCUIT SETTER — TWO-WAY CONTROL VALVE — THREE-WAY CONTROL VALVE — GLOBE VALVE — BALL VALVE — OSKY VALVE — SOLENOID VALVE — EXPANSION VALVE WITH THERMOSTATIC BULB — PLUG VALVE — BUTTERFLY VALVE — RELIEF VALVE — HOSE & DRAIN END VALVE — PRESSURE RELIEF VALVE — PRESSURE REDUCING VALVE — TRIPLE DUTY VALVE — GAS PRESSURE REGULATOR — STRAINER (BELOW-OFF) 	<ul style="list-style-type: none"> — FLOW DIRECTION — PIPING DROP — PIPING RISE — FLOOR CLEANOUT — INLINE PIPING RISE — INLINE PIPING DROP — PIPING TEE — PIPING ELBOW — INLINE CLEANOUT — PLUMBING TRAP — THERMOMETER — CONNECTION — PUMP — UNION — PIPE ANCHOR — PIPE GUIDE — FLOOR DRAIN & FLOOR SINK — BACK FLOW PREVENTER — FLANGE END CONNECTION — WALL HYDRANT & HOSE BIBB — REGULAR & OVERFLOW ROOF DRAIN — PIPE CAP — PIPE BREAK — WATER METER — GAS METER — PRESSURE GAUGE — FIRE HYDRANT — SPRINKLER HEAD (PENDANT) — SPRINKLER HEAD (UPRIGHT) — SPRINKLER HEAD (SIDEWALL) — FIRE DEPARTMENT CONNECTION — PIPING FLEXIBLE CONNECTOR — SIGHT GLASS — PIPE EXPANSION — COMPENSATOR FLOW SENSOR DEVICE — FLOW METER — FLOW SWITCH — PRESSURE SWITCH — SUPERVISORY SWITCH INVERTED — BUCKET TRAP — FLOAT & THERMOSTATIC TRAP

MISCELLANEOUS NOTES

- POINT OF CONNECTION BETWEEN NEW AND EXISTING
- POINT OF EXISTING TO REMAIN AND EXISTING TO BE REMOVED
- (X) INDICATES PLAN NOTE
- (X) INDICATES DEMOLITION NOTE
- (XX) DETAIL BUBBLE
- (XXX) DETAIL NUMBER
- (XXXX) PAGE LOCATION INDICATES
- (DIRECTION OF DETAIL SECTION)

GENERAL PLUMBING NOTES

1. ALL PLUMBING WORK SHALL CONFORM TO MICHIGAN PLUMBING CODE, LATEST APPLICABLE EDITION.
2. INSTALL ALL EQUIPMENT, MATERIALS, AND ACCESSORIES PER MANUFACTURERS WRITTEN INSTRUCTIONS.
3. INSTALL ISOLATION BALL VALVES @ ALL FIXTURE WATER SUPPLY LINES.
4. SITE CONTRACTOR TO RUN UTILITIES TO 5'-0" FROM BUILDING LINE.
5. ALL INVERT ELEVATIONS ARE BASED ON A FINISH FLOOR LEVEL OF 100'-0".
6. ALL ELEVATIONS SHOWN ARE INVERTS OF PIPING. THE SLEEVES SHALL BE COORDINATED WITH THESE ELEVATIONS.
7. ALL PIPE SIZES SHOWN ARE SERVICE SIZE. SIZE SLEEVES FOR 1" CLEAR SPACE BETWEEN PIPE AND SLEEVE FOR INSTALLATION OF MECHANICAL SEAL.
8. CONTRACTOR TO VERIFY LOCATIONS OF EXISTING UNDERGROUND UTILITIES BEFORE BEGINNING WORK.
9. CONTRACTOR SHALL DEMOLISH & REMOVE EXISTING PIPING, FITTINGS, & EQUIPMENT AS REQUIRED FOR NEW INSTALLATIONS. VALVE & CAP PIPING TO REMAIN.
10. FIELD VERIFY LOCATIONS OF EXISTING PIPING THAT MAY CONFLICT WITH NEW CONSTRUCTION AND RELOCATE AS NEEDED.
11. NOTIFY OWNER OF ANY PIPING DEMOLITION THAT MAY AFFECT NORMAL OPERATION OF OTHER AREAS.
12. MECHANICAL SEALS REQUIRED FOR BELOW GRADE WALL PENETRATIONS.
13. ALL FLOOR DRAINS TO BE EQUIPPED WITH MECHANICAL SEAL DEVICES, UNLESS OTHERWISE NOTED.
14. 2% SLOPE FOR ALL SANITARY PIPING 2-1/2" OR LESS IN DIAMETER, 1% SLOPE FOR ALL SANITARY PIPING 3" OR MORE IN DIAMETER.
15. FIRE SUPPRESSION DESIGN & PIPING SHALL BE BY CERTIFIED FIRE SUPPRESSION CONTRACTOR.
16. THE CONTRACTOR SHALL FIELD VERIFY THE SIZES, LOCATION, ELEVATIONS, AND DETAILS OF ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EQUIPMENT AND MATERIALS IN A "NEW" CONDITION DURING CONSTRUCTION.
18. ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS AND SUBCONTRACTORS AS REQUIRED BY LAW.
19. DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CODES AND REGULATIONS ENFORCED BY LOCAL BUILDING OFFICIALS.
20. IF THERE IS CONFLICTING INFORMATION IN THE PLANS OR SPECIFICATIONS THE MORE STRINGENT AND GREATER COST ITEM SHALL BE USED.
21. DRAWINGS INDICATE REQUIRED SIZES AND POINTS OF TERMINATION OF PIPES AND SUGGESTED ROUTES. IT IS NOT INTENTION OF DRAWINGS TO INDICATE ALL NECESSARY OFFSETS. INSTALL WORK IN MANNER TO CONFORM TO STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. DO NOT SCALE FROM DRAWINGS.
22. THE PLUMBING CONTRACTOR IS RESPONSIBLE TO INSTALL ALL LOW VOLTAGE CONTROL WIRING, INCLUDING CONTROL TRANSFORMER, IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND DIVISION 26 REQUIREMENTS.
23. THE CONTRACTOR SHALL PHASE THE WORK TO MINIMIZE DISRUPTIONS TO THE EXISTING BUILDING. EXISTING PLUMBING SYSTEMS SHALL REMAIN ACTIVE AND FUNCTIONAL DURING OCCUPIED HOURS. CONTRACTOR SHALL COORDINATE WITH OWNER AND RECEIVE WRITTEN APPROVAL OF SHUT DOWN AT A MINIMUM 1 WEEK BEFORE REQUESTED DATE.

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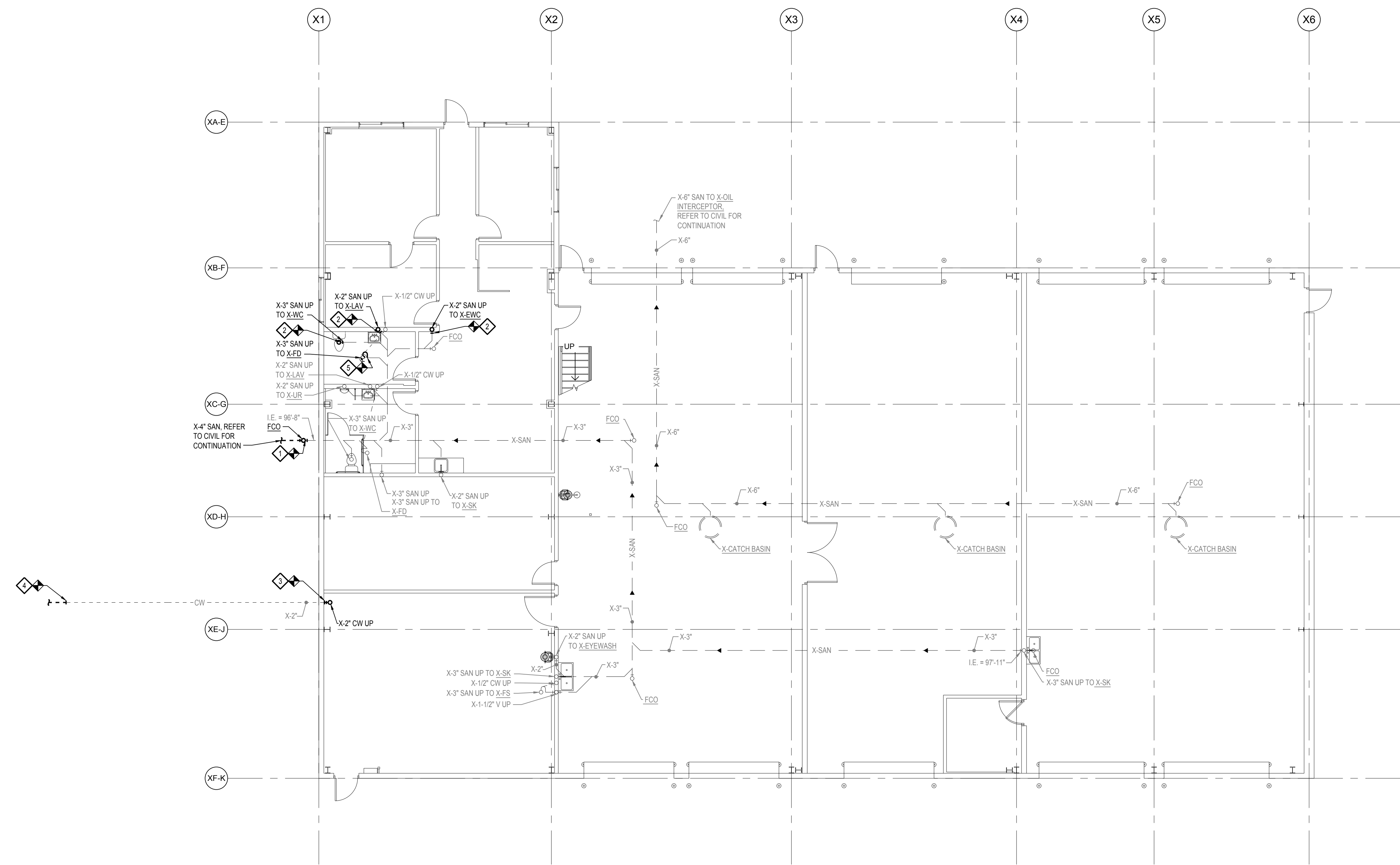
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PLUMBING NOTES, ABBREVIATIONS, SYMBOLS, AND SCHEDULES
 SHEET TITLE

23-319
 PROJECT NUMBER
 P-100
 SHEET NUMBER



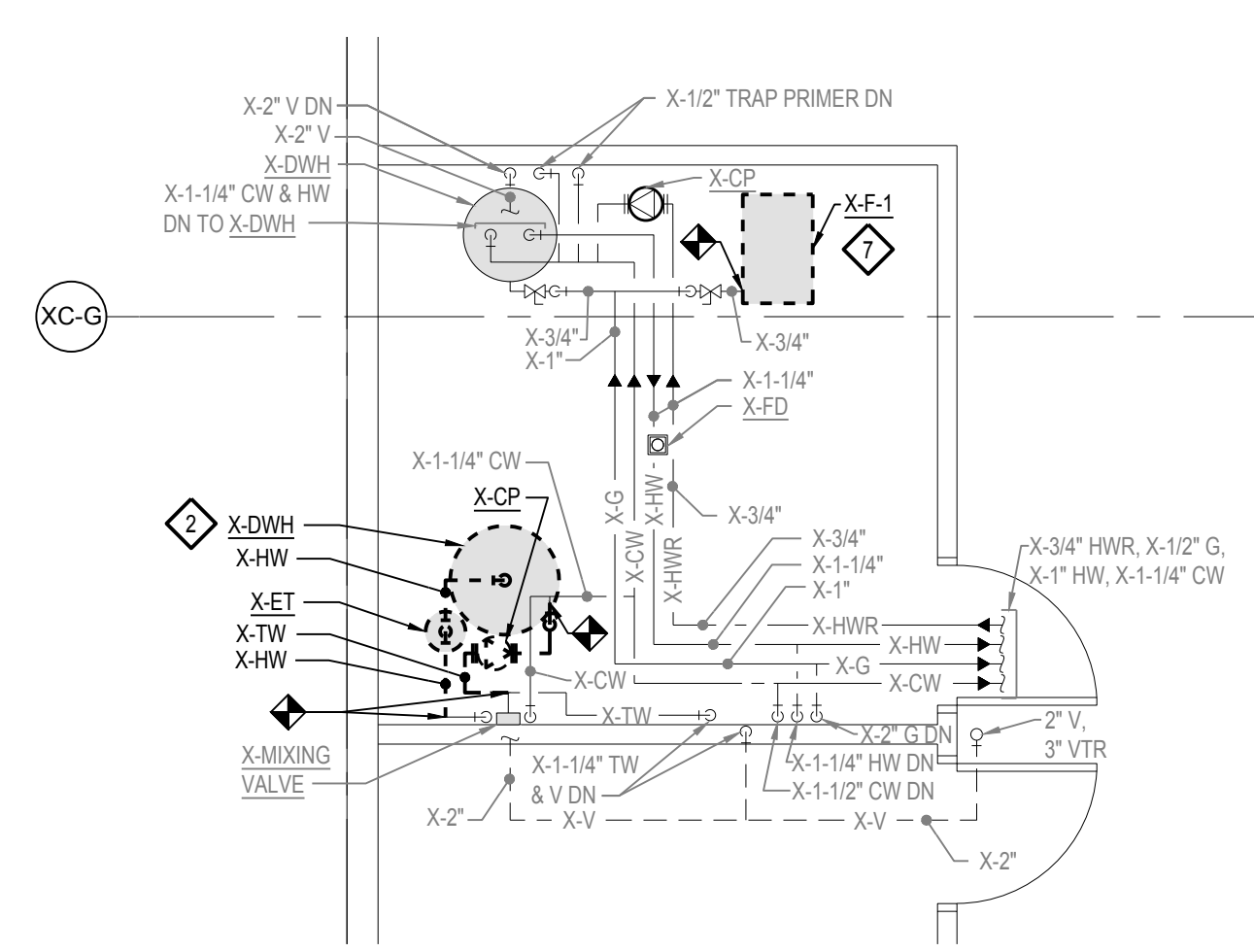
GENERAL NOTES

- EXISTING COLD WATER SERVICE SHALL REMAIN OPERATIONAL THRU THE DURATION OF CONSTRUCTION. CONTRACTOR SHALL DISCONNECT AND ABANDON EXISTING COLD WATER SERVICE WHEN NEW SERVICE LINE IS INSTALLED, OPERATIONAL, AND CONNECTED TO THE EXISTING COLD WATER DISTRIBUTION SYSTEM. CONTRACTOR TO COORDINATE WITH OWNER PRIOR TO SERVICE CHANGE OVER.
- CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO STARTING CONSTRUCTION.

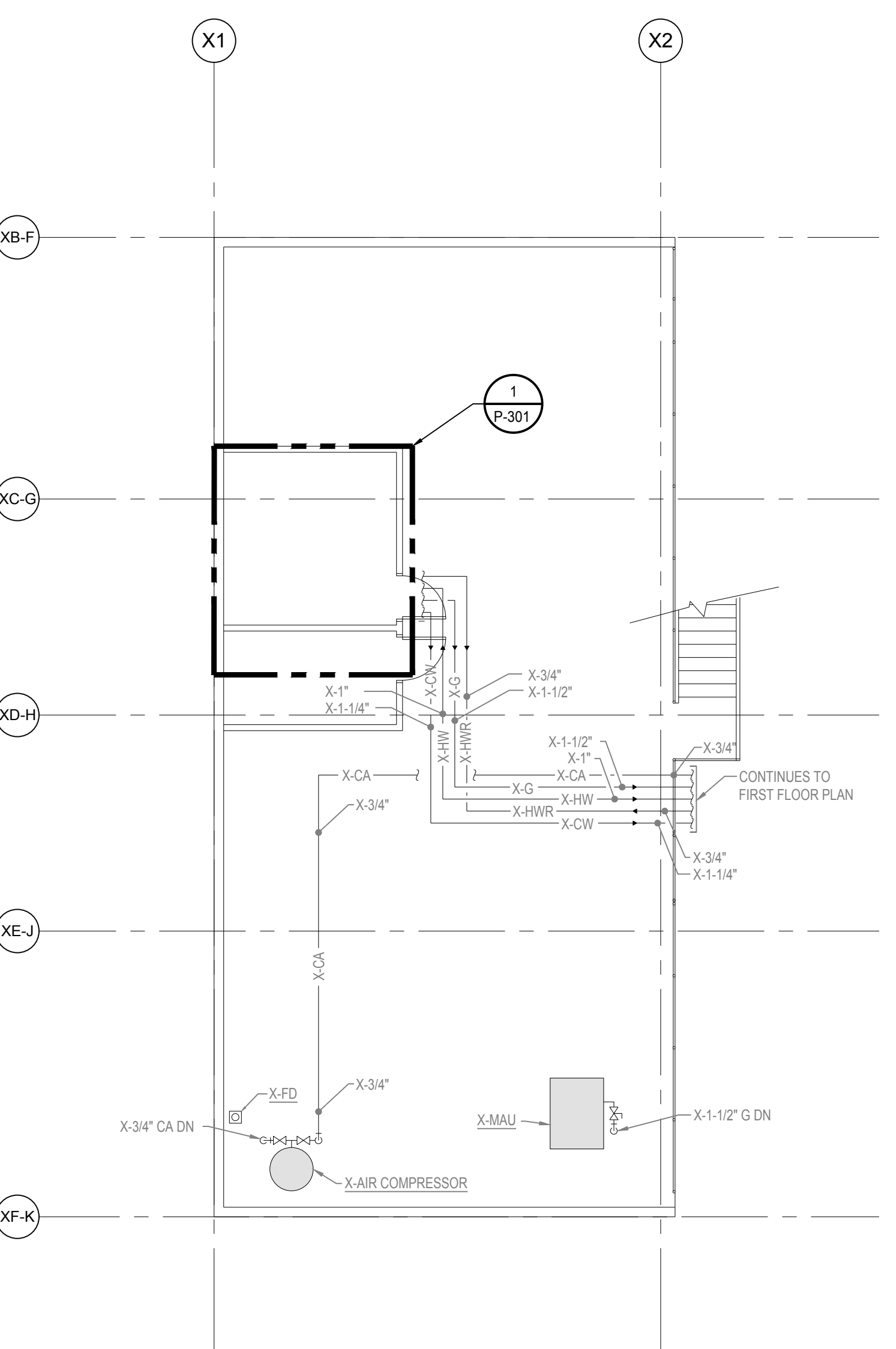
DEMOLITION NOTES

- ◇ DISCONNECT, REMOVE, AND DEMO EXISTING SANITARY TO EXTENTS SHOWN. MODIFY EXISTING PIPING AS REQUIRED TO CONNECT TO NEW SANITARY PIPING AS SHOWN ON NEW PLANS. CONTRACTOR TO VERIFY EXISTING INVERT ELEVATION.
- ◇ DISCONNECT, REMOVE, AND DEMO EXISTING SANITARY TO BELOW FLOOR AND CAP. PATCH FLOOR TO MATCH EXISTING.
- ◇ DISCONNECT, REMOVE, AND DEMO EXISTING COLD WATER PIPING TO BELOW GRADE AND CAP. REFER TO GENERAL NOTE 1 FOR FURTHER INSTRUCTIONS.
- ◇ DISCONNECT, REMOVE, AND DEMO EXISTING COLD WATER PIPING AT LOCATION SHOWN AND CAP. ABANDON EXISTING PIPING THAT WILL BE LOCATED UNDER NEW BUILDING ADDITION. REFER TO GENERAL NOTE 1 AND CIVIL PLANS FOR FURTHER INSTRUCTIONS.
- ◇ DISCONNECT, REMOVE, AND DEMO EXISTING SANITARY TO BELOW FLOOR AND CAP. DEMO EXISTING TRAP PRIMER TO EXTENTS SHOWN AND CAP. PATCH FLOOR TO MATCH EXISTING.

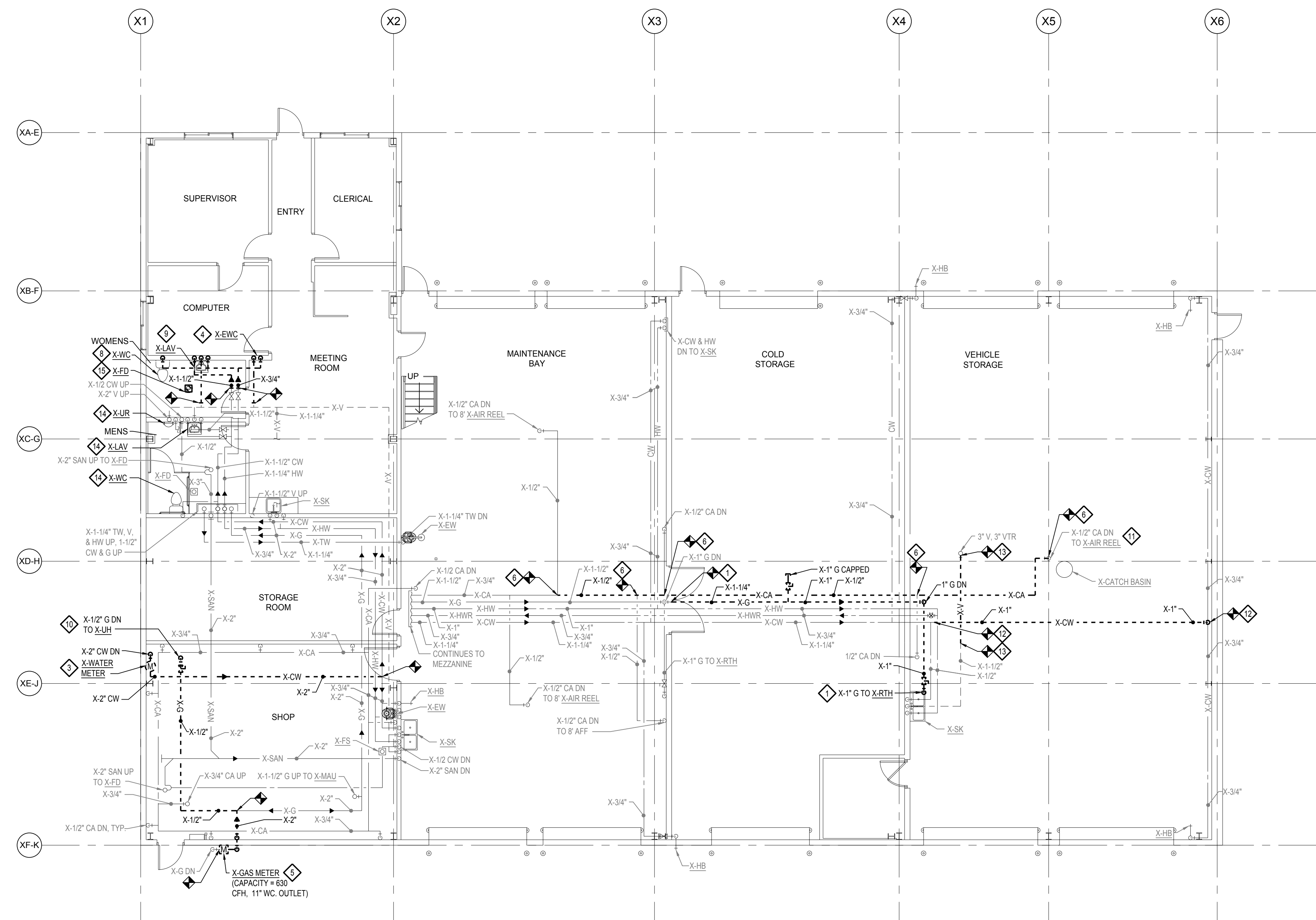
BELOW FIRST FLOOR PLAN - PLUMBING DEMOLITION
 SCALE: 1/8" = 1'-0"



1 ENLARGED MEZZANINE FLOOR PLAN - PLUMBING DEMOLITION
 SCALE: 1/4" = 1'-0"



MEZZANINE FLOOR PLAN - PLUMBING DEMOLITION
 SCALE: 1/8" = 1'-0"



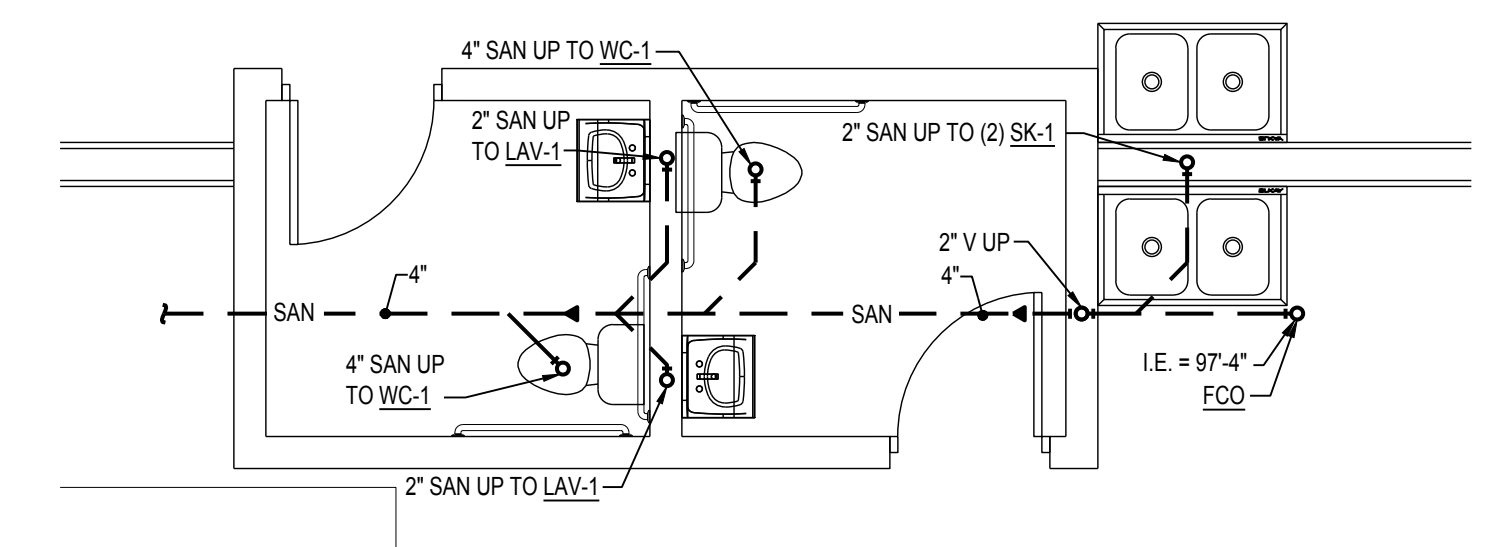
FIRST FLOOR PLAN - PLUMBING DEMOLITION
 SCALE: 1/8" = 1'-0"

GENERAL PLUMBING NOTES

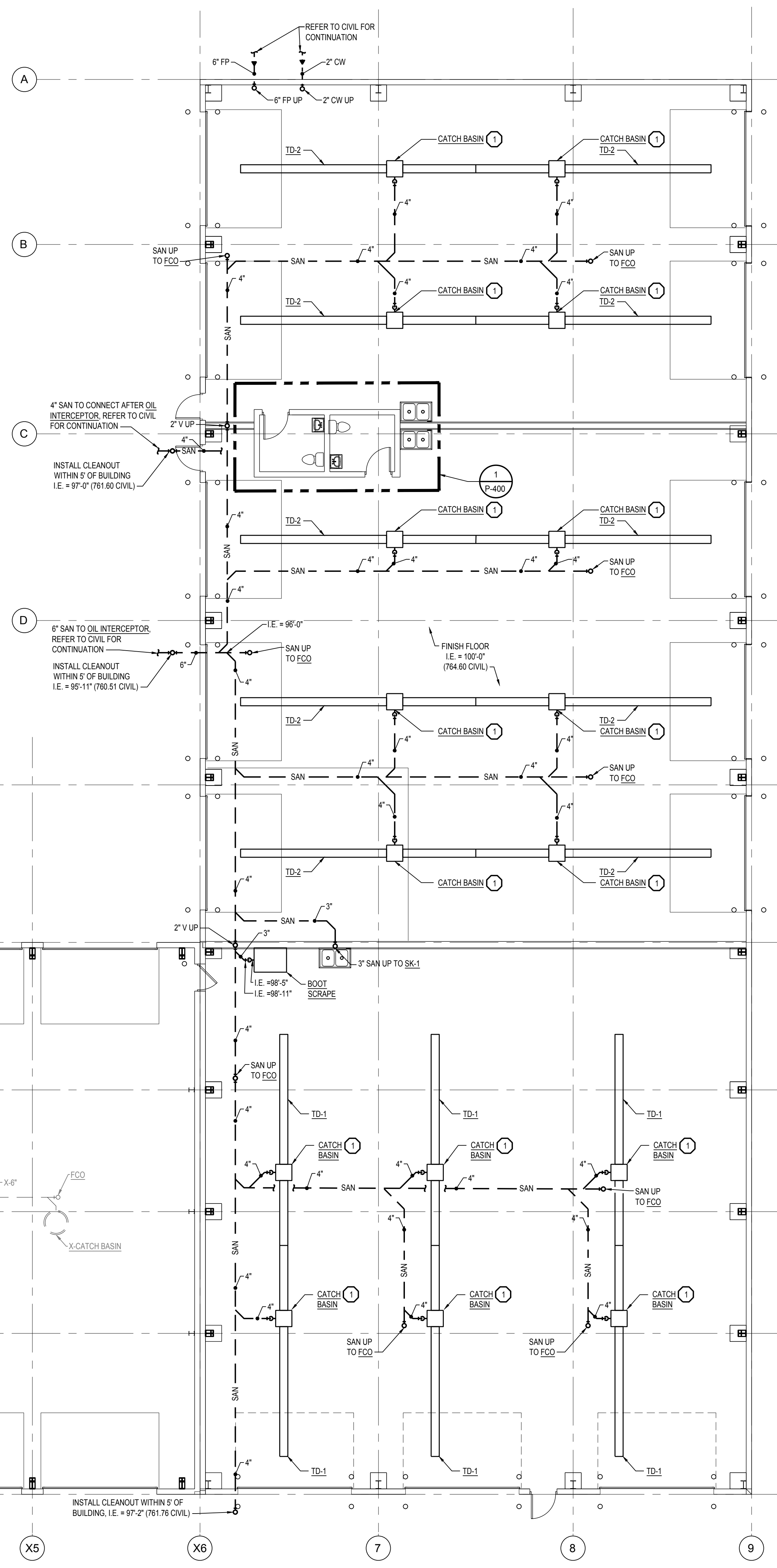
- EXISTING COLD WATER SERVICE SHALL REMAIN OPERATIONAL THRU THE DURATION OF CONSTRUCTION. CONTRACTOR SHALL DISCONNECT AND ABANDON EXISTING COLD WATER SERVICE WHEN NEW SERVICE LINE IS INSTALLED, OPERATIONAL, AND CONNECT TO THE EXISTING COLD WATER DISTRIBUTION SYSTEM. CONTRACTOR TO COORDINATE WITH OWNER PRIOR TO SERVICE CHANGE OVER.
- CONTRACTOR TO VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO STARTING CONSTRUCTION.

DEMOLITION NOTES

- DISCONNECT, REMOVE, AND DEMO EXISTING GAS PIPING TO EXTENTS SHOWN AND CAP.
- DISCONNECT, REMOVE, AND DEMO EXISTING DOMESTIC WATER HEATER, EXPANSION TANK, RE-CIRCULATING PUMP, AND ACCESSORIES. DEMO DOMESTIC WATER PIPING TO EXTENTS SHOWN.
- DISCONNECT, REMOVE, AND DEMO EXISTING WATER METER. DEMO COLD WATER PIPING TO EXTENTS SHOWN. REFER TO GENERAL NOTE 1 FOR FURTHER INSTRUCTION.
- DISCONNECT, REMOVE, AND DEMO EXISTING ELECTRIC WATER COOLER. DEMO DOMESTIC WATER PIPING AND VENT TO EXTENTS SHOWN AND CAP.
- DISCONNECT, REMOVE, AND DEMO EXISTING GAS METER AND ASSOCIATED GAS PIPING TO EXTENTS SHOWN. GAS METER SHOULD REMAIN OPERATIONAL DURING CONSTRUCTION. NEW GAS PIPING SHALL BE INSTALLED AND PREPARED FOR GAS METER CHANGE-OVER PRIOR TO DEMOLITION OF EXISTING GAS METER. COORDINATE WITH OWNER AND UTILITY PROVIDER PRIOR TO GAS METER REPLACEMENT.
- DISCONNECT, REMOVE, AND DEMO EXISTING COMPRESSED AIR PIPING TO EXTENTS SHOWN.
- DISCONNECT, REMOVE, AND DEMO EXISTING FURNACE AND ALL ASSOCIATED ACCESSORIES. MODIFY EXISTING GAS PIPING AS REQUIRED TO CONNECT TO NEW FURNACE AS SHOWN ON NEW PLANS.
- DISCONNECT, REMOVE, AND DEMO EXISTING WATER CLOSET. DEMO DOMESTIC WATER PIPING TO EXTENTS SHOWN AND CAP.
- DISCONNECT, REMOVE, AND DEMO EXISTING LAVATORY. DEMO DOMESTIC WATER PIPING AND VENT TO EXTENTS SHOWN AND CAP.
- DISCONNECT, REMOVE, AND RELOCATE EXISTING UNIT HEATER TO LOCATION SHOWN ON NEW PLANS. DISCONNECT, REMOVE, AND DEMO EXISTING GAS PIPING TO EXTENTS SHOWN.
- EXISTING COMPRESSED AIR HOSE REEL TO REMAIN.
- DISCONNECT, REMOVE, AND DEMO EXISTING COLD WATER PIPING TO EXTENTS SHOWN AND CAP.
- DISCONNECT, REMOVE, AND DEMO EXISTING VENT PIPING TO EXTENTS SHOWN.
- DISCONNECT, REMOVE, AND DEMO EXISTING PLUMBING FIXTURE. EXISTING DOMESTIC WATER, VENT AND SANITARY PIPING TO REMAIN.
- DISCONNECT, REMOVE, AND DEMO EXISTING FLOOR DRAIN. CAP EXISTING SANITARY PIPING BELOW GRADE AND PATCH FLOOR TO MATCH EXISTING.



1 ENLARGED BELOW FIRST FLOOR PLAN - PLUMBING NEW
 SCALE: 1/4" = 1'-0"

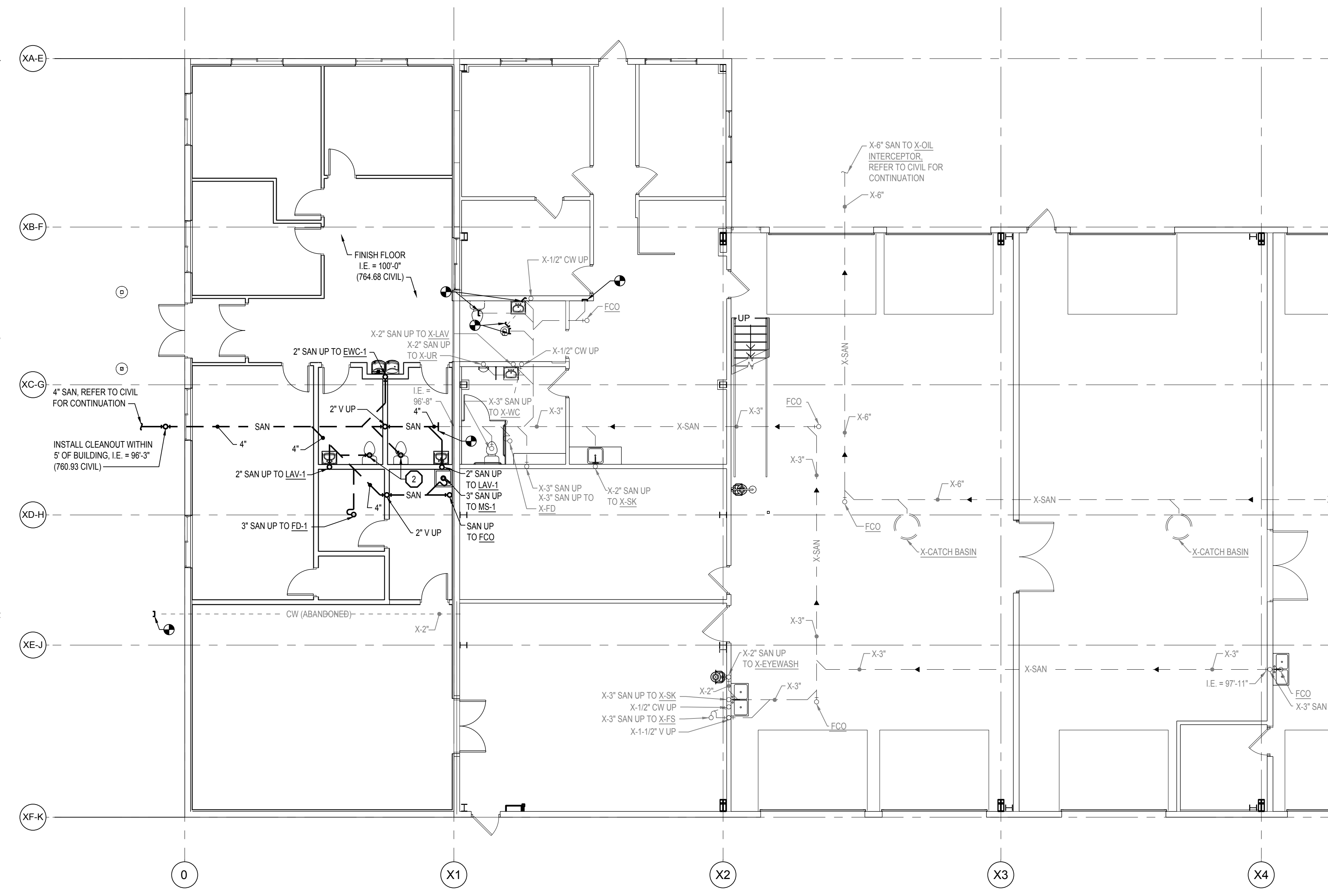


GENERAL PLUMBING NOTES

- TOP OF TRENCH DRAINS SHALL BE INSTALLED AT I.E.=99'-10" UNLESS NOTED OTHERWISE.

PLUMBING KEY NOTES

- SANITARY CONNECTION ON CATCH BASIN TO BE 12" ABOVE BOTTOM OF CATCH BASIN. REFER TO DETAIL 9 ON P-800 FOR INVERT ELEVATIONS OF SANITARY PIPING.
- 4" SANITARY UP TO WATER CLOSET.



BELOW FIRST FLOOR PLAN - PLUMBING NEW
 SCALE: 1/8" = 1'-0"

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BELOW FIRST FLOOR PLAN - PLUMBING NEW

FIRE PROTECTION NOTES

- GENERAL: SPRINKLE ENTIRE BUILDING PER NFPA 13.
- ORDINARY HAZARD OCCUPANCY, GROUP 2
- FLOW TEST: PROVIDE HYDRAULIC SPRINKLER DESIGN BASED ON FIRE HYDRANT FLOW TEST. CONTRACTOR TO CONDUCT FLOW TEST FOR SPRINKLER DESIGN.
- SPRINKLER PIPING MAINS AND BRANCHES TO BE A MINIMUM OF 5' FROM INTAKE LOUVER AND HOOD OPENINGS. IF MINIMUM DISTANCE IS UNACHIEVABLE, INSULATE PIPING WITH 1-1/2" PREFORMED FIBER WITH ASJ JACKET.

GAS LOAD SUMMARY

F-1 - 60 CFH - GAS PRESSURE RANGE 4.5" TO 13.6" WC
 F-2 - 80 CFH - GAS PRESSURE RANGE 4.5" TO 13.6" WC
 RTH-1 - 199 CFH - GAS PRESSURE RANGE 3.5" TO 10.5" WC
 X-RTH - 100 CFH - GAS PRESSURE RANGE 4.6" TO 14" WC
 RTH - QTY. 2 @ 175 CFH - GAS PRESSURE RANGE 5" TO 14" WC
 RTH - QTY. 2 @ 150 CFH - GAS PRESSURE RANGE 5" TO 14" WC
 RTH - QTY. 3 @ 122 CFH - GAS PRESSURE RANGE 5" TO 14" WC
 X-UH - 30 CFH - GAS PRESSURE RANGE 5" TO 14" WC
 UH-1 - 45 CFH - GAS PRESSURE RANGE 5" TO 14" WC
 X-DWH - 40 CFH - GAS PRESSURE RANGE 5" TO 14" WC
 X-MAU - 300 CFH - GAS PRESSURE RANGE 5" TO 14" WC
 TOTAL = 1,879 CFH @ 11" WC

COMPRESSED AIR EQUIPMENT SCHEDULE

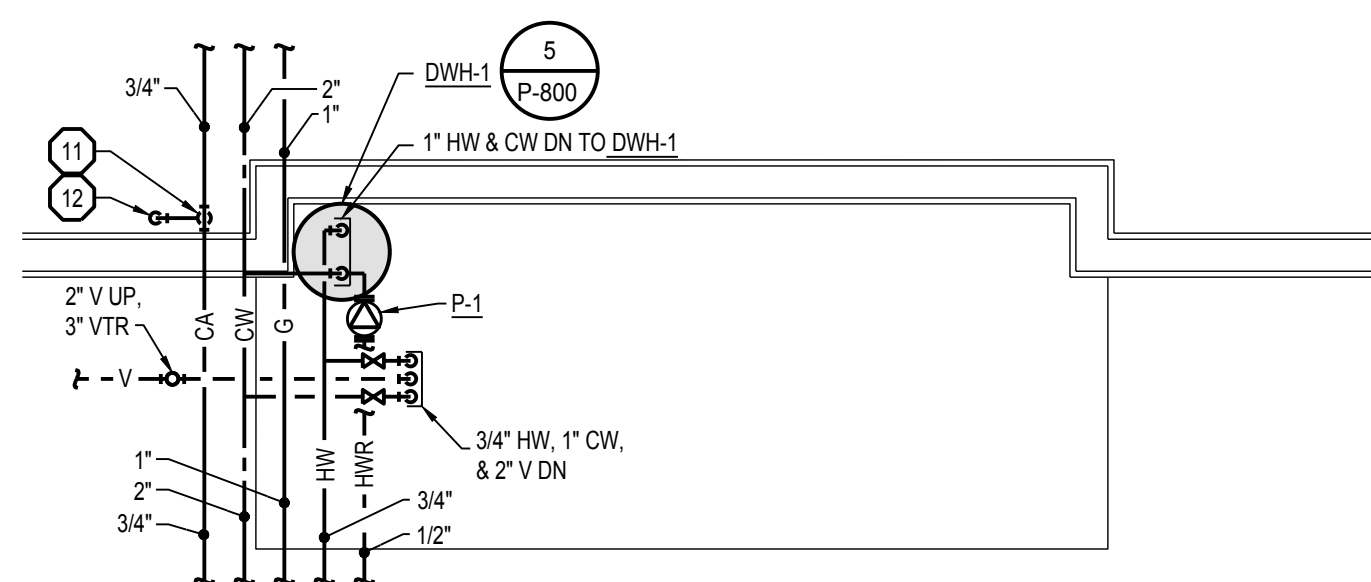
- 1/2" 50 FT CA HOSE REEL: BASED ON GLEASON REEL MODEL GH5050L OR APPROVED EQUIVALENT. REELS TO BE SPRING REWIND AND RATCHET LOCK. MULTI-POSITION FOUR ROLLER HOSE GUIDE AND ADJUSTABLE HOSE STOP. STEEL CONSTRUCTION WITH BAKED POLYESTER FINISH. 300 PSI MAX PRESSURE.
- COMPRESSED AIR QUICK CONNECT FITTINGS BASED ON COILHOUSE PNEUMATICS, MODEL 123USE 2-IN-1 SAFETY EXHAUST COUPLER OR APPROVED EQUAL.

GENERAL PLUMBING NOTES

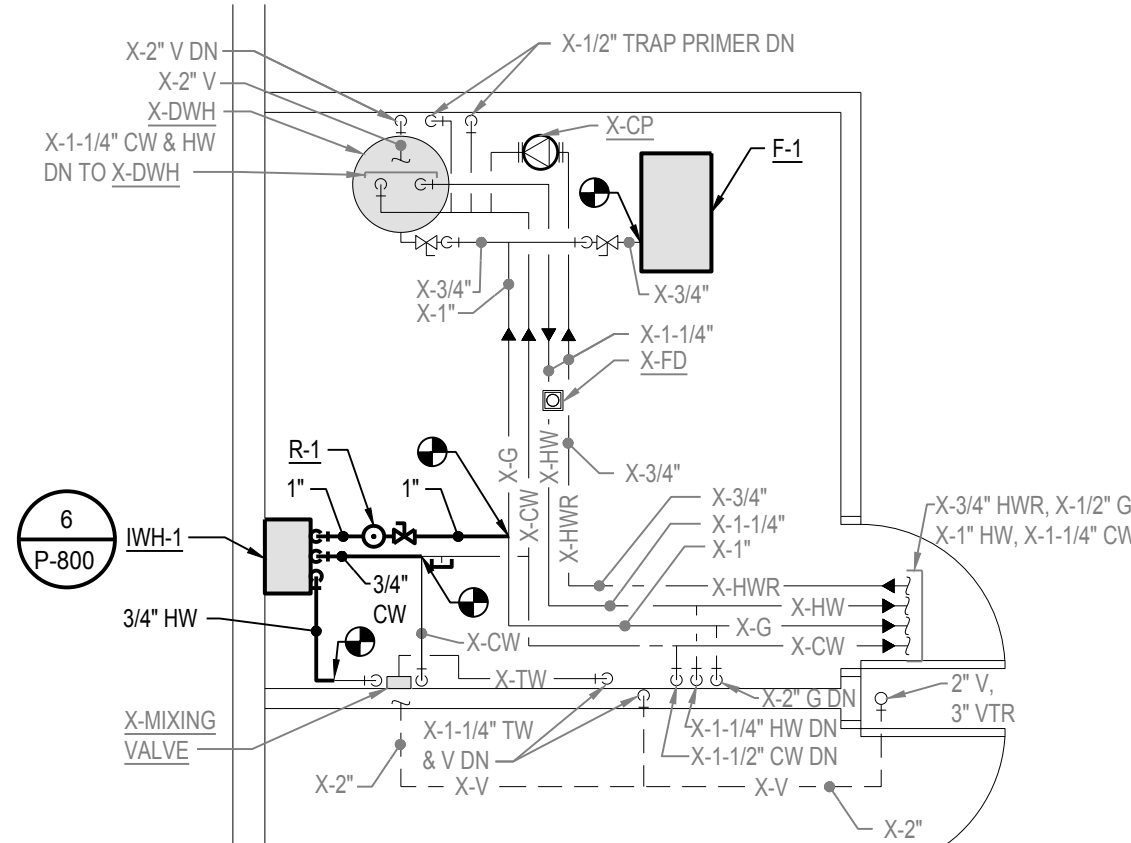
- EVERY CW, HW, HWR, G, AND CA BRANCH TO HAVE ITS OWN SHUT OFF VALVE.
- ALL COMPRESSED AIR PIPING TO BE SCHEDULE 40.
- INSTALL ALL PIPING PARALLEL TO ROOF SLOPE UNLESS NOTED OTHERWISE.

PLUMBING KEY NOTES

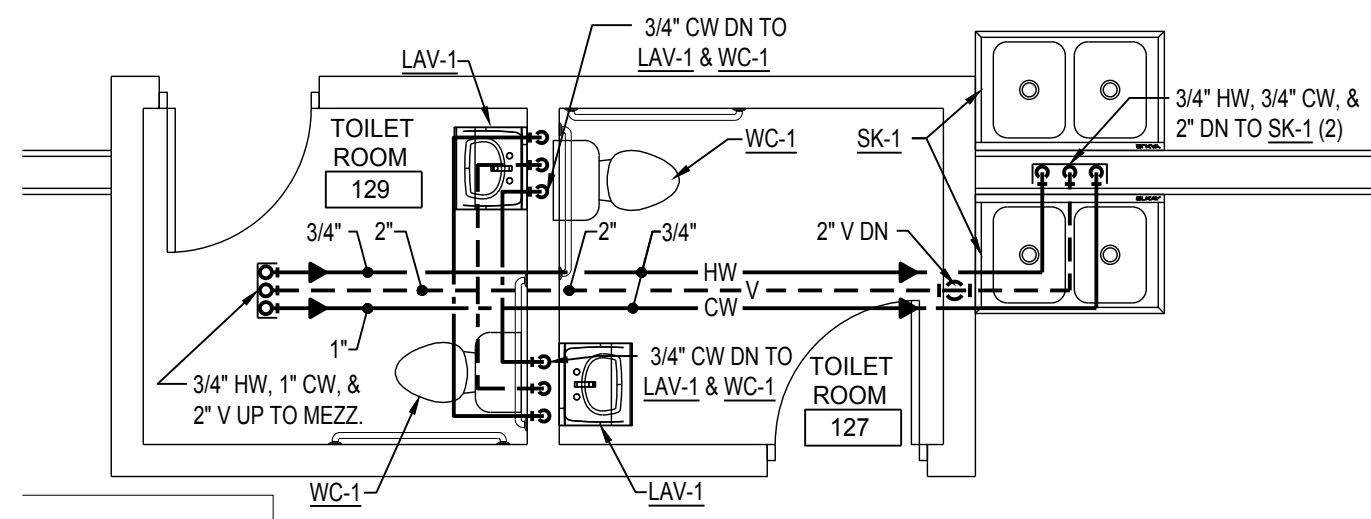
- INSTALL HOSE BIBB 36" ABOVE FINISH FLOOR.
- PROVIDE STAINLESS STEEL HOSE RACK. HOSE RACK BASED ON SD INDUSTRIES STAINLESS STEEL HOSE HANGER OR APPROVED EQUAL. HEAVY DUTY 304 STAINLESS STEEL. 11" LONG x 6-1/2" TALL x 5" WIDE.
- 3/4" HW, 1" CW, AND 2" V CONTINUES TO ENLARGEMENT.
- 3/4" CA DOWN TO HOSE REEL. PROVIDE AND INSTALL 50' HOSE REEL WITH QUICK CONNECT. REFER TO PIPING DETAIL 8 ON SHEET P-800.
- UTILITY PROVIDER SHALL INSTALL NEW UTILITY GAS METER AT LOCATION SHOWN. CONTRACTOR SHALL COORDINATE METER INSTALLATION AND GAS LOADS WITH UTILITY PROVIDER.
- INSTALL CIRCUIT SETTER AT LOCATION SHOWN. BALANCE CIRCUIT SETTER TO 0.5 GPM.
- INSTALL SINK FAUCET 54" ABOVE FINISH FLOOR.
- INSTALL COMPRESSED AIR PIPING AS HIGH AS POSSIBLE AT LOCATION SHOWN.
- MODIFY EXISTING VENT AS REQUIRED TO CONNECT TO NEW VENT. INSTALL NEW VENT PIPING AS HIGH AS POSSIBLE AT LOCATION SHOWN.
- EXISTING 2" SANITARY UP TO EXISTING FLOOR DRAIN.
- DRAIN LINE COMING OFF BOTTOM OF COMPRESSED AIR MAIN.
- 3/4" DRAIN LINE DOWN TO 36" ABOVE FINISHED FLOOR. INSTALL SHUTOFF VALVE AT BOTTOM OF DRAIN LINE.
- INSTALL PLUMBING FIXTURE AT LOCATION SHOWN. MODIFY EXISTING DOMESTIC WATER, VENT, AND SANITARY PIPING AS REQUIRED.



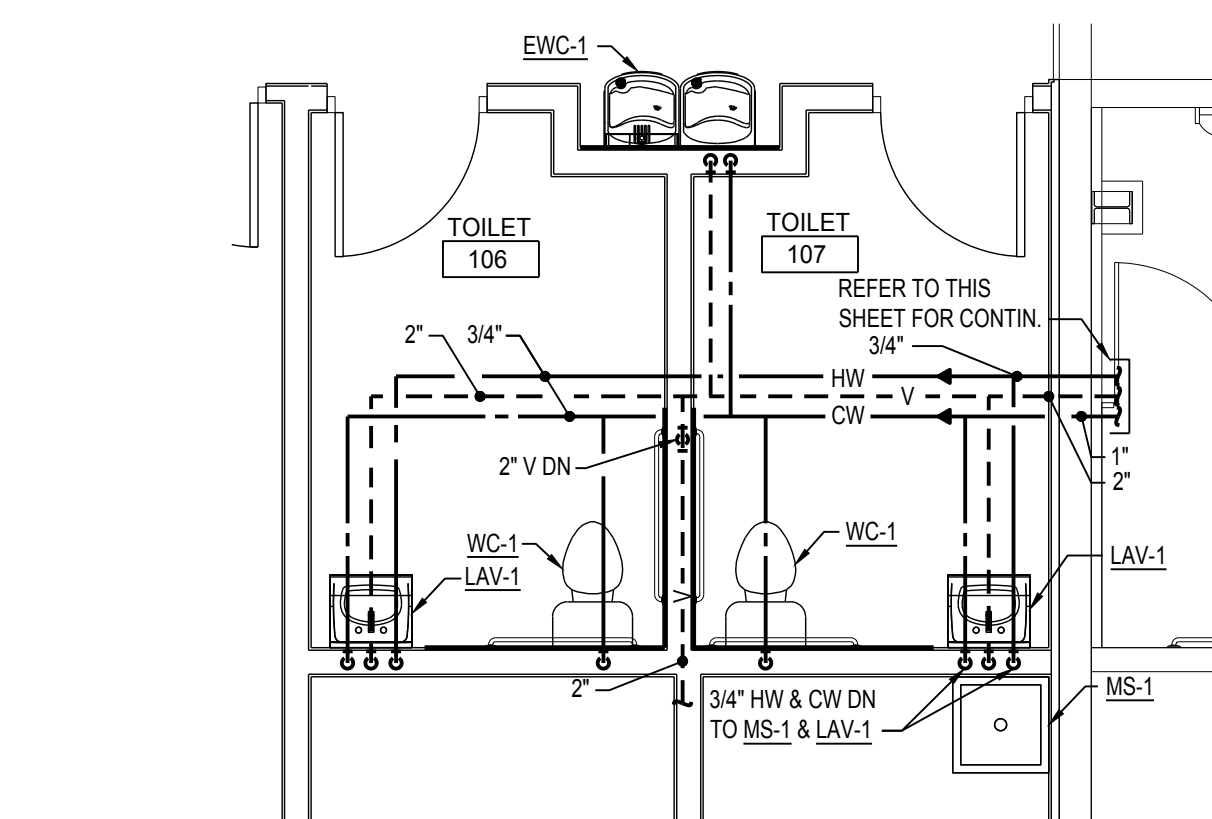
3 ENLARGED MEZZANINE PLAN - PLUMBING NEW
 SCALE: 1/4" = 1'-0"



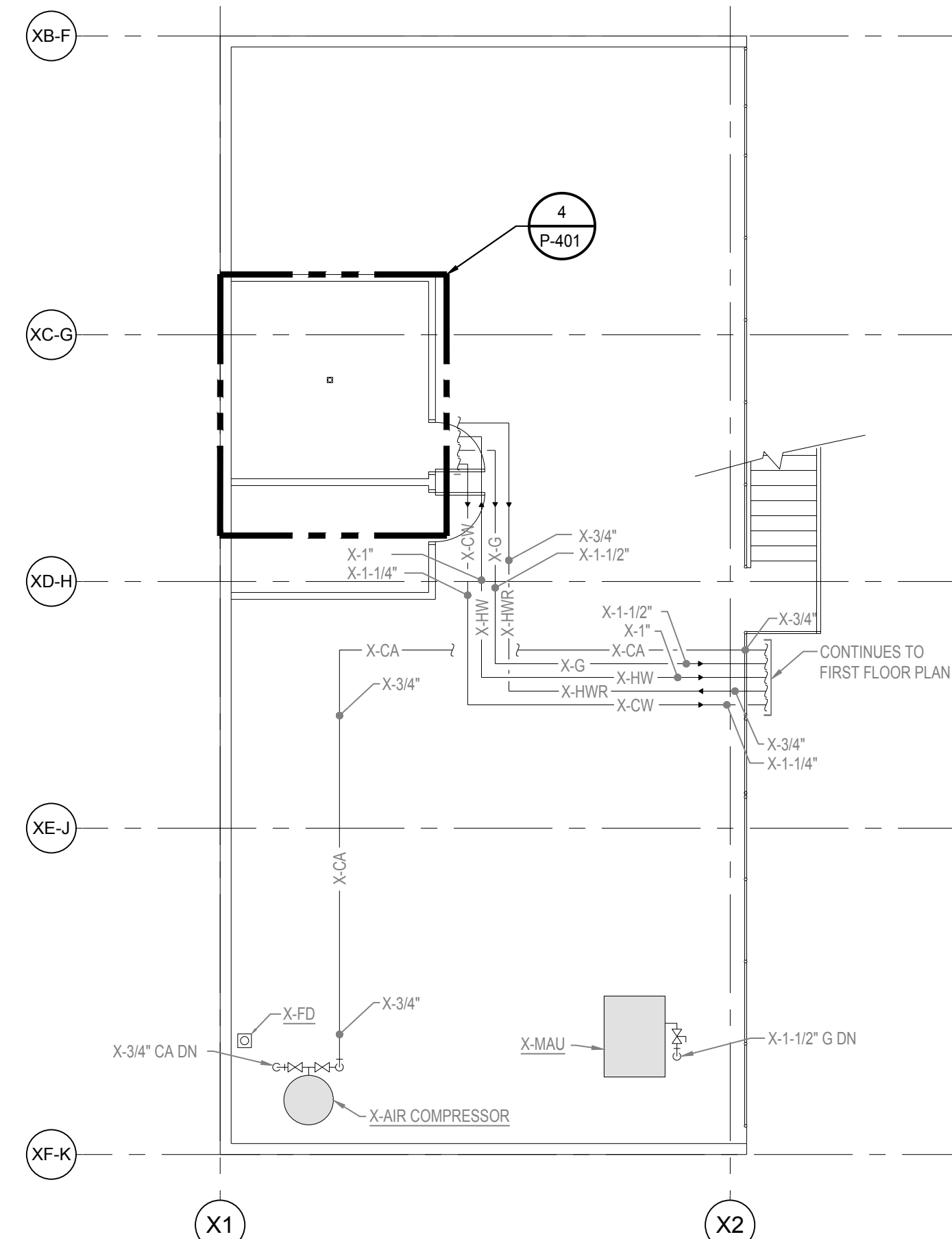
4 ENLARGED MEZZANINE FLOOR PLAN - PLUMBING NEW
 SCALE: 1/4" = 1'-0"



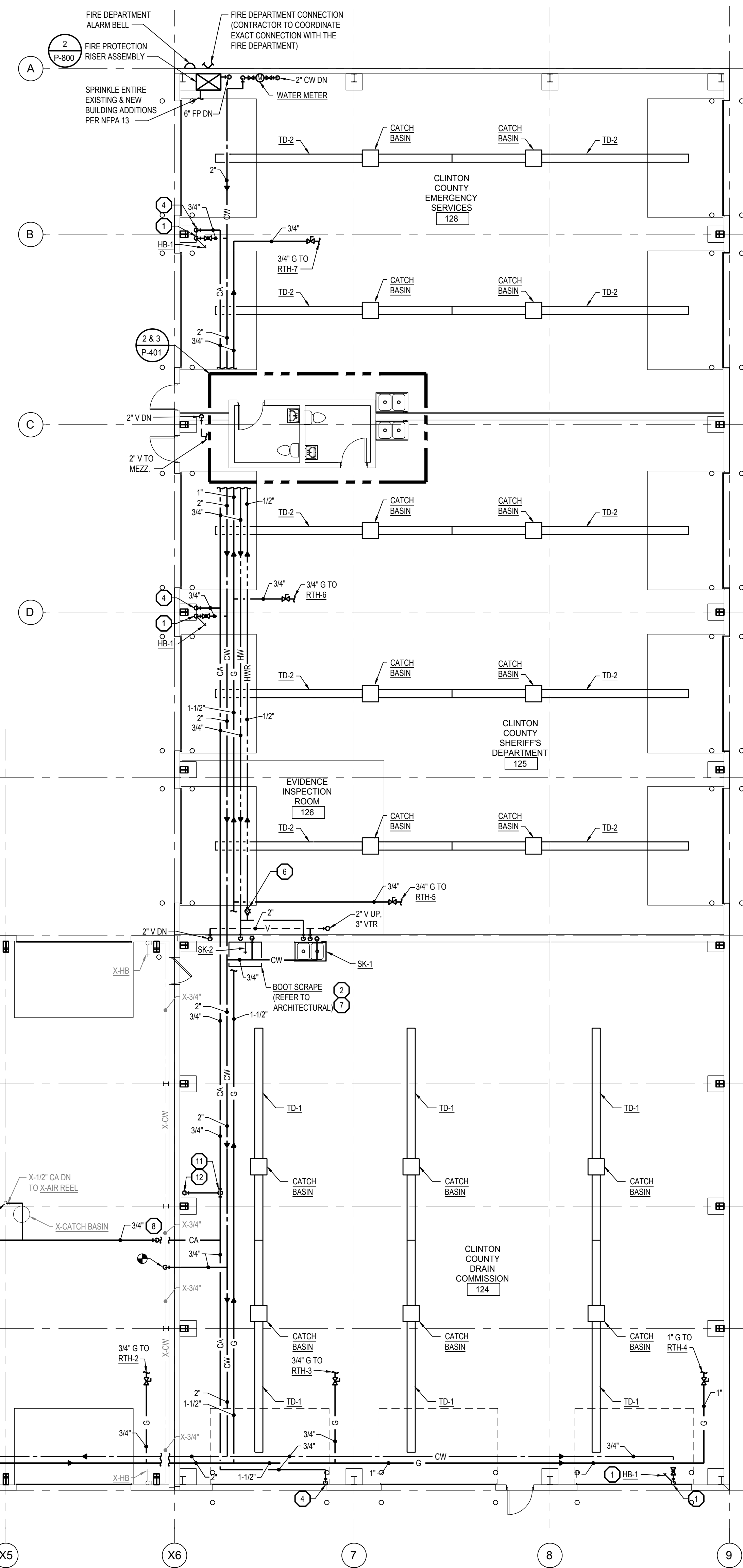
2 ENLARGED FIRST FLOOR PLAN - PLUMBING NEW
 SCALE: 1/4" = 1'-0"



1 ENLARGED FIRST FLOOR PLAN - PLUMBING NEW
 SCALE: 1/4" = 1'-0"



MEZZANINE FLOOR PLAN - PLUMBING NEW
 SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN - PLUMBING AND FIRE PROTECTION NEW
 SCALE: 1/8" = 1'-0"

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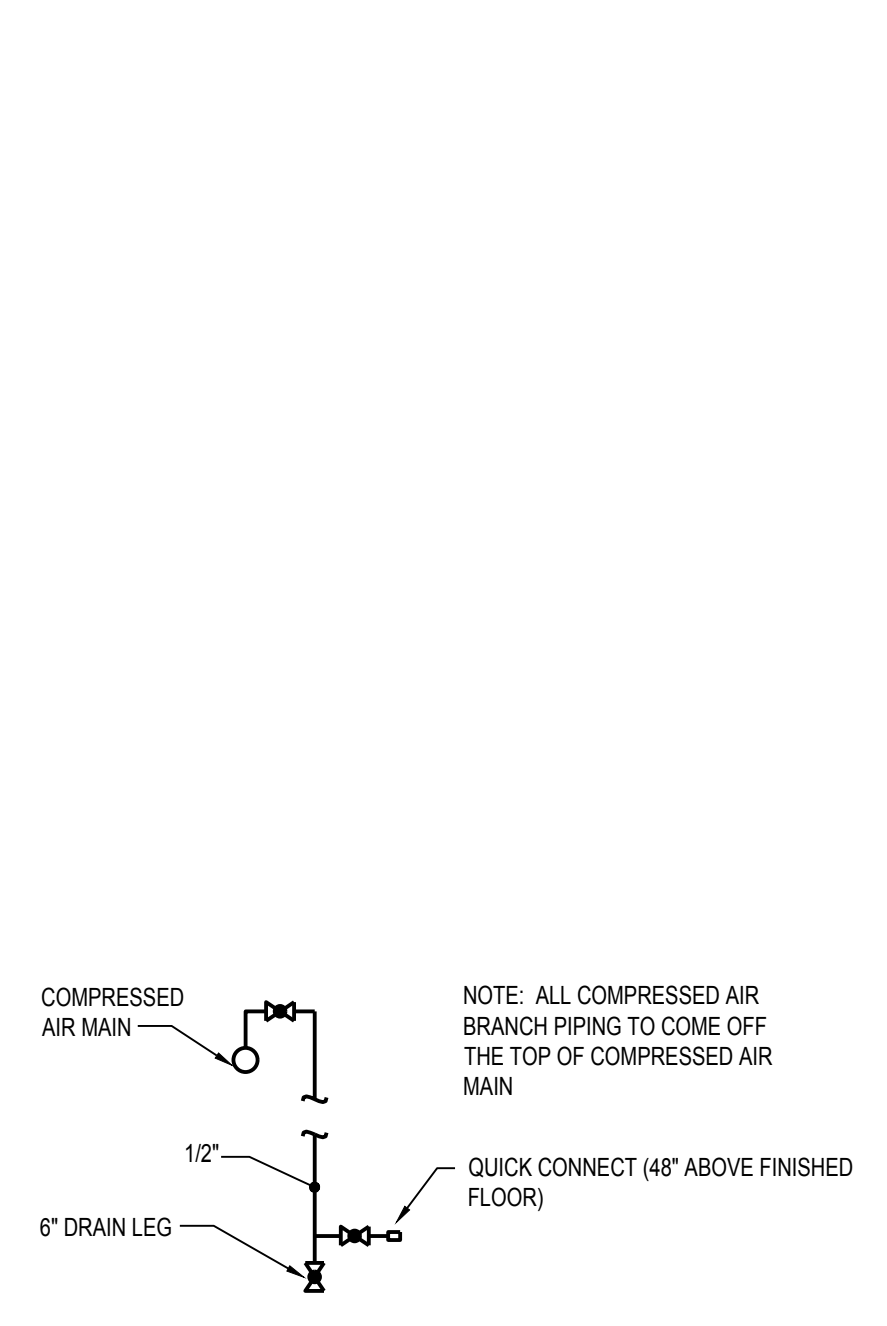
CONSULTANT



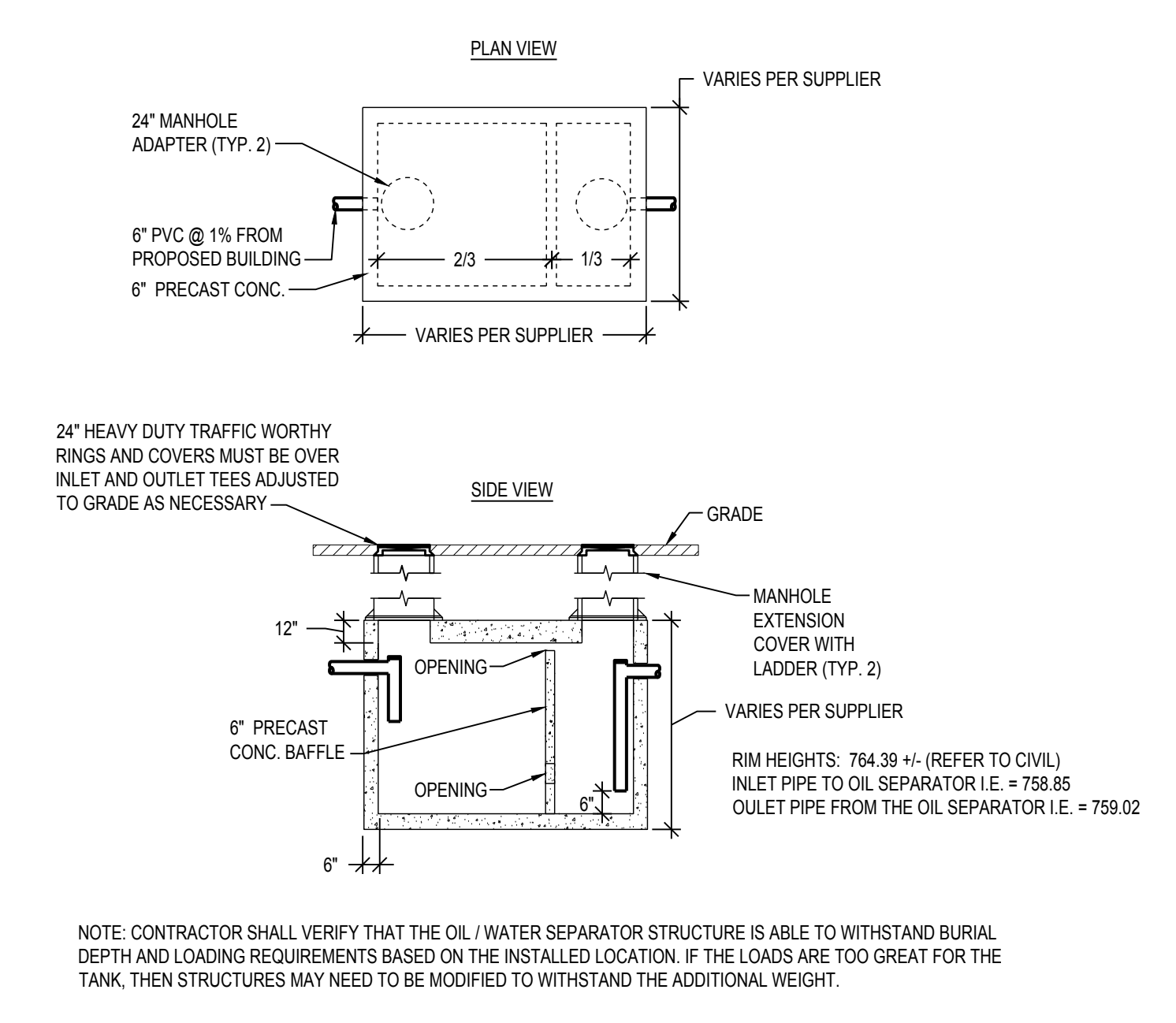
FIRST FLOOR &
 MEZZ. PLANS -
 PLUMBING AND
 FIRE PRO. NEW
 SHEET TITLE

23-319
 PROJECT NUMBER

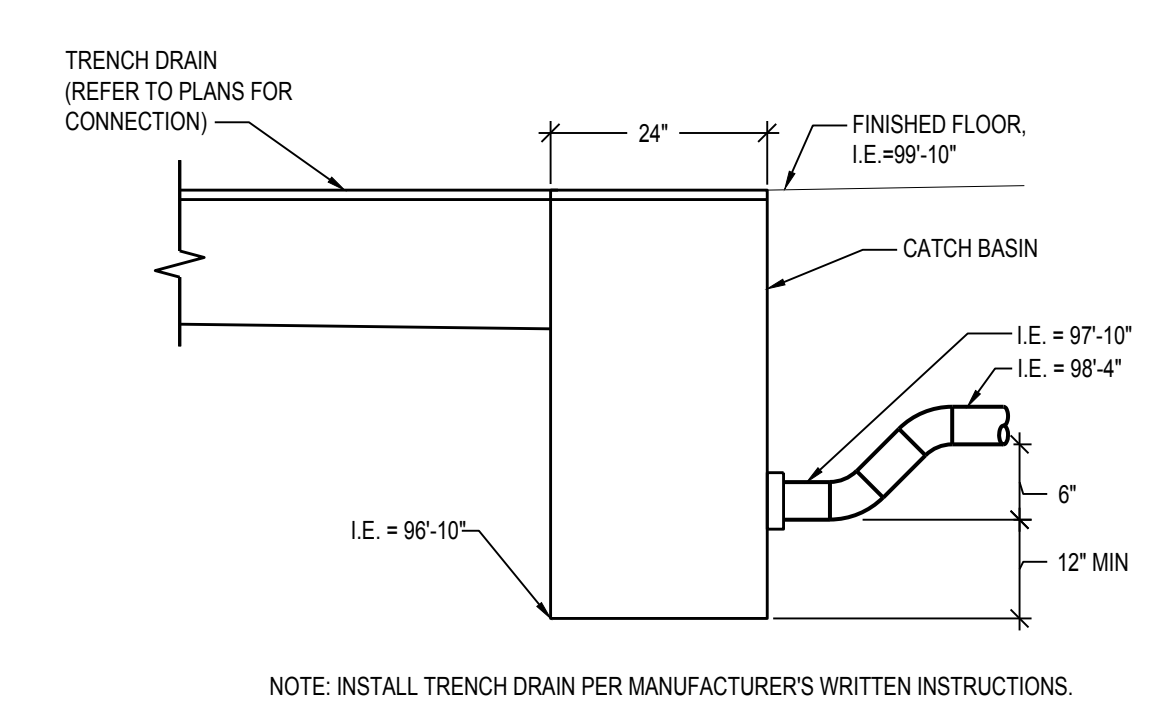
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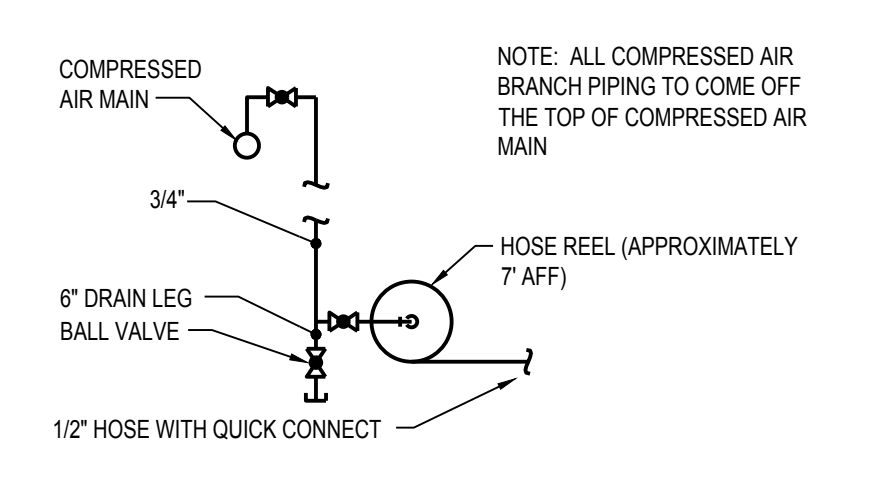
11 TYPICAL COMPRESSED AIR BRANCH
 SCALE: NTS



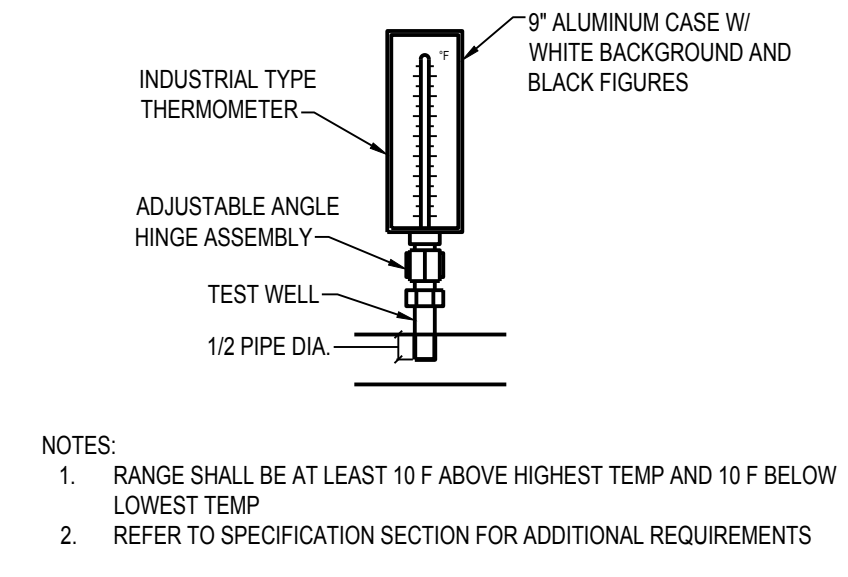
10 2,000 GALLON - OIL SEPARATOR DETAIL
 SCALE: NTS



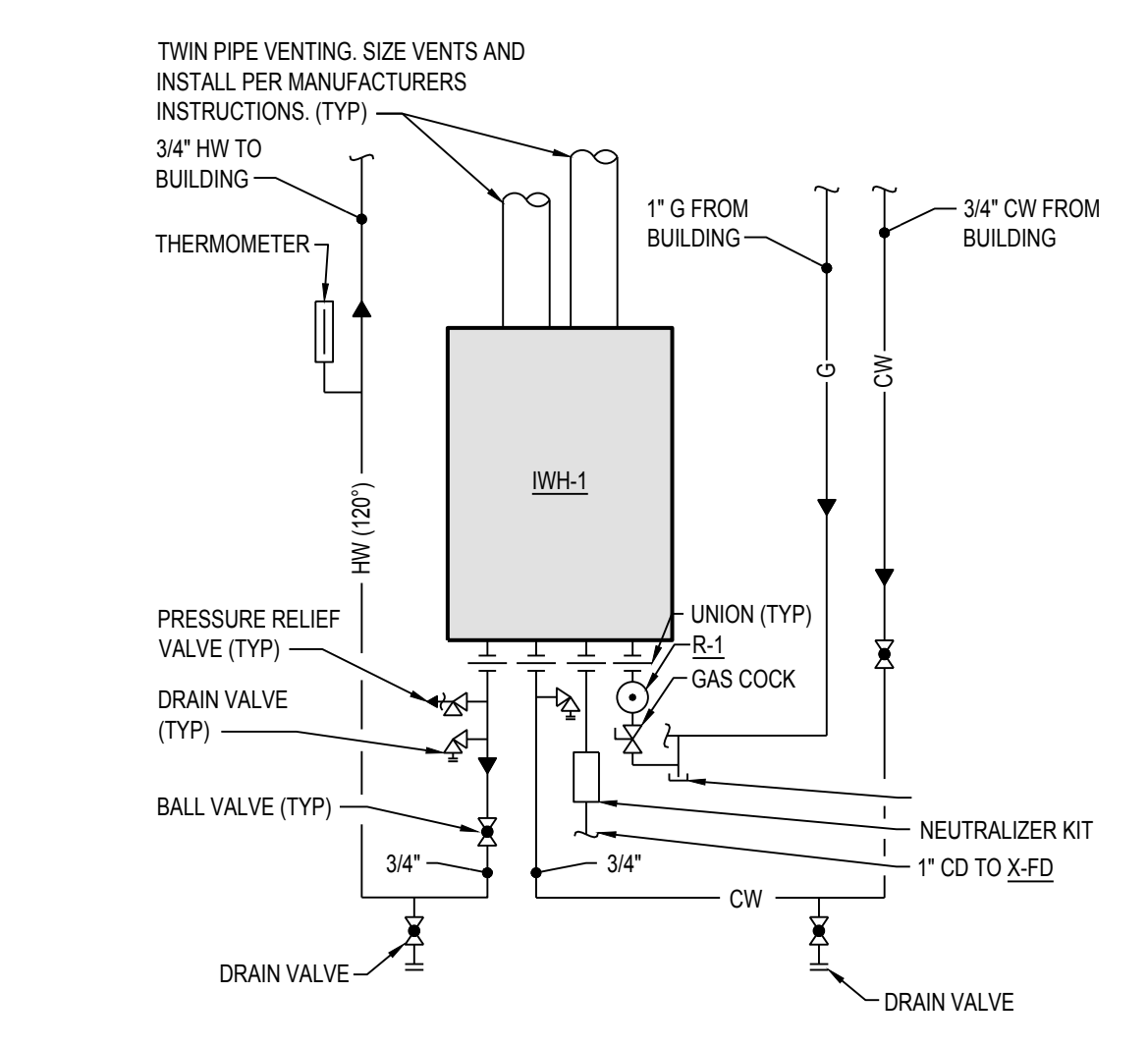
9 TRENCH DRAIN DETAIL
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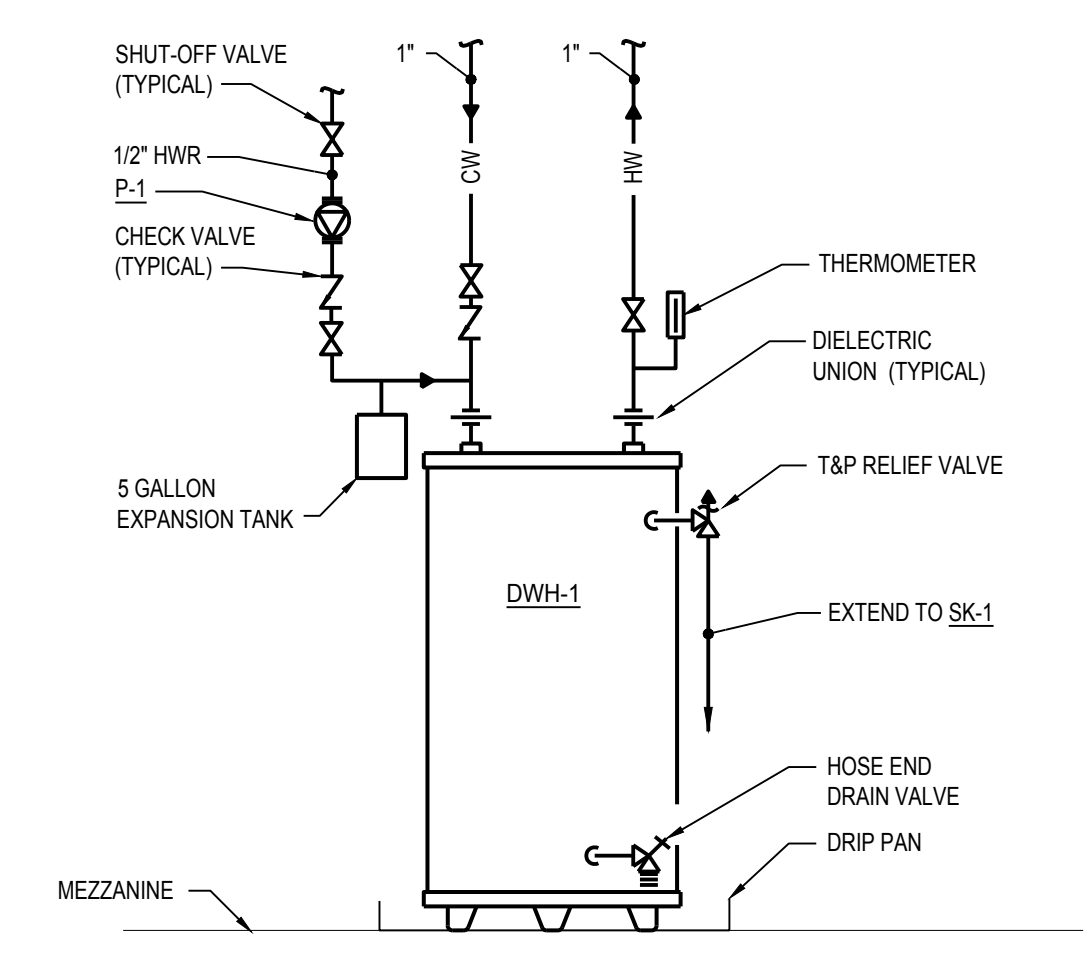
8 TYPICAL COMPRESSED AIR HOSE REEL PIPING DIAGRAM
 SCALE: NTS



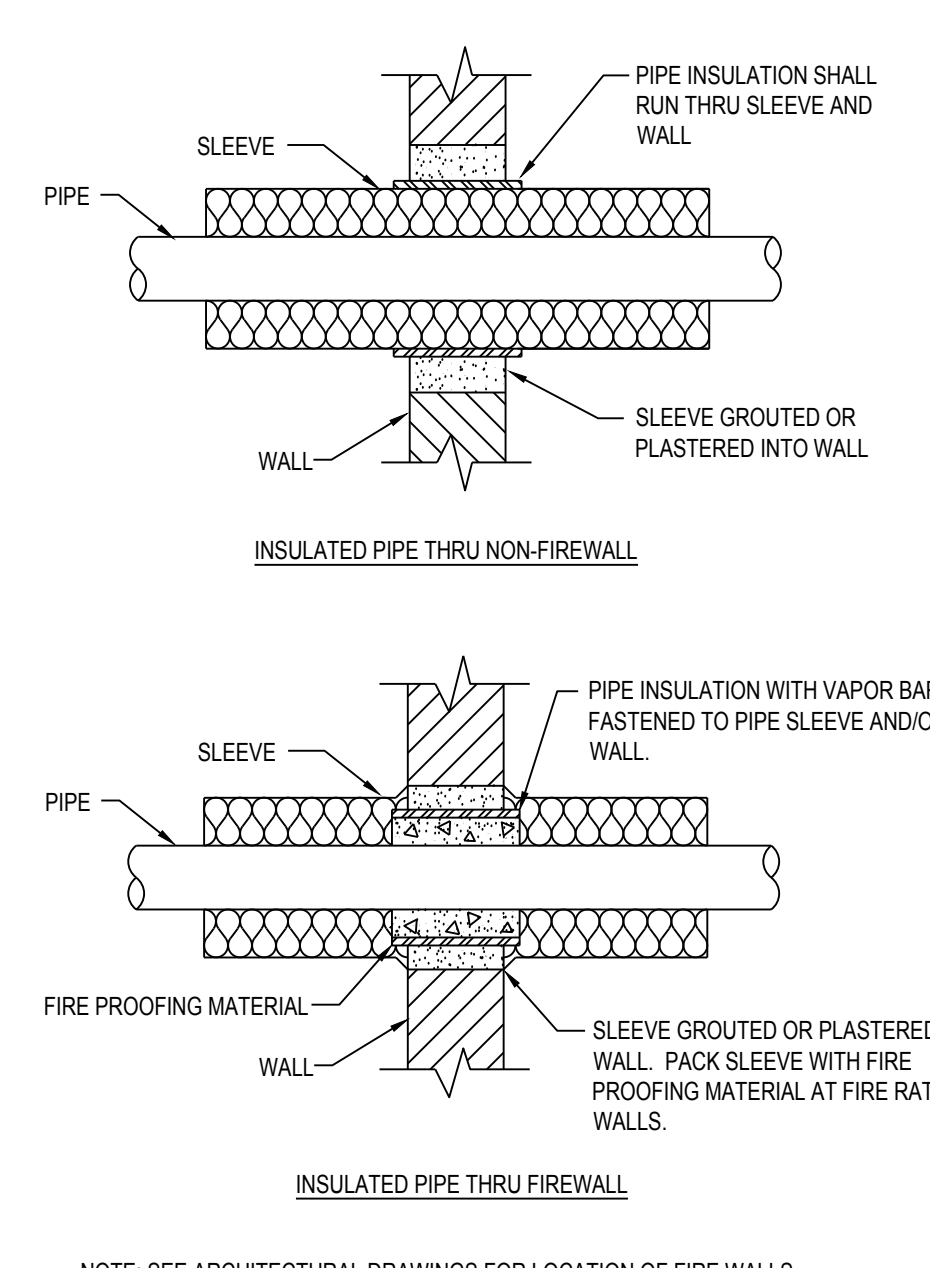
7 TYPICAL THERMOMETER DETAIL
 SCALE: NTS



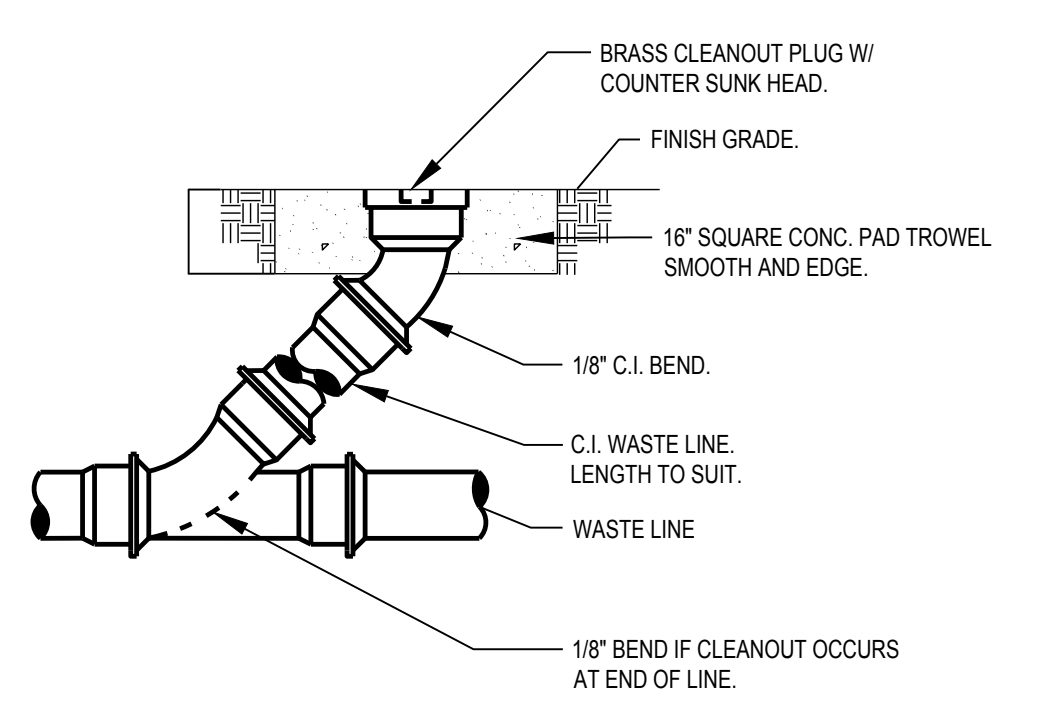
6 INSTANTANEOUS WATER HEATER
 SCALE: NTS



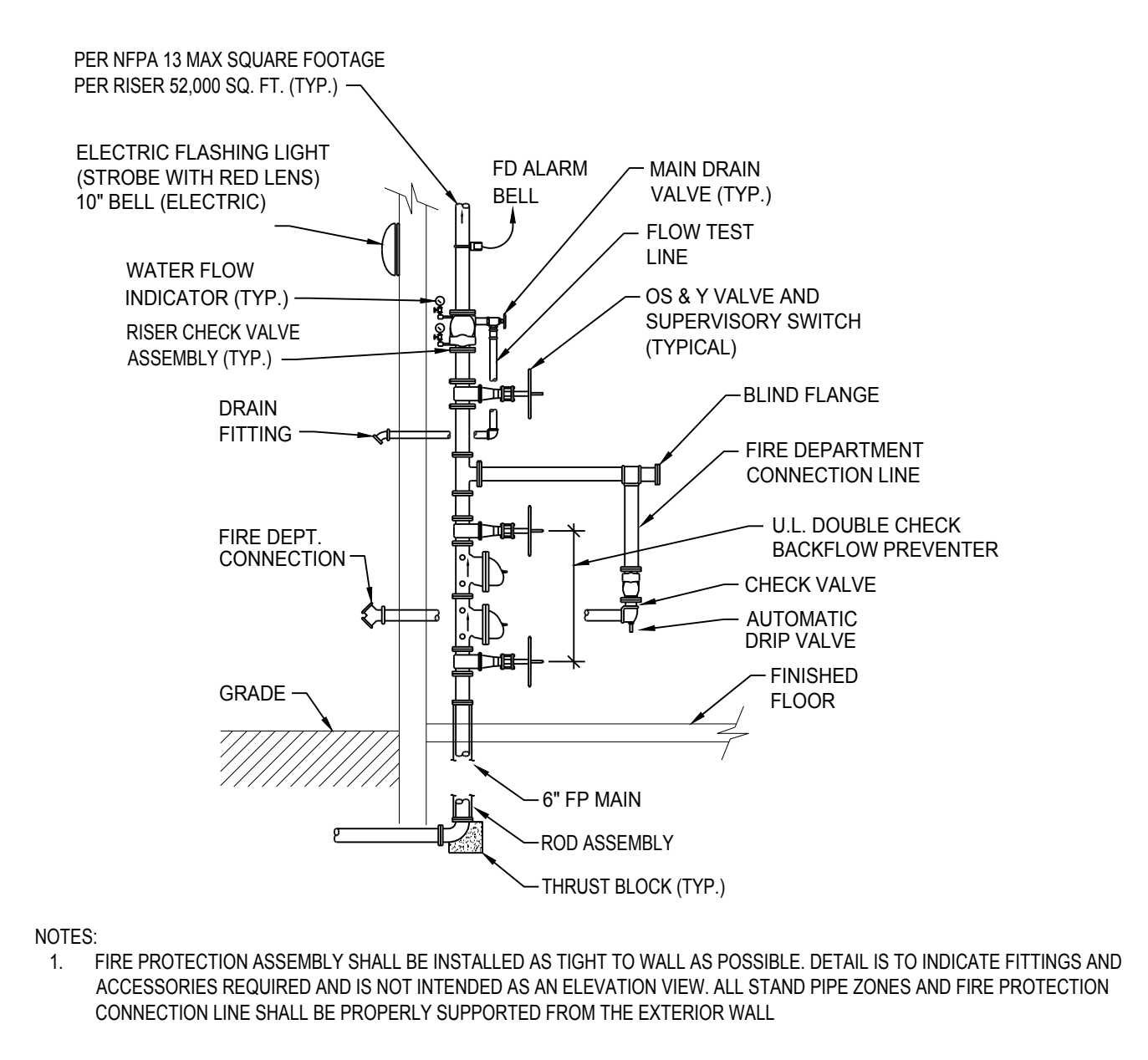
5 STORAGE TOILET ROOMS - DOMESTIC WATER HEATER DETAIL
 SCALE: NTS



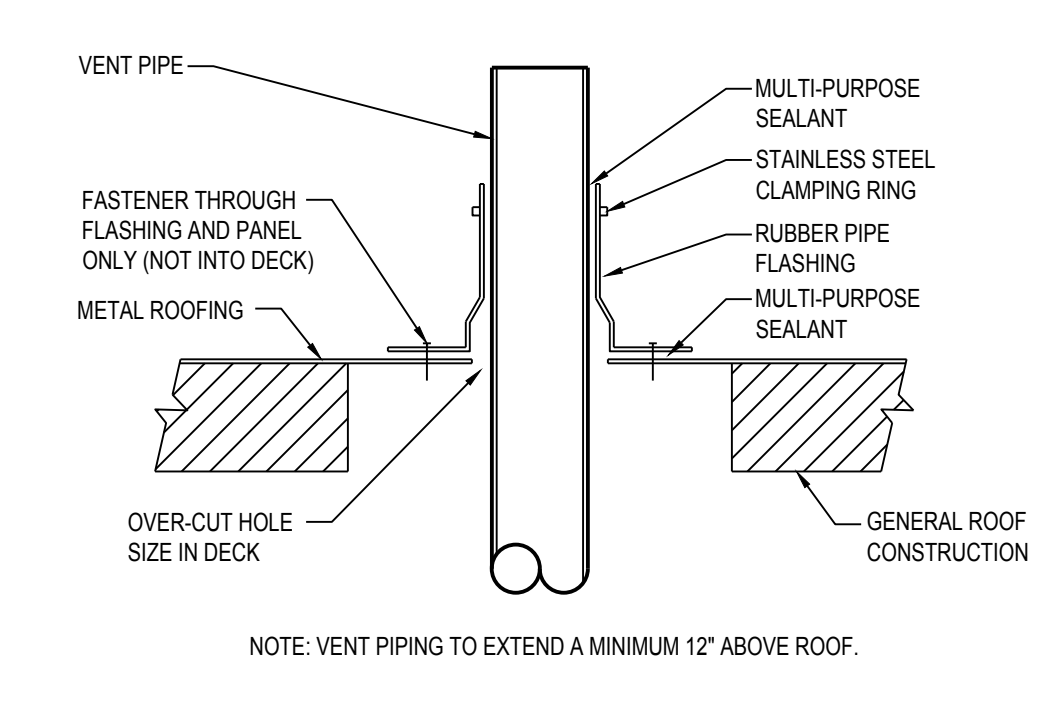
4 PIPE THRU WALL AND FIREWALL DETAIL
 SCALE: NTS



3 CLEAN-OUT DETAIL
 SCALE: NTS



2 FIRE PROTECTION ASSEMBLY DETAIL
 SCALE: NTS



1 TYPICAL VENT THRU ROOF DETAIL
 SCALE: NTS

MECHANICAL ABBREVIATIONS

AFF	ABOVE FINISH FLOOR	ID	INSIDE DIAMETER
AC	AIR COMPRESSOR	I.E.	INVERT ELEVATION
AHU	AIR HANDLING UNIT	IAH	INTAKE HOOD
AS	AIR SEPARATOR		
A.T.C.	ARCHITECTURAL TRADES CONTRACTOR	LAT	LEAVING AIR TEMPERATURE
B	BOILER	LH	LATENT HEAT (MBH)
B.A.S.	BUILDING AUTOMATION SYSTEM	LWT	LEAVING WATER TEMPERATURE
CAF	COMBUSTION AIR FAN	MAX	MAXIMUM
CC	COOLING COIL	MBH	BTU PER HOUR (THOUSAND)
CFM	CUBIC FEET PER MINUTE	MIN	MINIMUM
CHLR	CHILLER	M.T.C.	MECHANICAL TRADES CONTRACTOR
CHP	CONDENSE HEAT PUMP	N.C.	NOISE CRITERIA
CONV	CONVECTOR	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CT	COOLING TOWER	NTS	NOT TO SCALE
CJ	CONDENSING UNIT		
CUH	CABINET UNIT HEATER	P	PUMP
CV	CONTROL VALVE	PCR	PUMPED CONDENSATE RETURN
CWP	CHILLED WATER PUMP	PD	PRESSURE DROP
DB	DRY BULB	PCP	RADIANT CEILING PANEL
DFU	DUCT FURNACE	REQD	REQUIRED
DIA	DIAMETER	RG	RETURN GRILLE
DN	DOWN	RH	RELATIVE HUMIDITY
DPR	DAMPER	RJH	RELIEF HOOD
DS	DUCT SILENCER	RTU	ROOF TOP UNIT
EAT	ENTERING AIR TEMPERATURE	SD	SUPPLY DIFFUSER
EF	EXHAUST FAN	SF	SUPPLY FAN
EG	EXHAUST GRILLE	SG	SUPPLY GRILLE
E.T.C.	ELECTRICAL TRADES CONTRACTOR	SH	SENSIBLE HEAT (MBH)
EVR	EVAPORATOR	SM	SHEET METAL
EWT	ENTERING WATER TEMPERATURE	SQ. FT.	SQUARE FEET
EXH	EXHAUST	SST	SATURATED SUCTION TEMPERATURE
EXIST	EXISTING	STR	STRAINER
FF	FINISH FLOOR	TC	TOTAL COOLING (MBH)
FPM	FEET PER MINUTE	TCL	TEMPERATURE CONTROL
FT	FEET	T&P	TEMPERATURE & PRESSURE RELIEF VALVE
FTR	FINNED TUBE RADIATION	TYP	TYPICAL
FU	FURNACE	UH	UNIT HEATER
GAL	GALLON	VAV	VARIABLE AIR VOLUME BOX
GFRH	GAS FIRED RADIANT HEATER	VRH	VARIABLE AIR VOLUME REHEAT BOX
GR	GRILLE	FPVAV	FAN POWERED VARIABLE AIR VOLUME BOX
H	HUMIDIFIER	V.F.D	VARIABLE FREQUENCY DRIVE
HC	HEATING COIL	ZD	ZONE DAMPER
HD	HEAD (FT)	X SA	EXISTING ITEM (EXISTING SUPPLY AIR DUCT)
HP	HORSE POWER	ITEM	EXISTING
HWP	HORIZONTAL HEAT PUMP		
HTG	HEATING		
HVAC	HEATING, VENTILATION, & AIR CONDITIONING		
HWP	HEATING WATER PUMP		
HX	HEAT EXCHANGER		

GENERAL HVAC NOTES

- LOCATE EXHAUST OUTLETS OF VENTILATION SYSTEMS, COMBUSTION EQUIPMENT STACKS, & PLUMBING VENTS AT LEAST 10 FEET FROM OUTDOOR AIR INTAKES.
- LOCATE OUTDOOR INTAKES AT LEAST 6 FEET ABOVE GROUND LEVEL OR 3 FEET ABOVE ROOF LEVEL UNLESS OTHERWISE INDICATED.
- ALL EXISTING SYSTEMS (INCLUDING EXHAUST FANS) THAT SERVES AREAS BEING RENOVATED SHALL BE REBALANCED AS REQUIRED.
- NOTIFY OWNER OF ANY PIPING OR DUCTWORK DEMOLITION THAT MAY AFFECT NORMAL OPERATION OF OTHER AREAS.
- FIELD VERIFY LOCATIONS OF EXISTING PIPING THAT MAY CONFLICT WITH NEW CONSTRUCTION AND RELOCATE AS NEEDED.
- PROVIDE BALANCE DAMPERS FOR EACH DIFFUSER/GRILLE AND BRANCH DUCT.
- PROVIDE FLEXIBLE DUCT IN ACCESSIBLE CEILINGS, 6 FT MAX LENGTH, KEEP BENDS TO A MINIMUM.
- COORDINATE LOUVER SIZES WITH ARCHITECTURAL TRADES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER DISCIPLINES PRIOR TO CONSTRUCTION TO AVOID CONFLICTS.
- THE CONTRACTOR SHALL FIELD VERIFY THE SIZES, LOCATION, ELEVATIONS, AND DETAILS OF ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EQUIPMENT AND MATERIALS IN A "NEW" CONDITION DURING CONSTRUCTION.
- ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS AND SUBCONTRACTORS AS REQUIRED BY LAW.
- ALL WORK SHALL CONFORM TO MICHIGAN MECHANICAL CODE, LATEST APPLICABLE EDITION.
- CONTRACTOR SHALL USE LOW PRESSURE LOSS DUCT FITTINGS IN ACCORDANCE WITH SMACNA. (WYES, RADUSED OR VANED TEES, ETC.) DUCTWORK SHALL BE GALVANIZED SHEET METAL, MIN. 26 GA.
- ALL DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSION. INCREASE DUCT SIZE FOR LINING.
- ALL CONDENSATE DRAIN PIPING SET @ MIN. 1% SLOPE.

- ALL CONDENSATE DRAIN PIPING TO TERMINATE TO DRAIN VIA AIR GAP.
- IF THERE IS CONFLICTING INFORMATION IN THE PLANS OR SPECIFICATIONS THE MORE STRINGENT AND GREATER COST ITEM SHALL BE USED.
- DRAWINGS INDICATE REQUIRED SIZES AND POINTS OF TERMINATION OF PIPES AND DUCTS AND SUGGESTED ROUTES. IT IS NOT INTENTION OF DRAWINGS TO INDICATE ALL NECESSARY OFFSETS. INSTALL WORK IN MANNER TO CONFORM TO STRUCTURE. AVOID OBSTRUCTIONS. PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. DO NOT SCALE FROM DRAWINGS.
- CONTRACTOR TO COORDINATE AND HIRE HAVEL CONSTRUCTION FOR ALL BASIC/DC PROGRAMMING ITEMS. CONTACT TOM TORRKO (TTORRKO@SHAMBAUGH.COM) FOR ALL TECHNICAL QUESTIONS AND MICHAEL PRESNELL (MPRESNELL@SHAMBAUGH.COM) FOR ALL COST RELATED QUESTIONS.
- THE CONTRACTOR SHALL PHASE THE WORK TO MINIMIZE DISRUPTIONS TO THE EXISTING BUILDING. EXISTING MECHANICAL SYSTEM SHALL REMAIN ACTIVE AND FUNCTIONAL DURING OCCUPIED HOURS. CONTRACTOR SHALL COORDINATE WITH OWNER AND RECEIVE WRITTEN APPROVAL OF SHUT DOWN AT A MINIMUM 1 WEEK BEFORE REQUESTED DATE.

MECHANICAL SYMBOLS LEGEND

HVAC DUCTWORK SYMBOLS

	SUPPLY AIR DUCT RISER
	RETURN AIR DUCT RISER
	OUTSIDE AIR DUCT RISER (AS NOTED)
	EXHAUST AIR DUCT
	INSULATED DUCTWORK (AS NOTED)
	SUPPLY AIR DIFFUSER (SQUARE)
	SUPPLY AIR DIFFUSER (INLINE)
	SURFACE MTD. GRILLE
	SUPPLY AIR DIFFUSER (ROUND)
	CONICAL TAKE-OFF
	CONICAL TAKE-OFF W/ DAMPER
	BALANCE DAMPER
	RETURN AIR DUCT BOOT
	ECCENTRIC REDUCER
	CONCENTRIC REDUCER
	VERTICAL FIRE DAMPER
	HORIZONTAL FIRE DAMPER
	VERTICAL SMOKE DAMPER
	HORIZONTAL SMOKE DAMPER
	VERTICAL FIRE / SMOKE DAMPER
	HORIZONTAL FIRE / SMOKE DAMPER
	DUCT SMOKE DETECTOR, INSTALLED BY M.T.C., PROVIDED & WIRED BY E.T.C.
	UNIT HEATER
	CEILING EXHAUST FAN
	ROOF MOUNTED EXHAUST FAN
	DEMOLITION

HVAC DUCTWORK & DIFFUSER TAGS

SD-1	200	TAG	CFM
8"V		NECK	REMARKS
		SIZE	

MISCELLANEOUS NOTES

- POINT OF CONNECTION BETWEEN NEW AND EXISTING
- POINT OF EXISTING TO REMAIN AND EXISTING TO BE REMOVED
- INDICATES PLAN NOTE
- INDICATES DEMOLITION NOTE
- DETAIL BUBBLE
- DETAIL NUMBER
- PAGE LOCATION INDICATES
- DIRECTION OF DETAIL SECTION

HVAC PIPING

— CWS —	CHILLED WATER SUPPLY
— CWR —	CHILLED WATER RETURN
— CD —	CONDENSATE DRAIN
— CS —	CONDENSER WATER SUPPLY
— CR —	CONDENSER WATER RETURN
— CTS —	COOLING TOWER WATER SUPPLY
— CTR —	COOLING TOWER WATER RETURN
— DX —	DIRECT EXPANSION
— HPS —	HEAT PUMP WATER SUPPLY
— HPR —	HEAT PUMP WATER RETURN
— HS —	HEATING WATER SUPPLY
— HR —	HEATING WATER RETURN
— S —	SUCTION (REFRIGERANT)
— L —	LIQUID (REFRIGERANT)
— DXS —	SUCTION (DIRECT EXPANSION)
— DXL —	LIQUID (DIRECT EXPANSION)
— LPS —	LOW PRESSURE STEAM (0-20 LBS.)
— MPS —	MEDIUM PRESSURE STEAM (21-75 LBS.)
— HPS —	HIGH PRESSURE STEAM (76 LBS. & ABV.)
— SC —	STEAM CONDENSATE (GRAVITY)
— SCP —	PUMPED STEAM CONDENSATE
— SC (BF) —	STEAM CONDENSATE BOILER FEED

HVAC DUCTWORK

— SA —	SUPPLY AIR DUCT
— X-SA —	EXIST SUPPLY AIR DUCT
— RA —	RETURN AIR DUCT
— X-RA —	EXIST RETURN AIR DUCT
— OA —	OUTSIDE AIR DUCT
— X-OA —	EXIST OUTSIDE AIR DUCT
— EA —	EXHAUST AIR DUCT
— X-EA —	EXIST EXHAUST AIR DUCT

HVAC PIPING VALVES

	GATE VALVE
	GAS COCK
	CHECK VALVE
	BALANCE COCK
	CIRCUIT SETTER
	TWO-WAY CONTROL VALVE
	THREE-WAY CONTROL VALVE
	GLOBE VALVE
	BALL VALVE
	SOLENOID VALVE
	EXPANSION VALVE WITH THERMOSTATIC BULB
	PLUG VALVE
	BUTTERFLY VALVE
	RELIEF VALVE
	HOSE & DRAIN END VALVE
	PRESSURE RELIEF VALVE
	PRESSURE REDUCING VALVE
	TRIPLE DUTY VALVE
	GAS PRESSURE REGULATOR
	STRAINER (BLOW-OFF)

TEMPERATURE CONTROL SYMBOLS

	THERMOSTAT
	PROGRAMMABLE THERMOSTAT
	THERMOSTAT (W/ NIGHT SETBACK)
	ROOM SENSOR
	HUMIDISTAT
	PRESSURE GAUGE
	DAMPER (ELECTRIC OPERATION)
	DAMPER (PNEUMATIC OPERATION)
	DAMPER BLADES

HVAC PIPING SYMBOLS

	FLOW DIRECTION
	PIPING DROP
	PIPING RISE
	INLINE PIPING DROP
	INLINE PIPING RISE
	PIPING TEE
	PIPING ELBOW
	THERMOMETER
	PUMP
	UNION
	PIPE ANCHOR
	PIPE GUIDE
	BACK FLOW PREVENTER
	PIPE CAP
	PIPE BREAK
	THERMOMETER WELL
	EXPANSION LOOP
	EXPANSION COMPENSATOR
	FLOAT & THERMOSTATIC STEAM TRAP
	INVERTED BUCKET STEAM TRAP

ISSUED FOR BID 01/06/2025
90% OWNER REVIEW 11/01/2024
DATE ISSUED
JAM
DRAWN BY
CAT
CHECKED BY

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Ann Arbor, MI 48104
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BUILDING EXPANSION
PROJECT
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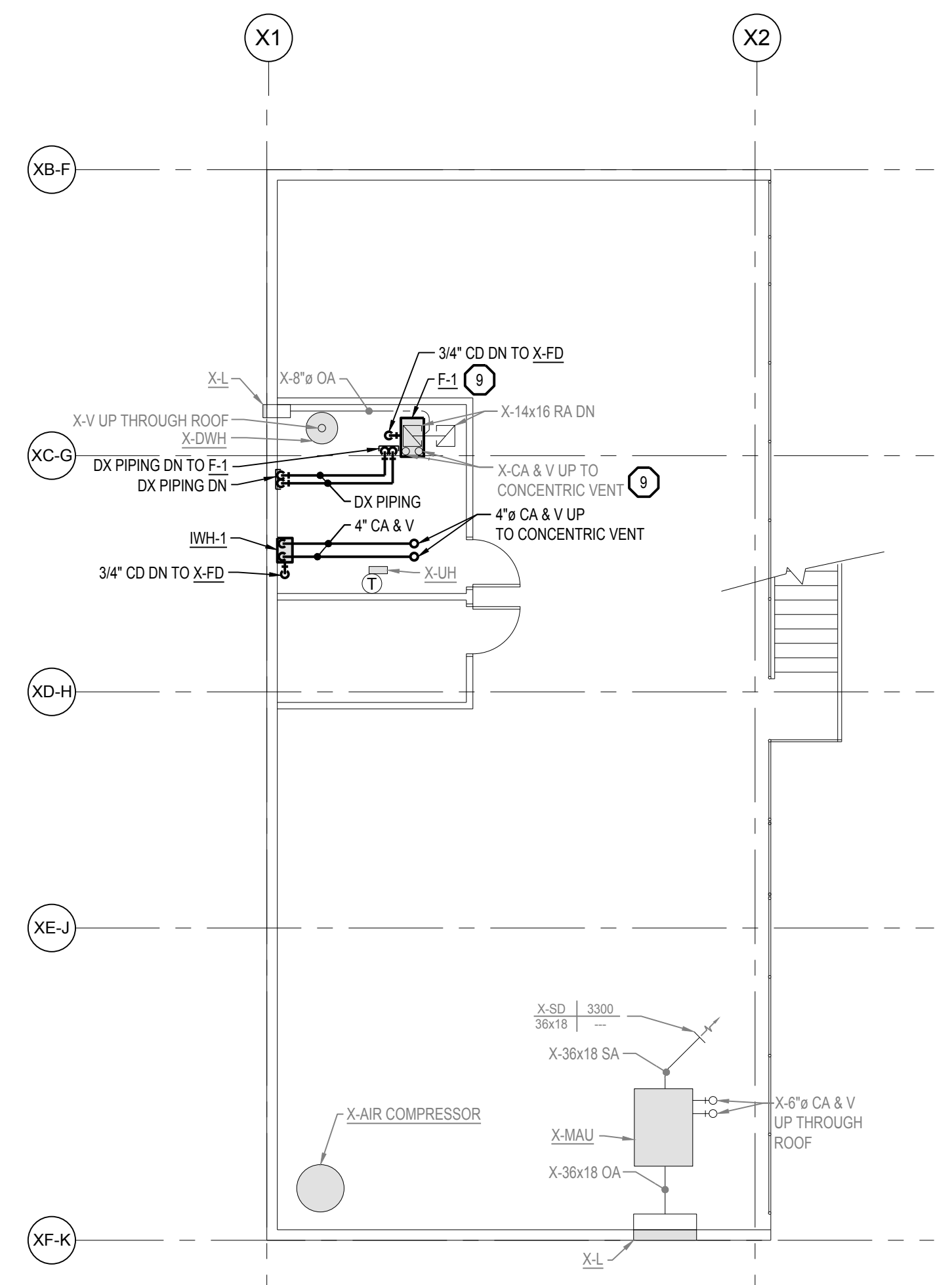
MATRIX
CONSULTING ENGINEERS, INC.
1601 E. CESAR E. CHAVEZ AVE.
LANSING, MI 48906
PHONE: (517) 487-2511
admin@matrixceinc.com
Matrix Project No. 24149.00

STATE OF MICHIGAN
CRAIG A. TITELWELDER
Professional Engineer
No. 49255

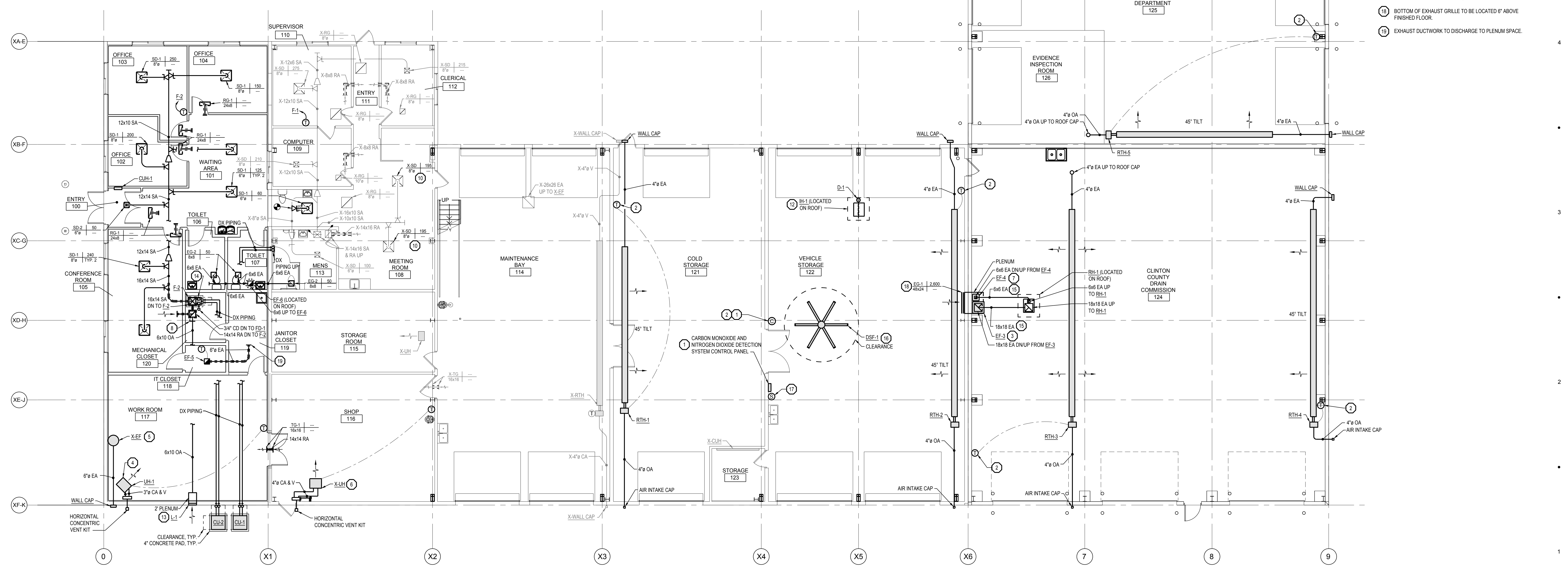
MECHANICAL
SYMBOLS,
ABBREVIATIONS,
AND NOTES
SHEET TITLE

23-319
PROJECT NUMBER

M-100
SHEET NUMBER



MEZZANINE FLOOR PLAN - MECHANICAL NEW
 SCALE: 1/8" = 1'-0"



FIRST FLOOR PLAN - MECHANICAL NEW
 SCALE: 1/8" = 1'-0"

HVAC KEY NOTES

- 1 CONTROLS CONTRACTOR SHALL PROVIDE CARBON MONOXIDE/NITROGEN DIOXIDE DETECTION SYSTEM TO ALARM VIA VISION, AUDIO, FIRE ALARM, AND BAS. NUMBER AND LOCATION OF SENSORS SHALL BE INSTALLED PER MANUFACTURERS INSTALLATION INSTRUCTIONS. PLANS ONLY INDICATE POSSIBLE LOCATIONS OF SENSORS BUT WILL VARY PER MANUFACTURER.
- 2 INSTALL PROTECTIVE COVER OVER THERMOSTATS AND/OR CARBON MONOXIDE/NITROGEN DIOXIDE DETECTION SENSORS AT LOCATION SHOWN.
- 3 INSTALL BOTTOM OF EXHAUST FAN 12" AFF. SUPPORT DUCT DROP FROM ROOF. INSTALL 2"x2" WELDED ANGLE IRON FRAME AROUND OUTSIDE OF DUCTWORK AT 1", 8" & 14" AFF AND SECURE TO WALL. INSTALL BALANCE DAMPER 8" AFF. BALANCE DAMPER TO 2475 CFM.
- 4 INSTALL UNIT HEATER APPROXIMATELY 8'-0" ABOVE FINISHED FLOOR.
- 5 RELOCATE EXISTING EXHAUST FAN AND ASSOCIATED ACCESSORIES TO LOCATION SHOWN. MOUNT TO THE WALL APPROXIMATELY 7'-0" ABOVE FINISHED FLOOR.
- 6 RELOCATE EXISTING GAS FIRED UNIT HEATER AND THERMOSTAT TO LOCATION SHOWN. INSTALL APPROXIMATELY 8'-0" ABOVE FINISHED FLOOR.
- 7 INSTALL BOTTOM OF EXHAUST FAN 12" AFF. SUPPORT DUCT DROP FROM ROOF. INSTALL 2"x2" WELDED ANGLE IRON FRAME AROUND OUTSIDE OF DUCTWORK AT 1", 8" & 14" AFF AND SECURE TO WALL. INSTALL BALANCE DAMPER 8" AFF. BALANCE DAMPER TO 125 CFM.
- 8 BALANCE OUTSIDE AIR DAMPER TO 215 CFM.
- 9 MODIFY EXISTING SUPPLY, RETURN, OUTSIDE AIR, COMBUSTION AIR, AND VENT PIPING AS REQUIRED TO CONNECT TO NEW FURNACE.
- 10 REBALANCE EXISTING SUPPLY DIFFUSER TO NEW CFM.
- 11 NOT USED.
- 12 DOMESTIC WATER PIPING TO NOT BE CLOSER THAN 10" HORIZONTALLY FROM INTAKE HOOD AND FIRE PROTECTION NOT CLOSER THAN 5". COORDINATE WITH PLUMBING AND FIRE SUPPRESSION CONTRACTOR.
- 13 INSTALL BOTTOM OF LOUVER APPROXIMATELY 11'-0" ABOVE FINISHED FLOOR.
- 14 3" COMBUSTION AIR AND VENTING PIPING UP TO CONCENTRIC VENT. PAINT VENTING LOCATED ABOVE ROOF. COORDINATE WITH ARCHITECT FOR PAINT COLOR.
- 15 INSTALL DUCTWORK AS HIGH AS POSSIBLE.
- 16 INSTALL BOTTOM OF DESTRATIFICATION FAN 16'-0" ABOVE FINISHED FLOOR.
- 17 BIG ASS FANS SMARTSENSE CONTROLLER WITH LOCKING ENCLOSURE OR APPROVED EQUAL.
- 18 BOTTOM OF EXHAUST GRILLE TO BE LOCATED 6" ABOVE FINISHED FLOOR.
- 19 EXHAUST DUCTWORK TO DISCHARGE TO PLENUM SPACE.

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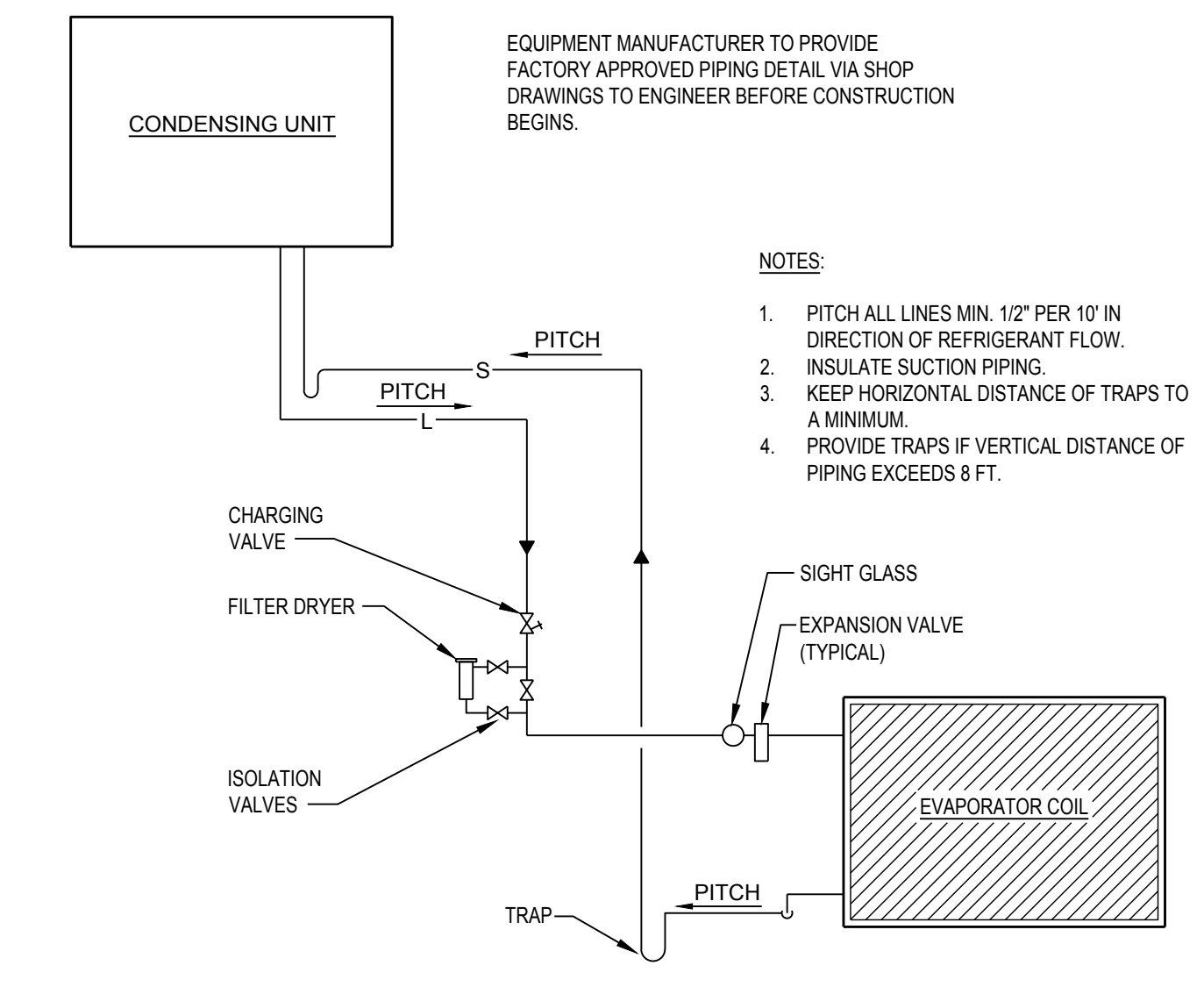
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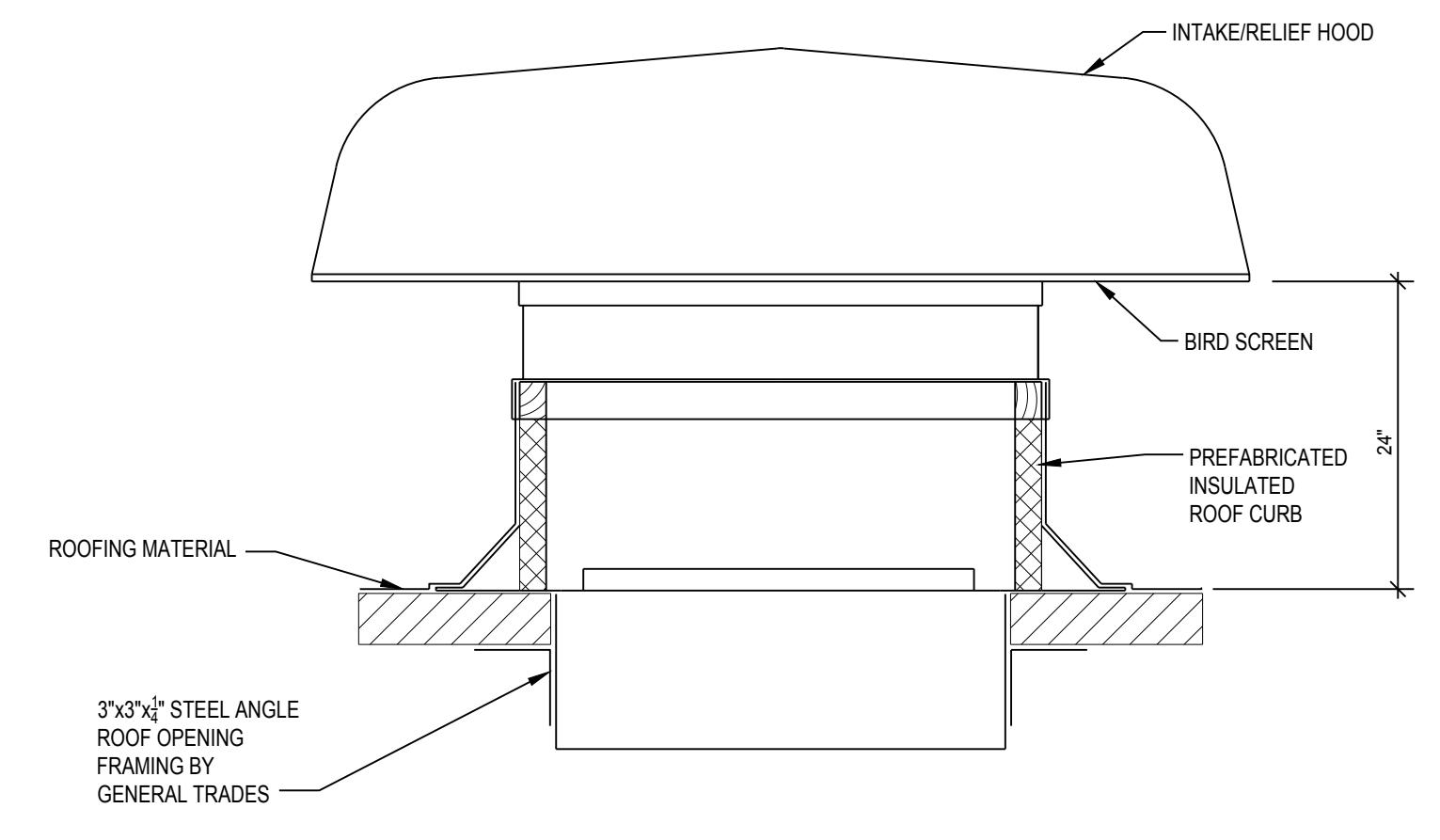


FIRST FLOOR &
 MEZZ. PLANS -
 MECHANICAL
 NEW

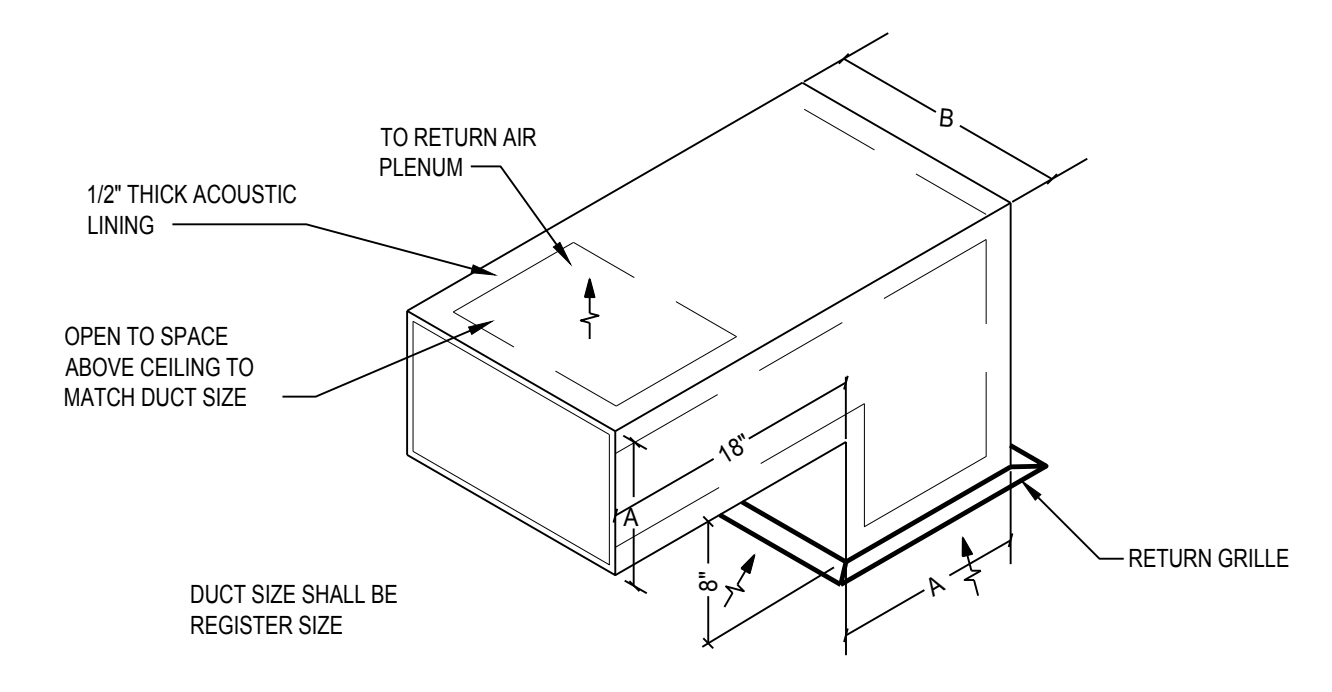
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 23-319
 PROJECT NUMBER
 M-400
 SHEET NUMBER



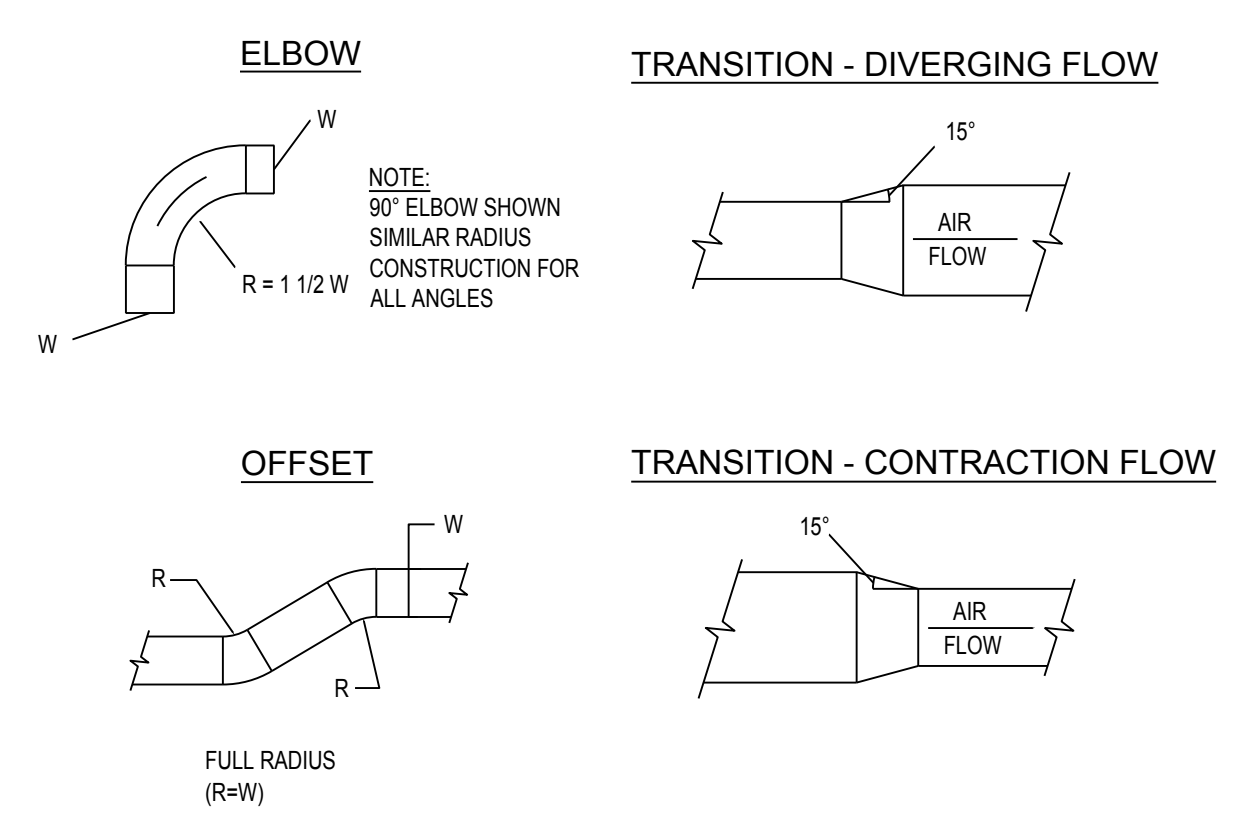
9 CONDENSING UNIT PIPING DIAGRAM
 SCALE: N.T.S.



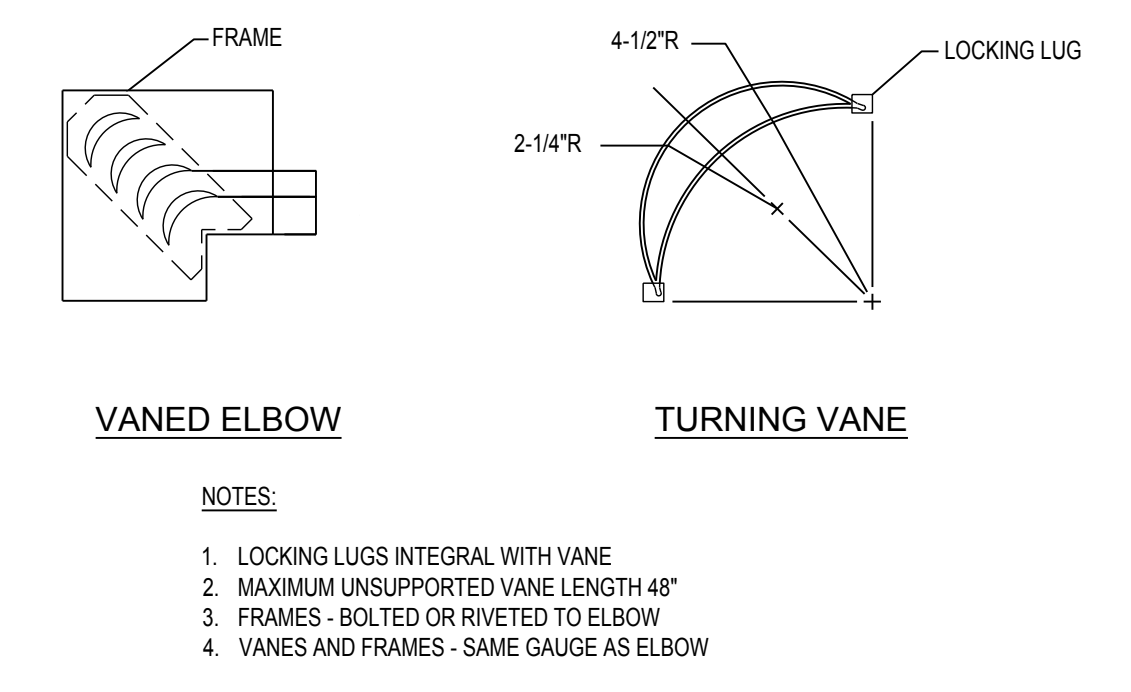
10 INTAKE/GRAVITY RELIEF HOOD
 SCALE: N.T.S.



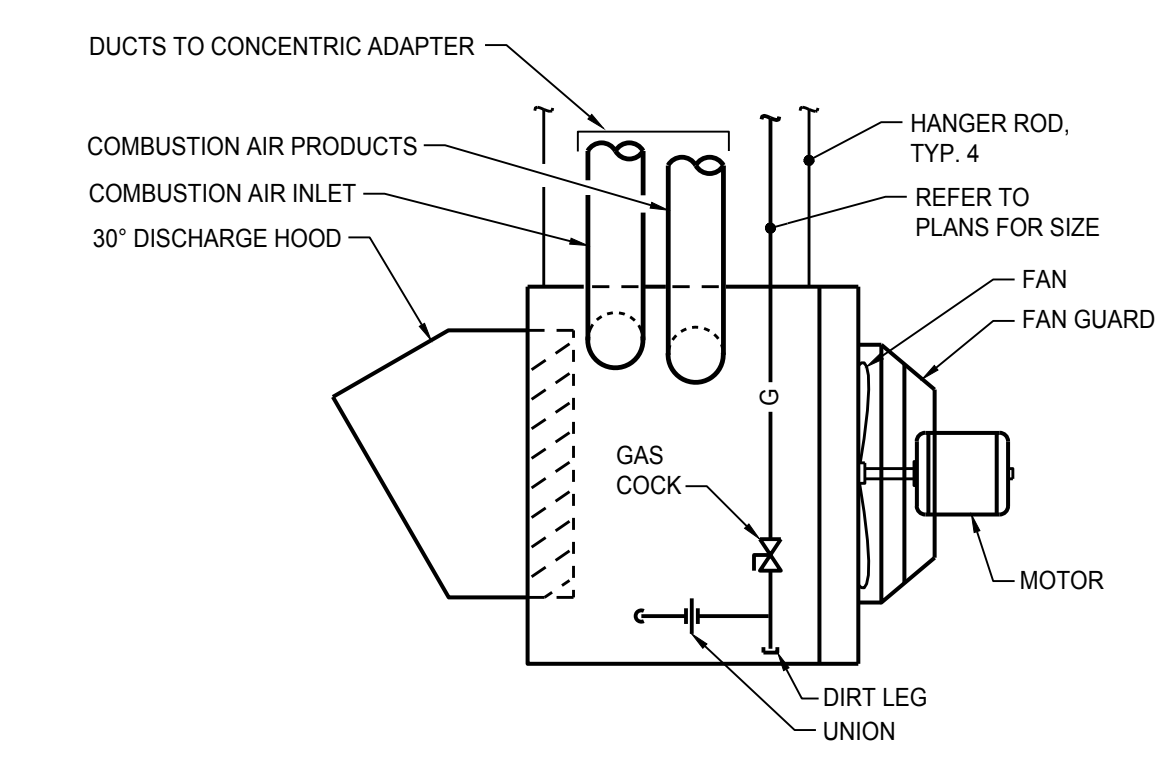
8 RETURN BOOT DETAIL
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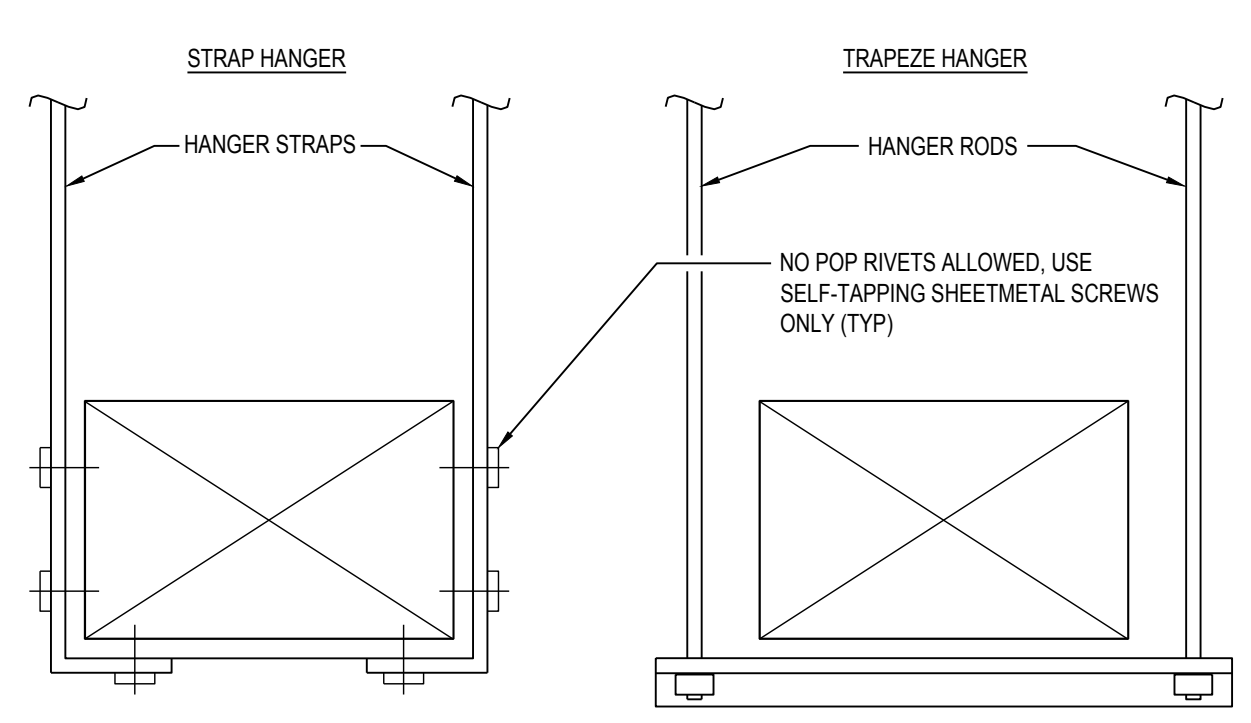
7 RECTANGULAR TRANSITIONS, OFFSETS, AND ELBOWS
 SCALE: N.T.S.



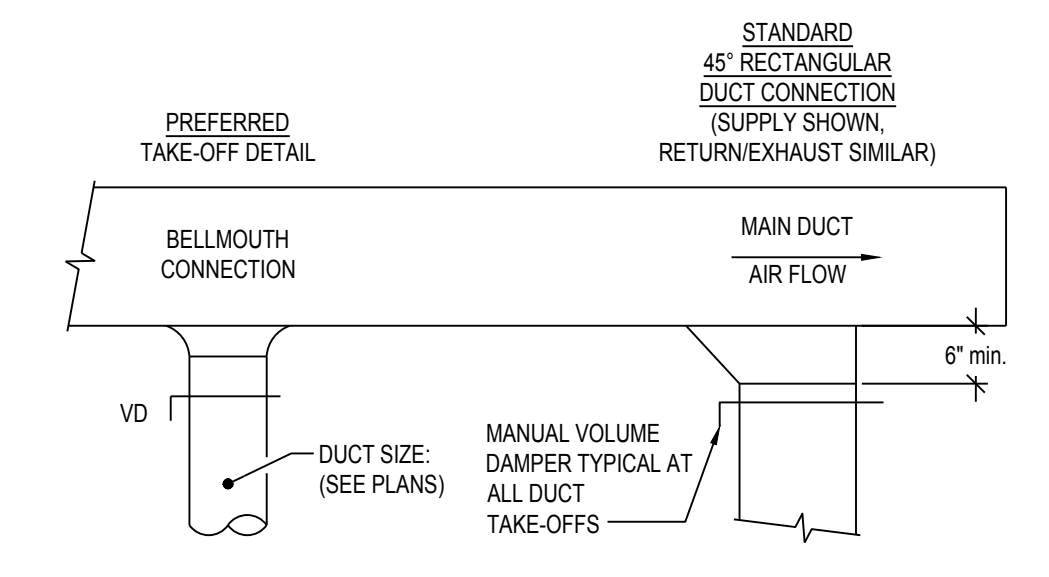
6 TURNING VANES FOR SQUARE ELBOW DETAIL
 SCALE: N.T.S.



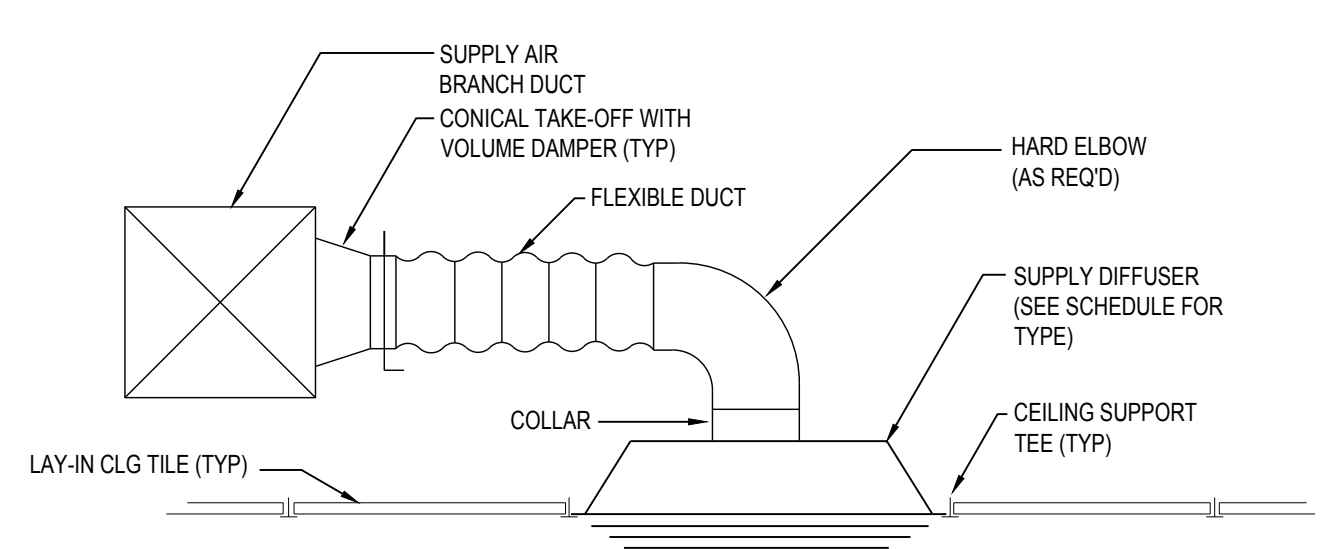
5 UNIT HEATER DETAIL
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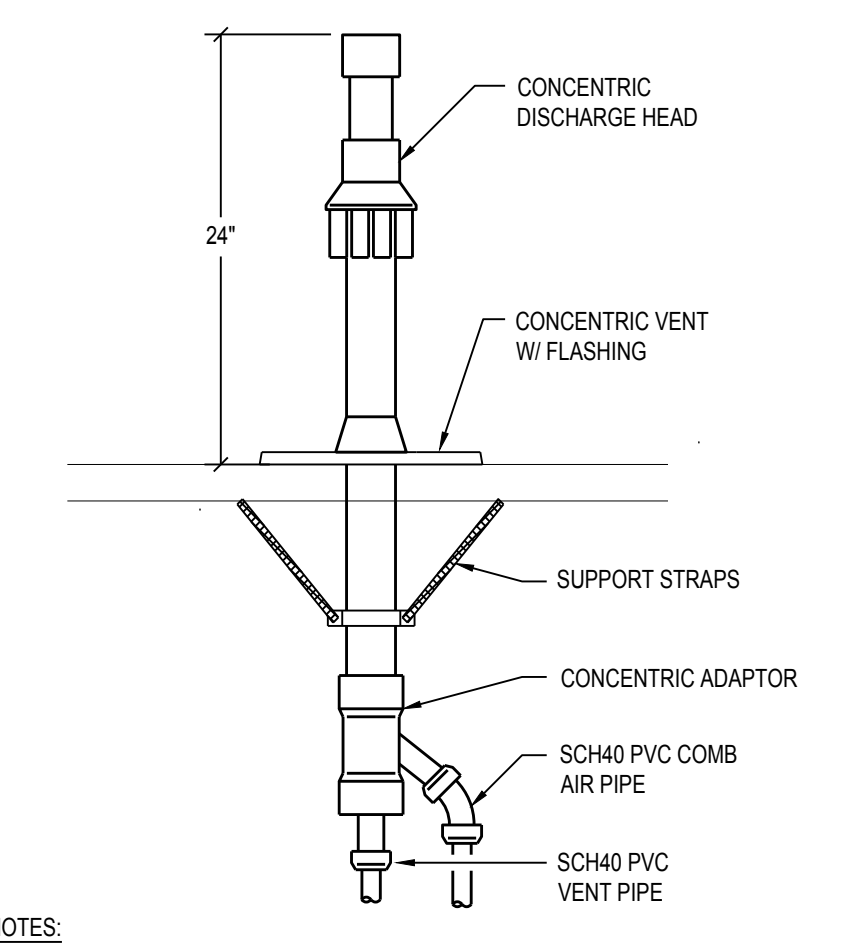
4 DUCT HANGER DETAIL
 SCALE: N.T.S.



3 DUCT TRANSITION DETAIL
 SCALE: N.T.S.



2 SUPPLY AIR DIFFUSER DETAIL
 SCALE: N.T.S.



1 VENT THRU ROOF DETAIL
 SCALE: N.T.S.

NOTES:
 1. "ALTERNATE" FITTINGS SHALL BE ACCEPTABLE ONLY WHEN DUCT HEIGHT DOES NOT PERMIT THE USE OF "PERMITTED" FULL SIZE BELLMOUTH CONNECTION
 2. THIS DETAIL APPLIES TO SINGLE TAKEOFFS TO DIFFUSER AS WELL AS BRANCH TAKEOFFS. IT ALSO APPLIES TO TAKEOFFS IN THE HORIZONTAL AS WELL AS THE VERTICAL DIRECTION.

NOTES:
 1. COMPLY WITH MANUFACTURER'S INSTALLATION REQUIREMENTS, SIZE, DISTANCE LIMITS, AND SPACING BETWEEN MULTIPLE VENTS.
 2. SEPARATE MULTIPLE VENTS MIN 3FT. APART EXCEPT (2) VENT MAY BE LOCATED TIGHT TOGETHER.

CABINET UNIT HEATER SCHEDULE

TAG	SERIES	LOCATION	ELECTRICAL					COMMENTS
			WATTS	VOLTS	PHASE	AMPS	DISC. BY	
CUH-1	E3323	ENTRY 128	3000	120	1	12.5	MANU	1,2,3

NOTES:
 1. BASED ON MARKEL
 2. BUILT-IN TAMPERPROOF THERMOSTAT
 3. SEMI-RECESSED

ROOF HOOD SCHEDULE

TAG	FUNCTION	MODEL	THROAT SIZE	HEIGHT	INLET FREE AREA (SQ. FT.)	CFM	SCREEN	COMMENTS
RH-1	RELIEF	FGR	24"x30"	19"	5	2,800	BIRD	1,2
IH-1	INTAKE	FGI	24"x30"	19"	5	2,800	BIRD	1,2

NOTES:
 1. BASED ON MODINE
 2. ROOF CURB

GAS-FIRED UNIT HEATER SCHEDULE

TAG	MODEL	CFM	MBH		AIR INTAKE (IN.)	FLUE SIZE (IN.)	ELECTRICAL				REMARKS
			INPUT	OUTPUT			VOLTS	HP	PHASE	FLA	
UH-1	HD9-45	720	45	37	3	3	120	1/15	1	3.75	1,2,3,4,5,6

NOTES:
 1. BASED ON MODINE
 2. SEALED COMBUSTION
 3. PROVIDE CONCENTRIC SIDEWALL VENT
 4. DISCONNECT BY EC
 5. THERMOSTAT PROVIDED BY MANUFACTURER
 6. 30 DEGREE DISCHARGE HOOD

CONDENSING UNIT SCHEDULE

TAG	SERVES	MODEL	CAPACITY MBH	EER	ELECTRICAL							COMMENTS
					VOLTAGE	PHASE	HP	MCA	DISC. BY	STARTER BY		
CU-1	F-1	24ACB3-42	42	11	208	1	1/5	23.6	EC	MANU	1,2,3,4	
CU-2	F-2	24ACB3-48	48	11	208	1	1/4	26.2	EC	MANU	1,2,3,4	

NOTES:
 1. BASED ON CARRIER
 2. CONCRETE PAD BY MC
 3. INCLUDE THE FOLLOWING ACCESSORIES: INTERNAL THERMAL OVERLOAD, REFRIGERANT DRIER, FRONT SEATING SERVICE VALVES, LONG LINE CAPABILITY, AND INTERNAL PRESSURE RELIEF VALVE
 4. LOW AMBIENT FOR 40 DEG F AMBIENT TEMP.

ABBREVIATIONS:
 EC - ELECTRICAL CONTRACTOR
 MC - MECHANICAL CONTRACTOR
 NR - NOT REQUIRED

DAMPER SCHEDULE

TAG	FUNCTION	SERVES	SIZE		DEPTH	CFM	ELECTRICAL				NOTES
			WIDTH	HT OR L			WATTS	VOLTAGE	DISC. BY	STARTER BY	
D-1	INTAKE	IH-1	24"	30"	6"	2,600	-	24	NR	NR	1,2,3

NOTES:
 1. BASED ON RUSKIN
 2. LOW LEAKAGE AND LOW PRESSURE
 3. DAMPER ACTUATORS BASED ON DELIMO MODEL
 4. CONCRETE PAD BY MC
 5. THERMOSTAT PROVIDED BY MANUFACTURER
 6. 30 DEGREE DISCHARGE HOOD

ABBREVIATIONS:
 EC - ELECTRICAL CONTRACTOR
 MC - MECHANICAL CONTRACTOR
 NR - NOT REQUIRED

LOUVER SCHEDULE

TAG	FUNCTION	MODEL	NECK SIZE		DEPTH	MIN INLET FREE AREA (FT2)	CFM	PD (IN WC)	SCREEN	COMMENTS
			WIDTH	HEIGHT						
L-1	INTAKE	ELF6811-DD	18"	18"	6"	0.61	215	0.02	BIRD	1

NOTES:
 1. BASED ON RUSKIN

DE-STRATIFICATION FAN SCHEDULE

TAG	MODEL	DIAMETER (FT)	AIRFOILS (QTY.)	FAN RPM	ELECTRICAL						WEIGHT (LBS)	COMMENTS
					FAN HP	VOLTAGE	PHASE	FLA	DISC. BY	VFD		
DSF-1	POWERFOILD	10	6	145	1	208	3	2.9	EC	MANU	350	1,2,3,4

NOTES:
 1. BASED ON BIG ASS FANS
 2. VARIABLE-SPEED DIGITAL SMART SENSE CONTROLLER WITH LOCKING ENCLOSURE (WINTER, SUMMER, AND MANUAL MODE), REFER TO PRINTS FOR CONTROLLER ZONES
 3. EXTENSION TUBE AND MOUNTING BRACKET
 4. FANS TO CONNECT TO FIRE ALARM SYSTEM AND SHUT DOWN WHEN FIRE ALARM SYSTEM ALARMS

GAS FURNACE SCHEDULE

TAG	MODEL	CFM	E.S.P. ("WC)	FAN HP	OA (CFM)	GAS HEAT EXCHANGER			COOLING COIL		PRESS. DROP (IN W.C.)	COMB. AIR SIZE	VENT SIZE	MAX. EQ. LENGTH	ELECTRICAL				COMMENTS		
						INPUT MBH	OUTPUT MBH	TEMP. RISE	AFUE	MODEL					TC (MBH)	VOLT	PHASE	FLA		DISC. BY	STARTER BY
F-1	59TPEB-060	1,190	0.85	3/4	120	60	56	43.05	95.00%	CNPVP-42	42	0.303	2-1/2"	2-1/2"	175	120	1	9.2	EC	-	1,2,3,5,6,7,9
F-2	59TPEB-080	1,380	1	3/4	215	80	76	52.3	96.20%	CNPVP-48	48	0.259	3"	3"	175	120	1	10.1	EC	-	1,2,3,4,5,6,9,10

NOTES:
 1. BASED ON CARRIER
 2. DO NOT EXCEED 5 ELBOWS FOR COMB/VENT PIPING
 3. INSULATED COMB/VENT PIPING IN UNCONDITIONED SPACE
 4. CONCENTRIC VENT TERMINATION KIT
 5. VARIABLE SPEED MOTOR
 6. DOWNFLOW SUPPLY, TOP RETURN
 7. COOLING COIL MOUNTED BELOW FURNACE
 8. UPFLOW SUPPLY AND SIDE RETURN
 9. 7-DAY PROGRAMMABLE THERMOSTAT
 10. CONCRETE PAD BY MC

ABBREVIATIONS:
 EC - ELECTRICAL CONTRACTOR
 MC - MECHANICAL CONTRACTOR
 NR - NOT REQUIRED

EXHAUST FAN SCHEDULE

TAG	MODEL	CFM	TYPE	DRIVE	ESP (IN WC)	FAN RPM	SONES	ELECTRICAL							WEIGHT (LBS)	COMMENTS
								FAN HP	VOLTAGE	PHASE	FLA	VFD	DISC. BY	STARTER BY		
EF-1	CSP-A200	70	CEILING	DIRECT	0.69	825	1.5	-	120	1	0.5	-	EC	EC	50	1,2,3
EF-2	SP-AP9511W-1	70	CEILING	DIRECT	0.51	817	2.0	-	120	1	0.3	-	EC	EC	50	1,2,3
EF-3	SQ-150-VG	2,475	INLINE	DIRECT	0.80	1,188	12.2	1	120	1	13.0	-	EC	EC	150	1,2,4
EF-4	SQ-37-VG	125	INLINE	DIRECT	0.80	1,524	11.8	1/4	120	1	3.8	-	EC	EC	50	1,2,4,5
EF-5	SP-LF0511-1	100	CEILING	DIRECT	0.42	939	3.0	-	120	1	0.3	-	EC	EC	25	1,2,6
EF-6	G-697-VG	150	ROOF	DIRECT	0.82	1,466	7.3	1/4	120	1	3.8	-	EC	EC	80	1,2,4,5

NOTES:
 1. BASED ON GREENHECK
 2. GRAVITY BACKDRAFT DAMPER
 3. FAN CONTROLLED BY LIGHT SWITCH PROVIDED BY EC
 4. FAN TO CONTINUE TO RUN FOR 5 MINS AFTER SWITCH HAS BEEN TURNED OFF
 5. FAN TO RUN CONTINUOUSLY DURING OCCUPIED HOURS
 6. CONTROLLED BY REVERSE ACTING THERMOSTAT TO MAINTAIN 80 DEGREES.
 7. PERMANENT SEALED BEARINGS
 8. INSTALL INFRARED HEATER ON A 45 DEGREE TILT
 9. TWO-STAGE HEATING

ABBREVIATIONS:
 EC - ELECTRICAL CONTRACTOR
 NR - NOT REQUIRED
 MANU - MANUFACTURER

GAS-FIRED RADIANT HEATER SCHEDULE

TAG	MODEL	1st STAGE (MBH)		2nd STAGE (MBH)		LENGTH	MOUNTING HEIGHT	FLUE & VENT SIZE (IN.)	ELECTRICAL					NOTES
		INPUT	OUTPUT	INPUT	OUTPUT				VOLTS	PHASE	FLA	DISC.	STARTER	
RTH-1	HL3-30-125	125	106.3	82	69.7	30 FT	15'-9"	4"	120	1	4.8	MANU	-	1,2,3,4,5,6,7,8,9
RTH-2	HL3-40-175	175	148.8	125	106.3	40 FT	18'-6"	4"	120	1	4.8	MANU	-	1,2,3,4,5,6,7,8,9
RTH-3	HL3-40-150	150	127.5	100	85.0	40 FT	18'-6"	4"	120	1	4.8	MANU	-	1,2,3,4,5,6,7,8,9
RTH-4	HL3-40-150	150	127.5	100	85.0	40 FT	18'-6"	4"	120	1	4.8	MANU	-	1,2,3,4,5,6,7,8,9
RTH-5	HL3-30-125	125	106.3	82	69.7	30 FT	15'-9"	4"	120	1	4.8	MANU	-	1,2,3,4,5,6,7,8,9
RTH-6	HL3-30-125	125	106.3	82	69.7	30 FT	15'-9"	4"	120	1	4.8	MANU	-	1,2,3,4,5,6,7,8,9
RTH-7	HL3-40-175	175	148.8	125	106.3	40 FT	18'-6"	4"	120	1	4.8	MANU	-	1,2,3,4,5,6,7,8,9

NOTES:
 1. BASED ON DETROIT RADIANT PRODUCTS
 2. INCLUDE THE FOLLOWING ACCESSORIES: WALL MOUNTED THERMOSTAT, FACTORY VENT TERMINATION, AND FACTORY THERMAL OVERLOAD PROTECTION
 3. MOUNTING HEIGHT IS TO THE CENTER OF THE TUBE
 4. MANUFACTURER TO PROVIDE ALL ROOF AND WALL CAPS REQUIRED FOR INSTALLATION
 5. CONTRACTOR SHALL VERIFY REQUIRED CLEARANCES AND MOUNT ACCORDINGLY WITH MANUFACTURER'S INSTALLATION REQUIREMENTS.
 6. ALUMINUM REFLECTORS

ABBREVIATIONS:
 EC - ELECTRICAL CONTRACTOR
 NR - NOT REQUIRED
 MANU - MANUFACTURER

DIFFUSER, REGISTER, & GRILLE SCHEDULE

TAG	MODEL	NECK SIZE	FACE SIZE	CFM RANGE (MIN-MAX.)	PATTERN	MOUNT	MATERIAL	COLOR	100 FPM THROW	COMMENTS
SD-1	TMS	6"	24x24	50-135	3 CONE / 4 WAVY	LAY-IN	STEEL	WHITE	3'	1,2,3,4
SD-1	TMS	8"	24x24	140-250	3 CONE / 4 WAVY	LAY-IN	STEEL	WHITE	6'	1,2,3,4
SD-2	TMS	6"	12x12	25-100	3 CONE / 4 WAVY	SURFACE	STEEL	WHITE	3'	1,2,3,4
TG-1	350RL	16x16	16x16	1,100	3/4" 90° - 35° DEFL	SURFACE	STEEL	WHITE	-	1,2,3,4
RG-1	50F	24x8	24x8	750	1/2x1/2x1/2 GRID	LAY-IN	ALUMINUM	WHITE	-	1,2,3,4
EG-1	23RL	48x24	48x24	2,600	3/4" 90° - 45° DEFL	SURFACE	STEEL	WHITE	-	1,2,3,4
EG-2	50F	8x8	8x8	200	1/2x1/2x1/2 GRID	LAY-IN	ALUMINUM	WHITE	-	1,2,3,4

NOTES:
 1. BASED ON TITUS
 2. MAX. NG = 30
 3. MAX. APO - 0.10 INCHES
 4. SELECT BORDER TO MATCH ROOM FINISH SCHEDULE

ISSUED FOR BID 01/06/2025
 90% OWNER REVIEW 11/01/2024
 DATE ISSUED

JAM
 DRAWN BY
 CAT
 CHECKED BY

HOBBS + BLACK ARCHITECTS

100 N. State St.
 Lansing, MI 48904
 P. 734.663.4189
 www.hobbs-black.com

CLINTON COUNTY
 MAINTENANCE DEPARTMENT
 BUILDING EXPANSION

1327 E. TOWNSEND RD.
 ST. JOHNS, MI 48879

PROJECT

MATRIX
 CONSULTING ENGINEERS, INC.

1601 E. CESAR E. CHAVEZ AVE.
 LANSING, MI 48906

PHONE: (517) 487-2511
 admin@matrixceinc.com
 Matrix Project No. 24149-00

CONSULTANT



MECHANICAL SCHEDULES

SHEET TITLE

23-319
 PROJECT NUMBER

M-900
 SHEET NUMBER

ELECTRICAL SYMBOLS LEGEND

OUTLETS	FIXTURES	SERVICE and EQUIPMENT
⊕ SINGLE RECEPTACLE (120 VOLT)	☐ LIGHT FIXTURE	⊕ TRANSIENT VOLTAGE SURGE SUPPRESSION
⊕ DUPLEX RECEPTACLE	☐ STRIP FIXTURE	☐ VARIABLE FREQUENCY DRIVE
⊕ EMERGENCY RECEPTACLE	☐ EMERGENCY LIGHT FIXTURE	☐ TRANSFORMER
⊕ DOUBLE DUPLEX RECEPTACLE	☐ IN-GRADE LIGHT FIXTURE	☐ FUSED DISCONNECT SWITCH
⊕ FLUSH FLOOR BOX	☐ SPOTLIGHT (number of heads shown)	☐ MAGNETIC STARTER
⊕ SURFACE FLOOR BOX	☐ EXIT SIGN (face & direction as shown)	☐ COMB. STARTER
⊕ SPECIAL EQUIPMENT RECEPTACLE	☐ WALL MOUNT LIGHT FIXTURE	☐ PANELBOARD, SURFACE MOUNTED
⊕ TELEPHONE OUTLET	☐ CEILING LIGHT FIXTURE	☐ PANELBOARD, FLUSH MOUNTED
⊕ DATA OUTLET	☐ TRACK & FIXTURE	☐ WEATHERHEAD
⊕ TELEPHONE / DATA OUTLET	☐ STREET TYPE POLE FIXTURE	☐ UTILITY METER, AS REQUIRED
⊕ POWER POLE	☐ POLE MOUNTED LIGHT FIXTURE	☐ CURRENT TRANSFORMERS
⊕ JUNCTION BOX	☐ EXTERIOR WALL MOUNT LIGHT FIXTURE	☐ GENERATOR, KW SHOWN
⊕ WALL JUNCTION BOX	☐ WALLPACK LIGHT FIXTURE	☐ TELEPHONE TERMINAL BOARD
⊕ PULL (JUNCTION) BOX	☐ SPECIAL PURPOSE LIGHT FIXTURE	☐ GROUND CONNECTION PER N.E.C.
⊕ UNDERFLOOR JUNCTION BOX	☐ HIGH BAY LIGHT FIXTURE	☐ WIREWAY
⊕ CEILING MOUNTED WIFI	☐ EMERGENCY EGRESS LIGHT FIXTURE (number of heads shown)	☐ TRANSFER SWITCH
SWITCHES	☐ DOCK LIGHT FIXTURE	☐ ENCLOSED CIRCUIT BREAKER
⊕ SINGLE-POLE SWITCH	CIRCUITRY and RACEWAYS	☐ CAPACITOR
⊕ THREE-WAY SWITCH	☐ CONDUIT INSTALLED (by E.C.)	CONTROL
⊕ FOUR-WAY SWITCH	☐ CONDUIT INSTALLED (by others)	☐ THERMOSTAT
⊕ SWITCH WITH PILOT LIGHT	☐ CONDUIT STUB UP	☐ HUMIDISTAT
⊕ THERMAL OVERLOAD SWITCH	☐ CONDUIT STUB DOWN	☐ PHOTOCELL (voltage as required)
⊕ MANUAL MOTOR SWITCH	☐ HOME RUN (with circuit numbers)	☐ TIME CLOCK (24 hour U.O.N.)
⊕ KEY SWITCH	☐ END OF CONDUIT RUN	☐ PUSHBUTTON STATION (number of buttons indicated)
⊕ TIME SWITCH	☐ END OF CONDUIT RUN, CAP AND STAKE	☐ CONTROL TRANSFORMER
⊕ DIMMER SWITCH	☐ "CONDUIT RUN CONTINUES" INDICATION	☐ LIGHTING CONTACTOR
MECHANICAL	☐ FLEXIBLE RIGID DISCONNECTS	☐ IRRIGATION CONTROLLER (120 volt xxVA connection by x/C)
⊕ SINGLE PHASE MOTOR	☐ WIREMOLD AS SPECIFIED	☐ PHOTOCELL, FULL LOAD AMPS
⊕ THREE PHASE MOTOR	☐ PLUGMOLD AS SPECIFIED	☐ FLEXIBLE CONDUIT
⊕ RESISTANCE HEATER, KW SHOWN	☐ BUS DUCT	☐ FLOOR
⊕ PIPE TRACE HEATER	☐ UNDERFLOOR DUCT	☐ FLOOR SERVICE EQUIP. SUPPLIER
⊕ ELECTRIC UNIT HEATER	SOUND and SIGNAL	☐ FOOD SERVICE EQUIP. SUPPLIER
⊕ ELECTRIC WATER HEATER	☐ SPEAKER	☐ FIRE/SMOKE
NURSE CALL	☐ WALL MOUNTED SPEAKER	☐ FURNACE
⊕ NURSE CALL CONTROLLER	☐ WALL MOUNTED SPEAKER / CLOCK COMBO	
⊕ MASTER STATION	☐ SINGLE FACE CLOCK	
⊕ EMERGENCY PULL STATION	☐ DUAL FACE CLOCK	
⊕ EMERGENCY PUSH STATION	☐ VIDEO INPUT	
⊕ CODE BLUE STATION	☐ AUDIO / VIDEO INPUT	
⊕ PENDANT INTERFACE	☐ BELL	
⊕ BED / LIGHT INTERFACE	☐ VOLUME CONTROL	
⊕ SINGLE BED STATION	☐ BUZZER	
⊕ DUAL BED STATION	☐ CHIME	
⊕ DOME LIGHT	☐ TELEVISION OUTLET	
⊕ STAFF REGISTER STATION	☐ MICROPHONE OUTLET	
⊕ STAFF STATION	☐ INTERCOM OUTLET	
⊕ DUTY STATION	☐ CAMERA	
DESIGNATIONS	☐ DOOR CONTACT	
⊕ DEMOLITION NOTE	☐ MOTION DETECTOR	
⊕ PLAN NOTE	☐ BEAM DETECTOR	
⊕ ADDENDUM NOTE	☐ KEY PAD	
	☐ SECURITY SYSTEM CONTROL PANEL	
	☐ CCTV CONTROL PANEL	
	☐ CARD READER	
	☐ STUDENT STATION	
	☐ ADMINISTRATION STATION	
	☐ TEACHER STATION	
	☐ GLASS BREAK	
	☐ REMOTE INDICATING LIGHT, WALL MTD.	
	☐ REMOTE INDICATING LIGHT, CLG. MTD.	
	☐ MAGNETIC DOOR HOLDER	
	☐ FIREFIGHTER COMMUNICATION JACK	
	☐ FLOW SWITCH (furnished by FPI/C)	
	☐ TAMPER SWITCH (furnished by FPI/C)	
	☐ VISUAL ONLY UNIT	
	☐ FIRE CONTROL POWER SUPPLY	
	☐ MONITOR MODULE	
	☐ CONTROL MODULE	
	☐ CARBON MONOXIDE DETECTOR	

GENERAL ELECTRICAL NOTES

- ALL WALL AND FLOOR PENETRATIONS ARE TO BE SEALED TO MAINTAIN ORIGINAL RATINGS.
- ALL CONDUITS TO BE FIELD ROUTED ALONG EXISTING PIPING AND STRUCTURAL STEEL.
- THE DIVISION 26 CONTRACTORS SHALL VISIT THE PROJECT AND DETERMINE THE EXACT EXTENT OF THE DEMOLITION WORK REQUIRED BEFORE BIDDING THE PROJECT.
- REMOVE ALL EXISTING OBSOLETE EXPOSED CONDUIT, WIRE AND UNUSED EQUIPMENT WHERE WORK IS BEING DONE EXCEPT ITEMS NOTED OTHERWISE.
- WHERE BUILDING SURFACES ARE DAMAGED BY THE REMOVAL OF OLD WORK, SURFACES SHALL BE PATCHED TO MATCH ADJACENT.
- EXISTING WORK WHICH IS PRESENTLY CONCEALED AND WHICH WILL REMAIN CONCEALED AND DOES NOT INTERFERE WITH ANY NEW WORK OF ANY TRADE NEED NOT BE REMOVED. HOWEVER, ALL CONDUIT SHALL BE CAPPED BELOW FINISH SURFACE AND THEN PATCHED TO MATCH, OR AS NOTED.
- EXISTING OPENINGS, WHICH ARE TO BE REUSED, SHALL BE MODIFIED OR ENLARGED TO SUIT THE NEW SYSTEMS AS REQUIRED. PROVIDE ALL REQUIRED CUTTING AND PATCHING.
- IF ASBESTOS IS PRESENT, IT WILL BE REMOVED OR RENDERED HARMLESS UNDER SEPARATE CONTRACT BY THE OWNER.
- THE DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING THE EXISTING WALLS TO MATCH WITH THE ADJACENT SURFACES BEHIND ALL SURFACE MOUNTED EQUIPMENT.
- CONTRACTOR SHALL FIELD VERIFY ALL EQUIPMENT VOLTAGES AND LOADS PRIOR TO INSTALLING SERVICE TO EQUIPMENT.
- DRAWINGS ARE BASED ON EXISTING RECORD DOCUMENT AND CASUAL FIELD OBSERVATION. REPORT ANY DISCREPANCIES TO ENGINEER FOR CLARIFICATION.
- THE CONTRACTOR SHALL PHASE THE WORK TO MINIMIZE DISRUPTIONS TO THE EXISTING BUILDING EXISTING ELECTRICAL SYSTEMS SHALL REMAIN ACTIVE AND FUNCTIONAL DURING OCCUPIED HOURS. CONTRACTOR SHALL COORDINATE WITH OWNER AND RECEIVE WRITTEN APPROVAL OF SHUT DOWN AT A MINIMUM 1 WEEK BEFORE REQUESTED DATE.

ABBREVIATIONS LEGEND

A	AMPS	GC	GENERAL CONTRACTOR	P	POLE
AC	ABOVE COUNTER	GFI	GROUND FAULT INTERRUPTER	PB	PUMP
ACU-	AIR CONDITIONING UNIT	GND	GROUND	PNL	PULL BOX
AFF	ABOVE FINISHED FLOOR	H-	HUMIDIFIER	PRV-	POWER ROOF VENTILATOR
AHJ	AUTHORITY HAVING JURISDICTION	HOA	HAND-OFF-AUTO SELECTOR SWITCH	PVC	POLY VINYL CHLORIDE
AHU-	AIR HANDLING UNIT	HP	HORSEPOWER	PWR	POWER
AIC	AMPS INTERRUPTING CAPACITY	HR	HOUR	RECEPT	RECEPTACLE
AS	ABOVE SHELF	HVAC	HEATING/VENTILATING/AIR CONDITIONING	RGC	RIGID GALVANIZED STEEL CONDUIT
ATS	AUTOMATIC TRANSFER SWITCH	IG	ISOLATED GROUND	RTU-	ROOF TOP UNIT
B-	BOILER	IMC	INTERMEDIATE METAL CONDUIT	SE-	SUPPLY FAN SPECIFICATIONS
BC	BELOW COUNTER	JB	JUNCTION BOX	SW	SWITCH
BLDG	BUILDING	LC	LIGHT CONTROL	SWBD	SWITCHBOARD
CHLR-	CHILLER	LT	LIGHT	TCC	TEMPERATURE CONTROL CONTRACTOR
CND (C)	CONDUIT	LTG	LIGHTING	TR	TAMPER PROOF RECEPTACLE
CKT	CIRCUIT	LT FLEX	LIQUID TIGHT FLEXIBLE METAL CONDUIT	TS	TAMPER PROOF SWITCH
CKT BKR	CIRCUIT BREAKER	MAX	MAXIMUM	TYP	TYPICAL
CT	COOLING TOWER	MC	MECHANICAL CONTRACTOR	UF	UNDER FLOOR
CJ-	CONDENSING UNIT	MCC	MOTOR CONTROL CENTER	UH-	UNIT HEATER
CJH-	CABINET UNIT HEATER	MIN	MINIMUM	UL	UNDERWRITERS' LABORATORIES, INC.
DFU-	DUCT FURNACE	MLO	MAIN LUG ONLY	UNO	UNLESS NOTED OTHERWISE
DISC	DISCONNECT	MT	MOUNT	V	VOLTS
DWG	DRAWING	MTD	MOUNTED	VL	VERIFY LOCATION WITH OWNER
DWH-	DOMESTIC WATER HEATER	MTG	MOUNTING	W	WATTS
EBB-	ELECTRIC BASEBOARD	MUAU-	MAKE-UP AIR UNIT	WO	WITHOUT
EC	ELECTRICAL CONTRACTOR	NC	NORMALLY CLOSED	WP	WEATHER PROOF
EF-	EXHAUST FAN	NIC	NOT IN CONTRACT	XFMR	TRANSFORMER
EM	EMERGENCY	NL	NORMALLY OPEN		
EMT	ELECTRICAL METALLIC TUBING	NTS	NOT TO SCALE		
EWG	ELECTRIC WATER COOLER				
EXIST (E)	EXISTING				
FLA	FULL LOAD AMPS				
FLEX	FLEXIBLE CONDUIT				
FLR	FLOOR				
FLOOR	FLOOR				
FSES	FOOD SERVICE EQUIP. SUPPLIER				
F/S	FIRE/SMOKE				
FU-	FURNACE				

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NO.	DESCRIPTION AND COMMENTS	DIMMING INFO	FIXTURE MOUNTING HEIGHT	DRIVER INFO
LA	LITHONIA METALUX DAY-BRITE	CPX-2X4-400LM-80CR-BJK-SWL-MINI-MVOLT-NL-TAR-APR 2PZP388840-2-OS-UNV-DIM-SWZCS	RECESSED 2X2 LED LIGHT FIXTURE, WITH INTEGRAL OCCUPANCY SENSOR AND CONTROLS.	0-10V	RECESSED	4000 LUMENS 34W 4000K LED
LAEM	LITHONIA METALUX DAY-BRITE	CPX-2X4-400LM-80CR-BJK-SWL-MINI-MVOLT-E10WL-CP-NL-TAR-APR 2PZP388840-2-OS-UNV-DIM-ER100-BSL10LST-SWZCS	RECESSED 2X2 LED LIGHT FIXTURE WITH INTEGRAL OCCUPANCY SENSOR AND CONTROLS, PROVIDE EMERGENCY BATTERY BACKUP.	0-10V	RECESSED	4000 LUMENS 34W 4000K LED
LB	LITHONIA METALUX DAY-BRITE	CLX4-36-800LM-HEF-FDL-MVOLT-G210-40K-80CR-NL-TAR2-RES7-XXX F188X465L10W-LB4HCD-E10WPS-UJ FLP880LHE840-Q-UNV-DIM-SWZCSJE	SURFACE MOUNTED LED LIGHT STRIP WITH INTEGRAL OCCUPANCY SENSOR AND CONTROLS.	0-10V	SURFACE	6000 LUMENS 37W 4000K LED
LBEM	LITHONIA METALUX DAY-BRITE	CLX4-36-800LM-HEF-FDL-MVOLT-G210-40K-80CR-E10WL-CP-SPD-NL-TAR2-RES7-XXX F188X465L10W-LB4HCD-E10WPS-UJ FLP880LHE840-Q-UNV-DIM-SWZCSJE-BSL10LST-ER100	SURFACE MOUNTED LED LIGHT STRIP WITH INTEGRAL OCCUPANCY SENSOR AND CONTROLS, PROVIDE EMERGENCY BATTERY BACKUP.	0-10V	SURFACE	6000 LUMENS 37W 4000K LED
LC	LITHONIA METALUX BASELINE	CPRB-4L13-U-VOLTS-SWWS-80CR-NL-TAR2-RMS0030-DWH HBSL1716-M4L840SLUBES-SENDR-PK BLS-CHB-150-2TV-DDK-B-MAD	SUSPENDED LED HIGH BAY FIXTURE INTEGRAL HIGH MOUNT OCCUPANCY SENSOR AND CONTROLS.	0-10V	REFER TO DRAWING	12K15K19K LUMENS 132W 4000K LED
LCEM	LITHONIA METALUX BASELINE	CPRB-4L13-U-VOLTS-SWWS-80CR-NL-TAR2-RMS0030-DWH-RBAY-BLDE40WCP-M4 HBSL1716-M4L840SLUBES-SENDR-PK BLS-CHB-150-2TV-DDK-B-MAD	SUSPENDED LED HIGH BAY FIXTURE WITH INTEGRAL HIGH MOUNT OCCUPANCY SENSOR AND CONTROLS, PROVIDE EMERGENCY BATTERY BACKUP.	0-10V	REFER TO DRAWING	12K15K19K LUMENS 132W 4000K LED
LD	JUNO HALL LIGHTOLIER	WP8-SWWS-80CR-400K-MW-M8 HBSL1716-M4L840SLUBES-SENDR-PK DLB8SLM210SCTUW	6" RECESSED LED DOWNLIGHT	0-10V	RECESSED	970 LUMENS 13W 4000K LED
LE	LITHONIA LUMARK STONCO	WPX2-LED-MVOLT XTORBB4 ASW15-SCT-G1-8-PCB-BW	MATCH EXISTING FIXTURE COLOR TEMPERATURE - LED WALL PACK	-	WALL MOUNTED MATCH EXISTING FIXTURE HEIGHT	6000 LUMENS 58W MATCH EX LED
LFEM	LITHONIA SURELITES CHLORIDE	APF-PEL-DBL-BXD-UVOLT4-TP-SDRT-WT-CW SBLW17AS19K8SD ARC-ACEM-BZ	SINGLE HEAD EGRESS WALL MOUNTED LED LIGHT WITH EMERGENCY BATTERY BACK UP.	-	WALL MOUNTED ABOVE DOOR	635 LUMENS 20.4W 4000K LED
LG	LITHONIA LUMARK GARDCCO	DSX1-LED-P4-40K-70CR-TAM-MVOLT-NL-TAR2-PIRHN PRP192A-740-740-S4-BK-PRV-SPK3XX OPF-S404-740-TAMAR1-UNV-WAP-4B-BK	LED SITE LIGHT WITH BUILT IN PHOTOCELL AND CONTROLS. PROVIDE 22" SQUARE STEEL POLE WITH 3" CONCRETE BASE.	0-10V	25" ABOVE GRADE	15,000 LUMENS 125W 4000K LED
XA	LITHONIA SURELITES CHLORIDE	LHQM-S-W-3-R-HQ-R0 4P41R2 VERV	LED EXIT SIGN	-	-	LED

FIXTURE SCHEDULE NOTES

- ALL FIXTURES WITH "EM" DESIGNATION ON THE DRAWINGS SHALL HAVE INTEGRAL 14W EMERGENCY BATTERY PACK, UNLESS SPECIFIED OTHERWISE.
- ALTERNATE LIGHTING MANUFACTURERS EQUIPMENT SHALL BE SIMILAR IN PERFORMANCE, PHYSICAL APPEARANCE, AND CONSTRUCTION SHALL BE CONSIDERED AS EQUAL TO FIXTURES SPECIFIED.
- ALTERNATE FIXTURES PROPOSED BY BIDDING CONTRACTOR MUST BE PRE-APPROVED DURING BIDDING. CONTRACTOR OR LIGHTING REPRESENTATIVE SHALL EMAIL ALL FIXTURE CUT SHEETS TO ENGINEER AT LEAST 1 WEEK PRIOR TO SUBMITTING BIDS. ENGINEER SHALL REVIEW THE PROPOSED FIXTURES AND ISSUE AN ACCEPTANCE OR DENIAL.
- SHOP DRAWINGS SUBMITTED AFTER AWARD FOR FIXTURES WHICH WERE NOT PRE-APPROVED ARE SUBJECT TO BEING RE-ELECTED.
- ENGINEER SHALL HAVE FINAL AUTHORITY ON APPROVAL OF THE PROPOSED ALTERNATIVE FIXTURES.

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ELECTRICAL
 SYMBOLS
 ABBREV.
 + NOTES

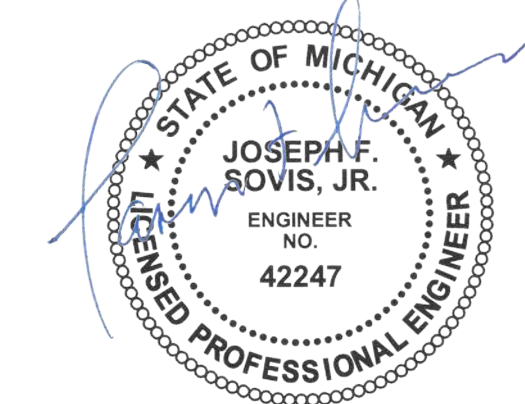
SHEET TITLE

23-319

PROJECT NUMBER

E-100

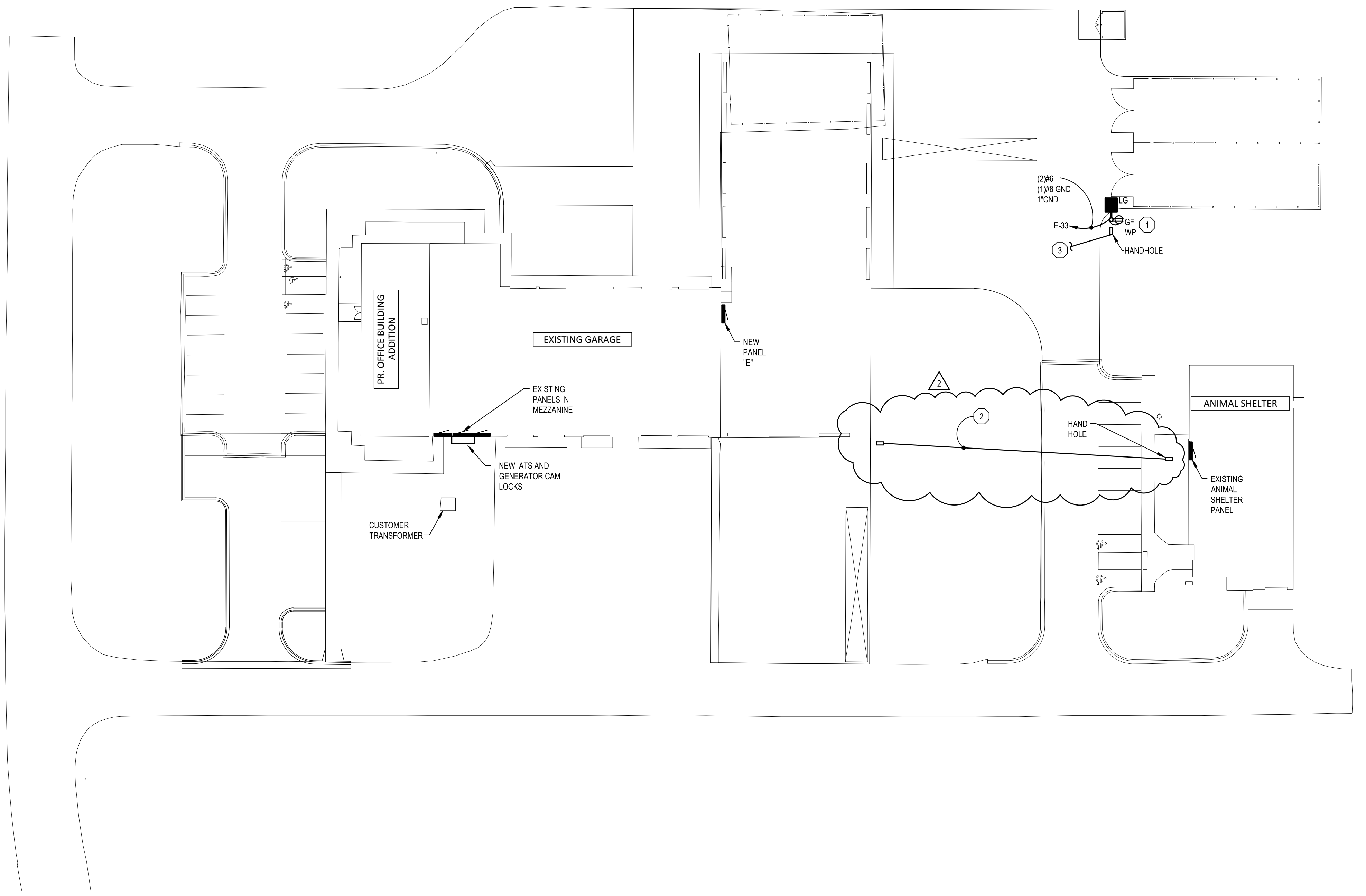
SHEET NUMBER



ELECTRICAL KEY NOTES

- ① PROVIDE RECEPTACLE RECESSED IN LIGHT POLE.
- ② CONTRACTOR SHALL PROVIDE (2) 4 INCH CONDUIT TO HANDHOLES IN GREEN SPACE FOR FUTURE CONNECTION TO EXISTING ANIMAL SHELTER BUILDING. DIRECTIONAL BORE TO REDUCE DISTURBANCE OF EXISTING CONDITIONS.
- ③ CONTRACTOR SHALL PROVIDE (1) 1.5 INCH CONDUIT FROM INSIDE BUILDING TO HANDHOLE IN GREEN SPACE FOR SECURITY CAMERA.

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SITE PLAN - NEW
 0' 5' 10' 20' 40' 75'
 SCALE: 1" = 30'-0"

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SITE PLAN
 NEW

SHEET TITLE

23-319

PROJECT NUMBER

E-200

SHEET NUMBER

DEMOLITION NOTES

- 1 EXISTING DEVICE TO REMAIN.
- 2 EXISTING EQUIPMENT TO REMAIN.
- 3 DISCONNECT & REMOVE EXISTING LIGHT FIXTURE. ASSOCIATED CONDUIT & WIRE TO REMAIN.
- 4 DISCONNECT & REMOVE LIGHT SWITCH, CONDUIT AND WIRE TO REMAIN FOR NEW SWITCH AND LIGHTING CIRCUIT.
- 5 DISCONNECT & REMOVE EXISTING DEVICE. REMOVE ASSOCIATED CONDUIT & WIRE.
- 6 DISCONNECT & REMOVE EXISTING EQUIPMENT. REMOVE ASSOCIATED CONDUIT & WIRE.
- 7 DISCONNECT & RELOCATE EXISTING EQUIPMENT. EXTEND ASSOCIATED CONDUIT & WIRE AS NEEDED.
- 8 CONTRACTOR SHALL DISCONNECT AND REMOVE EXISTING PULL BOX. REMOVE ASSOCIATED CONDUIT AND WIRE BACK TO SOURCE.

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MEZZ & FIRST
 FLOOR PLAN
 DEMOLITION

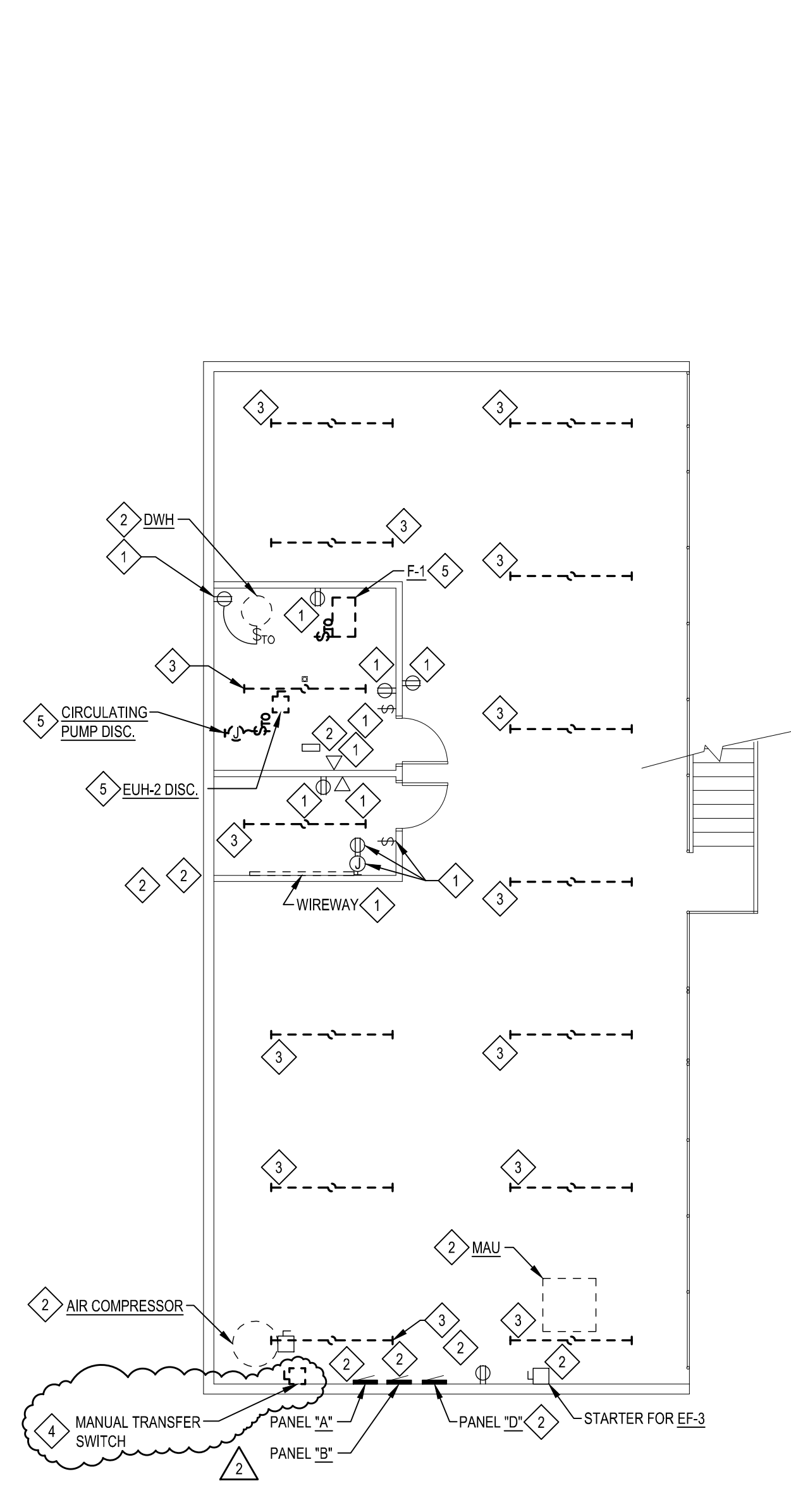
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23-319

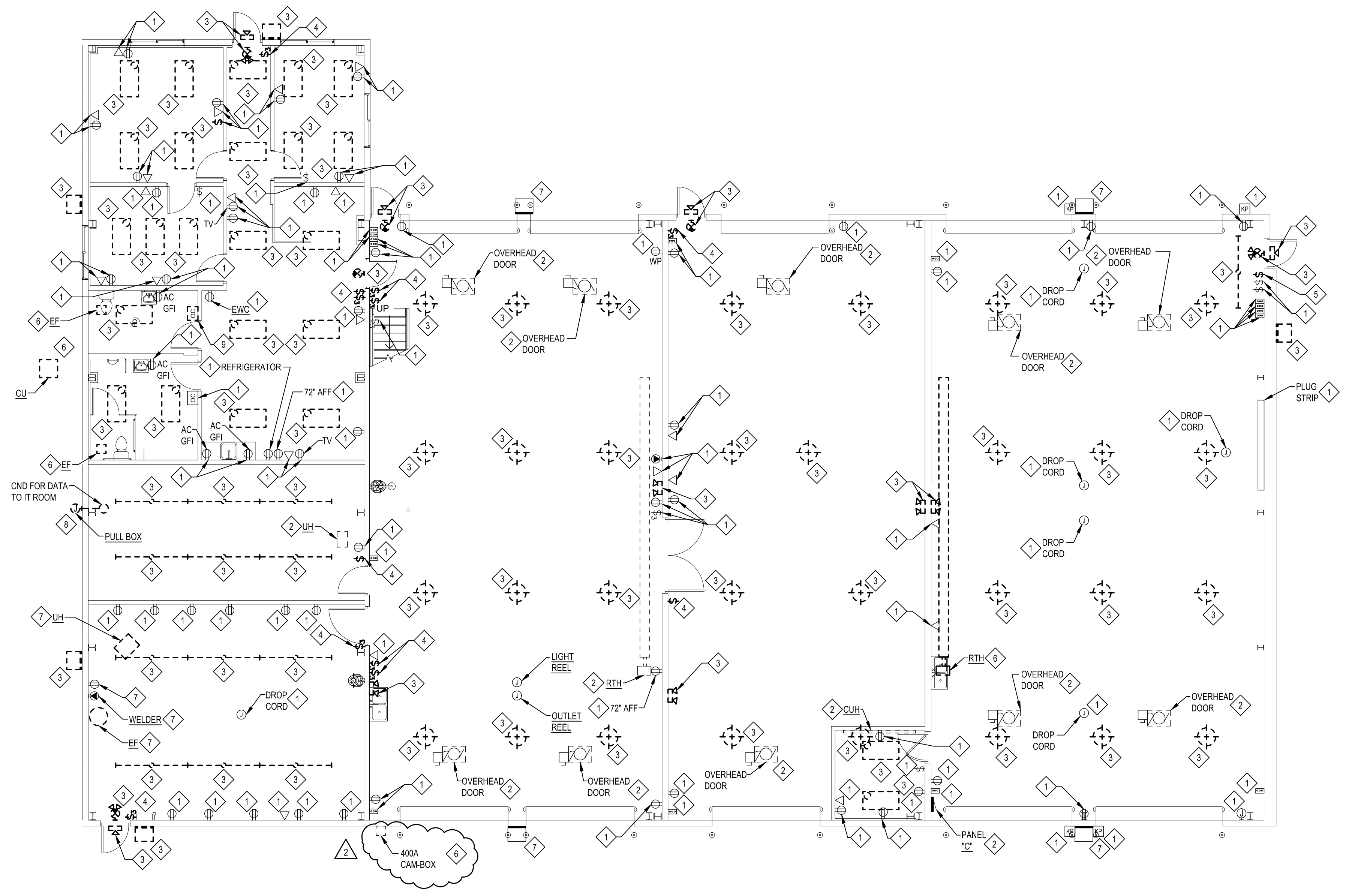
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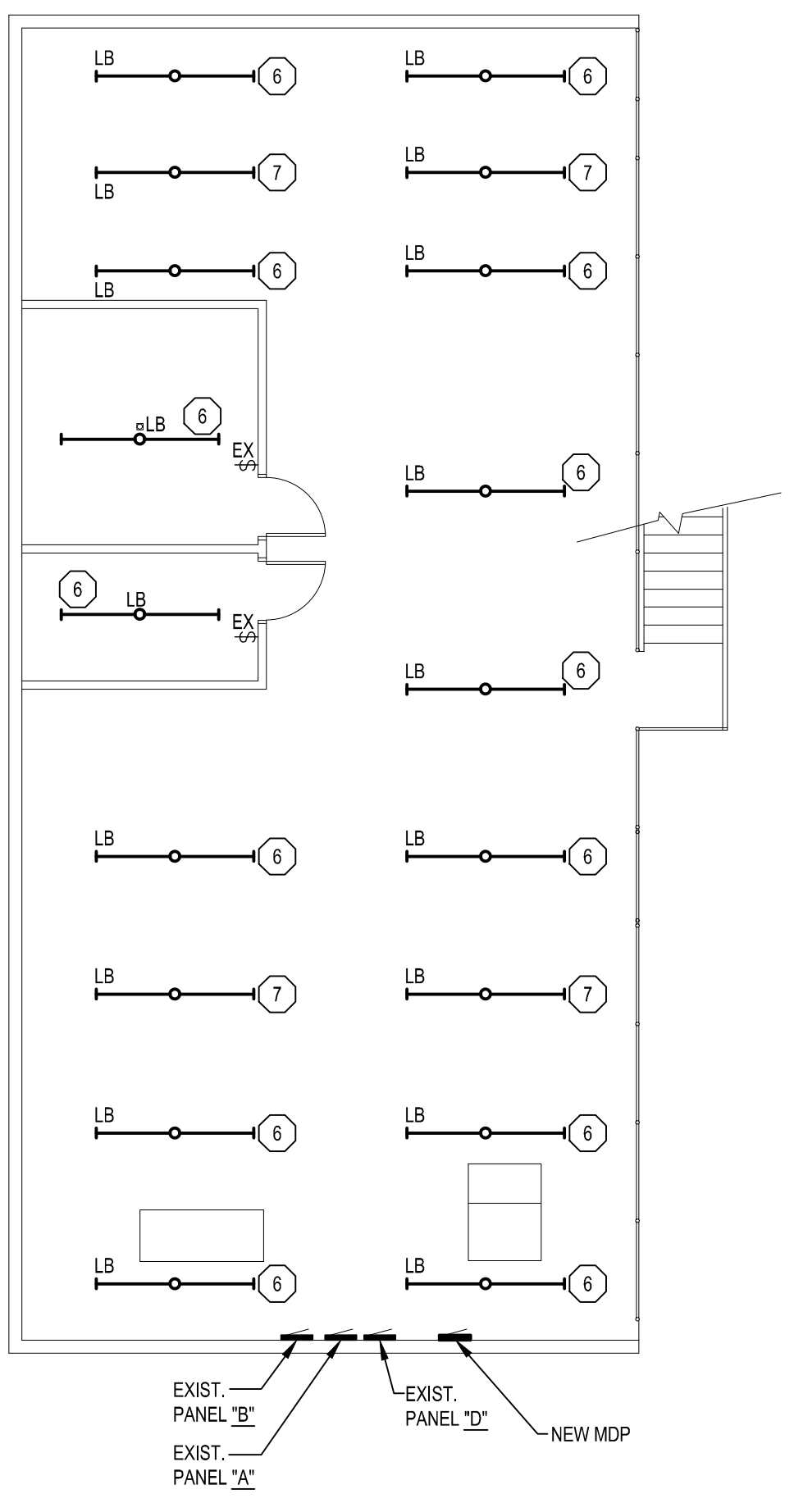
E-300

SHEET NUMBER



MEZZANINE FLOOR PLAN - DEMOLITION
 SCALE: 1/8" = 1'-0"





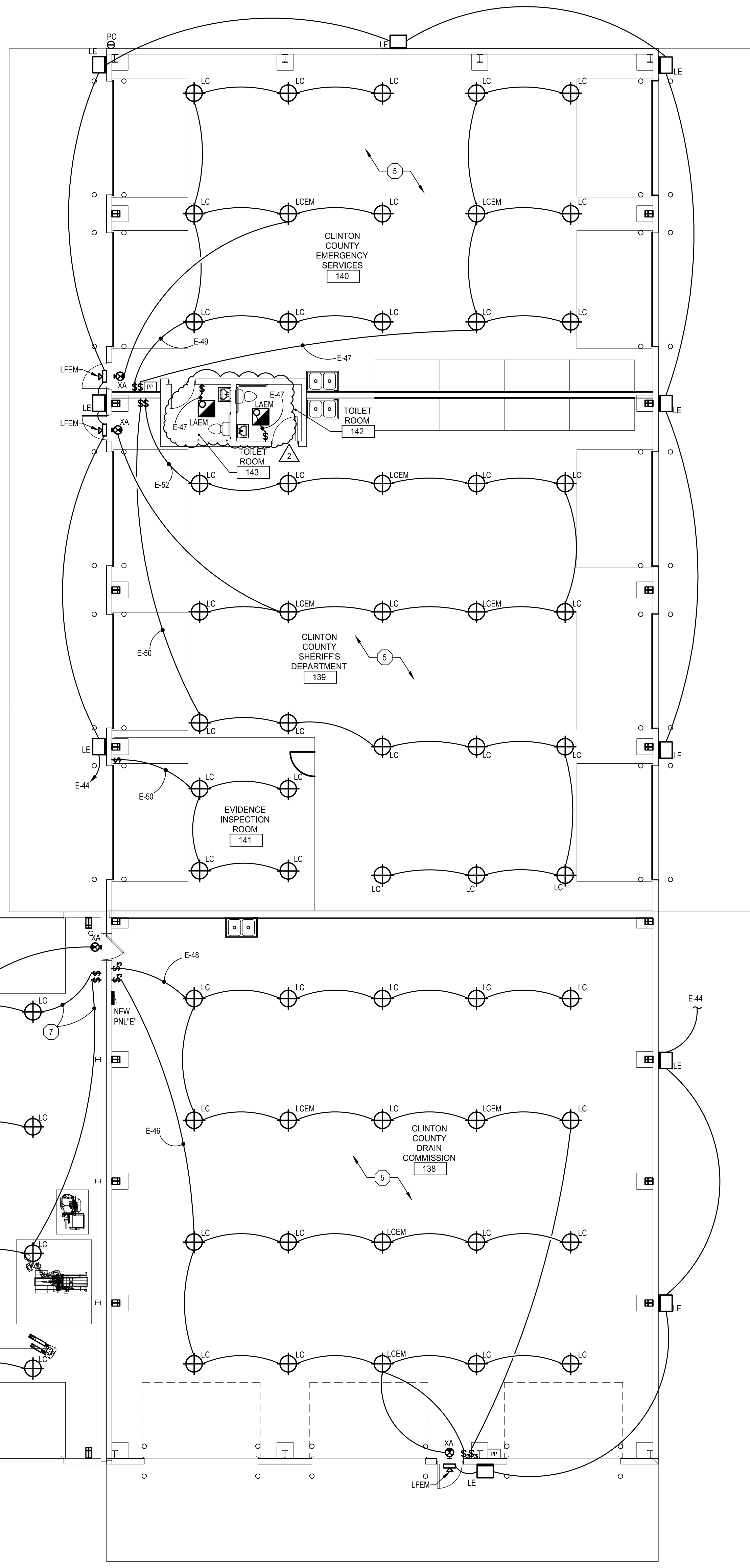
MEZZANINE FLOOR PLAN - LIGHTING
 SCALE: 1/8" = 1'-0"

GENERAL ELECTRICAL NOTES

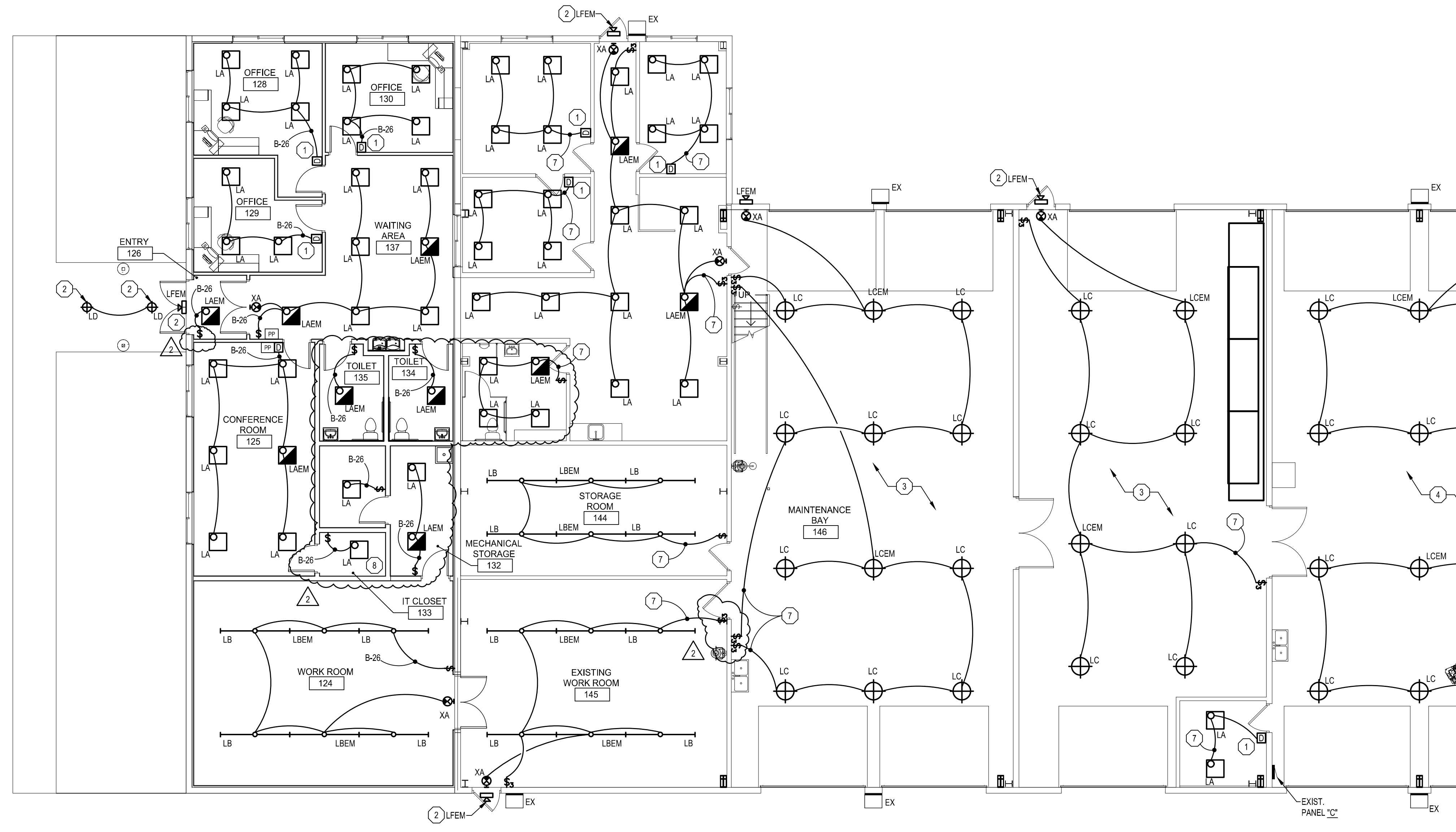
1. ALL LIGHT FIXTURES SHALL HAVE INTEGRATED OCCUPANCY SENSORS AND WIRELESS MESH SYSTEM FOR CONTROLS.
2. ALL LIGHT SWITCHES SHALL BE COMPATIBLE WITH NEW CONTROL SYSTEM AND PROGRAMMABLE.
3. EXISTING EXTERIOR LIGHTING CIRCUIT SHALL BE CONTROLLED PHOTOCELL ON NORTH SIDE OF THE BUILDING.

ELECTRICAL KEY NOTES

1. CONTRACTOR SHALL PROVIDE DIMMING SWITCH WITH INTEGRATED OCCUPANCY SENSOR.
2. CONTRACTOR SHALL CONNECT NEW LIGHT FIXTURE TO EXISTING EXTERIOR LIGHTING CIRCUIT.
3. ALL LIGHT FIXTURES IN THIS AREA SHALL BE MOUNTED AT 15'-0" AND BE COORDINATED WITH ALL MECHANICAL UNITS AND EQUIPMENT IN THE SPACE.
4. ALL LIGHT FIXTURES IN THIS AREA SHALL BE MOUNTED AT 16'-0" AND BE COORDINATED WITH ALL MECHANICAL UNITS AND EQUIPMENT IN THE SPACE.
5. ALL LIGHT FIXTURES IN THIS AREA SHALL BE MOUNTED AT 18'-6" AND BE COORDINATED WITH ALL MECHANICAL UNITS AND EQUIPMENT IN THE SPACE.
6. CONTRACTOR SHALL CONNECT NEW LIGHT FIXTURES TO EXISTING LIGHTING CIRCUIT. EXTEND CONDUIT AND WIRE AS NEEDED FOR NEW LIGHT LOCATIONS.
7. CONTRACTOR SHALL TIE NEW LIGHT FIXTURES INTO EXISTING CIRCUIT.
8. CONTRACTOR SHALL INSTALL LITHONIA ZOSMASH MULTI-USE SURFACE MOUNT KIT OR EQUAL FOR FIXTURE INSTALLATION.



FIRST FLOOR PLAN - LIGHTING
 SCALE: 1/8" = 1'-0"



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MEZZ & FIRST FLOOR PLAN LIGHTING

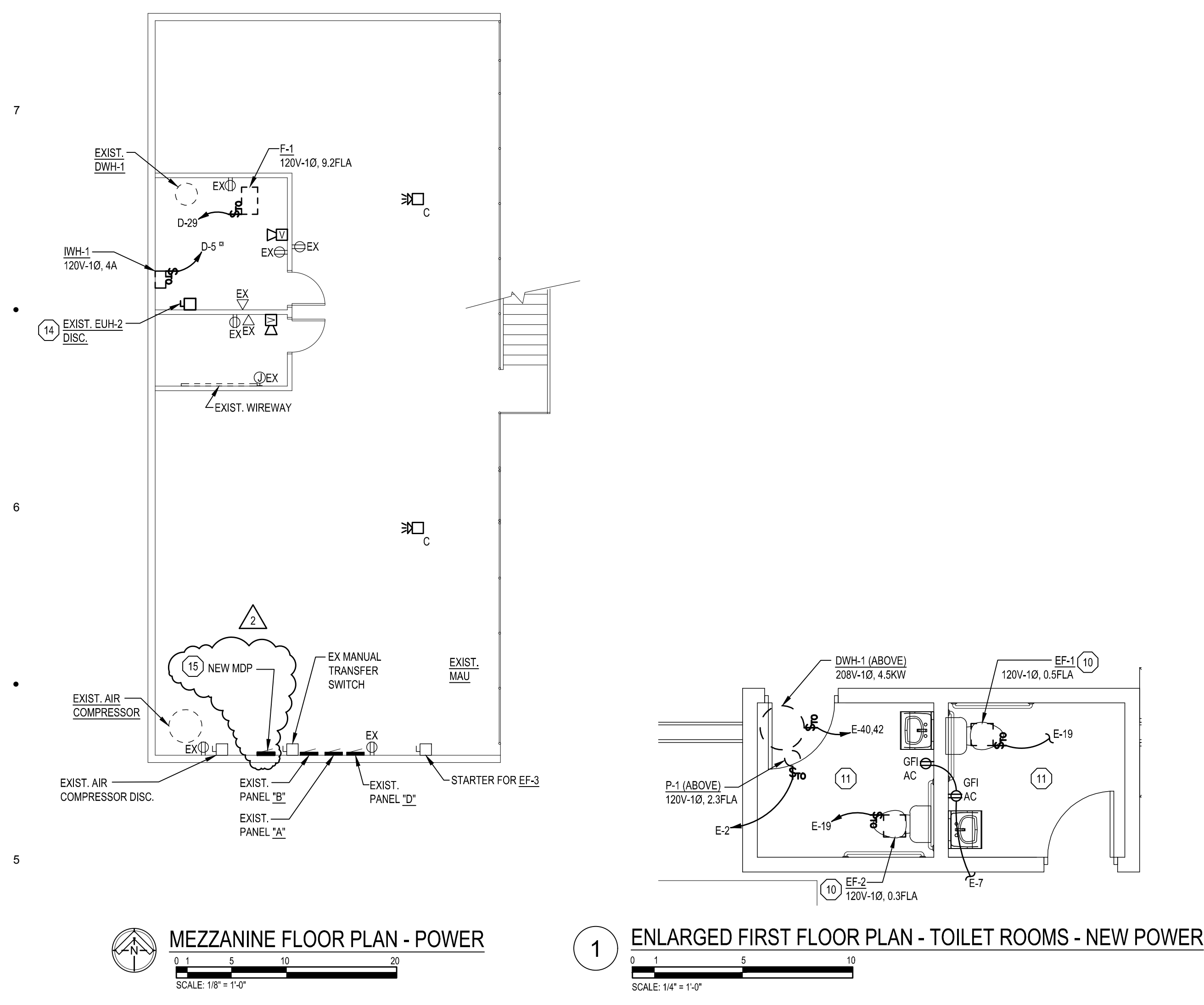
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PROJECT NUMBER

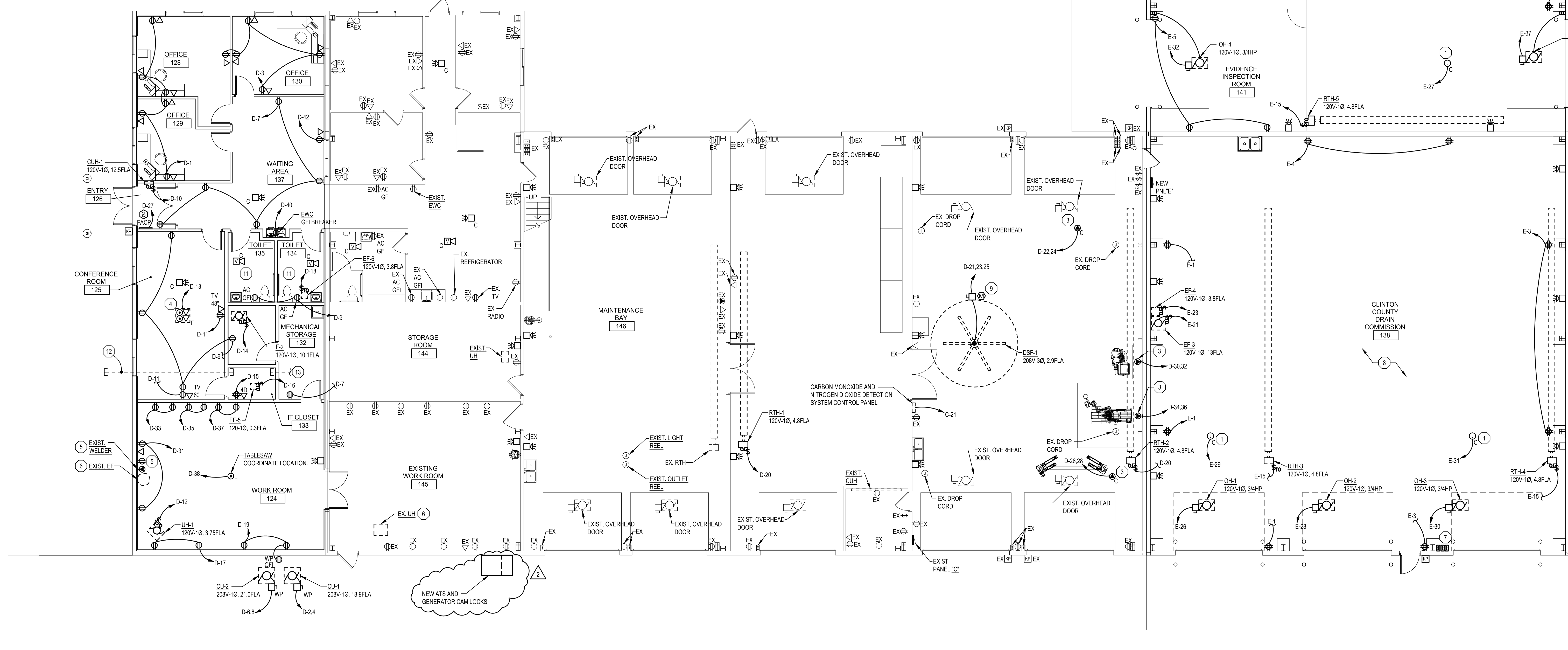
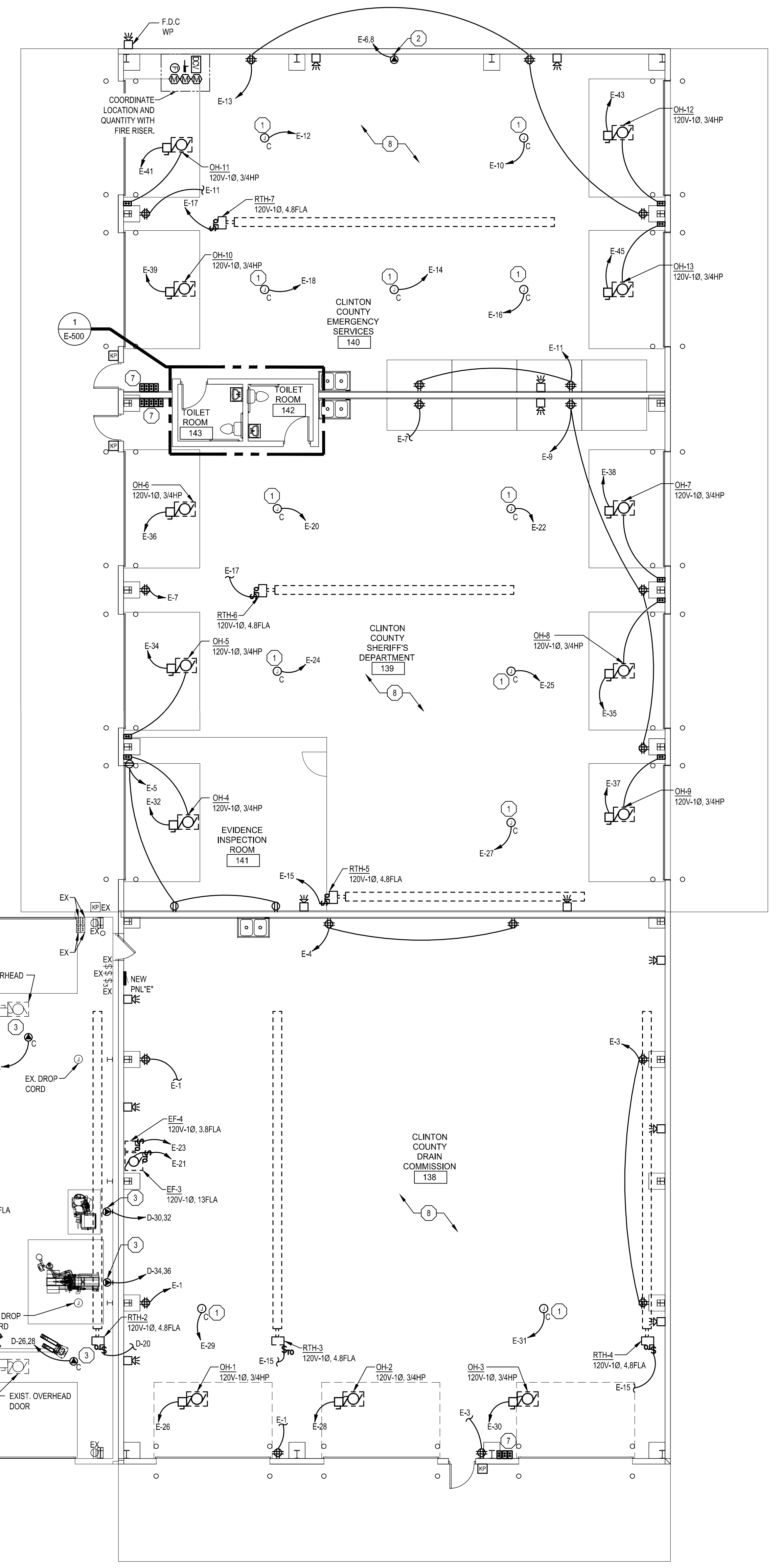
E-400

SHEET NUMBER



ELECTRICAL KEY NOTES

- 1 CONTRACTOR SHALL PROVIDE 120V-10, 20A 50 FOOT RETRACTABLE CORD REEL, REELCRAFT L5550-12370 OR EQUAL.
- 2 CONTRACTOR SHALL PROVIDE 208V-10, 50A, NEMA 14-50R RECEPTACLE. CONFIRM LOCATION WITH OWNER AND FIELD VERIFY ELECTRICAL LOADS OF EQUIPMENT.
- 3 CONTRACTOR SHALL PROVIDE EQUIPMENT RECEPTACLE. CONFIRM LOCATION WITH OWNER AND FIELD VERIFY ELECTRICAL LOADS OF EQUIPMENT.
- 4 CONTRACTOR SHALL PROVIDE FLUSH MOUNTED FLOOR BOX WITH TWO RECEPTACLES AND TWO DATA PORTS. PROVIDE 1-1/2 CONDUIT FOR DATA TO AVAILABLE CEILING SPACE.
- 5 RELOCATE EXISTING DEVICE, EXTEND CONDUIT & WIRE AS NEEDED FOR NEW LOCATION.
- 6 RELOCATE EXISTING EQUIPMENT, EXTEND CONDUIT & WIRE AS NEEDED FOR NEW LOCATION.
- 7 CONTRACTOR SHALL PROVIDE CONDUIT & BOXES FOR OH DOOR CONTROLLERS, ONE FOR EACH DOOR IN THE SPACE. COORDINATE REQUIREMENTS WITH MANUFACTURER.
- 8 ALL RECEPTACLES IN THIS SPACE SHALL BE GFI PROTECTED AND MOUNTED AT 48" ABOVE FINISHED FLOOR.
- 9 CONTRACTOR SHALL PROVIDE FIRE ALARM RELAY TO SHUT FANS DOWN BASED ON WATERFLOW SWITCH IN ACCORDANCE WITH NFPA 13 AND NFPA 72.
- 10 CONTRACTOR SHALL INTERLOCK EXHAUST FAN WITH LIGHTING CONTROLS SWITCH IN THIS AREA, PROVIDE REQUIRED POWER PACK AND RELAYS.
- 11 CONTRACTOR SHALL PROVIDE JUNCTION BOXES FOR AUTO-FLUSH AND AUTO-SINK DEVICES, AND ASSOCIATED TRANSFORMER. COORDINATE WITH PLUMBING CONTRACTOR.
- 12 CONTRACTOR SHALL INSTALL 4" CND UNDERGROUND TO I.T. CLOSET.
- 13 CONTRACTOR SHALL INSTALL 4" CND TO I.T. CLOSET IN MEZZANINE.
- 14 RELOCATE REPLACED EQUIPMENT, EXTEND ASSOCIATED CONDUIT AND WIRE FOR NEW LOCATION.
- 15 CONTRACTOR SHALL EXTEND UNISTRAT RACKING AS NEEDED FOR NEW LOCATION OF MDP. CONTRACTOR SHALL RELOCATE EXISTING EQUIPMENT AS NEEDED.



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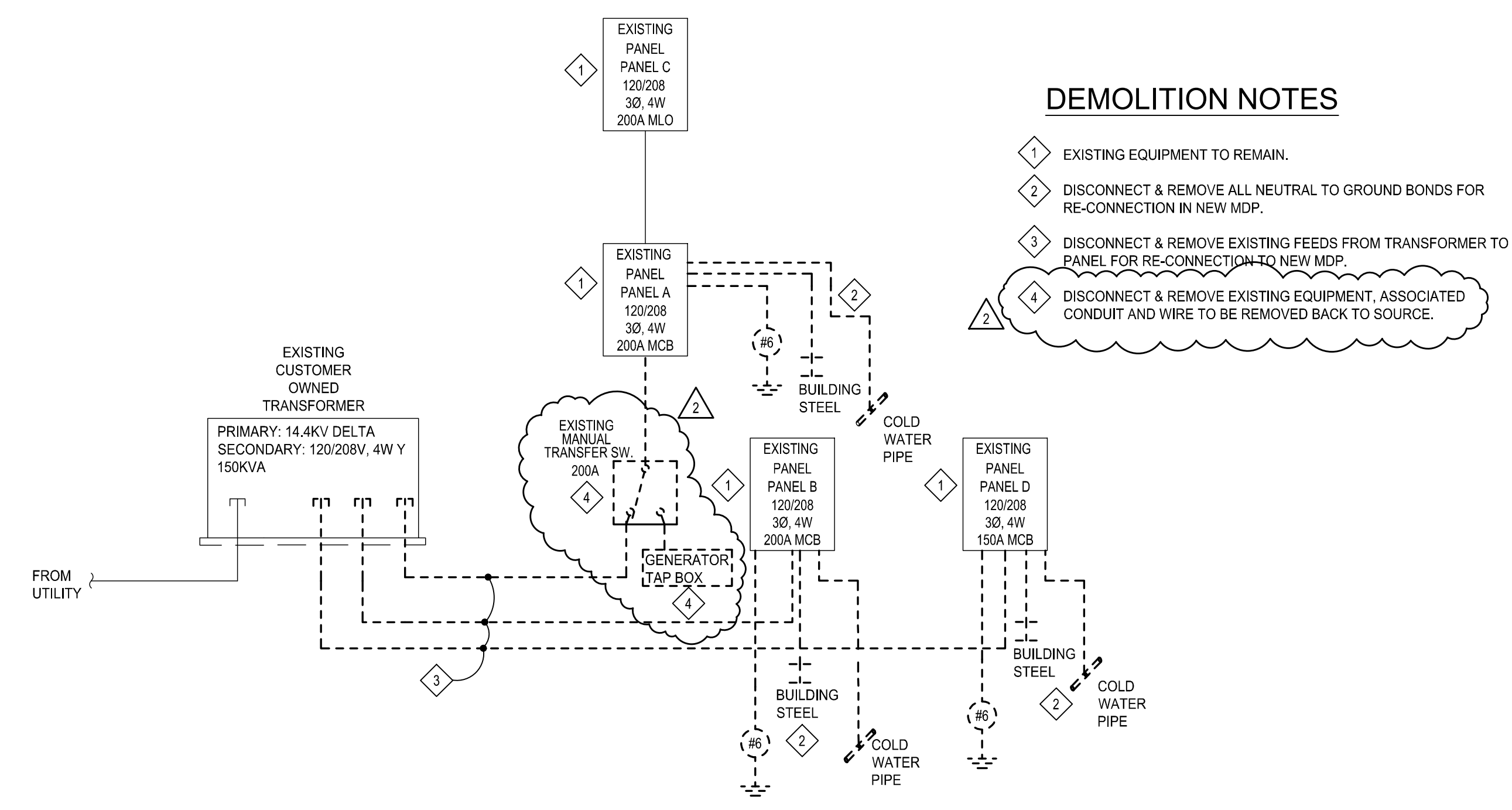
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MEZZ & FIRST
 FLOOR PLAN
 POWER
 SHEET TITLE

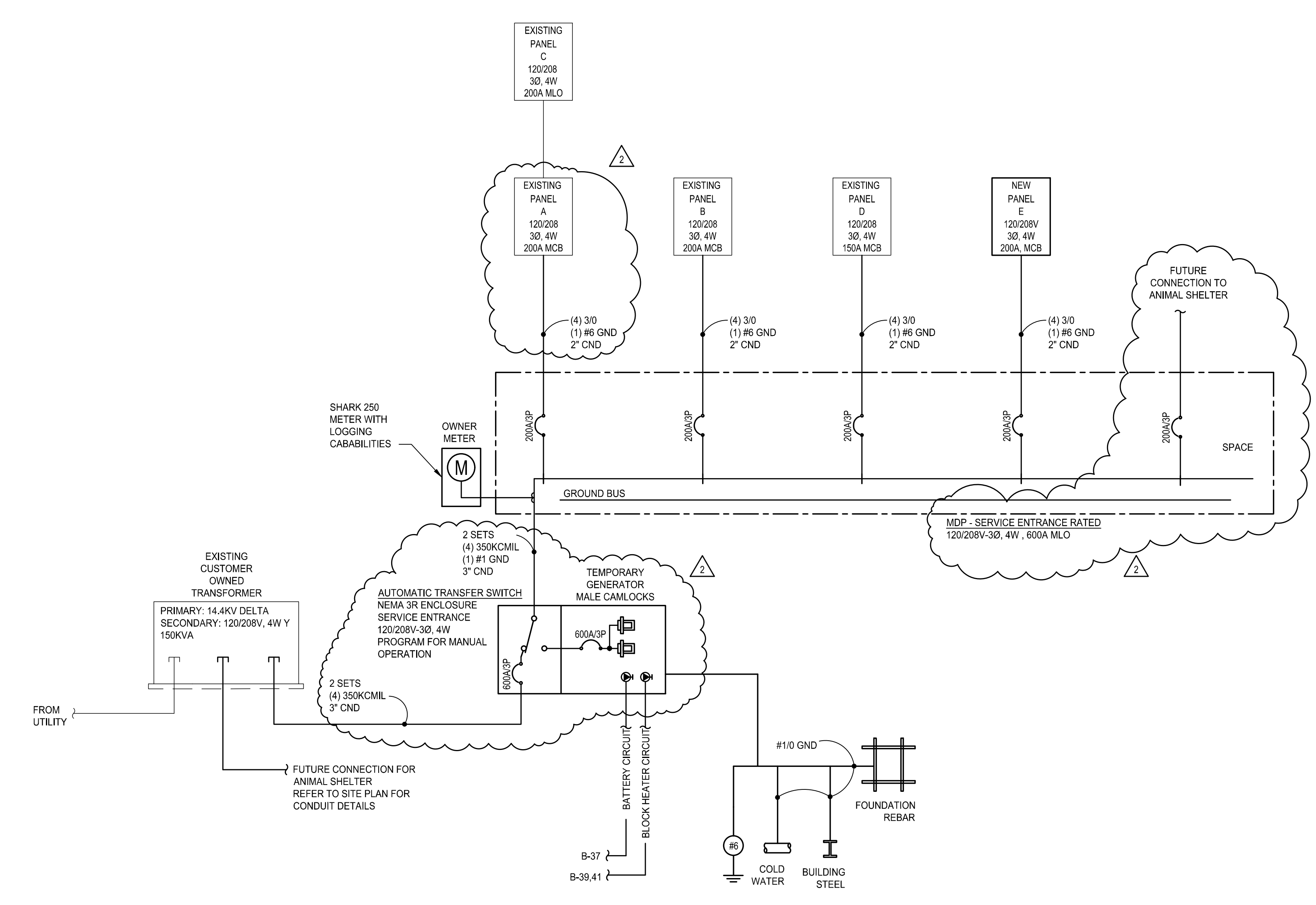
23-319
 PROJECT NUMBER

E-500
 SHEET NUMBER

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



ELECTRICAL RISER DIAGRAM EXISTING
 SCALE: N.T.S.



TRANSFORMER LOAD SUMMARY		
Volts: 208 / 120	PHASE: 3	WIRES: 4
		XFORM: 150KVA
LOAD DESCRIPTION		CONNECTED VA
EXISTING PANEL A & C	BASED ON 30 DAYS OF METERED DATA	10884
EXISTING PANEL B	BASED ON 30 DAYS OF METERED DATA	12409
EXISTING PANEL D	NO LOAD ON EXISTING PANEL	0
EXISTING ANIMAL SHELTER	BASED ON 30 DAYS OF METERED DATA	16020
NEW PANEL E		54683
ADDED LOAD TO PANEL D		46530
ADDED LOAD TO PANEL C		500
ADDED LOAD TO PANEL B		4167
TOTAL VA:		145395.17
TOTAL AMPS:		403.52

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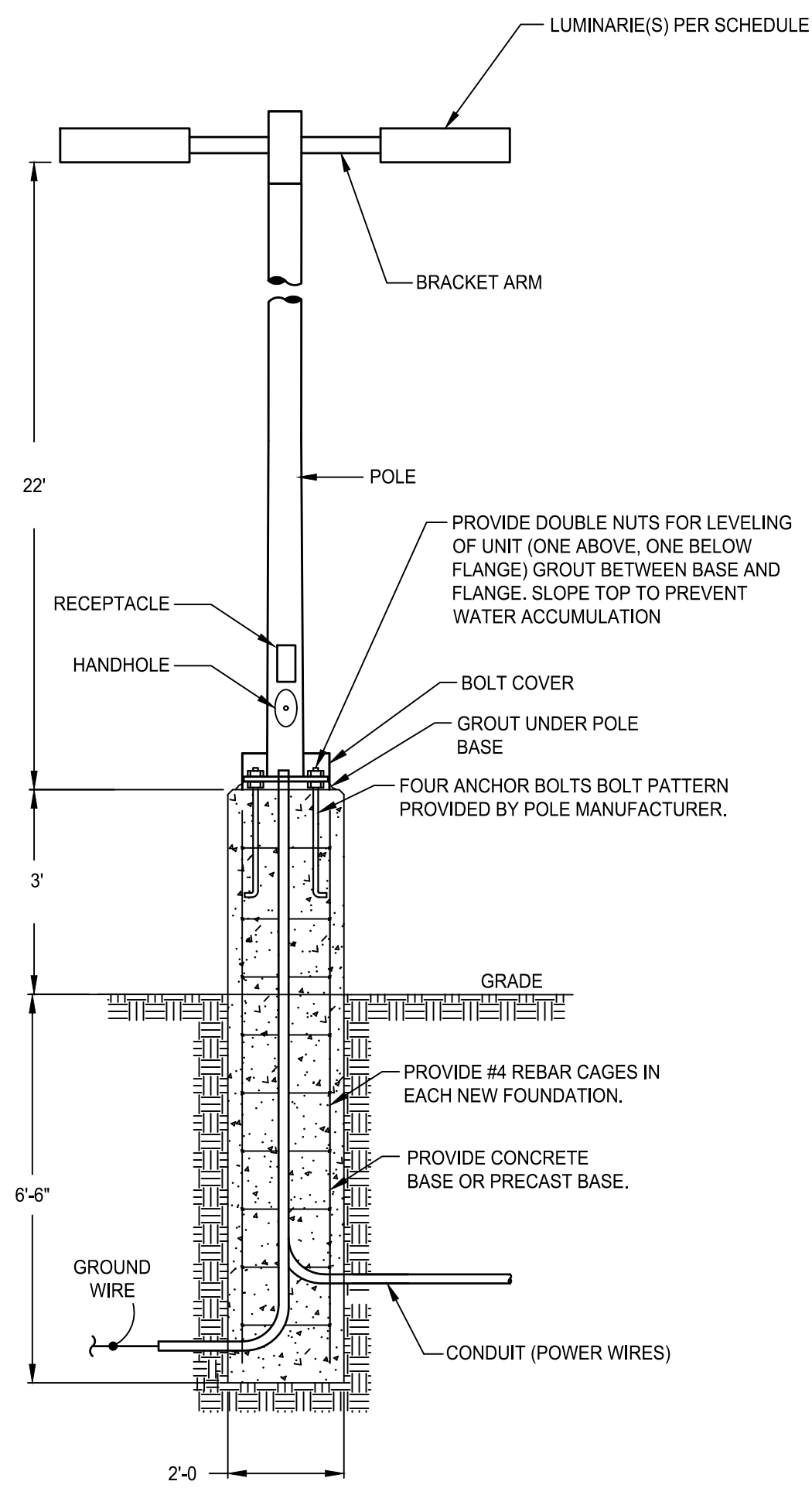
ELECTRICAL
 RISER
 DIAGRAM

SHEET TITLE

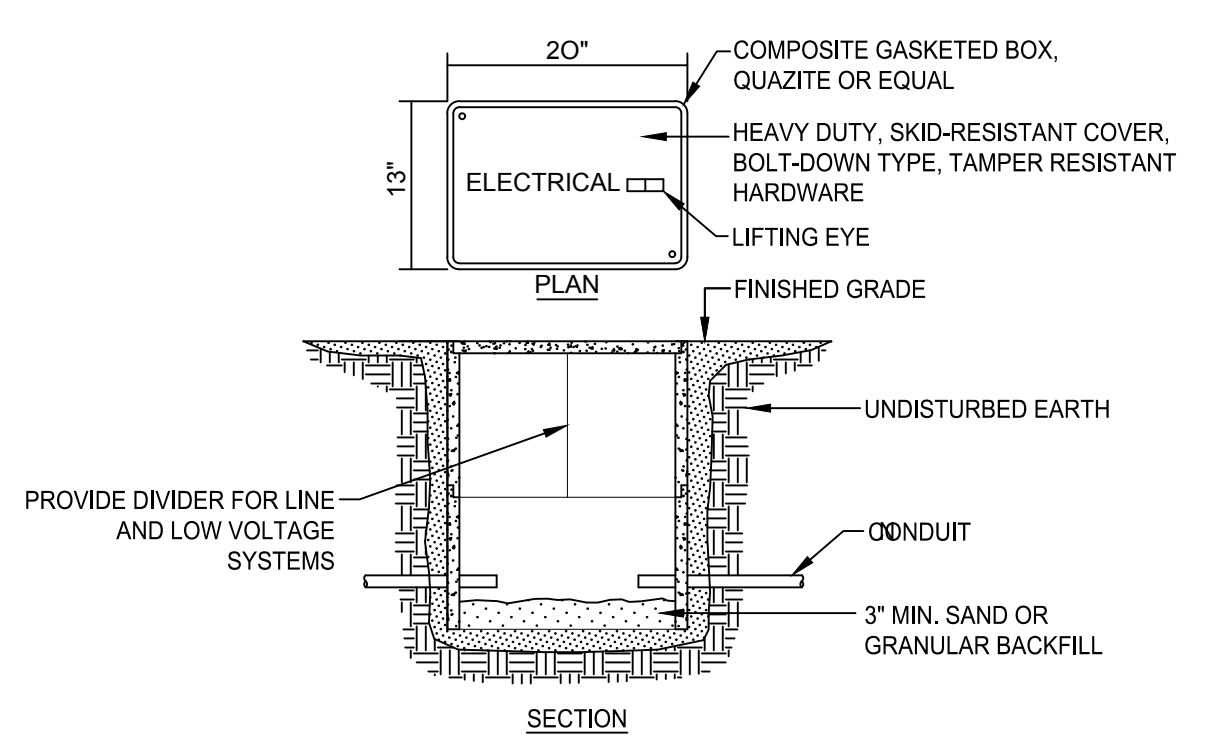
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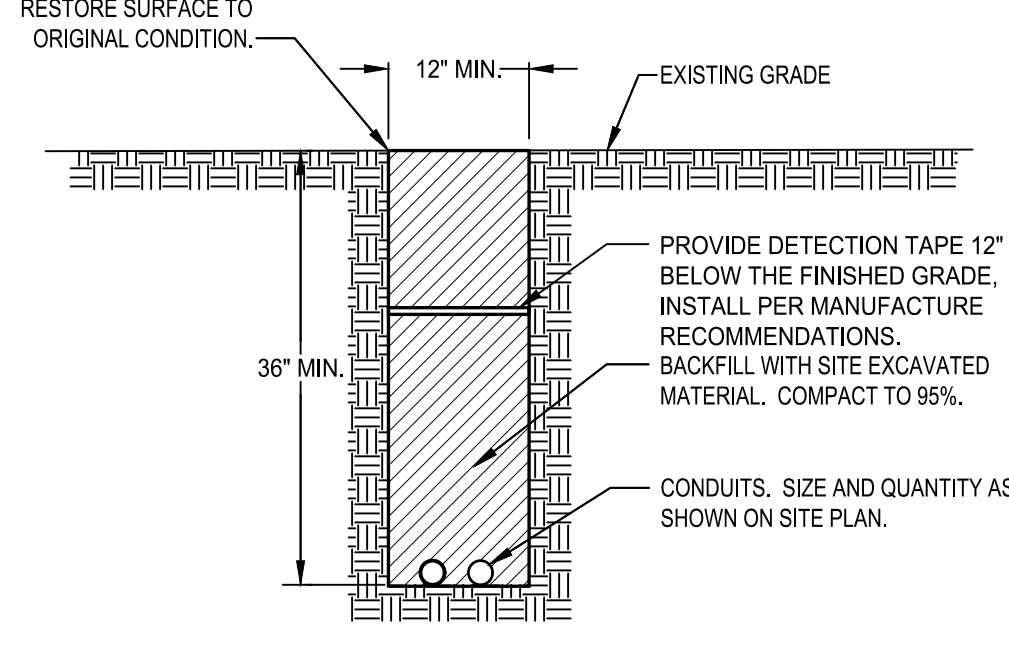
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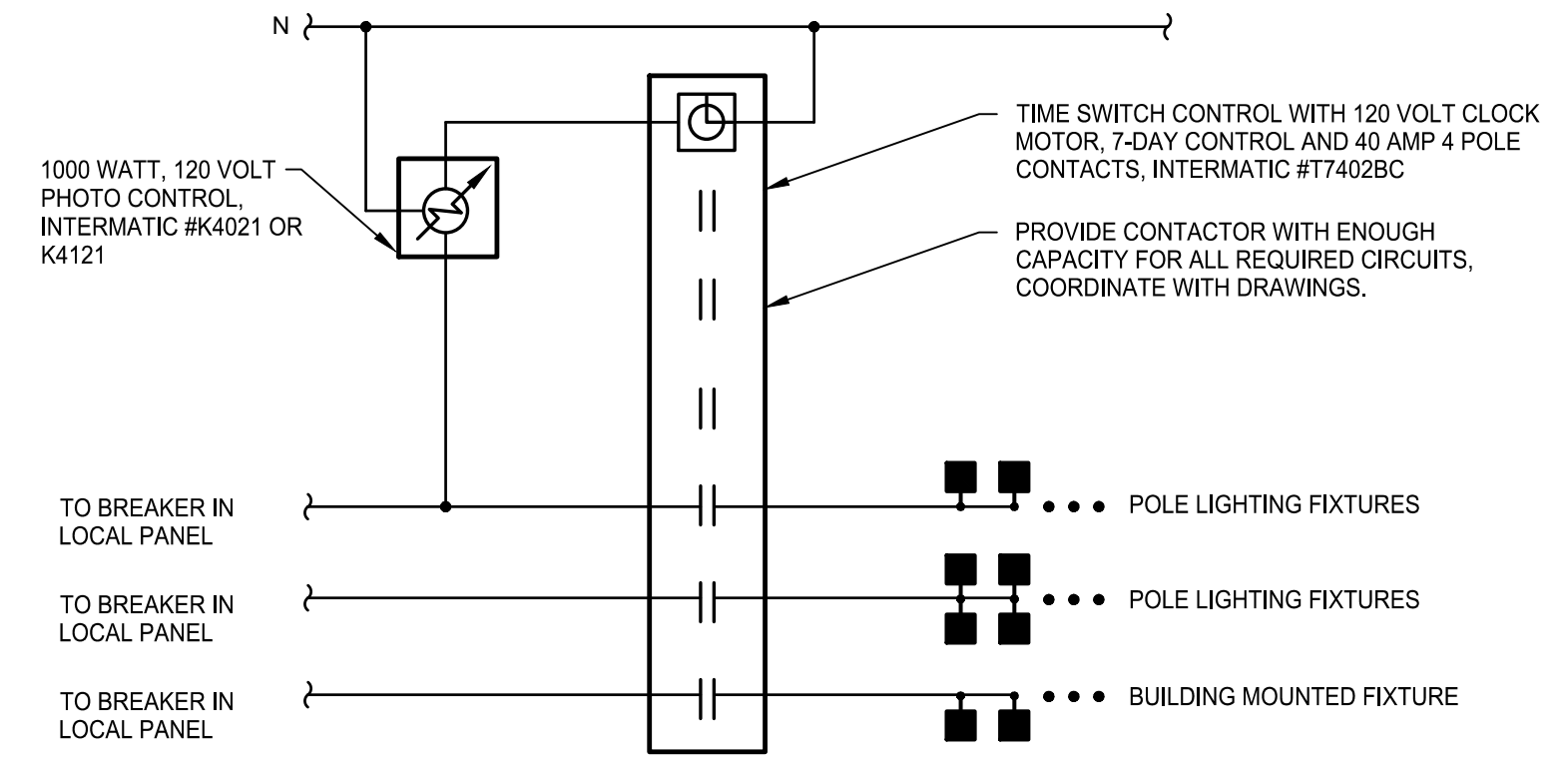
7 TYPICAL LIGHT FIXTURE POLE DETAIL
 SCALE: NTS



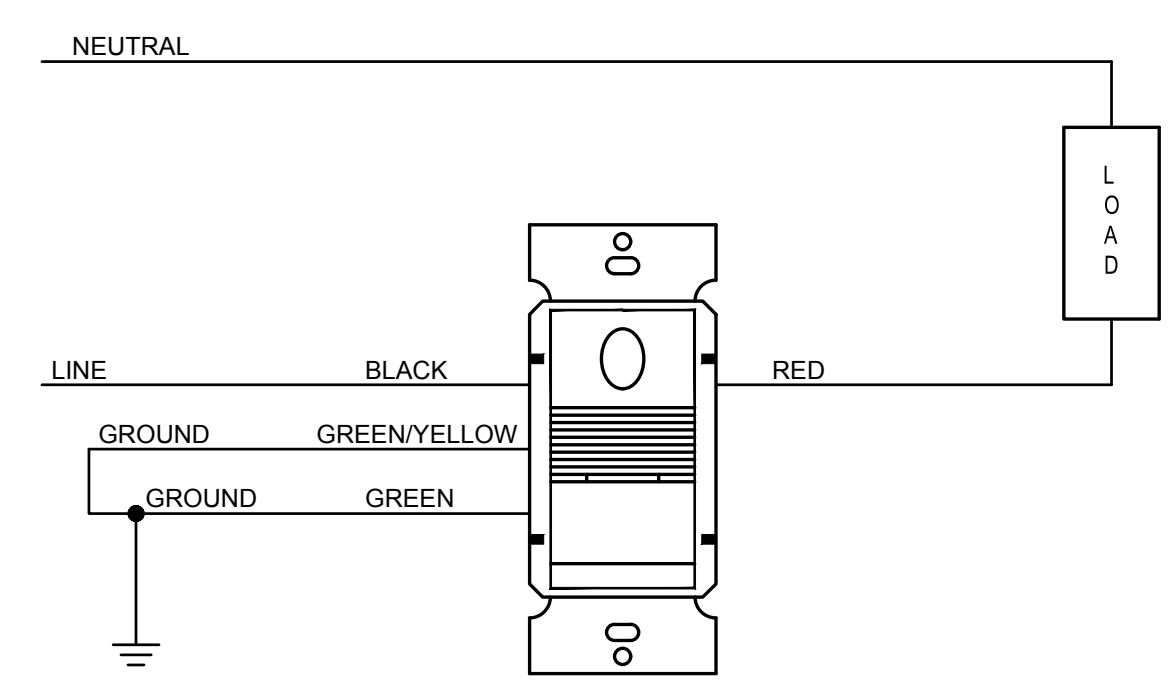
3 ELECTRICAL HANDHOLE DETAIL
 SCALE: NTS



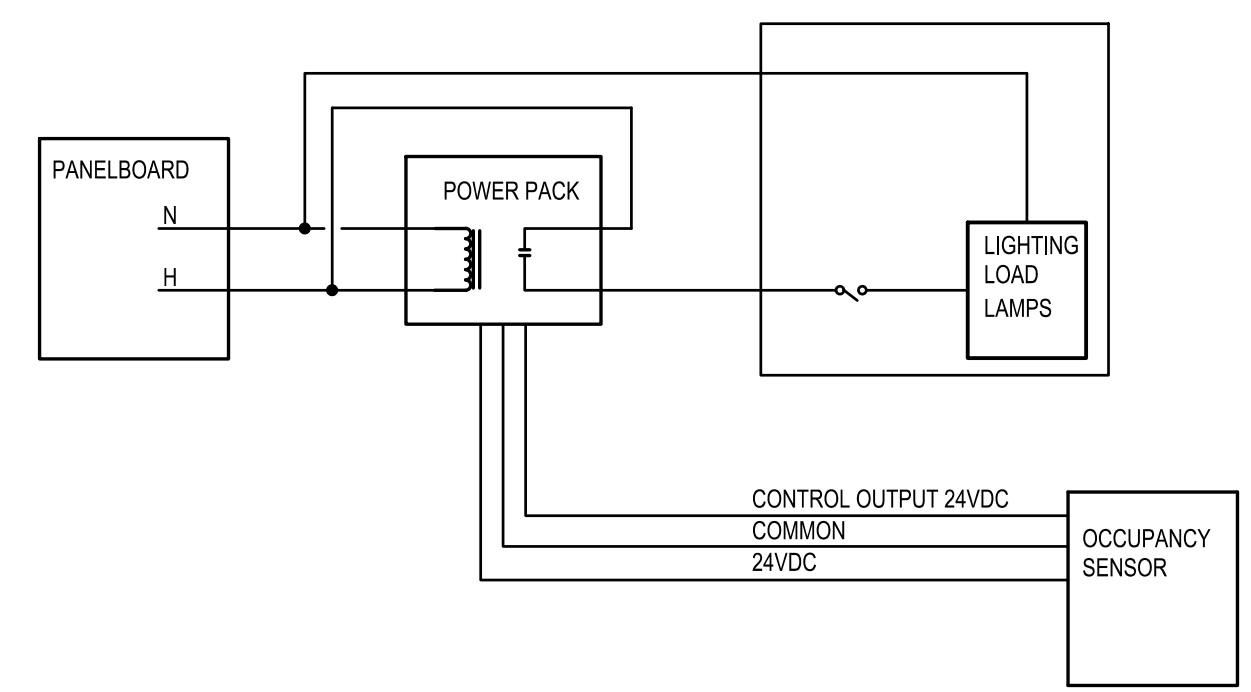
2 TYPICAL TRENCH DETAIL
 SCALE: NTS



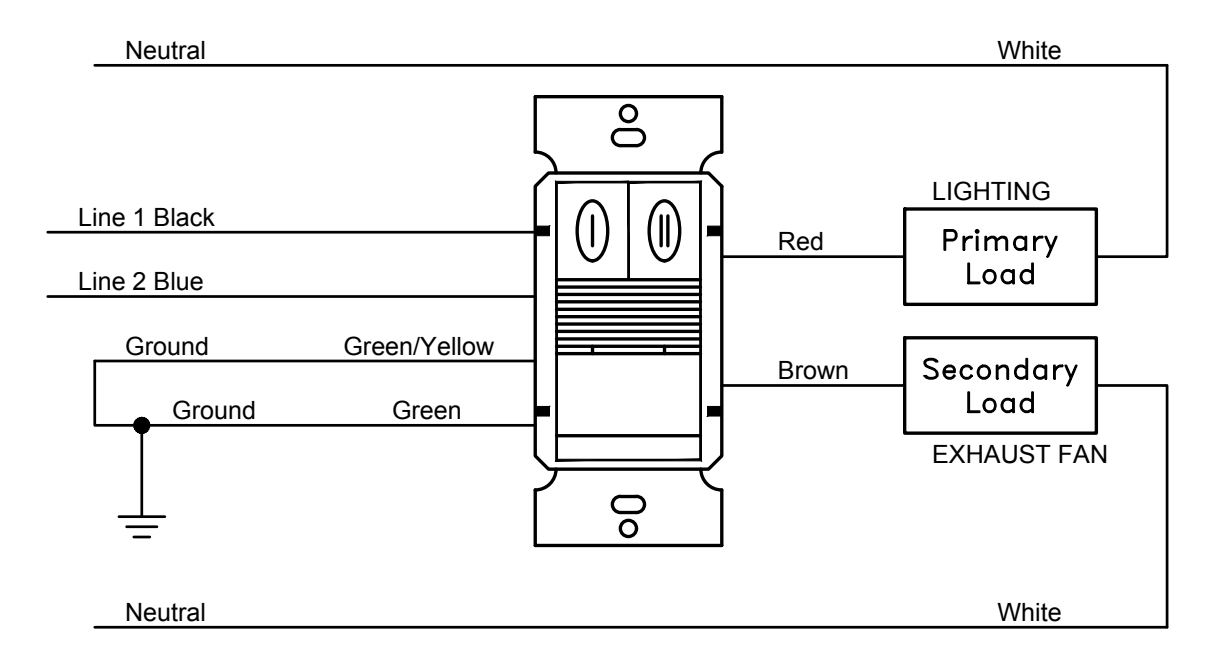
1 TYPICAL LIGHT CONTACTOR DETAIL
 SCALE: NTS



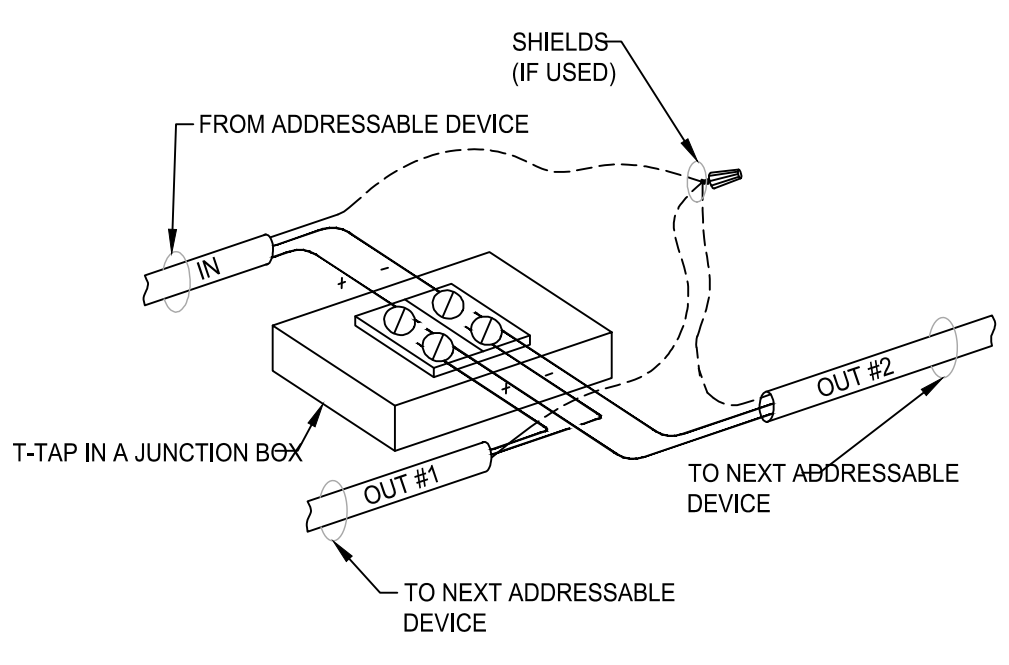
6 WALL MOUNTED OCCUPANCY SENSOR DETAIL
 SCALE: NTS



5 OCCUPANCY SENSOR DETAIL
 SCALE: NTS

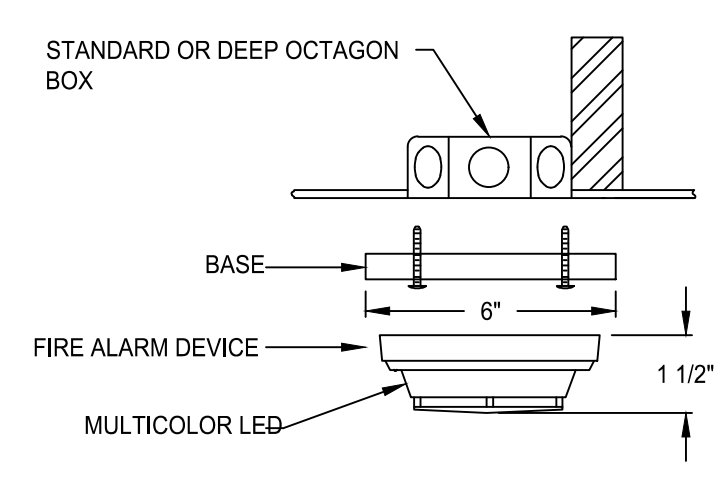


4 TYPICAL OCCUPANCY SENSOR & EXHAUST FAN WIRING DETAIL
 SCALE: N.T.S.



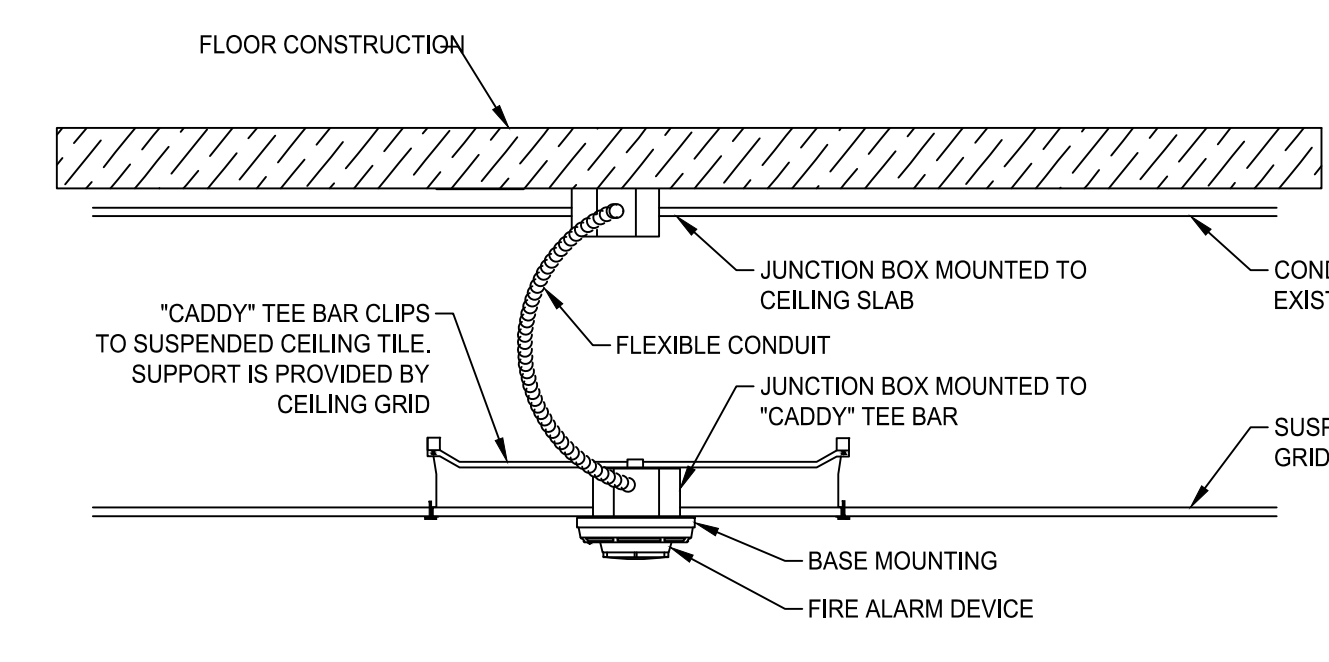
11 TYPICAL FIRE ALARM T-TAPPING DETAIL FOR SLC'S
 SCALE: NTS

- T-TAPPING GUIDELINES:**
- STAR TAPS (MULTIPLE TAPS AT THE SAME LOCATION) ARE NOT PERMITTED.
 - TRY TO KEEP THE T-TAPS SYMMETRICALLY LOCATED ABOUT THE TRUNK CIRCUIT.
 - MULTILEVEL T-TAPS ARE NOT PERMITTED, I.E. DO NOT T-TAP A T-TAP.
 - ONLY CLASS B CIRCUITS MAY BE T-TAPPED, NEVER CLASS A.
 - ALWAYS VERIFY THAT THE PROJECT SPECIFICATION PERMIT T-TAPPING.
 - NEVER T-TAP A NOTIFICATION APPLIANCE CIRCUIT.
 - NEVER T-TAP A NETWORK COMMUNICATION CIRCUIT, I.E. X-NET, M-NET.
 - WIRE SHIELDS MUST BE CONNECTED TOGETHER IN THE JUNCTION BOX AND INSULATED FROM BUILDING GROUND.
- NOTE: T-TAPPING ALLOWED ON CLASS B SYSTEMS ONLY & IF SPECIFICATIONS PERMIT.

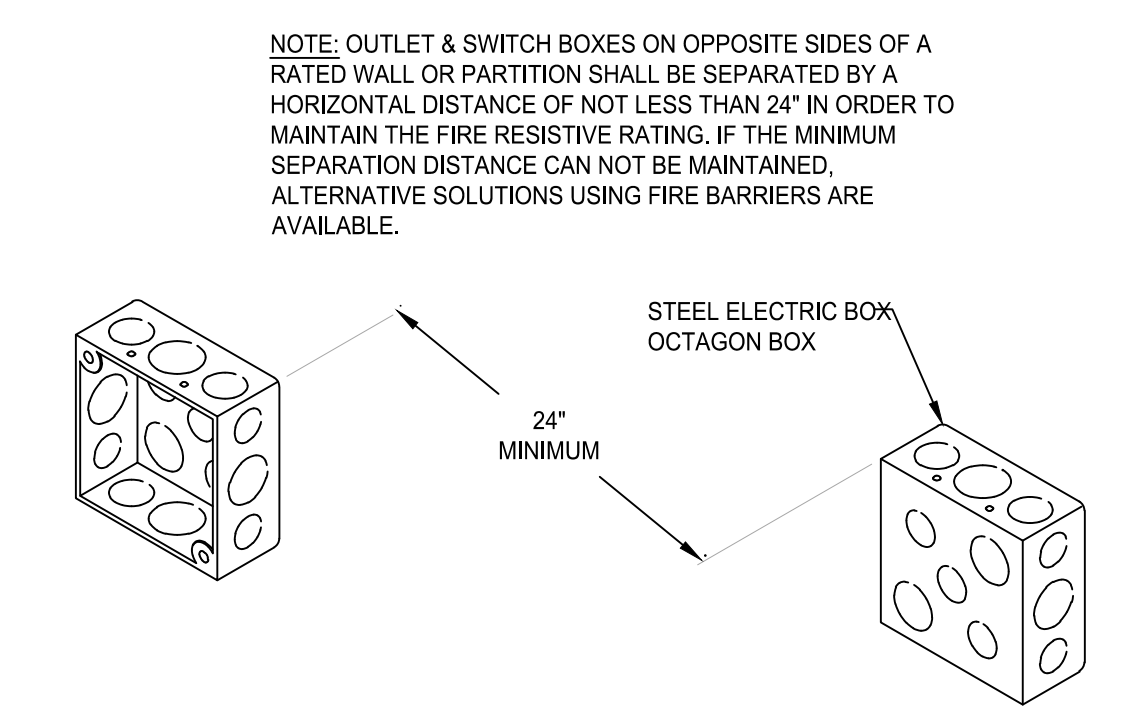


10 TYPICAL FIRE ALARM DRYWALL DETECTOR MOUNTING
 SCALE: NTS

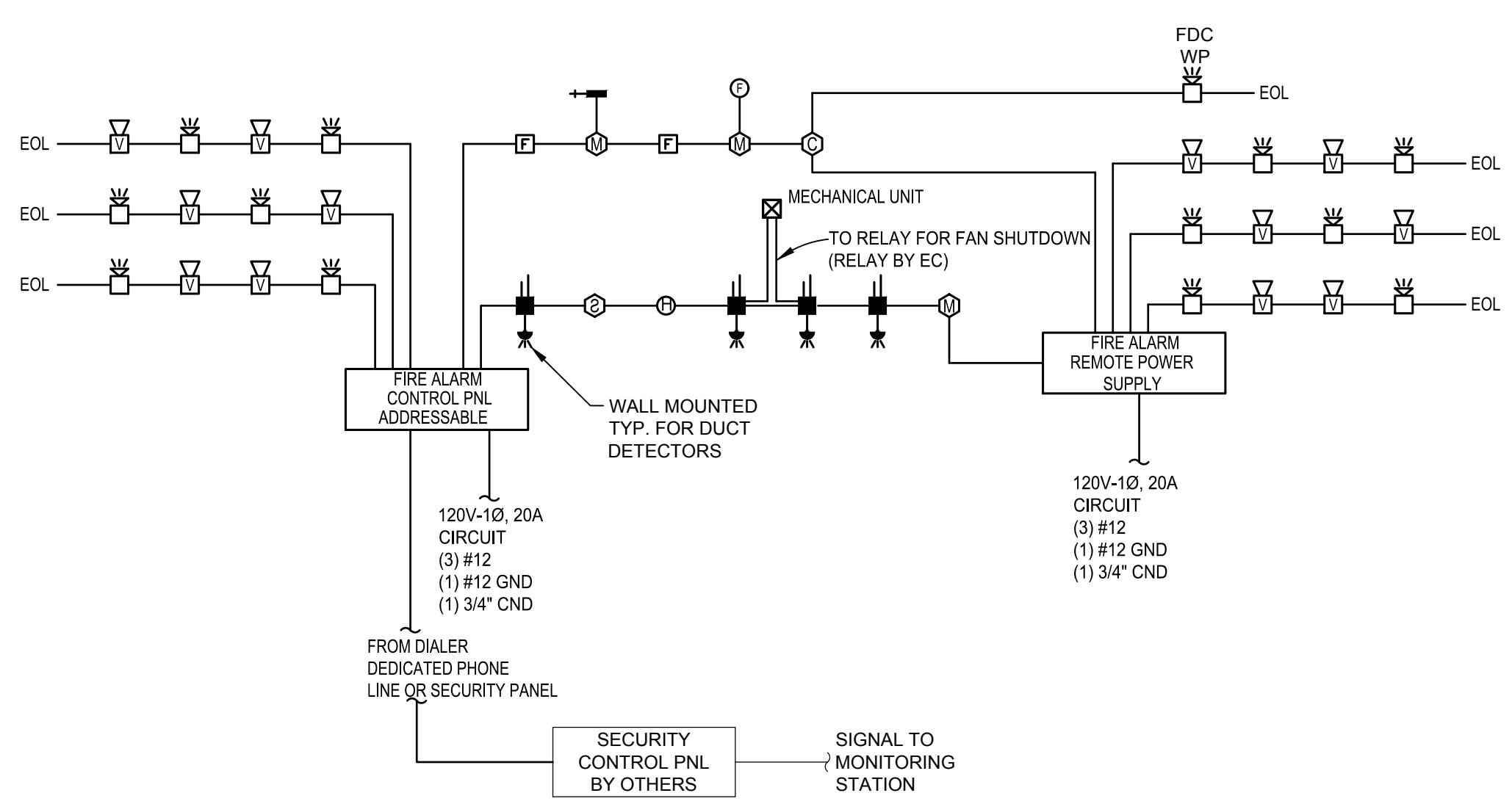
SMOKE DETECTOR NOTES:
 THE DEVICE AND THE BASE MUST BE SUPPORTED INDEPENDENTLY OF THE CONDUCTORS. DO NOT HOLD THE DETECTORS AGAINST THE CEILING WITH FIRE ALARM CABLE. SCREW THE BASE INTO AN ELECTRICAL BOX.



9 TYPICAL FIRE ALARM DROP CEILING DETECTOR MOUNTING
 SCALE: NTS



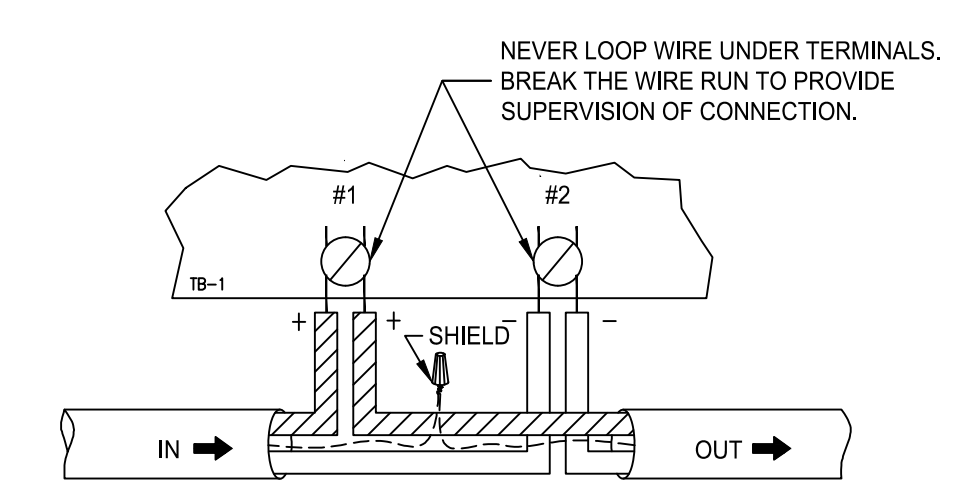
8 FLUSH MOUNTED ELECTRICAL BOXES
 SCALE: NTS



14 TYPICAL FIRE ALARM ADDRESSABLE, HORN/STROBE RISER DIAGRAM
 SCALE: NTS

FIRE ALARM NOTES

- ALL POWER CABLE SHALL BE IN MINIMUM 3/4-INCH CONDUIT UNLESS OTHERWISE SPECIFIED.
- FIRE ALARM CABLE CAN BE INSTALLED FREE AIR ABOVE CEILINGS.
- PROVIDE RACEWAY WHERE SURFACE MOUNT DEVICES ARE REQUIRED, CONDUIT SHALL BE 3/4" MINIMUM.
- ALL CABLE SHALL BE INSTALLED PER FIRE ALARM MANUFACTURER'S SPECIFICATIONS.
- FIRE ALARM REMOTE POWER SUPPLY SHALL BE MONITORED.
- PROVIDE SMOKE DETECTOR ABOVE ALL FIRE ALARM PANELS AND REMOTE POWER SUPPLIES.
- REFER TO DRAWINGS FOR DEVICE QUANTITIES AND LOCATIONS. BRING TO THE ENGINEER'S ATTENTION DISCREPANCIES PRIOR TO BIDDING PROJECT.
- UPON ALARM OF SMOKE DETECTORS, FIRE ALARM SYSTEM TO RELEASE DOOR HOLDERS.
- POWER SUPPLIES IN BOTH FACP AND FCPS SHALL HAVE 25% SPARE CAPACITY.
- TRUE PEER TO PEER NETWORK FOR FIRE ALARM SYSTEM.
- FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR ALL CANDELA RATINGS OF VISUAL UNITS TO COMPLY WITH NFPA 72. STROBE CANDELA SETTINGS SHALL BE SET DURING INSTALLATION OF THE DEVICE.
- REPLACE ALL EXISTING DUCT DETECTORS AS SHOWN ON PRINTS. ANY DUCT DETECTORS THAT ARE DISCOVERED AND NOT SHOWN SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION.
- PROVIDE REMOTE TEST STATIONS FOR EACH DUCT DETECTOR.
- INSTALLATION METHODS SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, ARTICLE 760.
- 120V AC POWER FOR FIRE ALARM SYSTEM ENCLOSURES SHALL NOT SHARE CONDUIT RACEWAY WITH FIRE ALARM SYSTEM CIRCUITS.
- FIRE ALARM SYSTEM DEVICES SHALL BE MOUNTED TO ELECTRICAL BOXES AS REQUIRED AND REFLECTED ON DEVICE INSTALLATION SHEET.
- STROBE CANDELA SETTINGS SHALL BE SET DURING INSTALLATION OF THE DEVICE.
- AREA SMOKE DETECTORS SHALL NOT BE PLACED WITHIN 36-INCHES OF AIR DISTRIBUTION DIFFUSERS OR RETURN GRILLS.
- FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING 24 HOUR MONITOR SERVICE WITH OWNER.



13 TYPICAL FIRE ALARM DEVICE CONNECTIONS
 SCALE: NTS

NOTE: IF SHIELDED WIRE IS USED, NEVER LAND THE SHIELD ON THE DEVICE. FOLD AND TAPE THE SHIELD SO IT FORMS A CONTINUOUS CIRCUIT. LAND THE SHIELD ONLY AT THE PANEL WHERE THE CIRCUIT ORIGINATED.

Legend:
 [Hatched Box] = POSITIVE
 [Solid Box] = NEGATIVE

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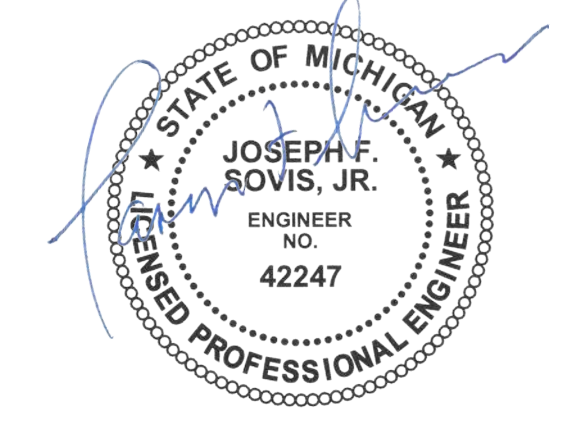
SHEET TITLE

23-319

PROJECT NUMBER

E-800

SHEET NUMBER



EXISTING PANEL "A"

LOCATION: MEZZANINE SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1 A.I.C. RATING: EXISTING NOTES: ALL LOADS ARE EXISTING

VOLTS: 208 /120 PHASE: 3 WIRE: 4 AMPS: 200 MAIN: MCB

BRKR	DESCRIPTION	CIRCUIT	PHASE LOADS			CIRCUIT	DESCRIPTION	BRKR
			VA	A	B			
20 1	O DOOR RM 111 (N)	1	0	0	0	2	O DOOR RM 110 (NE)	20 1
20 1	RM 111 LIGHTS	3	0	0	0	4	SPARE	20 1
20 1	RM 111 LIGHTS	5	0	0	0	6	RM 110 LTS.	20 1
20 1	O DOOR RM 111 (S)	7	0	0	0	8	RM 110 LTS.	20 1
20 1	O DOOR RM 110 (SE)	9	0	0	0	10	FURNAC, C.P. W.H. RM 202	20 1
20 1	OUTSIDE LIGHT RM 110	11	0	0	0	12	OFFICE AREA LIGHTS	20 1
20 1	O DOOR RM. 110 (SW)	13	0	0	0	14	OFFICE AREA LIGHTS	20 1
20 1	O DOOR RM. 110 (NW)	15	0	0	0	16	SHOP AND STORAGE LIGHTS	20 1
20 1	RM 110 REC.	17	0	0	0	18	BATHROOM GRIS	20 1
20 1	RM 103 REC.	19	0	0	0	20	OFFICE RCP.	20 1
20 1	OUTLET REEL RM 110 (S)	21	0	0	0	22	WATER COOLER	20 1
20 1	OUTLET REEL RM 110 (N)	23	0	0	0	24	COFFE MAKER RCP.	20 1
20 1	RM 109 RCP.	25	0	0	0	26	REFRIGERATOR RCP.	20 1
20 1	RM 109 RCP.	27	0	0	0	28	MEETING ROOM RCP.	20 1
20 1	RM 109 RCP.	29	0	0	0	30	OFFICE RCP.	20 1
20 1	RM 109 RCP.	31	0	0	0	32	MEZZANINE LIGHTS	20 1
20 1	RM 109 RCP.	33	0	0	0	34	RM 202 REC.	20 1
20 1	RM 109 RCP.	35	0	0	0	36	RM 203 REC.	20 1
20 1	RM 109 RCP.	37	0	0	0	38	PANEL C	50 3
20 1	SPARE	39	0	0	0	40		
20 1	SPARE	41	0	0	0	42		
CONNECTED		0	0	0	0	TOTAL CONNECTED LOAD		0 VOLT-AMPS
TOTAL CONNECTED		0						0.00 AMPS

EXISTING PANEL "B"

LOCATION: MEZZANINE SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1 A.I.C. RATING: EXISTING NOTES: ALL LOADS LABELED EX ARE EXISTING

VOLTS: 208 /120 PHASE: 3 WIRE: 4 AMPS: 200 MAIN: MCB

BRKR	DESCRIPTION	CIRCUIT	PHASE LOADS			CIRCUIT	DESCRIPTION	BRKR
			VA	A	B			
20 3	EX MAU 1	1	0	0	0	2	EX AIR COMPRESSOR	30 3
- - -		3	0	0	0	4		
- - -		5	0	0	0	6		
30 3	EX AIR COMPRESSOR	7	0	0	0	8	EX HOIST ROOM 110	20 2
- - -		9	0	0	0	10		
- - -		11	0	0	0	12	EX HOIST RCP. ROOM 110	20 1
30 2	EX SPARE	13	0	0	0	14	EX ROOM 110 @ 111 RCP.	20 1
- - -		15	0	0	0	16	EX WELDER EXHAUST FAN	20 1
20 2	EX UNIT HEATER RM 118	17	0	0	0	18	EX WELDER RCP. 109 @ 111	40 2
- - -		19	0	0	0	20		
20 1	SPACE	21	0	0	0	22	EX FURN PLUGS	20 1
20 1	SPACE	23	0	0	0	24	EX FURN PLUGS	20 1
20 3	EX EXHAUST FAN	25	1267	0	0	26	NEW OFFICE LIGHTING	20 1
- - -		27	0	0	0	28	SPACE	20 1
- - -		29	0	0	0	30	SPACE	20 1
25 3	EX WATER HEATER ROOM 202	31	0	0	0	32	SPACE	20 1
- - -		33	0	0	0	34	SPACE	20 1
- - -		35	0	0	0	36	SPACE	20 1
20 1	NEW GEN BATTERY CHARGER	500 37	500	0	0	38	SPACE	20 1
30 2	NEW GEN BLOCK HEATER	1200 39	1200	0	0	40	SPACE	20 1
- - -		1200 41	1200	0	0	42	SPACE	20 1
CONNECTED		1767	1200	1200		TOTAL CONNECTED LOAD		4167 VOLT-AMPS
TOTAL CONNECTED		4167						11.57 AMPS

NEW PANEL "E"

LOCATION: DRAIN COMMISSION 138 SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 3 A.I.C. RATING: 14 KA NOTES:

VOLTS: 208 /120 PHASE: 3 WIRE: 4 AMPS: 200 MAIN: MLO

BRKR	DESCRIPTION	CIRCUIT	PHASE LOADS			CIRCUIT	DESCRIPTION	BRKR
			VA	A	B			
20 1	DRAIN COMM. 138 W RCP.	1080 1	1356	0	0	2	274 P-1	20 1
20 1	DRAIN COMM. 138 E RCP.	1080 3	1800	0	0	4	720 DRAIN COMMISSION N. RCP.	45 1
20 1	INSPECTION RCP.	540 5	0	0	0	6	2600 EM SERVICES SPECIAL RCP.	50 2
20 1	SHERRIFFS/RESTROOM RCP.	1080 7	3680	0	0	8	2600	- - -
20 1	SHERRIFFS DPT E RCP.	1080 9	0	1440	0	10	360 CORD REEL #1	20 1
20 1	EM SERVICES SW RCP.	1080 11	0	1440	0	12	360 CORD REEL #2	20 1
20 1	EM SERVICES NE RCP.	1080 13	1440	0	0	14	360 CORD REEL #3	20 1
20 1	RTH-4, RTH-5, RTH-6	396 15	0	756	0	16	360 CORD REEL #4	20 1
20 1	RTH-7	132 17	0	492	0	18	360 CORD REEL #5	20 1
20 1	EF-1, EF-2	96 19	456	0	0	20	360 CORD REEL #6	20 1
20 1	EF-3	1560 21	0	1920	0	22	360 CORD REEL #7	20 1
20 1	EF-4	456 23	0	816	0	24	360 CORD REEL #8	20 1
20 1	CORD REEL #9	360 25	2016	0	0	26	1656 OVERHEAD DOOR #1	20 1
20 1	CORD REEL #10	360 27	0	2016	0	28	1656 OVERHEAD DOOR #2	20 1
20 1	CORD REEL #11	360 29	0	2016	0	30	1656 OVERHEAD DOOR #3	20 1
20 1	CORD REEL #12	360 31	2016	0	0	32	1656 OVERHEAD DOOR #4	20 1
20 1	SITE POLE AND RECEIPT	304 33	0	1960	0	34	1656 OVERHEAD DOOR #5	20 1
20 1	OVERHEAD DOOR #8	1656 35	0	0	3312	36	1656 OVERHEAD DOOR #6	20 1
20 1	OVERHEAD DOOR #9	1656 37	3312	0	0	38	1656 OVERHEAD DOOR #7	20 1
20 1	OVERHEAD DOOR #10	1656 39	0	3906	0	40	2250 DWH-1	20 1
20 1	OVERHEAD DOOR #11	1656 41	0	0	3906	42	2250	20 1
20 1	OVERHEAD DOOR #12	1656 43	2239	0	0	44	583 NEW ADDITION EXT. LIGHTING	20 1
20 1	OVERHEAD DOOR #13	1656 45	0	2976	0	46	1320 DRAIN COMM. LIGHTING S.	20 1
20 1	EM SERV. LIGHTING E.	860 47	0	0	2180	48	1320 DRAIN COMM. LIGHTING N.	20 1
20 1	EM SERV. LIGHTING W.	1188 49	2772	0	0	50	1584 SHERIFF'S DPT. LIGHTING S.	20 1
20 1	SPARE	51	0	1320	0	52	1320 SHERIFF'S DPT. LIGHTING N.	20 1
SPACE		53	0	0	0	54	SPACE	
SPACE		55	0	0	0	56	SPACE	
SPACE		57	0	0	0	58	SPACE	
SPACE		59	0	0	0	60	SPACE	
CONNECTED		19287	18094	17302		TOTAL CONNECTED LOAD		54683 VOLT-AMPS
TOTAL CONNECTED		54683						151.79 AMPS

EXISTING PANEL "C"

LOCATION: MAINT. BAY SUPPLY FROM: PANEL A MOUNTING: SURFACE ENCLOSURE: NEMA 1 A.I.C. RATING: EXISTING NOTES: ALL LOADS ARE EXISTING

VOLTS: 208 /120 PHASE: 3 WIRE: 4 AMPS: 50 MAIN: MLO

BRKR	DESCRIPTION	CIRCUIT	PHASE LOADS			CIRCUIT	DESCRIPTION	BRKR
			VA	A	B			
20 1	ROOM 112	1	0	0	0	2	DROP CORD (S.E.)	20 1
20 1	RADIANT HEATER	3	0	0	0	4	O. DOOR (S)	20 1
20 1	SPACE CKT)-BOX	5	0	0	0	6	ROOM 112 RCP.	20 1
20 1	ROOM 112 RCP.	7	0	0	0	8	OUTSIDE LIGHT (S)	20 1
20 1	O DOOR (N) RCP.	9	0	0	0	10	O.DOOR(S)	20 1
20 1	OUTSIDE LIGHT (N)	11	0	0	0	12	PAJNEL RCP.	20 1
20 1	ROOM 113 RCP.	13	0	0	0	14	ROOM 112 RCP.	20 1
20 1	ROOM 113 B. BOARD HEAT	15	0	0	0	16	DROP CORD (N.W.)	20 1
20 1	ROOM 113 LIGHTS	17	0	0	0	18	O. DOOR (N)	20 1
20 1	DROP CORD (S.W.)	19	0	0	0	20	ROOM 112 LIGHTS	20 1
20 1	(NEW) CO AND NO2 PANEL	500 21	500	0	0	22	DROP CORD (N.E)	20 1
20 1	SPARE	23	0	0	0	24	ROOM 112 LIGHTS	20 1
20 1	SPARE	25	0	0	0	26	SPACE	20 1
20 1	SPARE	27	0	0	0	28	SPACE	20 1
20 1	SPARE	29	0	0	0	30	SPACE	20 1
CONNECTED		0	500	0	0	TOTAL CONNECTED LOAD		500 VOLT-AMPS
TOTAL CONNECTED		500						1.39 AMPS

EXISTING PANEL "D"

LOCATION: MEZZANINE SUPPLY FROM: MDP MOUNTING: SURFACE ENCLOSURE: NEMA 1 A.I.C. RATING: EXISTING NOTES:

VOLTS: 208 /120 PHASE: 3 WIRE: 4 AMPS: 150 MAIN: MCB

BRKR	DESCRIPTION	CIRCUIT	PHASE LOADS			CIRCUIT	DESCRIPTION	BRKR
			VA	A	B			
20 1	OFFICE 128/129 RCP.	1080 1	3046	0	0	2	1966 CU-1	25 2
20 1	OFFICE 130 RCP.	900 3	0	2866	0	4	1966	- - -
20 1	IWH-1	480 5	0	0	2664	6	2184 CU-2	30 2
20 1	WAITING AREA RCP.	1080 7	3264	0	0	8	2184	- - -
20 1	CONF RM 125 GEN. RCP.	1080 9	0	2580	0	10	1500 CUN-1	20 1
20 1	CONF RM 125 TV'S	1000 11	0	1450	0	12	450 UH-1	20 1
20 1	CONF RM 125 FLOOROX	1500 13	2712	0	0	14	1212 F-2	20 1
20 1	I.T. DED. CKT.	1500 15	0	1536	0	16	36 EF-5	20 1
20 1	WORK RM 124 SW RCP.	720 17	0	1176	0	18	456 EF-6	20 1
20 1	WORK RM 124 SE RCP.	1080 19	2232	0	0	20	1152 RTH-1, RTH-2	20 1
20 3	DSF-1	348 21	0	3260	0	22	2912 4 POST LIFT	60 2
- - -		348 23	0	3260	0	24	2912	- - -
- - -		348 25	1596	0	0	26	1248 2 POST LIFT	25 2
20 1	FIRE ALARM PANEL	500 27	0	1748	0	28	1248	- - -
20 1	F-1	1104 29	0	2768	0	30	1664 TIRE BALANCER	30 2
20 1	WORK RM 124 WEST RCP.	720 31	2384	0	0	32	1664	- - -
20 1	WORK RM 124 NW RCP.	720 33	0	2384	0	34	1664 TIRE MACHINE	30 2
20 1	WORK RM 124 N RCP.	720 35	0	2384	0	36	1664	- - -
20 1	WORK RM 124 NE RCP.	720 37	1720	0	0	38	1000 TABLESAW	20 1
20 1	SPARE	39	0	1000	0	40	1000 EWC	20 1
20 1	SPARE	41	0	500	0	42	500 WAITING AREA WORKSTATION	20 1
CONNECTED		16954	15374	14202		TOTAL CONNECTED LOAD		46530 VOLT-AMPS
TOTAL CONNECTED		46530						129.15 AMPS

NEW MDP

LOCATION: MEZZANINE SUPPLY FROM: CUST. TRANSFORMER MOUNTING: SURFACE ENCLOSURE: NEMA 1 A.I.C. RATING: 22 KA NOTES:

VOLTS: 208 /120 PHASE: 3 WIRE: 4 AMPS: 600 MAIN: MCB

BRKR	DESCRIPTION	CIRCUIT	PHASE LOADS			CIRCUIT	DESCRIPTION	BRKR
			VA	A	B			
200 3	EX PANEL A	3629 1	9599	0	0	2	5970 EX PANEL B	200 3
- - -		3629 3	0	9032	0	4	5403	- - -
- - -		3629 5	0	0	9032	6	5403	- - -
200 3	EX PANEL D	16954 7	36241	0	0	8	19287 NEW PANEL E	200 3
- - -		15374 9	0	33468	0	10	18074	- - -
- - -		14202 11	0	0	31504	12	17302	- - -
SPACE		13	0	0	0	14	SPACE	
SPACE		15	0	0	0	16	SPACE	
SPACE		17	0	0	0	18	SPACE	
SPACE		19	0	0	0	20	SPACE	
SPACE		21	0	0	0	22	SPACE	
SPACE		23	0	0	0	24	SPACE	
SPACE		25	0	0	0	26	SPACE	
SPACE		27	0	0	0	28	SPACE	
SPACE		29	0	0	0	30	SPACE	
SPACE		31	0	0	0	32	SPACE	
SPACE		33	0	0	0	34	SPACE	
SPACE		35	0	0	0	36	SPACE	
200 3	FUTURE CONNECTION TO ANIMAL SHELTER	37	0	0	0	38	SPACE	



February 6, 2025

Planning Commission
City of St. Johns
100 E. State St.
St. Johns, MI 48879

Subject: Clinton County Building Authority Maintenance Garage Expansion Site Plan Review – Revision to Previously Approved Application

Dear Planning Commissioners,

As requested, we have reviewed the revised site plan received for the Clinton County Building Authority Maintenance Garage expansion at 1347 E. Townsend Road. The applicant is proposing an 11,855 sq. ft. expansion of the garage for the existing structure in the Northwest side of the structure as well as a 2,710 sq. ft. expansion of the office space for the same structure. In addition, the existing outdoor storage space is proposed to be relocated elsewhere on site. The site is zoned MC – Municipal Commercial.

A Site Plan was previously approved for the expansion in October of 2024, but the applicant has made revisions, and is also requesting the Planning Commission re-evaluate their sidewalk waiver requested in light of newly delineated wetlands in the southeast corner of the site. Ordinarily, revisions to an approved Site Plan would be reviewed administratively, but the sidewalk waiver can only be reviewed by the Planning Commission.

Government offices and facilities are permitted by right in the MC District. The construction of an addition 5,000 square feet or greater in size to any principal structure other than single-family or duplex residence requires Planning Commission Site Plan Approval. Our comments regarding the criteria for approving the Site Plan follow.

1) Dimensional Standards. Below, we have analyzed the dimensional requirements for the lot.

Standard Type	Ordinance Requirement (MC)	1347 E. Townsend Rd. Proposed Conditions	Ordinance Compliance
Minimum Lot Area	6,000 sq. ft.	27.17 acres	Yes
Minimum Lot Width	60 feet	~987 feet	Yes
Minimum Front Yard Setback	50 feet	~70 feet	Yes
Minimum Side Yard Setback	10 feet	~166 feet	Yes
Minimum Rear Yard Setback	25 feet	~93 feet	Yes
Maximum Building Height	35 feet	23 feet, 6 inches (at greatest point)	Yes



Standard Type	Ordinance Requirement (MC)	1347 E. Townsend Rd. Proposed Conditions	Ordinance Compliance
Maximum Lot Coverage	60%	~7%	Yes

The proposed expansion appears to meet all of the dimensional requirements for the MC District.

2) Parking, Loading, and Access.

- a. **Number of Spaces.** Section 155.342 of the Zoning Ordinance states the off-street parking requirement for all manufacturing and industrial uses other than warehouses, storage buildings, and wholesale establishments as 1 parking space per employee of the largest working shift or one space for every 600 feet of gross floor area of building, whichever is greater.

The current total number of employees on the largest shift would produce a lesser parking requirement than the gross floor area, so the gross floor area will be considered the parking requirement for the lot. Below is a breakdown of the total gross floor area for all structures on the lot:

Maintenance Garage with Proposed Expansion

Total Gross Floor Area: 0.55 acres or 24,148 sq. ft. ÷ 600 sq. ft. = 40 parking spaces / 15 existing and 11 proposed

Mid-Michigan District Health Department

Total Gross Floor Area: 0.31 acres or 13,504 sq. ft. ÷ 600 sq. ft. = 23 parking spaces / 61 existing

Clinton County Jail

Total Gross Floor Area: 1.11 acres or 48,352 sq. ft. ÷ 600 sq. ft. = 81 parking spaces / 94 existing

Clinton County Animal Shelter

Total Gross Floor Area: 0.11 acres or 4,792 sq. ft. ÷ 600 sq. ft. = 8 parking spaces / 9 existing

Total Requirement: 152 parking spaces

Total Proposed: 190 parking spaces

The total number of proposed parking spaces is greater than the requirement of the Zoning Ordinance and is therefore in compliance.

- b. **Barrier-Free Spaces. Under the American with Disabilities Act, at least one parking space out of every 25 must be barrier-free (i.e. reserved for people with disabilities).** With 190 parking spaces, six (6) barrier-free spaces are required. There are currently six (6) existing barrier-free spaces on the site plan given, so no additional spaces are required.



- c. **Dimensions.** Typical parking spaces dimensions have been included on the site plan. The dimensions shown for the proposed new parking spaces are 10 feet wide and 20 feet long, which complies with the requirements of the Zoning Ordinance.
- d. **Paving and Striping.** The parking lot is proposed to be paved, as shown in the site plan provided. This complies with the requirements of the Zoning Ordinance.
- e. **Loading Zone.** Section 155.344.C states: “Each off-street loading and unloading space shall not be less than ten feet in width and 70 feet in length unless the Planning Commission determines during site plan review that a larger area is required based on the characteristics of the proposed use and its loading and unloading needs.” The required number of loading zones is calculated by the Gross Floor Area: 5,000 square feet to 20,000 square feet - one space; each additional 20,000 square feet or fraction thereof - one space. There is one proposed loading zone shown on the site plan that appears to meet these requirements, at approximately 10 feet and 7 inches wide and over 70 feet long. As the proposed expansion would bring the total footprint of the building above 20,000 square feet, an additional loading zone is required to be constructed. A second loading zone is proposed in the revised site plan materials, which complies with this requirement.
- f. **Sidewalks.** Section 155.201 of the City of St. Johns Zoning Ordinance states that sidewalks must be constructed along all road frontages requiring Site Plan Review. Unless this provisions is waived, the applicant will be required to install sidewalks along the full parcel length of Townsend Road. Previously, the Planning Commission declined to grant the waiver.

The applicant has asked for reconsideration. The Planning Commission may grant the waiver on the grounds of a “physical, legal, or environmental” impediment. The applicant has demonstrated a physical and environmental impediment to the construction of a sidewalk along the East side of the parcel due to the presence of an existing wetland along the Townsend Road Frontage. Due to the presence of this impediment, we recommend that the Planning Commission waive the sidewalk requirement east of the driveway to Townsend Road, and require sidewalk west of the driveway only.

The parcel to the west is zoned R-3 Multi-Family Residential, and development on that site would trigger a requirement to build sidewalk, creating a useful pathway along Townsend Road.

- 3) **Trash Receptacles.** The revised site plan shows a dumpster located at the Northeastern corner of the lot, measured at 11.3 feet deep. The proposed dumpster will be contained within a closed enclosure, which complies with the requirements of the Zoning Ordinance.
- 4) **Landscaping.** A Landscape Plan has been included with the revised site plan. Section 155.296 of the Zoning Ordinance requires all parcels subject to local site plan review must submit a landscape plan. Below are the criteria for reviewing a submitted landscape plan:
 - a. **Buffer Zones/Existing Tree Preservation.** The West side lot line abuts an R-3-zoned parcel, so a buffer zone is required. Section 155.297 states that a buffer zone shall consist of two trees and four large shrubs per each 25 feet of adjacent property line. As the West lot line is measured at approximately 1,320 feet long, it triggers a requirement of approximately 106 trees and 212



shrubs along the lot line. There appears to be approximately 35 trees along the West lot line, leaving a requirement of 71 trees and 212 shrubs along that property line.

Section 155.301 of the Zoning Ordinance states that existing plantings may count towards the required greenbelts, buffer zones, and parking lot islands to preserve healthy, mature trees. As the rear half of the lot is a wooded, undeveloped area, the Planning Commission decided to waive the buffer zone requirement due to the abundance of existing plantings across the property. This would still require a greenbelt to be installed along the Townsend Road frontage to bring the parcel into compliance with landscaping standards.

- b. Parking Lot Landscaping.** Section 155.298 of the Zoning Ordinance states that developments with more than 16 parking spaces must include parking lot islands with one (1) canopy tree per eight (8) spaces. With 190 total spaces, twenty-four (24) canopy trees must be included within parking lot islands. Islands are required to follow all the provisions of Section 155.298. Four trees within landscape islands have been added on the revised site plans. The applicant must include the 20 remaining required landscape islands on a revised landscape plan.
 - c. Greenbelts Along Rights-of-Way.** Section 155.299 of the Zoning Ordinance states that a greenbelt shall be constructed within or adjacent to the right-of-way of any public street. The required greenbelt shall be a minimum of eight feet in width and contain at least one canopy tree for every 30 linear feet of frontage. As the front lot line along Townsend Road is measured at approximately 986 feet wide, this triggers a requirement of approximately 33 canopy trees to be planted along the right-of-way. On the submitted landscape plan, a total of 23 trees are proposed along the right-of-way. An additional 10 trees are required to be placed along the Townsend Road right-of-way.
 - d. Landscaping Adjacent to Buildings.** Ornamental landscaping is required along the perimeter of buildings by Section 155.302. However, the MC District does not fall under a multi-family, commercial, or industrial use and is therefore exempt from requiring landscaping around principal structures.
- 5) Lighting.** Section 155.191.E.7 states: *“The illumination projected from any property onto a non-residential use shall at no time exceed 1.0 footcandle, measured line-of-sight from any point on the receiving property.”* No photometric plan was provided with the revised site plan materials given. A photometric plan must be provided by the applicant detailing the locations and illumination levels of all existing and proposed exterior light fixtures on the property.
 - 6) Signage.** No new signage has been proposed, though any new signage may be approved separately under a different application.
 - 7) Outdoor Storage.** Section 155.195 of the Zoning Ordinances states that commercial outdoor display or storage may be permitted by the Planning Commission provided compliance with all other provisions of this chapter and provided:

 - a.** Any stockpiles of soils, fertilizer or similarly loosely packaged materials shall be sufficiently covered or contained to prevent dust or blowing of materials.



- b. No outdoor storage shall be permitted in the required front, side or rear yard of buildings for the district in which the commercial outdoor display, sales or storage use is located.
- c. The site shall include a building of at least 400 feet of gross floor area for office and sales uses in conjunction with the approved use.
- d. Storage areas shall consist of a permanent, durable and dustless surface (gravel) and shall be graded and drained to dispose of stormwater without a negative impact on adjacent property.
- e. All loading and truck maneuvering including into loading/unloading areas shall be accommodated on-site.
- f. All outdoor sales, display or storage area property lines adjacent to a residential district shall comply with the landscaping requirements in §§ 155.295 through 155.304. The Planning Commission may also require taller landscaping screening based on the height of materials to be displayed or stored.
- g. The use of semi-trailers, portable shipping containers, or other portable storage/shipping-type containers in conjunction with the sale or storage of material is prohibited, but the short-term use for "trailer sales" is permitted provided the sale does not exceed seven days and does not occur more than four times a year.

The proposed outdoor storage area is shown to comply with all of the above requirements and is therefore in compliance with the requirements of the Zoning Ordinance.

RECCOMENDATION

Based on the revised site plan materials submitted, we recommend that the application is **APPROVED** with the following conditions:

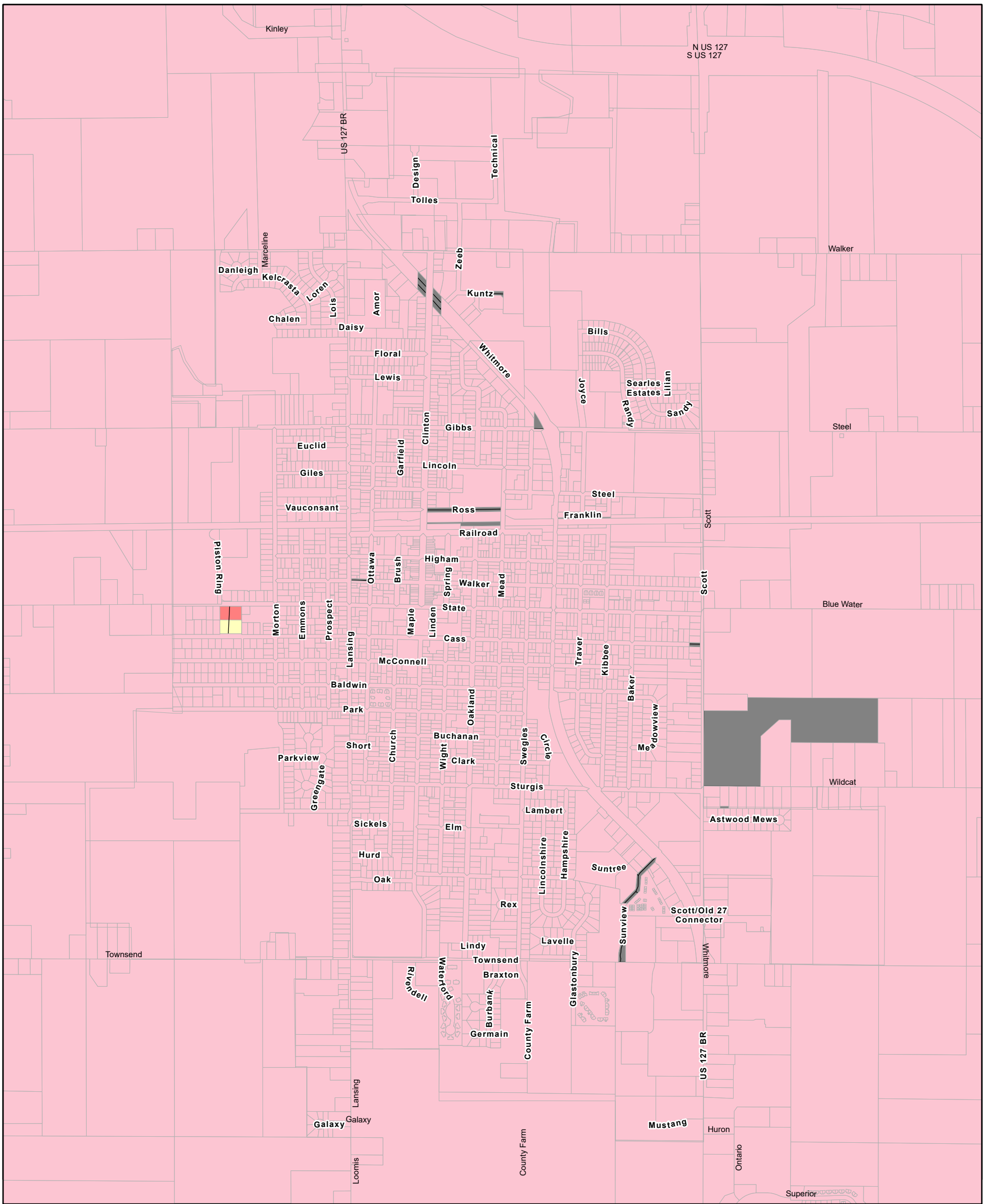
- 1) The applicant must install sidewalks along Townsend Road, from the existing driveway to the western property line, but not from the driveway to the eastern property line.
- 2) An additional 20 trees are required to be planted within landscape islands across the parcel.
- 3) An additional 10 trees are required along the Townsend Rd. road frontage.
- 4) A lighting plan must be submitted, including a photometric plan.

Please let us know if you have any questions.

Respectfully submitted,
McKENNA

Christopher Khorey, AICP
Vice President

Ethan Walthorn,
Assistant Planner



Zoning Map

City of St. Johns, Michigan

December 20, 2021

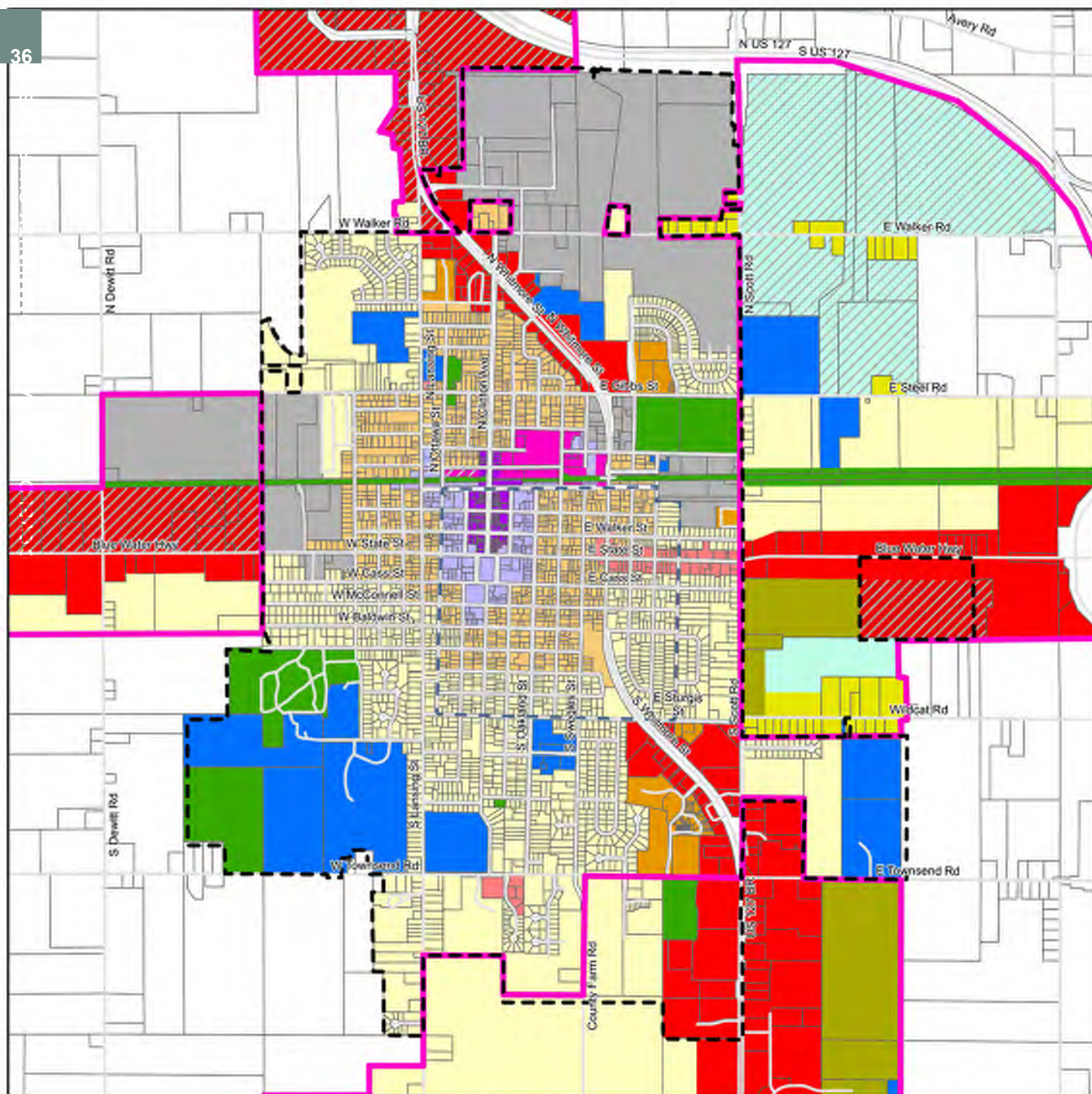
LEGEND

- R1 - Low Density Residential
- R2 - Medium Density Residential
- R3 - High Density Residential
- CBD - Central Business District
- GC - General Commercial
- MU - Mixed Use
- I1 - Industrial - High Performance
- I2 - Industrial - Liberal Performance
- O - Office
- MC - Municipal Center



%DVHPDS 6RXUFH` 0LFKLDJQ &HQW
 ,QIRUPDWRQ Y`D`DWD 6RXUFH
 &OLQWRQ &RXQW\ &LW\ RI 6W
 OF.HQQD





Future Land Use

City of St. Johns, Michigan

May 1, 2020

LEGEND

	City Boundary		Core Downtown
	Old Village Overlay		Downtown Edge / Mixed Use
	Joint Planning Areas		Flexible Redevelopment
Citywide Community Character Districts			Community Commercial
	Parks, Open Space, and Greenways		Gateway Commercial
	Rural Estate		Commercial / Industrial
	Modern Spacious Residential		Industrial
	Traditional Walkable Residential		Agriculture-Energy/Industrial
	Multiple Family Residential		Agriculture-Energy
	Public / Institutional		

0 500 1,000
Feet

Basemap Source: Michigan Center for Geographic Information, v. 17a. Data Source: City of St. Johns 2020. McKenna 2020.

MCKENNA



MCKENNA

March 3, 2025

Planning Commission
City of St. Johns
100 E. State Street, Suite 1100
St. Johns, Michigan 48879

Subject: W. State Street GC Discussion

Dear Commissioners,

McKenna is presenting for discussion a conflict discovered between the existing zoning of certain properties against the land use identified for those same properties in the master plan. The purpose of this discussion is to receive direction on how the Planning Commission would like to address this conflict.

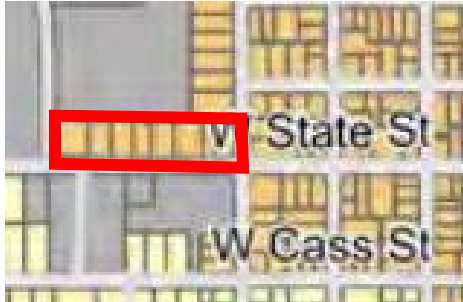
BACKGROUND

The properties in question are located in the 700 and 800 block of W. State Street; all on the north side of the street. This issue came to light in reviewing a resident’s request to conduct a beauty salon. The property owner, in this case, is currently living in the house on the property at 700 W. State St., but desires to utilize their garage as a beauty salon, which would be categorized as a Home Occupation. In this case, the property is zoned GC, General Commercial, which allows for a business use to be conducted on the property, but not when it is in conjunction with a residential use. Residential uses are not permitted in the GC district, therefore the residential use of the property is a nonconforming use. Further, Section 155.432 stipulates allowances for Home Occupations in the R-1, R-2, R-3, O, T, and MU districts – but not in the GC district.

The following is an excerpt of the City’s zoning map. The properties in question are outlined in red and zoned GC.



The following is an excerpt from the city’s future land use map as outlined in the Master Plan. The properties in question are outlined in red and identified as “Traditional Walkable Residential.”



DISCUSSION

Based on the background information above, the zoning is not consistent with what is identified in the Master Plan as the desired land use for these properties. Although the properties on the south side of W. State St. are also zoned GC, the land uses on the north side of the street are quality residential houses and vastly different to the commercial uses on the south side of the street. As a result, McKenna believes that these properties may have been inadvertently over-looked at some point, likely when the Master Plan was adopted in 2020 and not rezoned to be in compliance with the future land use plan.

Should the Planning Commission desire to rezone all of the properties, we can begin the process for a rezoning of those properties, including working with the property owners of those properties. The properties immediately to the north along N. Morton St. are currently zoned R-3, High Density Residential. Rezoning of these properties to R-3 would be consistent with adjacent properties.

Should the Planning Commission not wish to proceed at this time with rezoning of all properties, there will likely be single rezoning applications in the future. There has been one application that was recently received and is in the process of being scheduled for public hearings. The Commission could also consider amending the Home Occupation regulations to also allow for these uses in the GC district. However, it seems this approach would continue to allow residential uses in commercial zone districts, which is generally not desired when nonconforming residential uses are targeted for future commercial redevelopment.

RECOMMENDATION

We recommend that the Planning Commission consider rezoning of the properties in question from GC to R-3. This rezoning would make the zoning of the properties consistent with the Future Land Use Plan outlined in the Master Plan.

Please let us know if you have any questions.

Respectfully submitted,
McKENNA

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