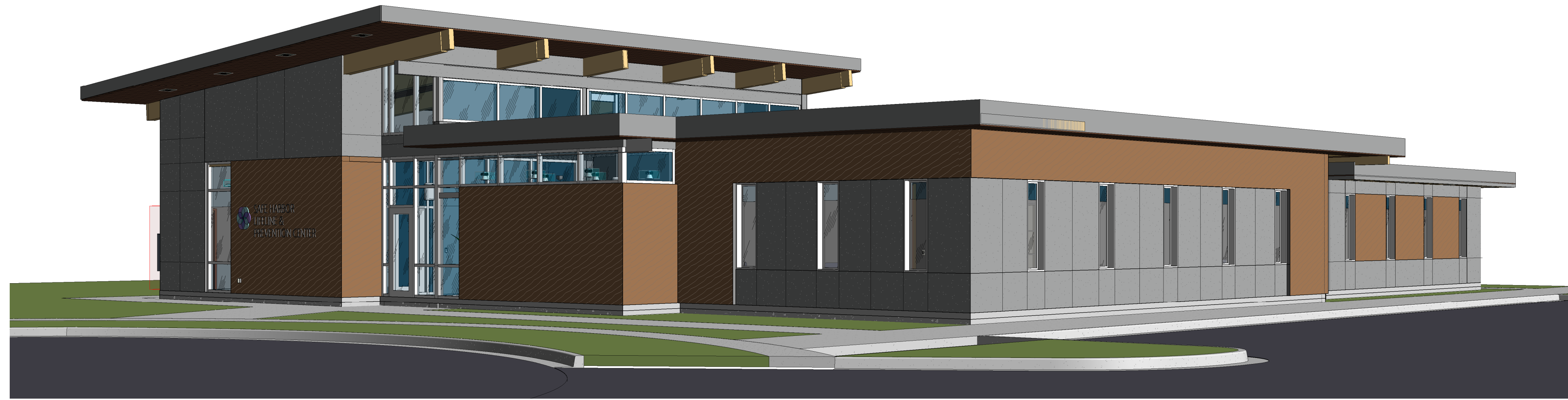


# SAFE HARBOR - LIFELINE

## 223 WEST 475 SOUTH

### LAYTON, UT 84041



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## SAFE HARBOR LIFELINE

223 WEST 475 SOUTH  
LAYTON, UT 84041

#### STAMP



ISSUE TYPE: 100% CD  
DATE: 2021-05-28

PROJECT NUMBER: 20-028  
DRAWN BY: Author  
CHECKED BY: Checker

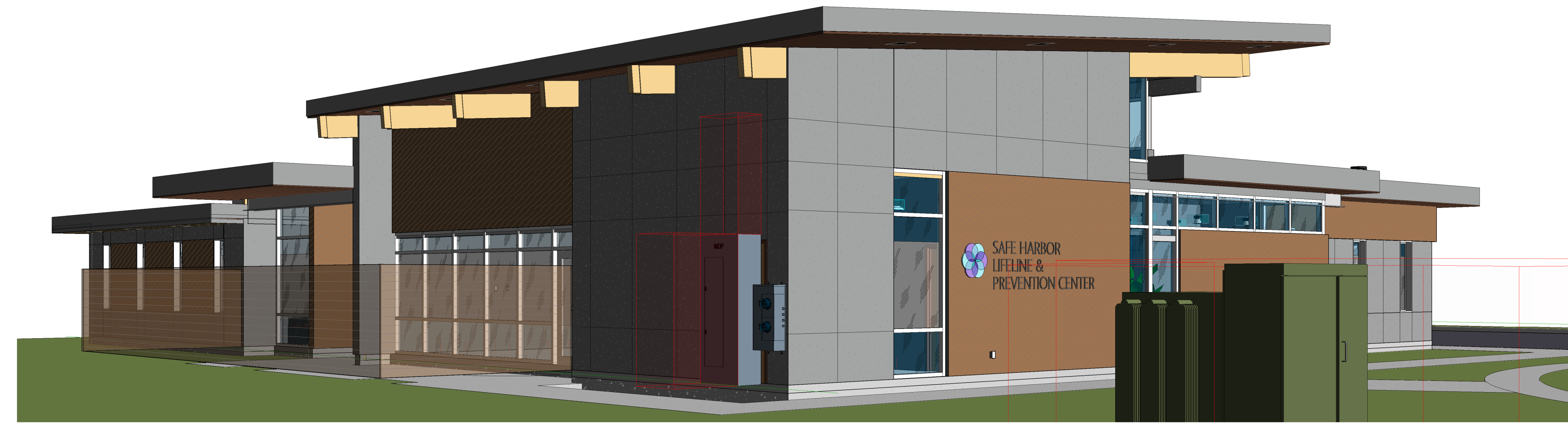
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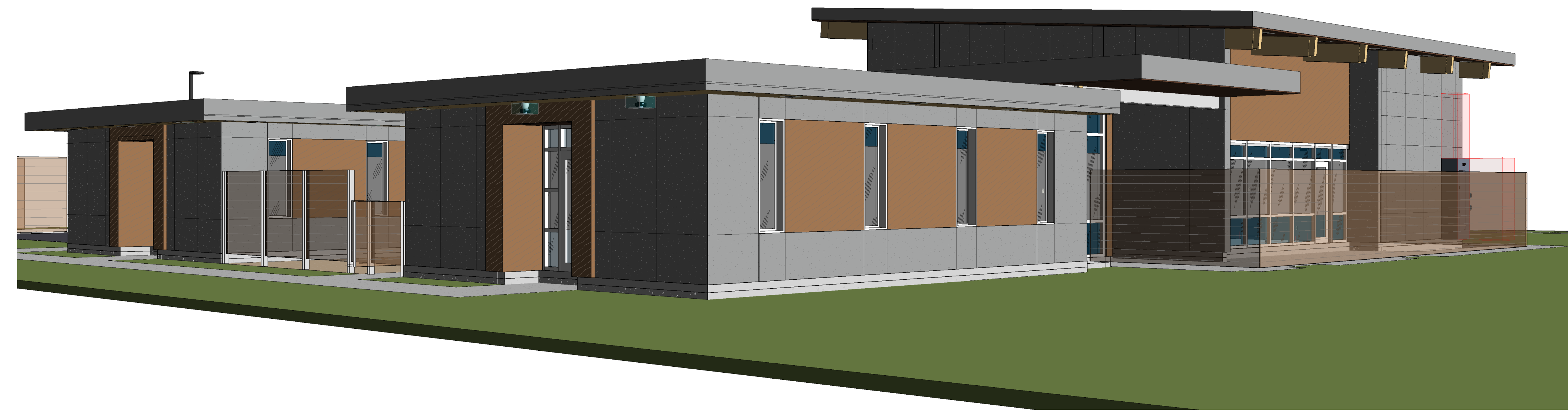


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C1 NE VIEW  
GI001



B1 SE VIEW  
GI001



A1 SW VIEW  
GI001

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DESIGN INTENT

**GI001**

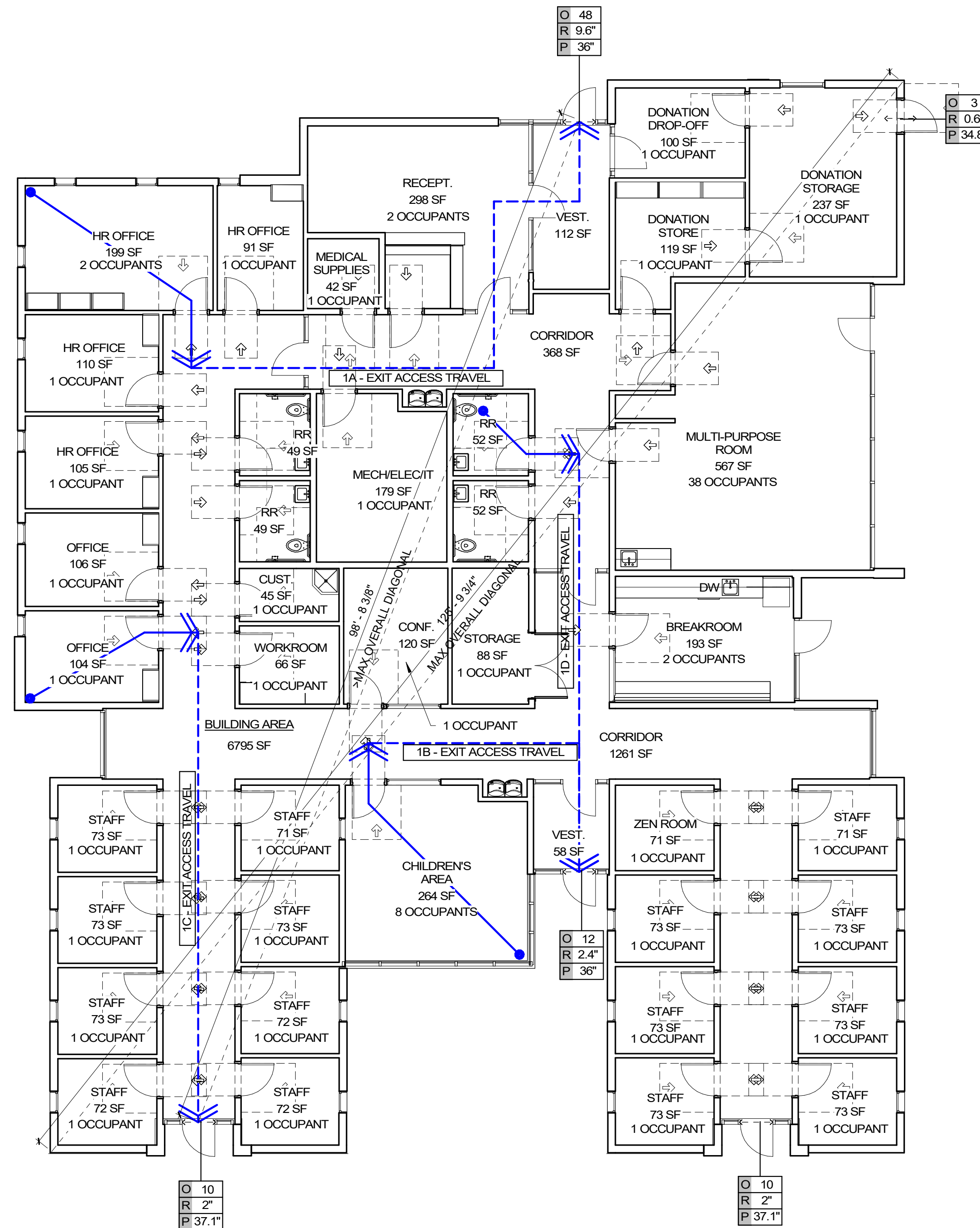
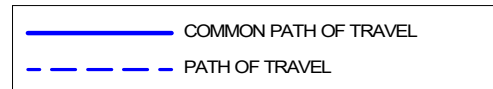
# OCCUPANT LOAD - MAIN FLOOR

Number	Name	Room Function (1004.2.1)	AREA	Occupant Load
100	VEST.	ACCESSORY AREAS - CIRCULATION, CHASES, BATHROOMS, ETC. (0 SF NET)	112 SF	
101	DONATION DROP-OFF	BUSINESS AREAS (150 SF GROSS)	100 SF	1
102	DONATION STORAGE	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM (300 SF GROSS)	237 SF	1
103	DONATION STORE	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM (300 SF GROSS)	119 SF	1
104	CORRIDOR	ACCESSORY AREAS - CIRCULATION, CHASES, BATHROOMS, ETC. (0 SF NET)	368 SF	
105	MULTI-PURPOSE ROOM	ASSEMBLY - WITHOUT FIXED SEATS - UNCONCENTRATED (TABLES AND CHAIRS) (15 SF NET)	567 SF	38
106	CORRIDOR	ACCESSORY AREAS - CIRCULATION, CHASES, BATHROOMS, ETC. (0 SF NET)	1261 SF	
107	BREAKROOM	BUSINESS AREAS (150 SF GROSS)	193 SF	2
108	STAFF	BUSINESS AREAS (150 SF GROSS)	71 SF	1
109	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
110	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
111	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
112	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
113	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
114	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
115	ZEN ROOM	BUSINESS AREAS (150 SF GROSS)	71 SF	1
116	VEST.	ACCESSORY AREAS - CIRCULATION, CHASES, BATHROOMS, ETC. (0 SF NET)	58 SF	
117	CHILDREN'S AREA	DAY CARE (35 SF NET)	264 SF	8
118	STAFF	BUSINESS AREAS (150 SF GROSS)	71 SF	1
119	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
120	STAFF	BUSINESS AREAS (150 SF GROSS)	72 SF	1
121	STAFF	BUSINESS AREAS (150 SF GROSS)	72 SF	1
122	STAFF	BUSINESS AREAS (150 SF GROSS)	72 SF	1
123	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
124	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
125	STAFF	BUSINESS AREAS (150 SF GROSS)	73 SF	1
126	OFFICE	BUSINESS AREAS (150 SF GROSS)	104 SF	1
127	OFFICE	BUSINESS AREAS (150 SF GROSS)	106 SF	1
128	HR OFFICE	BUSINESS AREAS (150 SF GROSS)	105 SF	1
129	HR OFFICE	BUSINESS AREAS (150 SF GROSS)	110 SF	1
130	HR OFFICE	BUSINESS AREAS (150 SF GROSS)	199 SF	2
131	HR OFFICE	BUSINESS AREAS (150 SF GROSS)	91 SF	1
132	MEDICAL SUPPLIES	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM (300 SF GROSS)	42 SF	1
133	RECEPT.	BUSINESS AREAS (150 SF GROSS)	298 SF	2
134	RR	ACCESSORY AREAS - CIRCULATION, CHASES, BATHROOMS, ETC. (0 SF NET)	52 SF	
135	RR	ACCESSORY AREAS - CIRCULATION, CHASES, BATHROOMS, ETC. (0 SF NET)	52 SF	
136	CONF.	BUSINESS AREAS (150 SF GROSS)	120 SF	1
137	WORKROOM	BUSINESS AREAS (150 SF GROSS)	66 SF	1
138	CUST.	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM (300 SF GROSS)	45 SF	1
139	RR	ACCESSORY AREAS - CIRCULATION, CHASES, BATHROOMS, ETC. (0 SF NET)	49 SF	
140	RR	ACCESSORY AREAS - CIRCULATION, CHASES, BATHROOMS, ETC. (0 SF NET)	49 SF	
141	MECH/ELEC/IT	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM (300 SF GROSS)	179 SF	1
142	STORAGE	ACCESSORY STORAGE AREAS, MECHANICAL EQUIPMENT ROOM (300 SF GROSS)	88 SF	1
TOTAL SF & OCCUPANT LOAD (PER LEVEL)			6192 SF	82

# EGRESS PATH - MAIN FLOOR

Type	Common Path Length	Exit Access Length
1A - EXIT ACCESS TRAVEL	24' - 1"	82' - 5"
1B - EXIT ACCESS TRAVEL	25' - 3"	56' - 5"
1C - EXIT ACCESS TRAVEL	17' - 1"	62' - 2"
1D - EXIT ACCESS TRAVEL	10' - 6"	48' - 11"

### LINE TYPE LEGEND



**MAIN LEVEL CODE PLAN**  
1/8" = 1'-0"

# CODE ANALYSIS

APPLICABLE CODES			
	Year		Year
International Building Code	2018	National Electrical Code	2017
International Mechanical Code	2018	Uniform Code for Building Conservation	N/A
International Plumbing Code	2018		
International Fire Code	2018		
International Energy Conservation Code	2018	Accessibility Standard	2009
NFPA 101	2018	ICC-A117.1	

- A. Occupancy and Group: B
- Change in Use: Yes  No  Mixed Occupancy: Yes  No   
Special Use and Occupancy (e.g. High Rise, Covered Mall): N/A
- B. Seismic Design Category: \_\_\_\_\_ Design Wind Speed: \_\_\_\_\_ mph  
Design Snow Load: \_\_\_\_\_
- C. Type of Construction (circle one):  
 A  B  III  IV  V  
 HT  A  B
- D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):  
North: 0 South: 0 East: 0 West: 0
- E. Mixed Occupancies: NO Nonseparated Uses: NO
- F. Sprinklers:  
Required: NO Provided: \_\_\_\_\_ Type of Sprinkler System: N/A
- G. Number of Stories: 1 Building Height: 21' - 7"
- H. Actual Area per Floor (square feet): 6795 SF
- I. Tabular Area: 9000 SF
- J. Area Modifications:  
IBC 506.2.1:  $A_a = A_t + (NS \times I_f)$  IBC 506.3.3:  $I_f = [F/P - 0.25]W/30$
- b) Sum of the Ratio Calculations for Mixed Occupancies:  
 $\frac{\text{Actual Area}}{\text{Allowable Area}} \leq 1$   $\frac{6,795}{9000} \leq 1$  **OK**
- c) Total Allowable Area for:  
 1) One Story: 9000  
 2) Two Story:  $A_a(2)$  N/A  
 3) Three Story:  $A_a(3)$  N/A
- d) Unlimited Area Building: Yes  No  Code Section: N/A

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0		Floors - Ceiling Floors	0	
Interior Bearing Walls	0		Roofs - Ceiling Roofs	0	
Exterior Non-Bearing Walls	0		Exterior Doors and Windows	0	
Structural Frame	0		Shaft Enclosures	1	N/A
Partitions - Permanent	0		Fire Walls	N/A	
Fire Barriers	N/A		Fire Partitions	N/A	
			Smoke Partitions	N/A	

- L. Design Occupant Load: 82  
Exit Width Required: 16.4" Exit Width Provided: 144"
- M. Minimum Number of Required Plumbing Facilities:  
 a) Water Closets - Required (m) 2 (f) 2 Provided (m) 2 (f) 2  
 b) Lavatories - Required (m) 2 (f) 2 Provided (m) 2 (f) 2  
 c) Bath Tubs or Showers: Required N/A Provided N/A  
 d) Drinking Fountains: Req. 1 Prov. 4 Service Sinks: 1

FOOTNOTES:  
 1) In case of conflict with the ADA Accessibility Standards and specific reference to the International Building Code Accessibility Chapters, the more restrictive requirement shall govern.  
 2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not limited to:  
 a) High Rise Requirements.  
 b) Atriums.  
 c) Performance Based Criteria.  
 d) Means or Egress Analysis.  
 e) Fire Assembly Locator Sheet.  
 f) Exterior and Interior Accessibility Route.  
 g) Fire Stopping, Including Tested Design Number.



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LAYTON, UT 84041

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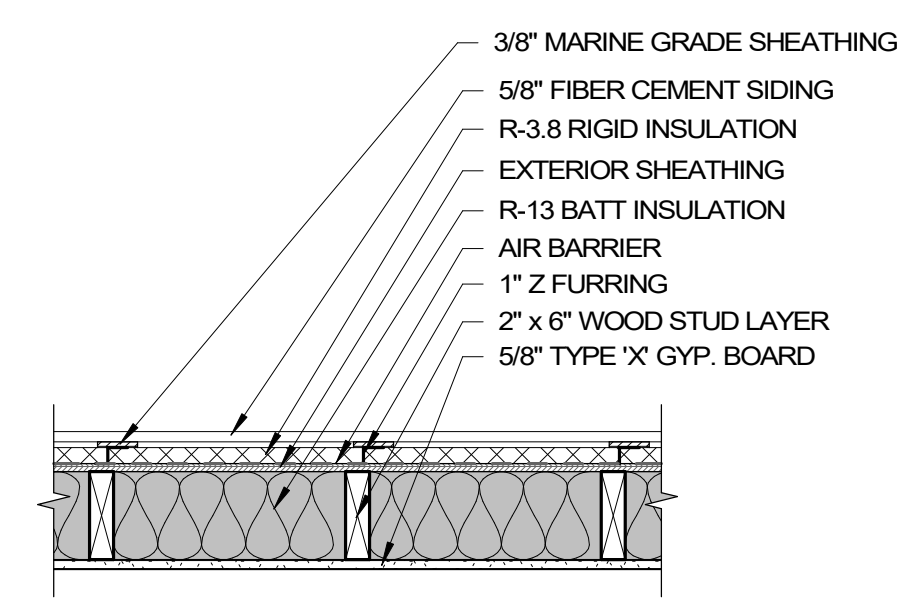
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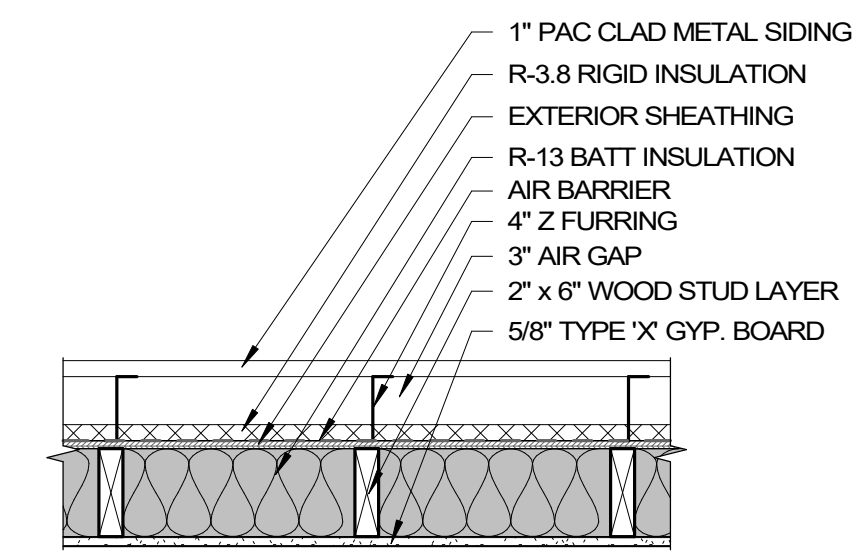


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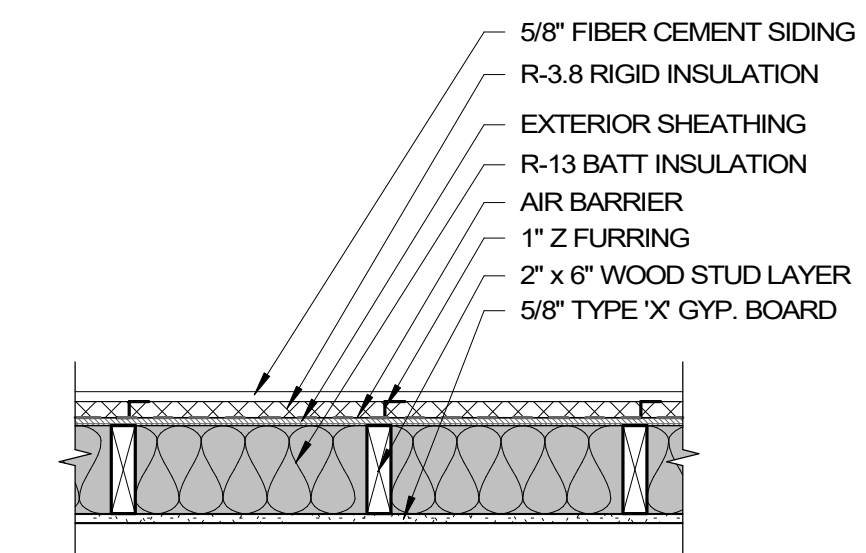
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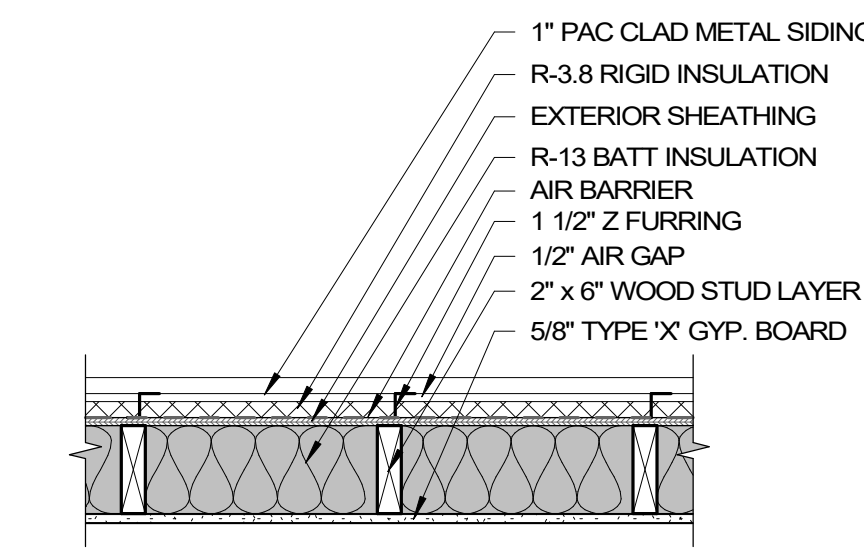
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WALL TYPE - E4  
1" = 1'-0"



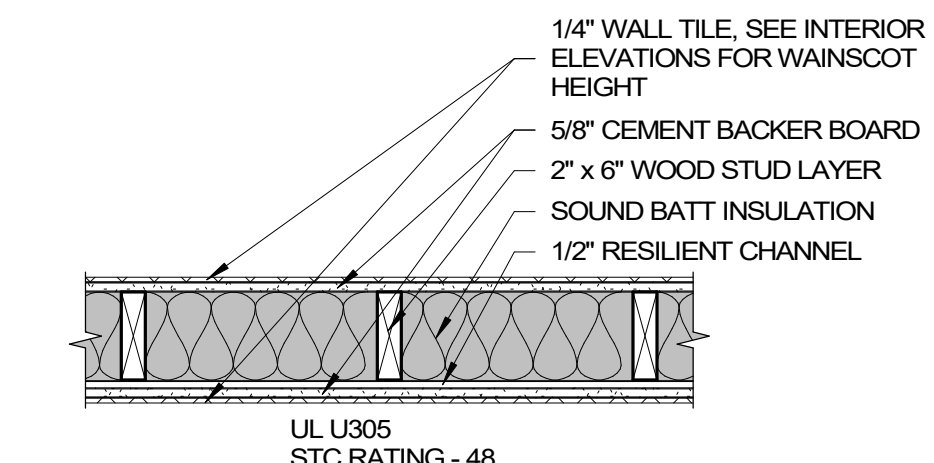
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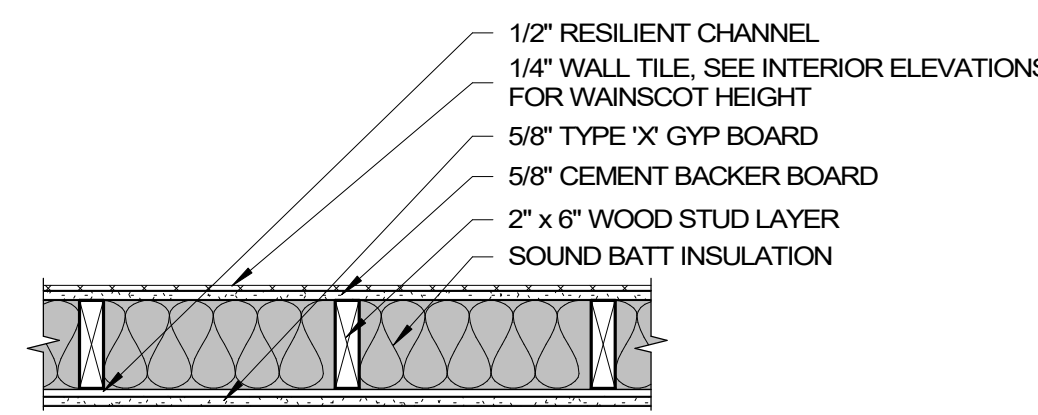
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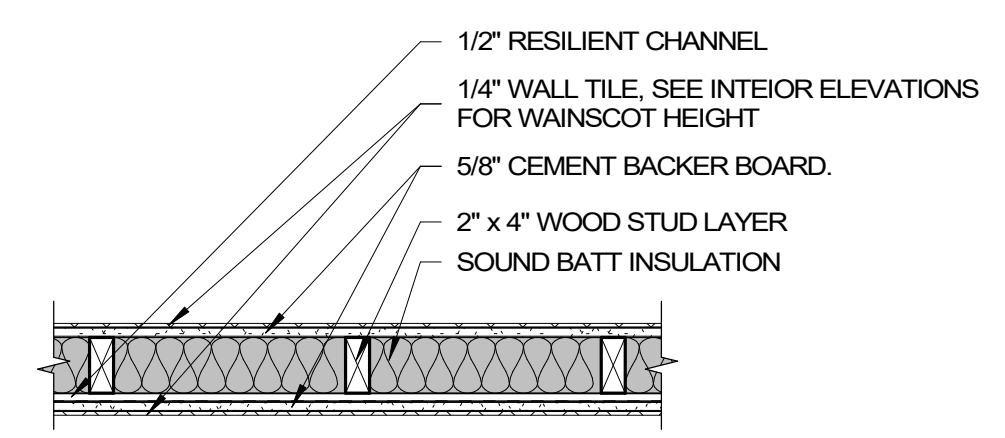
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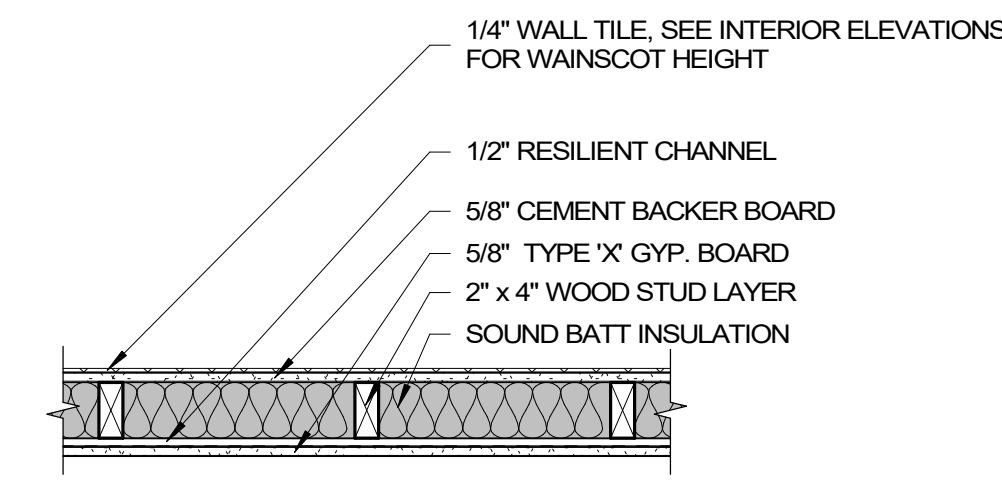
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GI003  
WALL TYPE - G  
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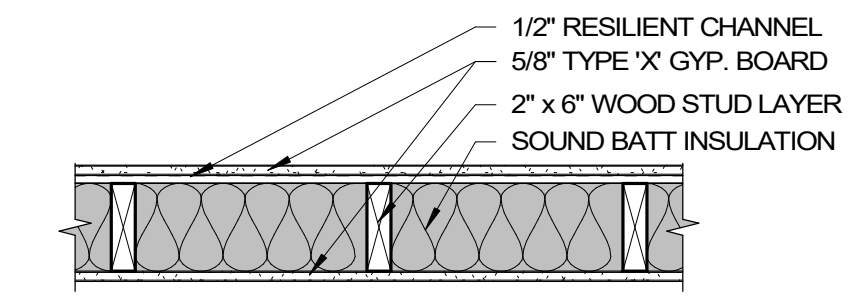
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WALL TYPE - F  
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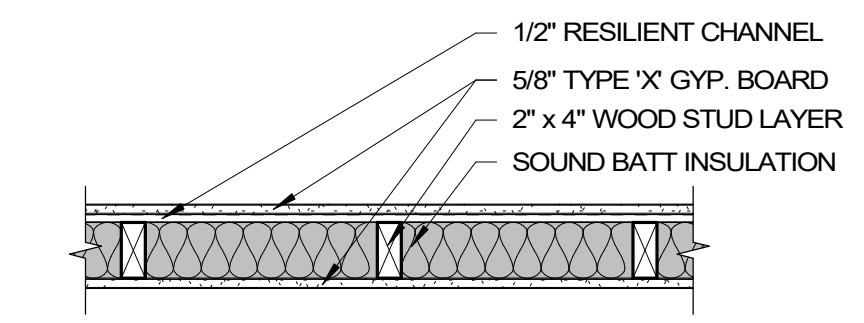
A2  
GI003  
WALL TYPE - D  
1" = 1'-0"



A3  
GI003  
WALL TYPE - C  
1" = 1'-0"



A4  
GI003  
WALL TYPE - B  
1" = 1'-0"



A5  
GI003  
WALL TYPE - A  
1" = 1'-0"

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**WALL TYPES**

**GI003**

D

C

B

A

2021.05.28 10:30 AM  
 C:\Users\james\OneDrive\Documents\SAFE HARBOR LIFELINE\WALL TYPES.dwg  
 Author: James Zaugg  
 Checker: James Zaugg



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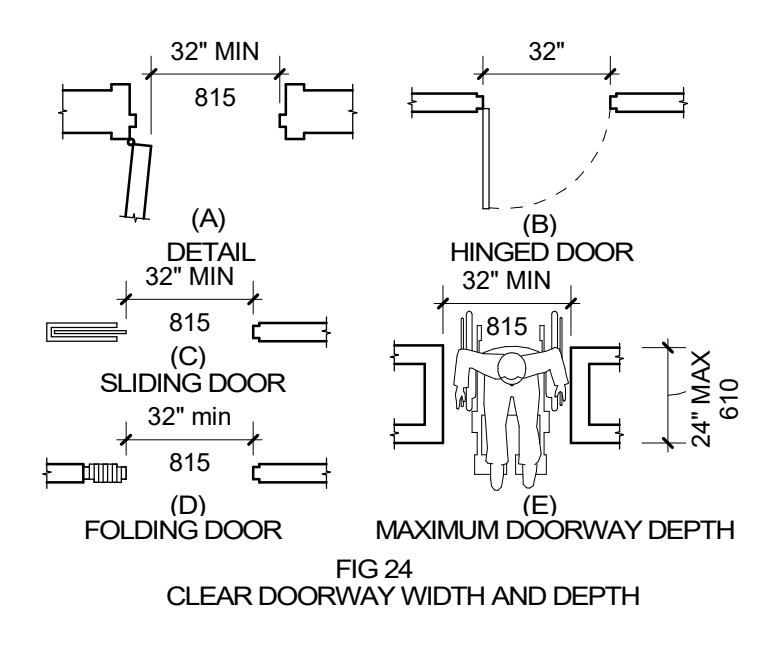
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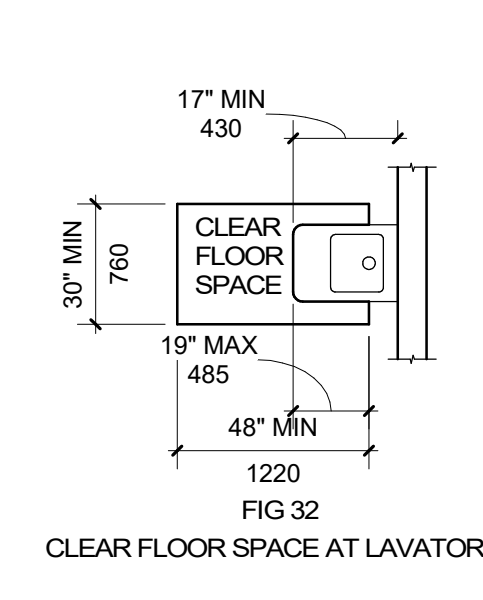
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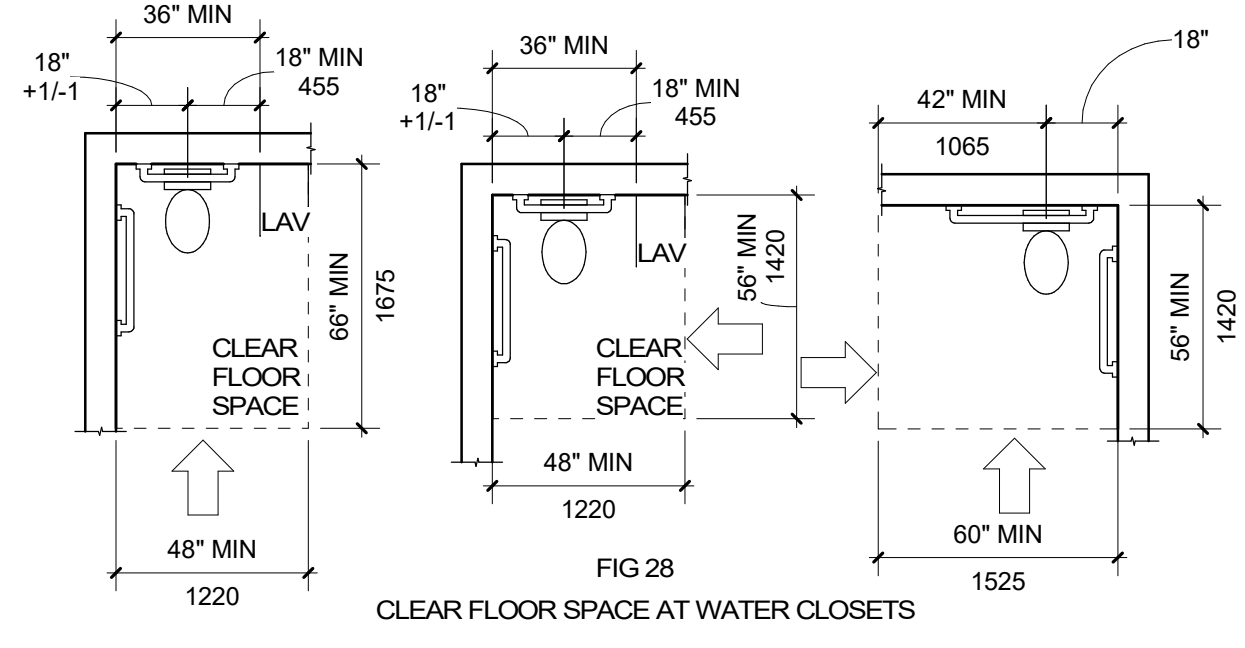


**D1 G1004**  
 1/4" = 1'-0"  
**CLEAR DOORWAY WIDTH AND DEPTH**

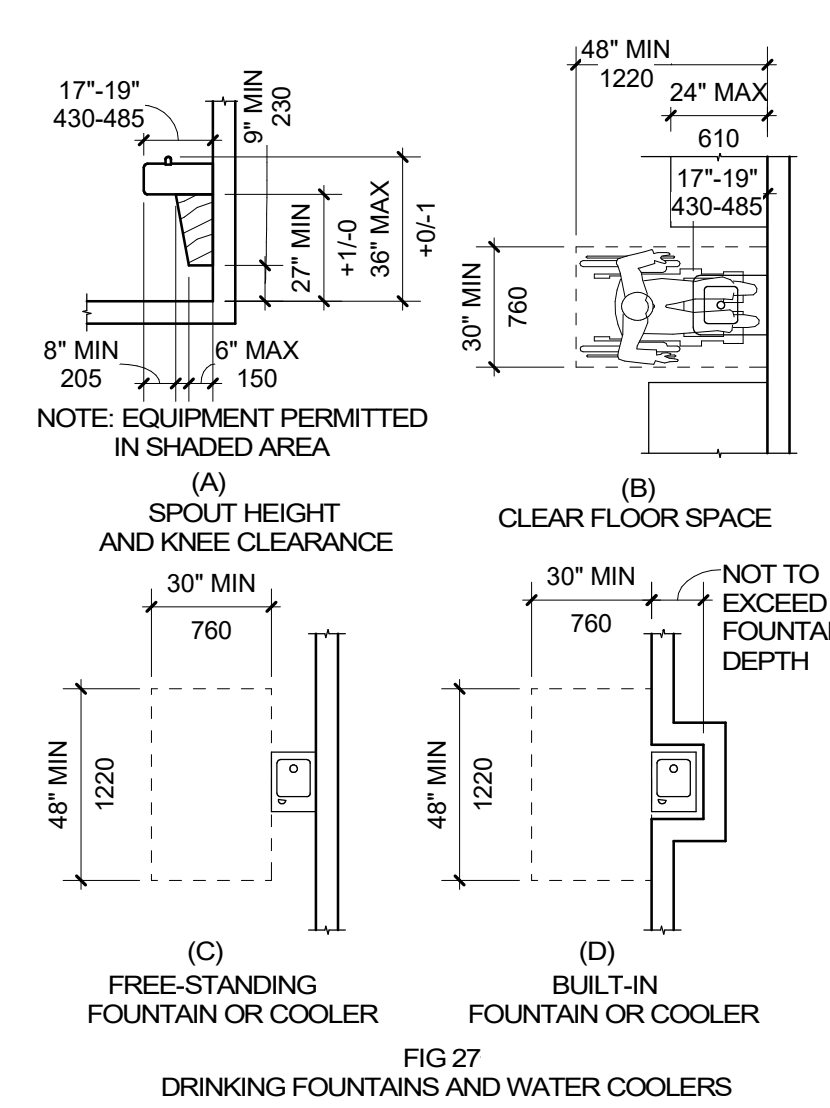
- NOTES:**
- HOT WATER AND DRAIN PIPES MUST BE INSULATED, OR CONFIGURED TO PROTECT AGAINST CONTACT.
  - THERE SHALL BE NO SHARP ABRASIVE SURFACES UNDER LAVATORIES.
  - ALL WALL MOUNTED ITEMS REQUIRE SOLID BLOCKING.



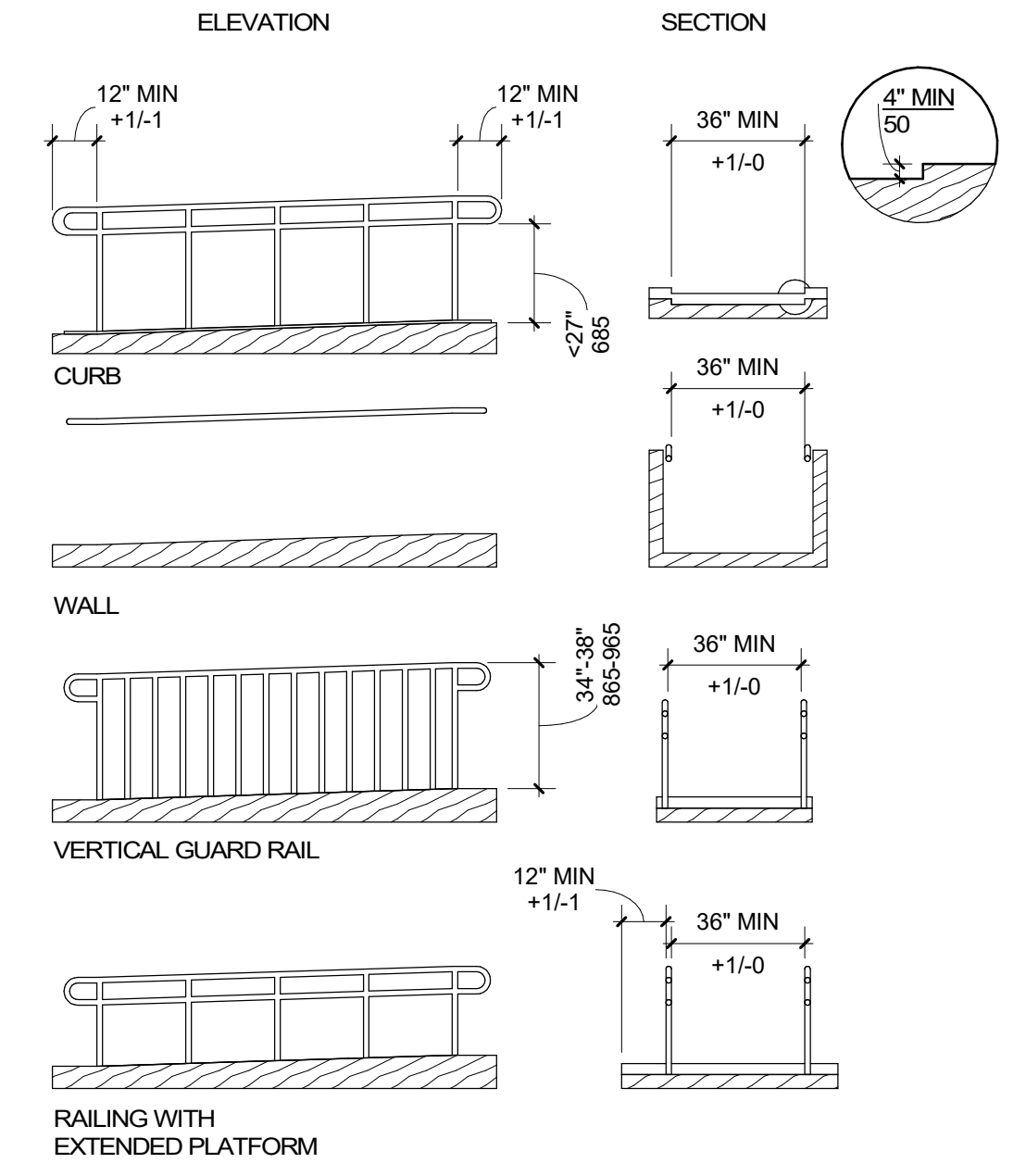
**D2 G1004**  
 1/4" = 1'-0"  
**CLEAR FLOOR AT LAVATORIES**



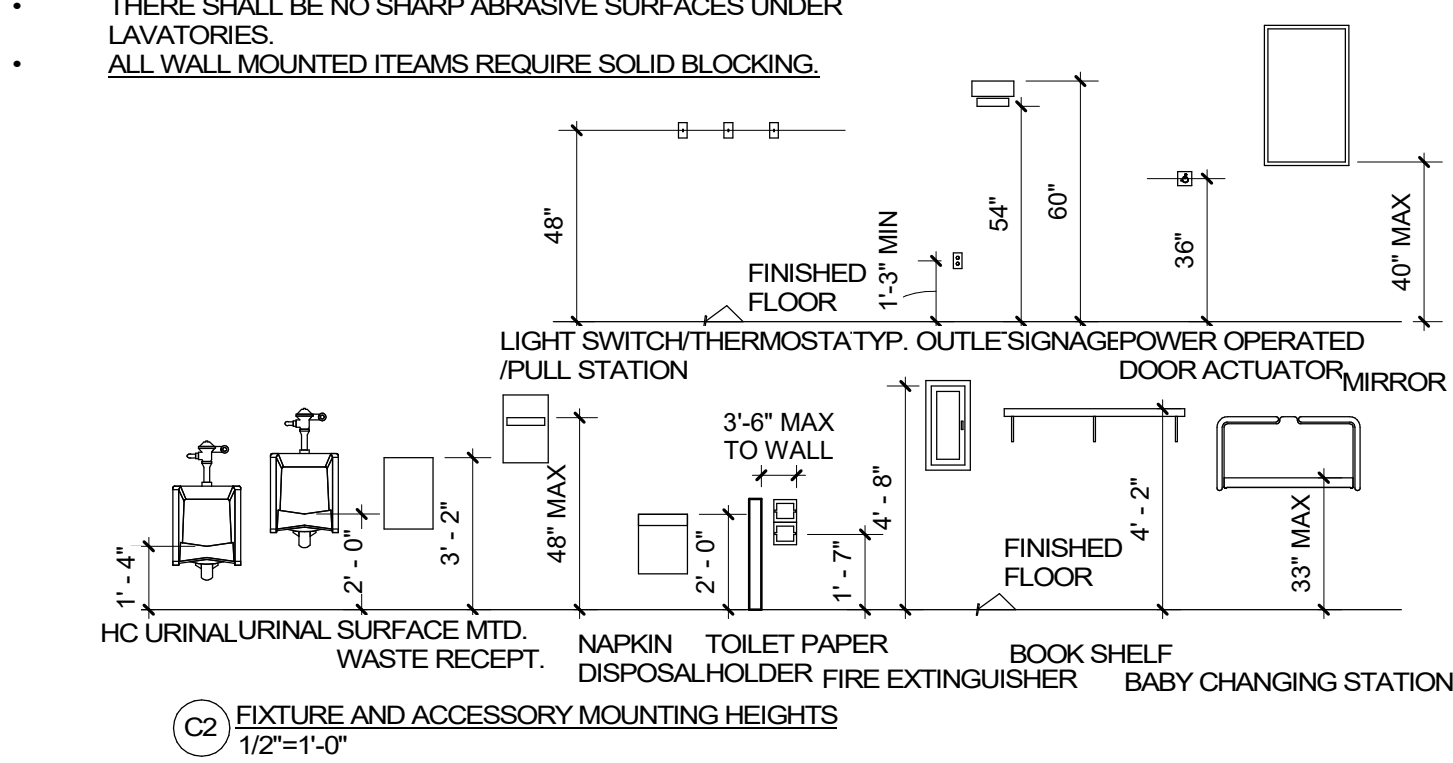
**D3 G1004**  
 1/4" = 1'-0"  
**CLEAR FLOOR SPACE AT WATER CLOSETS**



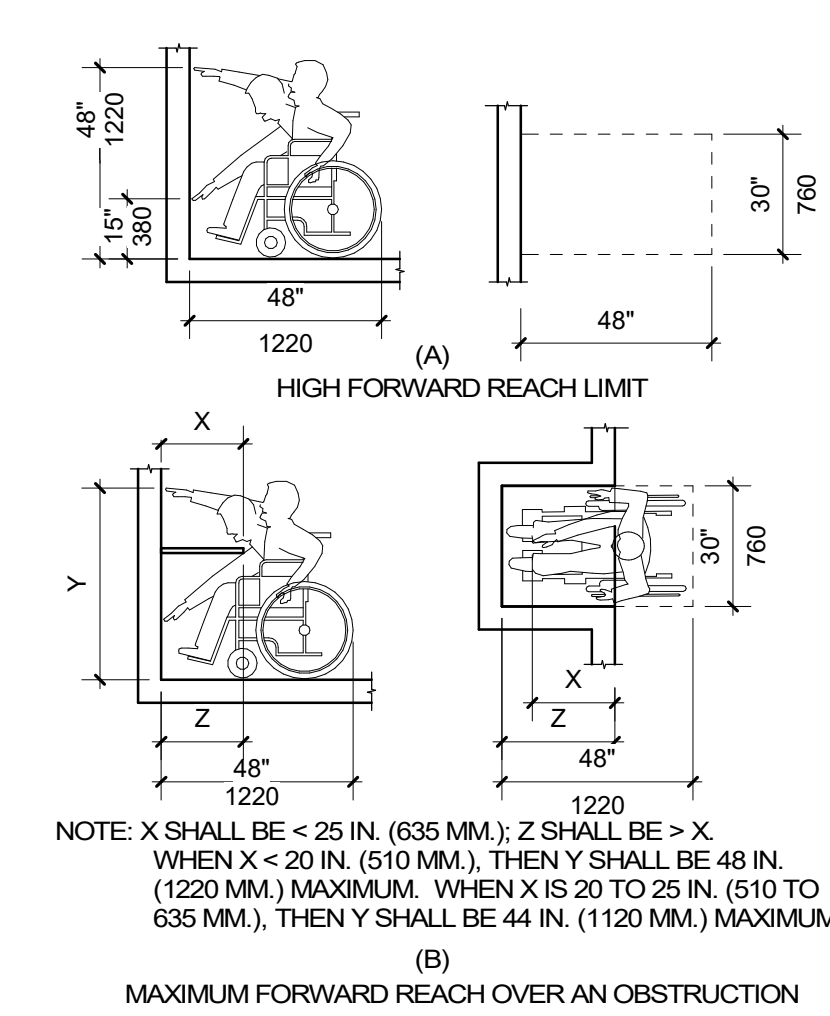
**C4 G1004**  
 1/4" = 1'-0"  
**DRINKING FOUNTAINS AND WATER COOLERS**



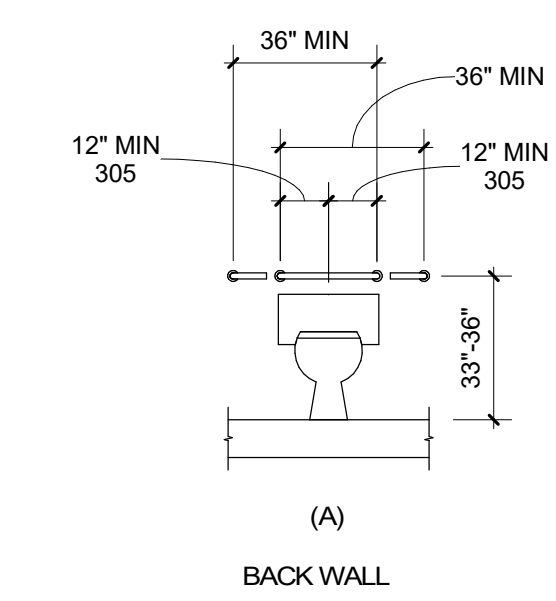
**C5 G1004**  
 1/4" = 1'-0"  
**EDGE PROTECTION AND HANDRAIL EXTENSIONS**



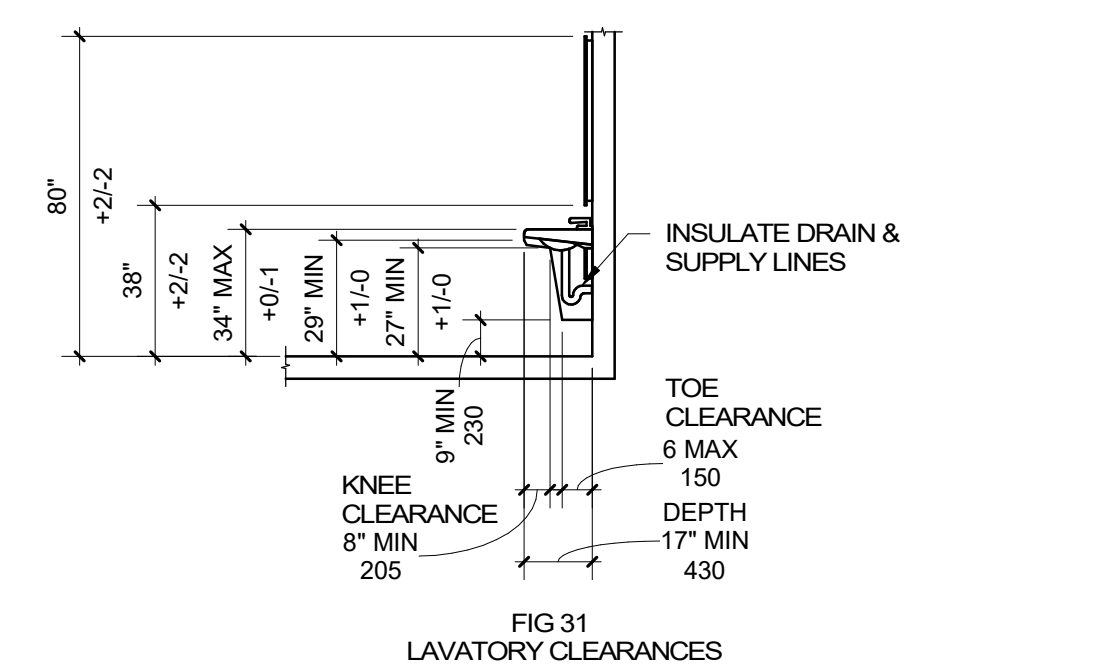
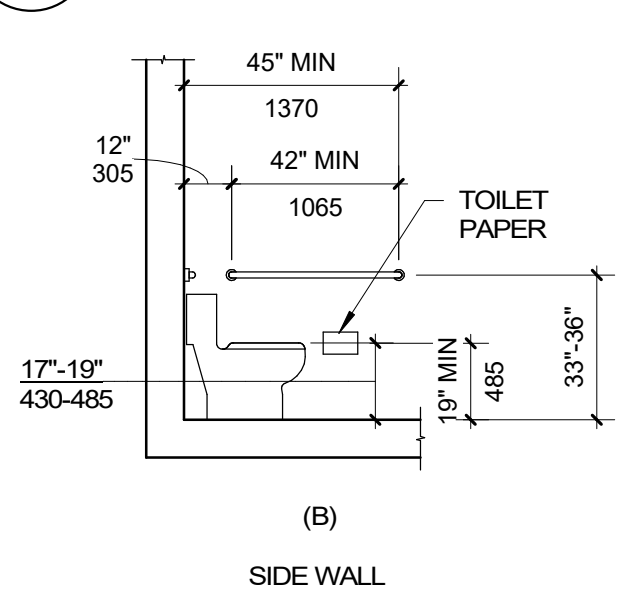
**B1 G1004**  
 1/4" = 1'-0"  
**FIXTURE AND ACCESSORY MOUNTING HEIGHTS**



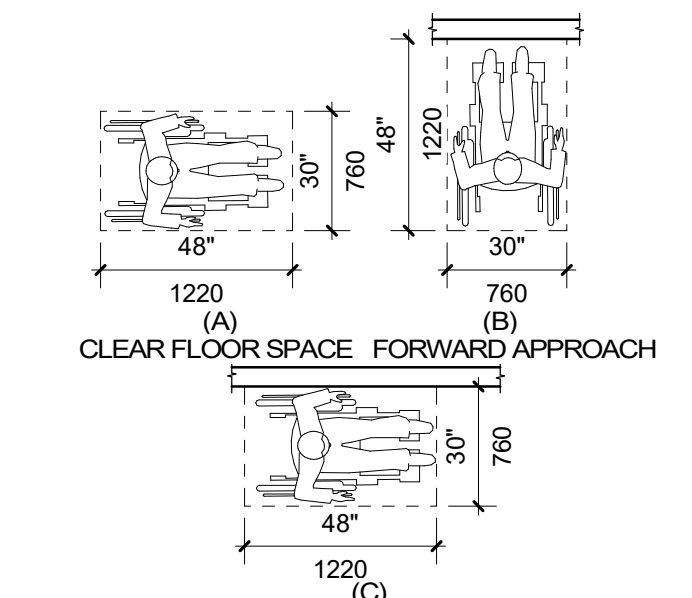
**B2 G1004**  
 1/4" = 1'-0"  
**FORWARD REACH**



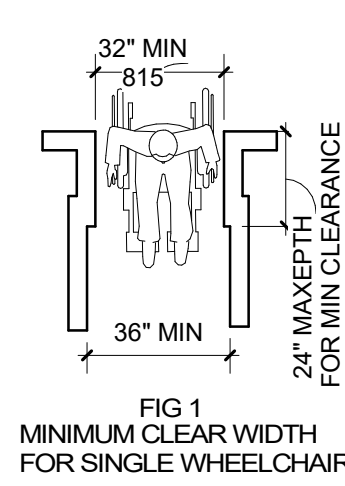
**B3 G1004**  
 1/4" = 1'-0"  
**GRAB BARS AT WATER CLOSETS**



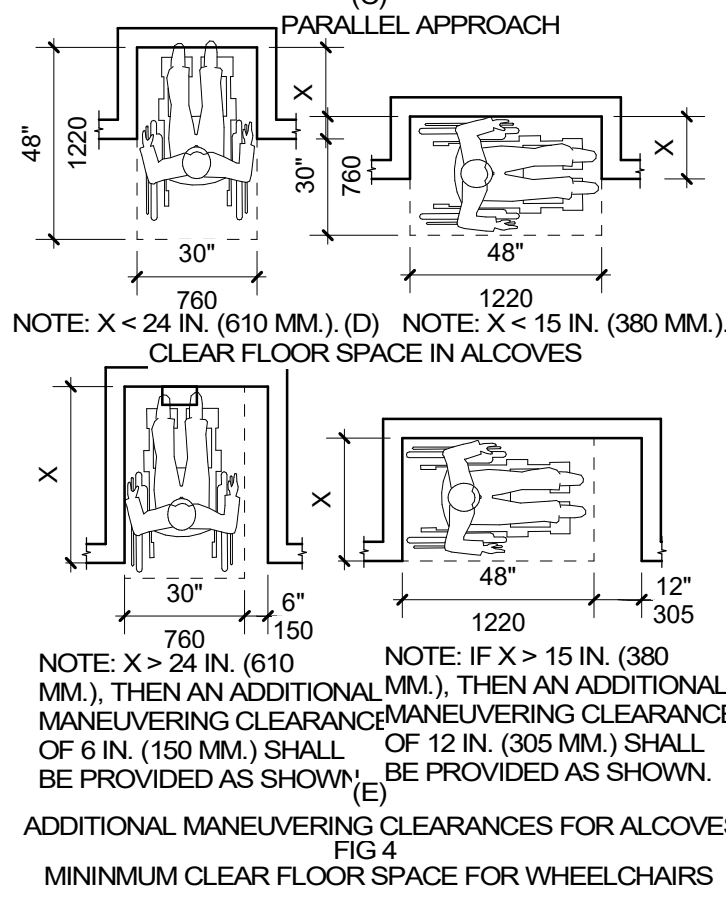
**B5 G1004**  
 1/4" = 1'-0"  
**LAVATORY CLEARANCES**



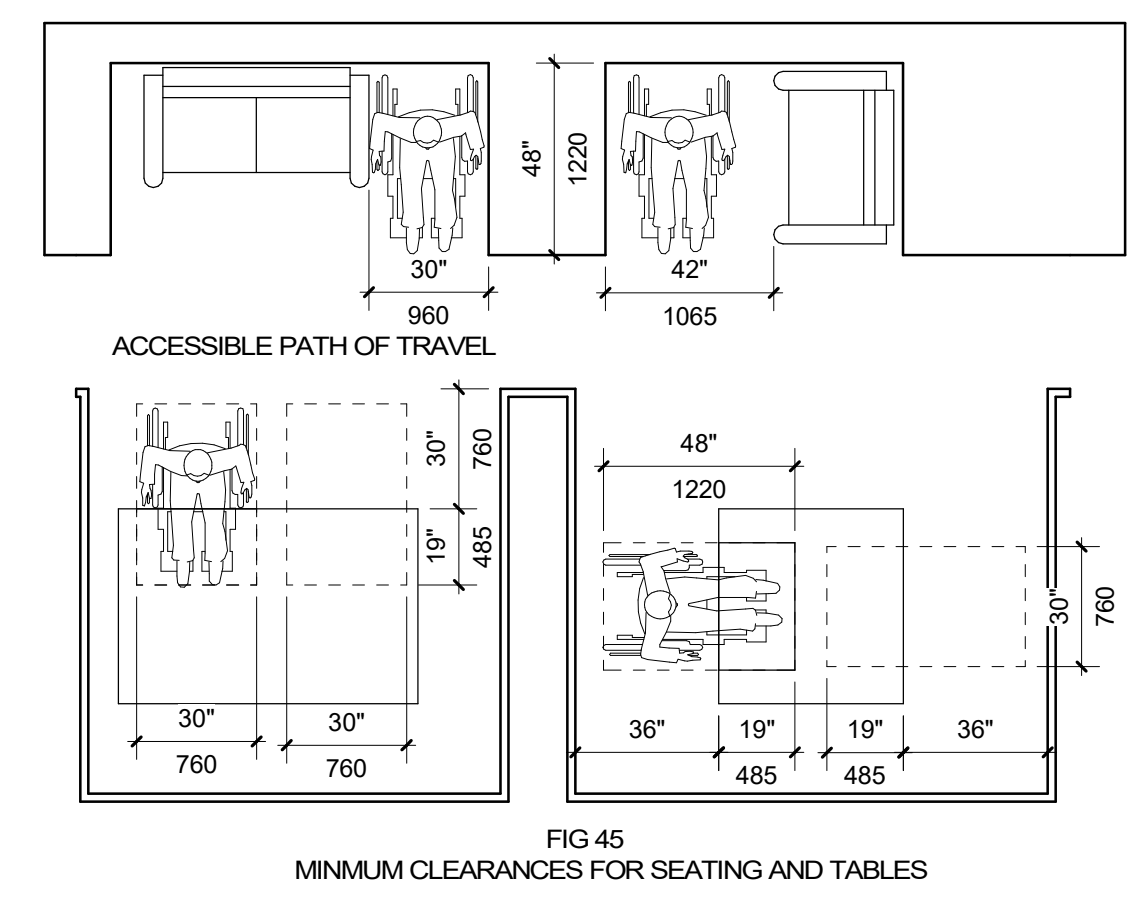
**A2.1 G1004**  
 1/4" = 1'-0"  
**MINIMUM CLEAR WIDTH FOR SINGLE WHEELCHAIR**



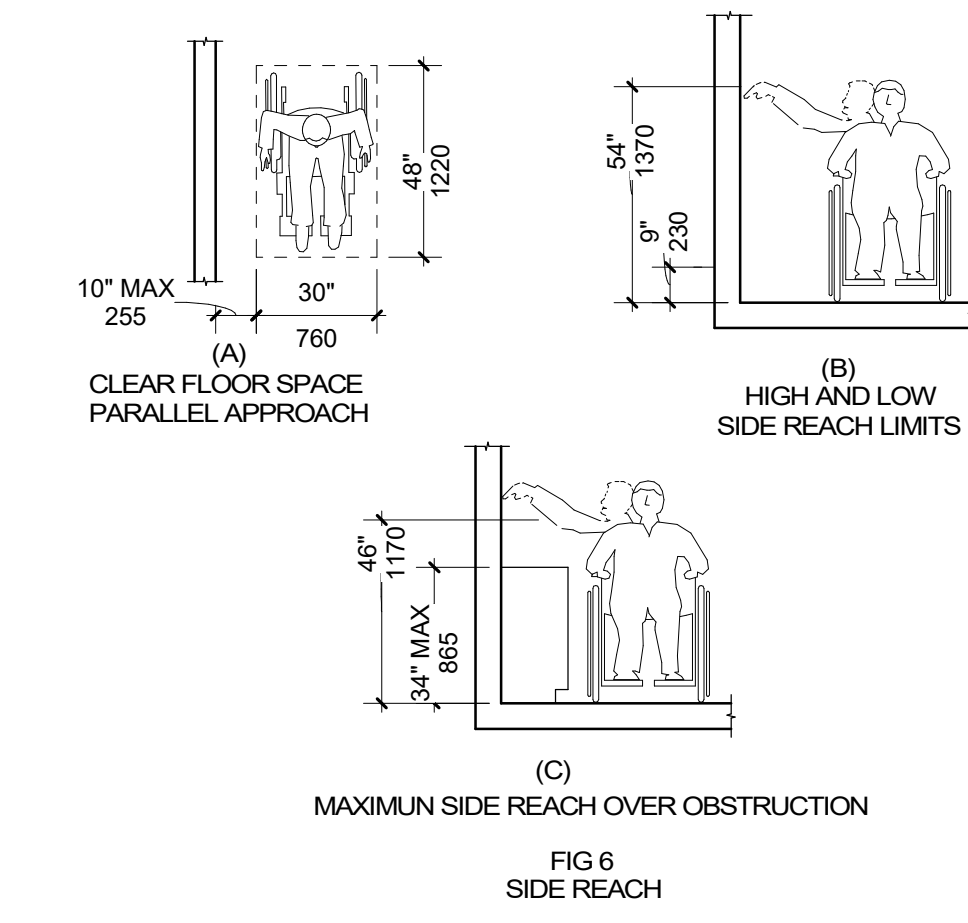
**A2 G1004**  
 1/4" = 1'-0"  
**MINIMUM CLEAR WIDTH FOR TWO WHEELCHAIR**



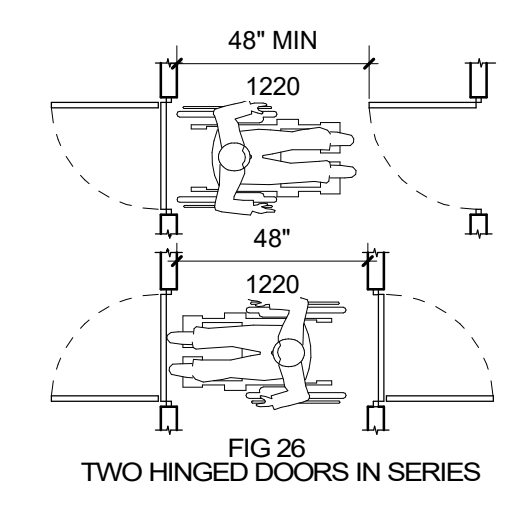
**A1 G1004**  
 1/4" = 1'-0"  
**MINIMUM CLEAR FLOOR SPACE FOR WHEELCHAIRS**



**A3 G1004**  
 1/4" = 1'-0"  
**MINIMUM CLEARANCES FOR SEATING AND TABLES**



**A4 G1004**  
 1/4" = 1'-0"  
**SIDE REACH**



**A5 G1004**  
 1/4" = 1'-0"  
**TWO HINGED DOORS IN SERIES**

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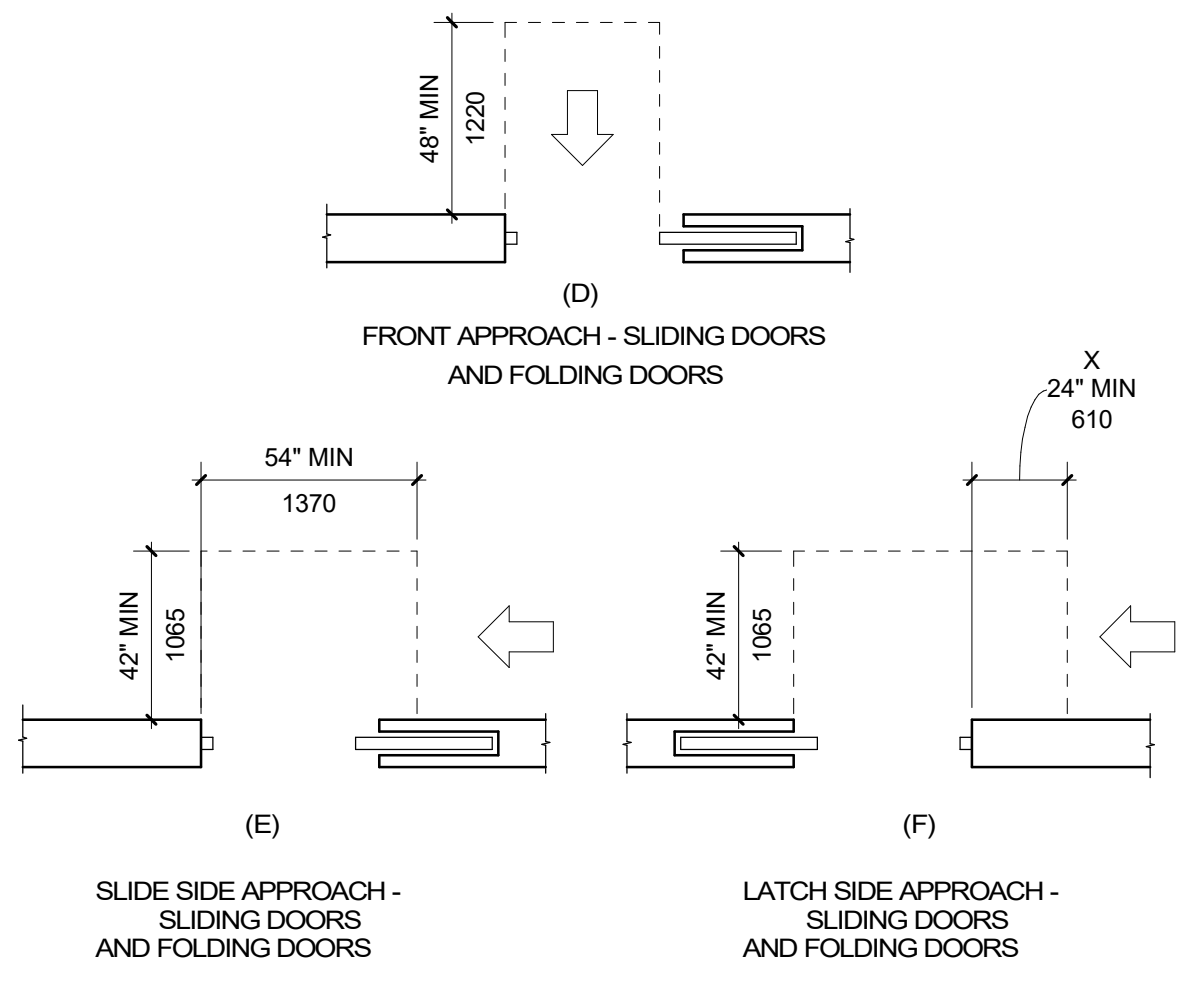
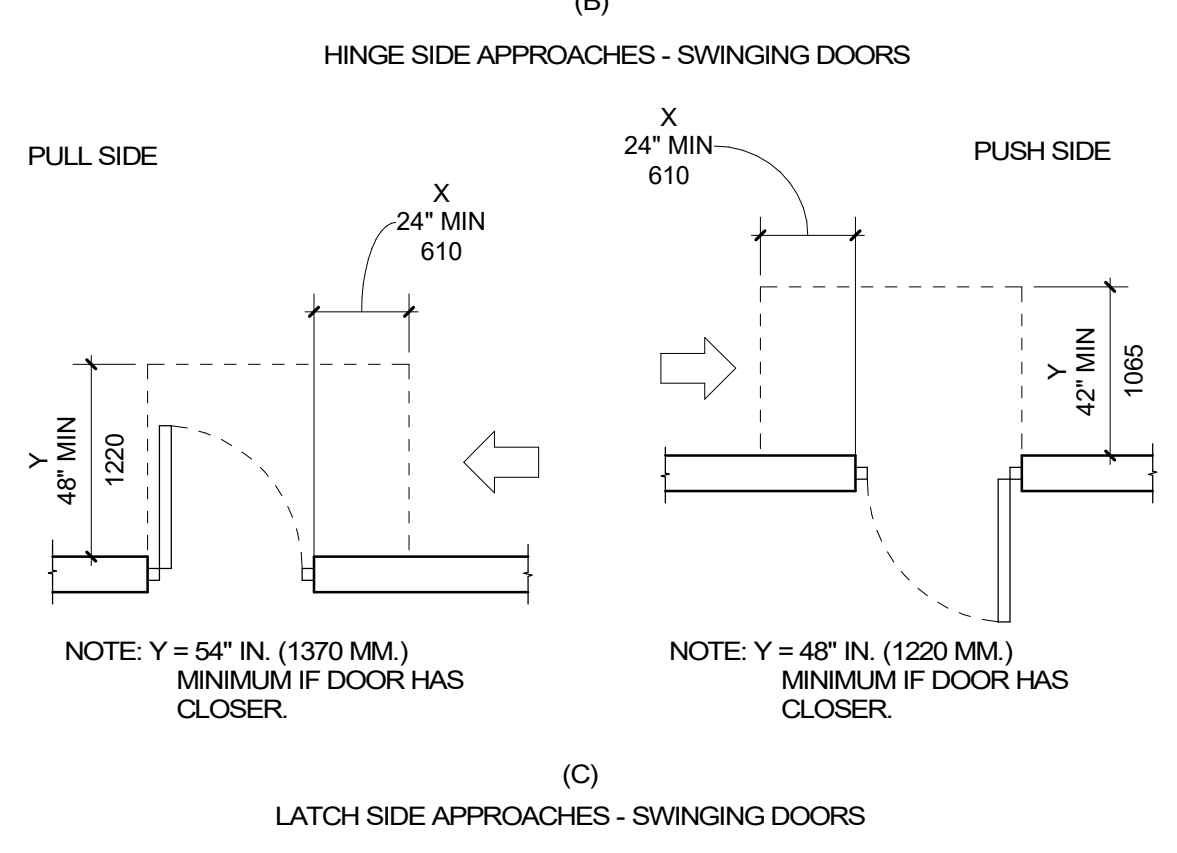
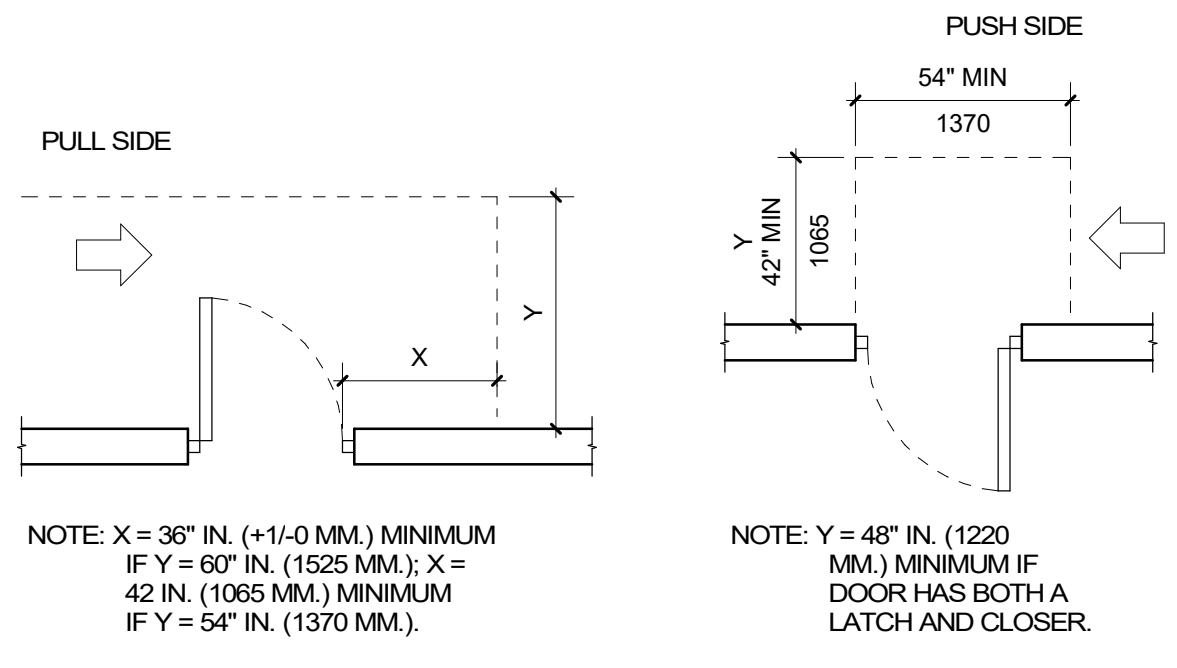
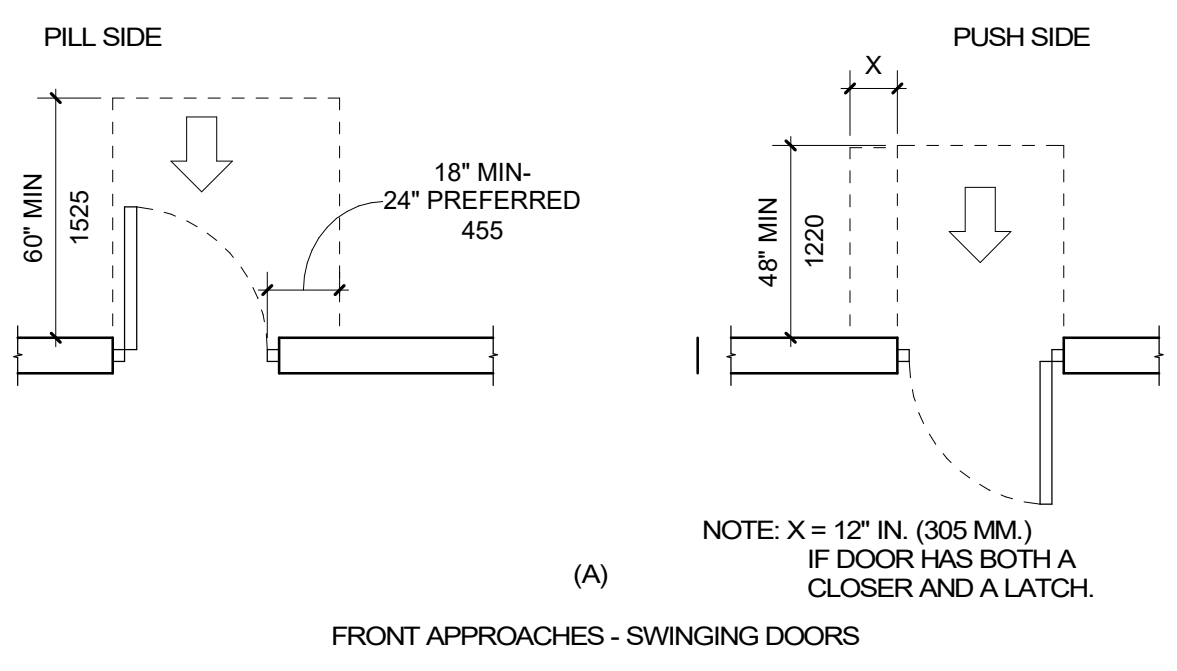


ISSUE TYPE: 100% CD  
 DATE: 2021-05-28

PROJECT NUMBER: 20-028  
 DRAWN BY: Author  
 CHECKED BY: Checker

**ACCESSIBILITY DETAILS**

**G1004**

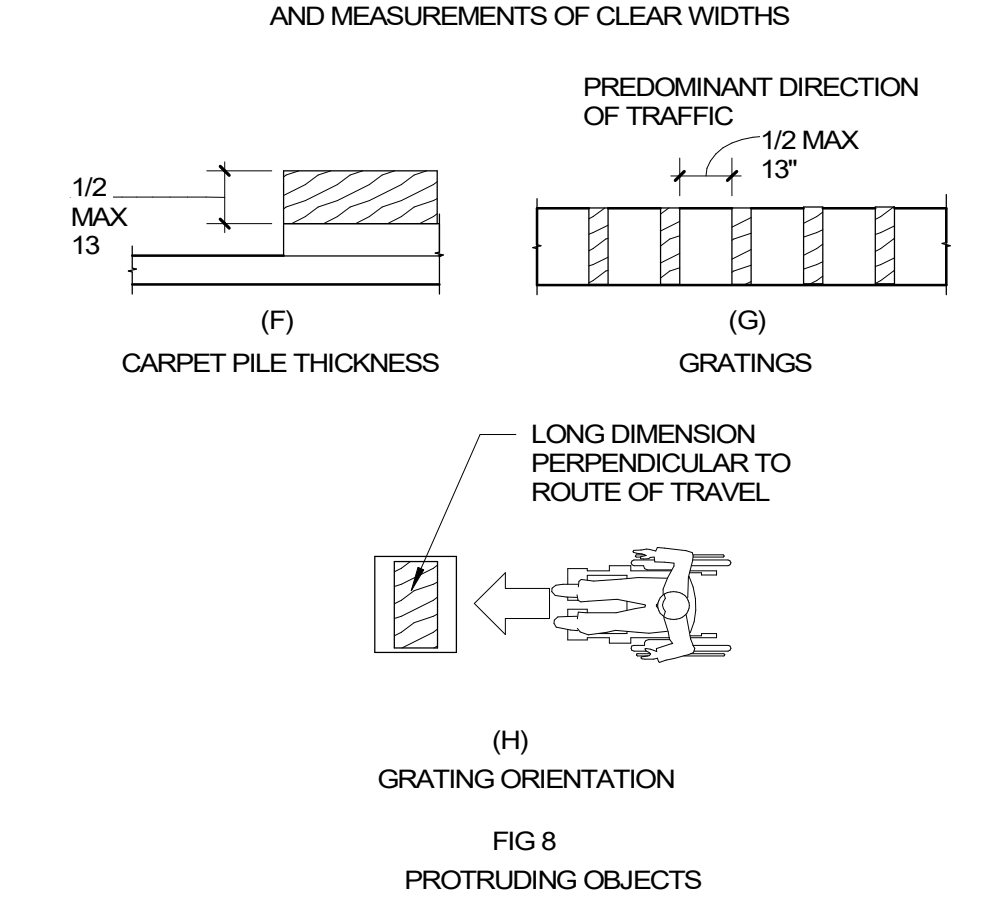
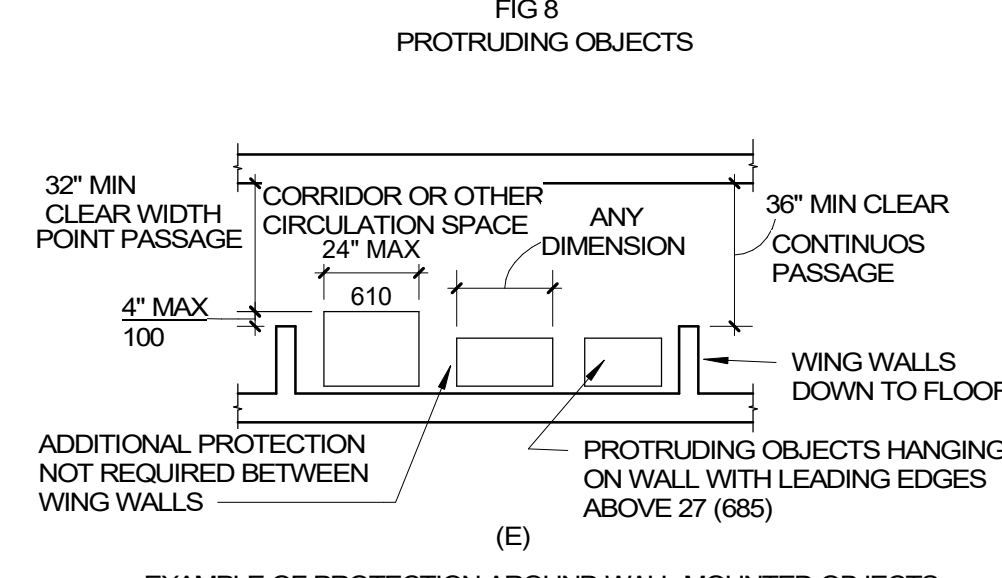
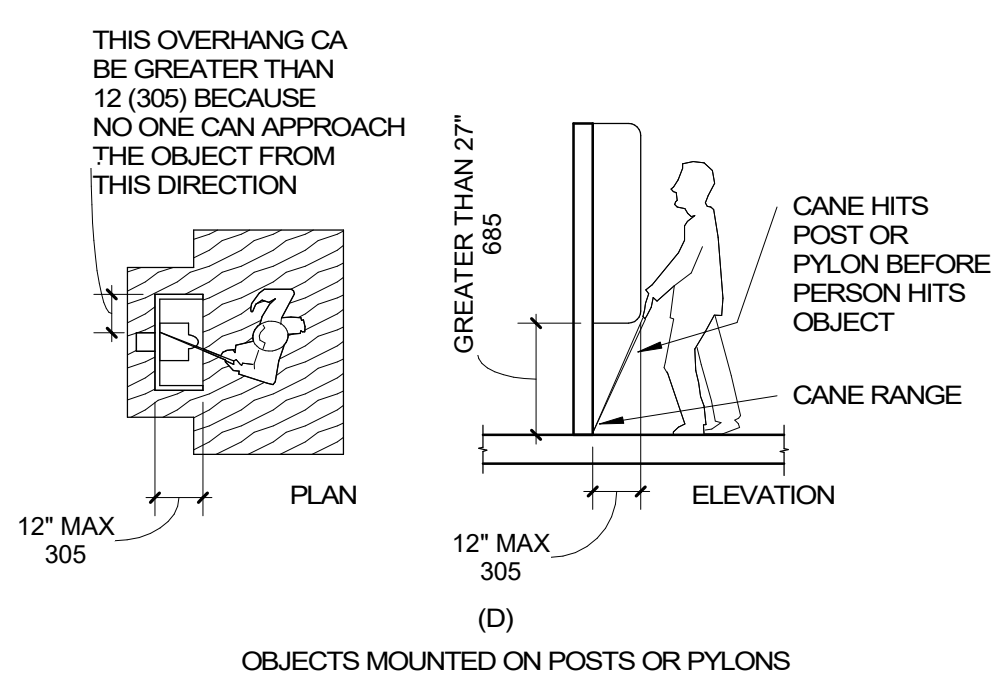


NOTE: ALL DOORS IN CLOVES SHALL COMPLY WITH THE CLEARANCES FOR FRONT APPROACHES.

FIG 25  
MANEUVERING CLEARANCE AT DOORS

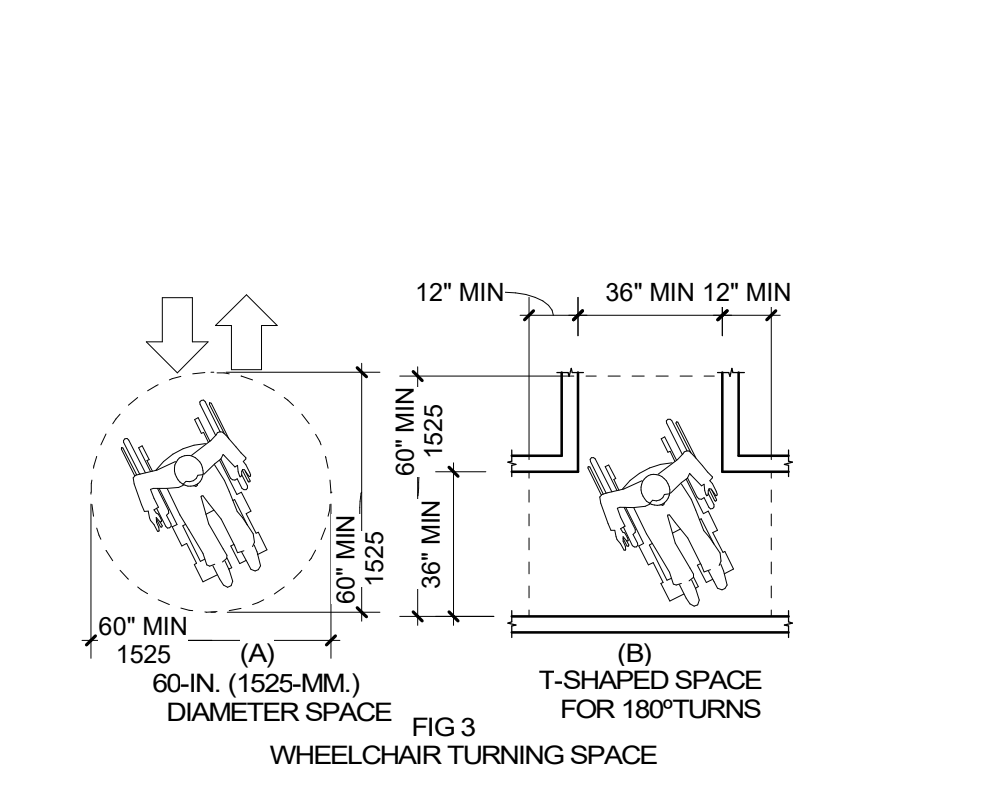
**A2**  
**GI005** 1/4" = 1'-0"

**MANEUVERING CLEARANCE AT DOORS**



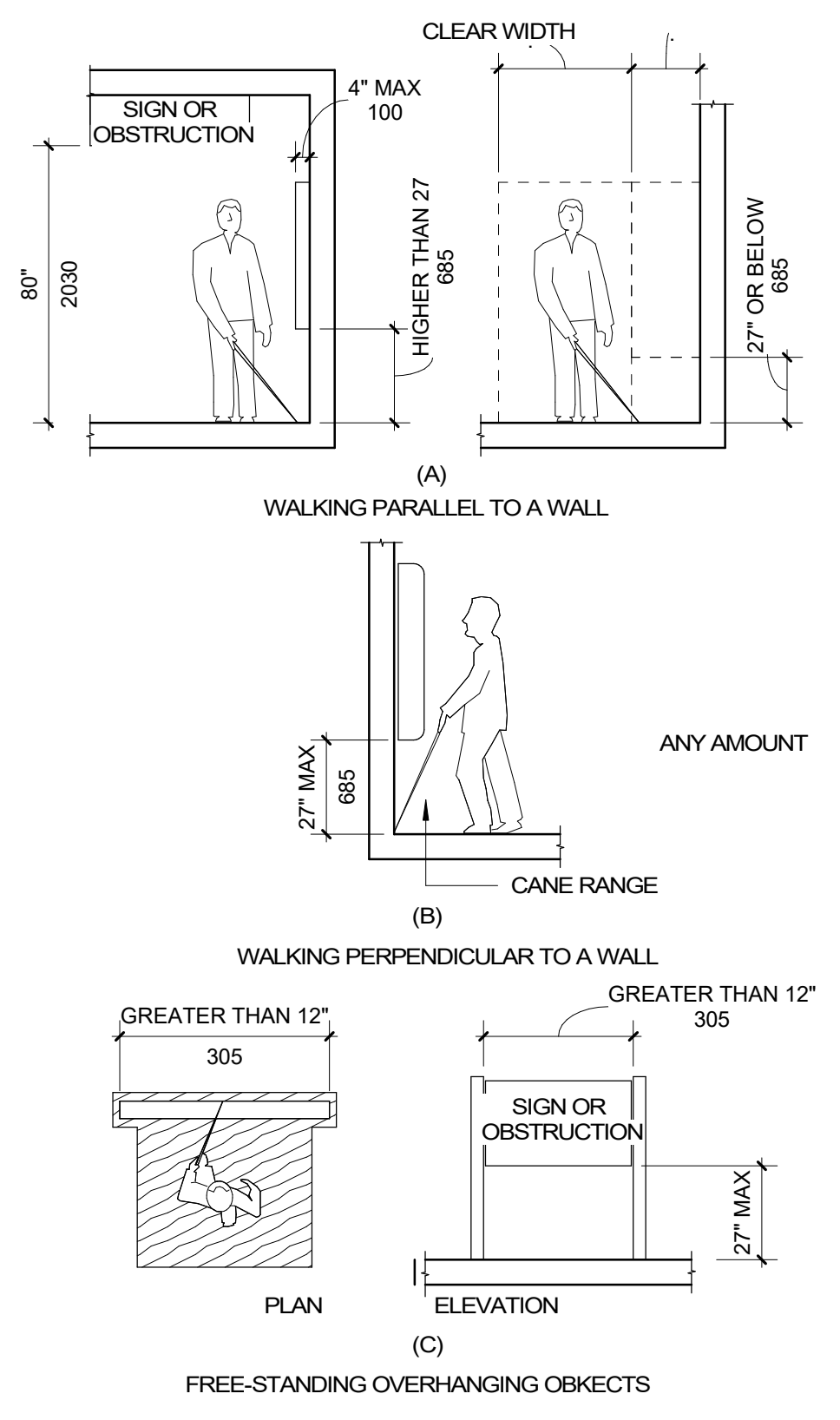
**B4**  
**GI005** 1/4" = 1'-0"

**PROTRUDING OBJECTS**



**A4**  
**GI005** 1/4" = 1'-0"

**WHEELCHAIR TURNING SPACE**



<b>STRUCTURAL ENGINEER</b> DUNN ASSOCIATES 380 WEST 800 SOUTH, SUITE 100 SALT LAKE CITY, UT 84101	C/O PHIL MILLER pmiller@dunn-se.com (801)466-1699
<b>MECHANICAL ENGINEER</b> SPECTRUM ENGINEERS 324 S STATE STREET, SUITE 400 SALT LAKE CITY, UT 84111	C/O RYAN BOOGARD rnb@spectrum-engineers.com (801)328-5151
<b>ELECTRICAL ENGINEER</b> SPECTRUM ENGINEERS 324 S STATE STREET, SUITE 400 SALT LAKE CITY, UT 84111	C/O DAVE WESEMANN dew@spectrum-engineers.com (801)328-5151
<b>CIVIL ENGINEER</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O COURY MORRIS courym@greatbasineng.com (801)394-4515
<b>LANDSCAPE ARCHITECT</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O JAMES ZAUGG jzaugg@greatbasineng.com (801)394-4515

**SAFE HARBOR LIFELINE**

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LAYTON, UT 84041

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<b>ISSUE TYPE:</b> 100% CD	<b>DATE:</b> 2021-05-28
<b>PROJECT NUMBER:</b> 20-028	<b>DRAWN BY:</b> Author
<b>CHECKED BY:</b>	<b>CHECKER:</b> Checker

**ACCESSIBILITY DETAILS**

**GI005**



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<b>STRUCTURAL ENGINEER</b> DUNN ASSOCIATES 380 WEST 800 SOUTH, SUITE 100 SALT LAKE CITY, UT 84101	C/O PHIL MILLER pmiller@dunn-se.com (801)466-1699
<b>MECHANICAL ENGINEER</b> SPECTRUM ENGINEERS 324 S STATE STREET, SUITE 400 SALT LAKE CITY, UT 84111	C/O RYAN BOOGARD rnb@spectrum-engineers.com (801)328-5151
<b>ELECTRICAL ENGINEER</b> SPECTRUM ENGINEERS 324 S STATE STREET, SUITE 400 SALT LAKE CITY, UT 84111	C/O DAVE WESEMANN dew@spectrum-engineers.com (801)328-5151
<b>CIVIL ENGINEER</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O COURTY MORRIS courm@greatbasineng.com (801)394-4515
<b>LANDSCAPE ARCHITECT</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O JAMES ZAUGG jzaugg@greatbasineng.com (801)394-4515

### SYMBOLS LEGEND

	INTERIOR ELEVATION
	BUILDING ELEVATION
	BUILDING SECTION
	WALL SECTION
	DETAIL CALLOUT
	CALLOUT
	KEYNOTE
	DOOR TAG
	WALL TYPE
	ROOM TAG
	GLASS TYPE
	ELEVATION MARKER
	WINDOW TYPE
	CENTER LINE
	GRID
	NORTH ARROW
	CEILING TYPE
	FINISHES
	MATERIAL TAG

### MATERIAL LEGEND

	CONCRETE
	MASONRY
	STEEL
	BATT INSULATION
	RIGID INSULATION
	FINISH GRADE WOOD / HARDWOOD
	PLYWOOD
	SPRAY FOAM INSULATION
	DEMOLITION, SHOWN VIA HIDDEN LINE
	WOOD STUD

### SAFE HARBOR LIFELINE

223 WEST 475 SOUTH  
 LAYTON, UT 84041

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ISSUE TYPE:	DATE:
100% CD	2021-05-28
PROJECT NUMBER:	20-028
DRAWN BY:	NAVARAH
CHECKED BY:	CRSA

### SYMBOLS AND LEGENDS

# GI006

D

C

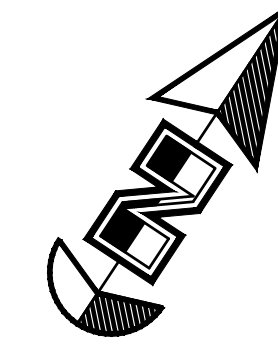
B

A

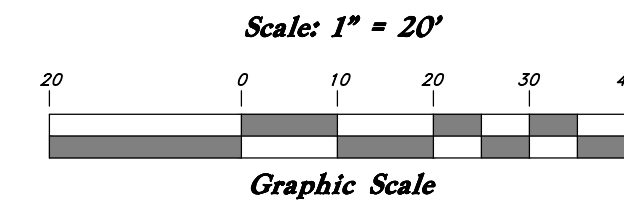
# SAFE HARBOR - LIFELINE BUILDING

SITE PLAN APPLICATION

ALL OF LOT 7 LAYTON PARKWAY NORTH SUBDIVISION - 1ST AMENDMENT  
 Also a part of the Northeast Quarter of Section 29 and the Northwest Quarter OF Section 28  
 Township 4 North, Range 1 West, SLB&M, U.S. Survey  
 Layton City, Davis County, Utah

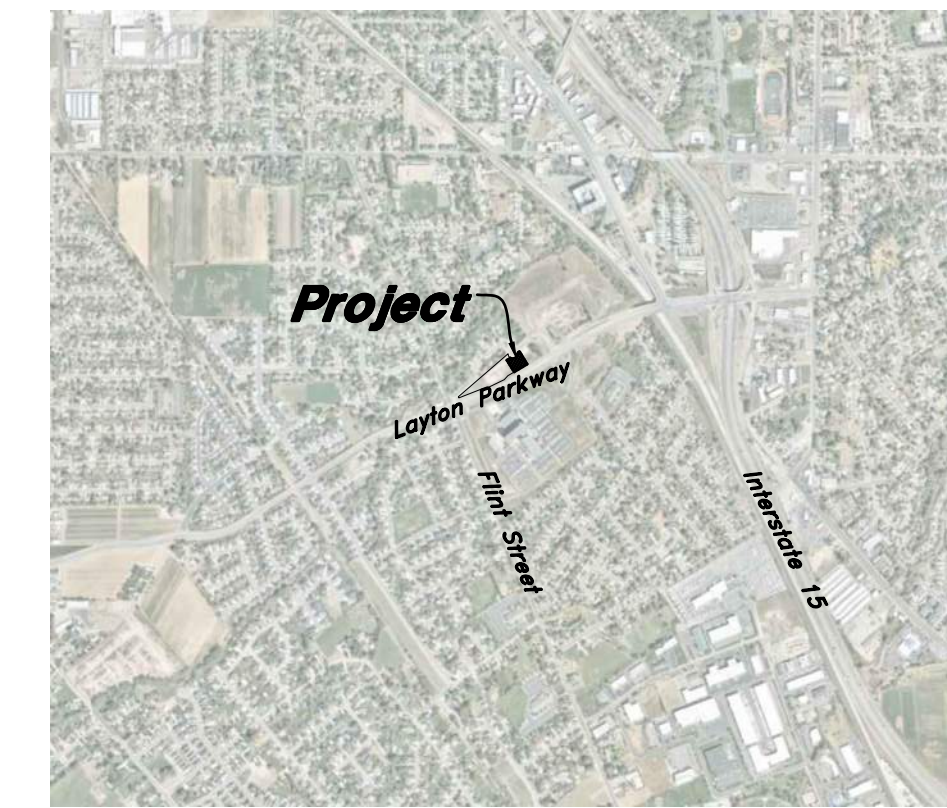


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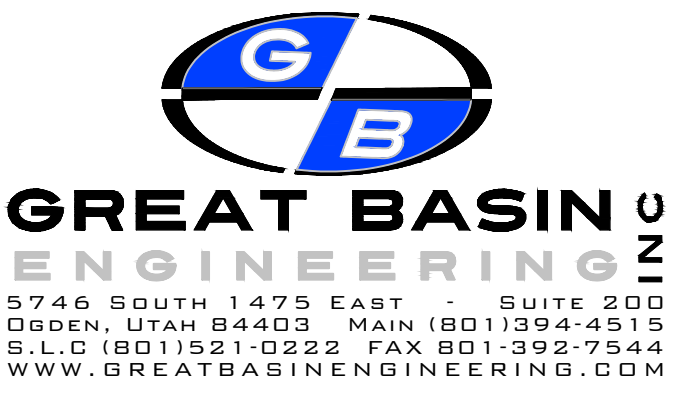
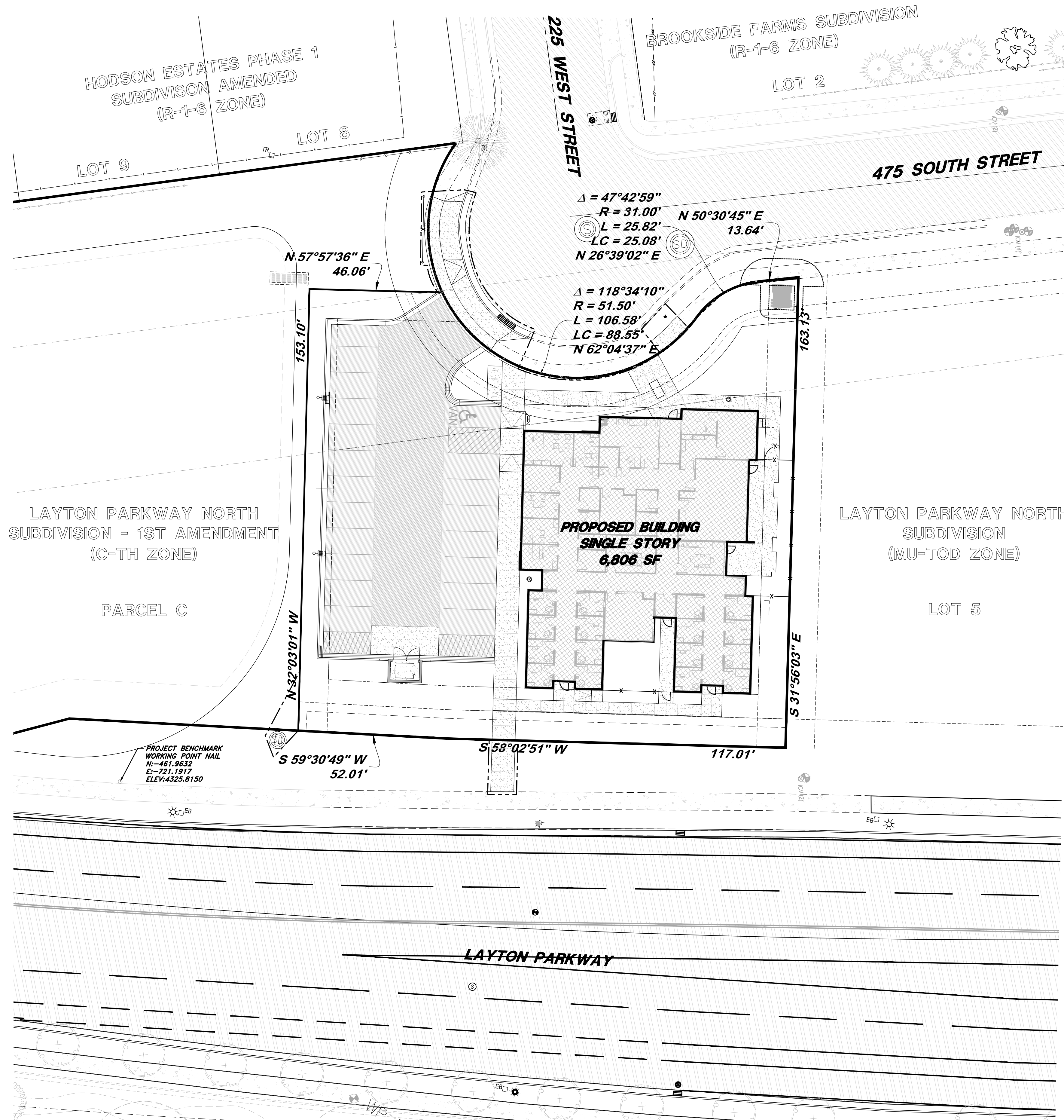


## SHEET INDEX

- CV COVER SHEET
- C001 DEMOLITION PLAN
- C101 SITE PLAN
- C201 GRADING & DRAINAGE PLAN
- C301 UTILITY PLAN
- C400 CONSTRUCTION DETAILS
- C401 CONSTRUCTION DETAILS
- C402 CONSTRUCTION DETAILS
- C403 CONSTRUCTION DETAILS



VICINITY MAP



GREAT BASIN ENGINEERING

5746 SOUTH 1475 EAST SUITE 200  
 OGDEN, UTAH 84403 MAIN (801) 394-4515  
 S.L.C. (801) 521-0222 FAX (801) 392-7544  
 WWW.GREATBASINENGINEERING.COM

## SAFE HARBOR LIFELINE

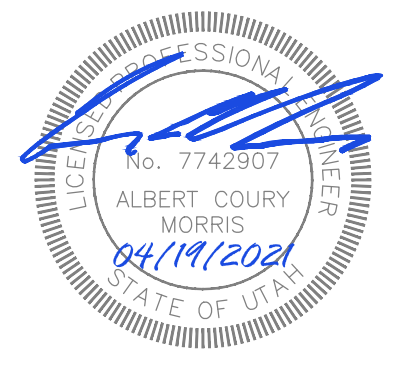
223 WEST 475 SOUTH  
 LAYTON, UT

**Project Benchmark**  
 Found Working Point Nail in Sidewalk along Layton Parkway Found Elevation = 4325.815 (feet)

**PRIVATE ENGINEER'S NOTICE TO CONTRACTORS**  
 The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.

ALL CONSTRUCTION TO CONFORM TO LAYTON CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WAY

### STAMP



ISSUE TYPE:	DATE:
Project Status: 95% Review Set	Issue Date: May 25, 2021
1 CITY REVIEW #1	MAY 3, 2021

PROJECT NUMBER: 20N908	Project Number
DRAWN BY: RC	Author
CHECKED BY: ACM	Checker

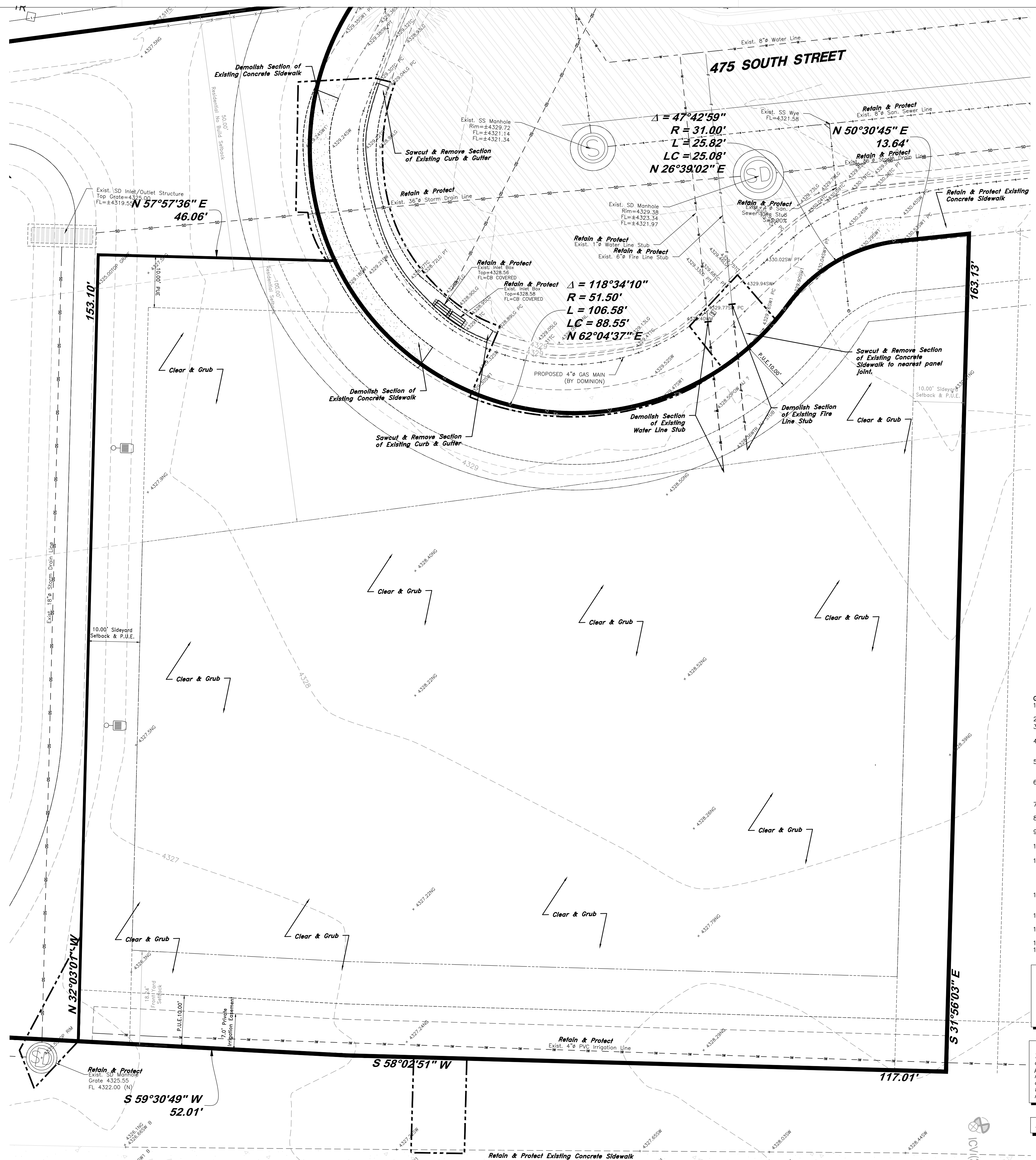
**Developer**  
 Safe Harbor Crisis Center  
 Contact: Kristen Floyd  
 Office: (801) 660-6101  
 Kristen@safeharborhope.com

**Project Engineer**  
 Great Basin Engineering, Inc.  
 Contact: Coury Morris, P.E.  
 5746 S. 1475 E. Ogden UT 84403  
 Office: (801) 394-4515  
 Mobile: (801) 628-9677  
 Courym@greatbasineng.com

## CIVIL COVER SHEET

CV

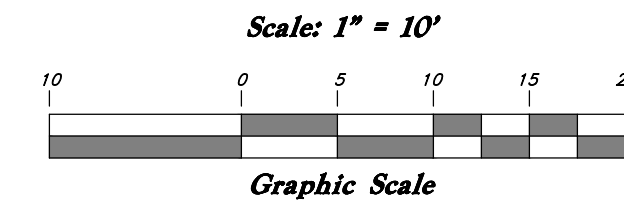
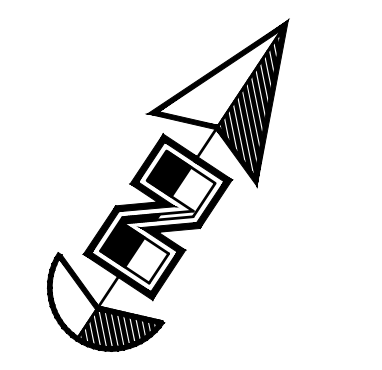




**Legend**

(Note: All items may not appear on drawing)

- San. Sewer Manhole
- Water Manhole
- Storm Drain Manhole
- Cleanout
- Electrical Manhole
- Catch Basins
- Water Meter
- Gas Manhole
- Exist. Fire Hydrant
- Fire Hydrant
- Exist. Water Valve
- Water Valve
- Sanitary Sewer
- Culinary Water
- Gas Line
- Irrigation Line
- Storm Drain
- Telephone Line
- Secondary Waterline
- Power Line
- Fire Line
- Land Drain
- Power pole
- Power pole w/guy
- Light Pole
- Fence
- Flowline of ditch
- Overhead Power line
- Corrugated Metal Pipe
- Concrete Pipe
- Reinforced Concrete Pipe
- Ductile Iron
- Polyvinyl Chloride
- Top of Asphalt
- Edge of Asphalt
- Centerline
- Flowline
- Finish Floor
- Top of Curb
- Top of Wall
- Top of Walk
- Top of Concrete
- Natural Ground
- Finish Grade
- Match Existing
- Fire Department Connection
- Finish Contour
- Exist. Contour
- Finish Grade
- Exist. Grade
- Ridge Line
- Direction of Flow
- Existing Asphalt
- New Asphalt
- Heavy Duty Asphalt
- Existing Concrete
- New Concrete
- Spill Curb & Gutter
- Demo Tree
- Cut/Fill Area over 5.0'



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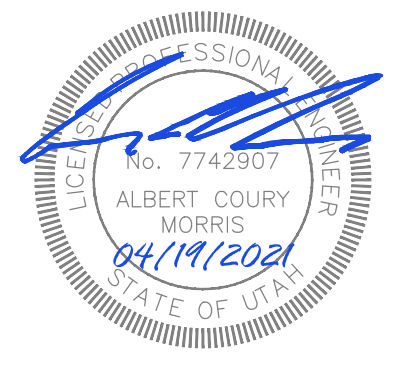


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**SAFE HARBOR LIFELINE**

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- GENERAL DEMOLITION NOTES:**
1. Demolition and site clearing for this contract are to include all areas shown within demolition limits or by note.
  2. Refer to site improvement plans for more details on limits of removal.
  3. Demolish existing buildings and clear from site. (Including removal of all footings and foundations.)
  4. All curbs, gutters, walks, slabs, walls, fences, flatwork, asphalt, waterlines and meters, gas lines, sewer lines, light poles, buried cables, storm drain piping and structures to be cleared from site unless otherwise shown.
  5. All utilities, sewer, water, gas, telephone and electrical services to be disconnected and capped according to city, county and utility company requirements, unless otherwise shown.
  6. Basements and other excavated areas to be backfilled with clean granular material compacted to 95% of maximum lab density as determined by ASTM D 1557-78. (Test results to be given to owner)
  7. Clear and grub trees, shrubs, and vegetation within construction limits, disposal to be off-site except where noted otherwise.
  8. DO NOT interrupt any services or disrupt the operation of any businesses shown outside the demolition limits.
  9. If ASBESTOS is found in existing structures, the Asbestos must be removed in a legal manner by a contractor licensed to handle asbestos materials. (Not a part of contract)
  10. Remove debris, rubbish, and other materials resulting from the demolition and site clearing operations from the site and dispose of in a legal manner.
  11. The location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied upon as being exact or complete. Contractor shall contact authorities having jurisdiction for field locations. Contractor shall be responsible for protection of in place and relocated utilities during construction.
  12. Stockpiles shall be graded to maintain slopes not greater than 3' horizontal to 1' vertical. Provide erosion control as needed to prevent sediment transport to adjacent drainage ways.
  13. Contractor shall be responsible for disposal of all waste material. Disposal shall be at an approved site for such material. Burning onsite is not permitted.
  14. Contractor shall verify with city any street removal, curb cuts, and any restoration required for utility line removal.
  15. Install traffic warning devices as needed in accordance with local standards.
  16. Contractor shall obtain all permits necessary for demolition from City, County, State or Federal Agencies as required.

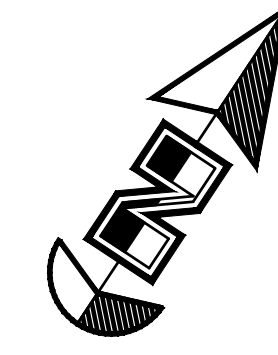
**CAUTION NOTICE TO CONTRACTOR**  
The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the propose improvements shown on the plans.

**PRIVATE ENGINEER'S NOTICE TO CONTRACTORS**  
The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours, and that the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.

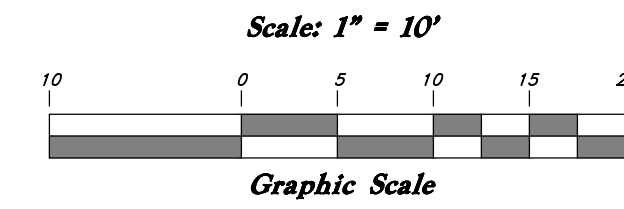
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**DEMOLITION PLAN**

**C001**



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**SITE DATA TABLE**

TOTAL PROPERTY AREA: 24,400 SF (0.56 ACRES)  
BUILDING: 6,806 SF (0.16 ACRES) (29%)  
HARDSCAPE: 10,111 SF (0.23 ACRES) (41%)  
LANDSCAPE: 7,483 SF (0.17 ACRES) (30%)

REQUIRED PARKING: 17 STALLS (2.5 STALLS/1000 SF)  
PROVIDED STALLS: 20 STALLS TOTAL  
19 STANDARD  
1 ACCESSIBLE

**FIRE DEPARTMENT NOTES**

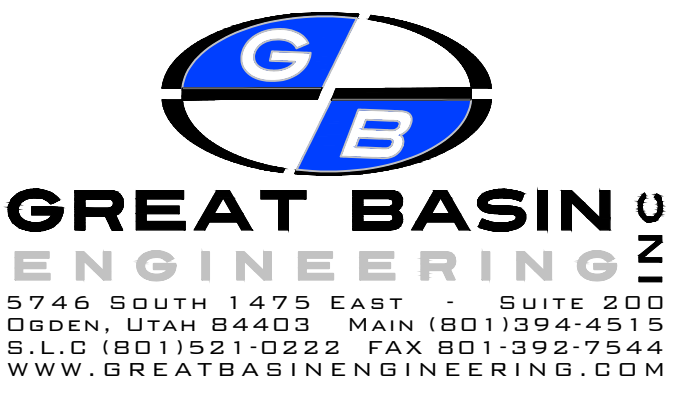
1. FIRE HYDRANTS AND ACCESS ROADS SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF ANY BUILDINGS. ALL HYDRANTS SHALL BE PLACED WITH THE 4 1/2" CONNECTION FACING THE POINT OF ACCESS FOR FIRE DEPARTMENT APPARATUS.
2. AS A PRIVATE DEVELOPMENT, THE PRIVATE FIRE HYDRANTS SHALL BE ANNUALLY MAINTAINED AND A 5-YEAR FLOW TEST SHALL BE PERFORMED IN ACCORDANCE WITH NFPA 24 AND 25. ALL RECORDS SHALL BE PROVIDED AND SUBMITTED THROUGH THE COMPLIANCE ENGINE FOUND AT [HTTP://WWW.THECOMPLIANCEENGINE.COM](http://www.thecomplianceengine.com)
3. PRIOR TO BEGINNING CONSTRUCTION OF ANY BUILDINGS, A FIRE FLOW TEST OF THE NEW HYDRANTS SHALL BE CONDUCTED TO VERIFY THE ACTUAL FIRE FLOW AVAILABLE FOR THIS PROJECT. THE FIRE PREVENTION DIVISION OF THIS DEPARTMENT SHALL WITNESS THIS TEST AND SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE TEST
4. PRIOR TO BEGINNING CONSTRUCTION OF ANY BUILDINGS, A FIRE FLOW TEST OF THE NEW HYDRANTS SHALL BE CONDUCTED TO VERIFY THE ACTUAL FIRE FLOW AVAILABLE FOR THIS PROJECT. THE FIRE PREVENTION DIVISION OF THIS DEPARTMENT SHALL WITNESS THIS TEST AND SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE TEST.
5. CURB SECTIONS SHOWN IN RED TO BE PAINTED RED & 'NO PARKING - FIRE LANE' SIGNS PROVIDED AS REQUIRED BY LAYTON CITY FIRE MARSHALL.

**GENERAL SITE NOTES:**

1. Stalls designated as accessible will require a painted accessible symbol and sign. (See Details)
2. Fire lane markings and signs to be installed as directed by the Fire Marshal. Road widths equal to or less than 32 feet shall require red curbside painting and "No Parking" signs that are approved positioned along the fire apparatus access routes. (See detail on sheet CD503).
3. Aisle markings, directional arrows and stop bars will be painted at each driveway as shown on the plans.
4. Building sidewalks, ramps, and bollards are building contractor responsible items. See architectural plans.
5. All dimensions are to back of curb unless otherwise noted.
6. Fire hydrants and access roads shall be installed prior to construction of any buildings. All fire hydrants shall be placed with the 4 1/2" connection facing the point of access for Fire Department Apparatus.
7. All fire apparatus access roads shall be a minimum all-weather, drivable and maintainable surface. There shall be a minimum clear and unobstructed width of not less than 26 feet and an unobstructed vertical clearance of not less than 13 feet 6 inches. Dead-end roads created in excess of 150 feet in length shall be provided with an approved turn-around.

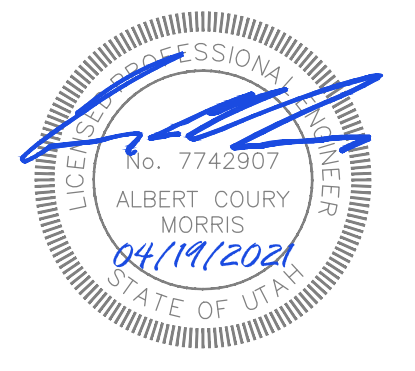
**PRIVATE ENGINEER'S NOTICE TO CONTRACTORS**  
The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.

ALL CONSTRUCTION TO CONFORM TO LAYTON CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WAY



**SAFE HARBOR LIFELINE**  
223 WEST 475 SOUTH  
LAYTON, UT

**STAMP**



ISSUE TYPE:	DATE:
Project Status: 95% Review Set	Issue Date: May 25, 2021
1 CITY REVIEW #1	MAY 3, 2021
PROJECT NUMBER: 20N908	Project Number
DRAWN BY: RC	Author
CHECKED BY: ACM	Checker

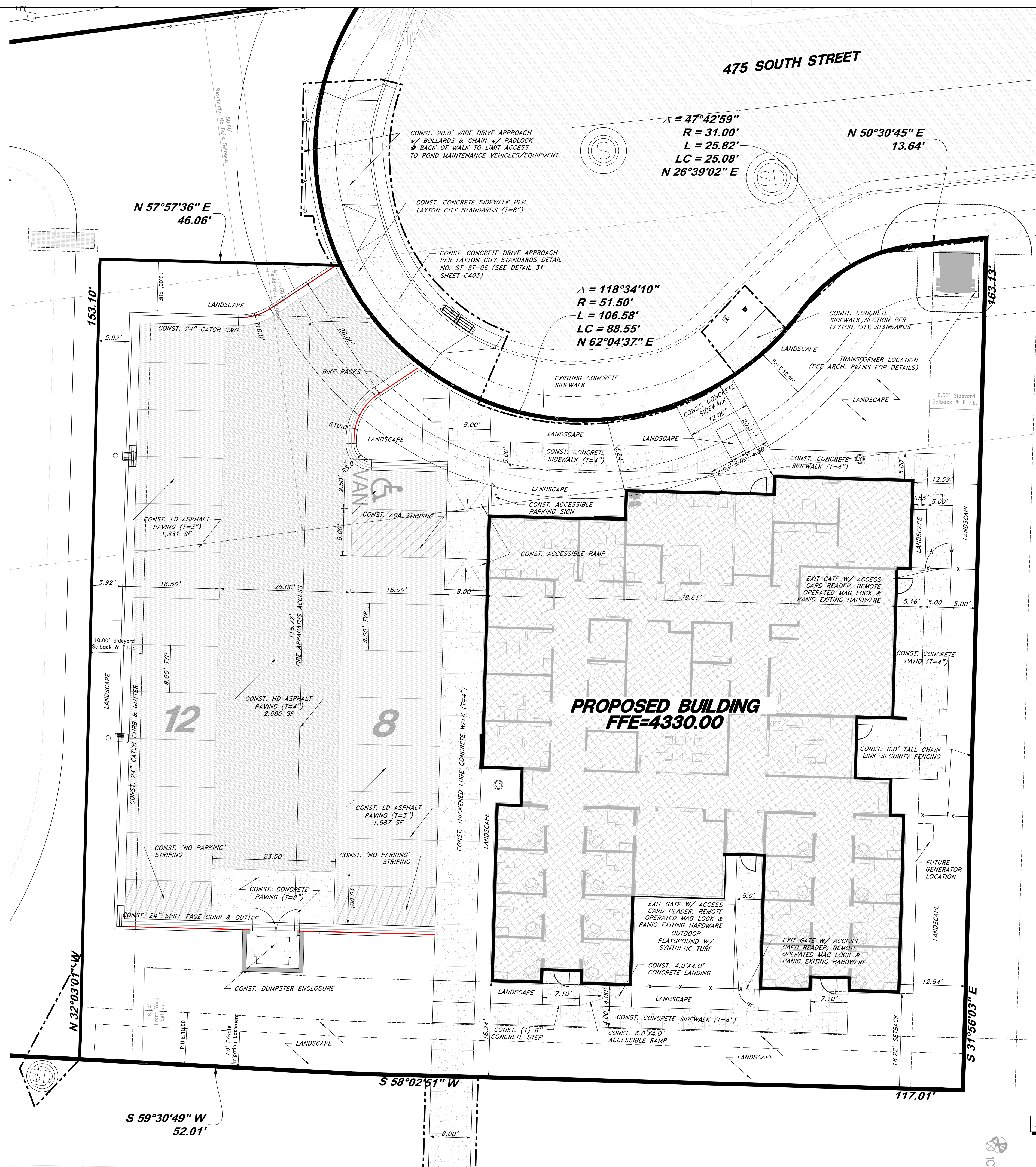
**SITE PLAN**

**C101**

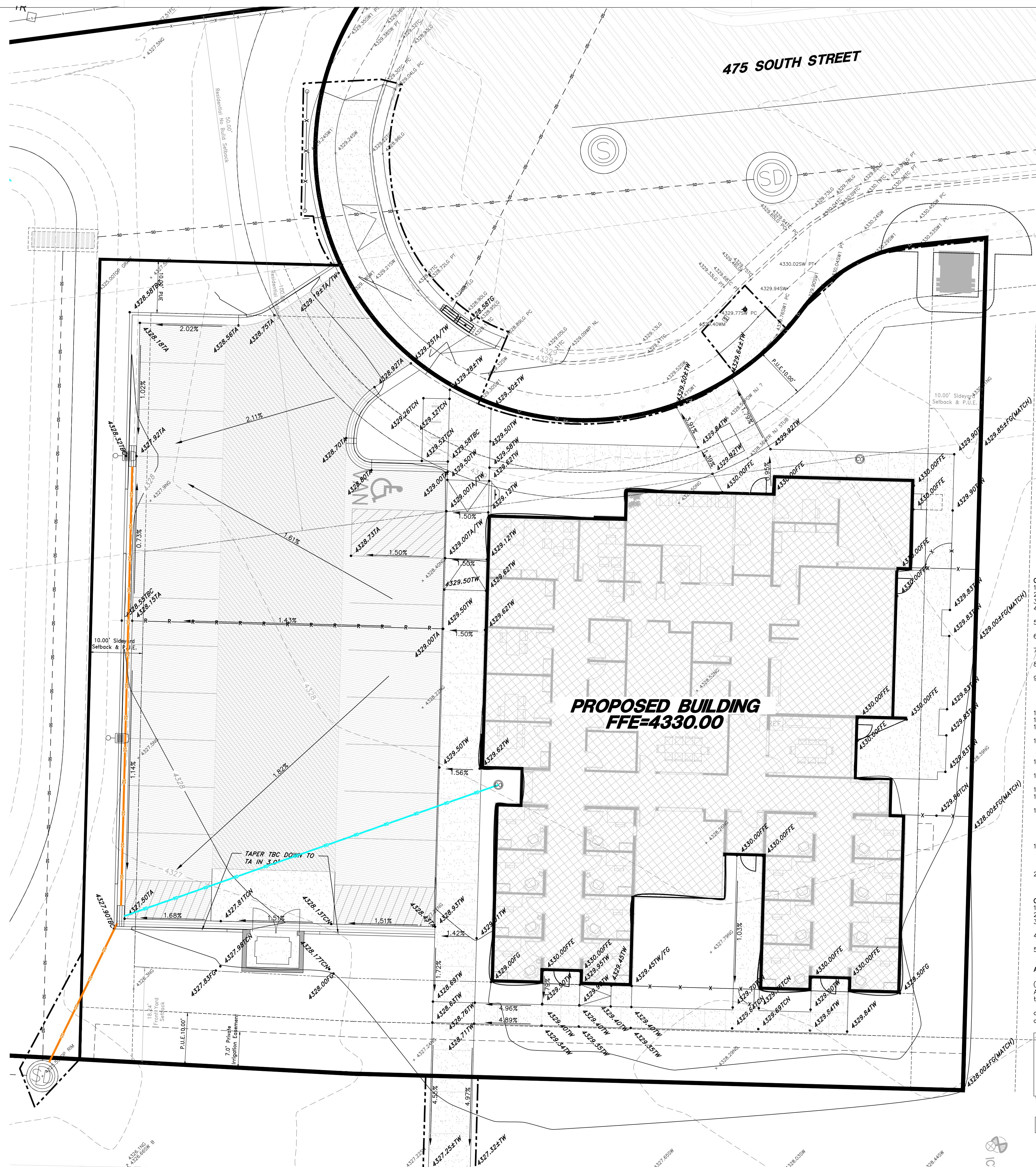
**Legend**

(Note: All items may not appear on drawing)

- San. Sewer Manhole
- Water Manhole
- Storm Drain Manhole
- Cleanout
- Electrical Manhole
- Catch Basins
- Water Meter
- Gas Manhole
- Exist. Fire Hydrant
- Fire Hydrant
- Water Valve
- Sanitary Sewer
- Culinary Water
- Gas Line
- Irrigation Line
- Storm Drain
- Telephone Line
- Secondary Waterline
- Power Line
- Fire Line
- Land Drain
- Power pole
- Power pole w/guy
- Light Pole
- Fence
- Flowline of ditch
- Overhead Power line
- Corrugated Metal Pipe
- Concrete Pipe
- Reinforced Concrete Pipe
- Drainage Iron
- Polyvinyl Chloride
- Top of Asphalt
- Edge of Asphalt
- Centerline
- Flowline
- Finish Floor
- Top of Curb
- Top of Wall
- Top of Walk
- Top of Concrete
- Natural Ground
- Finish Grade
- Match Existing
- Fire Department Connection
- ME
- FDC
- Finish Contour
- Exist. Contour
- Finish Grade
- Exist. Grade
- Ridge Line
- Direction of Flow
- Existing Asphalt
- New Asphalt
- Heavy Duty Asphalt
- Existing Concrete
- New Concrete
- Spill Curb & Gutter
- Demo Tree
- Cut/Fill Area over 5.0'



D  
C  
B  
A



### Legend

(Note: All items may not appear on drawing)

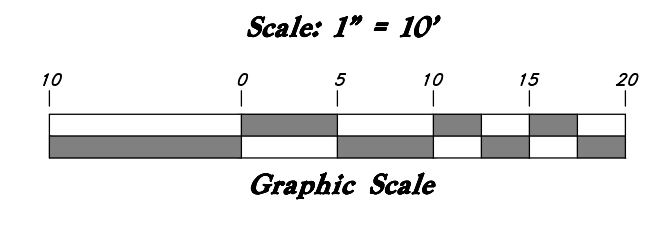
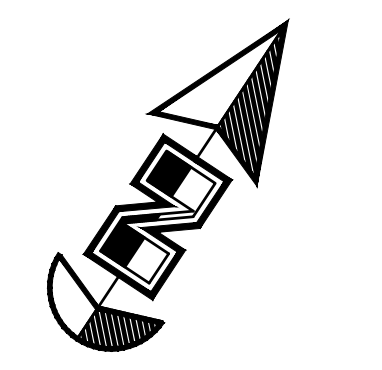
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- Demo Tree
- Cut/Fill Area over 5.0'

- GENERAL GRADING NOTES:**
- All work shall be in accordance with the City Public Works Standard.
  - Cut slopes shall be no steeper than 2 horizontal to 1 vertical.
  - Fill slopes shall be no steeper than 2 horizontal to 1 vertical.
  - Fills shall be compacted per the recommendations of the geotechnical report prepared for the project and shall be certified by the geotechnical engineer.
  - Areas to receive fill shall be properly prepared and approved by the City Inspector and geotechnical Engineer prior to placing fill.
  - Fills shall be benched into competent material as per specifications and geotechnical report.
  - All trench backfill shall be tested and certified by the site geotechnical engineer per the grading code.
  - A geotechnical engineer shall perform periodic inspections and submit a complete report and map upon completion of the rough grading.
  - The final compaction report and certification from the geotechnical engineer shall contain the type of field testing performed. Each test shall be identified with the method of obtaining the in-place density, whether soil cone or drive ring and shall be so noted for each test. Sufficient maximum density determinations shall be performed to verify the accuracy of the maximum density curves used by the field technician.
  - Dust shall be controlled by watering.
  - The location and protection of all utilities is the responsibility of the permittee.
  - Approved protective measures and temporary drainage provisions must be used to protect adjoining properties during the grading project.
  - All public roadways must be cleared daily of all dirt, mud and debris deposited on them as a result of the grading operation. Cleaning is to be done to the satisfaction of the city engineer.
  - The site shall be cleared and grubbed of all vegetation and deleterious matter prior to grading.
  - The contractor shall provide shoring in accordance with OSHA requirements for trench walls.
  - Aggregate base shall be compacted per the geotechnical report prepared for the project.
  - Elevations shown on this plan are finish grades. Rough grades are the subgrades of the improvements shown hereon.
  - The recommendations in the following Geotechnical Engineering Report by xxxx are included in the requirements of grading and site preparation.  
The report is titled "GEOTECHNICAL INVESTIGATION"  
Job No.: \_\_\_\_\_ Address \_\_\_\_\_  
Dated: \_\_\_\_\_
  - As part of the construction documents, owner has provided contractor with a topographic survey performed by manual or aerial means. Such survey was prepared for project design purposes and is provided to the contractor as a courtesy. It is expressly understood that such survey may not accurately reflect existing topographic conditions.
  - Erosion Control: Protect all inlet boxes, catch basins, etc. with straw bales or other approved method to strain the storm water during construction. Protect surrounding properties and streets from site runoff with sandbags and earth berms.
- CURB AND GUTTER CONSTRUCTION NOTES:**
- Open face gutter shall be constructed where drainage is directed away from curb.
  - Open face gutter locations are indicated by shading and notes on site and grading plan.
  - It is the responsibility of the surveyor to adjust top of curb grades at the time construction staking.
  - Refer to the typical details for a standard and open face curb and gutter for dimensions.
  - Transitions between open face and standard curb and gutter are to be smooth. Hand form these areas if necessary.
- ADA NOTES:**
- Contractor must maintain a running slope on Accessible routes no steeper than 5.0% (1:20). The cross slope for Accessible routes must be no steeper than 2.0% (1:50). All Accessible routes must have a minimum clear width of 36". If grades on plans do not meet this requirement notify Consultants immediately.
  - The Client, Contractor, and Subcontractor should immediately notify the Consultant of any conditions of the project that they believe do not comply with the current state of the ADA and/or FHAA.

**PRIVATE ENGINEER'S NOTICE TO CONTRACTORS**

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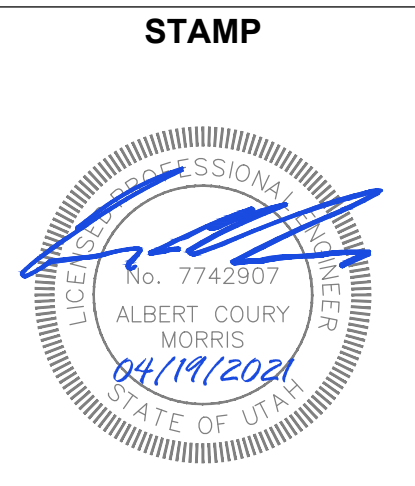
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**SAFE HARBOR LIFELINE**  
 223 WEST 475 SOUTH  
 LAYTON, UT

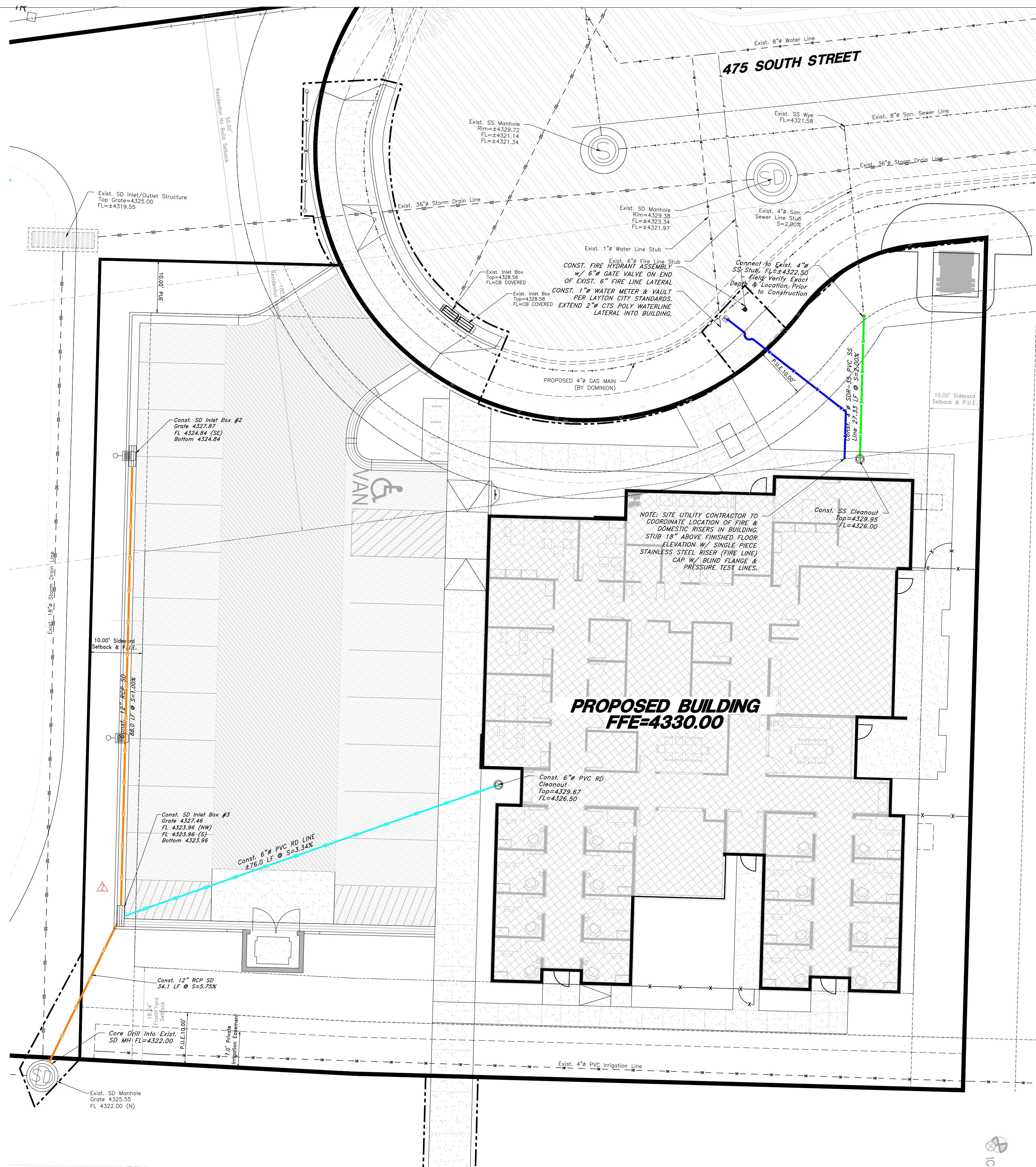


<b>ISSUE TYPE:</b>	<b>DATE:</b>
Project Status: 95% Review Set	Issue Date: May 25, 2021
PROJECT NUMBER: 20N908	Project Number
DRAWN BY: RC	Author
CHECKED BY: ACM	Checker

**GRADING & DRAINAGE PLAN**

**C201**

D  
C  
B  
A



**Legend**

(Note: All items may not appear on drawing)

- San. Sewer Manhole
- Water Manhole
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- Cleanout
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- Gas Manhole
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- Demo Tree
- Cut/Fill Area over 5.0'

**GENERAL UTILITY NOTES:**

- Coordinate all utility connections to building with plumbing plans and building contractor.
- Verify depth and location of all existing utilities prior to constructing any new utility lines. Notify Civil Engineer of any discrepancies or conflicts prior to any connections being made.
- All catch basin and inlet box grates are to be bicycle proof.
- All inlet boxes located in curb and gutter are to be placed parallel to the curb and gutter and set under the frame and grate. Improperly placed boxes will be removed and replaced at no additional cost to the owner. Precast or cast in place boxes are acceptable.
- Refer to the site electrical plan for details and locations of electrical lines, transformers and light poles.
- Gas lines, telephone lines, and cable TV lines are not a part of these plans unless otherwise noted.
- Water meters are to be installed per city standards and specifications. It will be the contractor's responsibility to install all items required.
- Water lines, valves, fire hydrants, fittings etc. are to be constructed as shown. Contractor is responsible to construct any vertical adjustments necessary to clear sewer, storm drain or other utilities as necessary including valve boxes and hydrant spools to proper grade.
- Field verify all existing and/or proposed Roof Drain/Roof Drain down spout connections to Storm Water System with Civil, Plumbing & Architectural plans. Notify Engineer of any discrepancies.
- All gravity flow utility lines shall be installed prior to any pressurized utilities unless written permission is obtained from the engineer of record before construction begins.
- Contractor to verify existing water & sewer lateral & water meter meet Layton City Standards prior to construction.
- Fire hydrants and access roads shall be installed prior to construction of any buildings. All hydrants shall be with the 4.5" connection facing the point of access for Fire Department Apparatus. Provide written assurance that this will be met.
- The private fire hydrants shall be annually maintained and a 5-year flow test shall be performed in accordance with NFPA 24 and 25. All records shall be provided and submitted through The Compliance Engine found at <http://www.thecomplianceengine.com>
- Prior to beginning construction of any buildings, a fire flow test of the new hydrants shall be conducted to verify the actual fire flow available for this project. The Fire Prevention Division of this department shall witness this test and shall be notified a minimum of 48 hours prior to the test.

**UTILITY PIPING MATERIALS:**

All piping to be installed per manufacturers recommendations. Refer to project specifications for more detailed information regarding materials, installation, etc.

**CULINARY SERVICE LATERALS**

- 3/4" to 2" diameter pipe - copper tube ASTM B, Type K, Soft Temper or HDPE CTS-OD SDR-9 Poly.
- Over 2" diameter pipe - Class 51 ductile iron pipe or C-900 DR-14 PVC pipe.

**WATER MAIN LINES AND FIRE LINES**

- Pipe material as shown on utility plan view or to meet city standards.

**SANITARY SEWER LINES**

- All sewer piping to be Polyvinyl Chloride (PVC) sewer pipe, ASTM D 3034, Type PSM, SDR 35

**STORM DRAIN LINES**

- 12" pipes or smaller - Polyvinyl Chloride (PVC) sewer pipe, ASTM D3034, Type PSM, SDR 35
- 12" or larger - Reinforced Concrete Pipe, ASTM C76, Class III up to 13' of cover, Class IV for 13' to 21' of cover, Class V for 21' to 32' of cover, and Special Design for cover greater than 32 feet.

**NATURAL GAS SERVICE LATERALS (QUESTAR)**

- PLASTIC PIPING MATERIAL: Plastic polyethylene pipe materials and compression couplings must be approved for natural gas applications and must be installed underground. All plastic pipe and fittings must conform to ASTM D2513 ( 60 psi and above high density pipe approved 3408).
- Plastic pipe must be joined by individuals qualified in the heat fusion method of connecting pipe and fittings or approved mechanical fittings. A minimum number 18 insulated yellow copper tracer wire shall be installed with underground nonmetallic gas piping and shall terminate above grade at each end. Tracer wire shall not come in contact with plastic piping.
- Risers and prefabricated risers inserted with plastic pipe shall conform to ASTM D2513, shall be metallic, have a space of 10 inches from the bottom of the service valve and grade, and shall be wrapped or coated to a point at least 6 inches above grade or protected in an approved manner. When a riser connects underground to plastic pipe, the underground horizontal metallic portion of the riser shall extend at least 12 inches before connecting to the plastic pipe by means of an approved transition fitting, adapter or heat fusion.
- Plastic pipe used underground for customer fuel lines must be approved polyethylene material and be buried a minimum of 12 inches. It shall not be used inside buildings or above ground. PVC (Polyvinyl Chloride) is not approved for piping systems in Questar Gas's service area. Individual gas lines (metallic or plastic) to single outside appliance (outside lights, grilles, etc.) shall be installed a minimum of 8 inches below grade, provided such installation is approved and installed in locations not susceptible to physical damage.

**CAUTION NOTICE TO CONTRACTOR**  
The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies and, where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility company at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plans.

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ALL CONSTRUCTION TO CONFORM TO CITY STANDARDS AND SPECIFICATIONS IN RIGHT OF WAY

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**SAFE HARBOR LIFELINE**  
223 WEST 475 SOUTH  
LAYTON, UT

**STAMP**

ISSUE TYPE:	DATE:
Project Status: 95% Review Set	Issue Date: May, 25, 2021
1 CITY REVIEW #1	MAY 3, 2021
2 ADDED ROOF DRAIN	MAY 18, 2021

PROJECT NUMBER: 20N908	Project Number
DRAWN BY: RC	Author
CHECKED BY: ACM	Checker

**UTILITY PLAN**

**C301**

D

C

B

A



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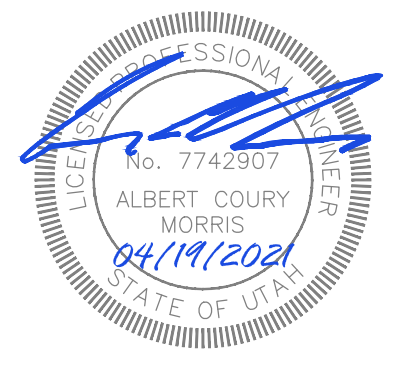


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**SAFE HARBOR  
LIFELINE**

223 WEST 475 SOUTH  
LAYTON, UT

STAMP

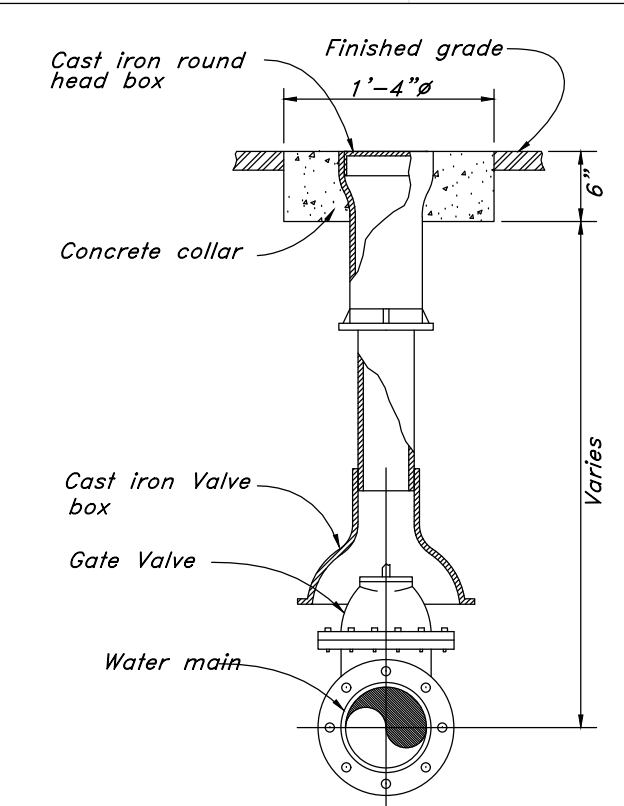


ISSUE TYPE: DATE:  
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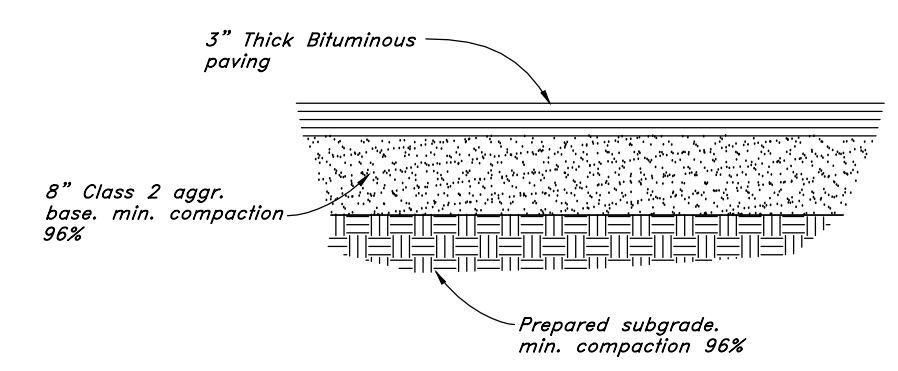
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**CONSTRUCTION  
DETAILS**

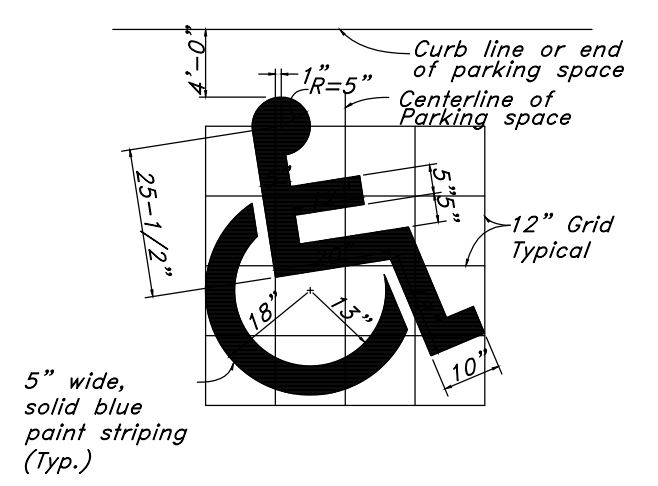
**C400**



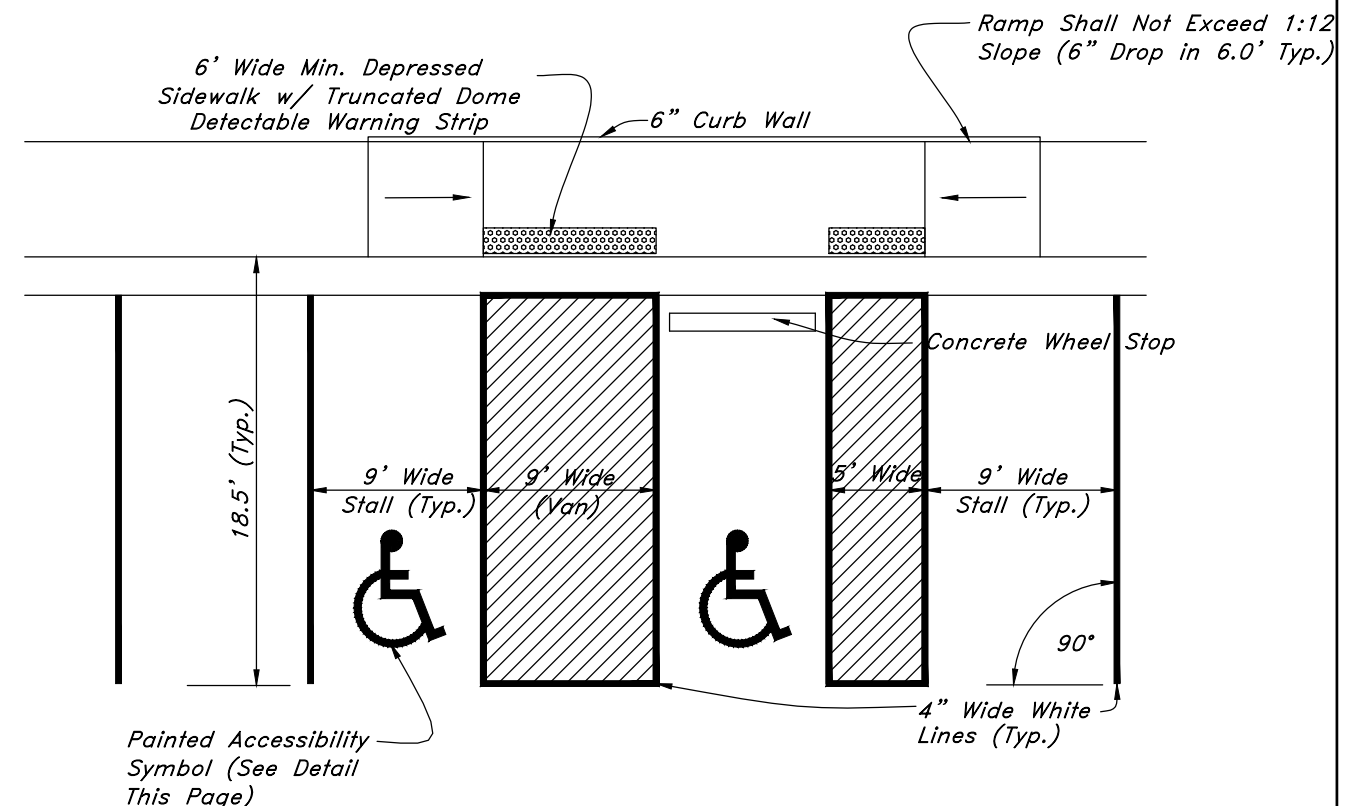
**12 Typical Gate Valve**  
Not to Scale



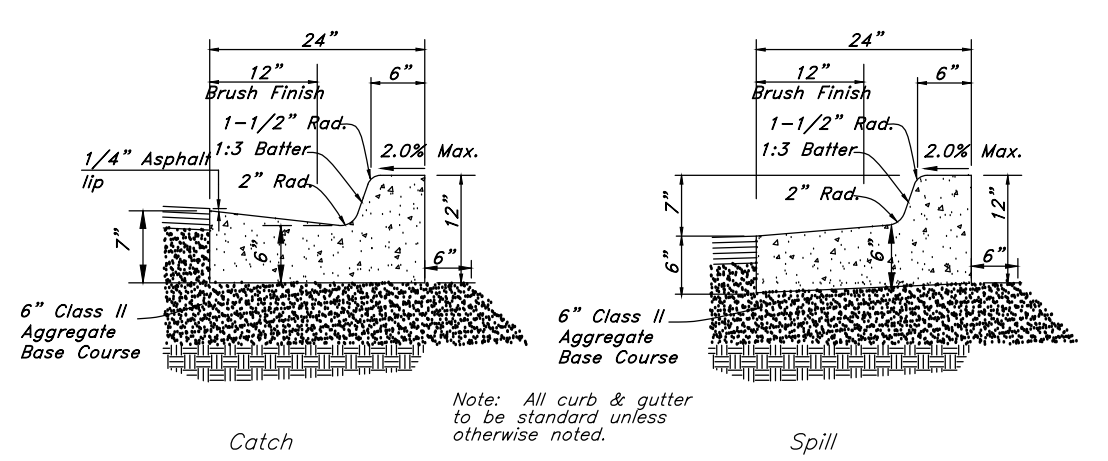
**11 Typical Bituminous Pavement Section  
Light Traffic Areas**  
Not to Scale



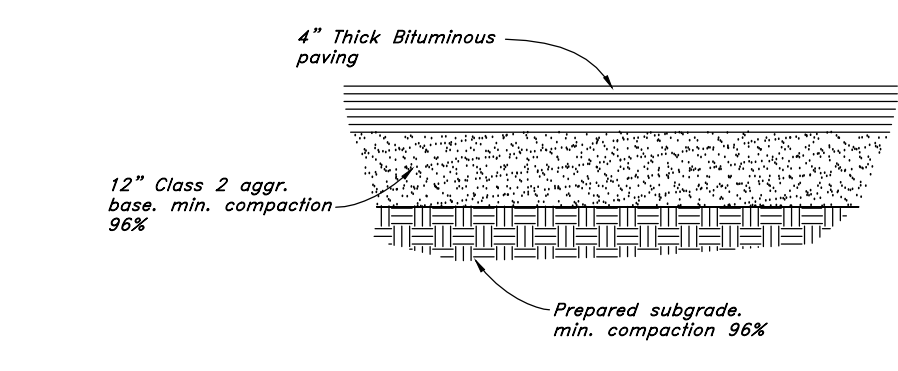
**10 Accessibility Symbol**  
Not to Scale



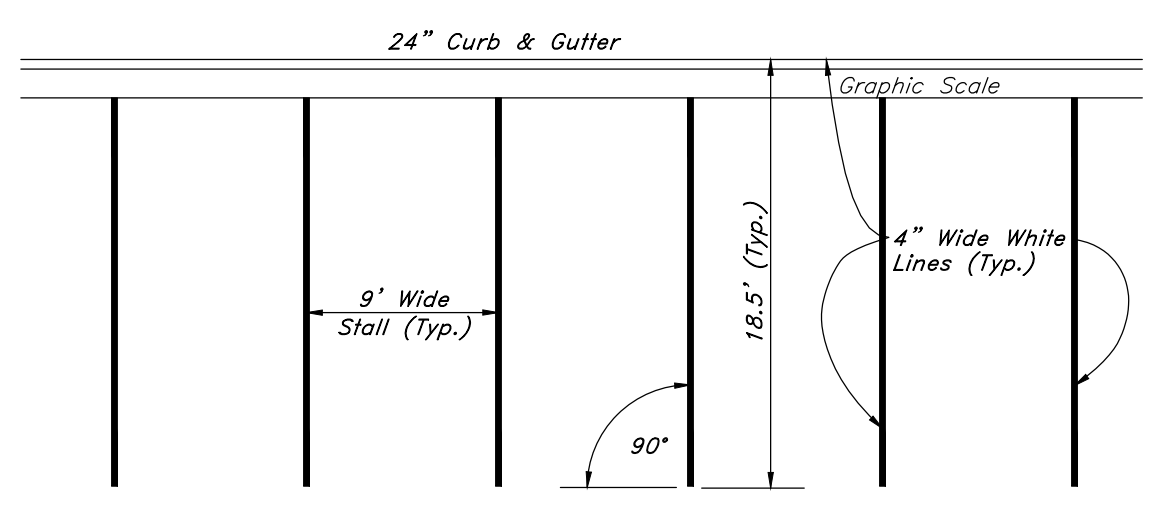
**9 Typical Accessible Parking Striping Plan**  
Not to Scale



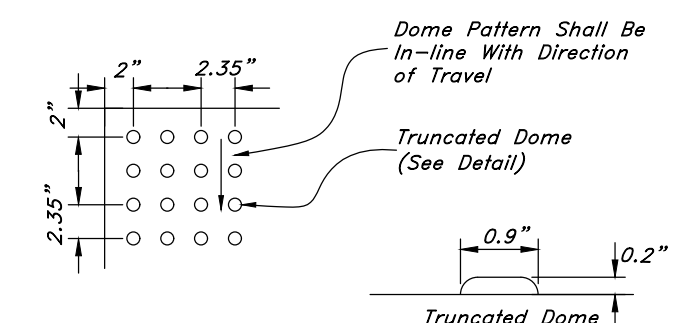
**8 Typical Section - 24" Curb & Gutter**  
Not to Scale



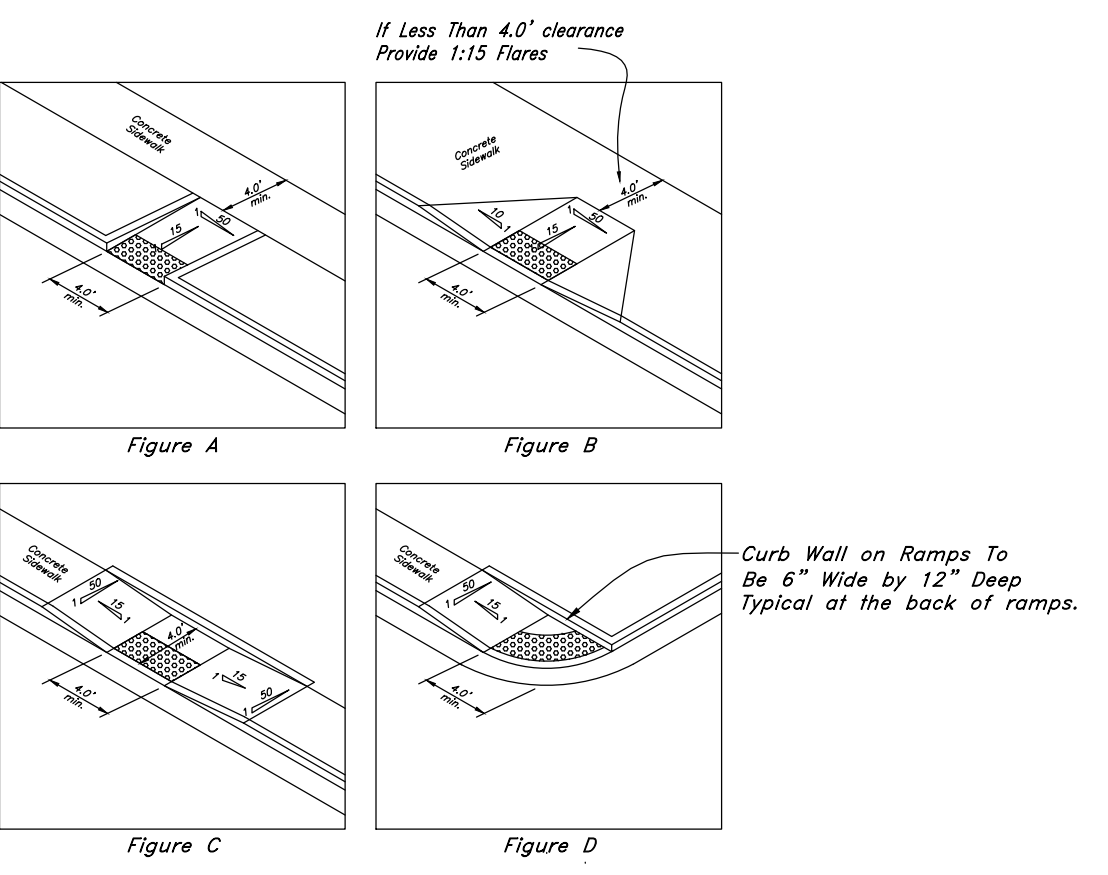
**7 Typical Bituminous Pavement Section  
Heavy Duty Drives**  
Not to Scale



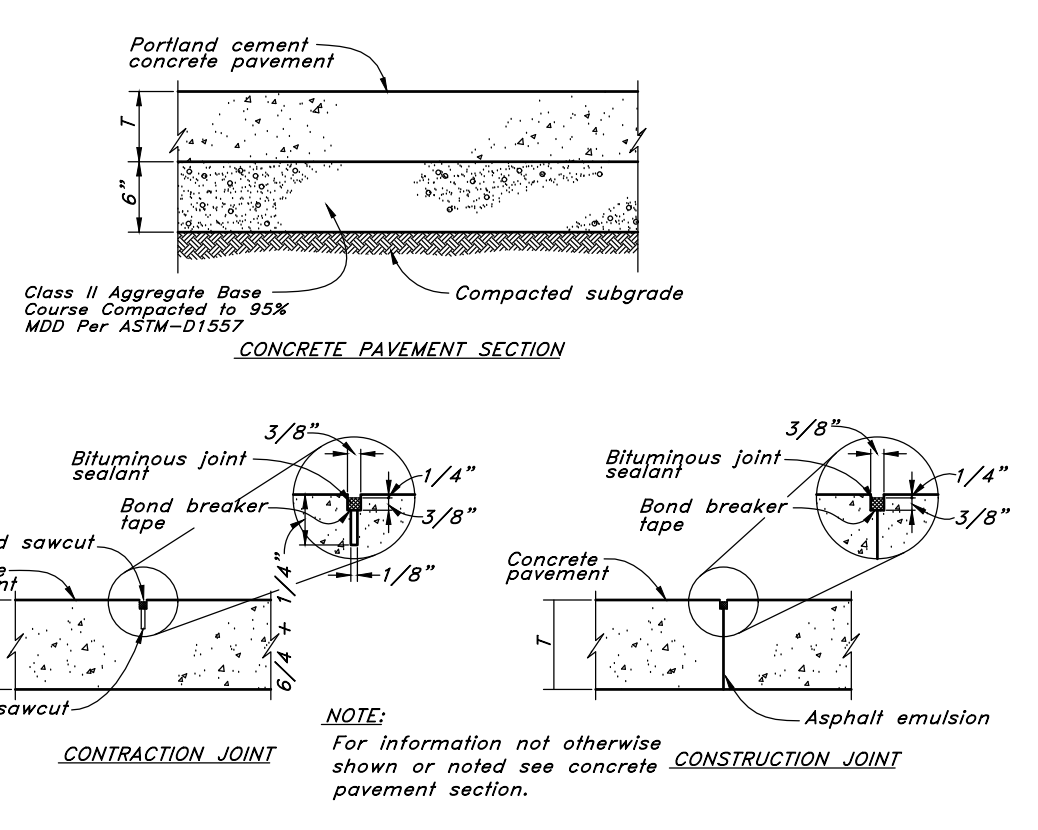
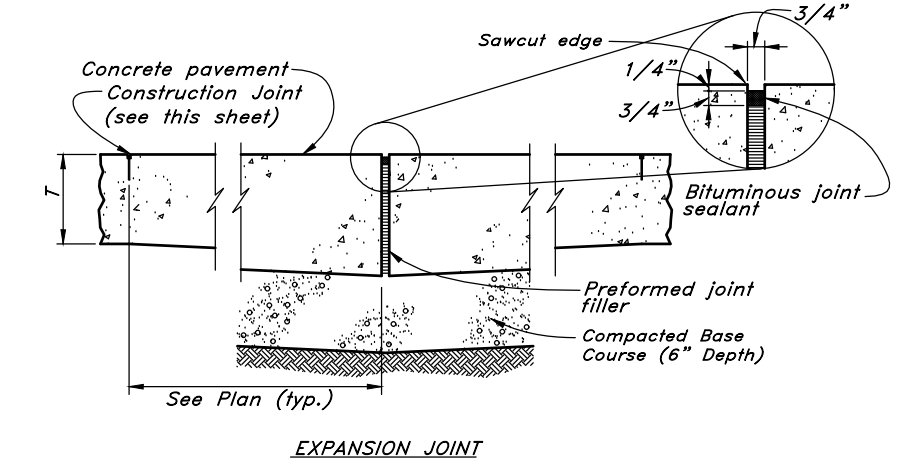
**6 Typical Parking Lot Striping Plan**  
Not to Scale



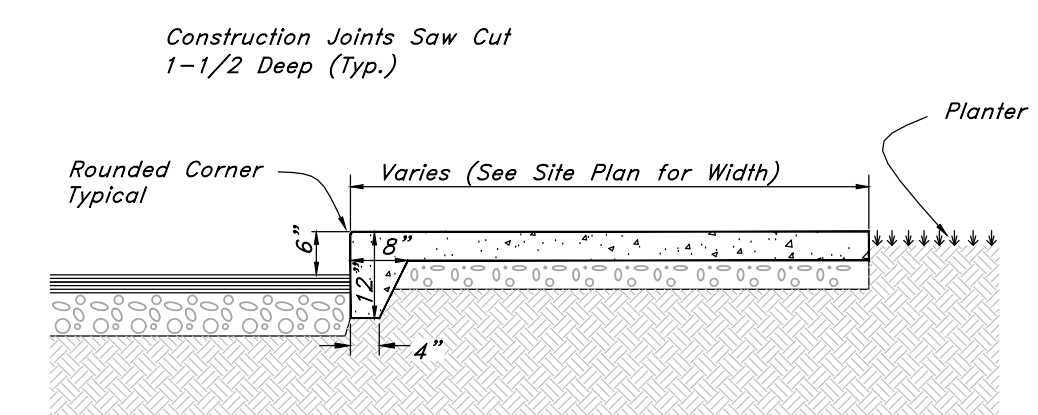
All Sidewalk Curb Ramps Shall Have Detectable Warning Surfaces That Extend The Full Width Of Curb Ramp and 2' Deep. Ramp shall be different color, 20% minimum different shade, than rest of sidewalk. Use Fiberglass Reinforced Polymer (FRP) for Truncated Domes.



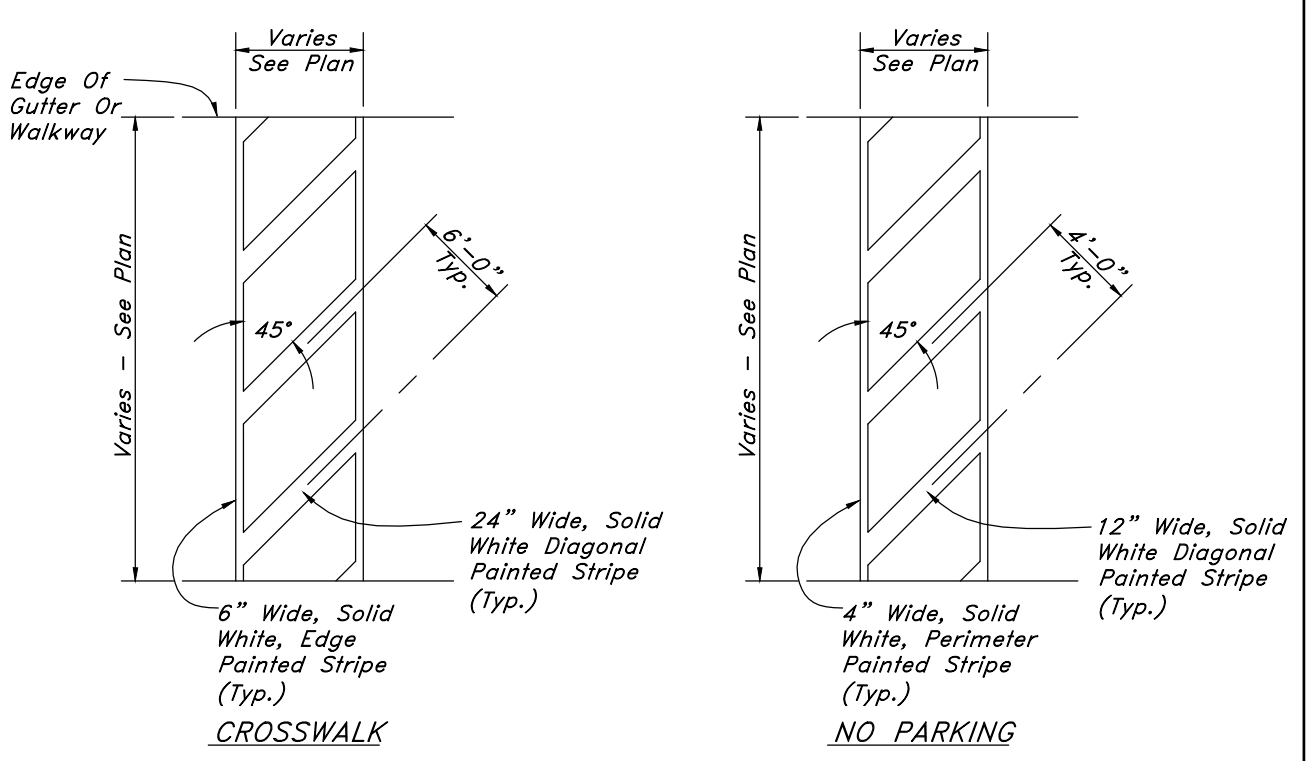
**3 Typical Curb Ramp Detail**  
Not to Scale



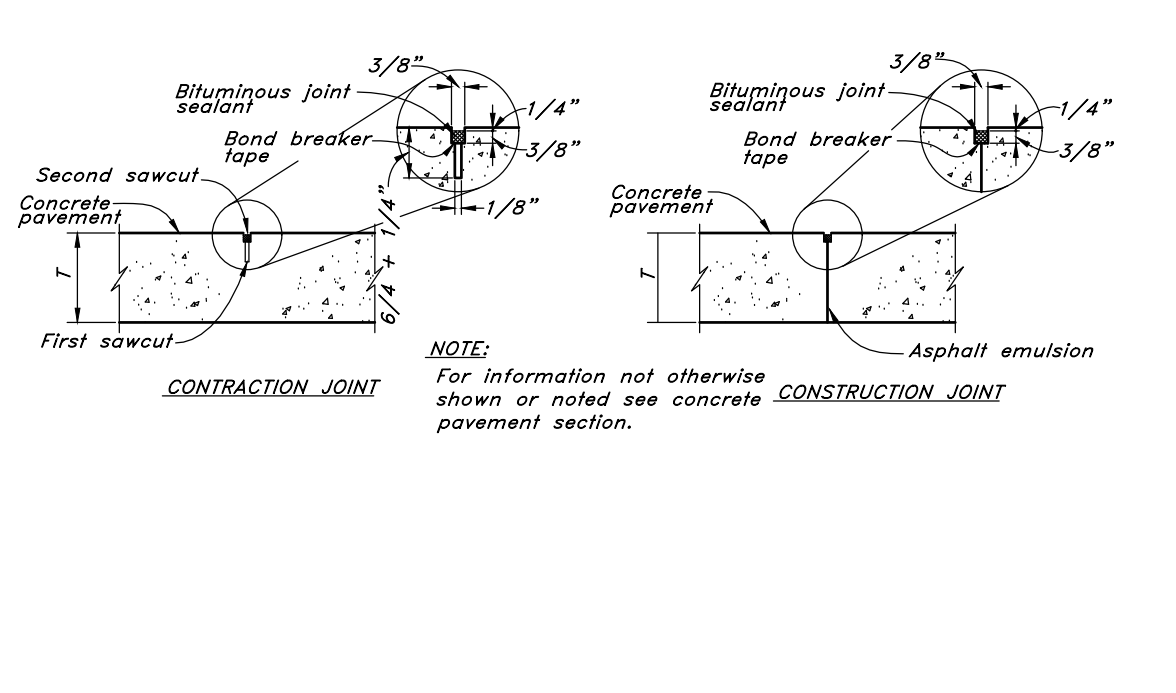
**2 Portland Cement Concrete Pavement  
Drive & Parking Areas**  
Not to Scale



**5 Thickened Edge Walk**  
Not to Scale



**4 Striping**  
Not to Scale



**1 Concrete Sidewalk**  
Not to Scale

### CONCRETE SIDEWALK

**PLAN**

**SECTION A-A**

NOTE: PLACE MASTIC EXPANSION JOINTS @ 40 FT. AND CONSTRUCTION JOINTS @ 40 FT. (ALTERNATE) AND CONTROL JOINT @ 4 FT.

NOTES:

- USE MONOLITHIC CONSTRUCTION 4" THICK EXCEPT AT DRIVEWAYS WHERE THICKNESS OF 6" IN RESIDENTIAL ZONE AND 8" IN COMMERCIAL AND INDUSTRIAL ZONE AREA IS REQUIRED.
- PLACE CONTROL JOINTS AT INTERVALS EQUAL TO 1 TO 1 1/2 TIMES THE WIDTH OF THE SIDEWALK UNIFORMLY PLACED ALONG LENGTH OF SIDEWALK. CONTROL JOINT 3/4 INCH DEEP.
- USE 1/2" EXPANSION JOINT FILLER AT INTERSECTIONS WITH PERPENDICULAR SIDEWALKS OR DRIVEWAYS AND WHERE SIDEWALK MEETS TOP BACK OF CURB.
- EDGE SIDEWALK WITH 1/2" RADIUS EDGING TOOL. ROUND EDGES AT EXPANSION JOINTS TO A RADIUS OF 1/2".
- USE FINE HAIR-BROOM TO FINISH WALKS ON GRADES UNDER 6% OVER 6% GRADE USE ROUGH HAIR-BROOM.
- USE SIX INCHES OF COMPACTED ROADBASE UNDER SIDEWALK, CURB AND GUTTER AND DRIVE APPROACHES.
- CURE CONCRETE WITH TYPE II (WHITE PIGMENTED) COMPOUND PER APWA 03 39 00.

CONCRETE SHALL BE 6.3 BAG MIX MINIMUM 4000 PSI.

DRAWN BY: DHR, SCALE: NONE, DATE: 10/93, REVISIONS: 4/01

Layton City STANDARD DRAWING WALK-DET ST-ST-10 **22**

### CURB & GUTTER & WATERWAY

**TYPICAL SECTION - STANDARD 30 INCH HIGH BACK CONCRETE CURB AND GUTTER - 4.5 FT. OR 7.0 FT. PARKSTRIP - 4.0 FT. WIDE WALK**

**TYPICAL SECTION - STANDARD 30 INCH HIGH BACK CONCRETE CURB AND GUTTER - 6.0 FT. WIDE ABUTTING WALK.**

**TYPICAL SECTION 30" CONCRETE CURB & GUTTER**

**TYPICAL WATERWAY SECTION**

CONCRETE SHALL BE 6.3 BAG MIX MINIMUM 4000 PSI.

DRAWN BY: DHR, SCALE: NONE, DATE: 3/96, REVISIONS: 6/08

Layton City STANDARD DRAWING ST-CG-WW **21**

### RESTORATION OF ASPHALT PAVEMENT STRUCTURAL SECTION OVER TRENCHES

EXISTING PAVEMENT THICKNESS

TACK COAT NOTE 5

MATCH EXISTING THICKNESS PLUS 1-INCH (4-INCH MINIMUM)

NOTE 3

NOTE 2

NOTE 4 & 6

NOTE 1

SEE ST-ST-01

NOTES:

- PROVIDE APWA 31 05 13 GRANULAR BORROW WELL GRADED 2-INCH MAXIMUM ABOVE PIPE ZONE. IF NATIVE MATERIAL COMPLES WITH THE SPECIFIED BORROW, CONTRACTOR MAY USE AS APPROVED BY CITY ENGINEER. COMPACT MATERIALS IN MAXIMUM LIFTS OF 8 INCH BEFORE COMPACTION. COMPACTION IS 95% OR GREATER RELATIVE TO A MODIFIED PROCTOR DENSITY, APWA SECTION 31 23 26.
- ASPHALT CONCRETE: USE AC-10 PG 58-28 DM - 1/2 OR AC-20 PG 64-SS DM - 3/4 AS SPECIFIED BY CITY ENGINEER AND PER APWA 32 12 05 ASPHALT YARD PER APWA SECTION 32 12 13.13.
- SEAL CRACKS PER APWA 32 01 17 WITH ELASTOFLEX 85 PER ASTM D 5078.
- UNTREATED BASE COURSE: USE GRADE 1 OR GRADE 3/4 APWA 32 11 23 AGGREGATE BASE COURSE. INSTALL PER APWA SECTION 32 05 10 WITH LIFT THICKNESS (BEFORE COMPACTION) OF 8-INCHES WITH RIDING COMPACTION EQUIPMENT AND 6-INCHES USING HANDHELD COMPACTION EQUIPMENT.
- TACK COAT: CLEAN ALL HORIZONTAL AND VERTICAL SURFACES. APPLY FULL COVERAGE. USE EMULSIFIED ASPHALT GRADE SS-1H AT THE RATE OF 0.15 GALLONS PER SQUARE YARD PER APWA SECTION 32 12 13.13.
- MATCH THICKNESS OF EXISTING ROADBASE OR 8" MINIMUM.
- A 3 YEAR MORATORIUM EXISTS ON ALL NEWLY PAVED ROAD WAYS. ANY CUTS INTO A MORATORIUM MUST BE APPROVED BY THE CITY ENGINEER. THE EXISTING ASPHALT MUST BE MILLED AND PAVED A MINIMUM OF 5' OR AT THE DISCRETION OF THE CITY ENGINEER, FROM EACH EDGE OF THE TRENCH.

DRAWN BY: DHR, SCALE: NONE, DATE: 9/01, REVISIONS: 1/19

Layton City STANDARD DRAWING STR-RESTR **20**

### PIPE ZONE BACKFILLING

**TYPE A** FLOWABLE FILL CONCRETE

**TYPE B** TYPICAL FOR PVC PIPE INSTALLATION

**TYPE C** TYPICAL FOR CONCRETE PIPE INSTALLATION

**TYPE D** TYPICAL FOR DUCTILE IRON PIPE OR C-900 INSTALLATION

NOTES:

- PLACE GRADED IMPORTED 1-1/2 INCH MINUS SEWER ROCK (ASTM 4 OR 5) GRAVEL MATERIAL PER APWA 31 05 13 OR NATIVE SOIL (AS DIRECTED BY CITY ENGINEER) FOR BACKFILL IN PIPE ZONE WITH MAXIMUM LIFT THICKNESS 8-INCHES BEFORE COMPACTION. COMPACTION IS 95% OR GREATER RELATIVE TO A STANDARD PROCTOR DENSITY.
- MINIMUM WIDTH OF TRENCH MEASURED AT THE SPRING LINE OF THE PIPE, INCLUDING ANY NECESSARY SHEATHING:

PIPE I.D.	WIDTH
LESS THAN 21"	O.D. + 12"
21" TO 44"	O.D. + 24"
GREATER THAN 44"	O.D. + 30"

I.D. MEANS INSIDE DIAMETER OF PIPE BARREL  
O.D. MEANS OUTSIDE DIAMETER OF PIPE BARREL

DRAWN BY: DHR, SCALE: NONE, DATE: 9/01, REVISIONS: 1/19

Layton City STANDARD DRAWING BACKFILL ST-ST-01 **19**

### CONCRETE SIDEWALK

NOTE: PLACE MASTIC EXPANSION JOINTS @ 40 FT. AND CONSTRUCTION JOINTS @ 40 FT. (ALTERNATE) AND CONTROL JOINT @ 4 FT.

NOTES:

- USE MONOLITHIC CONSTRUCTION 4" THICK EXCEPT AT DRIVEWAYS WHERE THICKNESS OF 6" IN RESIDENTIAL ZONE AND 8" IN COMMERCIAL AND INDUSTRIAL ZONE AREA IS REQUIRED.
- PLACE CONTROL JOINTS AT INTERVALS EQUAL TO 1 TO 1 1/2 TIMES THE WIDTH OF THE SIDEWALK UNIFORMLY PLACED ALONG LENGTH OF SIDEWALK. CONTROL JOINT 3/4 INCH DEEP.
- USE 1/2" EXPANSION JOINT FILLER AT INTERSECTIONS WITH PERPENDICULAR SIDEWALKS OR DRIVEWAYS AND WHERE SIDEWALK MEETS TOP BACK OF CURB.
- EDGE SIDEWALK WITH 1/2" RADIUS EDGING TOOL. ROUND EDGES AT EXPANSION JOINTS TO A RADIUS OF 1/2".
- USE FINE HAIR-BROOM TO FINISH WALKS ON GRADES UNDER 6% OVER 6% GRADE USE ROUGH HAIR-BROOM.
- USE SIX INCHES OF COMPACTED ROADBASE UNDER SIDEWALK, CURB AND GUTTER AND DRIVE APPROACHES.
- CURE CONCRETE WITH TYPE II (WHITE PIGMENTED) COMPOUND PER APWA 03 39 00.

CONCRETE SHALL BE 6.3 BAG MIX MINIMUM 4000 PSI.

DRAWN BY: DHR, SCALE: NONE, DATE: 10/93, REVISIONS: 4/01

Layton City STANDARD DRAWING WALK-DET ST-ST-10 **22**

### CURB & GUTTER & WATERWAY

CONCRETE SHALL BE 6.3 BAG MIX MINIMUM 4000 PSI.

DRAWN BY: DHR, SCALE: NONE, DATE: 3/96, REVISIONS: 6/08

Layton City STANDARD DRAWING ST-CG-WW **21**

### RESTORATION OF ASPHALT PAVEMENT STRUCTURAL SECTION OVER TRENCHES

EXISTING PAVEMENT THICKNESS

TACK COAT NOTE 5

MATCH EXISTING THICKNESS PLUS 1-INCH (4-INCH MINIMUM)

NOTE 3

NOTE 2

NOTE 4 & 6

NOTE 1

SEE ST-ST-01

NOTES:

- PROVIDE APWA 31 05 13 GRANULAR BORROW WELL GRADED 2-INCH MAXIMUM ABOVE PIPE ZONE. IF NATIVE MATERIAL COMPLES WITH THE SPECIFIED BORROW, CONTRACTOR MAY USE AS APPROVED BY CITY ENGINEER. COMPACT MATERIALS IN MAXIMUM LIFTS OF 8 INCH BEFORE COMPACTION. COMPACTION IS 95% OR GREATER RELATIVE TO A MODIFIED PROCTOR DENSITY, APWA SECTION 31 23 26.
- ASPHALT CONCRETE: USE AC-10 PG 58-28 DM - 1/2 OR AC-20 PG 64-SS DM - 3/4 AS SPECIFIED BY CITY ENGINEER AND PER APWA 32 12 05 ASPHALT YARD PER APWA SECTION 32 12 13.13.
- SEAL CRACKS PER APWA 32 01 17 WITH ELASTOFLEX 85 PER ASTM D 5078.
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DRAWN BY: DHR, SCALE: NONE, DATE: 9/01, REVISIONS: 1/19

Layton City STANDARD DRAWING STR-RESTR **20**

### PIPE ZONE BACKFILLING

**TYPE A** FLOWABLE FILL CONCRETE

**TYPE B** TYPICAL FOR PVC PIPE INSTALLATION

**TYPE C** TYPICAL FOR CONCRETE PIPE INSTALLATION

**TYPE D** TYPICAL FOR DUCTILE IRON PIPE OR C-900 INSTALLATION

NOTES:

- PLACE GRADED IMPORTED 1-1/2 INCH MINUS SEWER ROCK (ASTM 4 OR 5) GRAVEL MATERIAL PER APWA 31 05 13 OR NATIVE SOIL (AS DIRECTED BY CITY ENGINEER) FOR BACKFILL IN PIPE ZONE WITH MAXIMUM LIFT THICKNESS 8-INCHES BEFORE COMPACTION. COMPACTION IS 95% OR GREATER RELATIVE TO A STANDARD PROCTOR DENSITY.
- MINIMUM WIDTH OF TRENCH MEASURED AT THE SPRING LINE OF THE PIPE, INCLUDING ANY NECESSARY SHEATHING:

PIPE I.D.	WIDTH
LESS THAN 21"	O.D. + 12"
21" TO 44"	O.D. + 24"
GREATER THAN 44"	O.D. + 30"

I.D. MEANS INSIDE DIAMETER OF PIPE BARREL  
O.D. MEANS OUTSIDE DIAMETER OF PIPE BARREL

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Layton City STANDARD DRAWING BACKFILL ST-ST-01 **19**

1

2

3

4

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**G B**

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### SAFE HARBOR LIFELINE

223 WEST 475 SOUTH  
LAYTON, UT

STAMP

ALBERT COURTY MORRIS  
04/19/2021  
STATE OF UTAH

ISSUE TYPE: Project Status: 95% Review Set  
DATE: Issue Date: May 25, 2021

PROJECT NUMBER: 20N908  
DRAWN BY: RC  
CHECKED BY: ACM

Project Number  
Author  
Checker

**CONSTRUCTION DETAILS**

**C401**

### Typical Inlet Box

In Curb & Gutter  
Not to Scale

NOTES:

- All Boxes Must Be Formed Inside And Out. The City Inspector Must Observe Prior To Placing Concrete.
- All Reinforcing Steel Shall Be Intermediate Grade 40, And Shall Have A Minimum Of Two Inches Cover Or Clearance From All Surfaces And Openings, Unless Otherwise Specified.
- All Concrete Shall Be Class AA(AE), Unless Otherwise Specified.
- Flowing Elevations, Pipe Sizes, And Locations Shall Be Shown On Other Drawings.
- Rebar Splices Shall Not Be Less Than 18 Inches.
- 2x4 Shear Keys Are Required As Shown.
- Compact Base Material To 96% Of Maximum Dry Density Per ASTM D-1557.
- Precast Storm Drain Box May Be Used In Lieu Of Cast-in-place. Must Provide Submittals To The Design Engineer For Approval Prior To Use.

PLAN VIEW

LADDER RUNG DETAIL  
M.A. Industries Copolymer Polypropylene Plastic Steps Or Approved Equivalent.

SECTION A-A

SECTION B-B

12" Min Compacted Gravel Base

#4 @ 1'-0" O.C. Each Way

Optional Outfall Location (21" Max SD Pipe)

Flow

5'-0"

4'-4"

5'-0"

transition to C & G

4"

12" Min To Pipe Bottom

See Table Above For Wall Thickness And Steel Spacing Requirements

4"

17

### Typical Trench Detail

Not to Scale

NOTE: 1) INSIDE FACE BARS TO BE STAGGERED W/ OUTSIDE FACE BARS.  
2) USE DOUBLE CURTAIN REINF. FOR INLET BOXES 6' - 8' OR MORE DEEP.

STEEL SCHEDULE

HEIGHT	VERT. STL.	HORIZ. STL.	WALL THICKNESS
0'-4"	#3 @ 12" O.C.	#3 @ 12" O.C.	6" WALL
4'-6"	#4 @ 12" O.C.	#4 @ 12" O.C.	8" WALL
6'-8"	#5 @ 12" O.C.	#4 @ 12" O.C.	8" WALL
8'-10"	#5 @ 12" O.C.	#4 @ 12" O.C.	8" WALL
10'-12"	#5 @ 12" O.C.	#4 @ 12" O.C.	8" WALL

NOTE: 1) INSIDE FACE BARS TO BE STAGGERED W/ OUTSIDE FACE BARS.  
2) USE DOUBLE CURTAIN REINF. FOR INLET BOXES 6' - 8' OR MORE DEEP.

6" min. Sand or Gravel in unstable areas or through rock excavation Required.

18

### Sewer, Storm, and Roof Drain Cleanout Detail

Not to Scale

NOTE: 1) INCREASE SIZE OF FRAME AND COVER FOR CLEANOUTS LARGER THAN 4"

8" C.I. frame & cover

Concrete Collar

Standard 45° bend

4000 psi Conc. 6" thick, 32" Dia.

Standard 45° Wye

Flowline elevation shown on plans to this point

Station & Length Shown on plans to this point

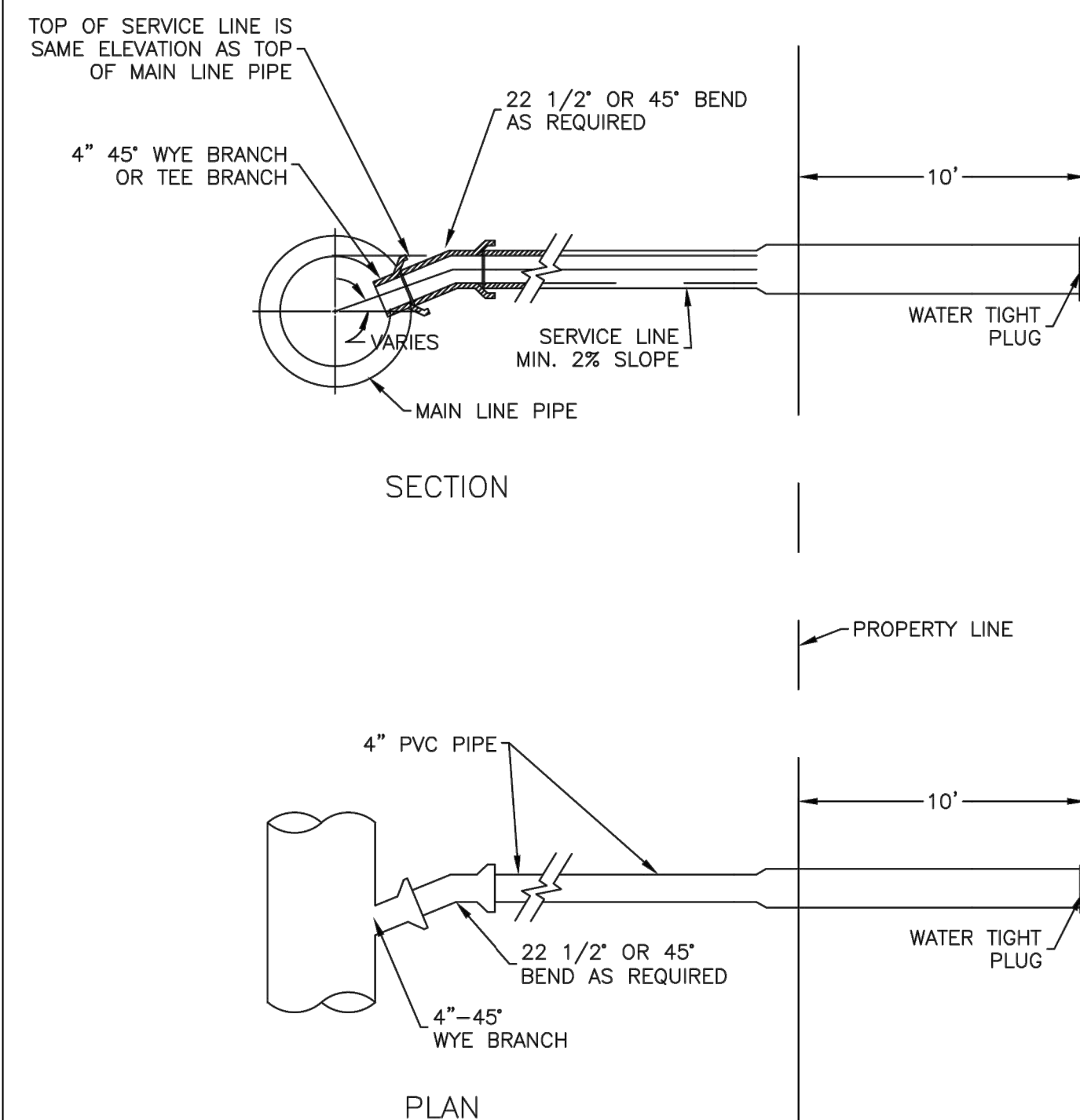
To be laid on undisturbed earth or compacted select material.

Flowline elevation shown on plans to this point

16

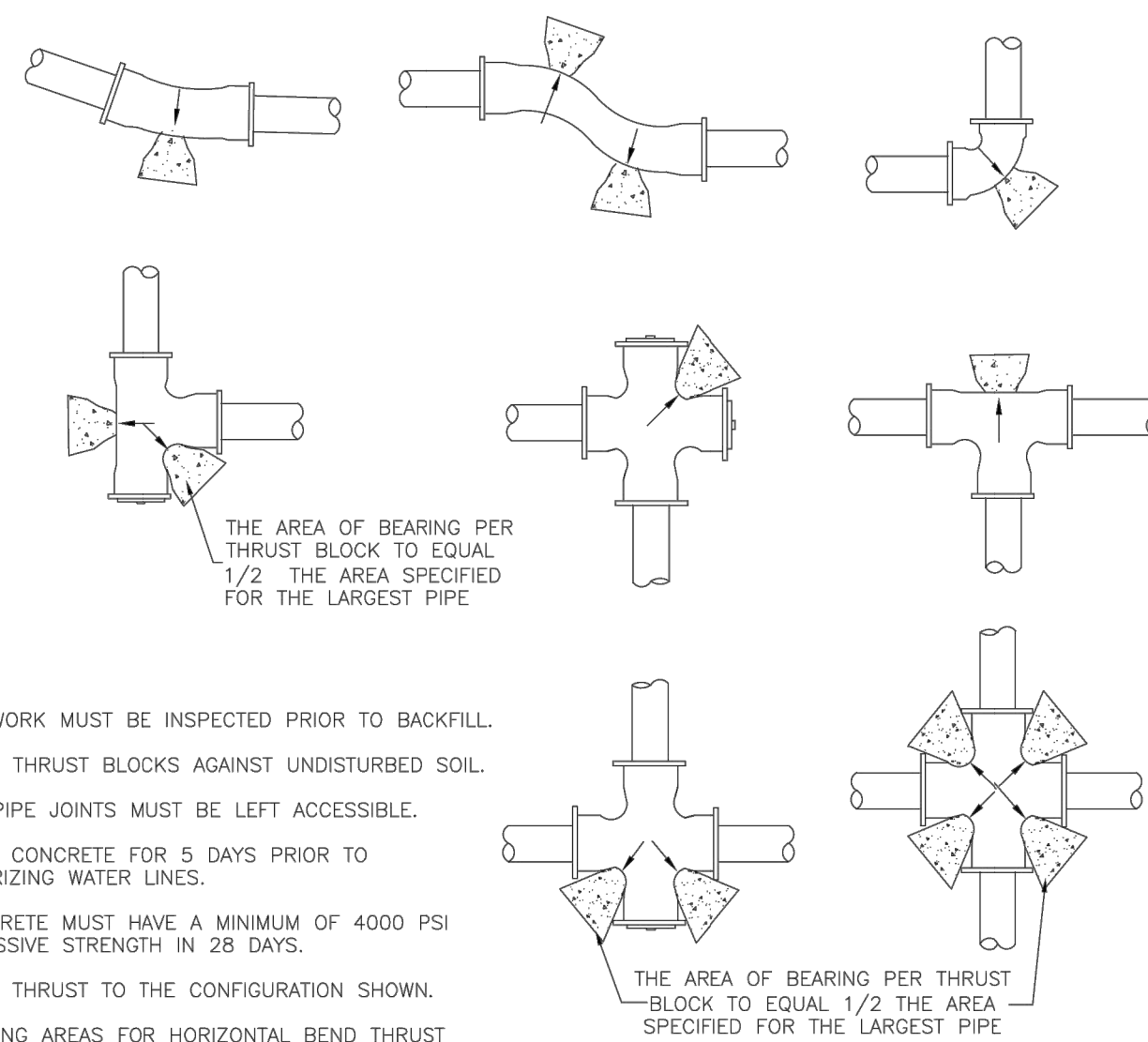


**SANITARY SEWER SERVICE CONNECTION**



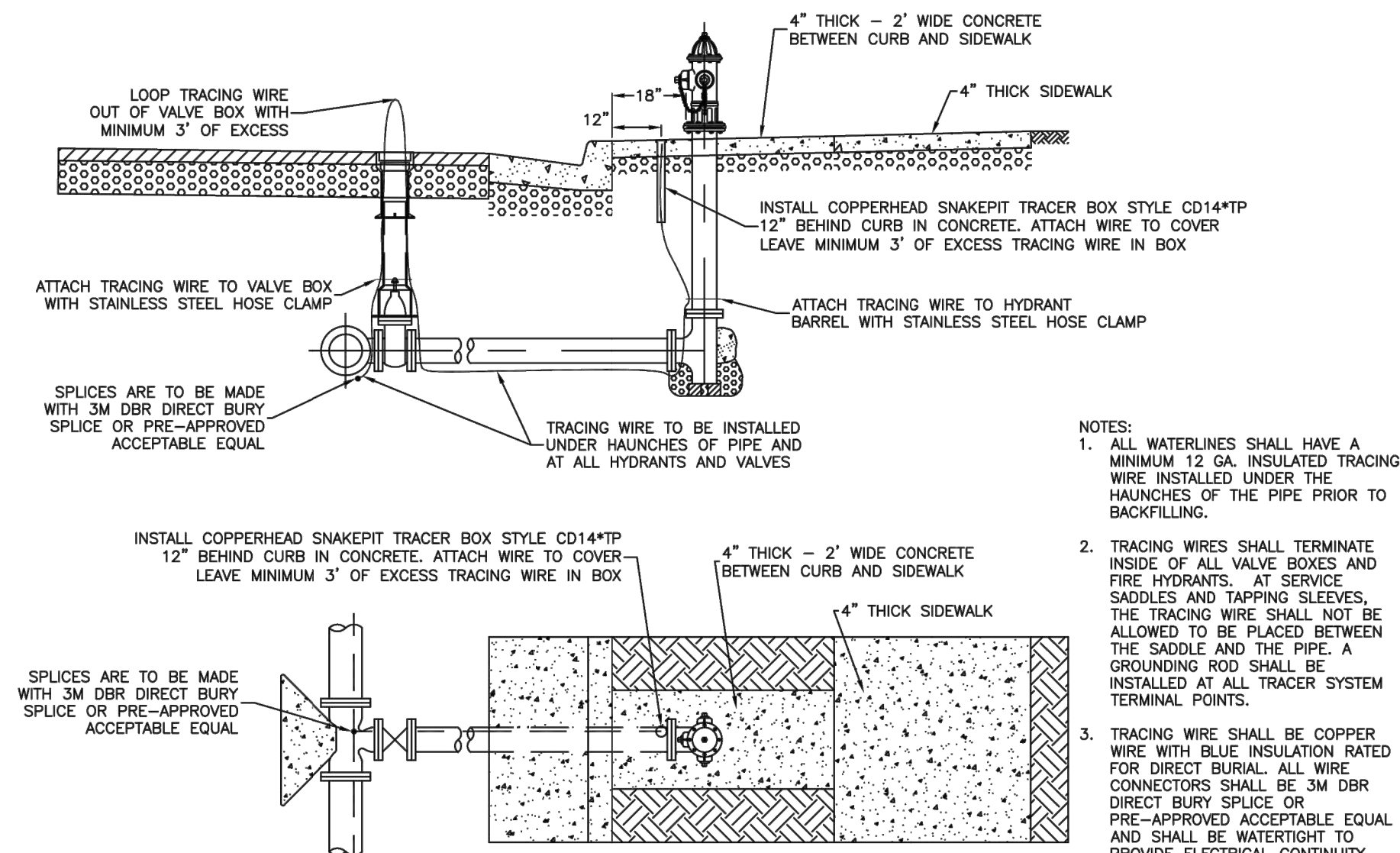
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SCALE NONE		SS-COM	
DATE 9/99		ST-SS-05	
REVISIONS 3/12			

**DIRECT BEARING THRUST BLOCKS**



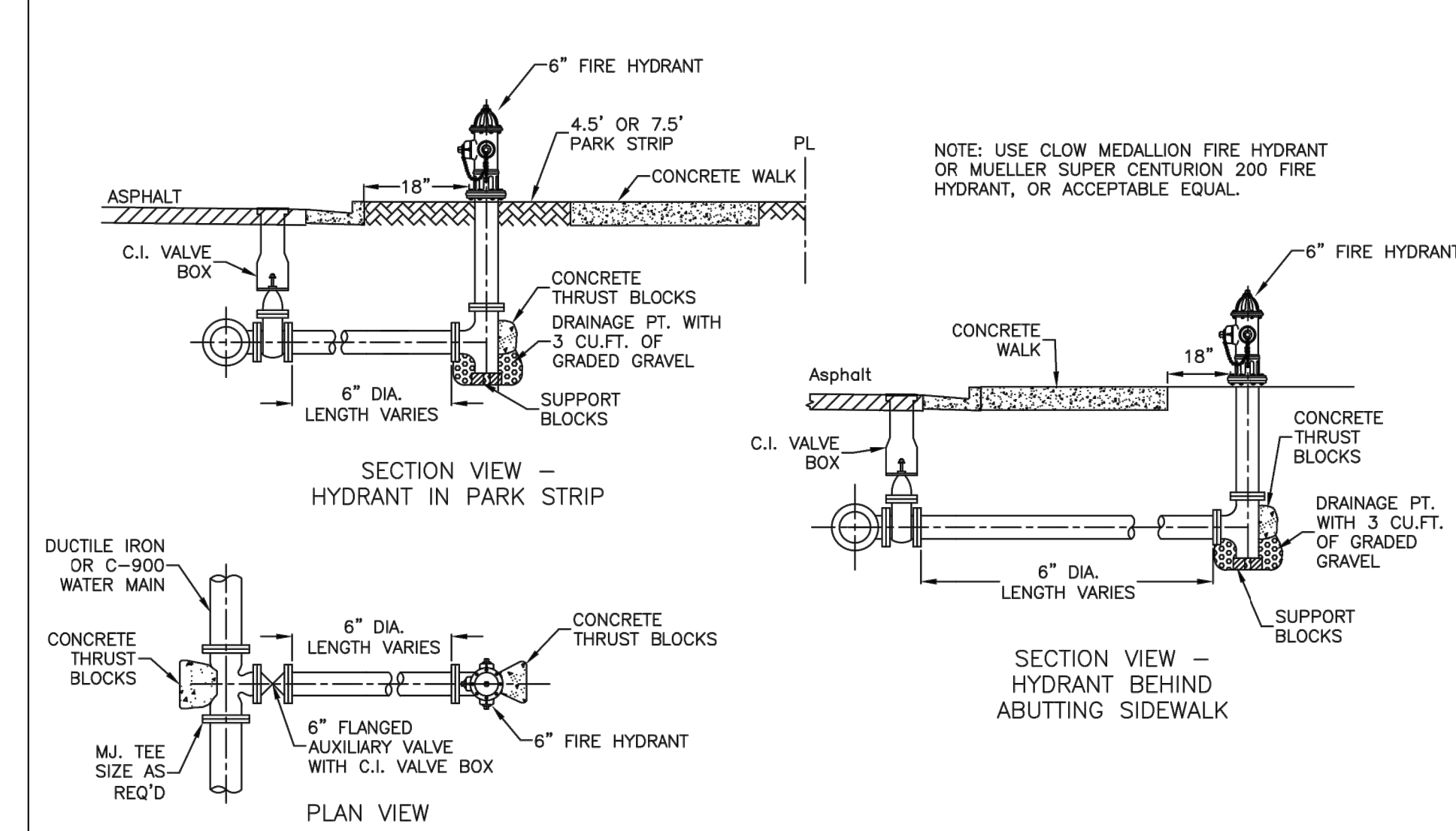
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SCALE NONE		THRUST	
DATE 1/98		ST-WL-15	
REVISIONS			

**TRACING WIRE INSTALLATION**



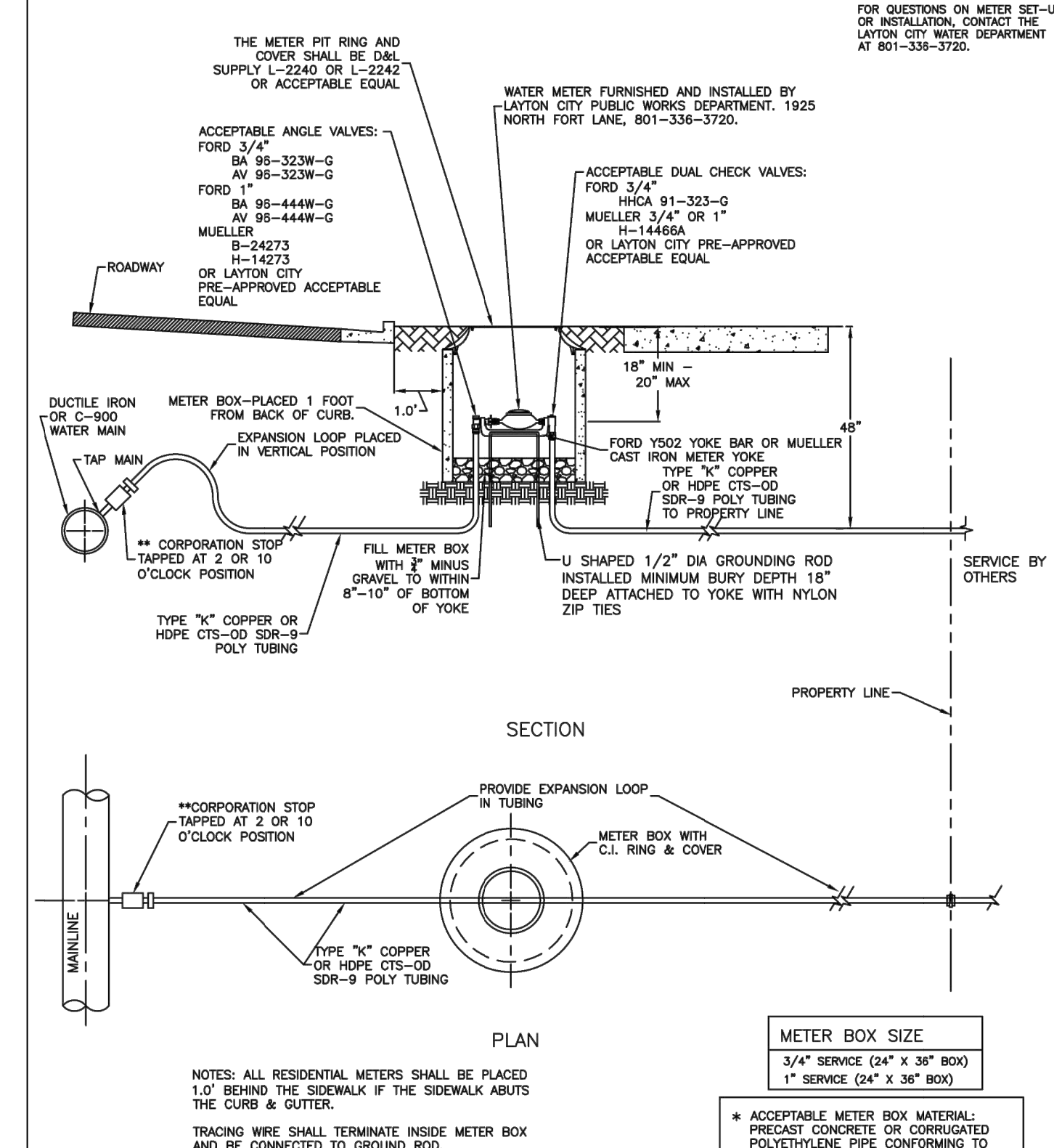
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SCALE NONE		TRACING WIRE	
DATE 3/12		ST-WL-13	
REVISIONS			

**FIRE HYDRANT INSTALLATION**



DRAWN BY DHR	<b>Layton City</b>	STANDARD DRAWING	<b>26</b>
SCALE NONE		FH-DET2	
DATE 1/98		ST-WL-18	
REVISIONS			

**3/4" & 1" WATER SERVICE CONNECTION**



DRAWN BY DHR	<b>LAYTON CITY ENGINEERING</b>	STANDARD DRAWING	<b>23</b>
SCALE NONE		1" METER	
DATE 10/97		ST-WL-01	
REVISIONS 1/15			



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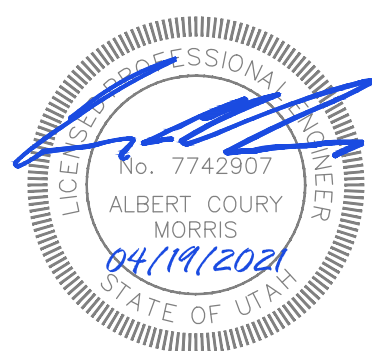


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**SAFE HARBOR LIFELINE**

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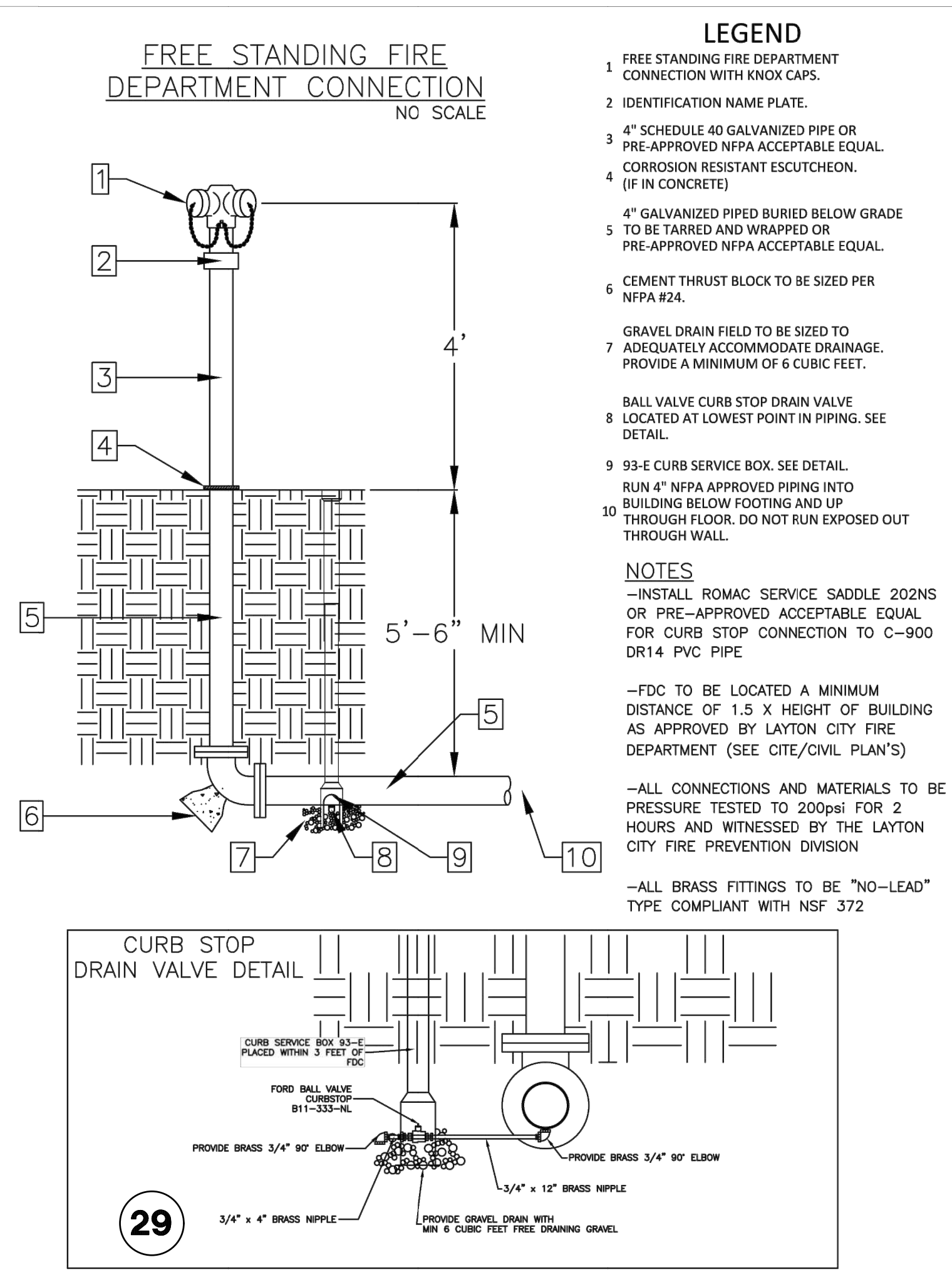
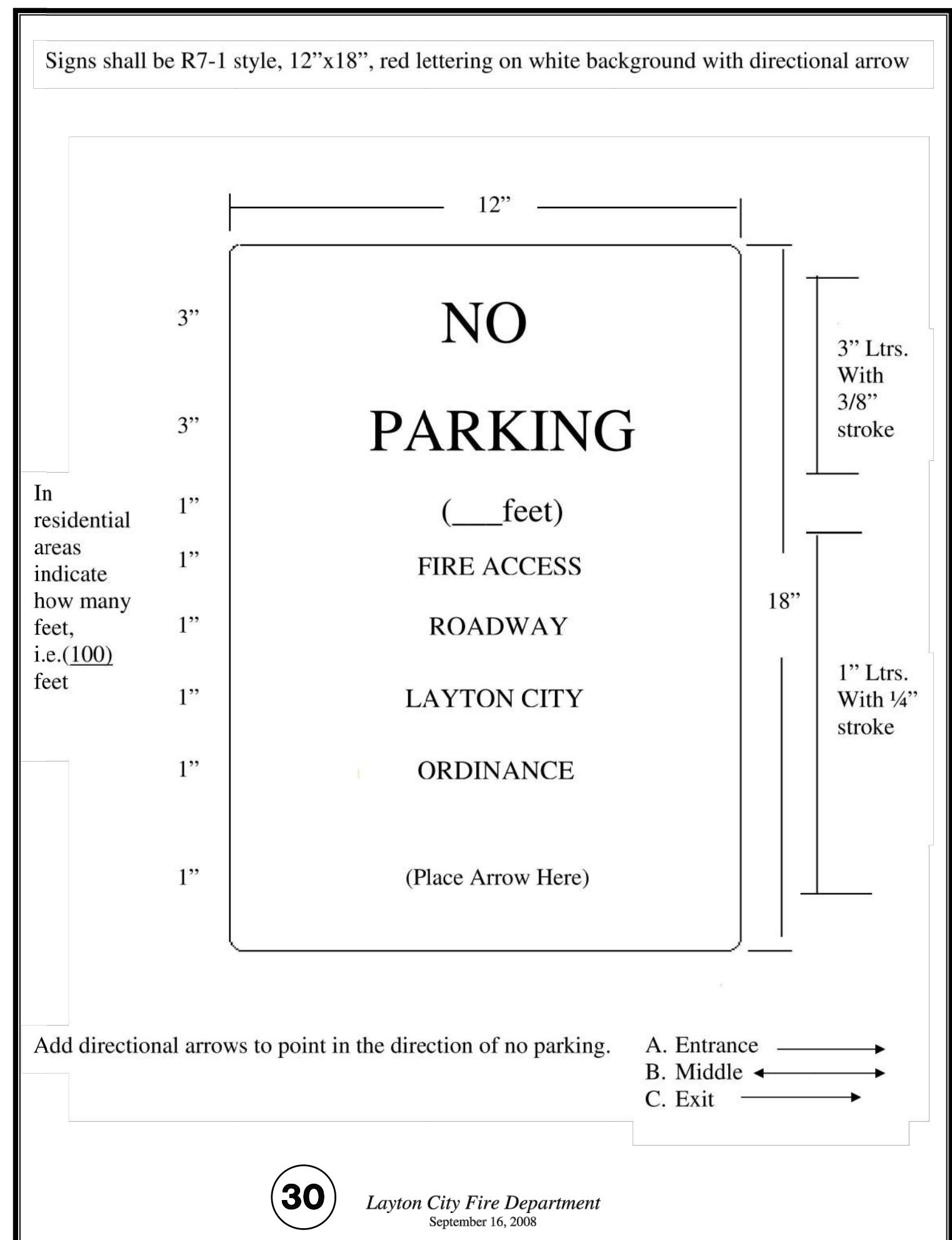
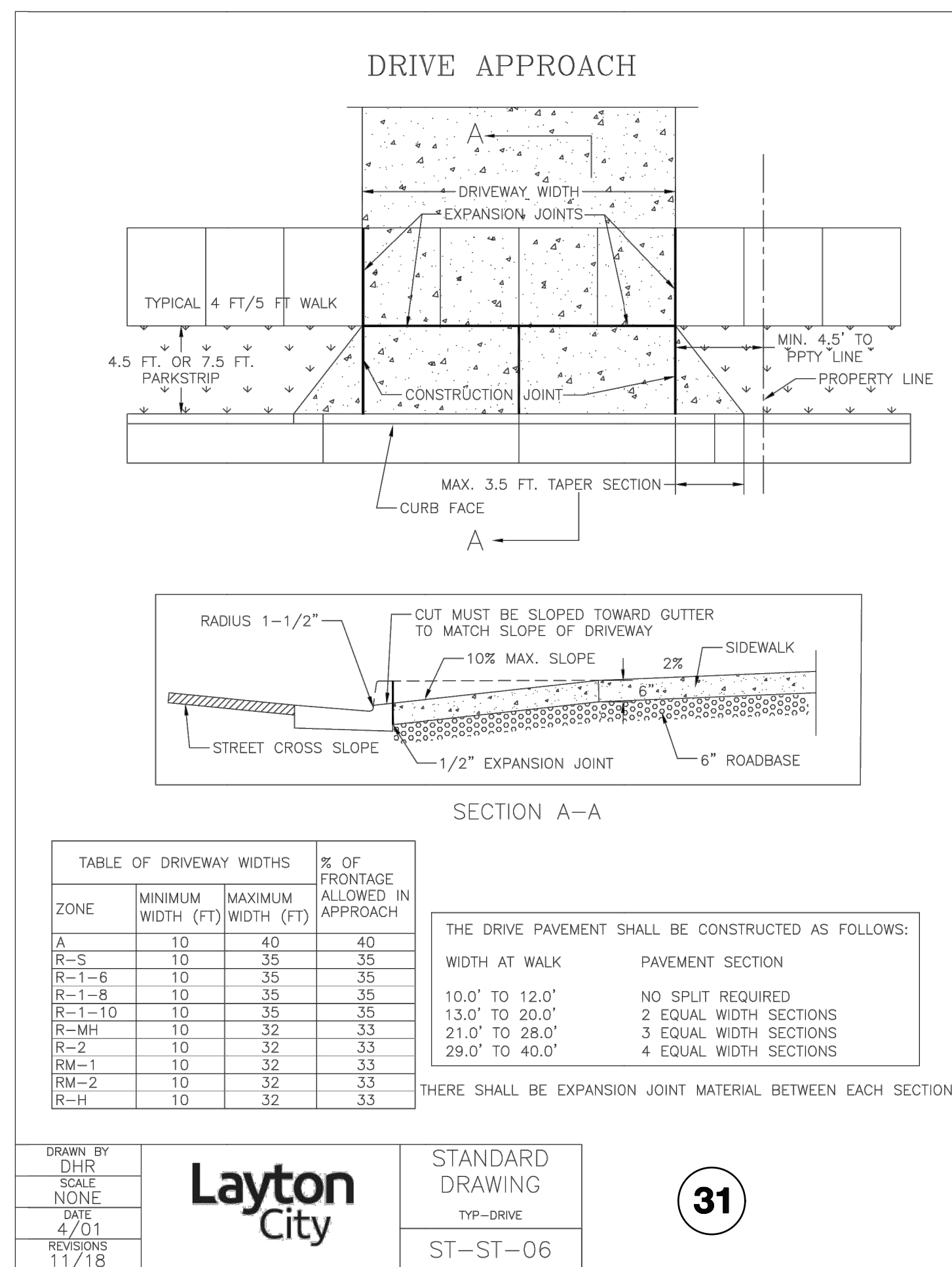
ISSUE TYPE: DATE:  
 Project Status: 95% Review Set Issue Date: May 25, 2021

1 CITY REVIEW #1 MAY 3, 2021

PROJECT NUMBER: 20N908 Project Number  
 DRAWN BY: RC Author  
 CHECKED BY: ACM Checker

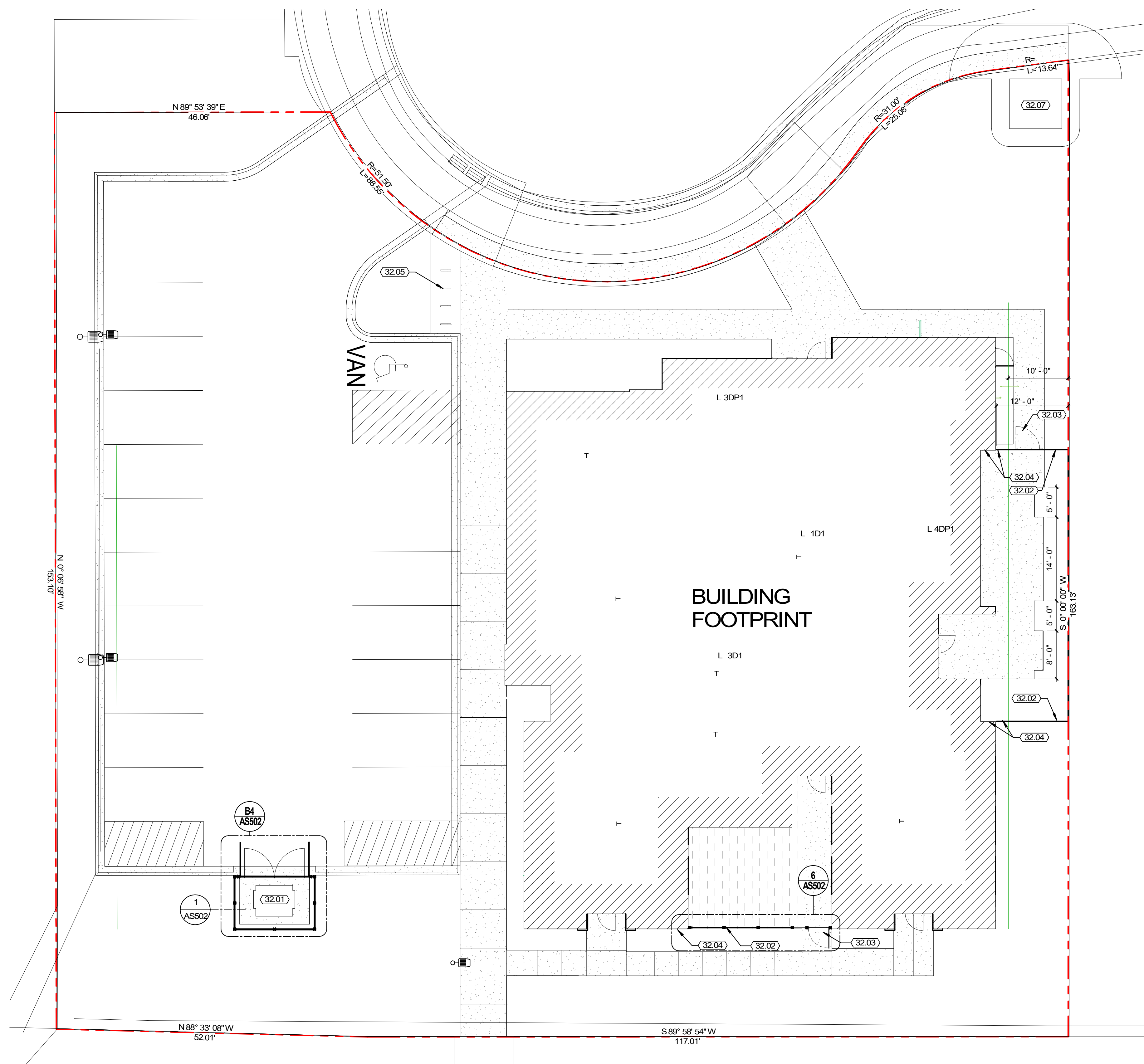
**CONSTRUCTION DETAILS**

**C403**

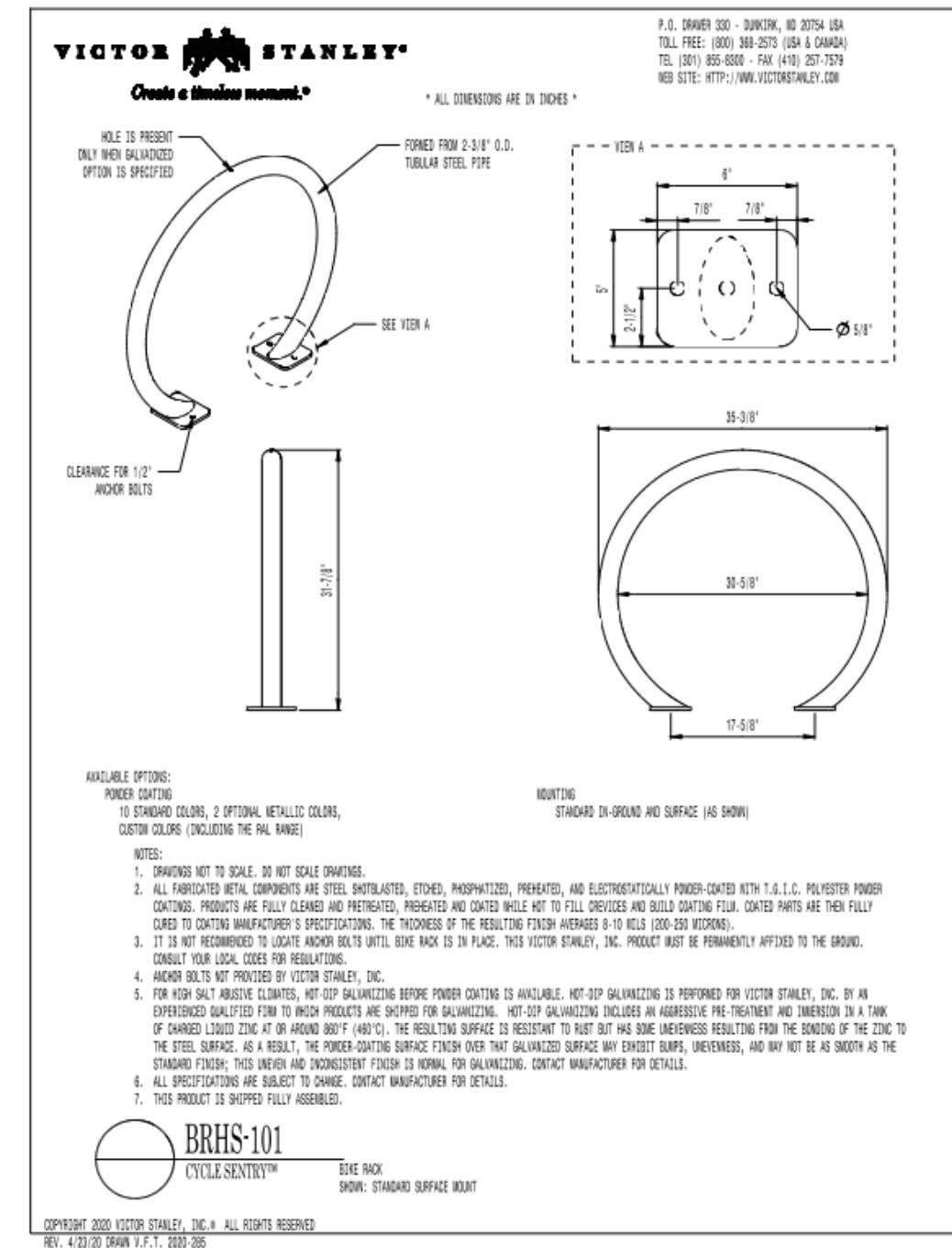




D  
C  
B  
A



KEYNOTES	
32.01	TRASH RECEPTACLE
32.02	6'-0" HIGH PERFORATED METAL FENCE
32.03	6'-0" HIGH PERFORATED METAL GATE - SECURE
32.04	ALIGN WITH FACE OF BUILDING
32.05	BICYCLE RACKS AT 3'-0" O.C.; SEE BASIS OF DESIGN
32.07	TRANSFORMER, RE: ELECTRICAL



**BICYCLE RACK - BASIS OF DESIGN**  
1" = 1'-0"

**1 ARCHITECTURAL SITE PLAN**  
AS101 1" = 10'-0"



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**SAFE HARBOR LIFELINE**

223 WEST 475 SOUTH  
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ISSUE TYPE:	DATE:
100% CD	2021-05-28

PROJECT NUMBER:	20-028
DRAWN BY:	Author
CHECKED BY:	Checker

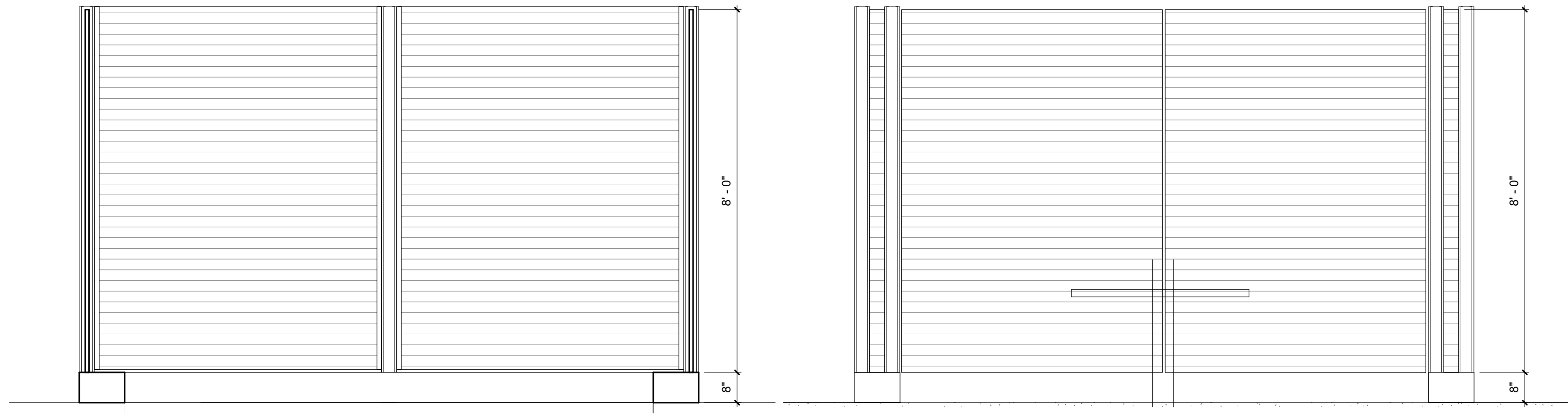
**ARCHITECTURAL SITE PLAN**

**AS101**



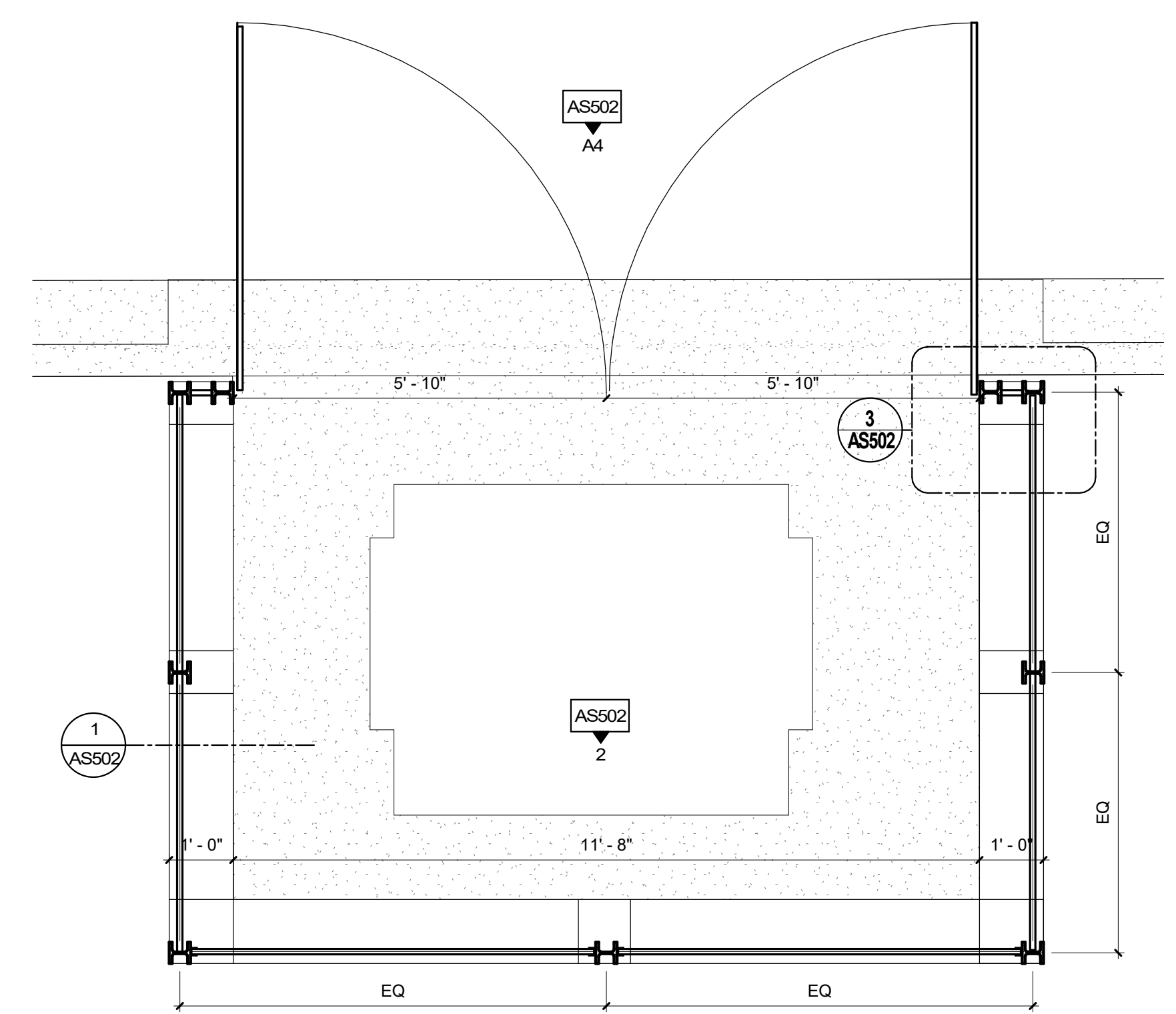
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<b>LANDSCAPE ARCHITECT</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O JAMES ZAUGG jzaugg@greatbasineng.com (801)394-4515

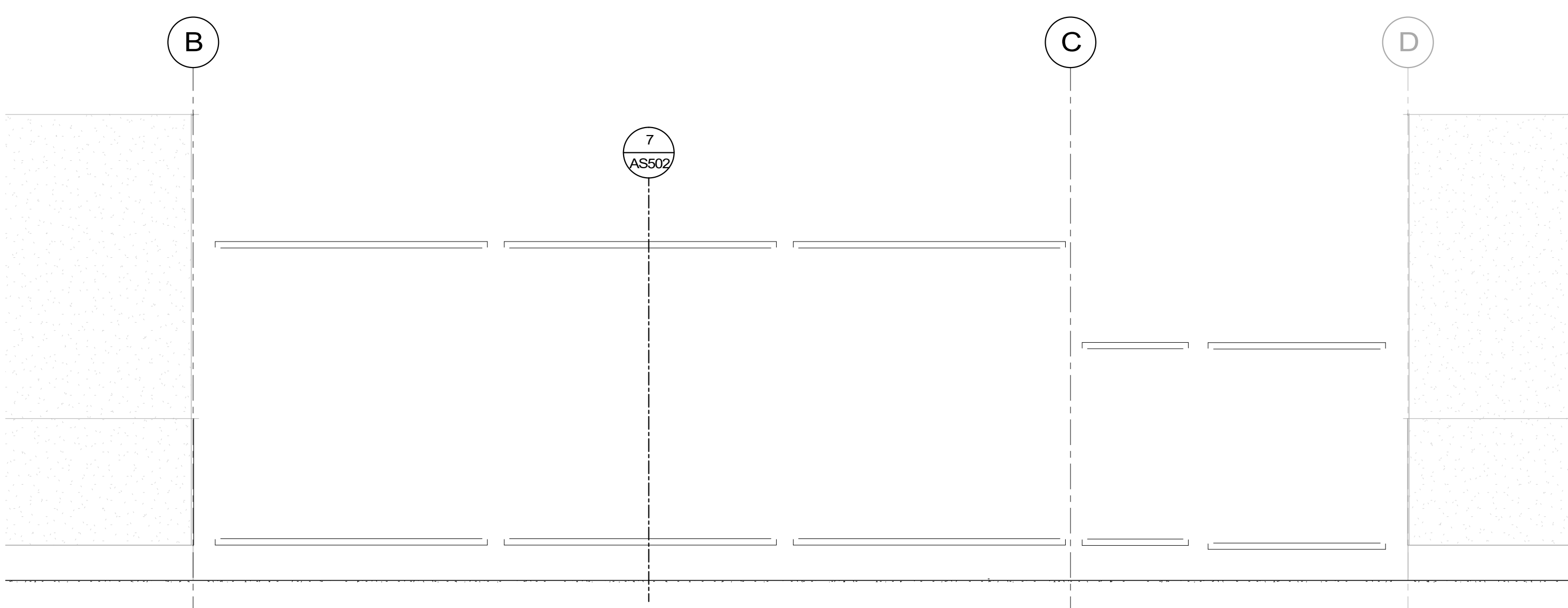


**2 TRASH ENCLOSURE SECTION**  
 AS502 1/2" = 1'-0"

**A4 TRASH ENCLOSURE ELEV.**  
 AS502 1/2" = 1'-0"

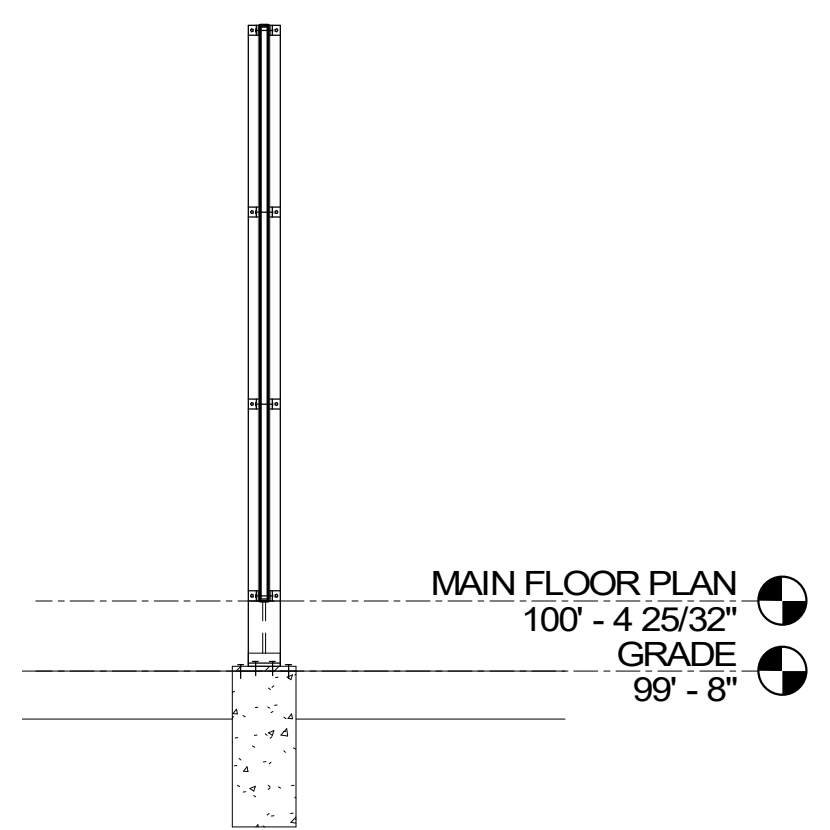


**B4 TRASH ENCLOSURE PLAN**  
 AS502 1/2" = 1'-0"

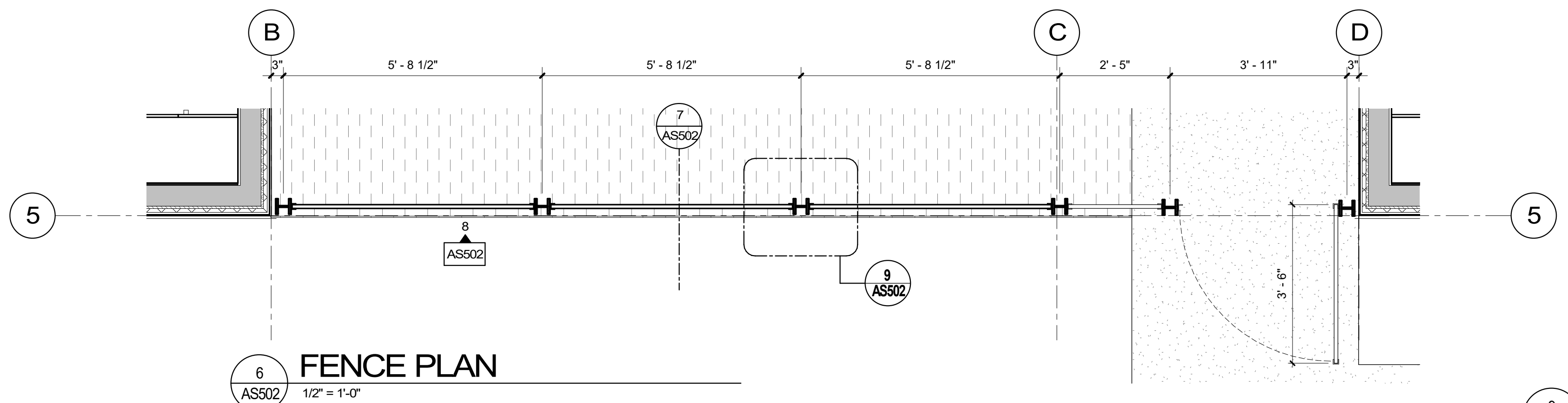


**8 FENCE ELEVATION**  
 AS502 1/2" = 1'-0"

**7 FENCE SECTION**  
 AS502 1/2" = 1'-0"

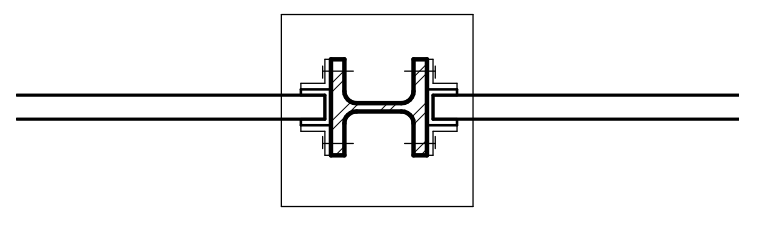


**1 TRASH ENCLOSURE DTL.**  
 AS502 1/2" = 1'-0"

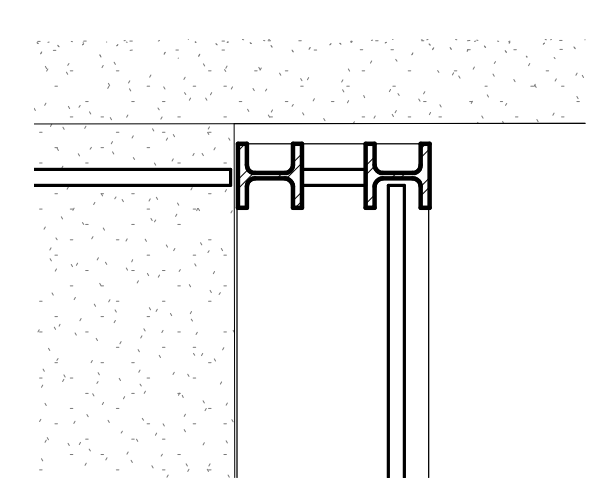


**6 FENCE PLAN**  
 AS502 1/2" = 1'-0"

**9 FENCE DETAIL**  
 AS502 1 1/2" = 1'-0"



**3 DETAIL 3**  
 AS502 1" = 1'-0"



**SAFE HARBOR LIFELINE**

223 WEST 475 SOUTH  
 LAYTON, UT 84041

**STAMP**



ISSUE TYPE:	DATE:
100% CD	2021-05-28
PROJECT NUMBER:	20-028
DRAWN BY:	Author
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**SITE ENLARGED PLANS & DETAILS**

**AS502**





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KEYNOTES

SAFE HARBOR  
 LIFELINE

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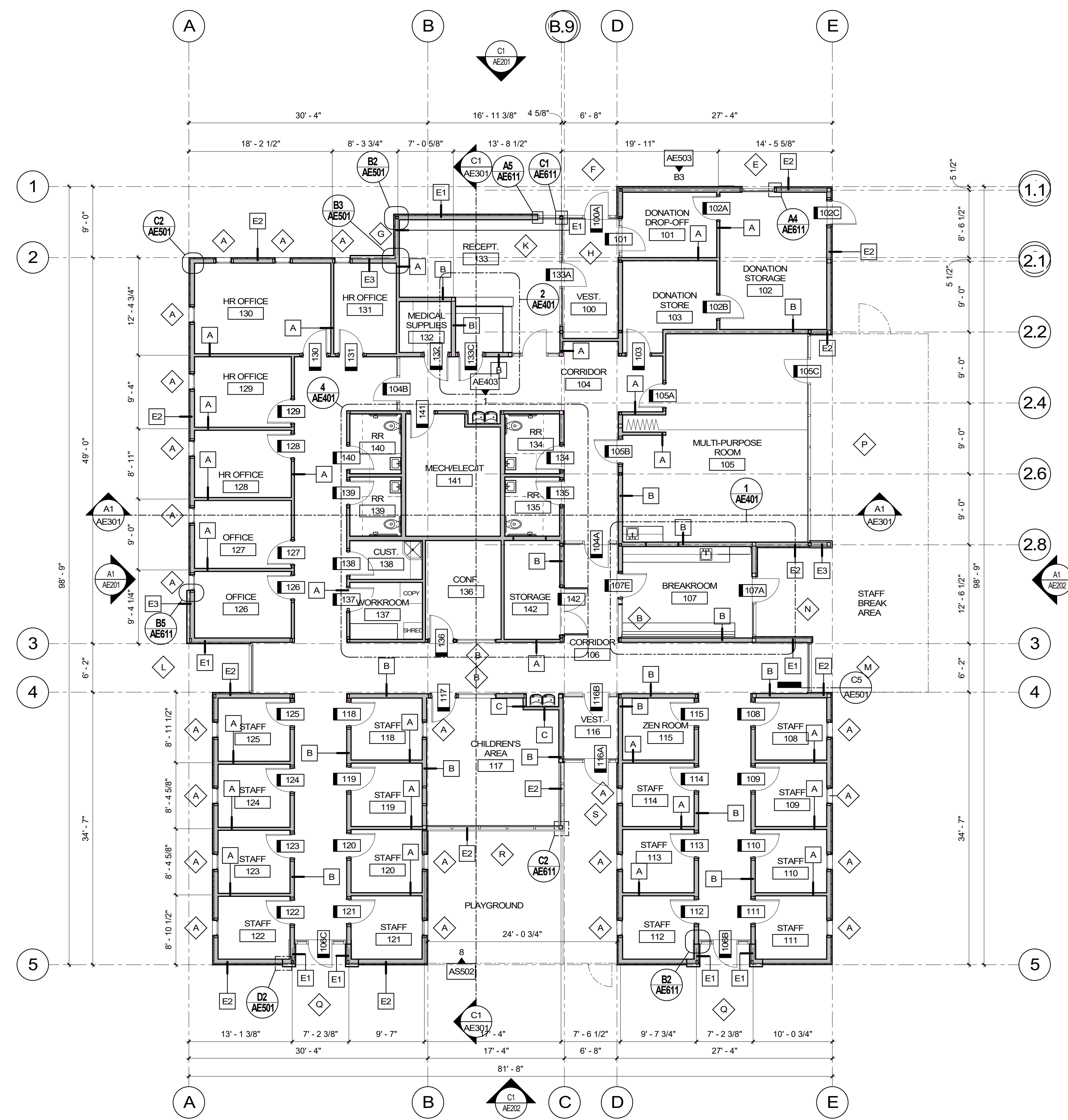
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100% CD	2021-05-28
PROJECT NUMBER:	20-028
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MAIN FLOOR PLAN

AE101



**MAIN FLOOR PLAN**  
 1/8" = 1'-0"

D  
C  
B  
A



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**CIVIL ENGINEER**  
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**LANDSCAPE ARCHITECT**  
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KEYNOTES

SAFE HARBOR  
 LIFELINE

223 WEST 475 SOUTH  
 LAYTON, UT 84041

STAMP

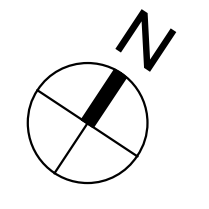
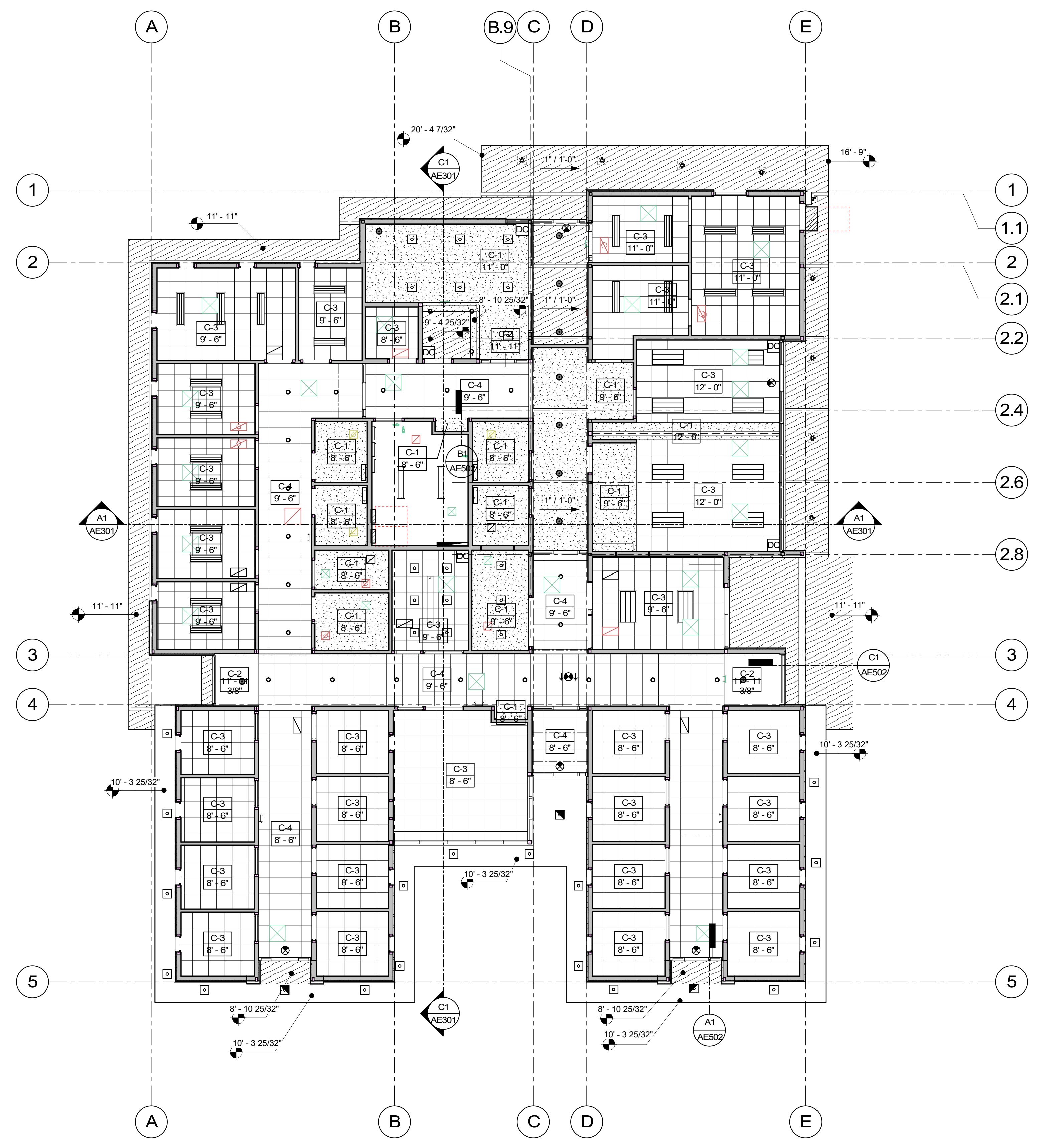


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MAIN FLOOR  
 REFLECTED  
 CEILING PLAN

**AE111**



**REFLECTED CEILING PLAN**  
 A1 AE111  
 1/8" = 1'-0"

LEGEND

EXPOSED TO STRUCTURE		C-EXP
GYP. BD. CEILING, PAINTED.		C-1
1 LAYER GYP. BD. PAINTED.		C-2
MP - SOFFIT WOOD VENEER		MP
2X2 ACT CEILING		C-3
2X4 ACT CEILING (4" ALUM. TRIM WHERE CLOUD OCCURS)		C-4



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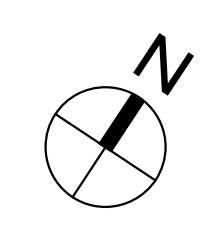
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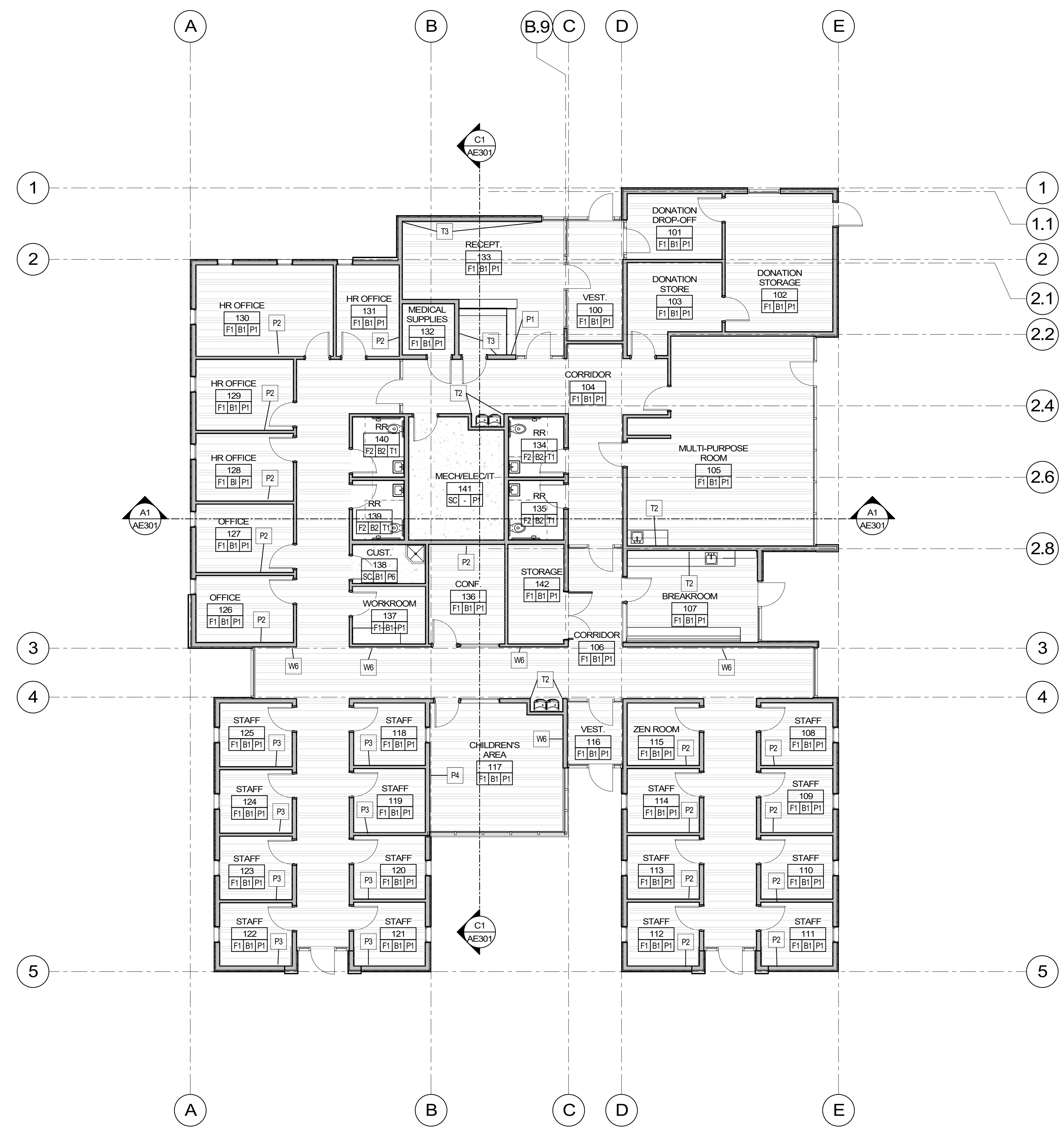
- 20 lbs LVT, COLOR TBD
- TILE, TBD
- SEALED CONCRETE

FINISH PLAN

AE121



**MAIN FLOOR FINISH PLAN**  
 1/8" = 1'-0"



D  
C  
B  
A

1  
2  
3  
4  
5

1  
1.1  
2  
2.1  
2.2  
2.4  
2.6  
2.8  
3  
4  
5



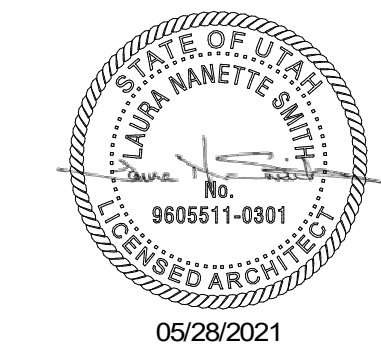
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**SAFE HARBOR LIFELINE**

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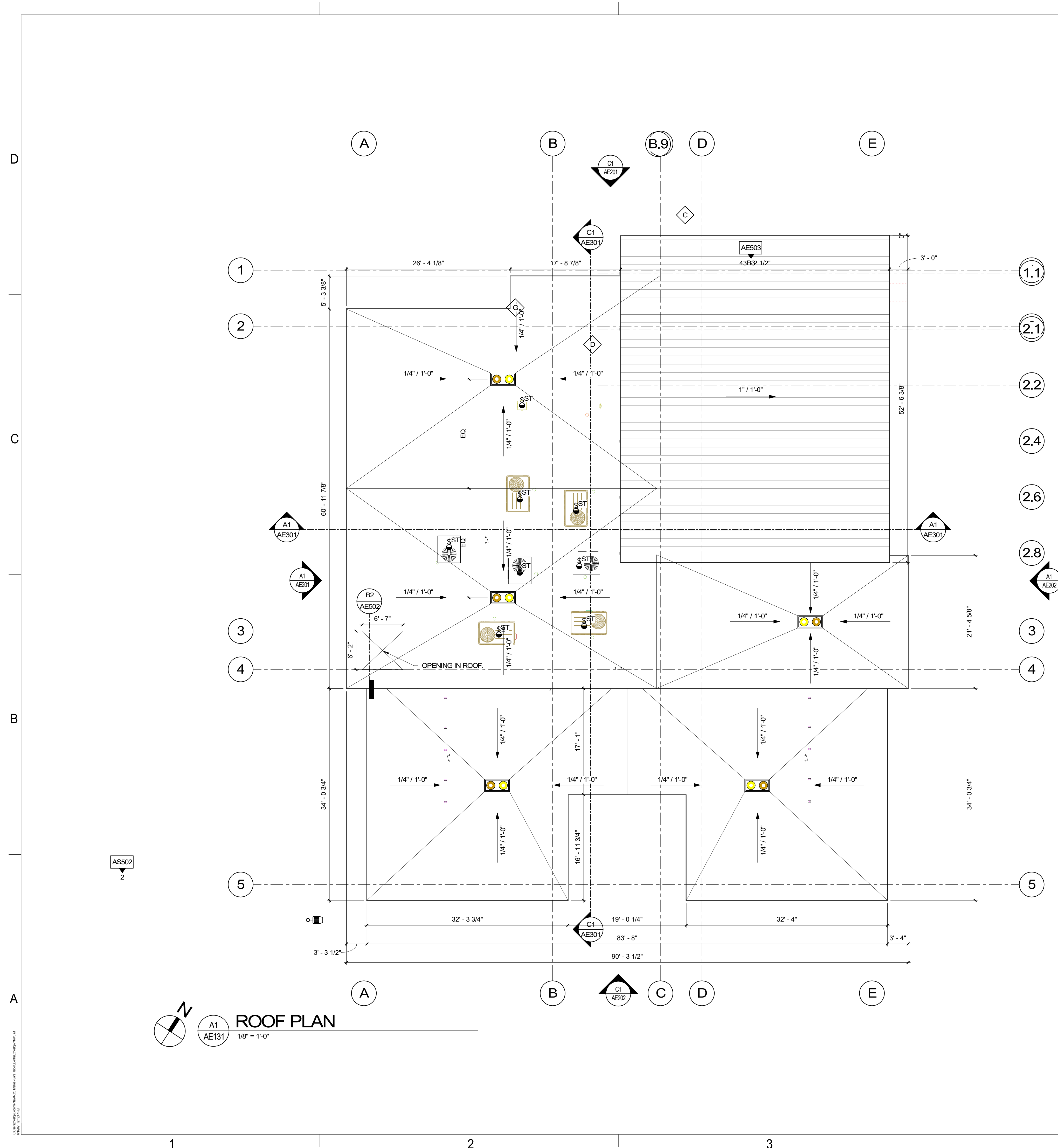
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**ROOF PLAN**

**AE131**



**ROOF PLAN**  
 A1 AE131  
 1/8" = 1'-0"



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KEYNOTES

SAFE HARBOR  
LIFELINE

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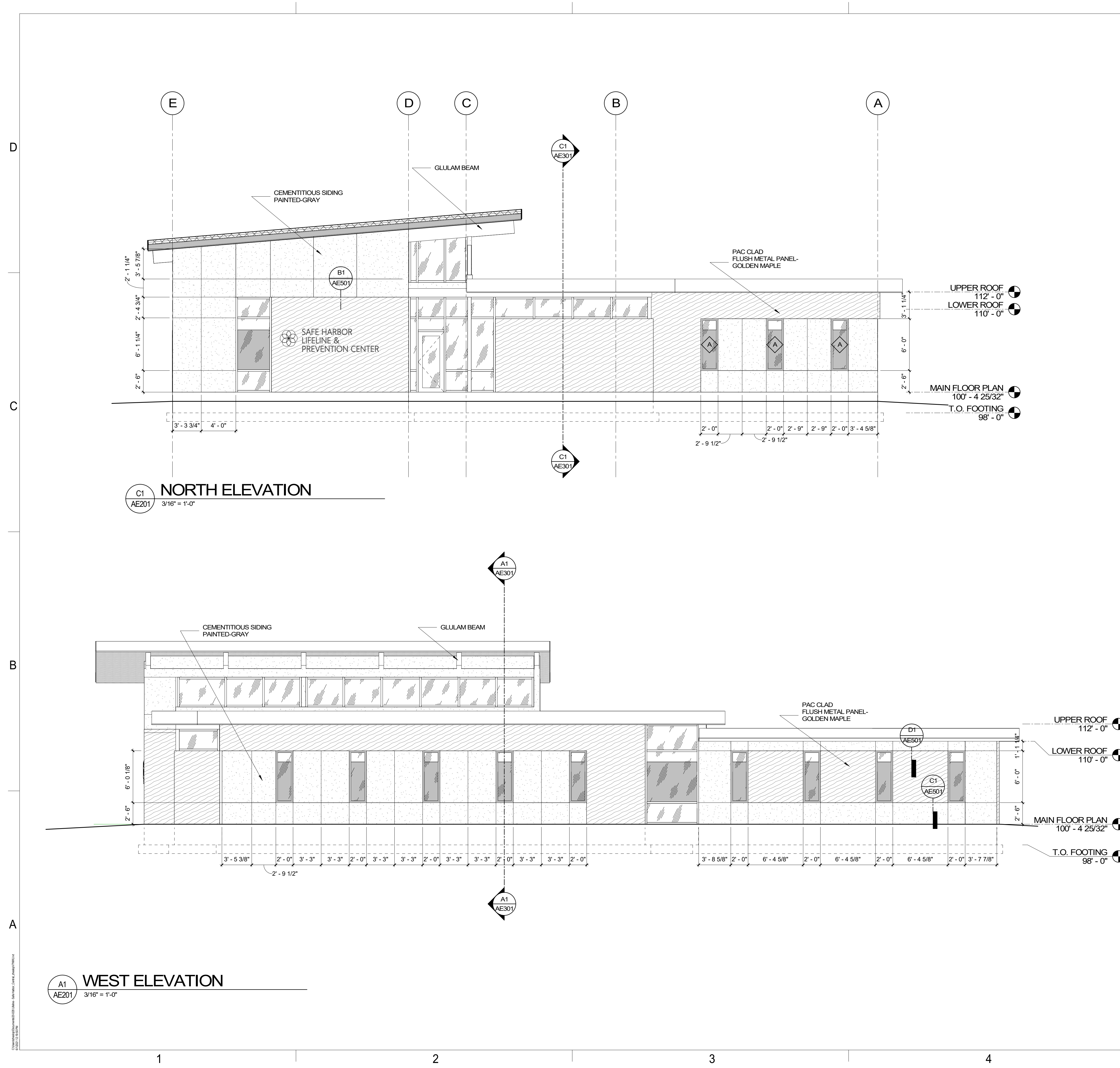
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EXTERIOR  
ELEVATIONS

AE201



C1 AE201 NORTH ELEVATION  
3/16" = 1'-0"

A1 AE201 WEST ELEVATION  
3/16" = 1'-0"



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KEYNOTES

SAFE HARBOR  
LIFELINE

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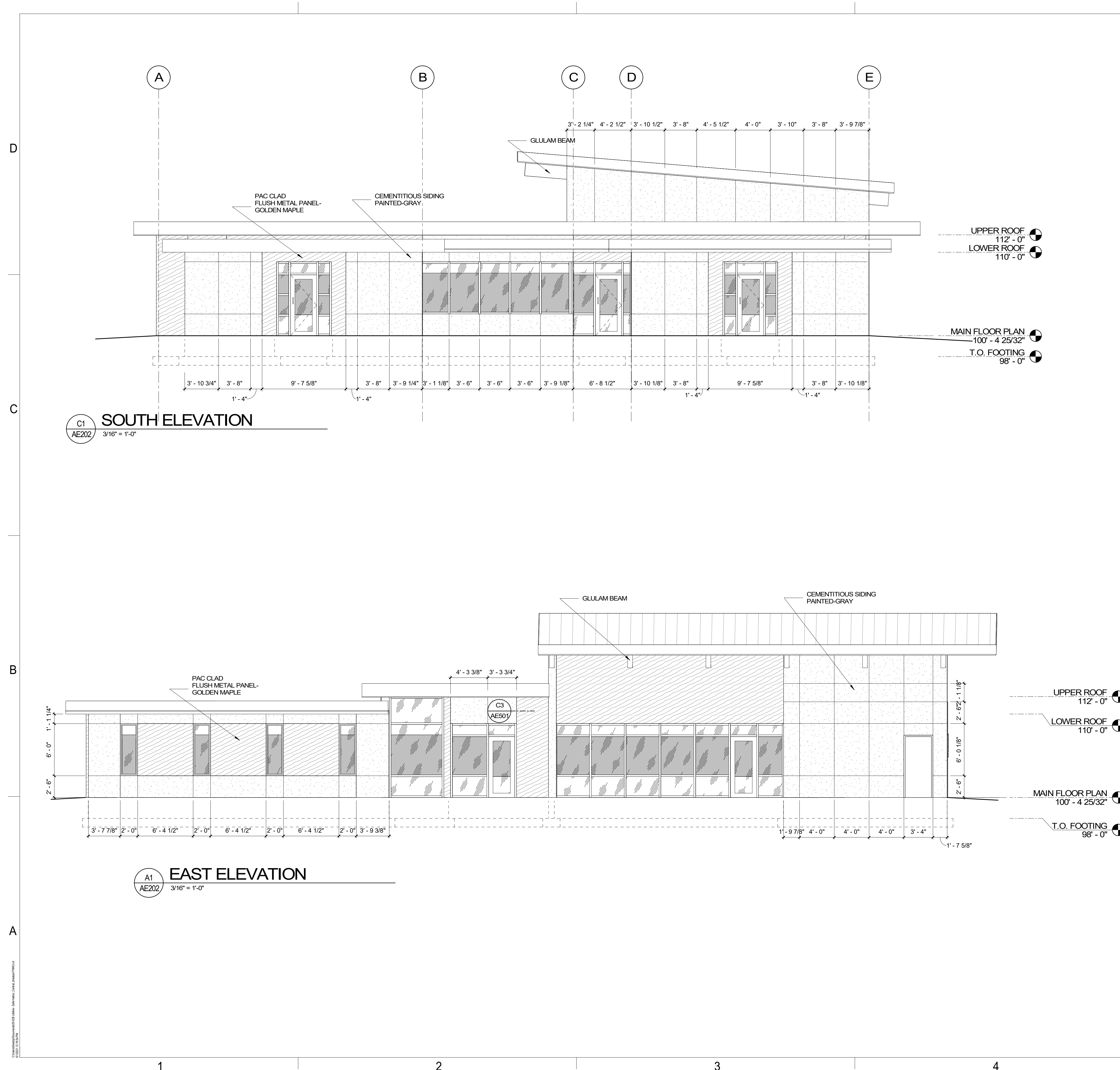


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EXTERIOR  
ELEVATIONS

**AE202**





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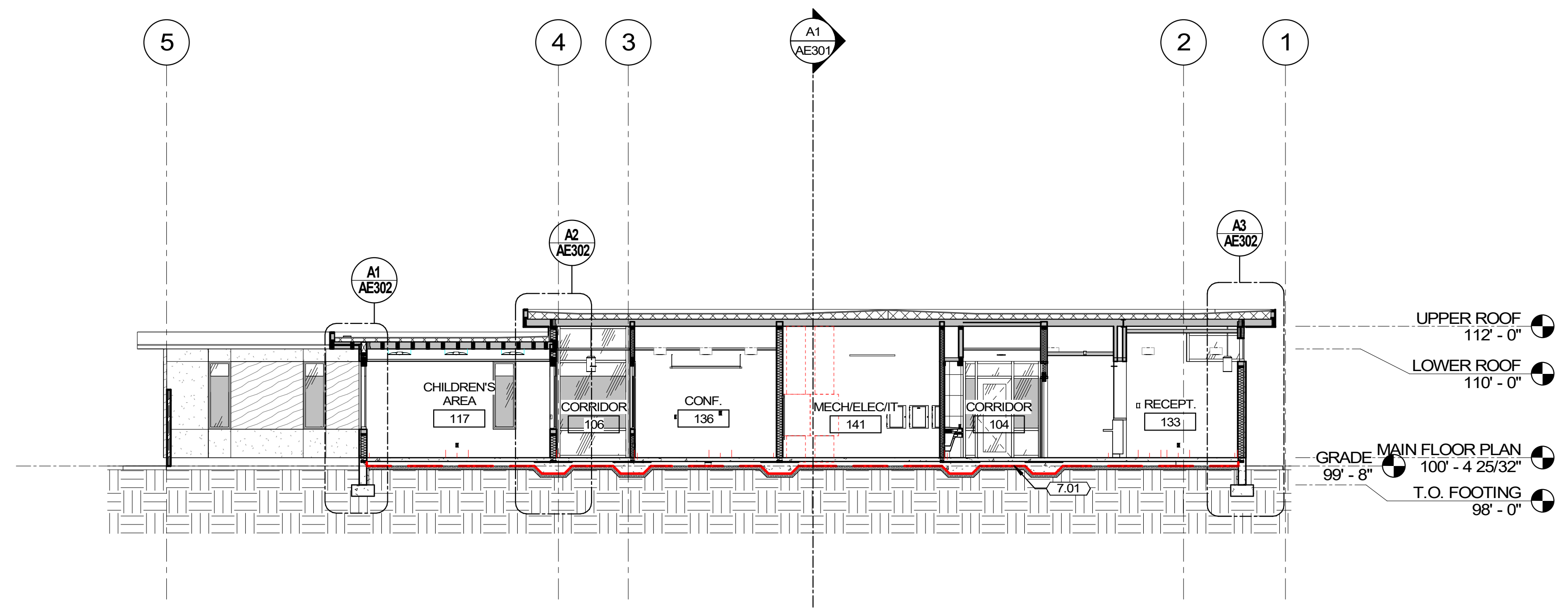
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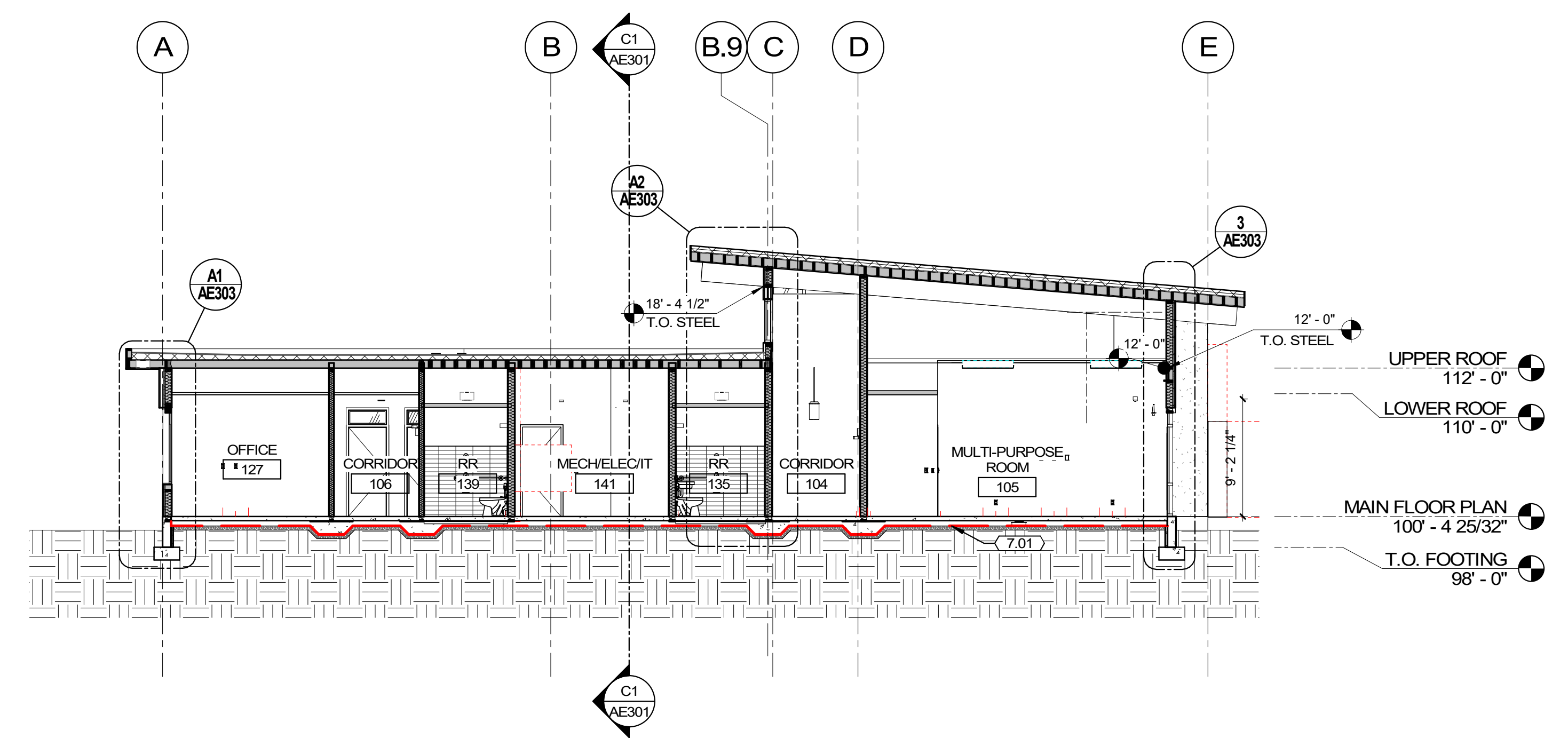
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**KEYNOTES**

7.01 VAPOR BARRIER.



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



**A1 BUILDING SECTION**  
 1/8" = 1'-0"

**SAFE HARBOR LIFELINE**

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**BUILDING SECTIONS**

**AE301**

D

C

B

A



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**KEYNOTES**

3.02	CONCRETE FOOTING - REFER TO STRUCTURAL.
3.03	CONCRETE FOUNDATION - REFER TO STRUCTURAL. DAMPPROOF EXTERIOR SIDE OF ALL FOUNDATION WALLS THAT ARE BELOW GRADE.
3.04	PROVIDE 4" GRAVEL.
3.05	CONCRETE SLAB ON GRADE.
5.01	STEEL BEAM - REFER TO STRUCTURAL.
6.01	ROOF JOIST - REFER TO STRUCTURAL.
6.02	SHEATHING PER STRUCTURAL.
6.03	WOOD BEAM - REFER TO STRUCTURAL.
7.01	VAPOR BARRIER.
7.02	BATT INSULATION (R-13).
7.03	2" RIGID INSULATION (R-10).
7.04	1" RIGID INSULATION (R-3.8).
7.05	SINGLE PLY ROOFING MEMBRANE, OVER SLOPED RIGID INSULATION (R-30).
7.06	1/2" EXPANSION MATERIAL.
9.01	SIDING - REFER TO ELEVATION.
9.02	SOFFIT - REFER TO REFLECTED CEILING PLAN.
9.03	CEILING - REFER TO REFLECTED CEILING PLAN.
9.04	GYPSUM WALL BOARD

**SAFE HARBOR LIFELINE**

223 WEST 475 SOUTH  
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**STAMP**



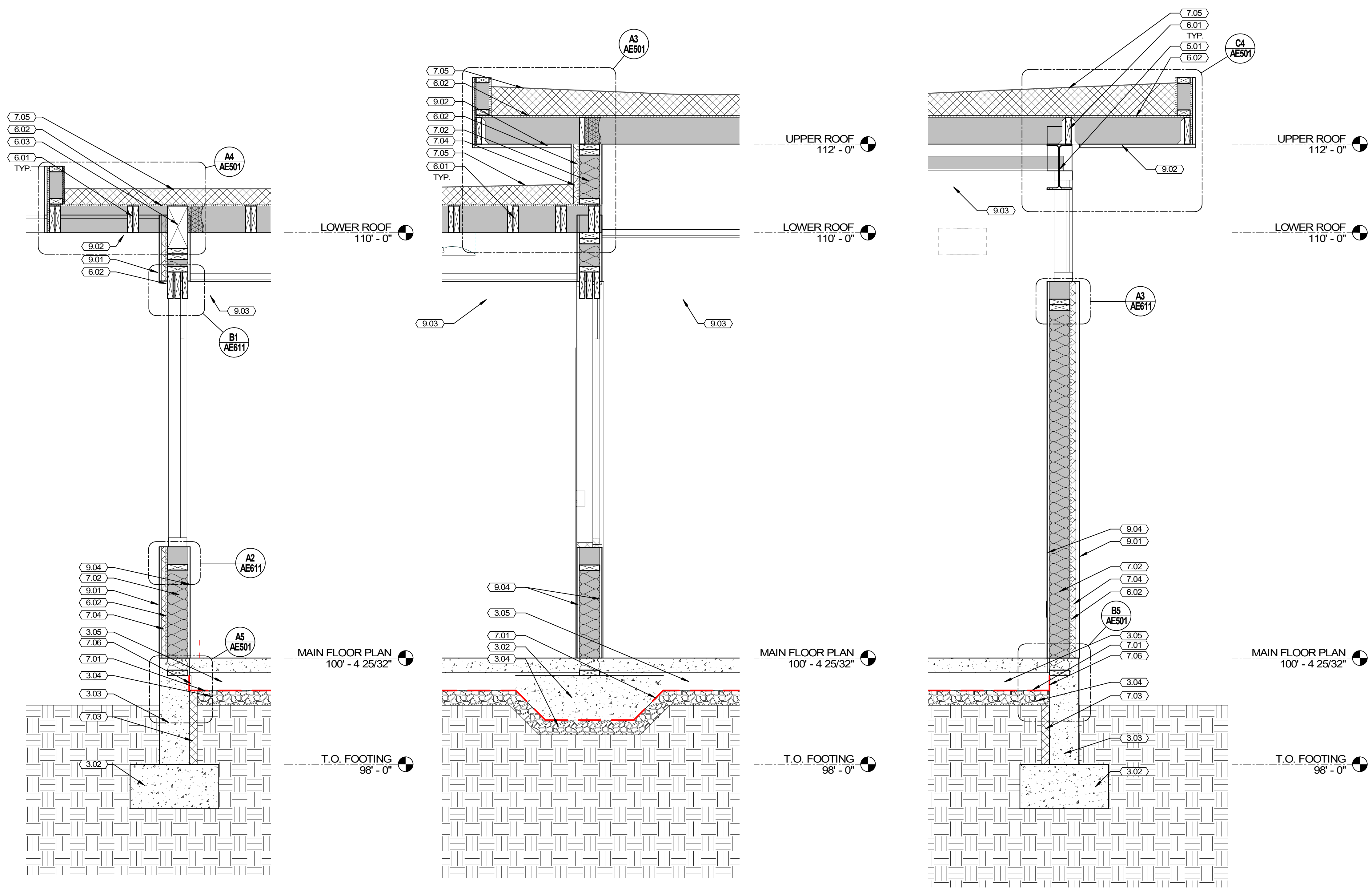
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**WALL SECTIONS**

**AE302**

D  
C  
B  
A



**A1**  
 AE302 3/4" = 1'-0"  
**WALL SECTION**

**A2**  
 AE302 3/4" = 1'-0"  
**WALL SECTION**

**A3**  
 AE302 3/4" = 1'-0"  
**WALL SECTION**



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**KEYNOTES**

3.01	RECESS SLAB 2" IN THIS LOCATION.
3.02	CONCRETE FOOTING - REFER TO STRUCTURAL.
3.03	CONCRETE FOUNDATION - REFER TO STRUCTURAL. DAMPPROOF EXTERIOR SIDE OF ALL FOUNDATION WALLS THAT ARE BELOW GRADE.
3.04	PROVIDE 4" GRAVEL.
3.05	CONCRETE SLAB ON GRADE.
5.01	STEEL BEAM - REFER TO STRUCTURAL.
6.01	ROOF JOIST - REFER TO STRUCTURAL.
6.02	SHEATHING PER STRUCTURAL.
7.01	VAPOR BARRIER.
7.02	BATT INSULATION (R-13).
7.03	2" RIGID INSULATION (R-10).
7.04	1" RIGID INSULATION (R-3.8).
7.05	SINGLE PLY ROOFING MEMBRANE, OVER SLOPED RIGID INSULATION (R-30).
7.06	1/2" EXPANSION MATERIAL.
7.07	STANDING SEAM METAL ROOF, OVER RIGID INSULATION (R-30).
9.01	SIDING - REFER TO ELEVATION.
9.02	SOFFIT - REFER TO REFLECTED CEILING PLAN.
9.03	CEILING - REFER TO REFLECTED CEILING PLAN.
9.04	GYPSUM WALL BOARD

**SAFE HARBOR LIFELINE**

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**WALL SECTIONS**

**AE303**



**A1**  
**AE303**  
 3/4" = 1'-0"

**A2**  
**AE303**  
 3/4" = 1'-0"

**3**  
**AE303**  
 3/4" = 1'-0"

1

2

3

4

5



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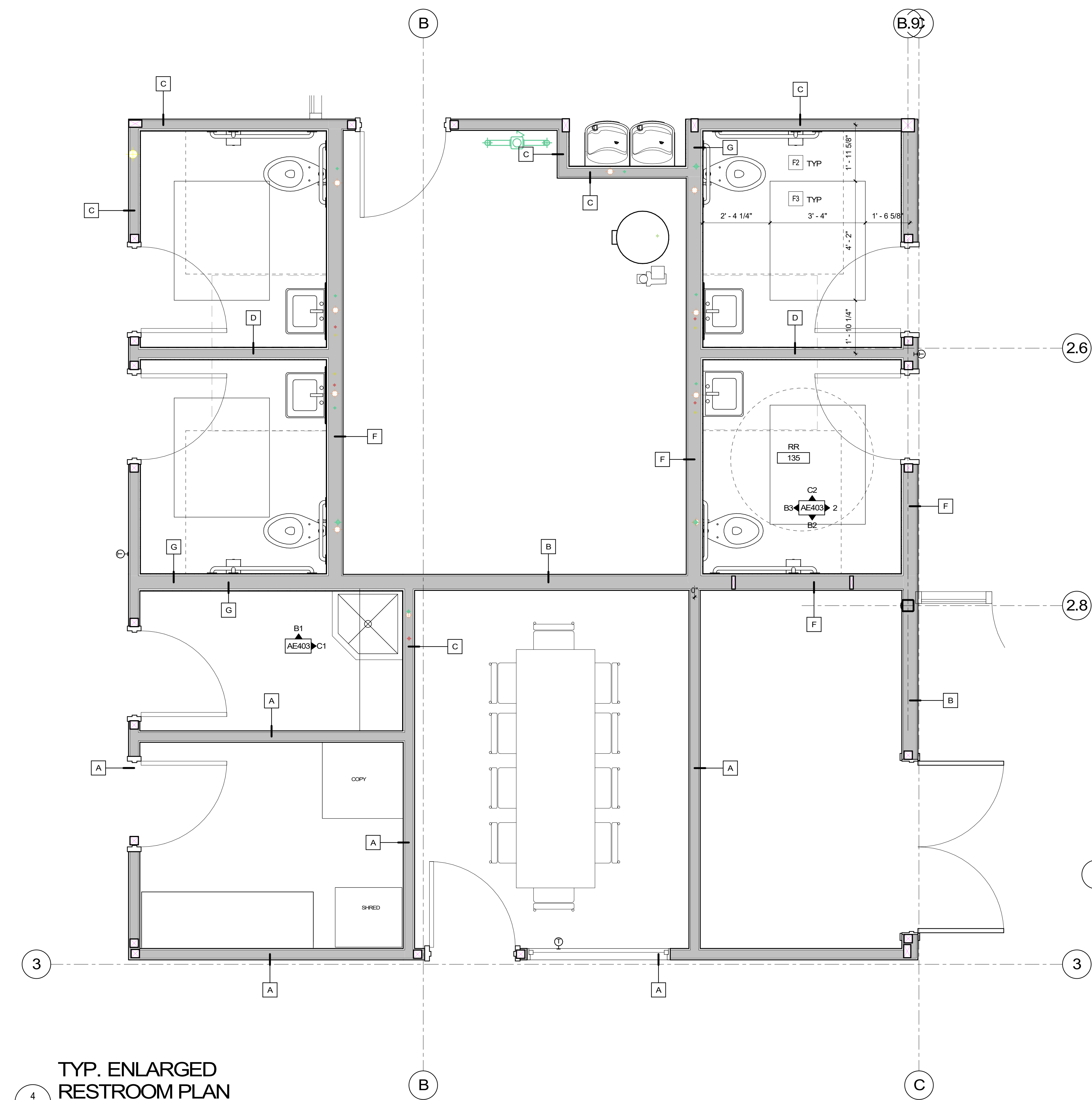
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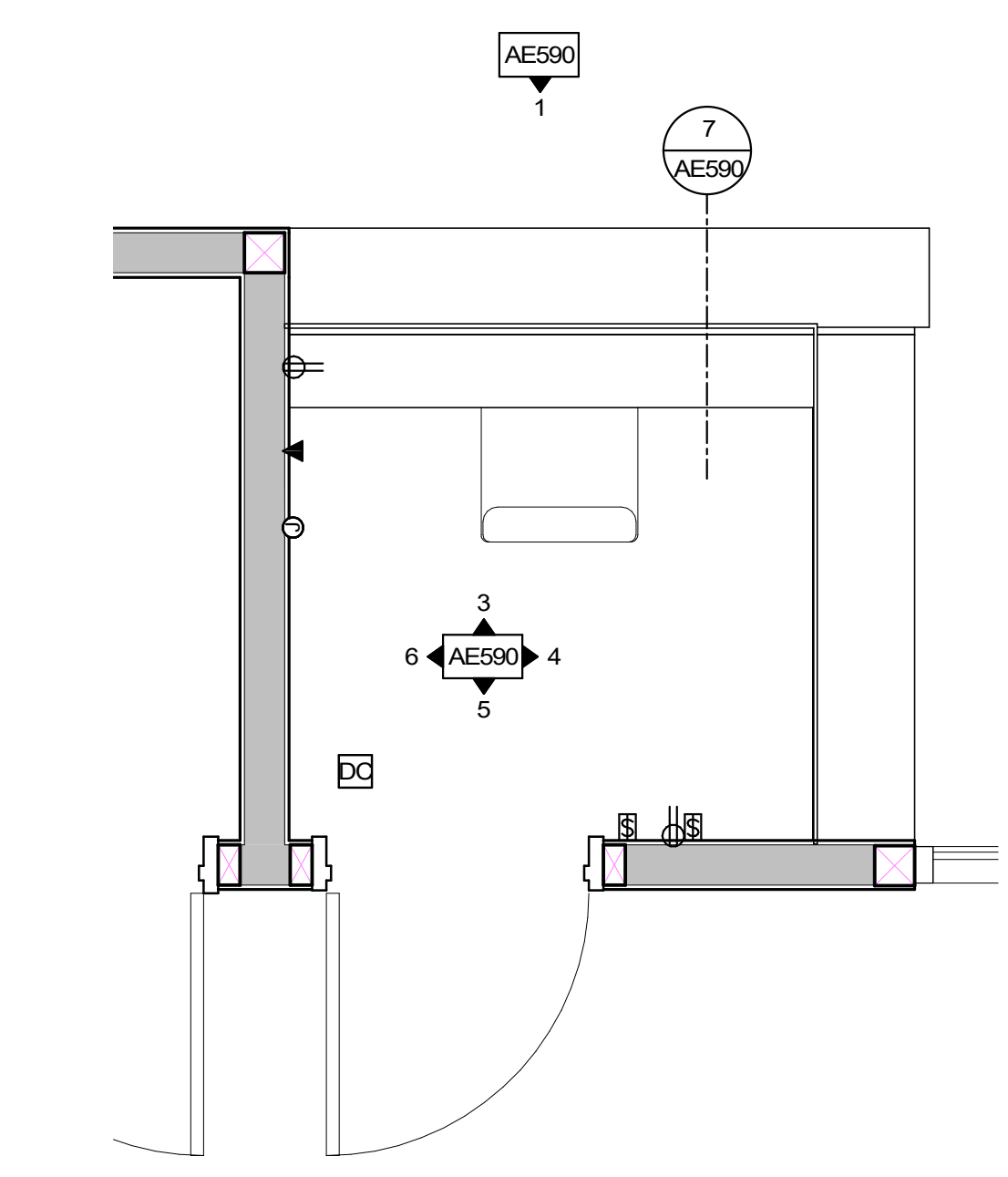
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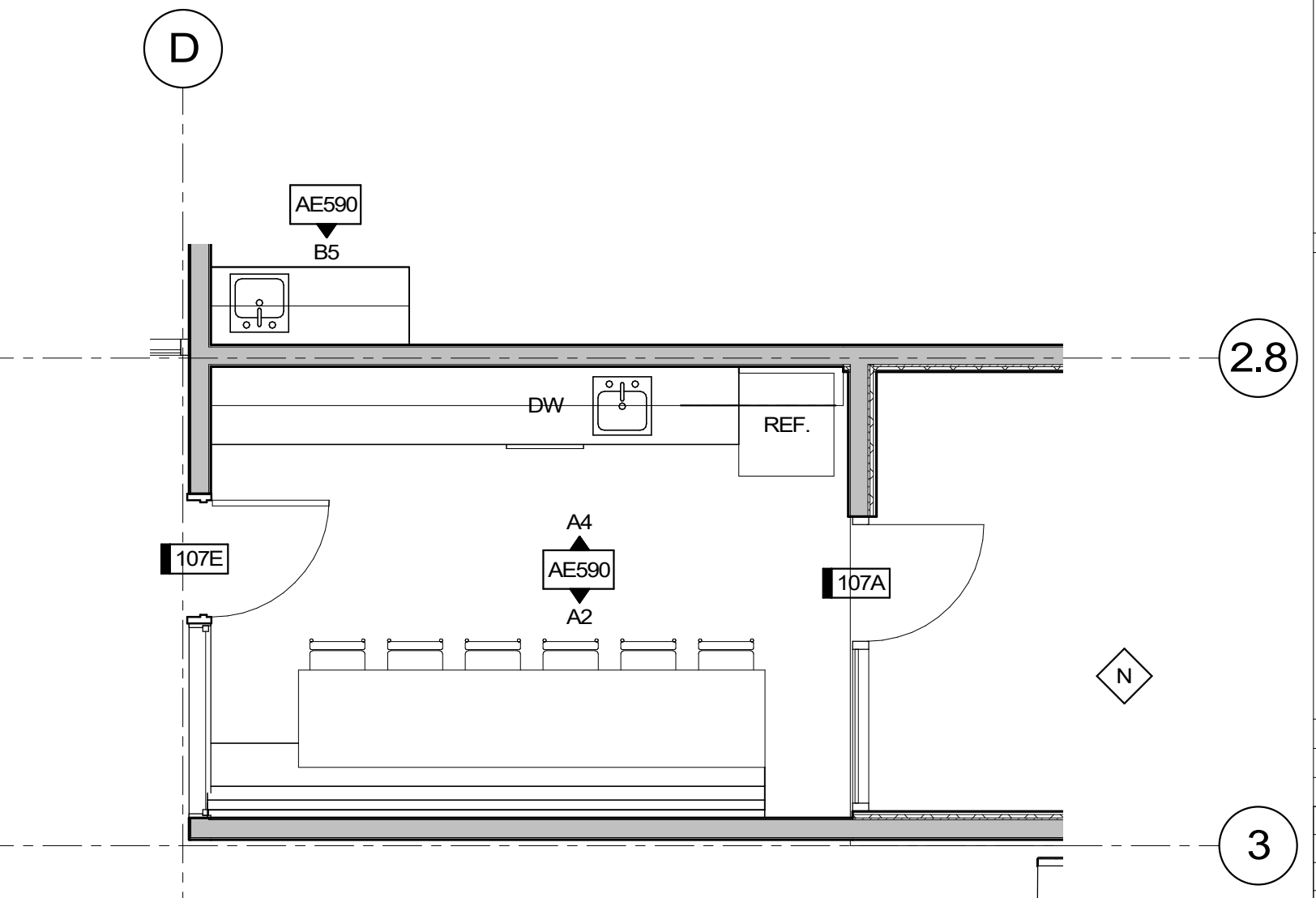
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4  
 AE401  
 1/2" = 1'-0"  
**TYP. ENLARGED RESTROOM PLAN**



2  
 AE401  
 1/2" = 1'-0"  
**RECEPTION DESK**



1  
 AE401  
 1/4" = 1'-0"  
**BREAK ROOM ENLARGED PLAN**

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**ENLARGED FLOOR PLANS**

**AE401**

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KEYNOTES

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LIFELINE

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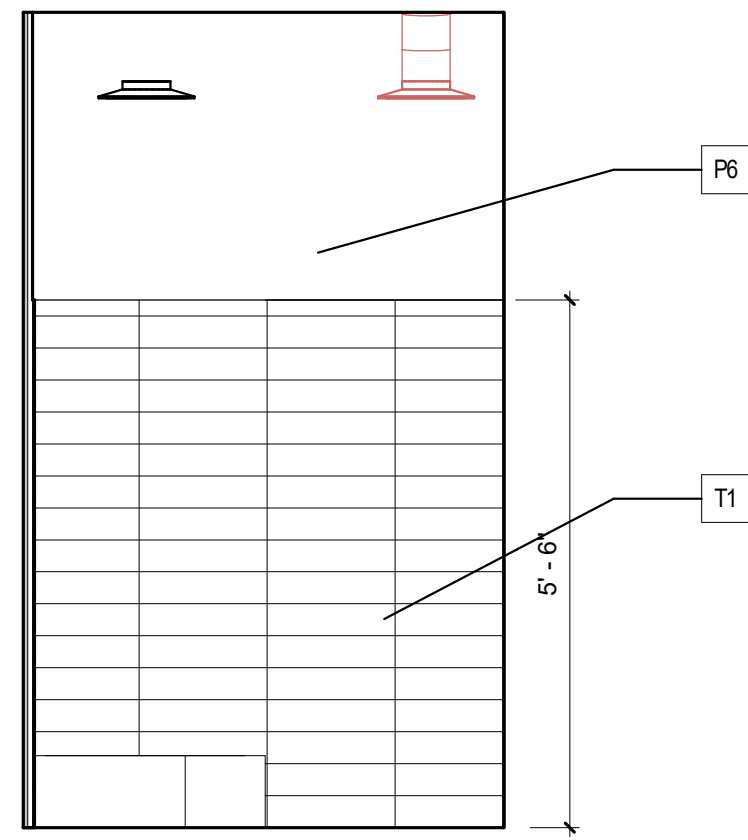


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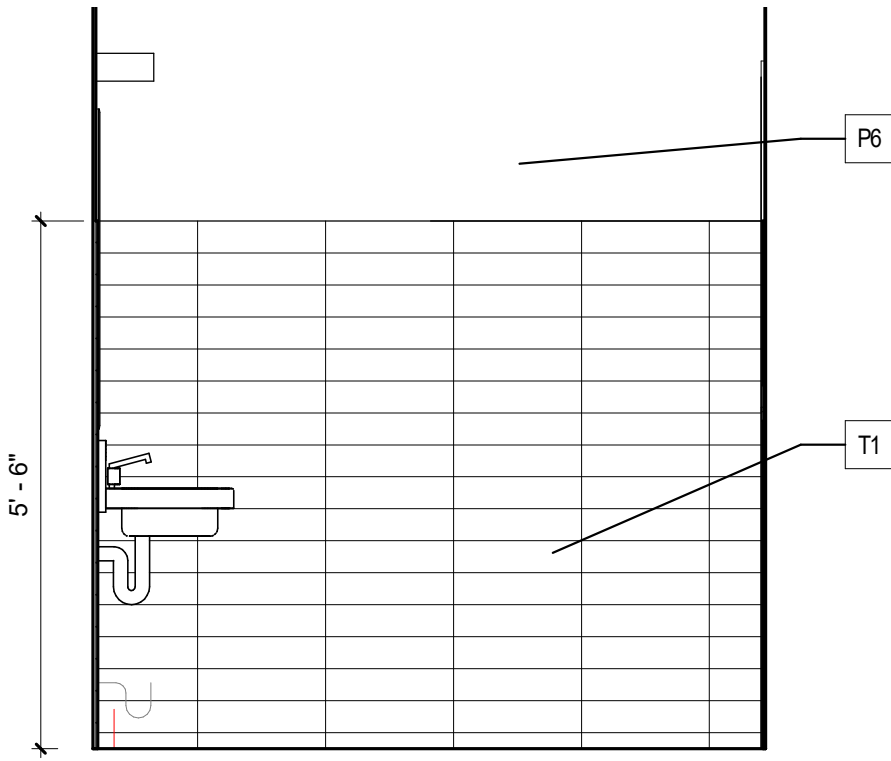
INTERIOR  
ELEVATIONS &  
DETAILS

AE403

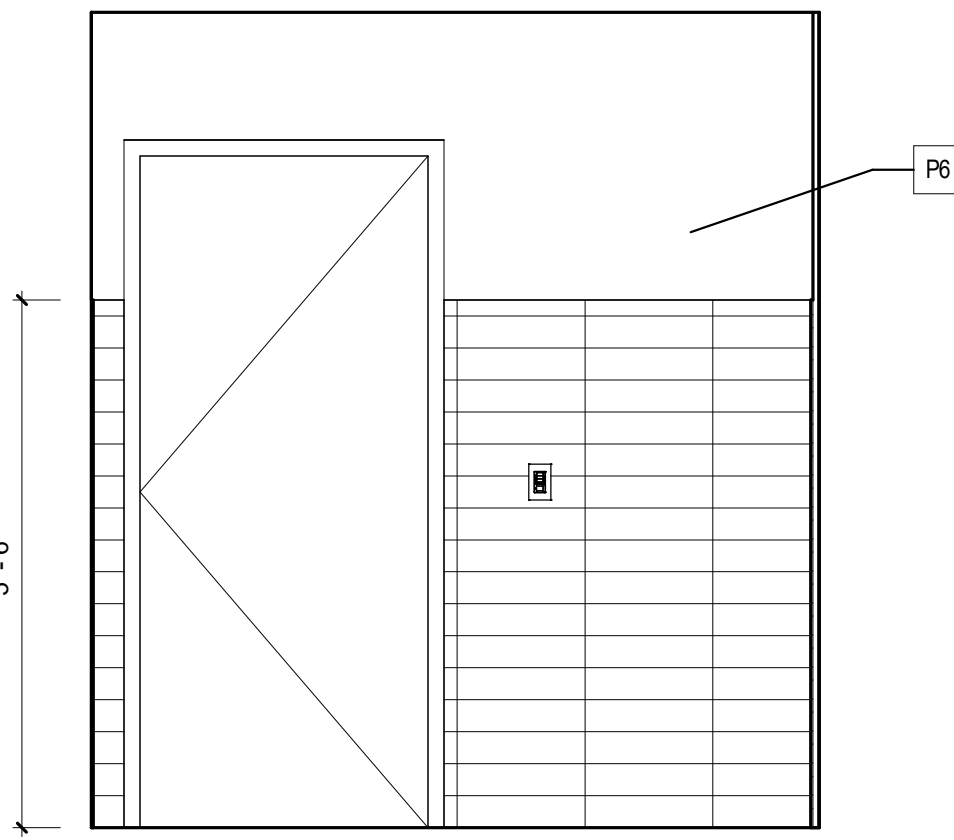
D



C1 CUSTODIAL ELEVATION  
AE403 1/2" = 1'-0"

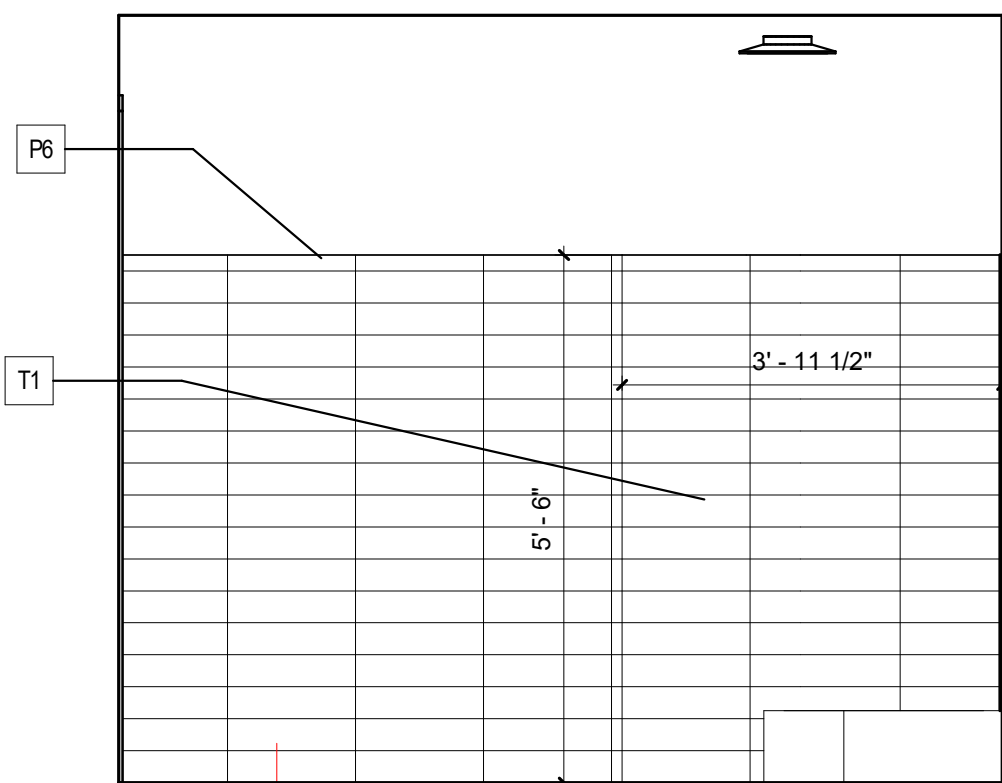


C2 TYP. RESTROOM ELEVATION  
AE403 1/2" = 1'-0"

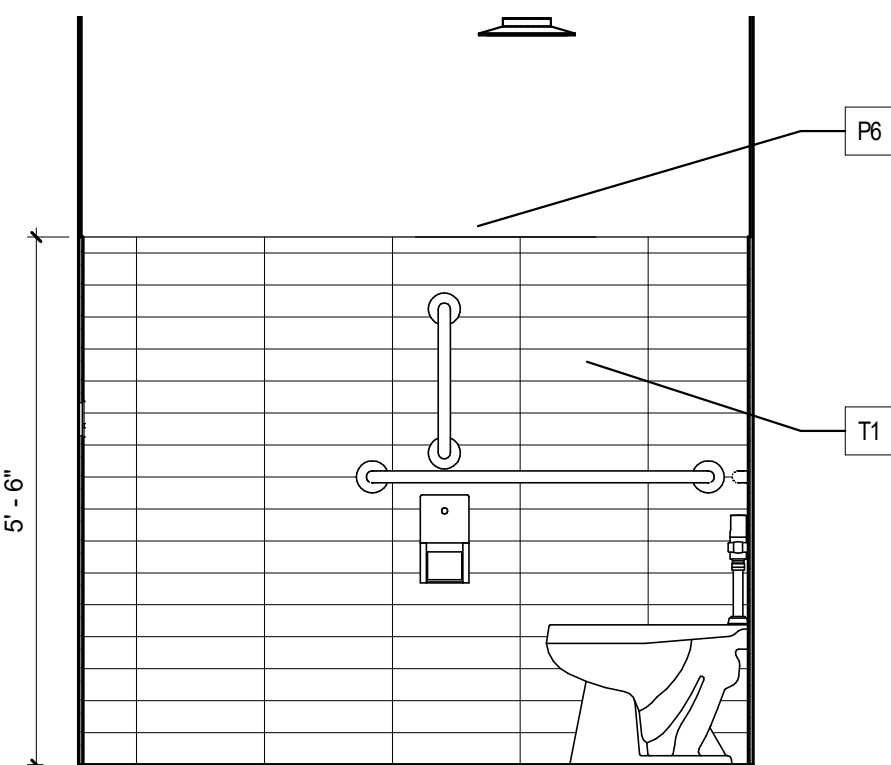


2 TYP. RESTROOM ELEVATION  
AE403 1/2" = 1'-0"

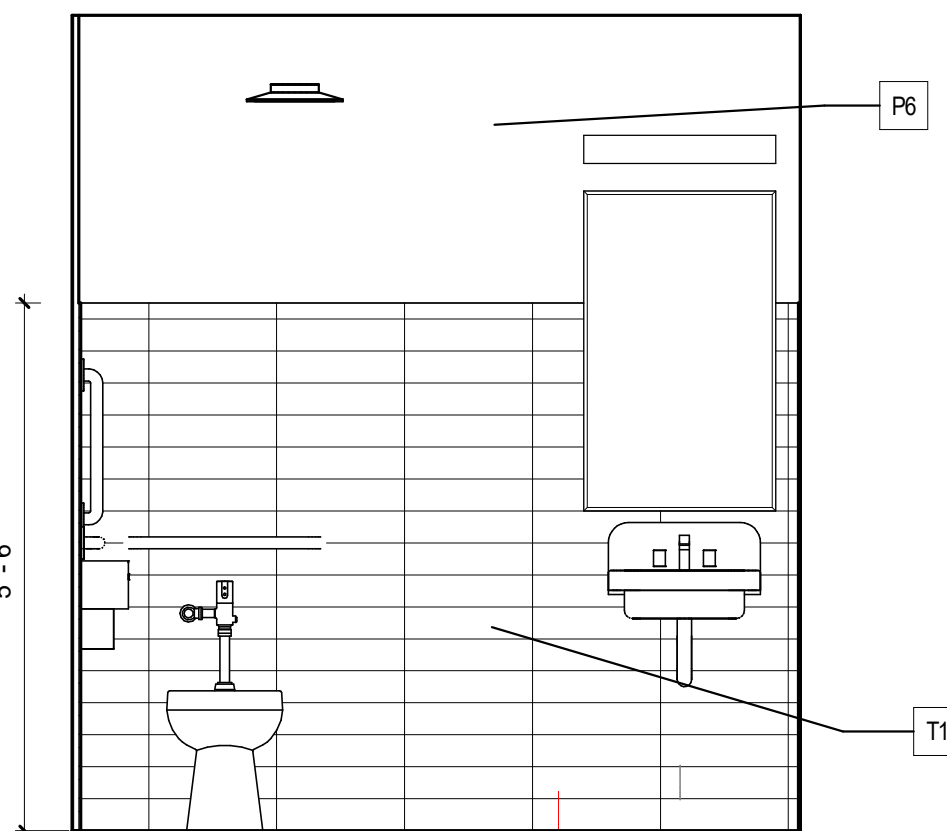
C



B1 CUSTODIAL ELEVATION  
AE403 1/2" = 1'-0"

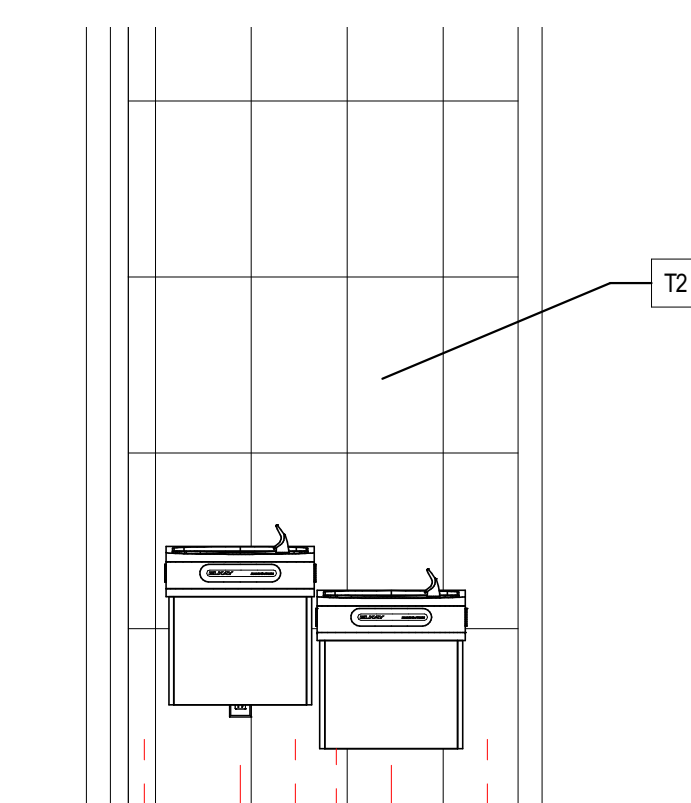


B2 TYP. RESTROOM ELEVATION  
AE403 1/2" = 1'-0"



B3 TYP. RESTROOM ELEVATION  
AE403 1/2" = 1'-0"

B



1 INTERIOR ELEVATION - DRINKING FOUNTAIN  
AE403 1/2" = 1'-0"

A



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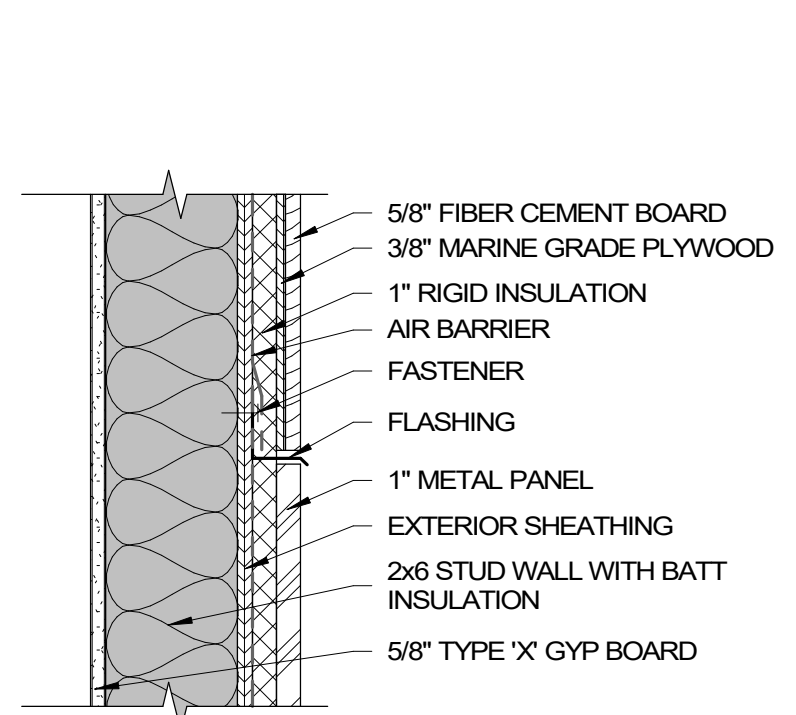
**STRUCTURAL ENGINEER**  
DUNN ASSOCIATES  
380 WEST 800 SOUTH, SUITE 100  
SALT LAKE CITY, UT 84101  
C/O PHIL MILLER  
pmiller@dunn-se.com  
(801)466-1699

**MECHANICAL ENGINEER**  
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324 S STATE STREET, SUITE 400  
SALT LAKE CITY, UT 84111  
C/O RYAN BOOGARD  
rnb@spectrum-engineers.com  
(801)328-5151

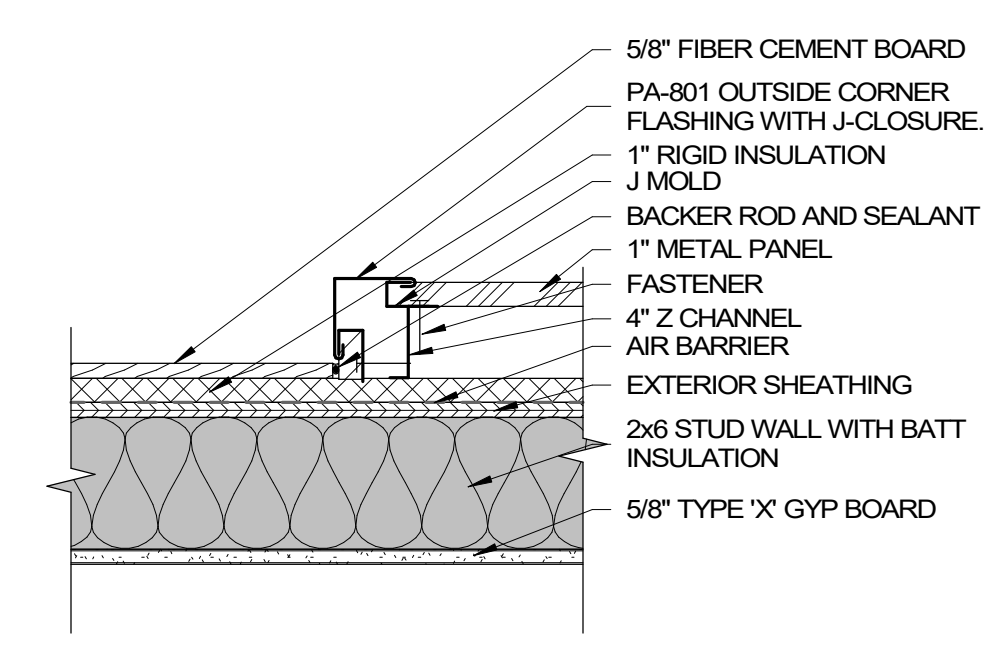
**ELECTRICAL ENGINEER**  
SPECTRUM ENGINEERS  
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dew@spectrum-engineers.com  
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**CIVIL ENGINEER**  
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5746 S 1475 E SUITE 200  
SOUTH OGDEN, UT 84403  
C/O COURTNEY MORRIS  
cmorris@greatbasineng.com  
(801)394-4515

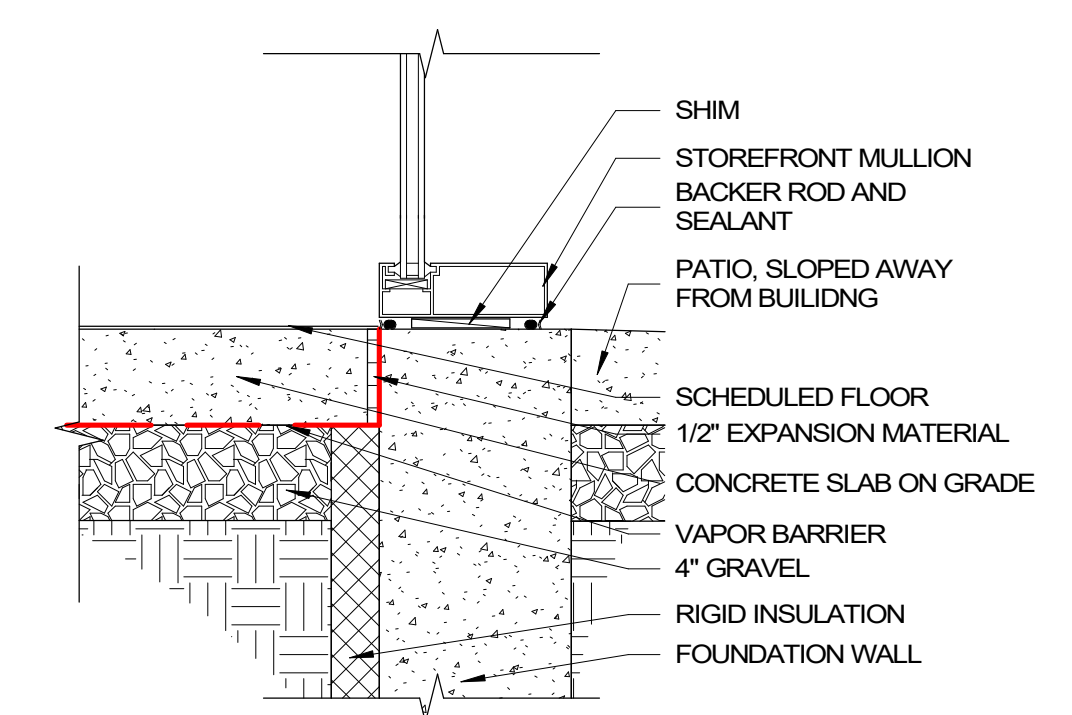
**LANDSCAPE ARCHITECT**  
GREAT BASIN ENGINEERING  
5746 S 1475 E SUITE 200  
SOUTH OGDEN, UT 84403  
C/O JAMES ZAUGG  
jzaugg@greatbasineng.com  
(801)394-4515



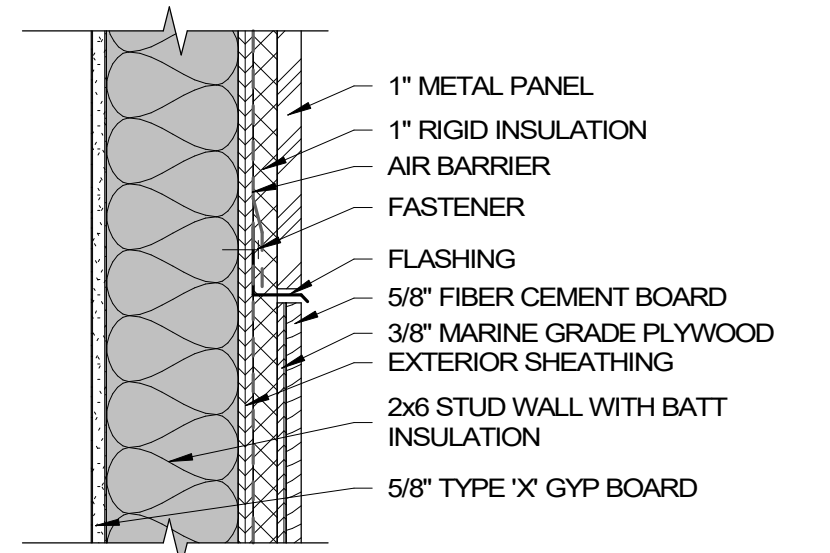
**VERTICAL FIBER CEMENT TO METAL FLUSH**  
D1 AE501 1 1/2" = 1'-0"



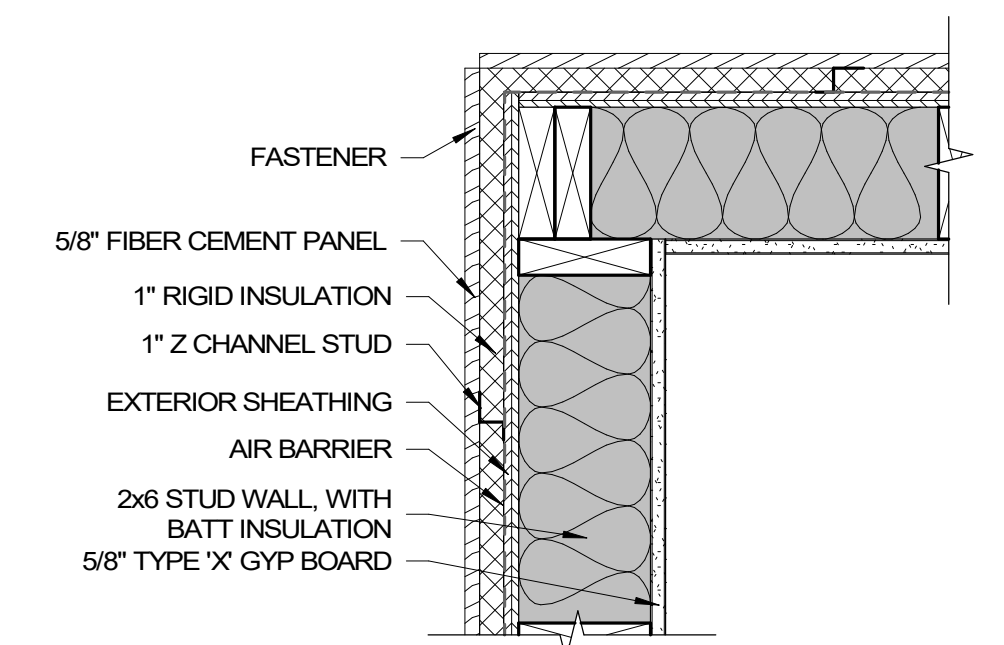
**HORIZONTAL FIBER CEMENT TO METAL PANEL WITH 4" FURRING**  
D2 AE501 1 1/2" = 1'-0"



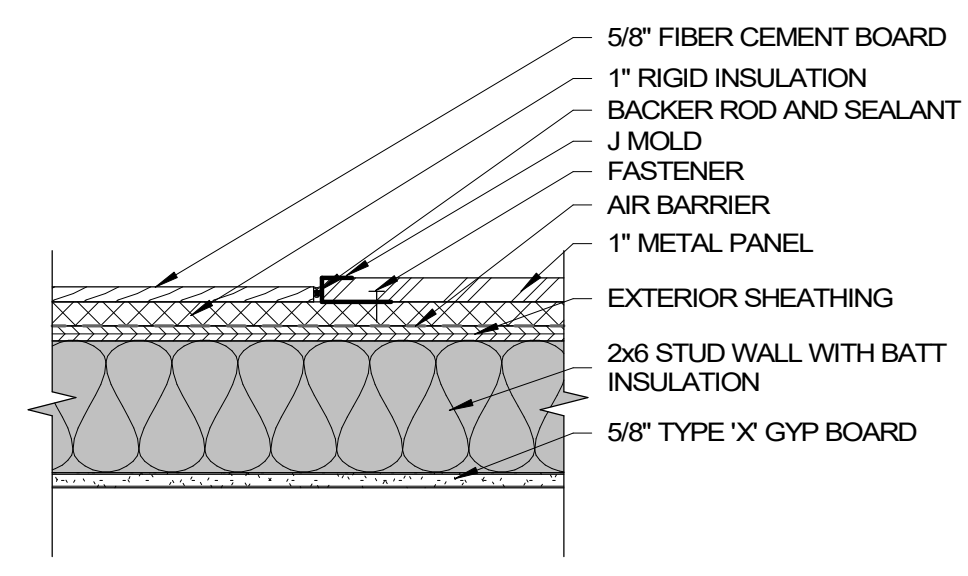
**STOREFRONT AT PATIO**  
D5 AE501 1 1/2" = 1'-0"



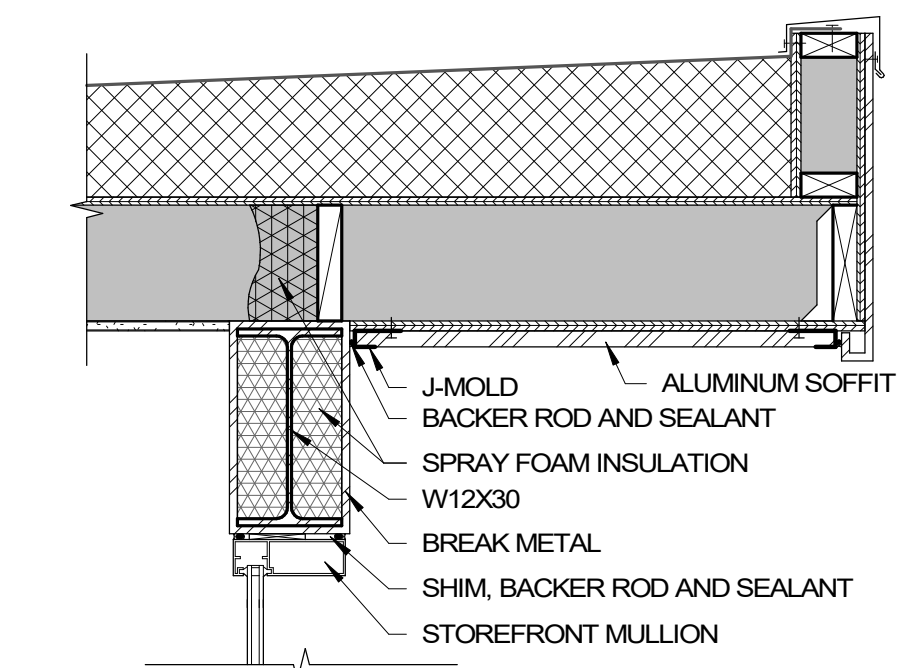
**VERTICAL METAL TO FIBER CEMENT FLUSH**  
C1 AE501 1 1/2" = 1'-0"



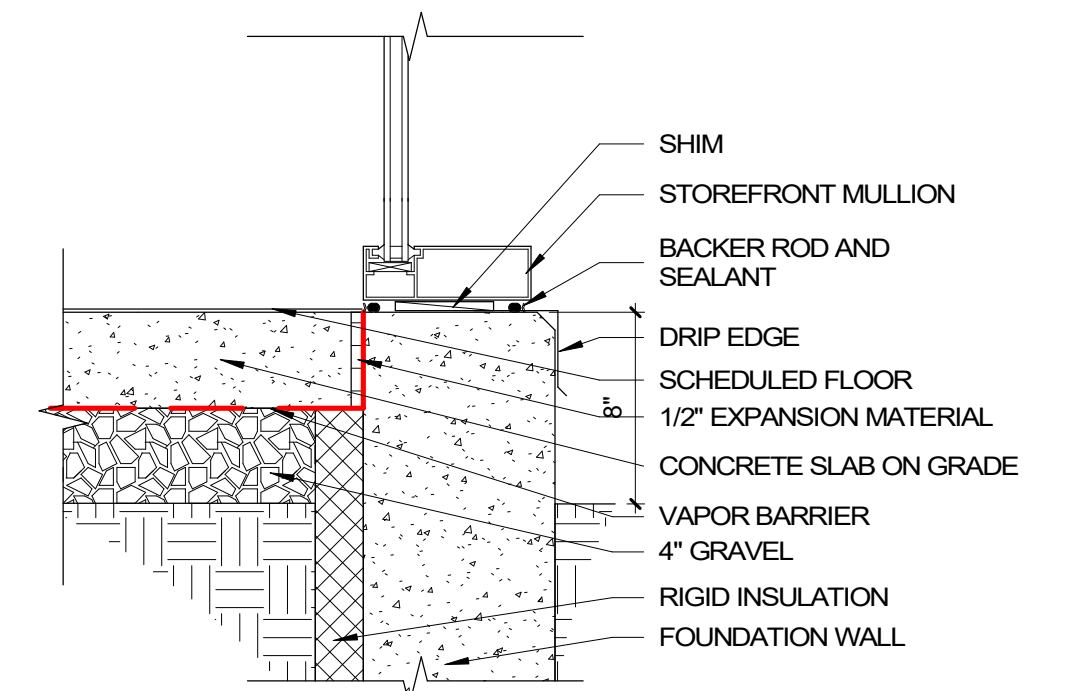
**FIBER CEMENT OUTSIDE CORNER**  
C2 AE501 1 1/2" = 1'-0"



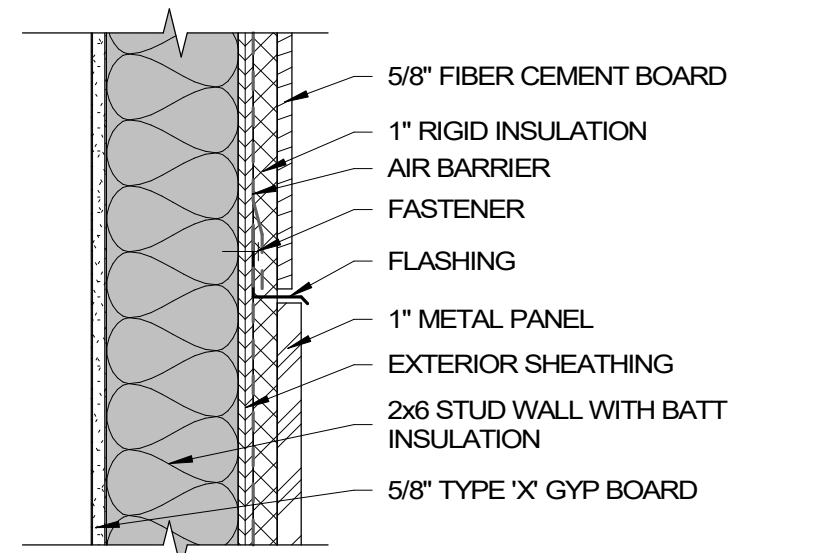
**HORIZONTAL METAL TO FIBER CEMENT**  
C3 AE501 1 1/2" = 1'-0"



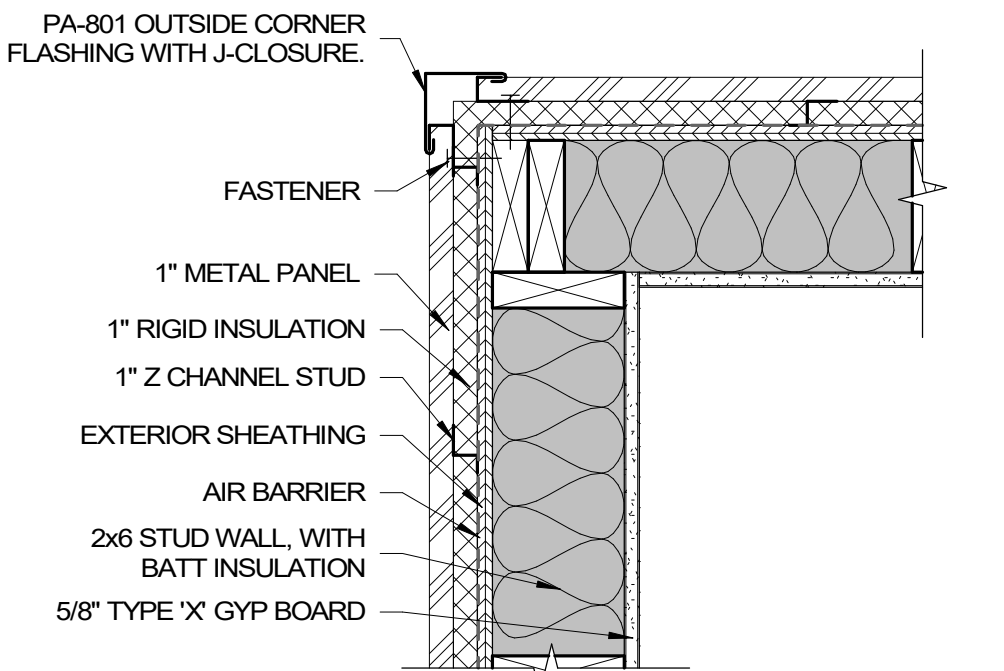
**STOREFRONT AT ROOF OVERHANG**  
C4 AE501 1" = 1'-0"



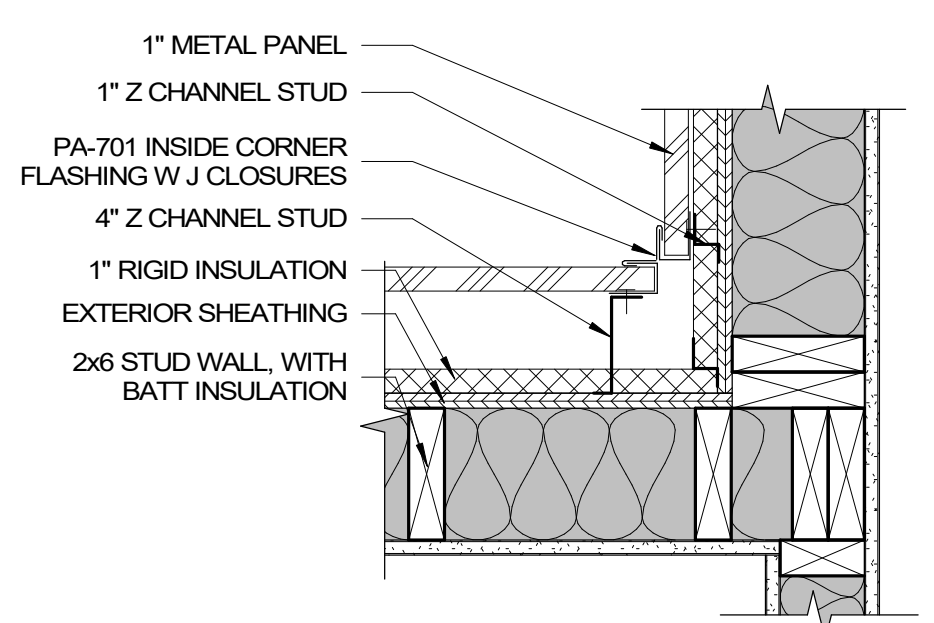
**STOREFRONT AT FOUNDATION**  
C5 AE501 1 1/2" = 1'-0"



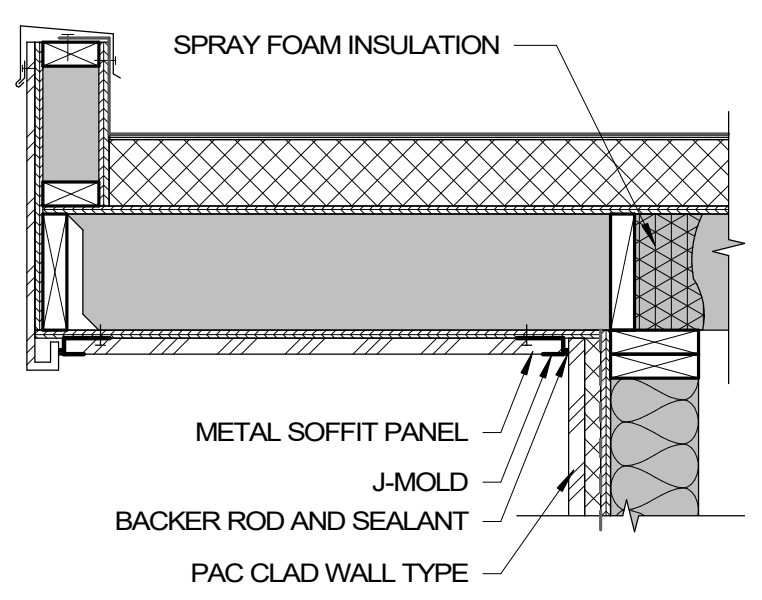
**VERTICAL METAL TO FIBER CEMENT**  
B1 AE501 1 1/2" = 1'-0"



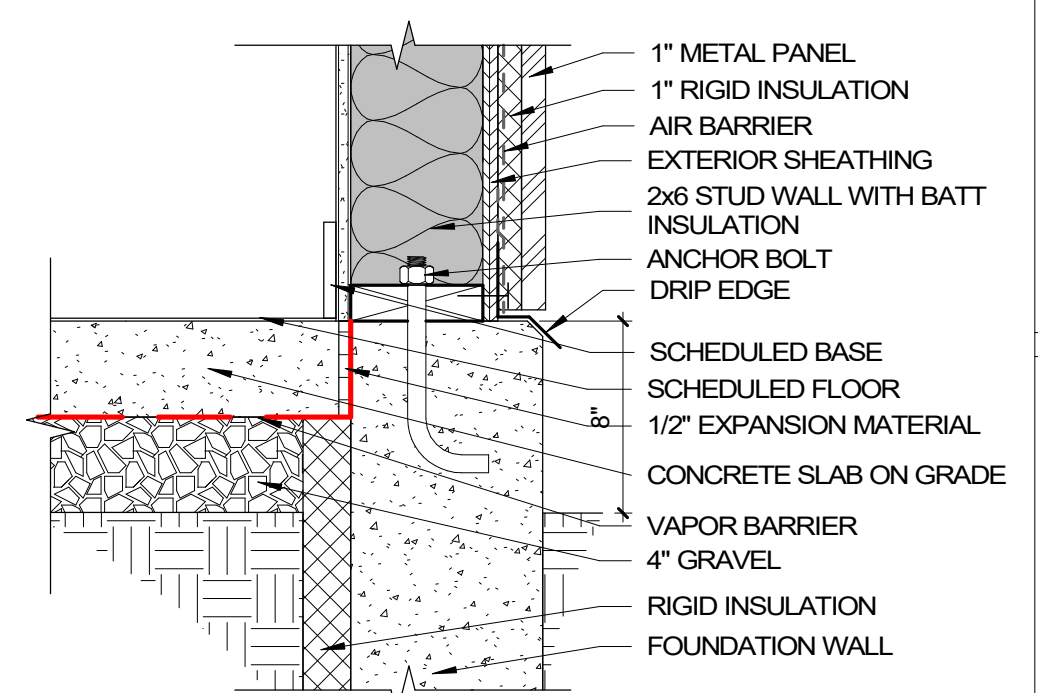
**METAL PANEL OUTSIDE CORNER**  
B2 AE501 1 1/2" = 1'-0"



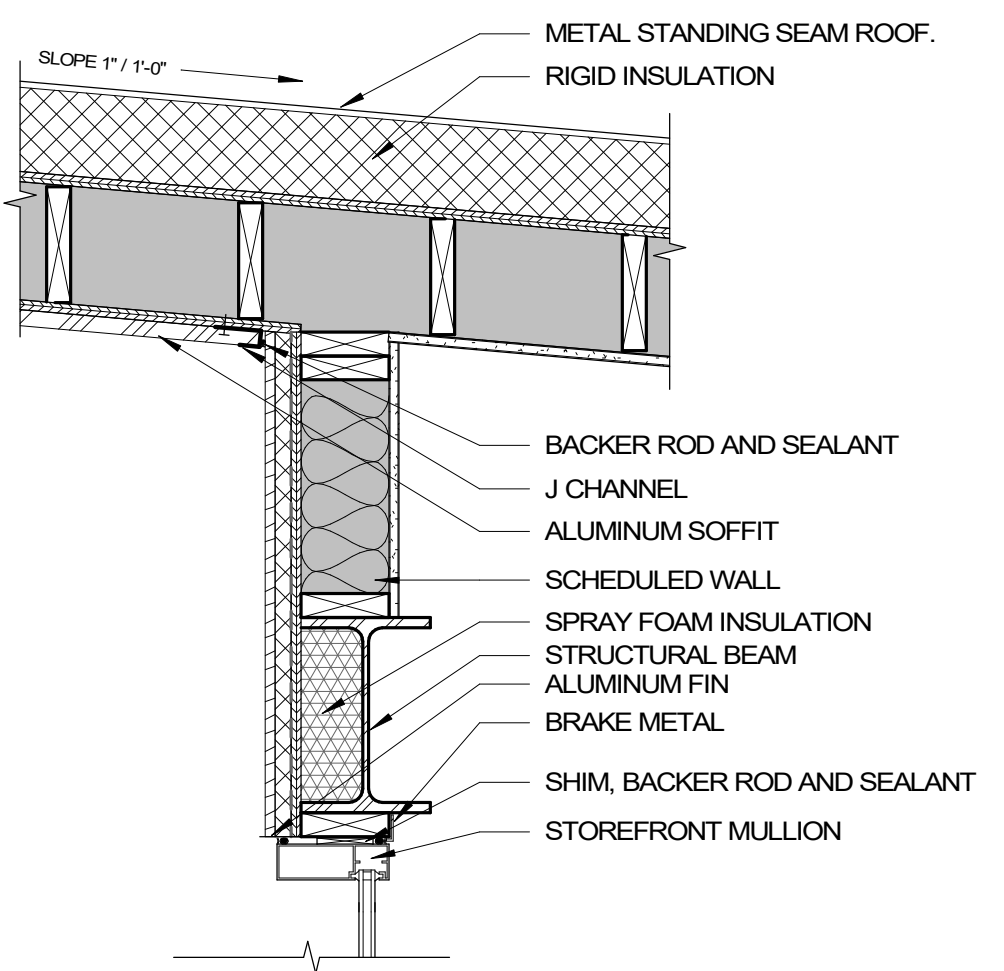
**METAL PANEL INSIDE CORNER**  
B3 AE501 1 1/2" = 1'-0"



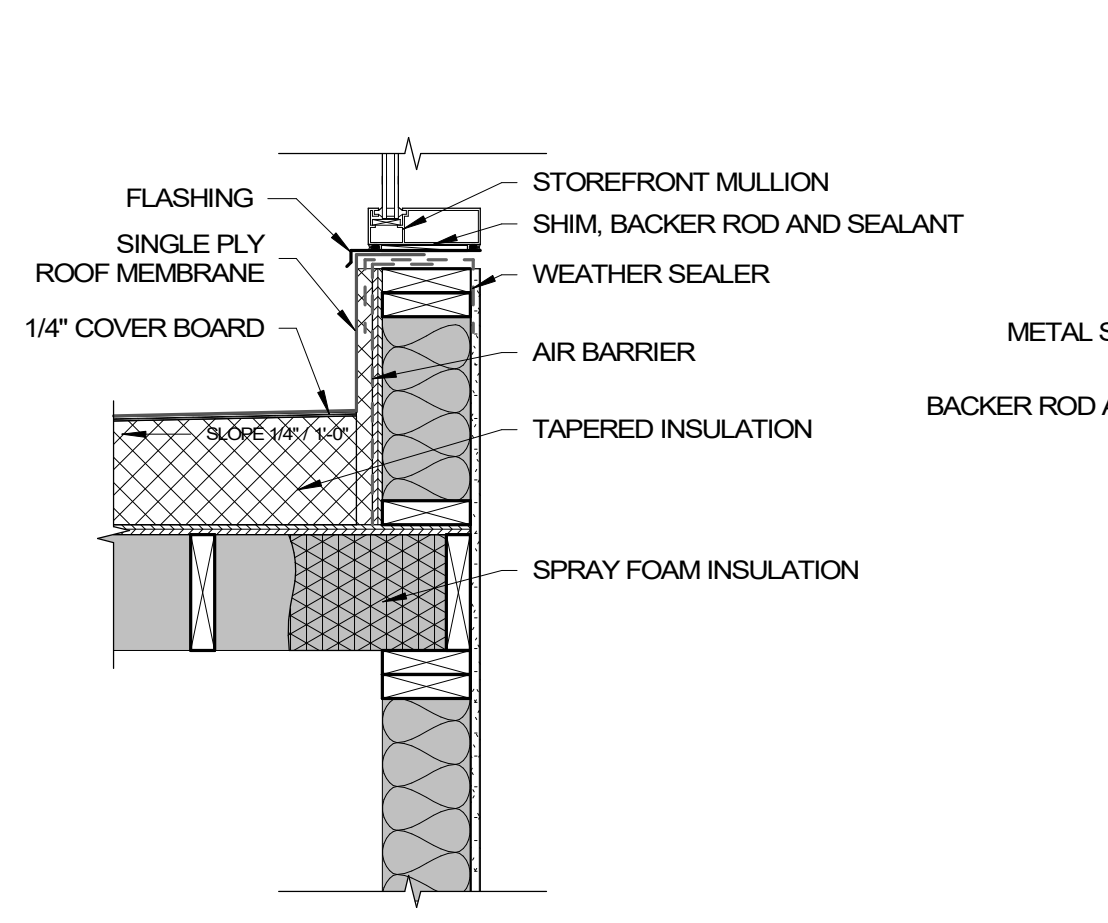
**METAL PANEL AT ROOF OVERHANG**  
B4 AE501 1" = 1'-0"



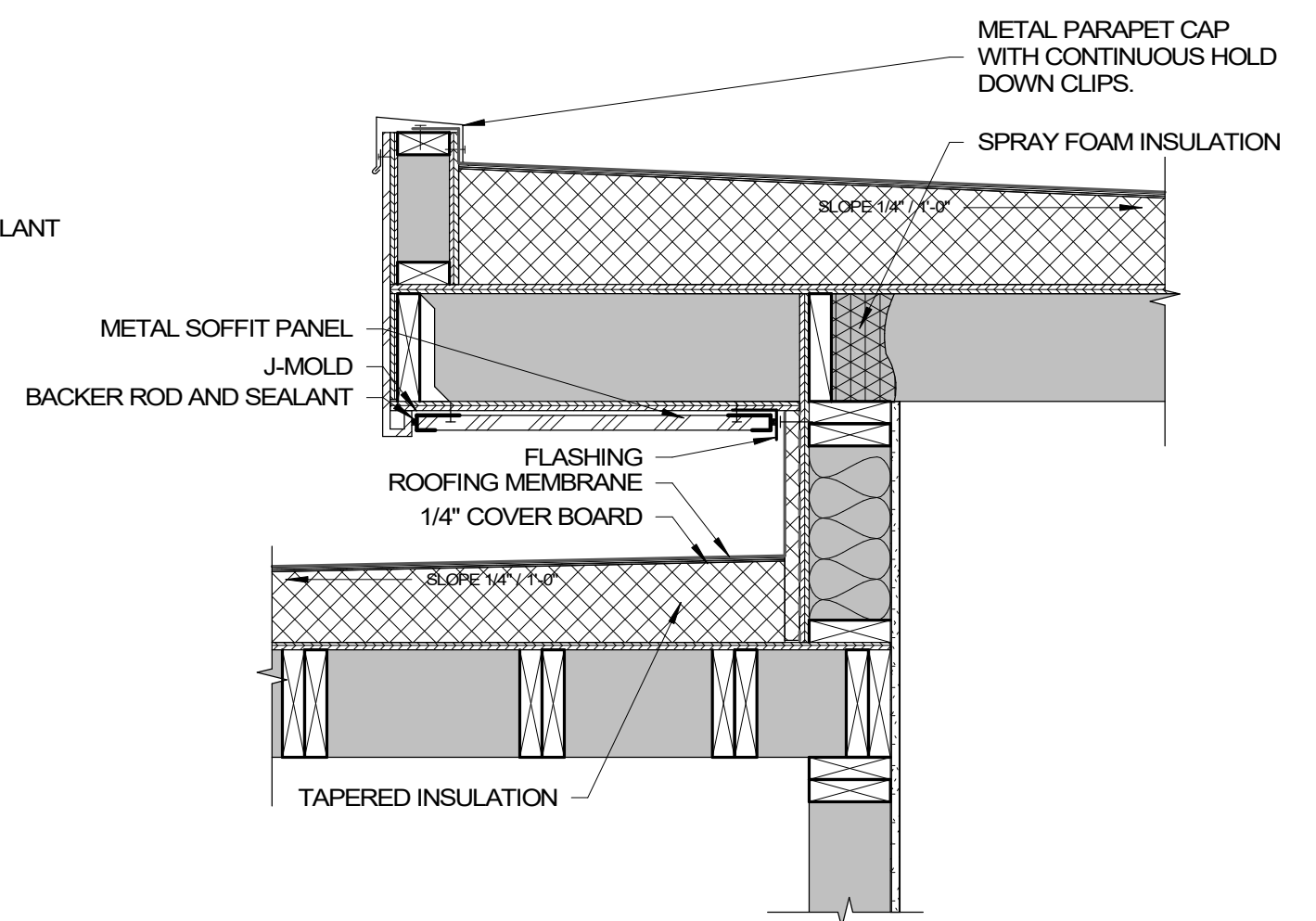
**METAL PANEL AT FOUNDATION**  
B5 AE501 1 1/2" = 1'-0"



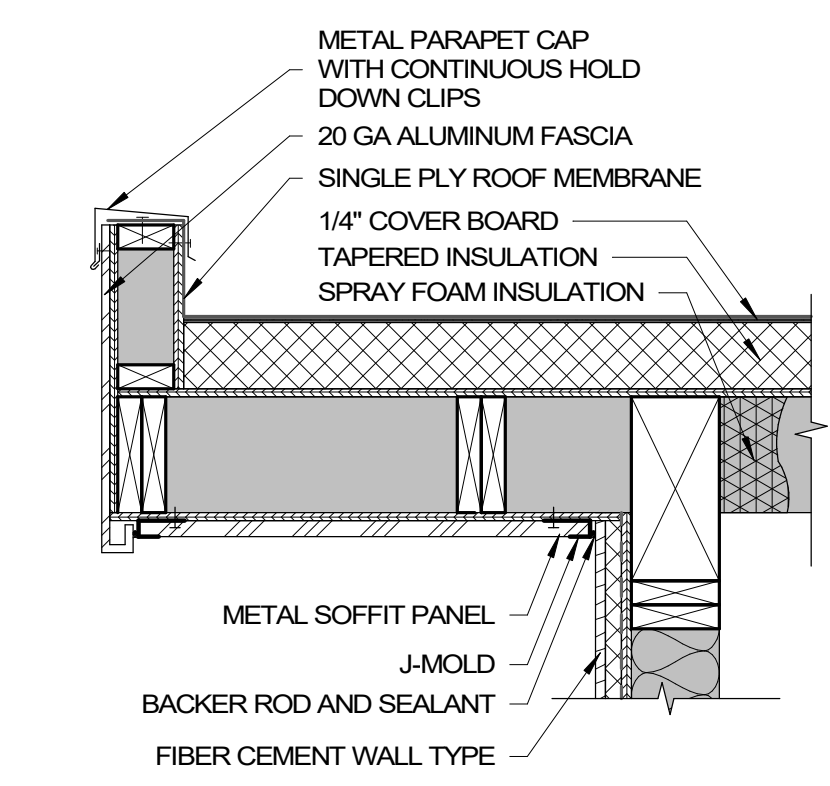
**CLERESTORY HEADER**  
A1 AE501 1" = 1'-0"



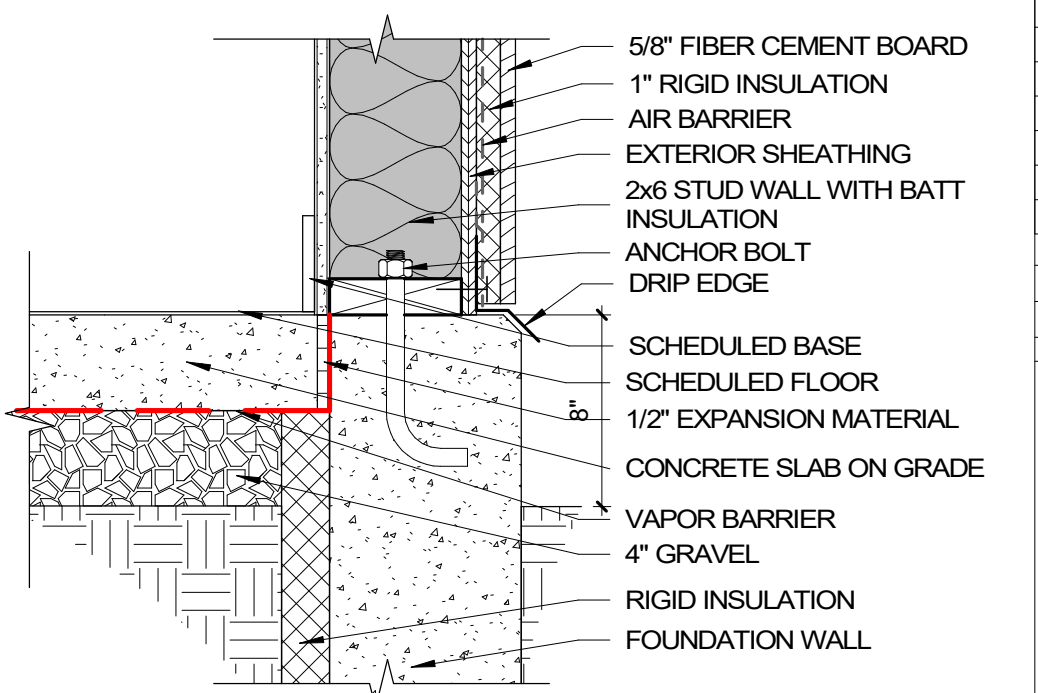
**CLERESTORY SILL**  
A2 AE501 1" = 1'-0"



**HIGH TO LOW ROOF**  
A3 AE501 1" = 1'-0"



**FIBER CEMENT PANEL AT ROOF OVERHANG**  
A4 AE501 1" = 1'-0"



**FIBER CEMENT PANEL AT FOUNDATION**  
A5 AE501 1 1/2" = 1'-0"

**SAFE HARBOR LIFELINE**

223 WEST 475 SOUTH  
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STAMP



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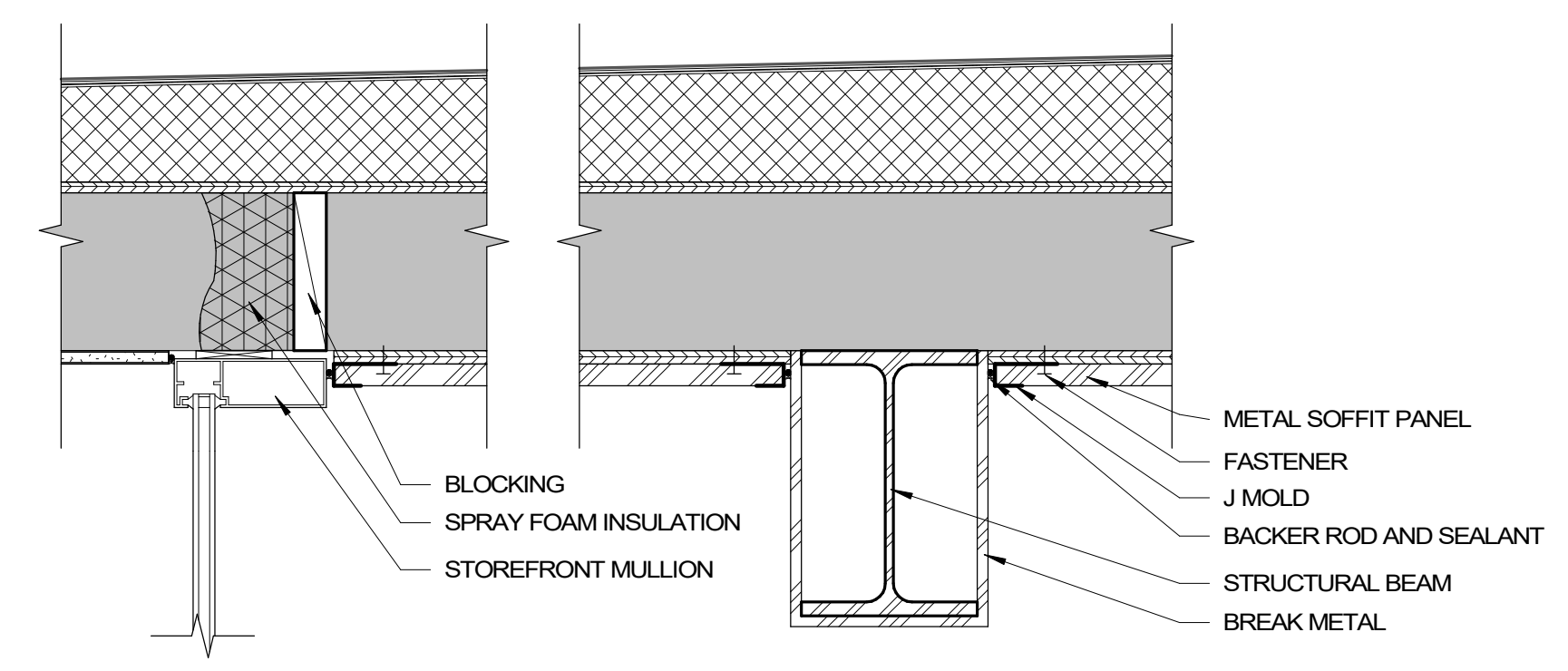
**CONSTRUCTION DETAILS**

**AE501**

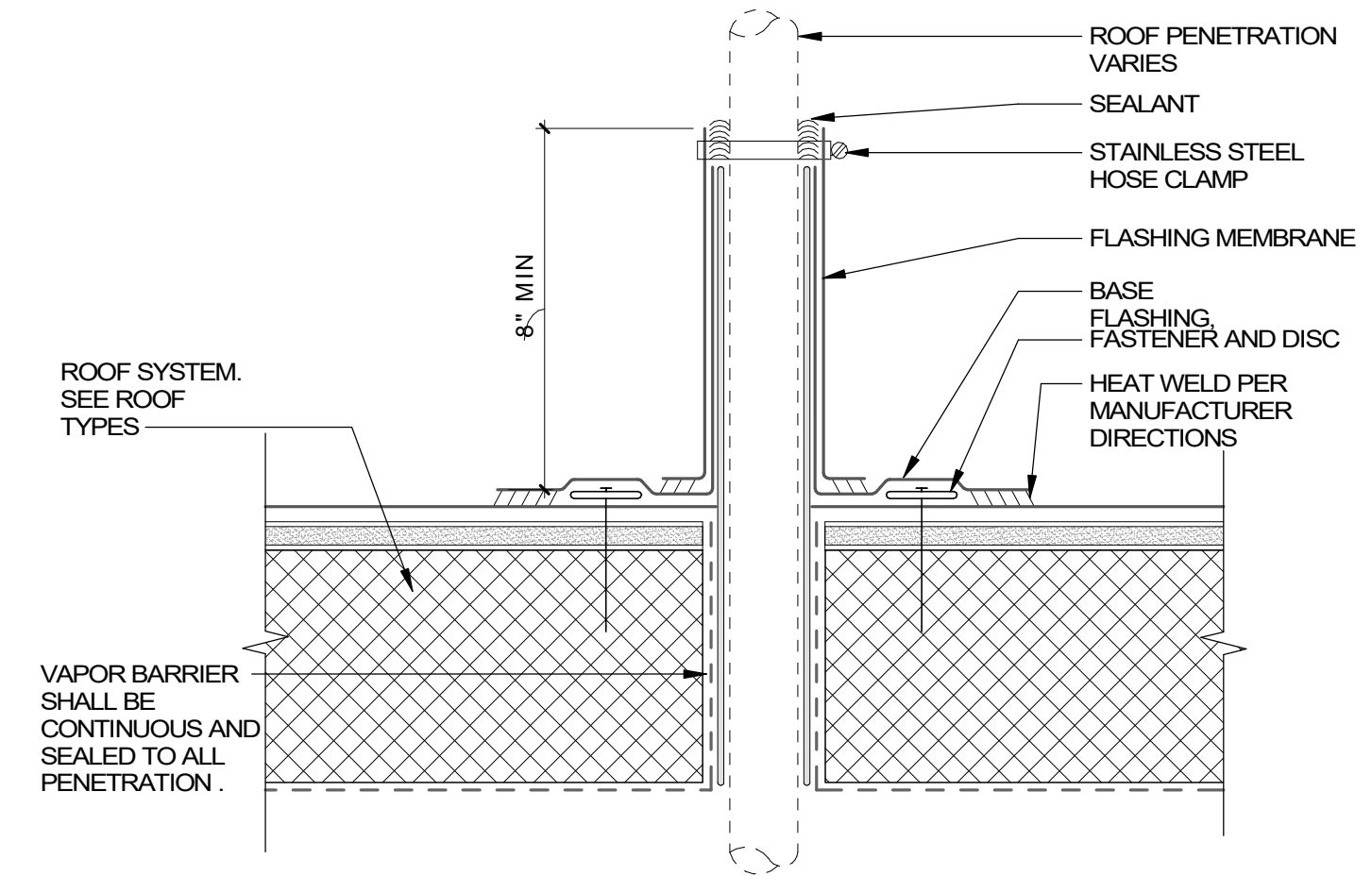


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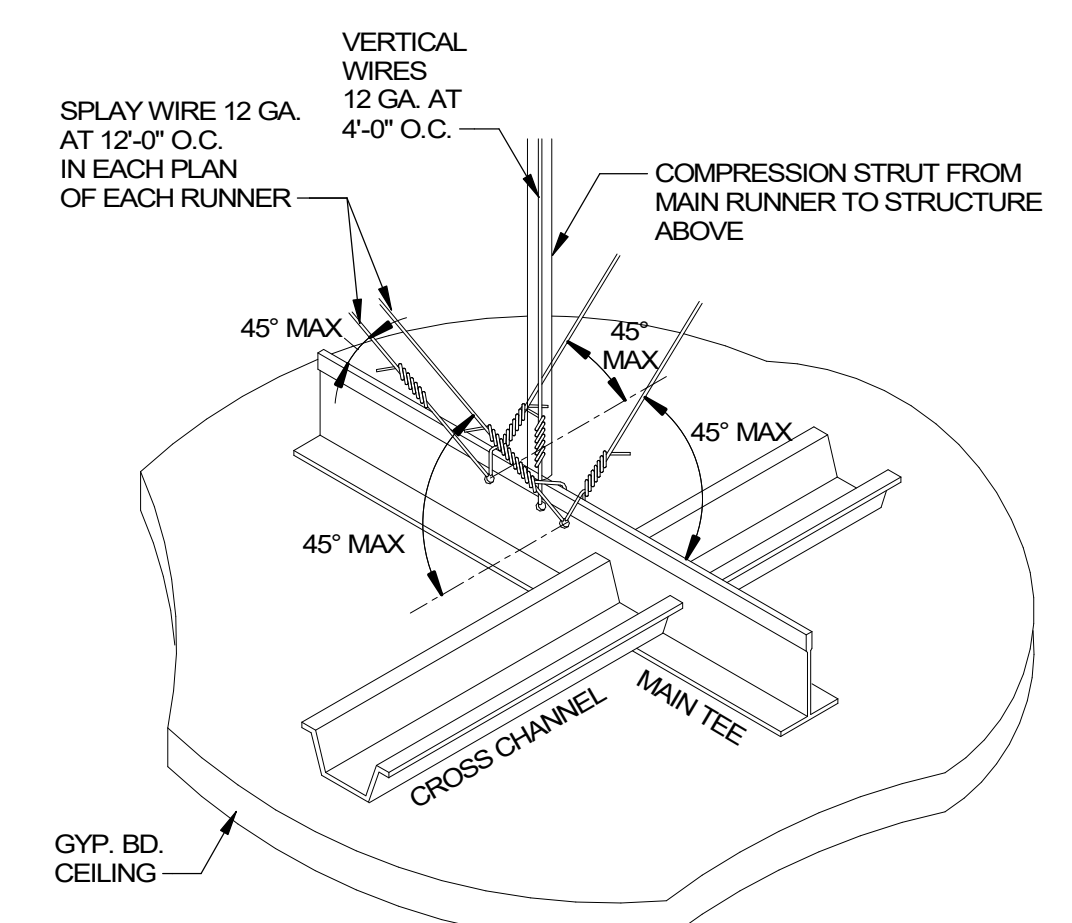
<b>STRUCTURAL ENGINEER</b> DUNN ASSOCIATES 380 WEST 800 SOUTH, SUITE 100 SALT LAKE CITY, UT 84101	C/O PHIL MILLER pmiller@dunn-se.com (801)466-1699
<b>MECHANICAL ENGINEER</b> SPECTRUM ENGINEERS 324 S STATE STREET, SUITE 400 SALT LAKE CITY, UT 84111	C/O RYAN BOOGAARD rnb@spectrum-engineers.com (801)328-5151
<b>ELECTRICAL ENGINEER</b> SPECTRUM ENGINEERS 324 S STATE STREET, SUITE 400 SALT LAKE CITY, UT 84111	C/O DAVE WESEMANN dew@spectrum-engineers.com (801)328-5151
<b>CIVIL ENGINEER</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O COURTY MORRIS courty@greatbasineng.com (801)394-4515
<b>LANDSCAPE ARCHITECT</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O JAMES ZAUGG jzaugg@greatbasineng.com (801)394-4515



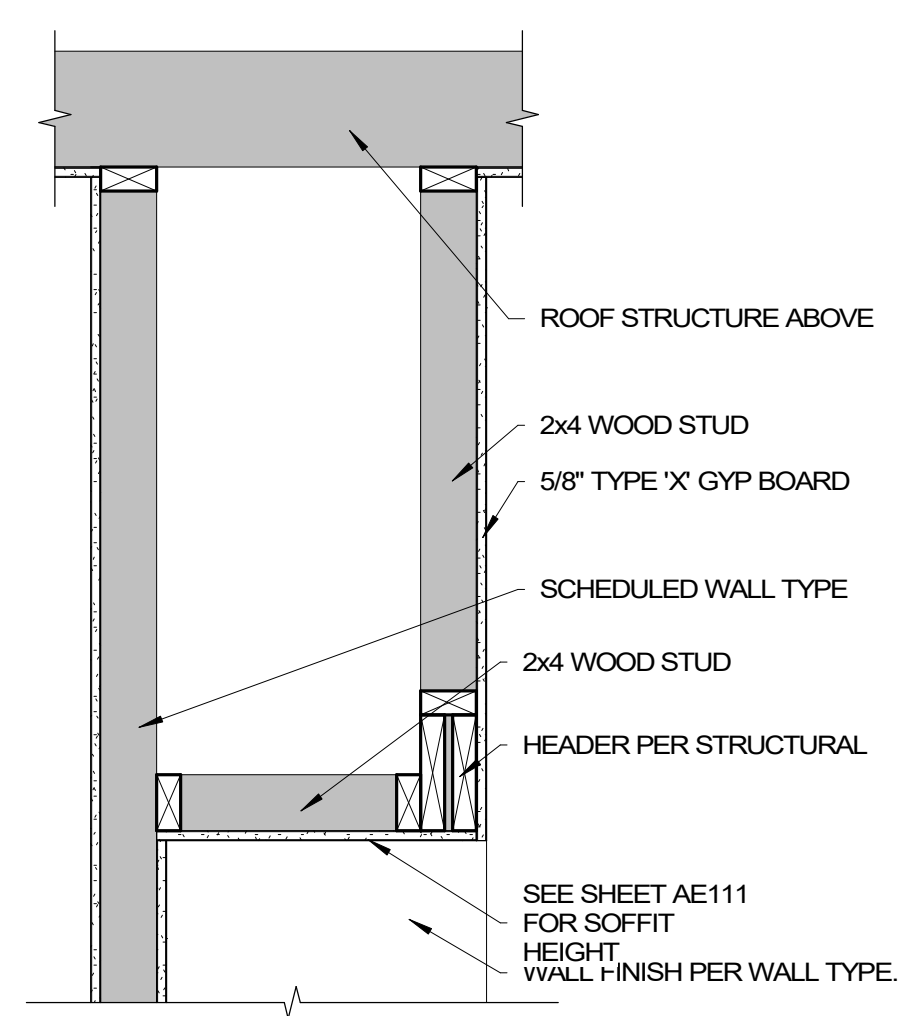
**C1 BEAM DETAIL**  
 1 1/2" = 1'-0"



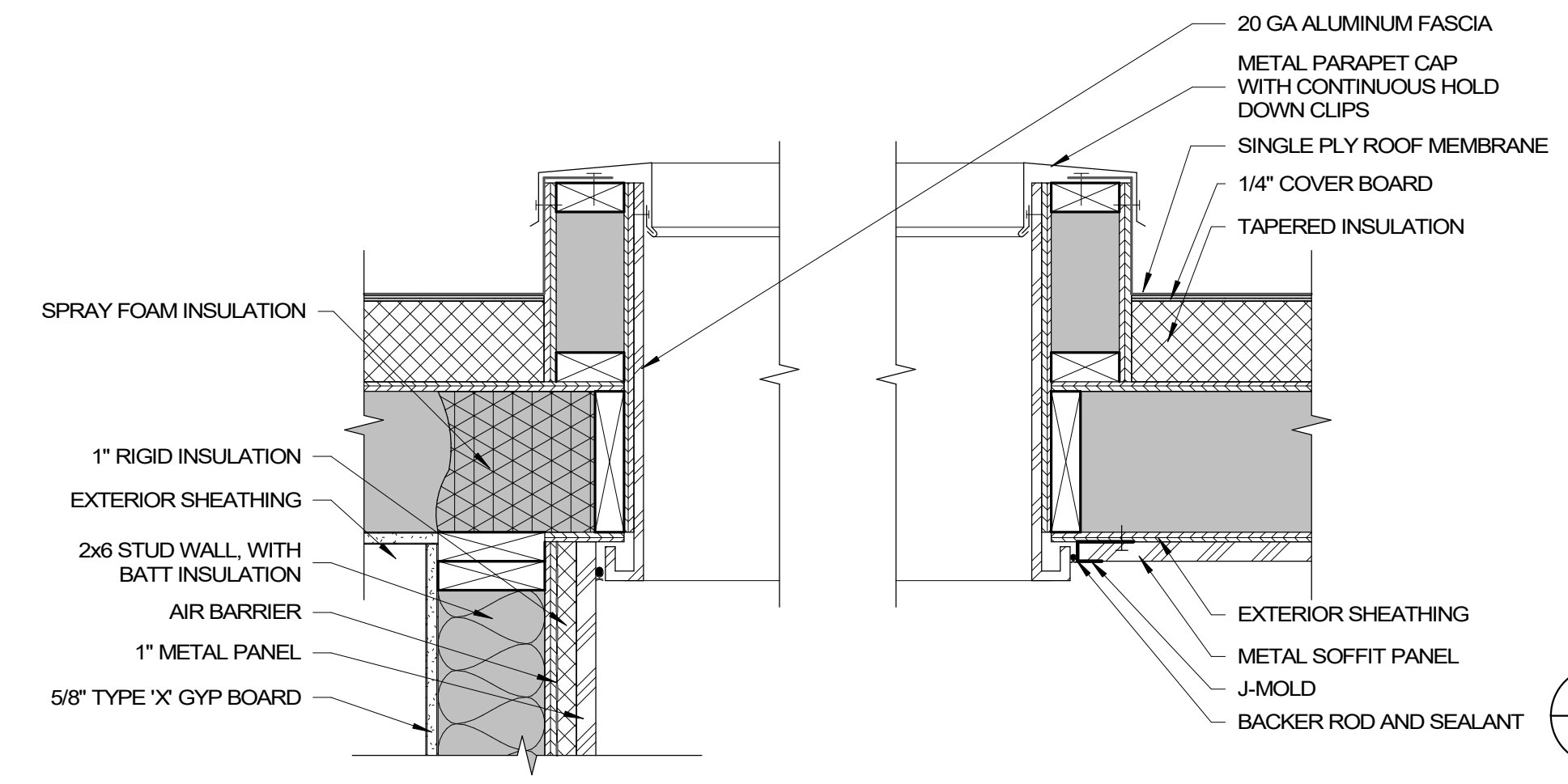
**C3 ROOF PENETRATION DETAIL**  
 3" = 1'-0"



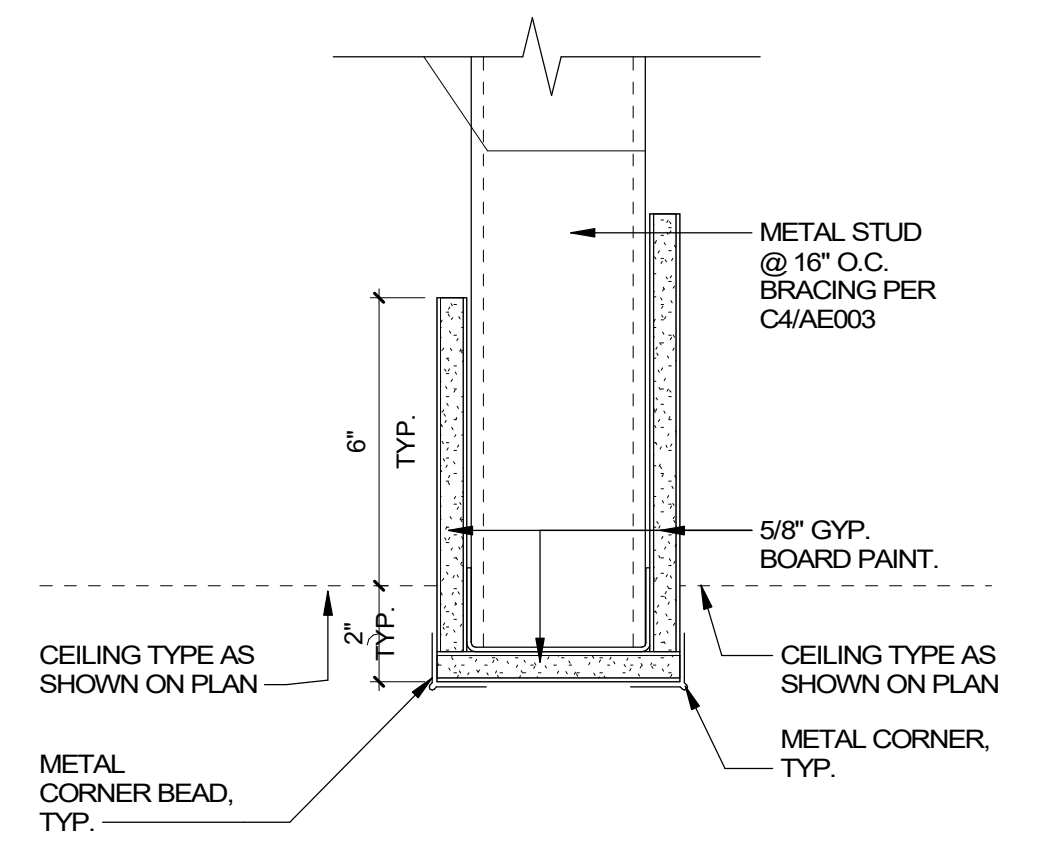
**D4 SUSPENDED GYP CEILING**  
 1 1/2" = 1'-0"



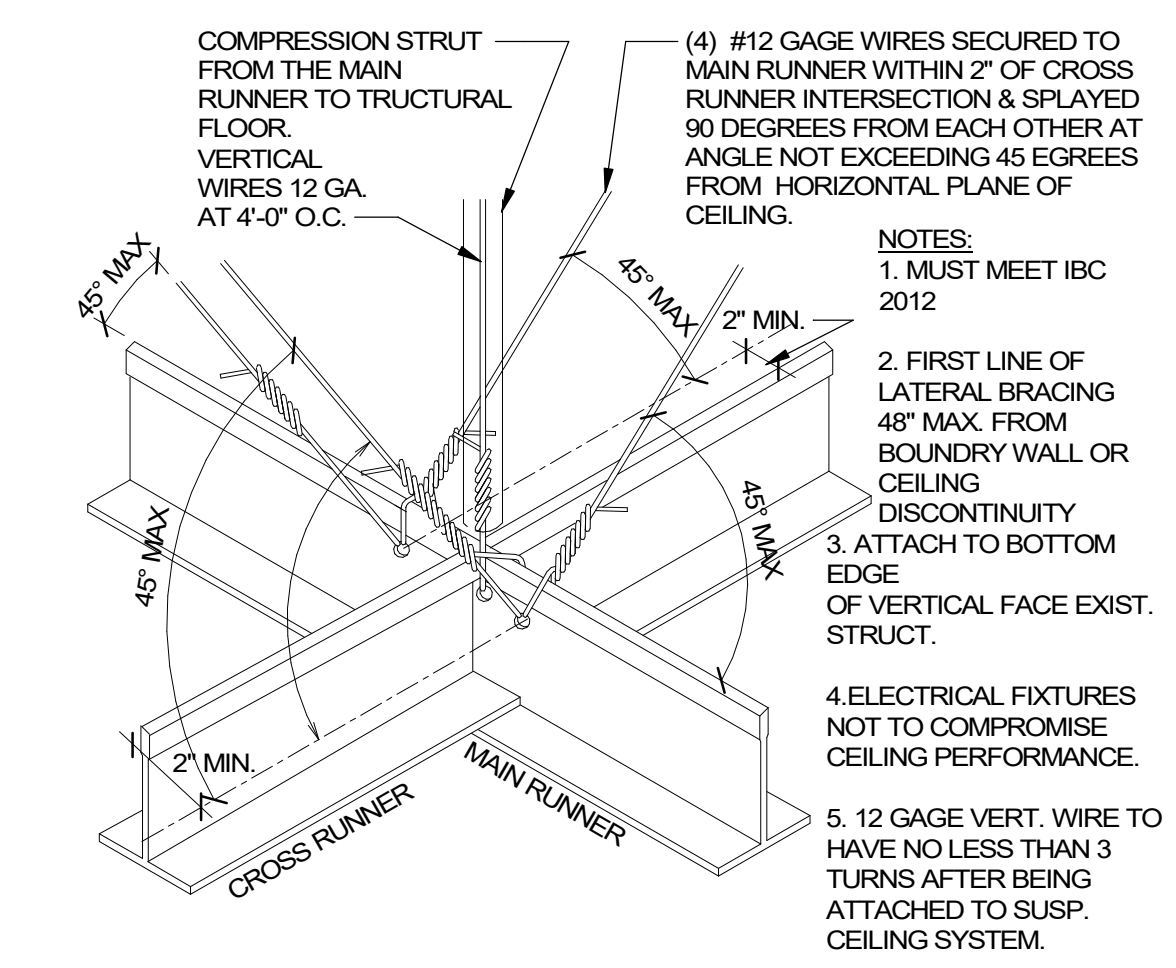
**B1 GYP BOARD SOFFIT**  
 1" = 1'-0"



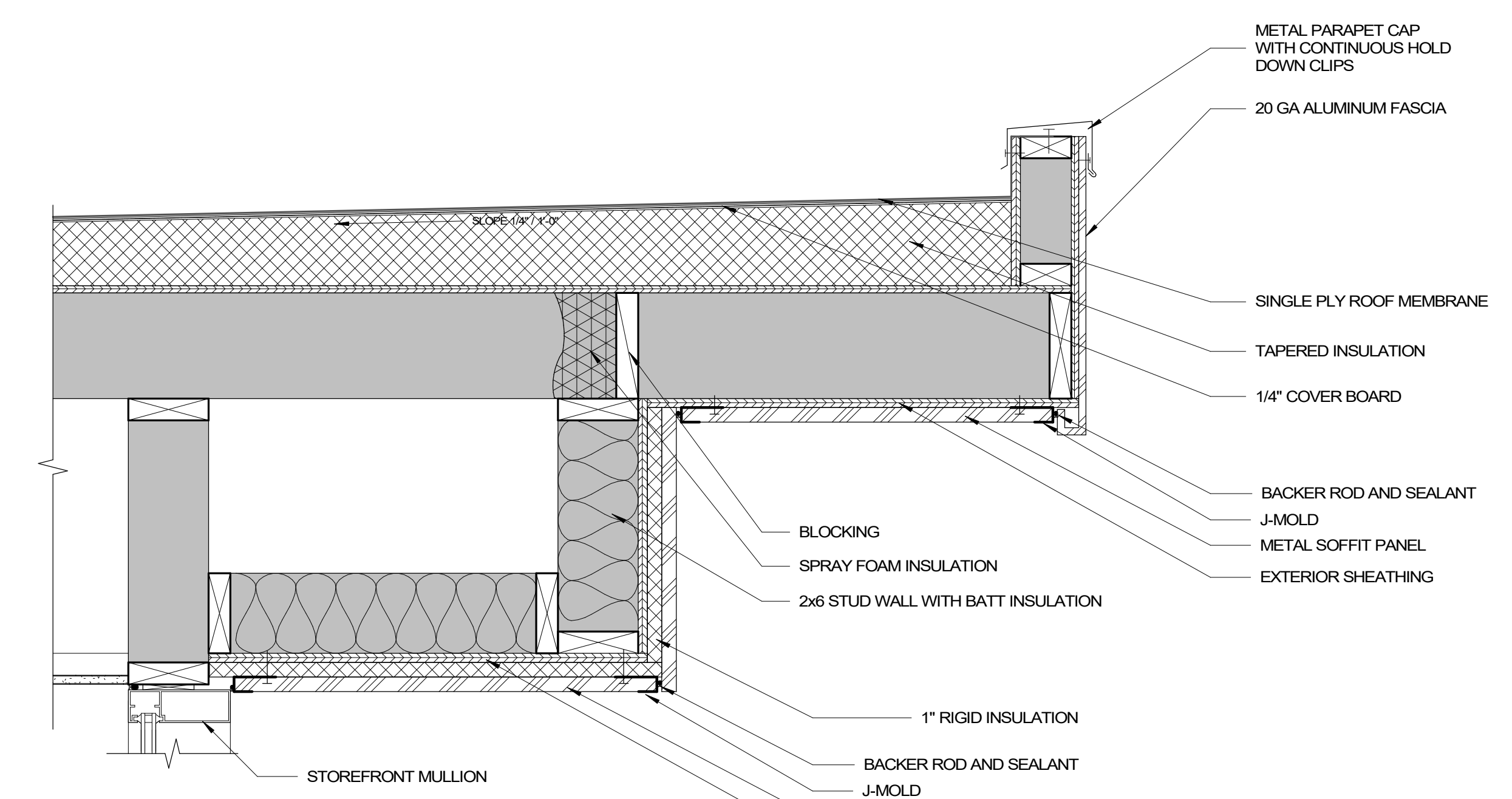
**B2 ROOF OPENING**  
 1 1/2" = 1'-0"



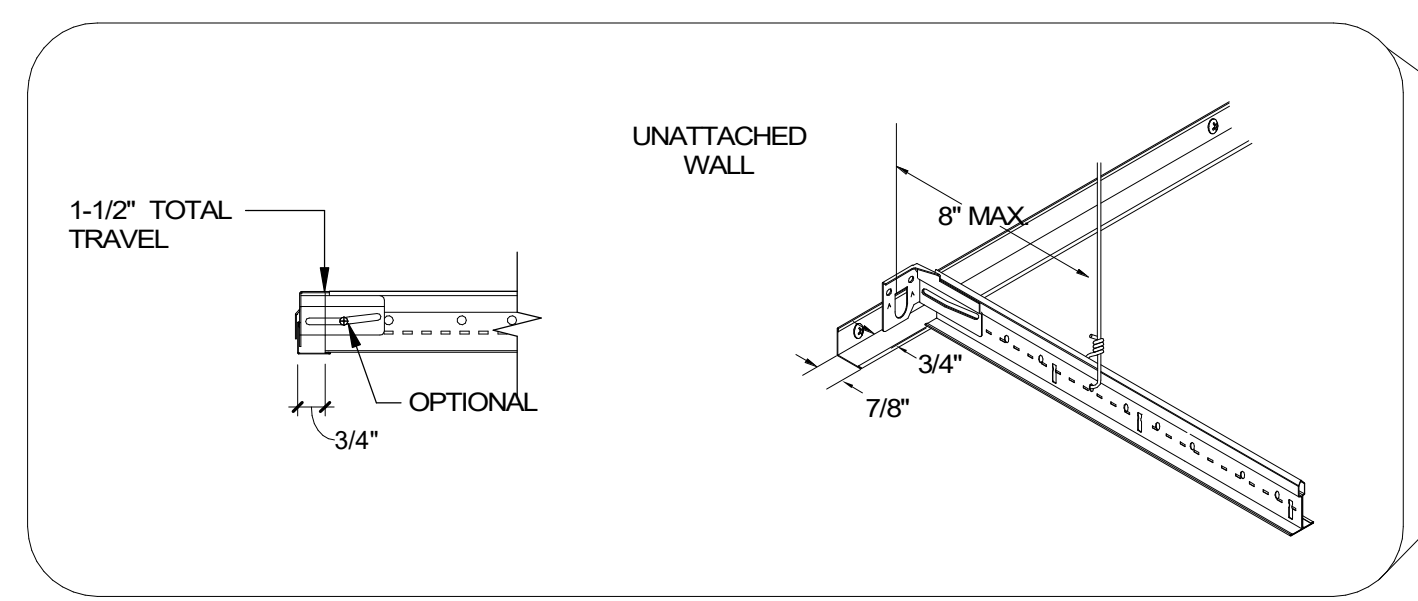
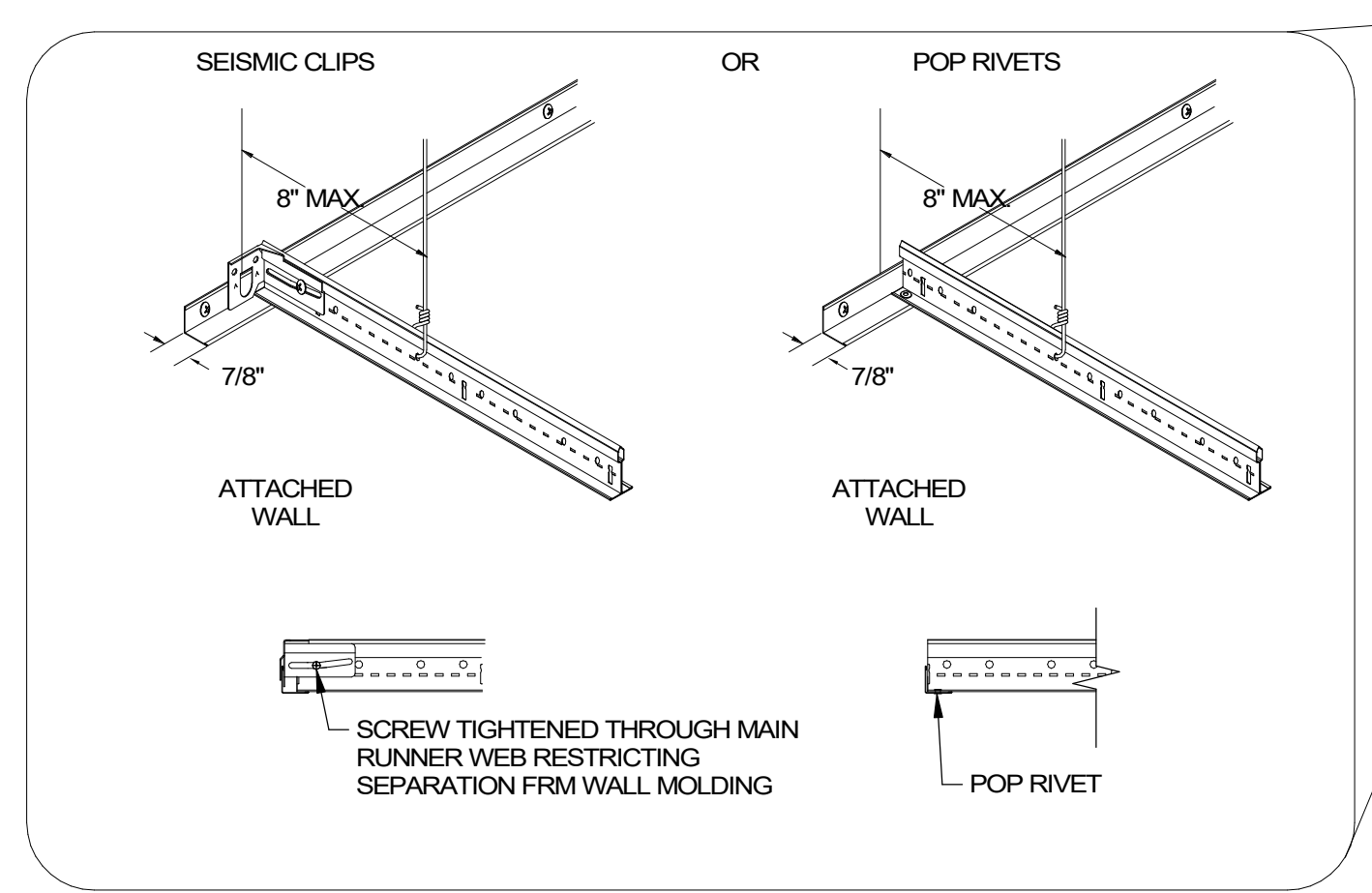
**B3 HEADER DETAIL**  
 3" = 1'-0"



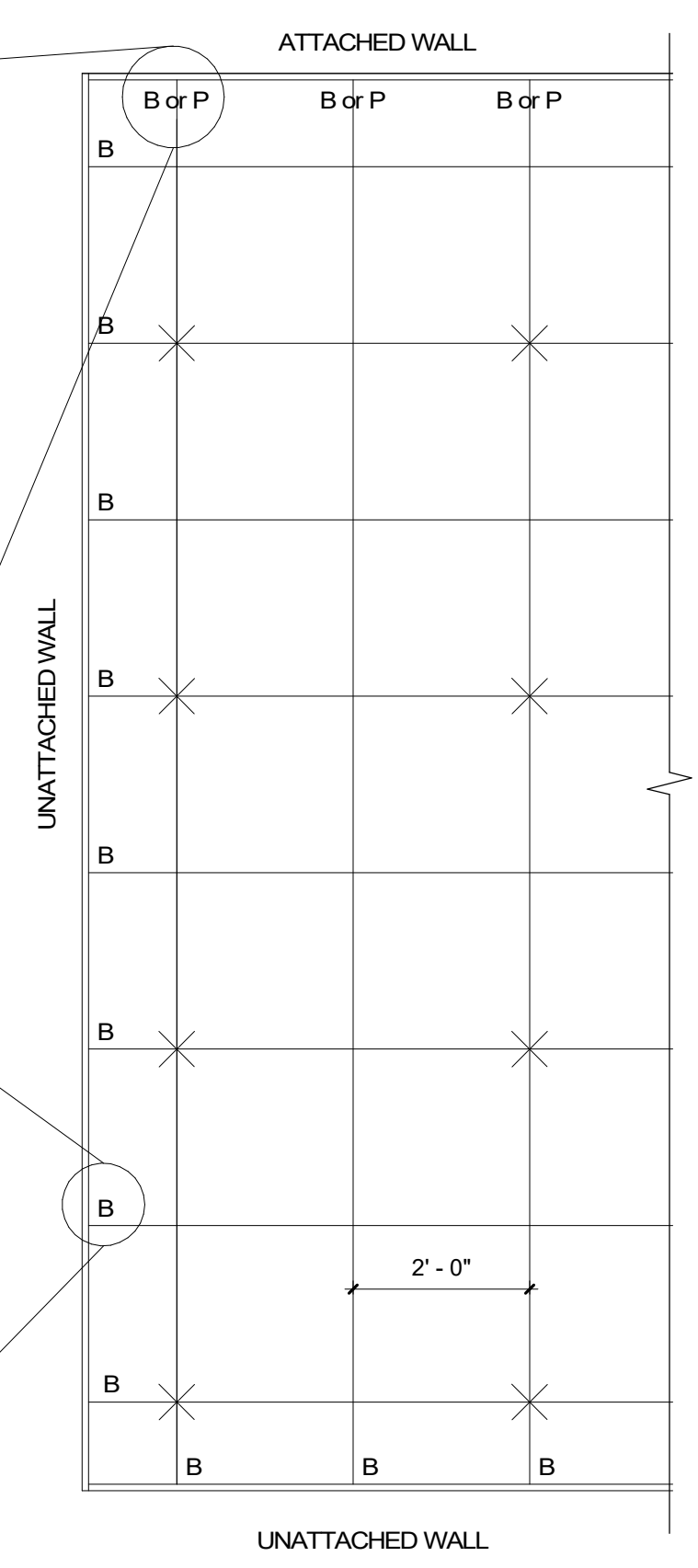
**B4 SEISMIC BRACING**  
 1 1/2" = 1'-0"



**A1 SOFFIT DETAIL AT ENTRY**  
 1 1/2" = 1'-0"



**A4 LAY-IN CEILING SEISMIC BRACING**  
 1/2" = 1'-0"



**SAFE HARBOR LIFELINE**

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ISSUE TYPE:	DATE:
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**CEILING DETAILS**

**AE502**





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<b>MECHANICAL ENGINEER</b> SPECTRUM ENGINEERS 324 S STATE STREET, SUITE 400 SALT LAKE CITY, UT 84111	C/O RYAN BOOGARD rnb@spectrum-engineers.com (801)328-5151
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<b>CIVIL ENGINEER</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O COURTY MORRIS courm@greatbasineng.com (801)394-4515
<b>LANDSCAPE ARCHITECT</b> GREAT BASIN ENGINEERING 5746 S 1475 E SUITE 200 SOUTH OGDEN, UT 84403	C/O JAMES ZAUGG jzaugg@greatbasineng.com (801)394-4515

## SAFE HARBOR LIFELINE

223 WEST 475 SOUTH  
LAYTON, UT 84041

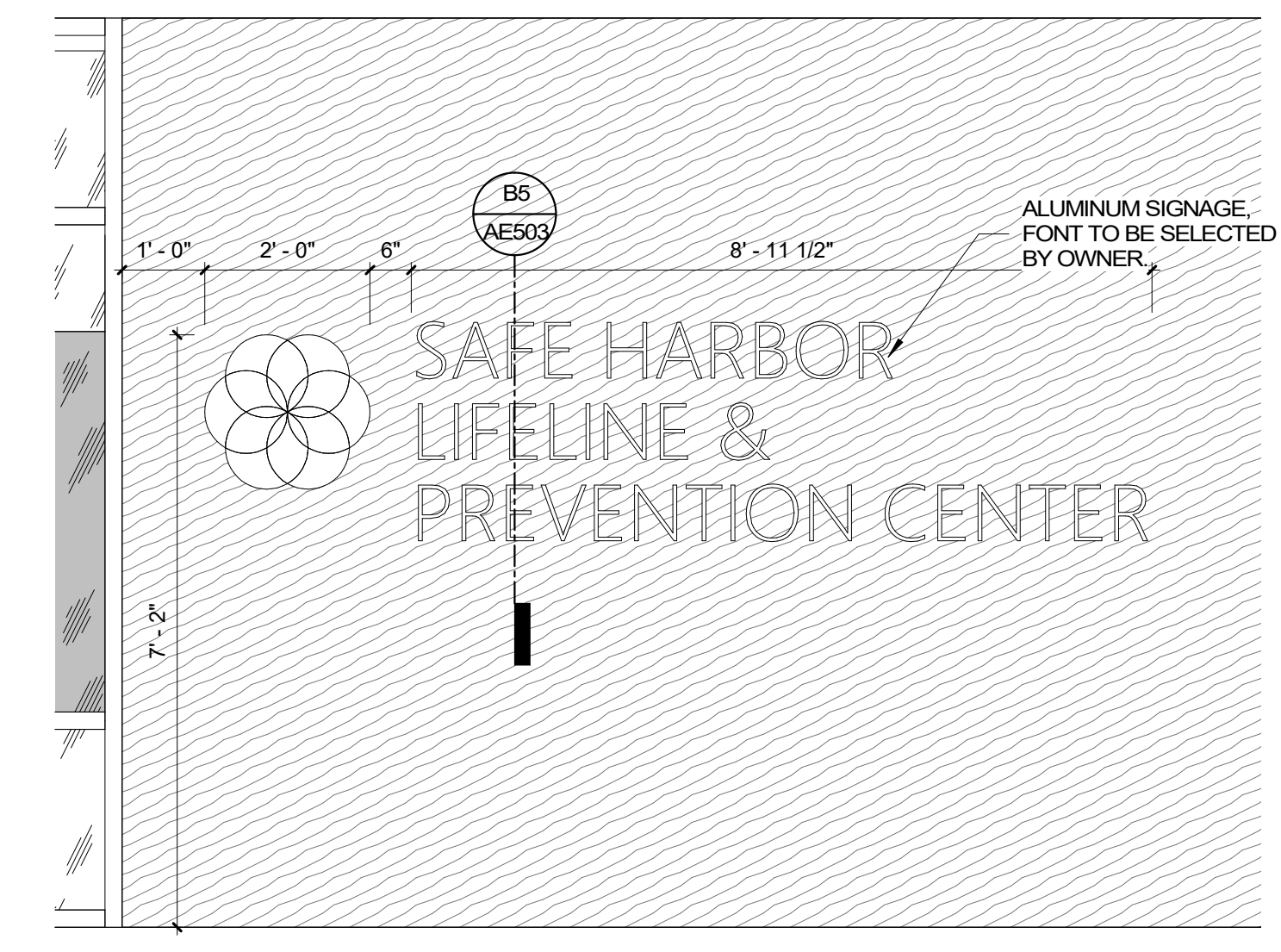
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ISSUE TYPE:	DATE:
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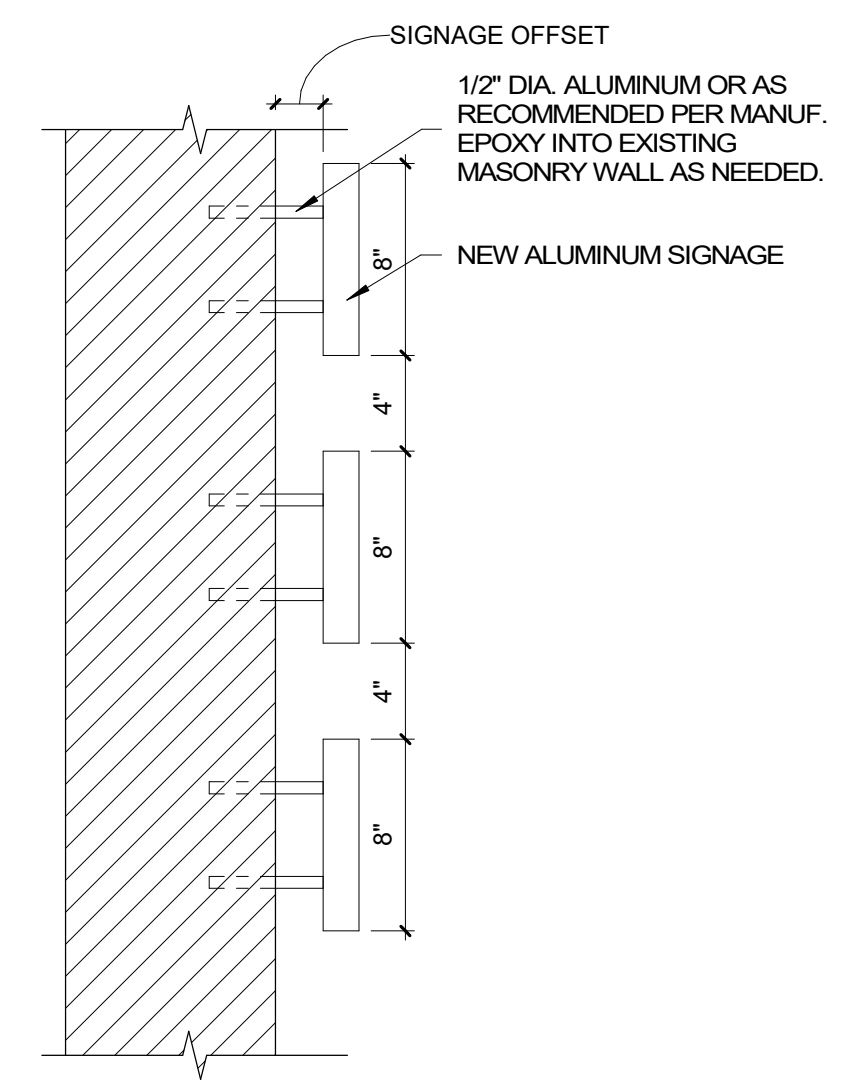
## SIGNAGE PLAN & DETAILS

# AE503



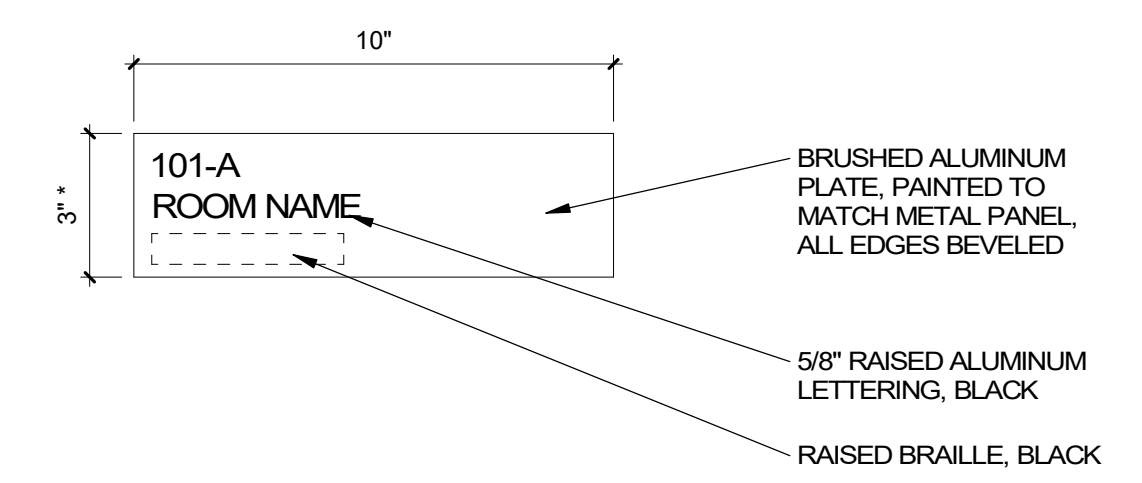
**B3**  
AE503  
1/2" = 1'-0"

**ENLARGED SIGNAGE ELEVATION**



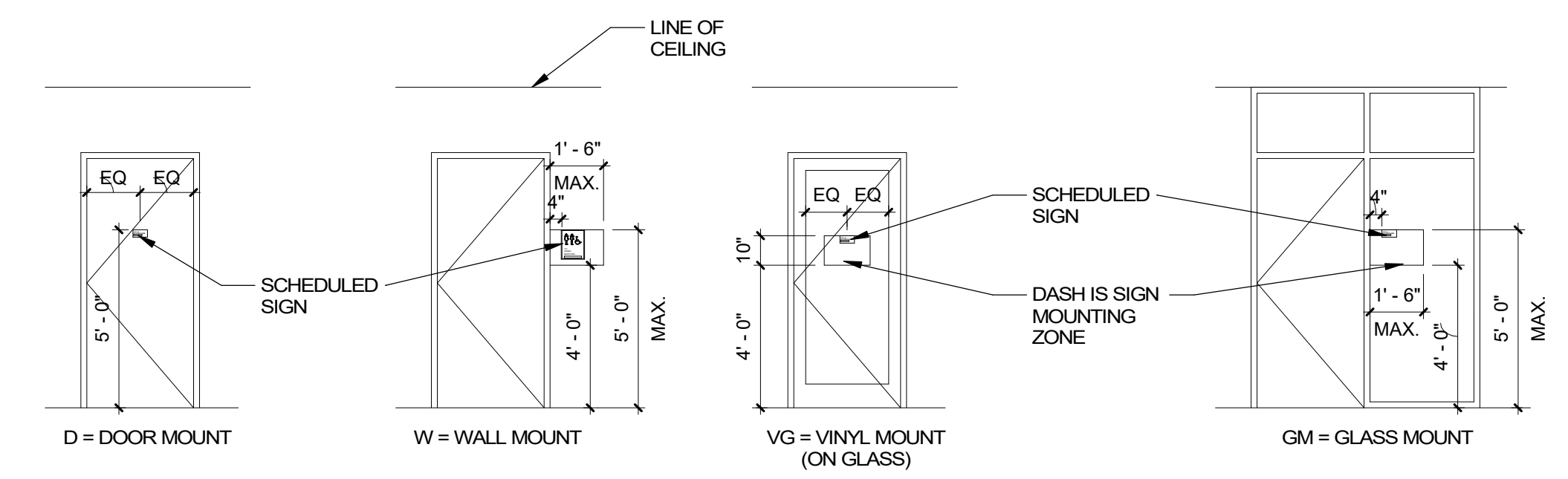
**B5**  
AE503  
1 1/2" = 1'-0"

**RAISED SIGNAGE DETAIL**



**A2**  
AE503  
3" = 1'-0"

**ROOM NAME**



**A3**  
AE503  
1/4" = 1'-0"

**SIGN MOUNTING HEIGHTS**

\*NOTE:  
SIZE SIGN AS REQUIRED FOR SCHEDULED VERBIAGE

D

C

B

A



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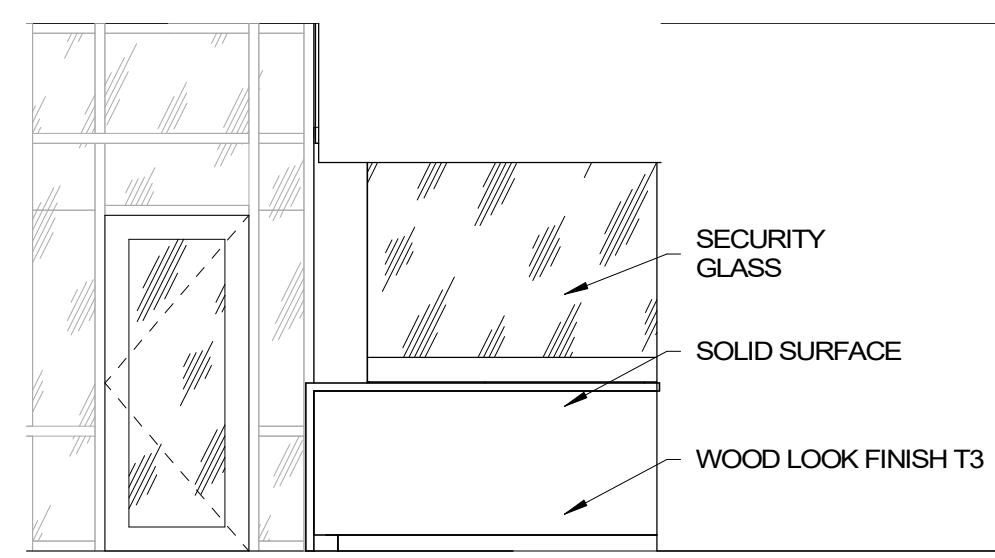
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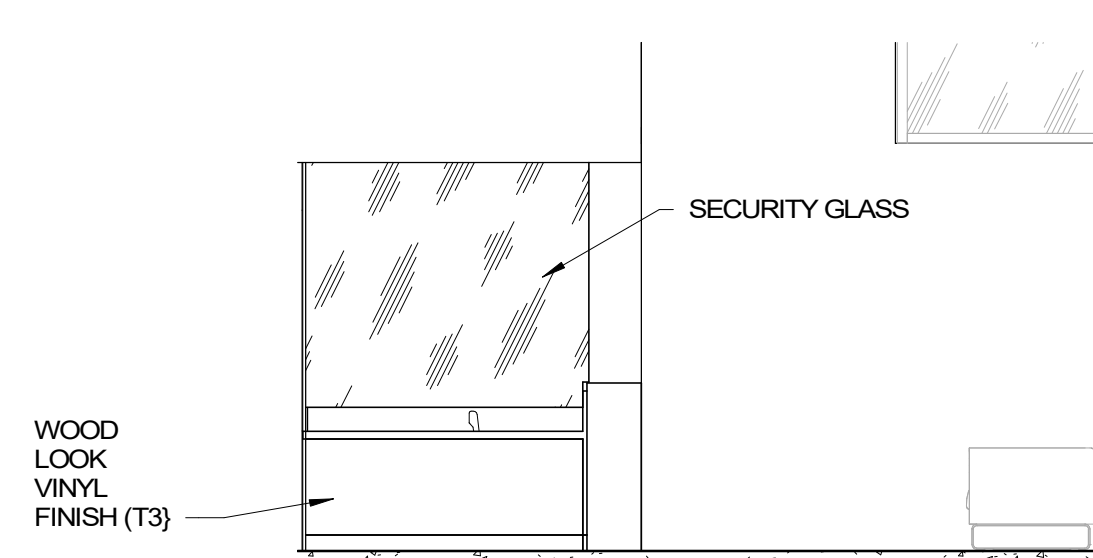
**LANDSCAPE ARCHITECT**  
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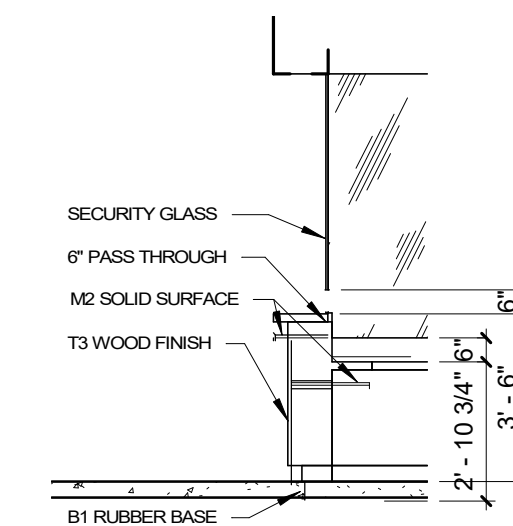
1 RECEPTION ELEVATION  
AE590 1/4" = 1'-0"



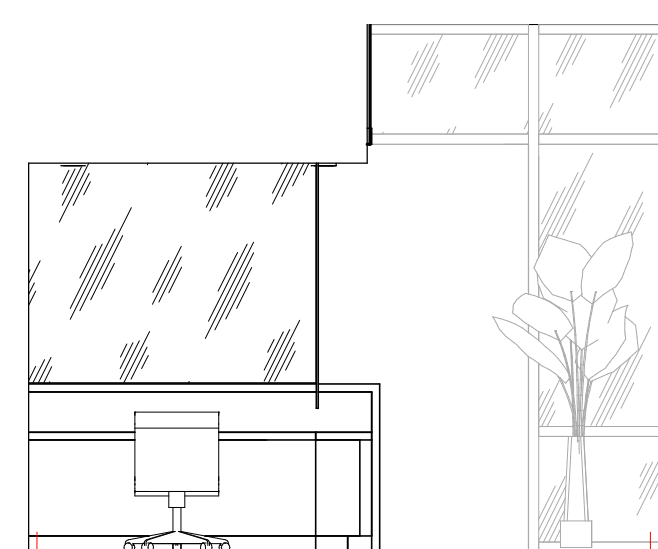
5 RECEPTION ELEVATION  
AE590 1/4" = 1'-0"



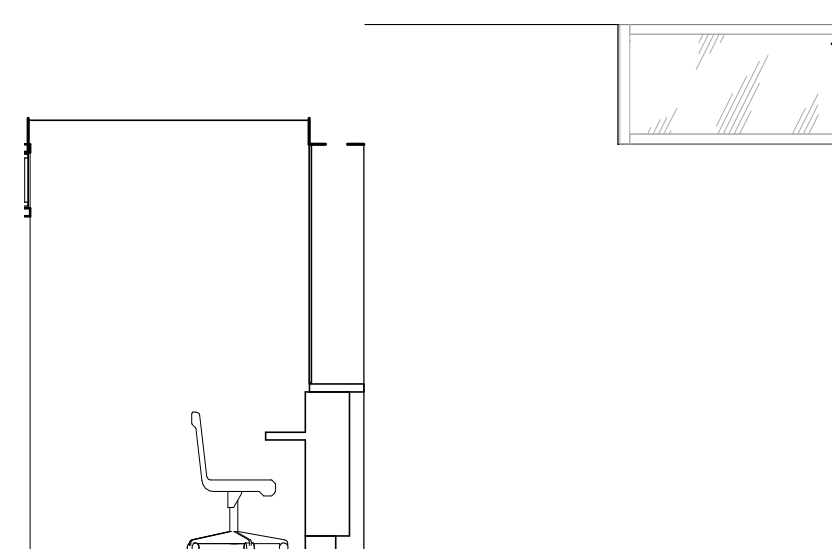
2 RECEPTION ELEVATION  
AE590 1/4" = 1'-0"



7 MILLWORK DTL - RECEPTION DESK  
AE590 1/4" = 1'-0"



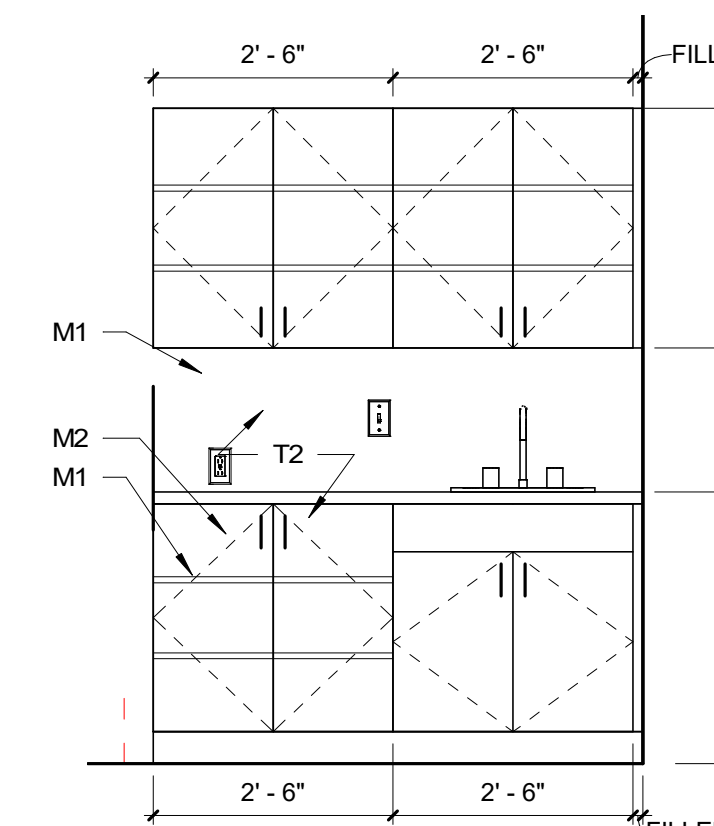
3 RECEPTION ELEVATION  
AE590 1/4" = 1'-0"



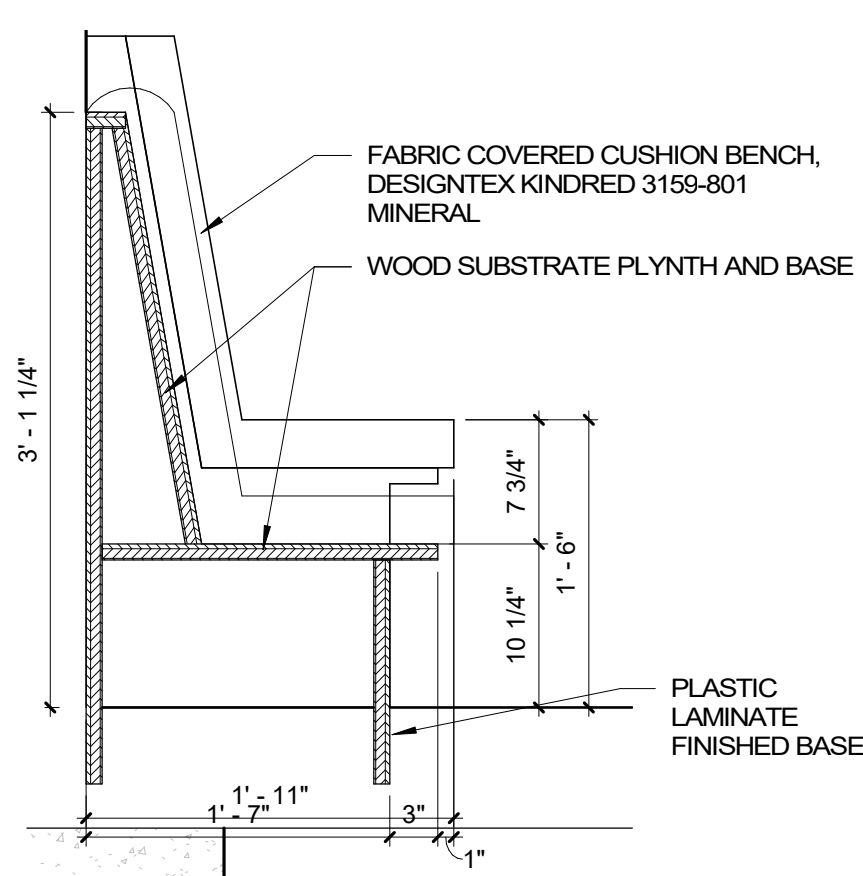
6 RECEPTION ELEVATION  
AE590 1/4" = 1'-0"



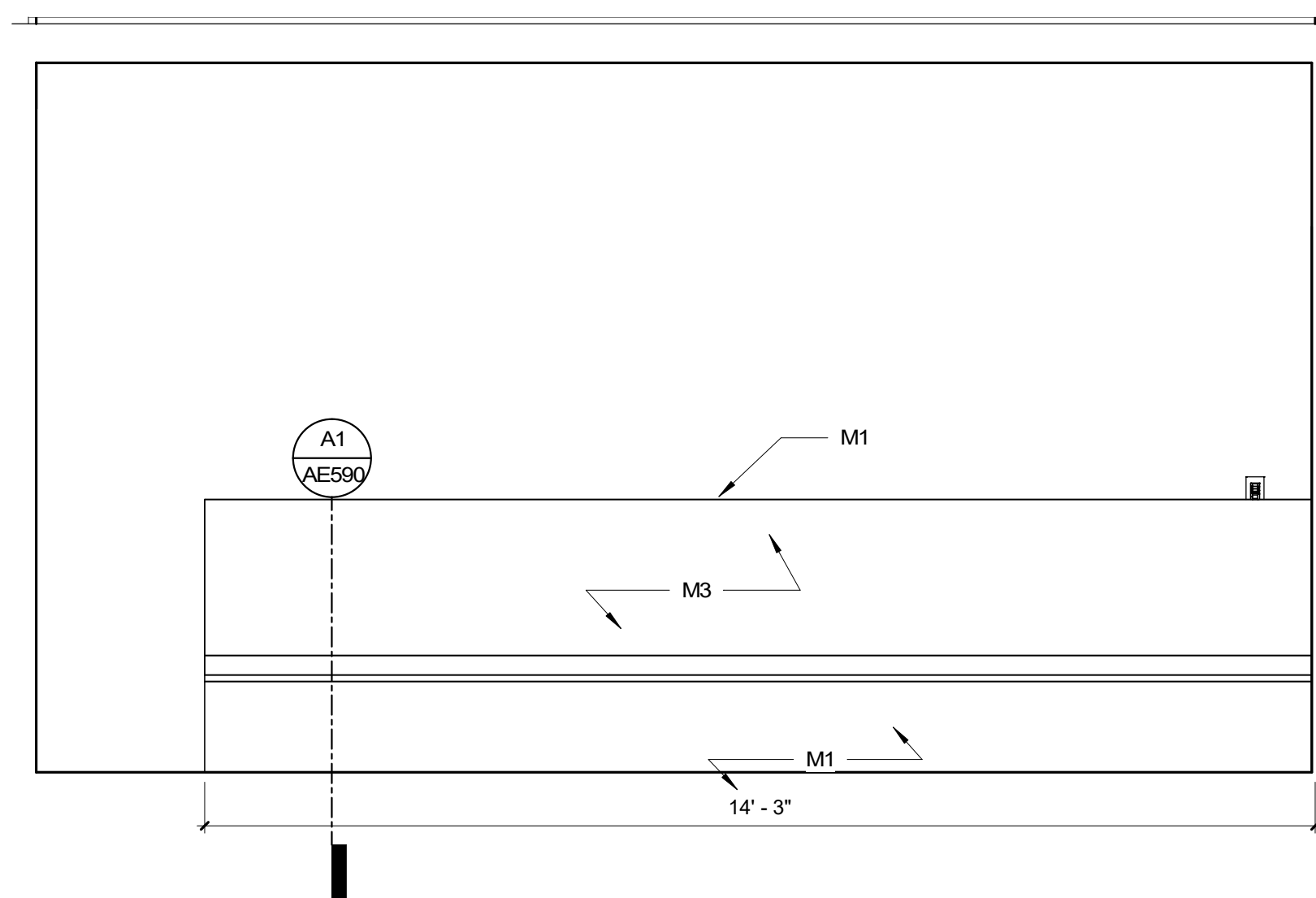
4 RECEPTION ELEVATION  
AE590 1/4" = 1'-0"



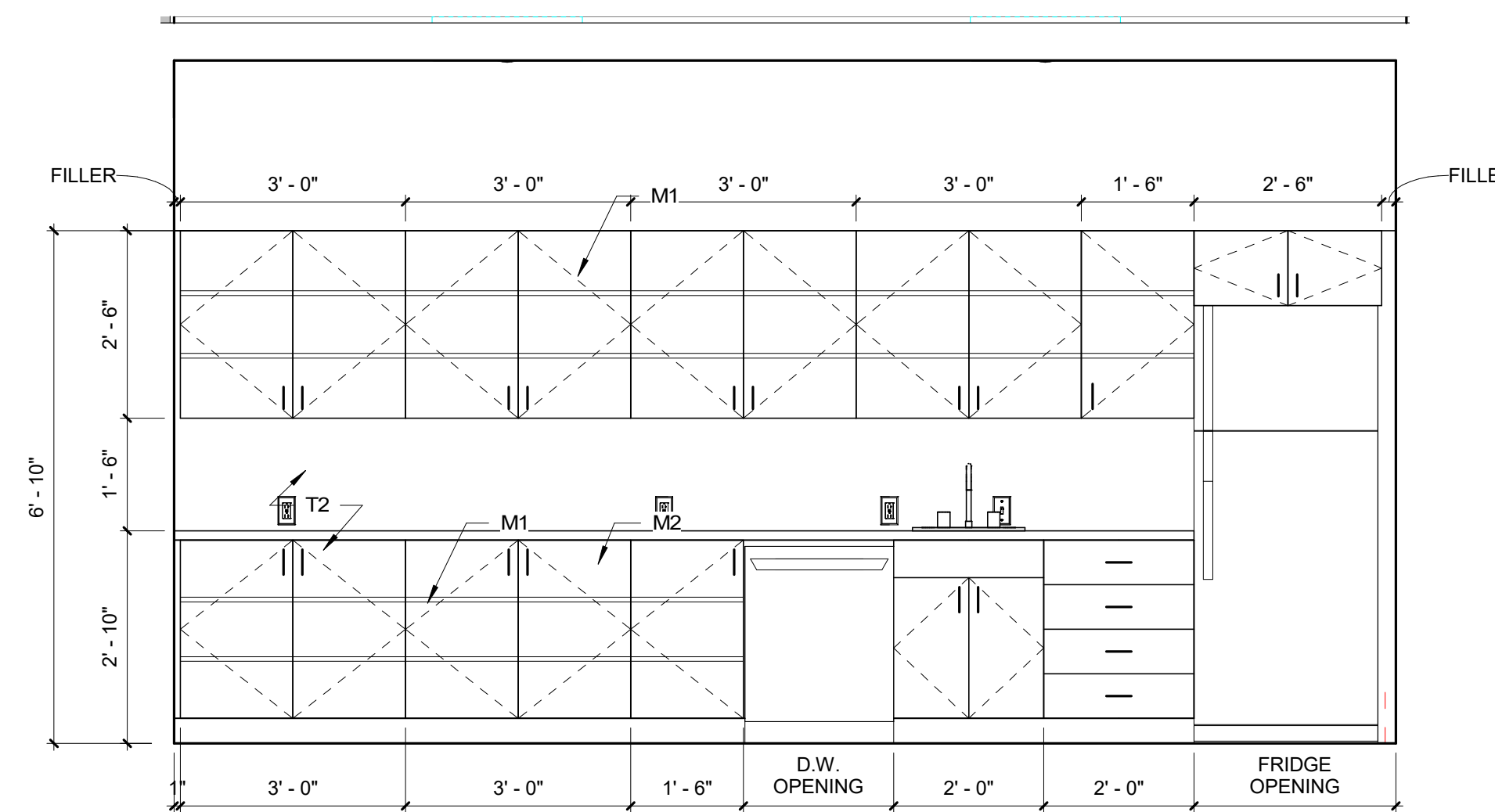
B5 MULTIPURPOSE ROOM CABINET ELEVATION  
AE590 1/2" = 1'-0"



A1 BENCH DETAIL  
AE590 1" = 1'-0"



A2 BREAK ROOM BENCH ELEVATION  
AE590 1/2" = 1'-0"

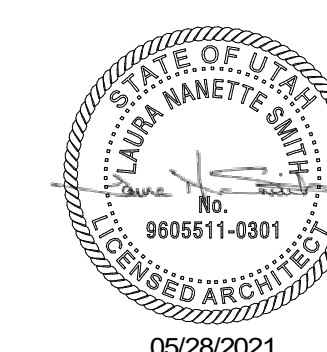


A4 BREAK ROOM CABINET ELEVATION  
AE590 1/2" = 1'-0"

SAFE HARBOR LIFELINE

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MILLWORK

AE590

D

C

B

A

1

2

3

4

5



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**LANDSCAPE ARCHITECT**  
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**SAFE HARBOR LIFELINE**

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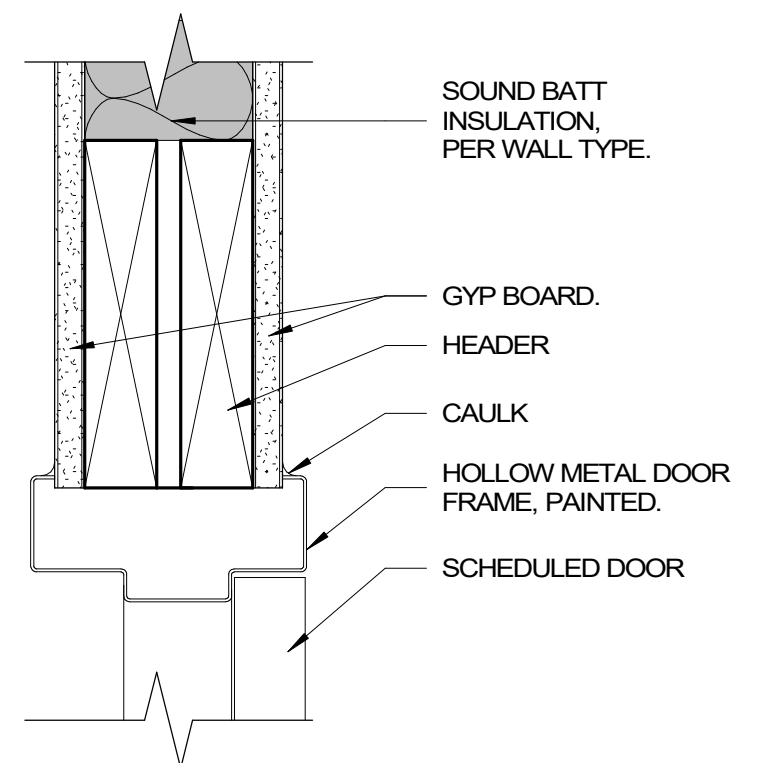
PROJECT NUMBER: 20-028  
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**DOOR TYPES AND SCHEDULE**

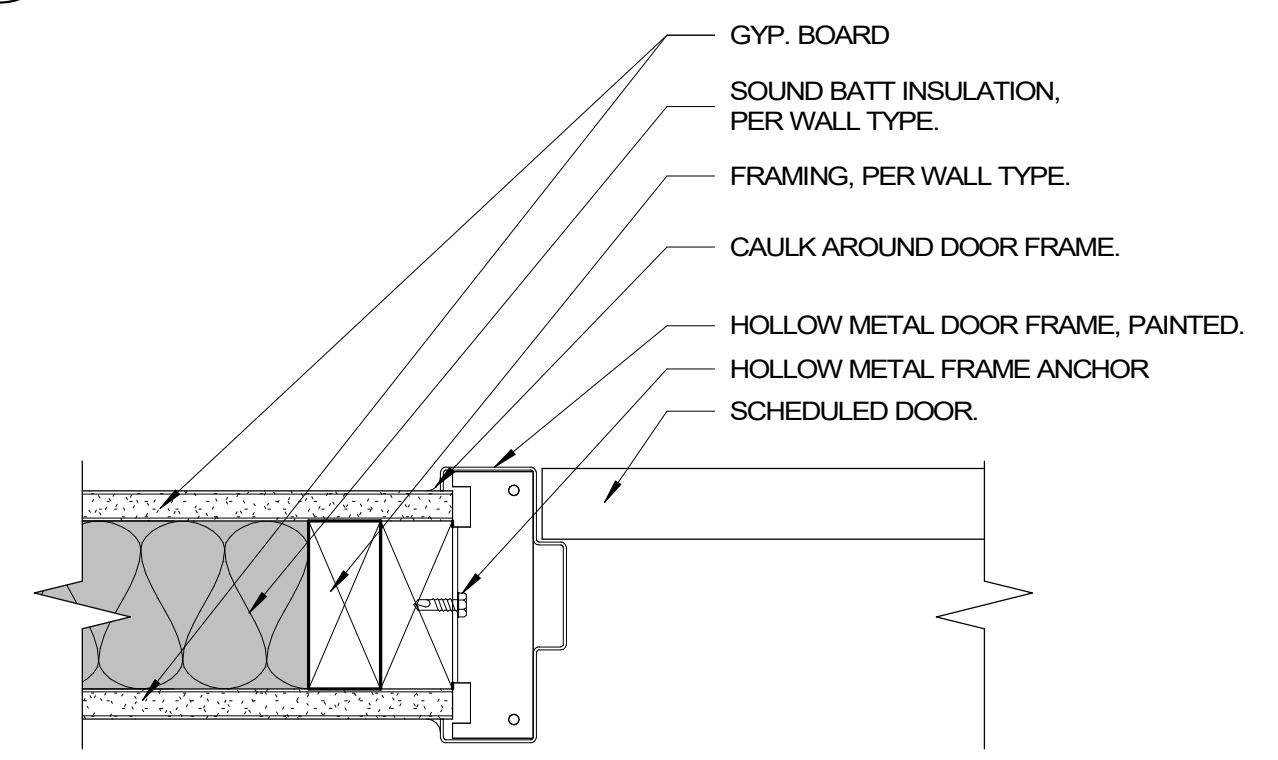
**AE601**

**DOOR SCHEDULE**

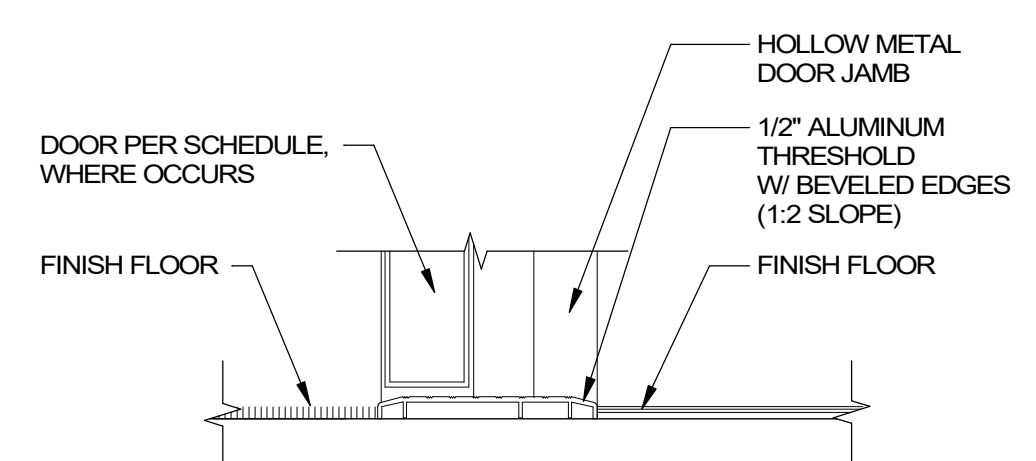
MARK	TYPE MARK	SIZE			PANEL TYPE	FRAME TYPE	FIRE RATING	HARDWARE SET NO.	COMMENTS
		WIDTH	HEIGHT	THICKNESS					
MAIN FLOOR PLAN									
	STOREFRONT	3'-0"	7'-0"						
100A	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
101	STOREFRONT	3'-0"	6'-9 1/2"		GLASS	ALUM.			
102A	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
102B	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
102C	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
103	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
104A	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
104B	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
105A	A	3'-0"	7'-0"	1 3/4"	WOOD	ALUM.			
105B	A	3'-0"	7'-0"	1 3/4"	WOOD	ALUM.			
105C	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
106B	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
106C	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
107A	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
107E	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
108	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
109	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
110	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
111	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
112	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
113	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
114	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
115	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
116A	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
116B	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
117	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
118	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
119	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
120	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
121	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
122	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
123	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
124	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
125	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
126	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
127	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
128	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
129	C	3'-0"	7'-0"	1 3/4"	GLASS	H.M.			
130	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
131	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
132	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
133A	STOREFRONT	3'-0"	7'-0"		GLASS	ALUM.			
133C	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
134	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
135	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
136	C	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
137	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
138	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
139	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
140	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.			
141	A	3'-0"	7'-0"	1 3/4"	WOOD	H.M.	1 HR.		
142	C	6'-0"	7'-0"	1 3/4"	WOOD	H.M.			



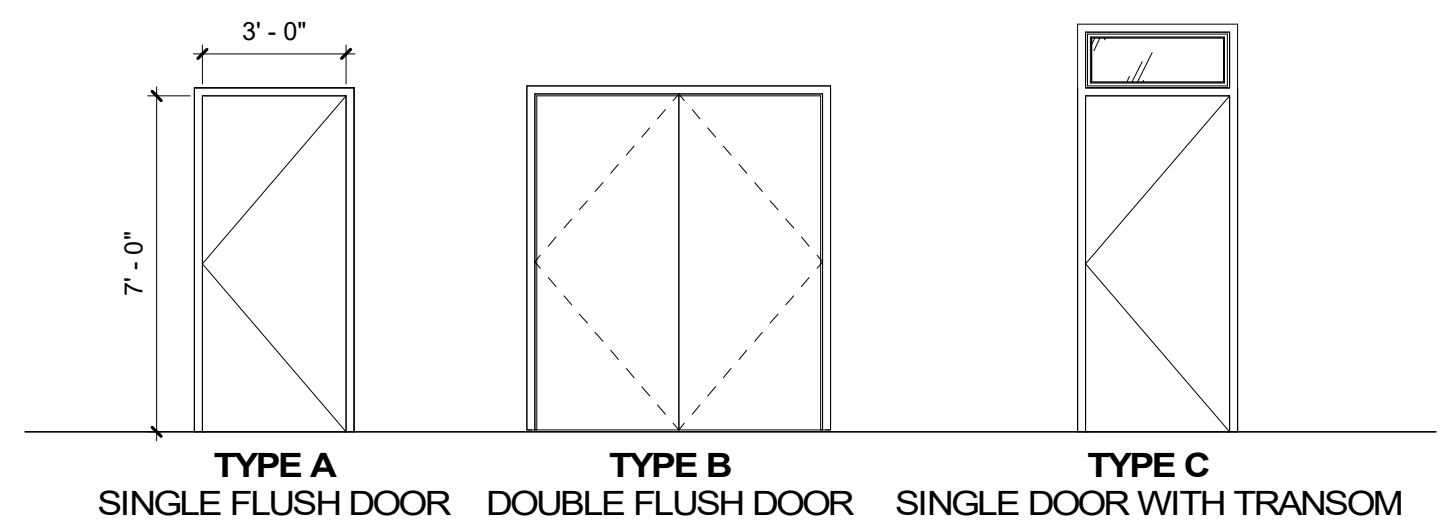
**C1 INTERIOR DOOR HEAD**  
3" = 1'-0"



**B1 INTERIOR DOOR JAMB**  
3" = 1'-0"



**A1 ALUMINUM THRESHOLD**  
3" = 1'-0"



**DOOR TYPES**  
1/4" = 1'-0"



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Window Schedule			
Type Mark	Width	Height	Comments
A	2'-0"	6'-0"	
B	5'-0"	6'-0"	

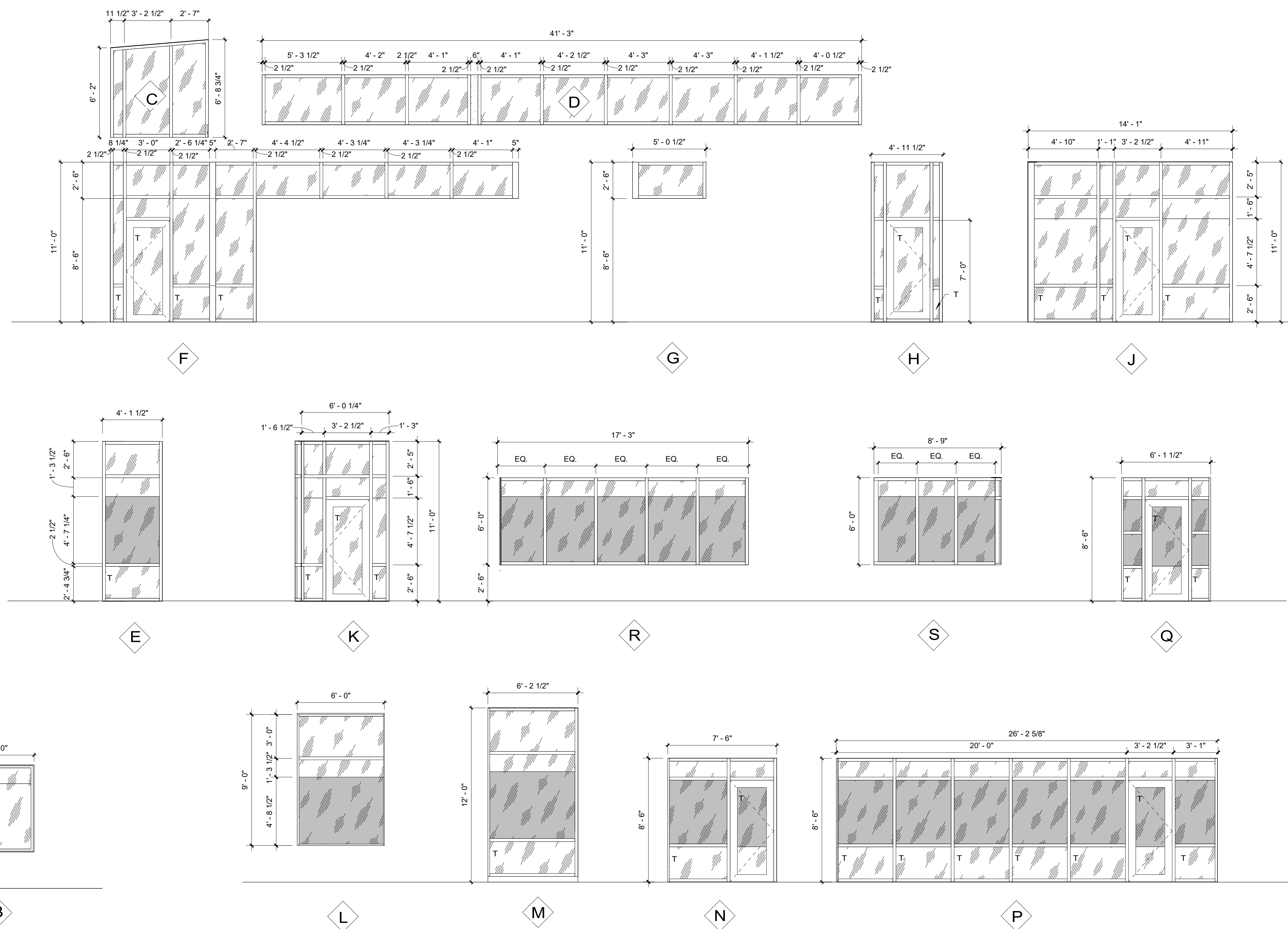
**STRUCTURAL ENGINEER**  
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FIXED WINDOW TYPES

STOREFRONT WINDOW TYPES

T=TEMPERED GLAZING

SAFE HARBOR  
 LIFELINE

223 WEST 475 SOUTH  
 LAYTON, UT 84041

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ISSUE TYPE:	DATE:
100% CD	2021-05-28

PROJECT NUMBER:	20-028
DRAWN BY:	Author
CHECKED BY:	Checker

WINDOW TYPES

AE610



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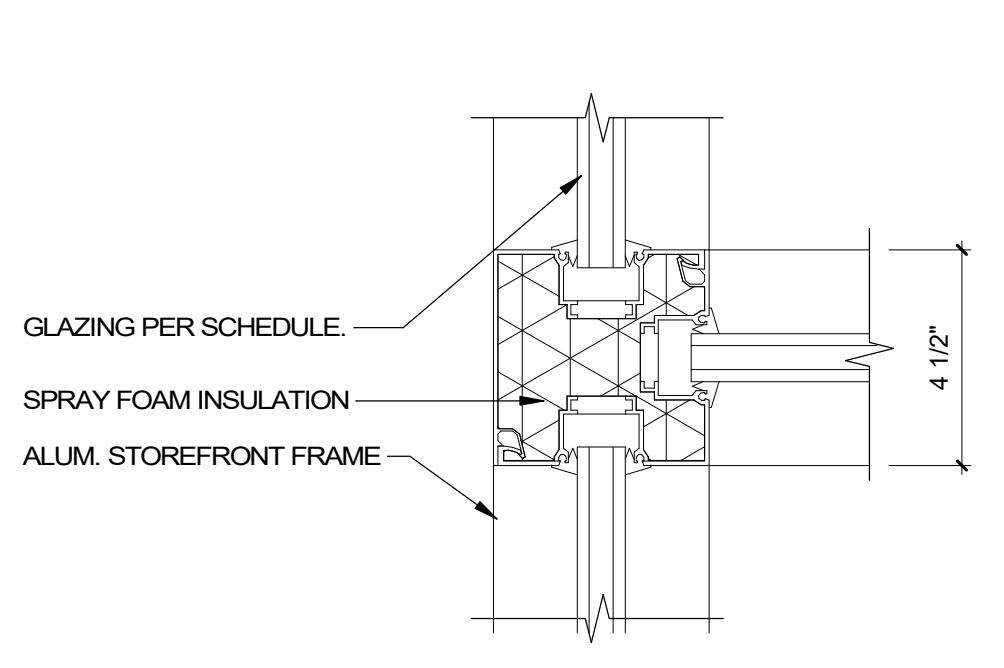
<b>STRUCTURAL ENGINEER</b> DUNN ASSOCIATES 380 WEST 800 SOUTH, SUITE 100 SALT LAKE CITY, UT 84101	C/O PHIL MILLER pmiller@dunn-se.com (801)466-1699
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<b>ELECTRICAL ENGINEER</b> SPECTRUM ENGINEERS 324 S STATE STREET, SUITE 400 SALT LAKE CITY, UT 84111	C/O DAVE WESEMANN dew@spectrum-engineers.com (801)328-5151
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D

C

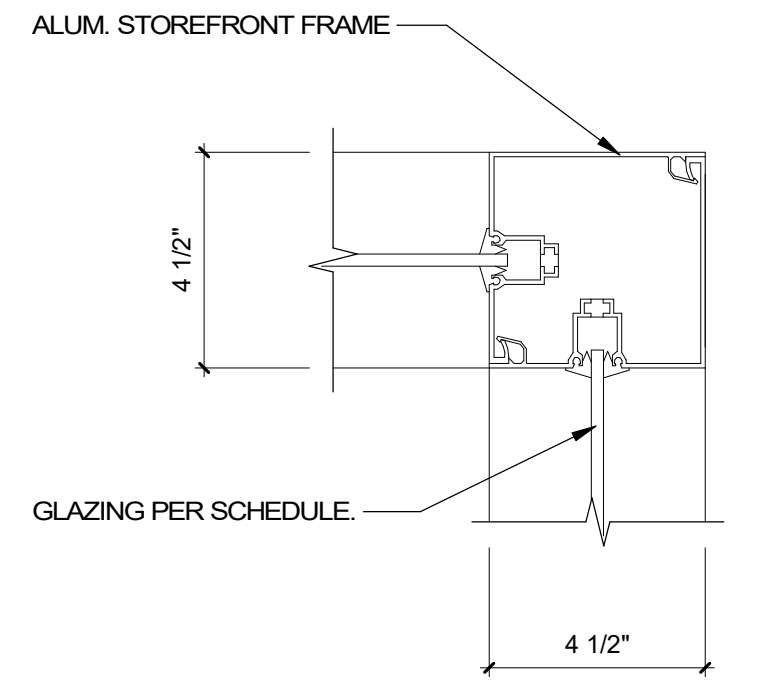
B

A



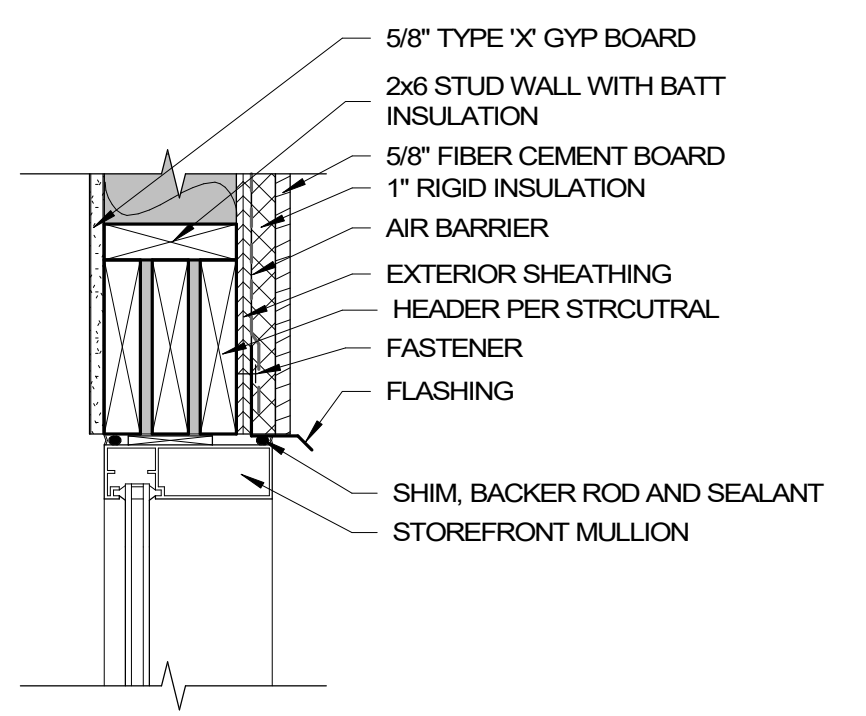
**STOREFRONT (3) CONNECTION**

C1  
AE611  
3" = 1'-0"



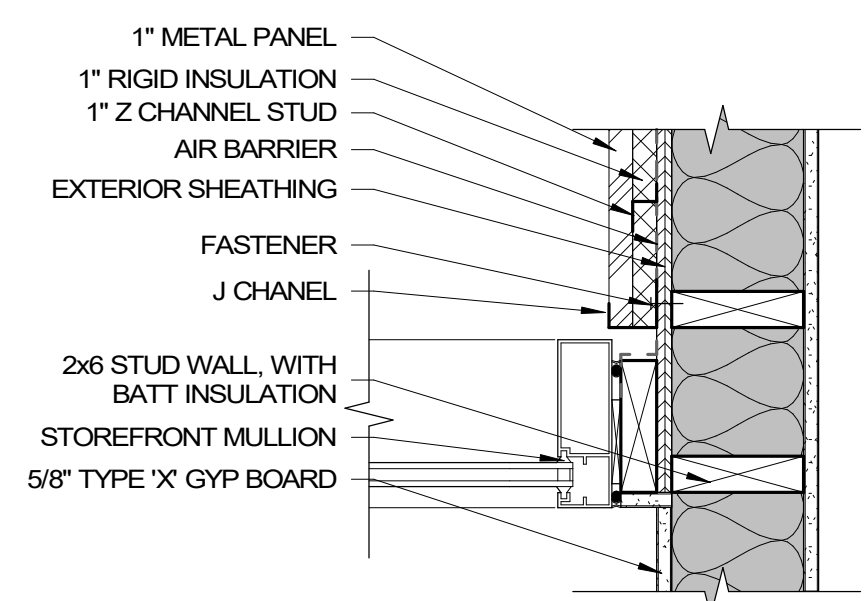
**CORNER MULLION**

C2  
AE611  
3" = 1'-0"



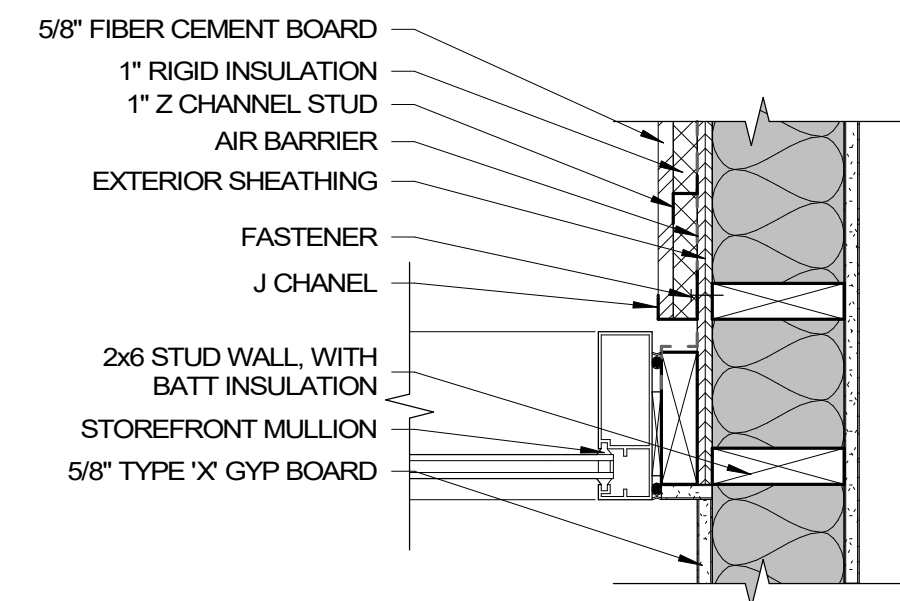
**STOREFRONT HEADER AT FIBER CEMENT**

B1  
AE611  
1 1/2" = 1'-0"



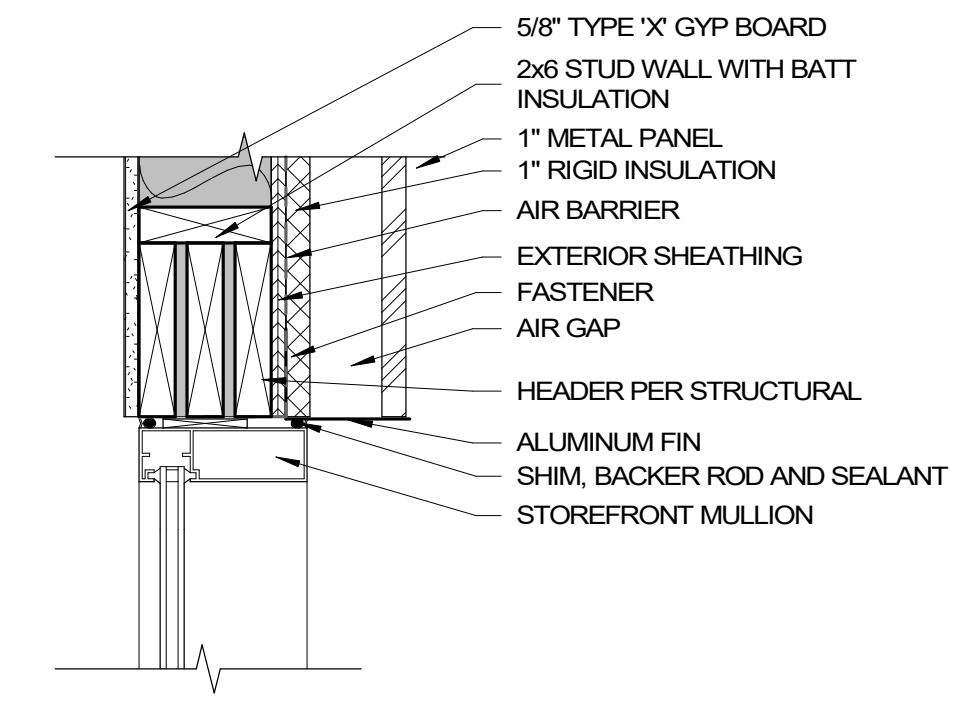
**STOREFRONT JAMB AT METAL PANEL SIDEWALL**

B2  
AE611  
1 1/2" = 1'-0"



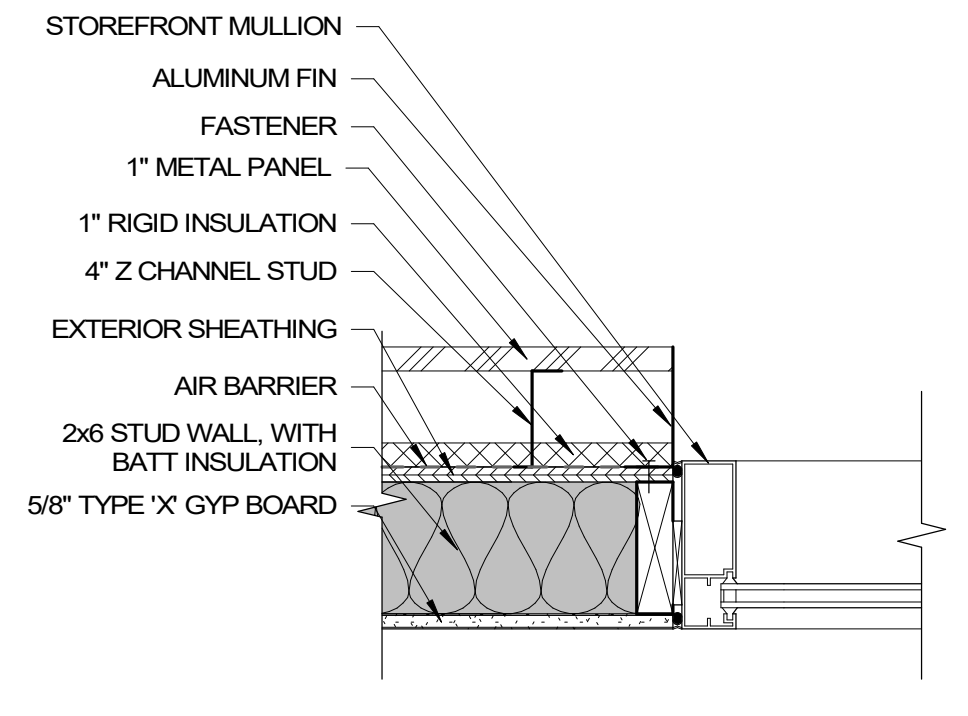
**STOREFRONT JAMB AT FIBER CEMENT SIDEWALL**

B3  
AE611  
1 1/2" = 1'-0"



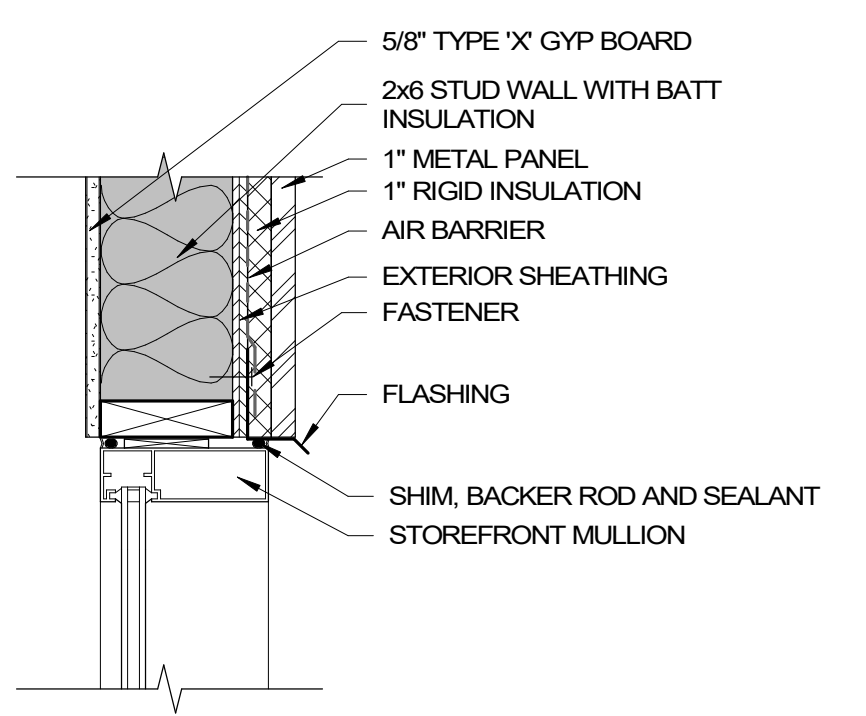
**STOREFRONT HEADER AT METAL PANEL WITH 4" FURRING**

B4  
AE611  
1 1/2" = 1'-0"



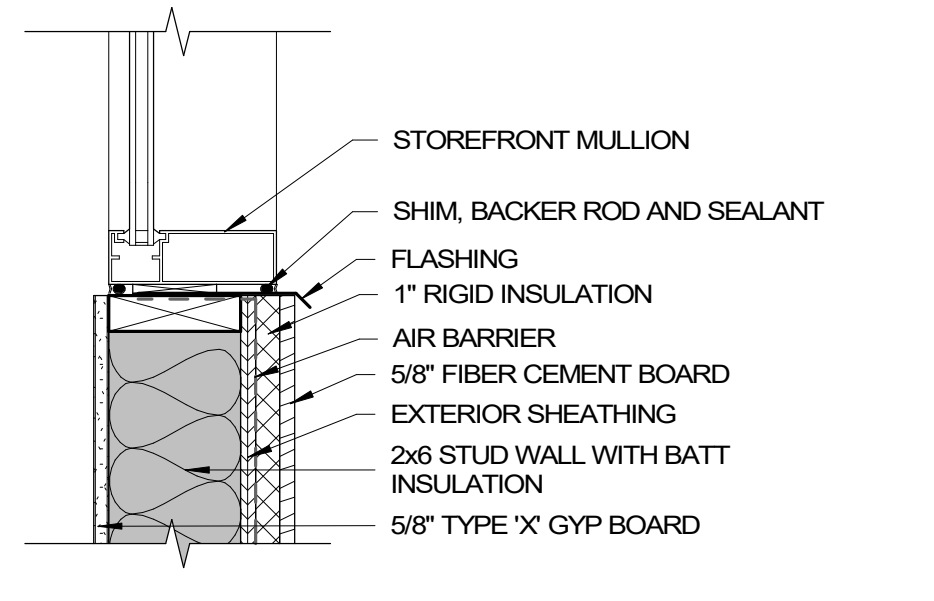
**STOREFRONT JAMB AT METAL PANEL WITH 4" FURRING**

B5  
AE611  
1 1/2" = 1'-0"



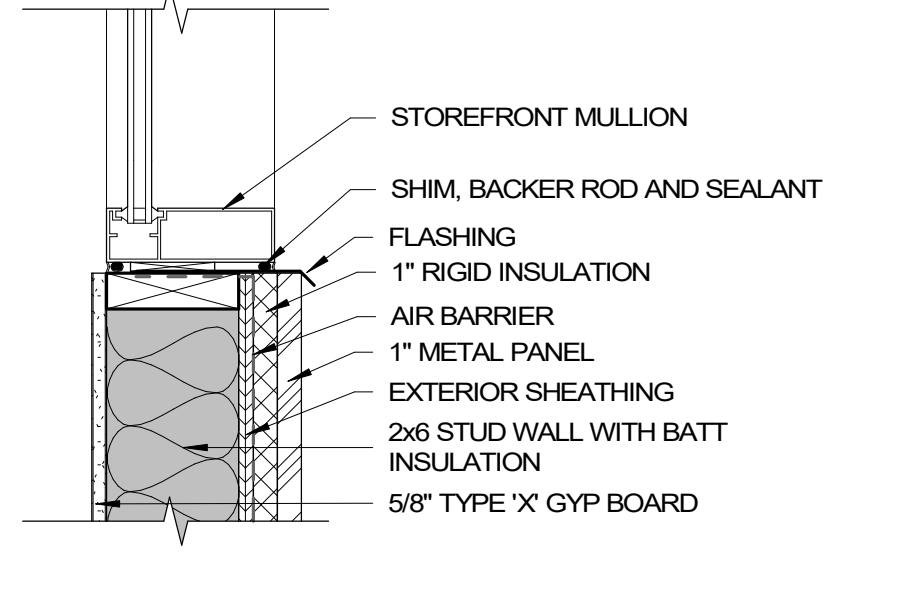
**STOREFRONT HEADER AT METAL PANEL**

A1  
AE611  
1 1/2" = 1'-0"



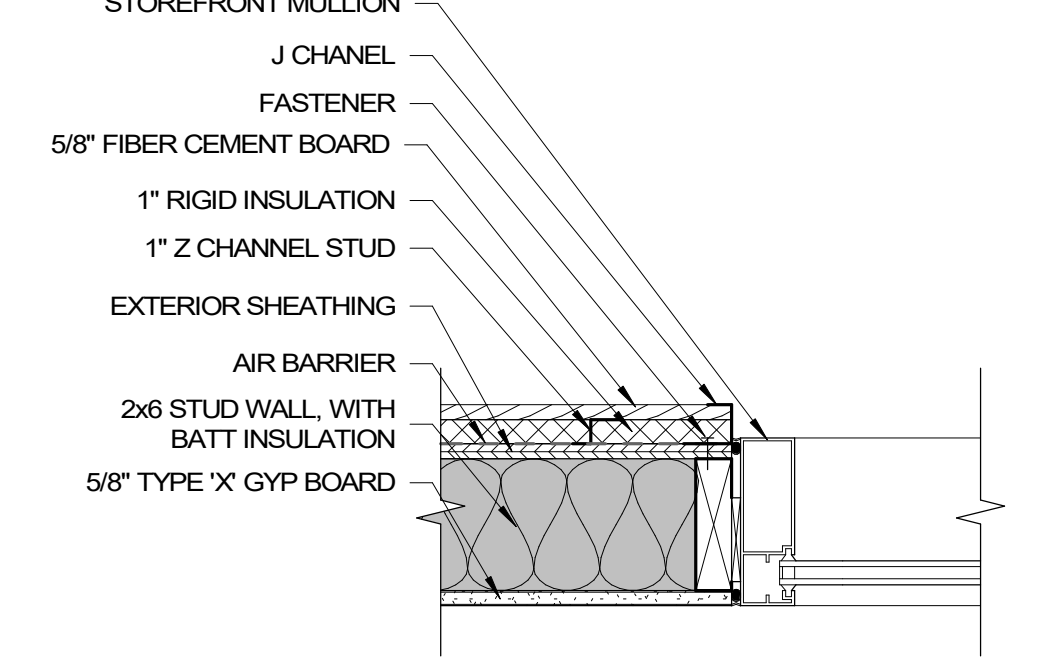
**STOREFRONT SILL AT FIBER CEMENT**

A2  
AE611  
1 1/2" = 1'-0"



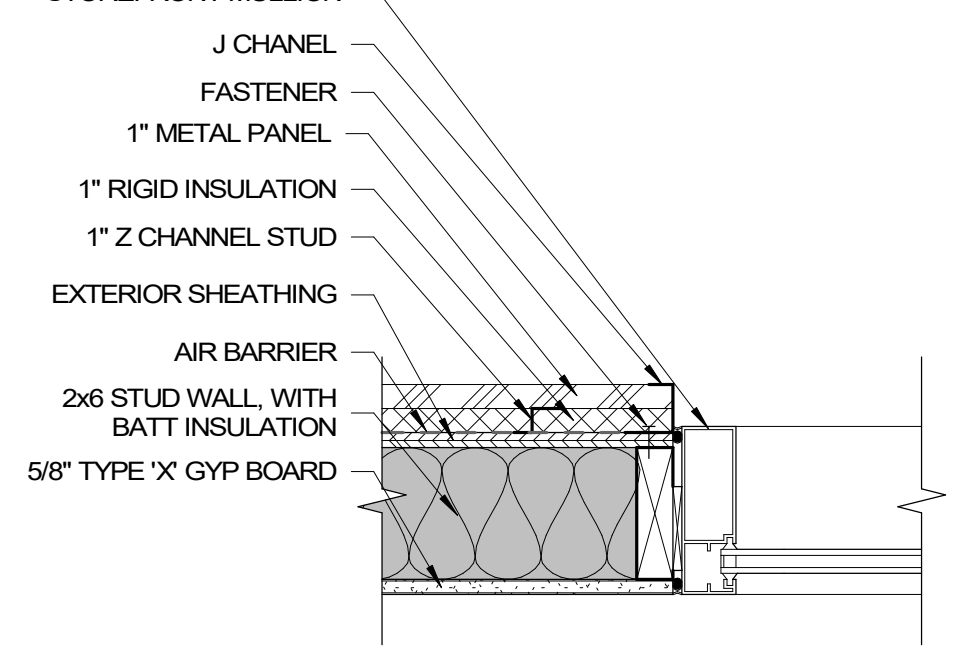
**STOREFRONT SILL AT METAL PANEL**

A3  
AE611  
1 1/2" = 1'-0"



**STOREFRONT JAMB AT FIBER CEMENT**

A4  
AE611  
1 1/2" = 1'-0"



**STOREFRONT JAMB AT METAL PANEL**

A5  
AE611  
1 1/2" = 1'-0"

**SAFE HARBOR LIFELINE**

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100% CD	2021-05-28
PROJECT NUMBER:	20-028
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**WINDOW DETAILS**

**AE611**

1

2

3

4

5



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**SAFE HARBOR  
 LIFELINE**

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**STAMP**



ISSUE TYPE: 100% CD  
 DATE: 2021-05-28

PROJECT NUMBER: 20-028  
 DRAWN BY: Author  
 CHECKED BY: Checker

**MATERIAL FINISH  
 SCHEDULE**

**AE620**

FINISH SCHEDULE			
ITEM	PRODUCT	SPECIFICATION	NOTES
<b>WALLS</b>			
P1	PAINT COLOR 1	SHERWIN WILLIAMS 7562 ROMAN COLUMN	SATIN FINISH
P2	PAINT COLOR 2	SHERWIN WILLIAMS 9137 NIEBLA AZUL	SATIN FINISH
P3	PAINT COLOR 3	SHERWIN WILLIAMS 0013 MAJOLICA GREEN	SATIN FINISH
P4	PAINT COLOR 4	SHERWIN WILLIAMS 6430 GREAT GREEN	SATIN FINISH
P5	PAINT COLOR 5	CRESCENT BRONZE METALICS COLOR: ALUMINUM TO MATCH ARCHITECTS SAMPLE	PAINT ON METAL DOOR FRAMES
P6	PAINT COLOR 6	SHERWIN WILLIAMS 7005 PURE WHITE	SATIN FINISH
W6	VINYL WALLCOVERING	MDC EDEN MC02196 20 oz. TYPE II EACH PANEL 12" H x 54" W	
W7	WHITE MARKER BOARD	DEKO BOARD VIP 72" X 48" COLOR DIAMOND	SEE ELEVATIONS FOR INSTALLATION
T1	WALL TILE	ARIZONA TILE, BARE WHITE 4" X 16" GLOSSY FINISH	INSTALLED IN A HORIZONTAL ASHLAR PATTERN, GROUT: CGS #172 URBAN PUTTY
T2	WALL TILE	ARIZONA TILE, 3D WHITE BLADE 12" X 24"	INSTALLED IN A VERTICAL STACKED PATTERN, GROUT: CGS #311 SNOW WHITE
T3	LVT WALL FINISH	GERFLOR, CREATION CONTINUUM 0874 TIMBER GOLD	INSTALLED VERTICALLY ON THE WALL SURFACE
<b>FLOORS</b>			
F1	LVT	GERFLOR, CREATION CONTINUUM 0347 BALLERINA 9" X 48" X 229mm	
F2	TILE	CONTEMPO AV291 12 X 24 SILICA	ASHLAR BORDER, GROUT: CGS #172 URBAN PUTTY
F3	TILE	DALTILE, CASA VITA BELLA, ARENA CVB-P-709 9.8 X 9.8	CENTER INSET - SEE FINISH PLAN AND DETAILS GROUT: #172 URBAN PUTTY
F4	SEALED CONCRETE		
<b>BASE</b>			
B1	RUBBER BASE	TARKETT BASEWORKS 4" TOELESS, COLOR: 69 STERLING SILVER	
B2	TILE BASE	ARIZONA TILE, BARE WHITE 6 X 6 X 7mm COVE BASE, GLOSSY FINISH	
<b>CEILING</b>			
C1	2 X 2 SUSPENDED ACOUSTICAL TILE	ROCKFON, ALASKA ANGLED TEGULAR CEILING TILE .90 NRC	
C2	2 X 4 SUSPENDED ACOUSTICAL TILE	ROCKFON, ALASKA ANGLED TEGULAR CEILING TILE .90 NRC	WITH 4" INFINITY VERTICAL METAL PERIMETER TRIM WHERE CEILING DOES NOT MEET THE WALL
C3	GYP BOARD CEILING	PAINT: SHERWIN WILLIAMS 7005 PURE WHITE SATIN FINISH	
<b>MISCELLANEOUS INTERIOR FINISHES</b>			
M1	PLASTIC LAMINATE	WILSONART, IRISH LINEN 4993-38	
M2	SOLID SURFACE	WILSONART EUROPA 9210 CM	
M3	UPHOLSTERY FABRIC	DESIGNTEX KINDRED MINERAL 3159-801	

D

C

B

A

2021.05.28 10:30 AM

GENERAL

- 1. The structural notes are intended to complement the project specifications. Specific notes and details in the drawings shall govern over the structural notes and typical details.
2. Typical details and sections shall apply where specific details are not shown.
3. The contractor shall verify all site conditions and dimensions. If actual conditions differ from those shown in the contract drawings, the contractor shall immediately notify the architect/engineer before proceeding with the fabrication or construction of any affected elements.
4. Drawings shall not be scaled for the purpose of preparing shop drawings or for construction.
5. Changes to these contract drawings may be made only by an authorized representative of Dunn Associates, Inc.
6. Omissions or conflicts between the contract drawings and/or specifications shall be brought to the attention of the architect/engineer before proceeding with any work involved.
7. The contractor shall submit a written request to the architect/engineer before proceeding with any changes, substitutions, or modifications.
8. The contractor shall coordinate with all trades any items that are to be integrated into the structural system such as openings, penetrations, mechanical and electrical equipment, etc.
9. Any structural items shown on other discipline's drawings that are not shown on the structural drawings, but that are noted as "refer to structural drawings" for additional information, shall be brought to the attention of the structural engineer by the contractor.
10. Items such as fireproofing, waterproofing, insulation, vapor barrier, etc. may be shown or noted on structural drawings for reference only.
11. The contractor shall be responsible for means, methods, techniques, sequences, and procedures in order to comply with the contract drawings and specifications.
12. Site observations by a field representative of Dunn Associates, Inc. shall not be construed as approval of construction, the procedures, nor special inspection.
13. All work shall be done in accordance with OSHA requirements.
14. Shop Drawings and submittals:
A. Shop drawings include plans, details, calculations and/or other relevant design information.
B. Submittals for the following items shall be submitted to the Project Architect/Engineer for review prior to fabrication and/or installation:
1. Concrete Mix Design
2. Concrete Reinforcing
3. Anchorage and Embeds
4. Structural Steel
5. Steel Decking
6. Engineered Wood Joists, Beams, etc.
7. Deferred Design Items
C. Quality control submittals shall be submitted to special inspector for review prior to fabrication/installation.
D. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings.
E. Shop drawings made from reproductions of the structural drawings will be rejected unless the contractor signs a release agreement prior to the shop drawings being reviewed.
F. The Contractor may choose to submit shop drawings and submittals for review electronically.

BASIS OF DESIGN

- 1. Governing Building Code International Building Code 2018
2. Risk Category II
3. Roof Live Load (Not concurrent with Roof Snow Load) 20 psf or 300 lbs
4. Rain intensity 1.25 in/hr
5. Solar panel allowance 5 psf
6. Roof Snow Load (Drift loads are shown on plan)
A. Ground Snow Load Pg = 35 psf
B. Flat Roof Snow Load Pf = 25 psf
C. Snow Exposure Factor Ce = 1.0
D. Thermal Factor Ct = 1.0
E. Slope Factor Cs = 1.0
F. Snow Load Importance Factor Is = 1.0
7. Wind Load
A. Basic Wind Design Speed V = 103 mph (Vasd = 0.78V)
B. Wind Exposure C
C. Internal Pressure Coefficient +/- 0.18
D. Components and Cladding shall be designed to the following wind pressures (psf, service level). Factored wind pressures may be obtained by dividing the table values by 0.6.
1. Locations Area (sf) <10 50 100 >500
2. Zone 5 (Walls within 6'-6" of building corner) 11/-14.7 9.88/-12.4 9.6/-11.44 9.6/-9.6
3. Zone 4 (All other wall areas) 11/-11.92 9.88/-10.8 9.6/-10.31 9.6/-9.6
4. Zone 3 (Roofs within 13' of building corner) 9.6/-20.18 9.6/-15.91 9.6/-14.07 9.6/-14.07
5. Zone 2 (Roofs within 13' of building edge) 9.6/-15.08 9.6/-14.37 9.6/-14.07 9.6/-14.07
6. Zone 1 (All other roof areas) 9.6/-13.05 9.6/-13.05 9.6/-13.05 9.6/-13.05
7. Zone 3' (Roofs within 26' of building corner) 9.6/-28.33 9.6/-21.21 9.6/-18.14 9.6/-18.14
8. Zone 2' (Roofs within 13' of building edge) 9.6/-18.14 9.6/-17.43 9.6/-17.12 9.6/-17.12
9. Zone 3 (Overhang) 9.6/-32.62 9.6/-23.81 9.6/-20.02 9.6/-11.21
10. Zone 2 (Overhang) 9.6/-23.44 9.6/-18.41 9.6/-16.24 9.6/-11.21
11. Zone 1 (Overhang) 9.6/-17.33 9.6/-16.61 9.6/-16.31 9.6/-10.19
12. Zone 3' (Overhang) 9.60 9.60 9.60 9.60
13. Zone 2' (Overhang) 9.60 9.60 9.60 9.60

- 8. Seismic Design Criteria
A. Mapped Spectral Response Accelerations
1. 0.2-Second (Short) Period Acceleration SS = 1.323
2. 1-Second Acceleration S1 = 0.475
B. Design Spectral Response Accelerations
1. 0.2-Second (Short) Period Acceleration SDS = 0.882
2. 1-Second Acceleration SD1 = 0.578
C. Site Class (Soil Profile) D
D. Seismic Importance Factor Ie = 1.0
E. Seismic Design Category D
F. Lateral Force Resisting System(s) Wood shear walls
1. Response Modification Coefficient R = 6.5
2. System Overstrength Factor Qd = 3
3. Deflection Amplification Factor CD = 4
4. Design Base Shear V = Cs\*W = 0.136W, where W is structural weight
G. Analysis Procedure Equivalent Lateral Force
9. Serviceability Criteria
A. Interstory Seismic/Wind Drift Delta < 0.02h ('h' is story height)
B. Deflection Limits
Floor L/240 Live/Snow/Wind
Roof L/240 L/360
Perimeter L/600(3/8" max)
Wall L/240

Table with 6 columns: Level, Floor to floor height (feet), Elastic Story Drift (Story Drift (inch), Drift Ratio), Inelastic Story Drift (Story Drift (inch), Drift Ratio). Rows include High Roof and Low Roof.

EXTERIOR FAÇADE FRAMING AND CLADDING

- 1. All systems (including façade, cladding, components, elements and/or their attachments to the structure) intended for use to enclose the building shall comply with the following criteria for interstory drift as required by ASCE 7 as interpreted or defined herein and as modified or supplemented herein.
A. Systems shall be detailed to accommodate vertical building movement (live load deflection) in conjunction with interstory drift.
B. Systems shall be designed and detailed for elastic (probable) interstory drift such that all systems shall remain intact, undamaged and all sealant joints integral to or placed between systems shall remain intact, uncompromised, without failures or breaches.
C. Systems shall be designed and detailed for inelastic (credible) interstory drift such that no failure or distress occurs to systems except joint sealant is allowed to fail.
D. Systems with glazing are intended to keep all members and glazing intact and connected to the building.
E. Systems shall not apply moments to the slab edges and shall not induce lateral loads into beams unless kicker bracing is supplied.
F. Allowance shall be made for sealant to occupy some finite space when compressed beyond its working limit.
2. All system connections shall comply with requirements of ASCE 7, Chapter 13.
3. All systems shall be coordinated to interface with all adjoining systems such that consistency is maintained throughout the exterior closure regarding the mode (sliding or racking) in which the system performs to meet interstory drift and other design criteria.
4. Systems and details shall be consistent with the architectural intent for joint sizes and system details to the largest extent possible, or where required, modified only after prior approval.

FOUNDATION

- 1. Soils Report by CMT Engineering Laboratories
2. Report Number & Date: 16266
3. Soil Bearing Pressure: 2000 psf, on 1'-0" Min of Structural Fill.
4. Frost Protection: 30 inches minimum
5. Lateral Soil Pressure Fluid Equivalent Density:
A. Active: 40 pcf (retaining walls) + 59 psf (Seismic)
B. At Rest: 60 pcf (rigid foundation walls) + 148 psf (Seismic)
C. Passive: 250 pcf
6. Coefficient of Friction: 0.3 (natural silt/clay) and 0.4 (natural sand/gravel and structural fill)

EARTHWORK

- 1. Consult the project specifications and soils report for further earthwork requirements.
2. Clearing: The entire building area shall be scraped to remove the top 4" of soil including all vegetation and debris.
3. Contractor shall provide temporary shoring for excavations as required.
4. Contractor shall provide measures necessary to prevent damage to or settlement of new or existing construction and utilities on or adjacent to project site.
5. Contractor shall provide dewatering as required to protect the site from flooding.
6. Proof rolling: The natural undisturbed soil below all footings shall be proof rolled prior to placing concrete.
7. Compacted structural fill: All fill material shall be a well-graded granular material with a maximum size less than 4" and with not more than 10% passing a #200 sieve.
8. Floor slabs shall be underlain by a granular layer at least 4" thick.
9. The soils engineer shall review all excavations and fill placement prior to placing concrete.

CONCRETE

Concrete shall be supplied in accordance with ACI 318 and the following requirements:

Table with 4 columns: Concrete Use, Comp. Strength f'c (psi), Exposure Classes per ACI 318 19.3.1 (a,b,c), Nominal Max. Aggregate Size. Rows include Footings, Foundation Walls, Other Walls, Interior Slabs on Grade, Exterior Concrete Reinforced (f), and Exterior Concrete Unreinforced (f).

Table Footnotes:

- a. Cement type (ASTM C150), max. water/cement ratio and fly ash to comply with ACI 318 Table 19.3.2.1.
b. Air content +/- 1.5%, to comply with ACI 318 Tables 19.3.2.1 and 19.3.3.1, measured at point of final placement.
c. Calcium chloride shall not be added to the concrete mix.
d. For any exposed slab on grade, the contractor is to notify the engineer of record at least 7 days prior to any pours to discuss the concrete mix design being used as well as present their means and methods of addressing concrete phenomena such as cracking, curling, spalling, etc.
e. Interior slabs on grade shall have a drying shrinkage maximum of 0.040% by ASTM C157 (7-day soak time permitted).
f. These values shall be used for parking slabs on grade or other slabs within the building footprint with exterior exposure to weather.

- 1. Materials unless noted otherwise:
A. Normal Weight aggregates ASTM C33
B. Light Weight aggregates ASTM C330
C. Fly Ash, Class C or F Pozzolan ASTM C618
D. Reinforcing Steel
1. General: ASTM A615 Grade 60
2. Subject to the above requirements, ASTM A615 Grade 75 steel may be used at the contractor's option, except in special moment frames, special concrete shear walls, shear stirrups or torsional reinforcement.
E. Deformed Bar Anchors (DBA) ASTM A496
F. Headed Stud Anchors (HSA) ASTM A108
G. Anchor Bolts: See steel and/or wood section(s) of general notes.
H. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.
2. The contractor shall be responsible for the design, detailing, care, placement and removal of all formwork and shores.
A. Supporting forms and shoring shall not be removed until structural members have acquired sufficient strength to safely support their own weight and any construction load to which they may be subjected.
B. Suspended slabs shall be re-supported after form removal until concrete reaches its 28-day specified compressive strength.
3. Reinforcement shall have the following concrete clear cover:
A. Cast-in-place Concrete
1. Cast against and permanently exposed to earth: 3"
2. Formed concrete exposed to earth or weather:
#6 thru #18 bars: 2"
#5 and smaller bars: 1 1/2"
3. Concrete not exposed to weather or in contact with ground:
Slabs, Walls, Joists: #11 bars and smaller: 3/4"
Beams, Columns: Primary Reinforcement, Ties: 1 1/2"
Stirrups, Spirals
4. Construction Joints and Control Joints:
A. Provide a beveled 2" x 4" x continuous or intermittent keyway in all horizontal and vertical construction joints including between top of footing and foundation walls.
B. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1.
C. Install control joints in slabs on grade at a spacing not to exceed 30 times the slab thickness in any direction, unless noted otherwise.
D. Install construction joints in walls at a spacing not to exceed 30 times the wall thickness, except in concrete shear walls.
E. Construction joints are not permitted in suspended slabs or beams unless specifically noted on the construction documents or submitted by the Contractor to the Engineer of Record for review.
5. Construction
A. Use chairs or other support devices recommended by the CRSI to support bar and tie reinforcement bars and WWR prior to placing concrete.
B. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
C. All embeds and dowels shall be securely tied to formwork or to adjacent rebar prior to concrete placement.
D. No pipes, ducts, sleeves, etc. shall be placed in structural concrete unless specifically detailed or approved by the structural engineer.
E. Reinforcing bars shall not be welded unless specifically shown on drawings.
F. Reinforcing bars shall not be field bent, except as shown in the contract drawings or permitted by the EOR.
G. Top of concrete columns shall be flush (+1/4") with bottom of supported cast-in-place members.

6. Detailing:

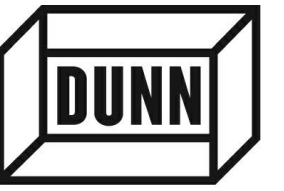
- A. Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings.
1. Do not splice stirrups and ties.
2. At shear wall boundary elements lap lengths shall be increased by 25%.
3. Splices may be made with mechanical splices capable of 125% of yield strength of the bar being spliced (Type 1).
B. All 90, 135 and 180° hooks shown graphically in the drawings shall be detailed as ACI standard hooks, unless noted otherwise.
C. At joints provide reinforcing dowels to match the member reinforcing, unless noted otherwise.
D. At all discontinuous control or construction slab on grade joints, provide (2) #4 x 48".
E. Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing.
F. All vertical reinforcing shall be doweled to footings, or to the structure below with the same size and spacing as the vertical reinforcing for the element above.

POST-INSTALLED ANCHORS

- 1. Post-installed anchors shall only be used where specifically detailed or called for on the design drawings.
2. Follow all ICC Evaluation Report and manufacturers' requirements and recommendations for post-installed anchor installation.
3. Post-installed anchors that are exposed to exterior conditions, or interior spaces where moisture can accumulate, shall be either galvanized or stainless steel anchors.
4. All holes in hollow, brick, or stone masonry shall be drilled in the "rotary-only" mode with the hammer function off.
5. For installation of adhesive anchors horizontally or vertically inclined, installers must have AMI/CRSI Adhesive Anchor Installer Certification.
6. Adhesive anchors shall be as specified in the Contract Documents.
A. Eligible adhesive anchors in concrete (normal weight only)
1. HIT-RE 500V3 by Hilti (ESR-3814)
2. HIT-HY 200 by Hilti (ESR-3187)
3. SET-3G by Simpson (ESR-4057)
4. SET-XP by Simpson (ESR-2508)
5. AT-XP by Simpson (IAPMO ES ER-0263)
6. Pure 110+ by Dewart (ESR-3298)
7. AC208+ Gold by Dewart (ESR-4027)
7. Mechanical anchors shall be as specified in the Contract Documents.
A. Eligible mechanical anchors in concrete
1. Kwik Bolt T22 by Hilti (ESR-4266)
2. Kwik HUS-EZ by Hilti (ESR-3027)
3. HDI-P TZ by Hilti (ESR-4236)
4. Strong-Bolt 2 by Simpson (ESR-3037)
5. Titen HD by Simpson (ESR-2713)
6. Torq-out by Simpson (ESR-2705)
7. Trubolt+ by ITW (ESR-2427)
8. Tapcon/Sammy Anchors by ITW (ESR-2202)
9. Power-Stud+ SD2 by Dewart (ESR-2502)
10. Power-Stud+ SD4 and SD6 Stainless by Dewart (ESR-2502)
11. Snake+ by Dewart (ESR-2272)
12. Screw-Bolt+ by Dewart (ESR-3889)
13. Mini Undercut+ by Dewart (ESR-3912)
8. The Contractor may also submit for review and approval, the manufacturer's ICC evaluation report of alternate anchor systems not listed above.



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Table with 2 columns: ISSUE, DATE. Row 1: 100% CD SET, 2021-05-28.

PROJECT NUMBER: 20056
DRAWN BY: SD
CHECKED BY: PJM

GENERAL
STRUCTURAL
NOTES

2021-05-28
100% CD SET

NOTE: THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 05/27/2021

DIMENSIONS AND ELEVATIONS AS THEY RELATE TO THE BUILDING IN GENERAL, i.e. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

S-001

**STRUCTURAL STEEL**

- Codes and Standards: Fabrication, Erection and Quality Control of structural steel shall comply with the latest edition of the following:
  - American Institute of Steel Construction (AISC) 360, "Specification for Structural Steel Buildings," with "Commentary".
  - AISC 341 "Seismic Provisions for Structural Steel Buildings."
  - AISC 303 "Code of Standard Practice" excluding sections 3.4, 4.4 and 4.4.1.
  - AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts"
  - American Welding Society (AWS), Structural Welding Codes D1.1, D1.3, D1.4, and D1.8, except as modified by the "Steel Construction Manual".
- Material:
  - Wide Flange Sections----- ASTM A992 (50 ksi)
  - Plate
    - Typical----- ASTM A36
  - Pipe----- ASTM A53 Grade B Type E/S
  - Hollow Structural Shapes
    - Rectangular----- ASTM A500 Grade C (50 ksi)
    - Round----- ASTM A500 Grade C (46 ksi)
  - Other Structural Shapes (M, C, etc)----- ASTM A36
  - Bolted Connections----- ASTM A325
  - Anchor Bolts
    - All Columns unless noted otherwise: ASTM F1554 Grade 105 with ASTM A563 heavy hex nuts with Grade A hardened washers. Nuts to be snug tight.
  - Weld Filler Metal
    - Shielded Metal Arc Welding----- AWS A5.1, low-hydrogen only  
Low-hydrogen restrictions do not apply when welding sheet steels in accordance with AWS D1.3, including attaching these steels to structural members.
    - Gas-Metal & Metal-Cored Arc Welding----- AWS A5.18
    - Flux-Cored Arc Welding----- AWS A5.20  
E7XT-4 or E7XT-11 electrodes are not permitted.
    - Intermixing of welds made from self-shielded welding electrodes with welds made by other processes is not allowed in seismic critical welds, unless tested in accordance with AWS D1.8, annex B. The Field Erection Contractor is responsible for verifying that intermixing of self-shielded weld metal with weld metal of other processes will not occur, or alternatively, the welding procedure is qualified by testing.
    - Where demand critical welds are required, provide filler metals meeting the following minimum mechanical properties: 58ksi yield strength, 70ksi tensile strength, 22% elongation, Charpy V-Notch toughnesses of 20ft-lbs at 0°F and 40 ft-lbs at 70°F.
  - Deformed Bar Anchors (DBA)----- ASTM A496
  - Headed Stud Anchors (HSA)----- ASTM A108
  - Non-Shrink Grout----- ASTM C1107 Grade B  
Non-shrink grout shall be prepackaged, non-metallic and non-gaseous. Furnish certified independent test data to Structural Engineer. Compressive Strength in 28 days = 7,500 psi
  - Refer to architectural drawings for structural steel fireproofing or architecturally exposed steel requirements.
  - All steel, connectors and embeds exposed to weather shall be galvanized, unless noted otherwise.
- Structural Detailing
  - Welds may be performed in the shop or the field. Designations of field welds on the Contract Documents are shown where it is anticipated field welds may be required, and are shown only for the purpose of assisting the Contractor in the bidding process. The Contractor shall coordinate the welding sequence between sub-contractors, and any costs associated with variations in the welding sequence are outside the scope of the Design Engineer, and are the responsibility of the Contractor. Field welding is to be minimized where possible. Contractor is to verify that the sequencing of welds meets all safety regulations, and the requirements of the Construction Documents and their referenced codes. Welding in the 'k' region of wide flange members is prohibited unless noted otherwise.
  - Provide full depth web stiffener plates at one side of all beams at all bearing points, unless noted otherwise. Stiffener plates shall be the thickness called out below unless noted otherwise. Stiffeners shall be welded on both sides of the plate-to-flange and plate-to-web interfaces.  
FLANGE WIDTH----- STIFFENER THICKNESS & WELD SIZE  
Less than 8 1/4"----- 1/4" & 3/16"  
8 1/4" to 12 1/4"----- 3/8" & 1/4"  
12 1/4" to 16 1/2"----- 1/2" & 5/16"  
16 1/2" to 20 3/4"----- 5/8" & 3/8"
  - Bolting and Fasteners
    - Ordinary steel-to-steel connections, simple span framing, and beam/girder-to-bearing plates are the standard connection used throughout the design drawings, unless noted otherwise:
      - Use A325N bolts or tension-controlled bolts.
      - Tighten these fasteners to a "snug tight" condition.
      - Where a steel-to-steel connection is not shown, provide a framed connection per AISC for one half the total uniform load capacity of the beam for the span and steel specified.
    - Pretensioned connections are shown on the structural design drawings. They join steel-to-steel connections, unless noted otherwise:
      - Use A325N or A325X bolts or tension-controlled bolts.
      - Pretension these fasteners as required by AISC "Specification for Structural Joints Using ASTM A325 or A490 bolts."
    - Fasteners and washers shall not be reused. Scrap dirty, rusted, or water-contaminated bolt assemblies.
  - Weld Access Holes and Temporary Attachments
    - Fabricate beam copes and weld access holes using the geometry described in AISC 360 Section J1.6.
    - Runoff tabs are to be removed unless noted otherwise.
- Welding of Reinforcing Steel or Bolts
  - Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors, structural bolts, or headed stud anchors.
  - Do not weld anchor bolts, including "tack" welds.
  - Headed Stud Anchor welding and Deformed Bar Anchor welding shall conform to the manufacturer's specifications.

**WOOD**

- Materials (Dry service conditions assumed for each type)
  - Dimension Lumber and Timbers (Sawn Lumber)
    - All dimensioned lumber shall comply with USDOC PS20.
    - Visually graded dimension lumber shall be Douglas Fir-Larch #2 or better.
    - Visually graded timbers (5" x 5" and larger) shall be Douglas Fir-Larch #1 or better.
    - Machine stress rated (MSR) lumber shall be 1600F-1.6E or better.
    - Approved end jointed lumber may be used interchangeably with solid sawn members of the same species and grade.
  - Laminated Strand Lumber (LSL), Laminated Veneer Lumber (LVL) and rim board
    - All LSL material shall be a minimum of 1 1/2" thick with the following design values in psi: Fb= 1700, E = 1.3X10<sup>6</sup>, Fcperp = 710, Fv = 425, Fcpar=1835, Ft = 1300. (Weyerhaeuser Timberstrand)
    - All LVL shall be a minimum of 1 3/4" thick with the following design values in psi: Fb = 2600, E = 2.0x10<sup>6</sup>, Fcperp=750, Fv = 285, Fcpar =2510, Ft = 1895. (Weyerhaeuser Microllam)
    - All rim boards shall be a minimum of 1 1/2" thick.
    - Handle, store and install all engineered lumber per the manufacturer's guidelines.
    - See manufacturer guidelines for hole locations and sizing.
    - LSL, LVL and rim board of equal design properties as determined by ASTM D5456 may be substituted with written approval from Dunn Associates, Inc.
  - Structural Glued Laminated Timber (GLB)
    - Structural glued laminated timber shall be manufactured and identified as required in ANSI A190.1 and ASTM D3737.
    - Glulam beams shall be Douglas-fir combination number 24F-V4 1.8E for simple span beams and 24F-V8 1.8E for continuous spans and cantilevers. Hybrid combination glulams with equivalent design properties may also be used with written approval from Dunn Associates Inc.
    - Appearance of members shall be Framing or Industrial appearance, UNO. Use exterior grade/coating for all members exposed to elements.
    - Camber: Unless otherwise noted on the drawings, all stock glulam beams shall be cambered to industry standard 3500'-0" radius. Stock beams with zero camber are acceptable where available.
- Wood Structural Panel Sheathing
  - Wood structural panels shall conform to the requirements for its type in USDOC PS1 or USDOC PS2. The panels must be identified by the trademarks of the approving testing and inspection agency.
  - Wood sheathing shall be APA rated sheathing Exposure 1 unless noted otherwise. See plans and schedules for thickness and span rating.
- Nails
  - All Nails shall conform to the requirements specified in ASTM F1667, "Standard Specification of Driven Fasteners: Nails, Spikes and Staples."
  - All nails shall be common nails with the following properties:  
Nail-----Shank Diameter-----Min. Penetration into Support  
6d-----0.113"-----1.25"  
8d-----0.131"-----1.50"  
10d-----0.148"-----1.63"  
12d-----0.148"-----1.63"  
16d-----0.162"-----1.75"  
Nails with properties less than those listed above shall not be used without prior written approval from Dunn Associates, Inc. Hy-Tek nails may be substituted for common nails per ESR-2648.
  - Nails with "T", brad, finish or casing heads are not permitted. Nails with Round (full), Offset, Oval, Clipped or Notched heads are acceptable.
  - Deformed shank nails shall have either a helical (screw) or an annular (ring) shank.
- Bolts
  - Anchor Bolts: ASTM F1554 Grade 36 (or A307 Grade A/C or A36)
  - All anchor bolts connecting shearwall sill plates to the concrete foundation shall have a PL1/4"x3"x3" washer between the sill plate and the nut. UNO. See the shear wall schedule.
  - Connection Bolts: ASTM A307 Grade A/C or ANSI Standard B18.2.1.
  - Bolt holes shall be a minimum of 1/32" to a maximum of 1/16" larger than the bolt diameter. Holes shall be accurately aligned in main members and side plates or side members. Bolts shall not be forcibly driven.
  - At all bolted connections, provide a standard cut or larger washer or metal plate between the wood and the bolt head and between the wood and the nut.
- Connection Hardware
  - All connection hardware shown shall be supplied by Simpson Strong-Tie Incorporated.
  - Install all hardware per the manufacturer's guidelines.
  - Connection hardware of equal design properties, including USP Structural Connectors or other manufacturers may be substituted with written approval from Dunn Associates, Inc.
- Per IBC 2304.3.3, all mechanical, electrical, plumbing and drainage systems shall accommodate for the effects of wood shrinkage, approximately 1/4" shrinkage per level, cumulative from base to roof. Potential solutions may include vertically elongated holes through studs for horizontal pipe (following permitted holes and notches detail), vertical expansion joints on vertical pipes, or other industry standards. 1/4" per floor accounts for 5 plates (7.5") shrinking 7.5% times the difference between initial and final moisture contents of 19% and 8% respectively, divided by 30%. 7.5/100\*11/30\*7.5" = 1/4". 5 plates is one sill plate, two top plates and two truss chords.
- All fasteners in contact with preservative-treated or fire-treated wood shall be hot-dipped zinc-coated galvanized or stainless steel.
- All wood in contact with concrete, masonry or soil shall be preservative-treated or redwood.
- Design values adjusted for fire-treated lumber using Pyroguard (ESR-1791). Substitutions eligible by approval.
- General framing and carpentry shall be connected as per "THE MINIMUM NAILING SCHEDULE" unless noted otherwise.
- Provide solid shaped blocking at least 2" (nominal) thick and full depth of joist at ends and at each support of joist. Provide approved bridging at an 8'-0" on center maximum between joist end supports.
- All bearing and shear walls shall have a minimum of 2 top plates. See details for splices in top plates.
- Provide an additional joist within 2' of centerline of parallel partitions.
- Solid blocking at eaves may be omitted where required for ventilation (1 block in 5), unless noted otherwise.
- Holes or penetrations through bearing walls shall be limited to the clear space between studs. Holes in shear wall sheathing shall be limited to 6" diameter (max), spaced at a minimum of 3 diameters on center. The accumulated length of openings in a shear wall shall not exceed 20% of the wall length, unless noted otherwise.

**DEFERRED SUBMITTALS**

- Deferred submittals are items that are not part of our scope which require architectural and/or engineering review. Deferred submittals include plans, details, calculations and/or other relevant design information stamped by a Professional Engineer licensed in the state in which construction will occur.
- Deferred submittals shall first be submitted to the project architect and/or engineer for review and coordination. Upon completion of the architect/engineer review, the architect/engineer will submit the deferred submittals to the Building Official for review and approval. The submittal to the Building Official shall include a letter stating that the architect/engineer review has been performed and that the plans and calculations for the deferred submittal items are found to be in general conformance with the design drawings with no exceptions.
- Construction related to deferred submittals shall not commence until the Building Official has approved the submittal. Approved deferred submittals shall be available at the jobsite throughout construction.
- Items requiring deferred submittals are listed below. These items shall be designed and fabricated by the manufacturer according to specifications given in the construction documents.
  - Exterior Façade Framing and Connections (by supplier) showing compliance with drift requirements
  - Seismic Bracing for mechanical, electrical and plumbing components per ASCE 7, Chapter 13 (by MEP consultant)

**ABBREVIATIONS**

AB	Anchor Bolt	JST	Joist
ABV	Above	K	Kip(s) = 1000 Pounds
ALT	Alternate	KLF	Kips Per Lineal Foot
ARCH	Architect	KSF	Kips Per Square Foot
ADDL	Additional		
BB	Bottom Bar	LB	Pounds (#)
BLDG	Building	LOC	Location
BLKG	Blocking	LSL	Laminated Strand Lumber
BLW	Below	LVL	Laminated Veneer Lumber
BM	Beam	MAS	Masonry
BN	Boundary Nail	MAX	Maximum
BOTT	Bottom	MECH	Mechanical
BRDG	Bridging	MEZZ	Mezzanine
BRG	Bearing	MFB	Moment Frame Beam
BTWN	Between	MFC	Moment Frame Column
BYND	Beyond	MFR	Manufacturer
		MIN	Minimum
CANT	Cantilevered	MISC	Miscellaneous
CJ	Control Joint	MTL	Metal
CJP	Complete Joint Penetration		
CL	Center Line	NTS	Not To Scale
CMU	Concrete Masonry Unit	NS	Non-shrink
COL	Column	oc	On Center
CONC	Concrete	OPNG	Opening
CONN	Connection	OPP	Opposite
CONT	Continuous	OSB	Oriented Strand Board
COORD	Coordinate		
CS	Coil Strap	PAF	Power Actuated Fastener
CTR	Center	PCF	Pounds per Cubic Foot
		PEN	Penetrate or Penetration
DB	Deck Bearing	PERP	Perpendicular
DBA	Deformed Bar Anchor	PFT	Pre-Fabricated Truss
DBL	Double	PJP	Partial Joint Penetration
DCW	Demand Critical Weld	PL	Plate
DET	Detail	PLF	Pounds per Lineal Foot
DIA	Diameter	PREFAB	Prefabricated
DIM	Dimension	PSF	Pounds per Square Foot
DWG	Drawing	PSI	Pounds per Square Inch
		PT	Post Tension
(E)	Existing	PT/DF	Pressure Treated Douglas Fir (or appropriate species for region)
EA	Each		
EF	Each Face	REINF	Reinforce
EL	Elevation	REQD	Required
ELEC	Electrical	RTU	Roof Top Unit
EN	Edge Nail		
ENGR	Engineer	SCHED	Schedule
EQ	Equal	SFRS	Seismic Force Resisting System
EQUIP	Equipment	SHTG	Sheathing
EQ SP	Equally Spaced	SIM	Similar
EW	Each Way	SN	Sill Nail
EJ	Expansion Joint	SOG	Slab on Grade
EXT	Exterior	STD	Standard
		STIFF	Stiffener
FLR	Floor	STL	Steel
FND	Foundation	STRUCT	Structural
FTG	Footing	SW	Shear Wall
		T&B	Top and Bottom
ga	Gage	T&G	Tongue and Groove
GALV	Galvanized	TB	Top Bar
GLB	Glued Laminated Beam	TEMP	Temperature
GSN	General Structural Notes	TH	Top Hook
GT	Girder Truss	THRU	Through
		T/	Top of
HD	Hold-down	TYP	Typical
HORIZ	Horizontal		
HSA	Headed Stud Anchor	UNO	Unless Noted Otherwise
HSS	Hollow Structural Section	VERT	Vertical
		W/	With
IBC	International Building Code	WP	Working Point
ICC	International Code Council		
INT	Interior		



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ISSUE: 100% CD SET DATE: 2021-05-28

PROJECT NUMBER: 20056  
DRAWN BY: SD  
CHECKED BY: PJM

**GENERAL STRUCTURAL NOTES**

**S-002**

2021-05-28  
100% CD SET

NOTE:  
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DATE PLOTTED: 05/28/2021 09:40:00 AM PLOTTER: HP DesignJet 2400

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SPECIAL INSPECTION, TESTING AND STRUCTURAL OBSERVATION REQUIREMENTS

- 1. Special Inspections and Testing
A. Special inspections and testing as required per the approved construction documents and per IBC Chapter 17 shall be provided for this project unless waived by the Building Official.
B. An independent agency, or agencies, employed by the Owner, shall perform the special inspection and testing services required.
C. The special inspection and testing requirements of this section of the General Structural Notes and the special inspection tables serve as the Engineer of Record's statement of special inspections and structural observations required by IBC Chapter 17.
2. Contractor Responsibilities (1704.4)
A. Each Contractor responsible for the construction of a main wind or seismic force-resisting system, a designated seismic system, or a wind or seismic force-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the Building Official and Owner prior to commencing with the work involved.
D. The Contractor shall not proceed with subsequent work until required inspections, testing, and/or structural observations have been provided.
E. The Contractor shall correct all work found to be deficient, and re-test at no additional cost to the Owner.
F. The Contractor shall notify the Engineer of Record at least (7) days prior to any required structural observations.
G. Submit all required documentation to the Special Inspector for review.
3. Special Inspector Responsibilities (1704.2)
A. Prior to the start of the construction, each approved agency shall provide written documentation to the Building Official, demonstrating the competence and relevant experience or training of the special inspectors who will perform the special inspections and tests during construction.
B. Special Inspectors shall keep records of their inspections and testing.
C. Inspection reports shall indicate whether the work inspected was or was not completed in conformance to the approved construction documents.
D. Non-conforming work and/or discrepancies shall be brought to the Contractor's immediate attention for correction.
E. The Special Inspector shall notify the Architect/Engineer of any non-conforming work or discrepancies that the Contractor cannot readily correct.
F. Any uncorrected non-conforming work or discrepancies shall be brought to the attention of the Architect/Engineer and the Building Official prior to completion of that phase of the work.
G. Submit the following to the Building Official:
1. Special Inspections and Testing Reports.
2. Certificates of Compliance for:
a. Fabrication of structural elements from approved fabricators.
b. The seismic qualifications of nonstructural components, supports, and attachments.
c. Designated Seismic Systems.
3. Reports of:
a. Pre-construction tests for shotcrete.
b. Material properties verifying compliance with the requirements of AWS D1.4 for weldability for reinforcing bars other than ASTM A706.
c. Mill tests for ASTM A615 reinforcing bars used to resist earthquake induced forces in special moment frames, special structural walls or coupling beams in structures assigned to Seismic Design Category B, C, D, E, or F.
4. Special Inspections (1705)
A. Special Cases (1705.1.1): Special Inspection and tests shall be required for proposed work that is, in the opinion of the Building Official, unusual in its nature, such as, but not limited to, the following:
1. Construction materials and systems that are alternatives to materials and systems prescribed by the IBC.
2. Unusual design applications of materials described in the IBC.
3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in the IBC or in standards referenced by the IBC.
B. Steel Construction (1705.2): The special inspections and nondestructive testing of steel construction in buildings shall be in accordance with the following:
1. Structural Steel. Special inspections and non-destructive testing of structural steel elements in buildings, structures, and portions thereof shall be in accordance with the Quality Assurance inspection requirements of AISC 360 and tables in the construction documents.
C. Quality Control Submittals for Structural Steel
1. Provide Level III non-destructive testing (NDT) personnel certifications.
2. Provide welder qualification records to verify project welders are tested and qualified in accordance with AWS D1.1 before welding structural or miscellaneous steels, D1.3 before welding sheet steels (10 gauge and thinner), and D1.4 before welding reinforcing steel.
3. Provide welder identification methodology. The fabricator/erector shall maintain a system by which the welder who has welded a joint or member can be identified.
4. Provide welding procedures that comply with AWS D1.1, D1.3, D1.4, D1.8, as required by the project.
5. Provide mill/material test reports (MTR) or certificates of conformance (CC) that verify compliance of furnished materials to the requirements of the approved contract documents.
D. Structural Steel Non-Destructive Testing (NDT) Personnel Qualifications
1. NDT personnel will:
a. Qualify in accordance with the recommended practices of the American Society of Nondestructive Testing, SNT-TC-1A, latest edition.
b. Pass eye examinations meeting: (1) ASTM requirements at least once a year, and (2) AWS D1.1 every three years.
c. Be certified in accordance with the AWS QC-1, latest edition.
d. Level III must be qualified by ASNT testing in the applicable method under review.
2. Only Level II and Level III technicians, qualified by testing in the applicable method, are permitted to interpret nondestructive testing results.
3. Only Senior Certified or Certified Welding Inspectors (SCWI, CWI) are permitted to evaluate welds. Certified Associate Welding Inspectors may evaluate welds when under the direct supervision of a SCWI and/or CWI.
4. Approved Inspection Agency will certify the following:
a. Level III inspector has reviewed the NDT procedures.

- E. Structural Steel: Special inspection and non-destructive testing (NDT) are required during the fabrication and erection of any load-bearing members and assemblies. Special inspection, except NDT, may be waived when the work is performed in a fabricating shop, or by an erector approved by the Building Official to perform work without Special Inspection.
F. Concrete (1705.3): Special inspections and tests of concrete construction shall be performed in accordance with Table 1705.3 in the construction documents.
G. Soils (1705.6): Special inspections and tests of existing site soil conditions, fill materials and placement, and load-bearing requirements shall be performed in accordance with the approved soils report and Table 1705.6 in the construction documents.
H. Fabricated Items (1705.10): Where fabrication of structural, load bearing or lateral load-resisting members or assemblies is being conducted on the premises of a fabricator's shop, special inspections of the fabricated items shall be performed during fabrication.
I. See architectural drawings for additional required inspections pertaining to sprayed fire-resistant materials (1705.14), mastic and intumescent fire-resistant coatings (1705.15), EIFS (1705.16), fire resistant penetrations and joints (1705.17), or smoke control systems (1705.18).
J. Post-Installed Anchors: Special inspections and tests shall be performed during installation of post-installed anchors according to the requirements of the ICC Evaluation Report and table 1705.3 in the construction documents.
5. Special Inspections for Seismic Resistance (1705.12): Special inspections for seismic resistance are required for this project per IBC section 1705.12.
A. Structural Wood (1705.12.2): For the seismic force-resisting systems of structures assigned to Seismic Design Category C, D, E, or F:
1. Continuous special inspection shall be required during field gluing operations of elements of the seismic force-resisting system.
2. Periodic Special Inspection shall be required for nailing, bolting, anchoring and other fastening of elements of the seismic force-resisting system, including wood shear walls, wood diaphragms, drag struts, braces, shear panels, and hold downs.
B. Architectural Components (1705.12.5): Periodic special inspection is required for the erection and fastening of exterior cladding, interior and exterior nonbearing walls and interior and exterior veneer in structures assigned to Seismic Design Category D, E, or F.
C. Plumbing, Mechanical, and Electrical Components (1705.12.6): Periodic special inspection of plumbing, mechanical, and electrical components shall be required for the following:
1. Anchorage of electrical equipment for emergency and standby power systems in structures assigned to Seismic Design Category C, D, E, or F.
2. Installation and anchorage of piping systems designed to carry hazardous materials and their associated mechanical units in structures assigned to Seismic Design Category C, D, E, or F.
3. Installation and anchorage of ductwork designed to carry hazardous materials in structures assigned to Seismic Design Category C, D, E, or F.
4. Installation and anchorage of vibration isolated systems in structures assigned to Seismic Design Category C, D, E, or F where the approved construction documents require a nominal clearance of 1/4" or less between the equipment support frame and restraint.
5. Installation of mechanical and electrical equipment, including duct work, piping systems, and their structural supports, where automatic fire sprinkler systems are installed in structures assigned to Seismic Design Category C, D, E, or F to verify proper clearances have been maintained.
6. Testing for Seismic Resistance (1705.13): Testing for seismic resistance is required for this project per IBC section 1705.13.
A. Non-Structural Components (1705.13.2): For structures assigned to Seismic Design Category B, C, D, E, or F where the requirements of ASCE 7 Section 13.2.1 for nonstructural components, supports or attachments are met by seismic qualification as specified in item #2 therein, the registered design professional of the applicable discipline shall specify on the approved construction documents the requirements for seismic qualification by analysis, testing, or experience data. Certificates of Compliance for the seismic qualification shall be submitted to the Building Official.

- 7. Special Inspections for Wind Resistance (1705.11): Special inspections for wind resistance are not required for this project per IBC Section 1705.11.
8. Structural Observations/Site Observations (1704.6): Structural observations are not required for this project per IBC section 1704.6.
A. Site Observations are part of the Dunn Associates, Inc. contract with the Architect/Owner. The stages of construction listed below will serve as suggested stages of construction to be observed.
1. Initial placing of any concrete, including but not limited to: footings, shear walls, moment frame beams, post-tensioned slabs, slabs on grade or concrete over steel deck
2. Initial grout pours for masonry walls
3. Initial erection of tilt-up concrete shear walls
4. Initial erection of structural steel
5. Completion of structural roof deck
6. Initial wood framing
7. Initial finish work
B. Structural observation/Site observation reports will be provided to the Architect. Distribution to the Contractor, Owner, and/or Building Official will be through the Architect.
9. Seismic/Wind Main Force Resisting Systems That Require Special Inspections
A. Wood Shear Walls
B. Wood Diaphragms



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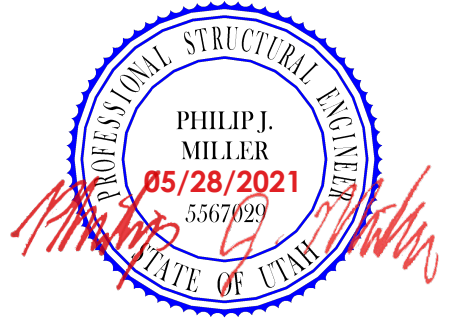


Table with 2 columns: ISSUE, DATE. Row 1: 100% CD SET, 2021-05-28

PROJECT NUMBER: 20056
DRAWN BY: SD
CHECKED BY: PJM

GENERAL STRUCTURAL NOTES

S-003

2021-05-28
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TABLE N5.4-1 COMBINED WITH TABLE J6-1 INSPECTION TASKS PRIOR TO WELDING

AISC 360	AISC 341	VISUAL INSPECTION TASKS PRIOR TO WELDING	QC		QA	
			TASK	DOC.	TASK	DOC.
•	•	Welder qualification records and continuity records	P	-	O	-
•	•	Welding procedure specification (WPS) available	P	-	P	-
•	•	Manufacturer certification for welding consumables available	P	-	P	-
•	•	Material identification (type/grade)	O	-	O	-
•	•	Welder identification system <sup>a</sup>	O	-	O	-
•	•	Fit-up of groove welds (including joint geometry) <ul style="list-style-type: none"> <li>• Joint preparation</li> <li>• Dimensions (alignment, root opening, root face, bevel)</li> <li>• Cleanliness (condition of steel surfaces)</li> <li>• Tacking (tack weld quality and location)</li> <li>• Backing type and fit (if applicable)</li> </ul>	P/O**	-	O	-
•	•	Fit-up of CJP groove welds of HSS T-, Y-, and K-joints without backing (including joint geometry) <ul style="list-style-type: none"> <li>• Joint preparation</li> <li>• Dimensions (alignment, root opening, root face, bevel)</li> <li>• Cleanliness (condition of steel surfaces)</li> <li>• Tacking (tack weld quality and location)</li> </ul>	P	-	O	-
•	•	Configuration and finish of access holes	O	-	O	-
•	•	Fit-up of fillet welds <ul style="list-style-type: none"> <li>• Dimensions (alignment, gaps at root)</li> <li>• Cleanliness (condition of steel surfaces)</li> <li>• Tacking (tack weld quality and location)</li> </ul>	P/O**	-	O	-
•	•	Check welding equipment	O	-	O	-

<sup>a</sup>The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be low stress type.

\*\* Follow performance of this inspection task for ten welds to be made by a given welder, with the welder demonstrating understanding of requirements and possession of skills and tools to verify these items, the Perform designation of this task shall be reduced to Observe, and the welder shall perform this task. Should the inspector determine that the welder has discontinued performance of this task, the task shall be returned to Perform until such time as the inspector has re-established adequate assurance that the welder will perform the inspection tasks listed.

TABLE N5.6-1 COMBINED WITH TABLE J7-1 INSPECTION TASKS PRIOR TO BOLTING

AISC 360	AISC 341	VISUAL INSPECTION TASKS PRIOR TO BOLTING	QC		QA	
			TASK	DOC.	TASK	DOC.
1.	•	Manufacturer's certifications available for fastener materials	O	-	P	-
2.	•	Fasteners marked in accordance with ASTM requirements	O	-	O	-
3.	•	Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	-	O	-
4.	•	Proper bolting procedure selected for joint detail	O	-	O	-
5.	•	Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	O	-	O	-
6.	•	Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	P	D	O	D
7.	•	Proper storage provided for bolts, nuts, washers and other fastener components	O	-	O	-

DEFINITION OF INSPECTION TASK ABBREVIATIONS

O	Observe: The inspector shall observe these functions on a random, daily basis. Operations need not be delayed pending observations.
P	Perform: These inspections shall be performed prior to the final acceptance of the item.
D	Document: The inspector shall prepare reports indicating that the work has been performed in accordance with the contract documents. The report need not provide detailed measurements for joint fit-up, WPS settings, completed welds, or other individual items listed in the tables. For shop fabrication, the report shall indicate the piece mark of the piece inspected. For field work, the report shall indicate the reference grid lines and floor or elevation inspected. Work not in compliance with the contract documents and whether the noncompliance has been satisfactorily repaired shall be noted in the inspection report.

TABLE 1705.6: REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

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

TABLE N5.4-2 COMBINED WITH TABLE J6-2 VISUAL INSPECTION TASKS DURING WELDING

AISC 360	AISC 341	VISUAL INSPECTION TASKS DURING WELDING	QC		QA	
			TASK	DOC.	TASK	DOC.
•	•	WPS followed <ul style="list-style-type: none"> <li>• Settings on welding equipment</li> <li>• Travel speed</li> <li>• Selected welding materials</li> <li>• Shielding gas type/flow rate</li> <li>• Preheat applied</li> <li>• Interpass temperature maintained (min/max)</li> <li>• Proper position (F, V, H, OH)</li> <li>• Intermix of filler metals avoided unless approved</li> </ul>	O	-	O	-
•	•	Use of qualified welders	O	-	O	-
•	•	Control and handling of welding consumables <ul style="list-style-type: none"> <li>• Packaging</li> <li>• Exposure control</li> </ul>	O	-	O	-
•	•	No welding over cracked tack welds	O	-	O	-
•	•	Environmental conditions <ul style="list-style-type: none"> <li>• Wind speed within limits</li> <li>• Precipitation and temperature</li> </ul>	O	-	O	-
•	•	Welding techniques <ul style="list-style-type: none"> <li>• Interpass and final cleaning</li> <li>• Each pass within profile limitations</li> <li>• Each pass meets quality requirements</li> </ul>	O	-	O	-
•	•	Placement and installation of steel headed stud anchors	P	-	P	-

TABLE N5.6-2 COMBINED WITH TABLE J7-2 INSPECTION TASKS DURING BOLTING

AISC 360	AISC 341	VISUAL INSPECTION TASKS DURING BOLTING	QC		QA	
			TASK	DOC.	TASK	DOC.
1.	•	Fastener assemblies of suitable condition placed in all holes and washers (if required) and nuts are positioned as required	O	-	O	-
2.	•	Joint brought to the snug-tight condition prior to the pretensioning operation	O	-	O	-
3.	•	Fastener component not turned by the wrench prevented from rotating	O	-	O	-
4.	•	Fasteners are pretensioned in accordance with the RCSC Specification progressing systematically from the most rigid point toward the free edges	O	-	O	-

TABLE N5.4-3 COMBINED WITH TABLE J6-3 VISUAL INSPECTION TASKS AFTER WELDING

AISC 360	AISC 341	VISUAL INSPECTION TASKS AFTER WELDING	QC		QA	
			TASK	DOC.	TASK	DOC.
•	•	Welds cleaned	O	-	O	-
•	•	Size, length and location of welds	P	-	P	-
•	•	Welds meet visual acceptance criteria <ul style="list-style-type: none"> <li>• Crack prohibition</li> <li>• Weld/ base-metal fusion</li> <li>• Crater cross section</li> <li>• Weld profiles and size</li> <li>• Undercut</li> <li>• Porosity</li> </ul>	P	D	P	D
•	•	Arc strikes	P	-	P	-
•	•	k-area <sup>1</sup>	P	D	P	D
•	•	Weld acceptance or rejection of welded joint or member	P	-	P	-
•	•	Placement of reinforcing or contouring fillet welds (if required)	P	D	P	D
•	•	Backing removed, weld tabs removed and finished, and fillet welds added (if required)	P	D	P	D
•	•	Repair activities	P	-	P	D
•	•	Document acceptance or rejection of welded joint or member	P	D	P	D
•	•	No prohibited welds have been added without the approval of the EOR.	O	-	O	-

<sup>1</sup> When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 in. (75mm) of the weld.

TABLE N5.6-3 COMBINED WITH TABLE J7-3 INSPECTION TASKS AFTER BOLTING

AISC 360	AISC 341	VISUAL INSPECTION TASKS AFTER BOLTING	QC		QA	
			TASK	DOC.	TASK	DOC.
1.	•	Document acceptance or rejection of bolted connections	P	D	P	D

TABLE 1705.3: REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD <sup>3</sup>	IBC REFERENCE
1. Inspect reinforcement, including prestressing tendons, and verify placement	-	X	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. Reinforcing bar welding <ul style="list-style-type: none"> <li>a. Verify weldability of reinforcing bars other than ASTM A 706.</li> <li>b. Inspect single-pass fillet welds, maximum 5/16"; and</li> <li>c. inspect all other welds</li> </ul>	-	X	AWS D1.4 ACI 318: 26.6.4	-
3. Inspect anchors cast in concrete.	-	X	ACI 318: 17.8.2	-
4. Inspect anchors post-installed in hardened concrete member: <ul style="list-style-type: none"> <li>a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads</li> <li>b. Mechanical anchors and adhesive anchors not defined in 4.a.</li> </ul>	X	-	ACI 318: 17.8.2.4	-
5. Verify use of required design mix.	-	X	ACI 318: Ch 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	X	-	ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12	1908.10
7. Inspect concrete and shotcrete placement for proper application techniques.	X	-	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	-	X	ACI 318: 26.5.3-26.5.5	1908.9
9. Inspect prestressed concrete for: <ul style="list-style-type: none"> <li>a. Application of prestressing forces; and</li> <li>b. Grouting of bonded prestressing tendons.</li> </ul>	X	-	ACI 318: 26.10	-
10. Inspect erection of precast concrete members.	-	X	ACI 318: Ch. 26.9	-
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	-	X	ACI 318: 26.11.2	-
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	-	X	ACI 318: 26.11.1.2(b)	-

For SI: 1 inch = 25.4 mm.  
 a. Where applicable, see Section 1705.12. Special inspection for seismic resistance.  
 b. Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

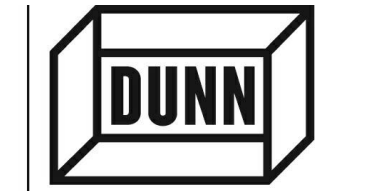
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NOTE:  
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**SAFE HARBOR CRISIS CENTER**

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PROJECT NUMBER: 20056  
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**GENERAL STRUCTURAL NOTES**

**S-004**

D

C

B

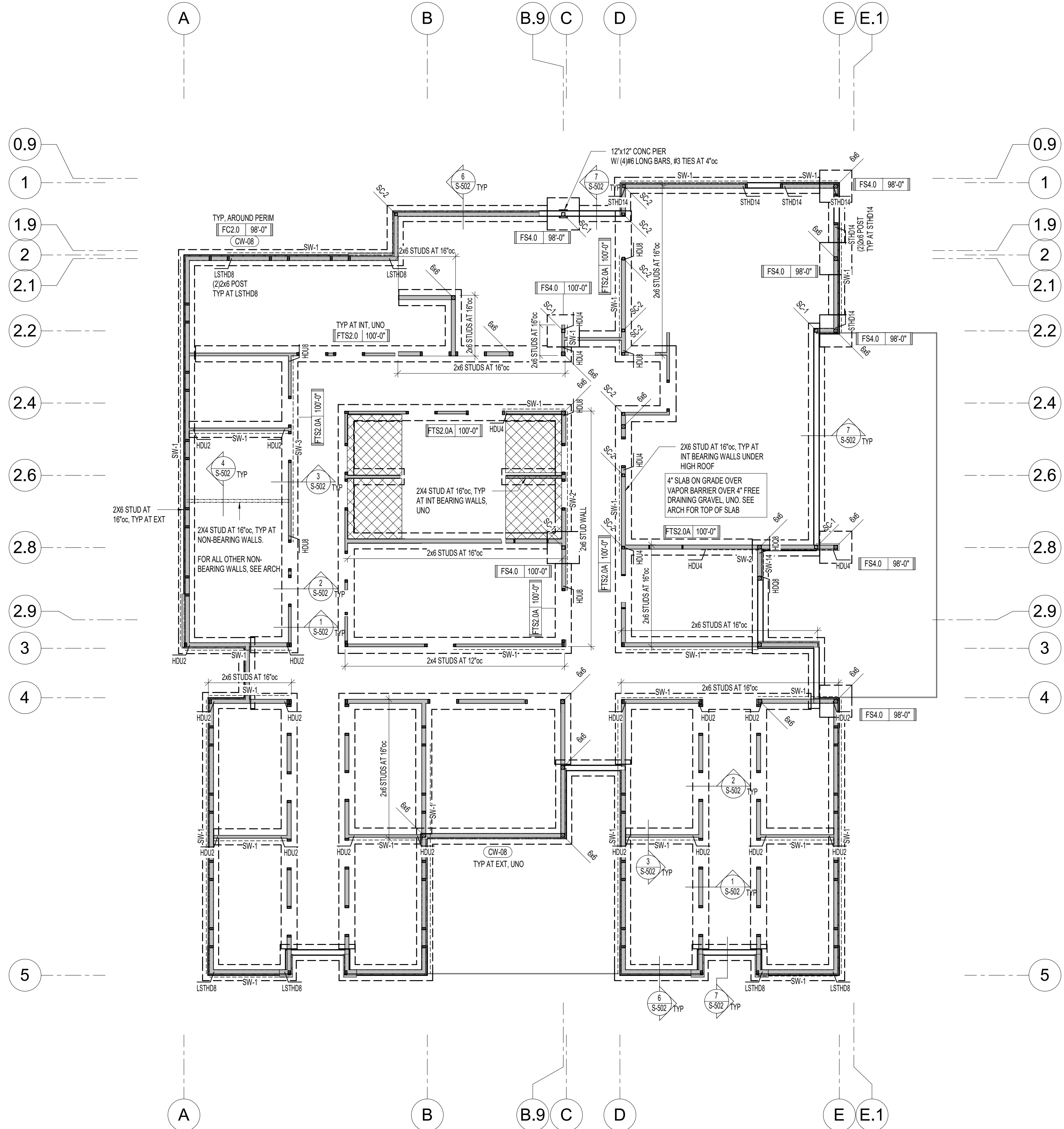
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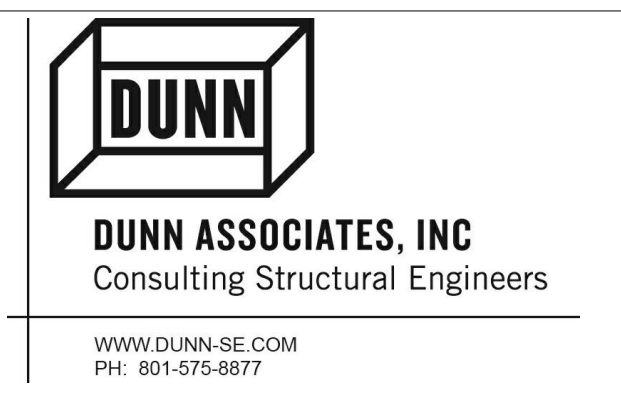


- FOOTING AND FOUNDATION PLAN NOTES:**
- FLOOR SLAB SHALL BE 4" UNREINFORCED CONCRETE SLAB ON GRADE OVER VAPOR BARRIER OVER 4" FREE-DRAINING GRAVEL.
  - SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS AND NON-BEARING WALL LOCATIONS. SEE ARCHITECTURAL DRAWINGS AND MECHANICAL DRAWINGS FOR SLAB ELEVATIONS, SLOPED SLABS, DEPRESSED SLABS, FLOOR DRAINS, ETC. SEE ARCHITECTURAL DRAWINGS AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC.
  - SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
  - SEE SCHEDULES ON (S-800) SHEETS FOR:
    - FOOTINGS
    - BASE PLATES
    - CONCRETE WALLS
    - REINFORCING SPLICE LENGTHS
    - SHEAR WALLS AND HOLD-DOWNS
    - WOOD BEARING WALLS
    - DUMPSTER ENCLOSURE WALLS
  - SEE TYPICAL FOOTING AND FOUNDATION DETAILS ON (S-500) SHEETS FOR:
    - SLAB CONSTRUCTION AND CONTROL JOINTS
    - CORNER BARS
    - PIPES PERPENDICULAR AND PARALLEL TO FOOTINGS
    - DEPRESSED SLABS
    - REINFORCING AT MISCELLANEOUS OPENINGS
    - REINFORCING AT SLAB DISCONTINUITIES
    - FROST COVER AND STRUCTURAL FILL
    - SOLE PLATE ANCHOR BOLTS

- MARKS AND SYMBOLS LEGEND**
- SECTION MARK SHEET NUMBER
  - FTG | EL | FOOTING DESIGNATION TOF ELEVATION
  - DEPRESSED FOUNDATION WALL POUR SLAB OVER
  - S — S FOOTING STEP, SEE DETAILS
  - DEPRESSED SLAB, SEE ARCHITECTURAL PLANS FOR EXACT LOCATION AND ELEVATION
  - CONCRETE WALL
  - SHEAR WALL ABOVE, DASHED LINE INDICATES SIDE OF SHEATHING, CIRCLE INDICATES HOLD-DOWN AND COMPRESSION POST LOCATION, SEE SCHEDULE
  - WOOD POST ABOVE, (2)X BEARING POST, UNO
  - STEEL COLUMN
  - CONTROL JOINT
  - FC-x CONTINUOUS FOOTING, SEE SCHEDULE
  - FTS-x THICKENED SLAB FOOTING, SEE SCHEDULE
  - FD FLOOR DRAIN, SEE ARCHITECTURAL FOR EXACT LOCATION
  - HDU-x HOLD-DOWN TYPE, SEE SCHED
  - SW-x WOOD SHEAR WALL, SEE SCHEDULE
  - CW-X CONCRETE WALL, SEE SCHEDULE
  - WD-X WOOD WALL, SEE SCHEDULE



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**FOOTING AND FOUNDATION PLAN**

**S-101**

2021-05-28  
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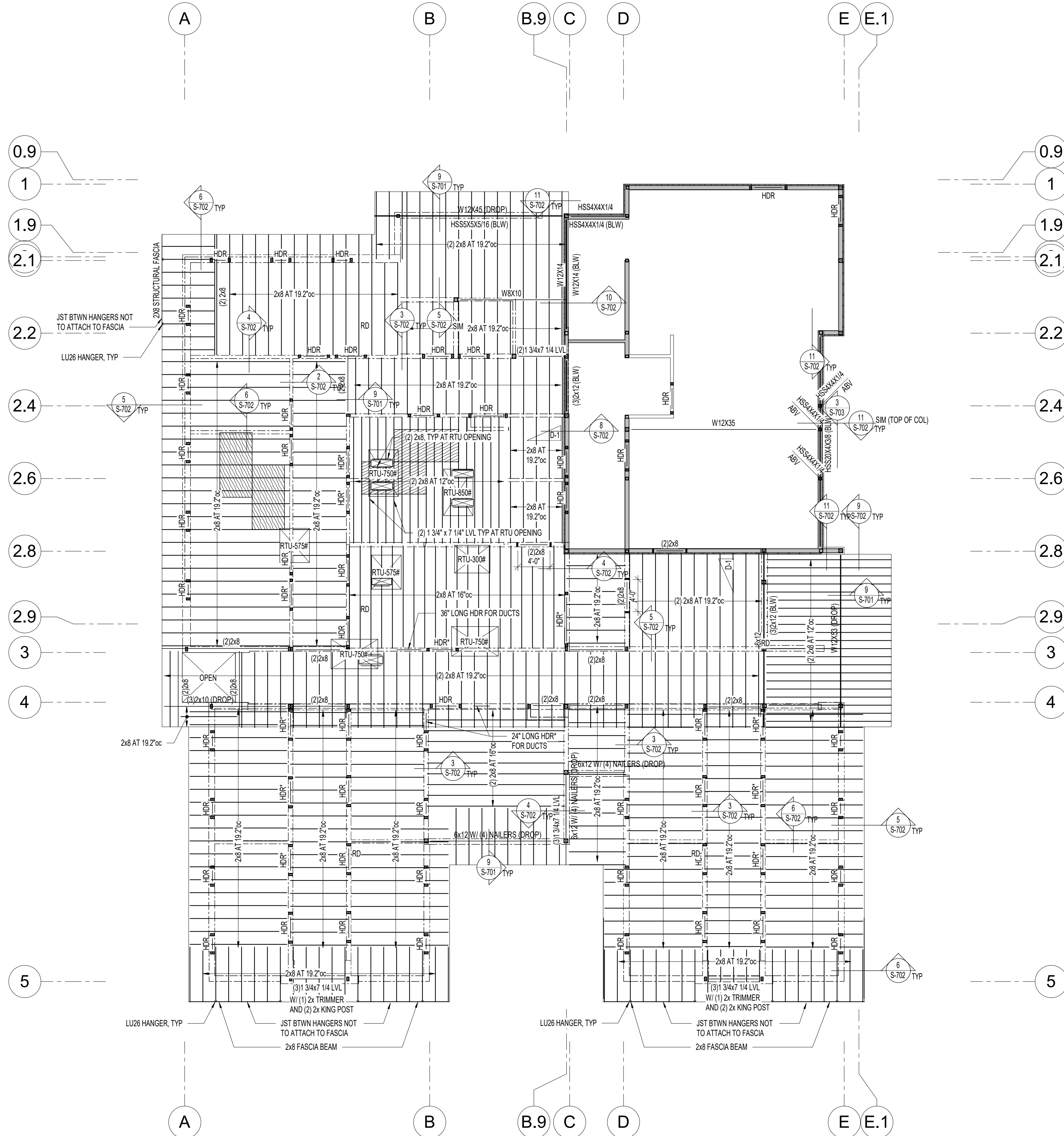
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D

C

B

A



- ROOF FRAMING PLAN NOTES:**
1. TYPICAL ROOF FRAMING IS 2x8 AT 19.2"oc (MAX) UNO. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
  2. ALL EXTERIOR WALLS SHALL BE SHEATHED WITH 7/16" SHEATHING AND NAILED WITH 8d NAILS AT 6"oc AT PANEL EDGES AND AT 12"oc IN THE FIELD. TYPICAL, UNLESS NOTED OTHERWISE. SEE SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS.
  3. WEIGHTS AND LOCATIONS OF MECHANICAL EQUIPMENT SHALL BE SUBMITTED TO ARCHITECT IN WRITING FOR REVIEW PRIOR TO FABRICATION OR PLACEMENT OF TRUSSES OR OTHER FRAMING MEMBERS.
  4. WALL STUDS SHALL BE CONTINUOUS BETWEEN POINTS OF LATERAL SUPPORT SUCH AS ROOFS AND FLOORS. PROVIDE TOP PLATES FOR WALLS AT TRUSS BEARING AND/OR AT LATERAL BRACING LOCATIONS ONLY. DO NOT PLACE TOP PLATES AT UNBRACED LOCATIONS.
  5. BEAMS SHOWN ON THIS SHEET OCCUR WITHIN THE ROOF FRAMING SHOWN (FLUSH-FRAMED), UNO.
  6. SEE ARCHITECTURAL DRAWINGS FOR ROOF SLOPES, DRAINS, PARAPETS, DECK BEARING ELEVATIONS, CEILING ELEVATIONS, AND SOFFIT ELEVATIONS.
  7. SEE GENERAL STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
  8. SEE SCHEDULES ON (S-800) SHEETS FOR:
    - HEADERS
    - SHEAR WALLS
    - HOLD-DOWNS
    - MINIMUM NAILING
    - ROOF SHEATHING
    - STEEL BEAM CONNECTIONS
  9. SEE TYPICAL FRAMING DETAILS ON (S-700) SHEETS FOR:
    - BUILT-UP BEAMS AND COLUMNS
    - TOP PLATE SPLICES / STRAPS
    - BEAM POCKETS
    - HOLES AND NOTCHES
    - FRAMING AT ROOF OPENINGS
    - NON-BEARING WALL CONNECTIONS
    - STEEL COLUMNS IN WOOD WALLS
    - SHEATHING JOINTS

**MARKS & SYMBOLS LEGEND**

	SECTION MARK SHEET NUMBER
	ROOF OR FLOOR SHEATHING ORIENTATION. SEE SCHEDULE AND GENERAL STRUCTURAL NOTES
	WOOD WALL BELOW. SEE SCHEDULE
	WOOD POST ABOVE. (2)x BEARING POST, UNO
	STEEL COLUMN
	SIMPSON COIL STRAP TIE-DOWN. SEE SCHEDULE
	BEAM OCCURS BELOW FRAMING AT THIS LEVEL
	WOOD HEADER BELOW FRAMING AT THIS LEVEL. SEE SCHEDULE
	WOOD HEADER FLUSH FRAMED WITH ROOF FRAMING TO FIT MEP DUCTS
	ROOF DRAIN. SEE ARCHITECTURAL AND MECHANICAL FOR EXACT LOCATION

**SNOW DRIFT LOADING DIAGRAM**

D-1 MAX = 52 PSF L = 11'-2"

UNIFORM ROOF SNOW LOAD. SEE GSN

WHERE 'L' EXCEEDS LENGTH OF LOWER ROOF, DRIFT TAPERS TO 0 PSF AT THE FAR END OF LOWER ROOF



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PHILIP J. MILLER  
05/28/2021  
STATE OF UTAH

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CHECKED BY:	PJM

**ROOF FRAMING PLAN**

**S-102**

2021-05-28  
100% CD SET

NOTE:  
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D

C

B

A

0.9  
1  
1.9  
2  
2.1  
2.2  
2.4  
2.6  
2.8  
2.9  
3  
4  
5



**ROOF FRAMING PLAN NOTES:**

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  - FRAMING AT ROOF OPENINGS
  - NON-BEARING WALL CONNECTIONS
  - STEEL COLUMNS IN WOOD WALLS
  - SHEATHING JOINTS

**MARKS & SYMBOLS LEGEND**

	SECTION MARK SHEET NUMBER
	ROOF OR FLOOR SHEATHING ORIENTATION, SEE SCHEDULE AND GENERAL STRUCTURAL NOTES
	WOOD WALL BELOW, SEE SCHEDULE
	WOOD POST ABOVE, (2)x BEARING POST, UNO
	STEEL COLUMN
	SIMPSON COIL STRAP TIE-DOWN, SEE SCHEDULE
	BEAM OCCURS BELOW FRAMING AT THIS LEVEL
	WOOD HEADER BELOW FRAMING AT THIS LEVEL, SEE SCHEDULE
	WOOD HEADER FLUSH FRAMED WITH ROOF FRAMING TO FIT MEP DUCTS
	ROOF DRAIN, SEE ARCHITECTURAL AND MECHANICAL FOR EXACT LOCATION

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**HIGH ROOF FRAMING PLAN**

**S-103**

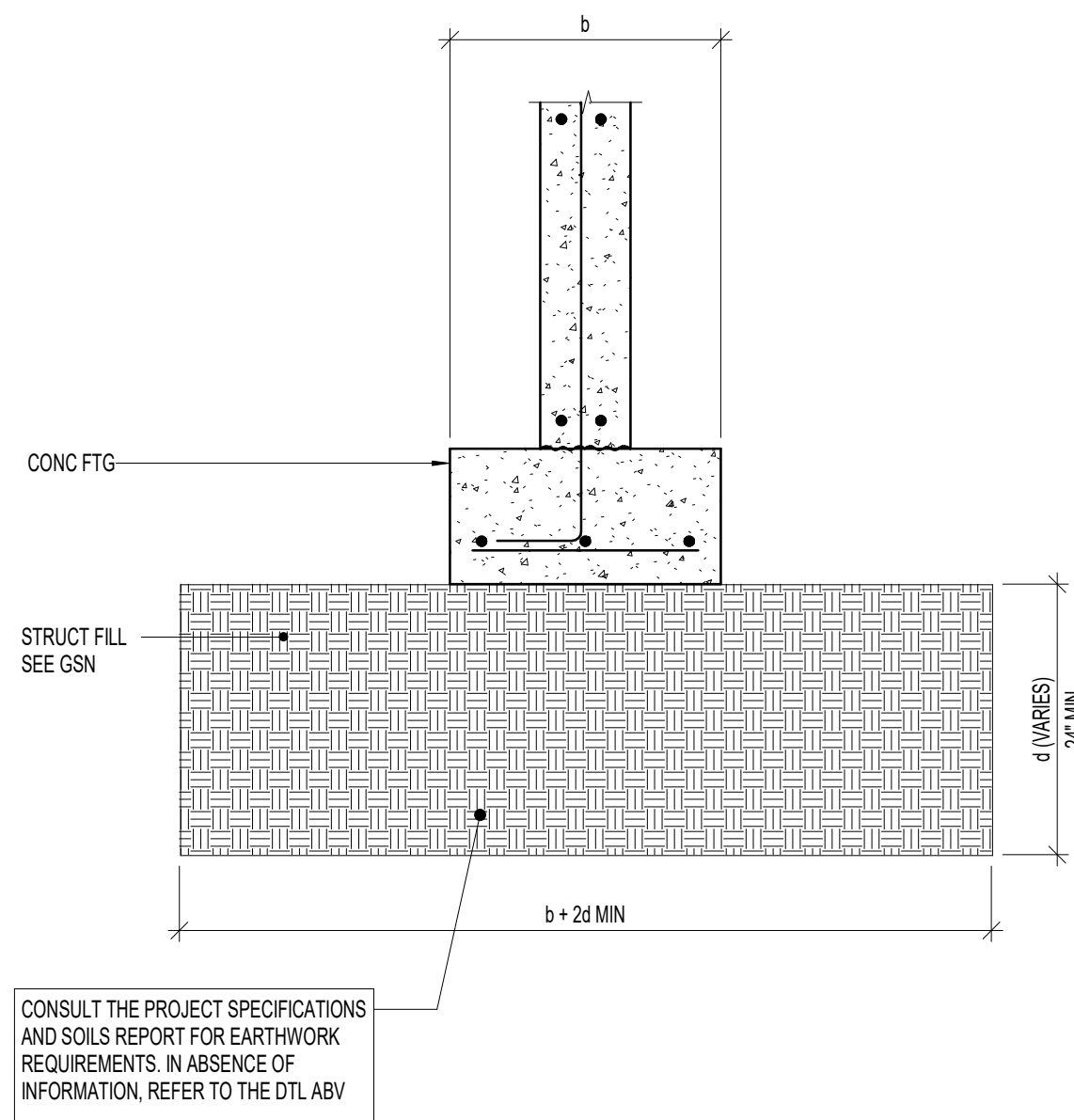
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D

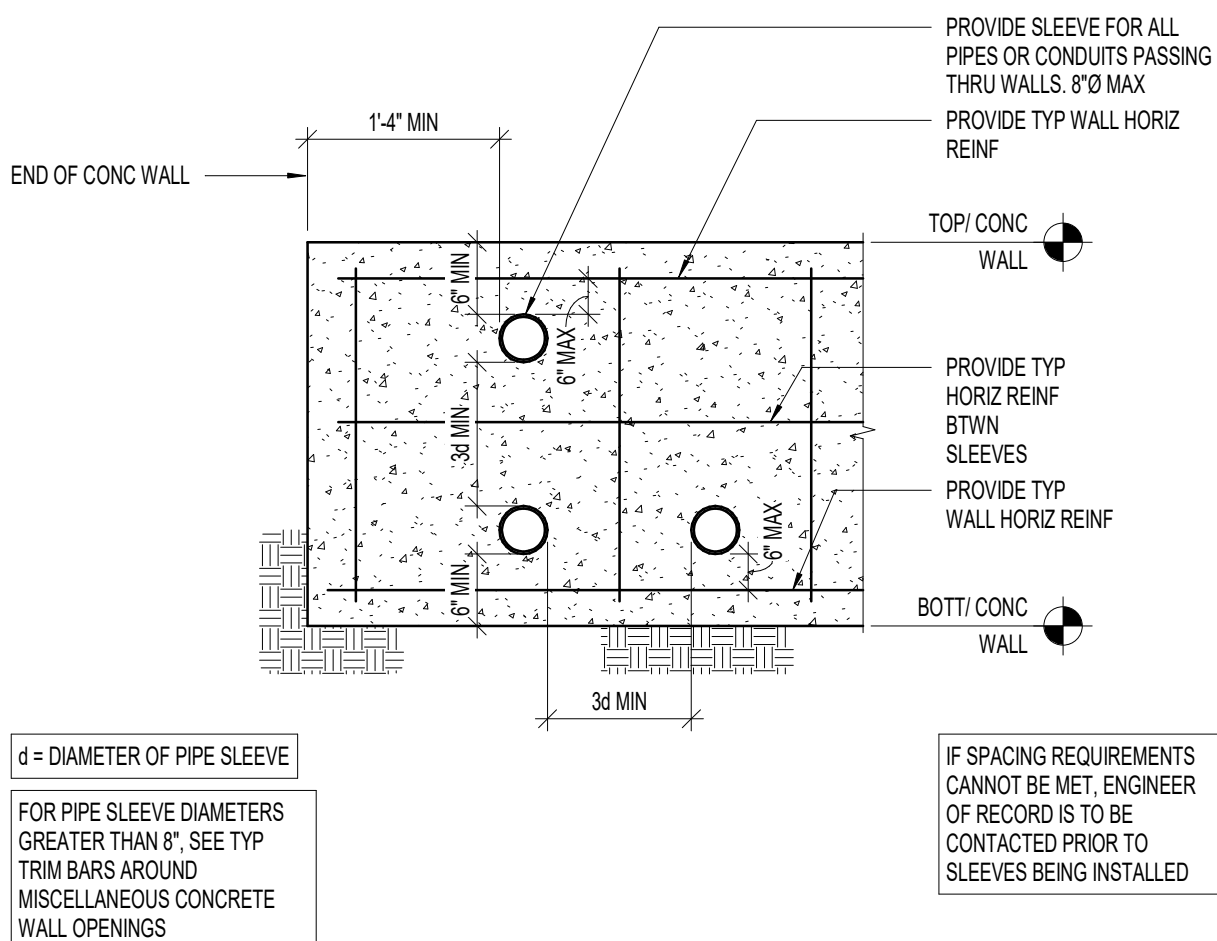


1 TYPICAL COMPACTED STRUCTURAL FILL

S-501 NO SCALE:

151001

C



2 TYPICAL FOOTING DEPTH DETAIL FOR FROST PROTECTION

S-501 NO SCALE:

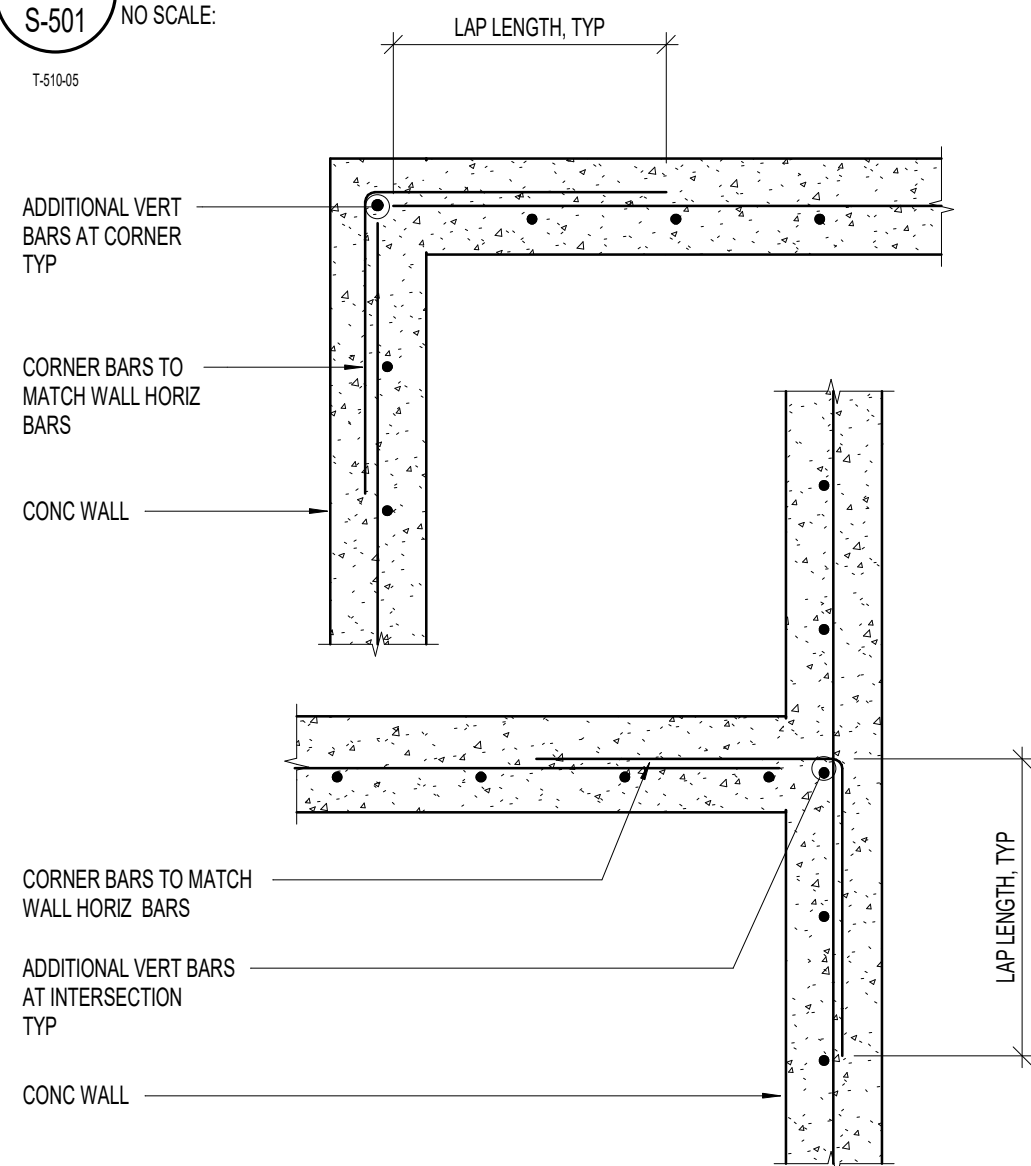
151002

B

5 TYPICAL SMALL PIPE OR CONDUIT THROUGH CONCRETE WALL

S-501 NO SCALE:

151005



9 TYPICAL CORNER BARS FOR SINGLE REINFORCED CONCRETE WALLS (PLAN VIEW)

S-501 NO SCALE:

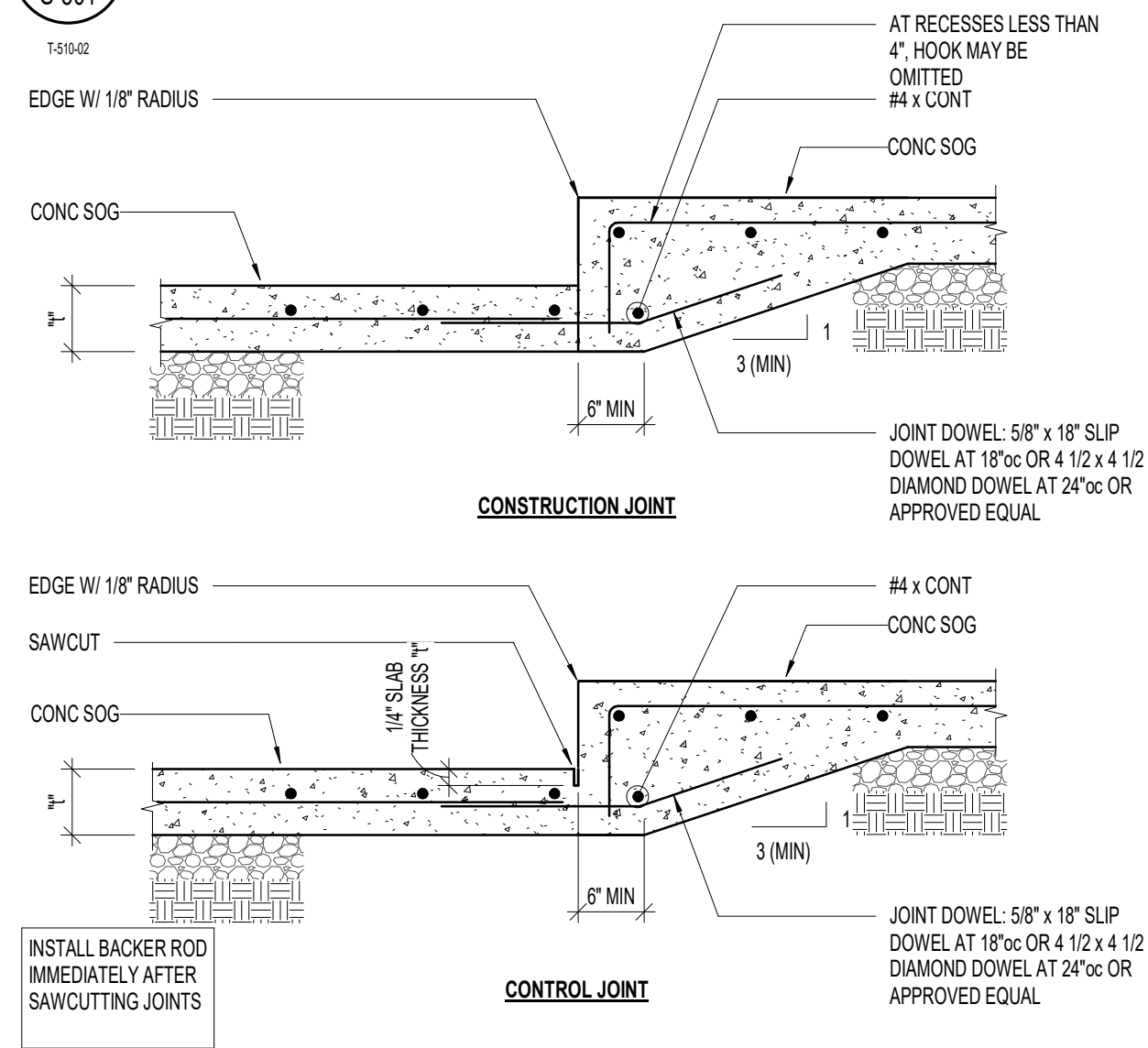
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A

6 TYPICAL SLAB ON GRADE DEPRESSION DETAILS

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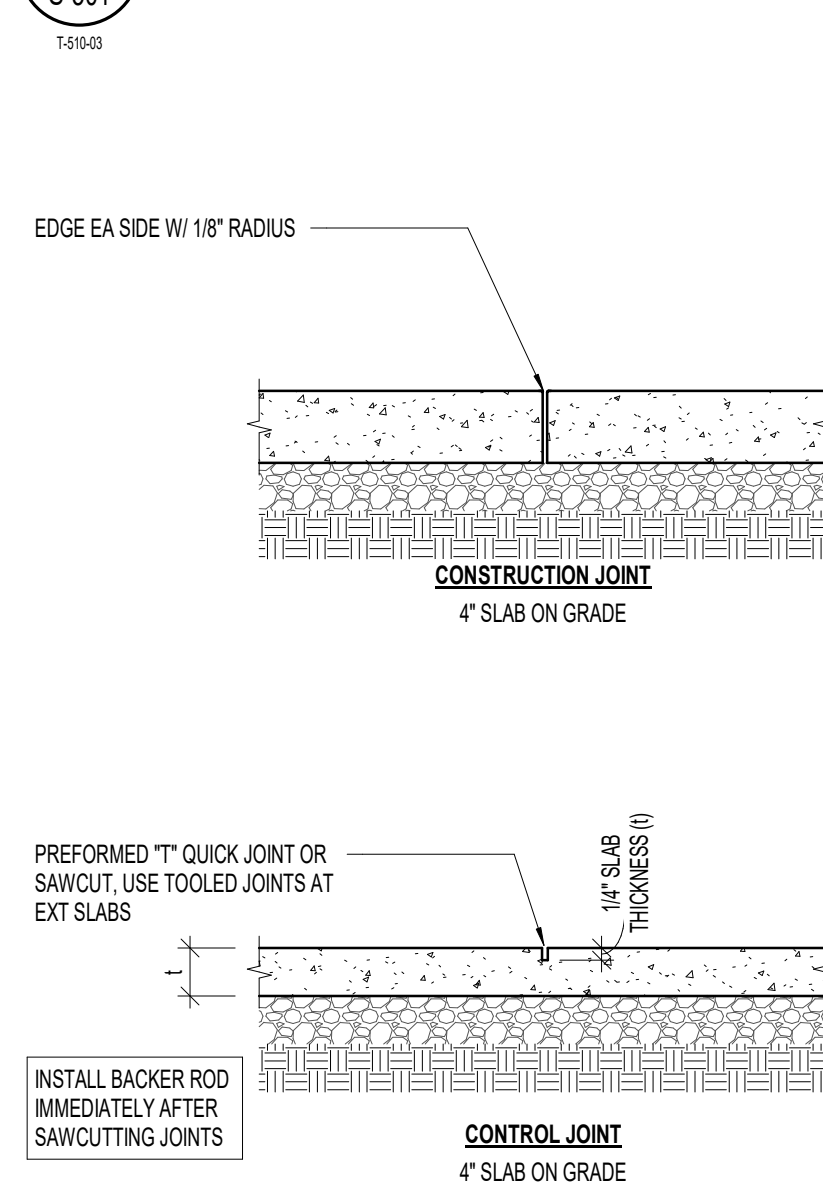
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7 TYPICAL SLAB ON GRADE JOINTS

S-501 NO SCALE:

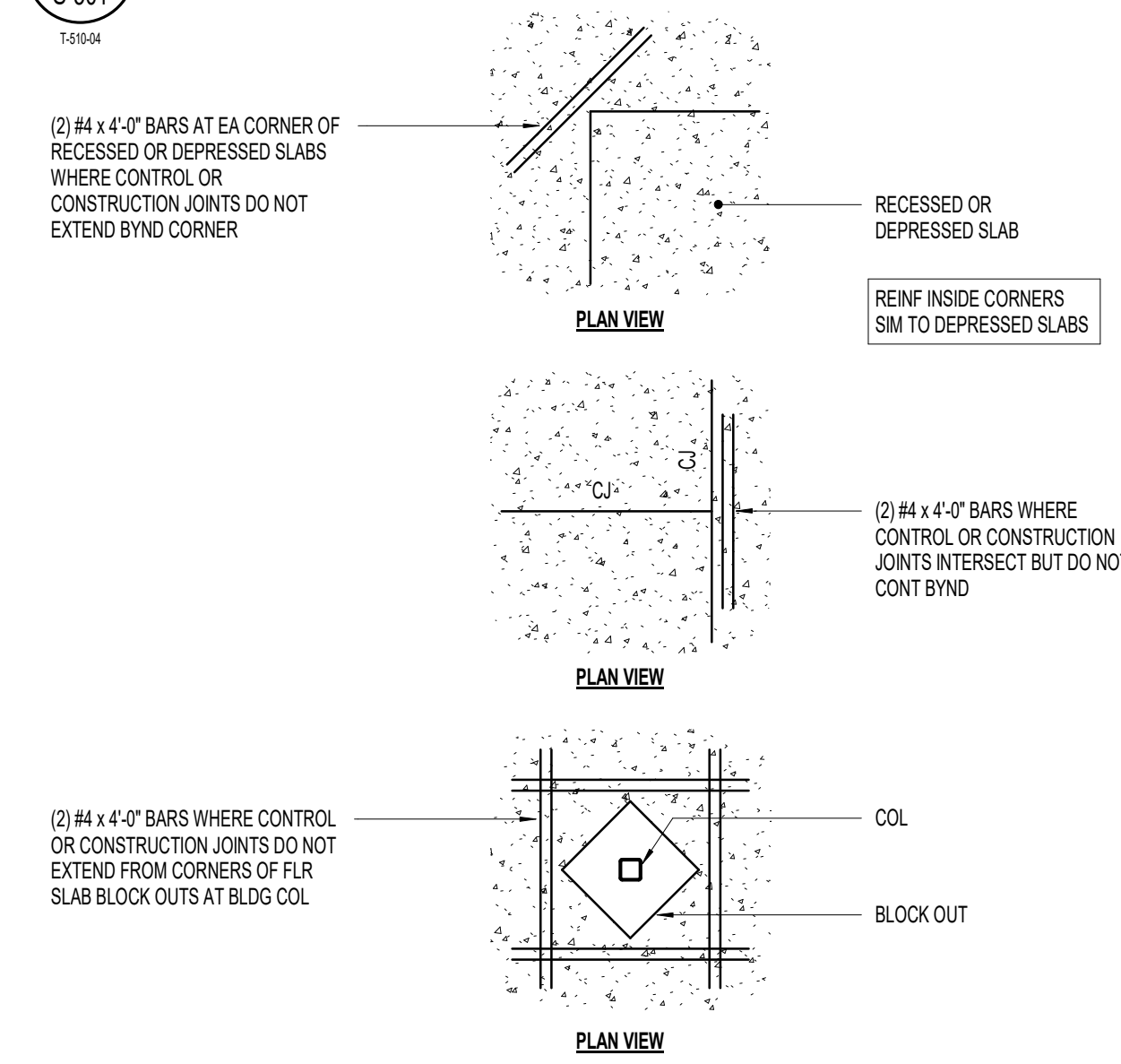
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4 TYPICAL PIPE PERPENDICULAR TO FOOTING

S-501 NO SCALE:

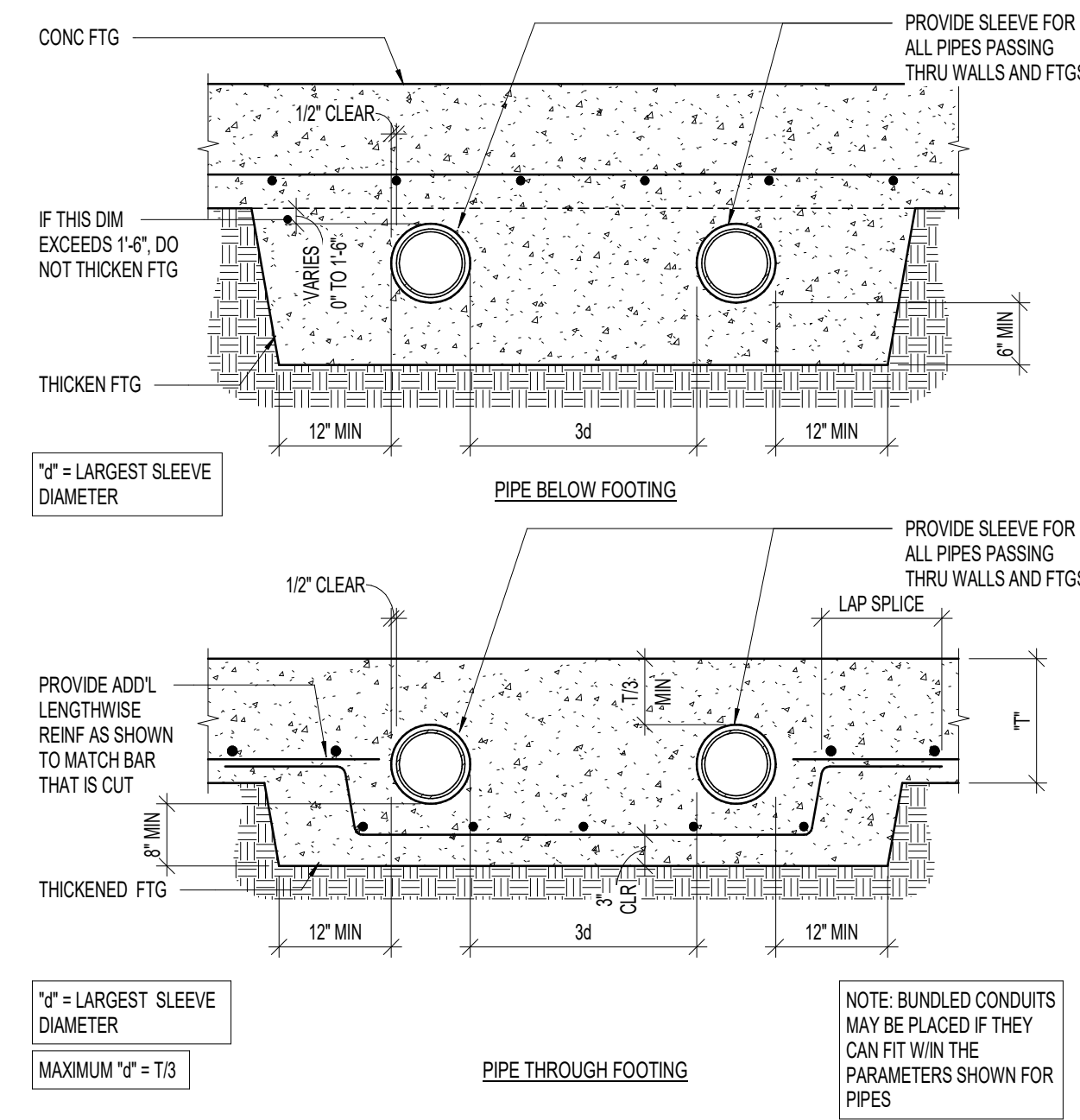
151004



8 TYPICAL SLAB ON GRADE DISCONTINUITIES REQUIRING ADDITIONAL REINFORCING

S-501 NO SCALE:

151009



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### FOOTING AND FOUNDATION DETAILS

# S-501

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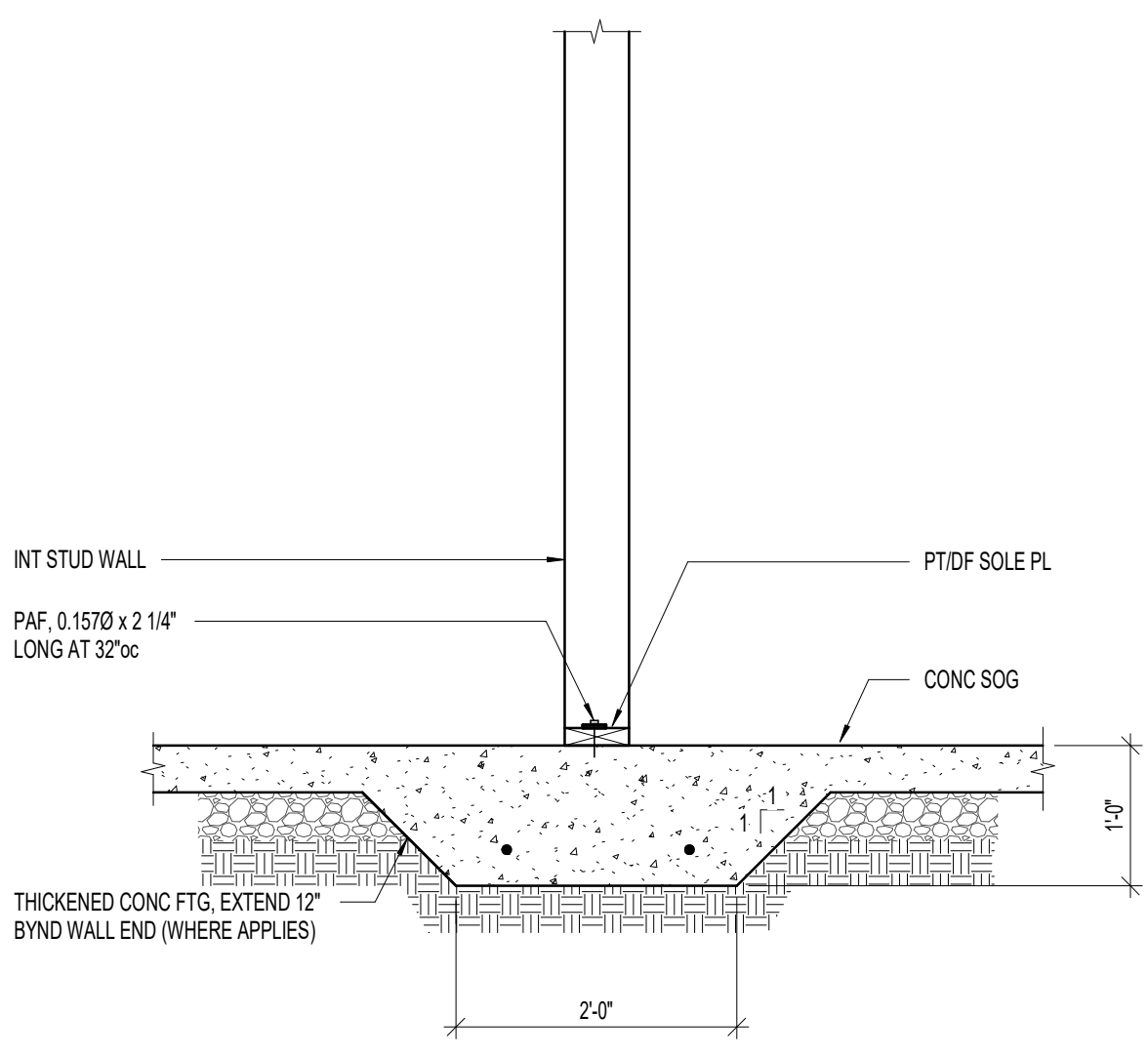


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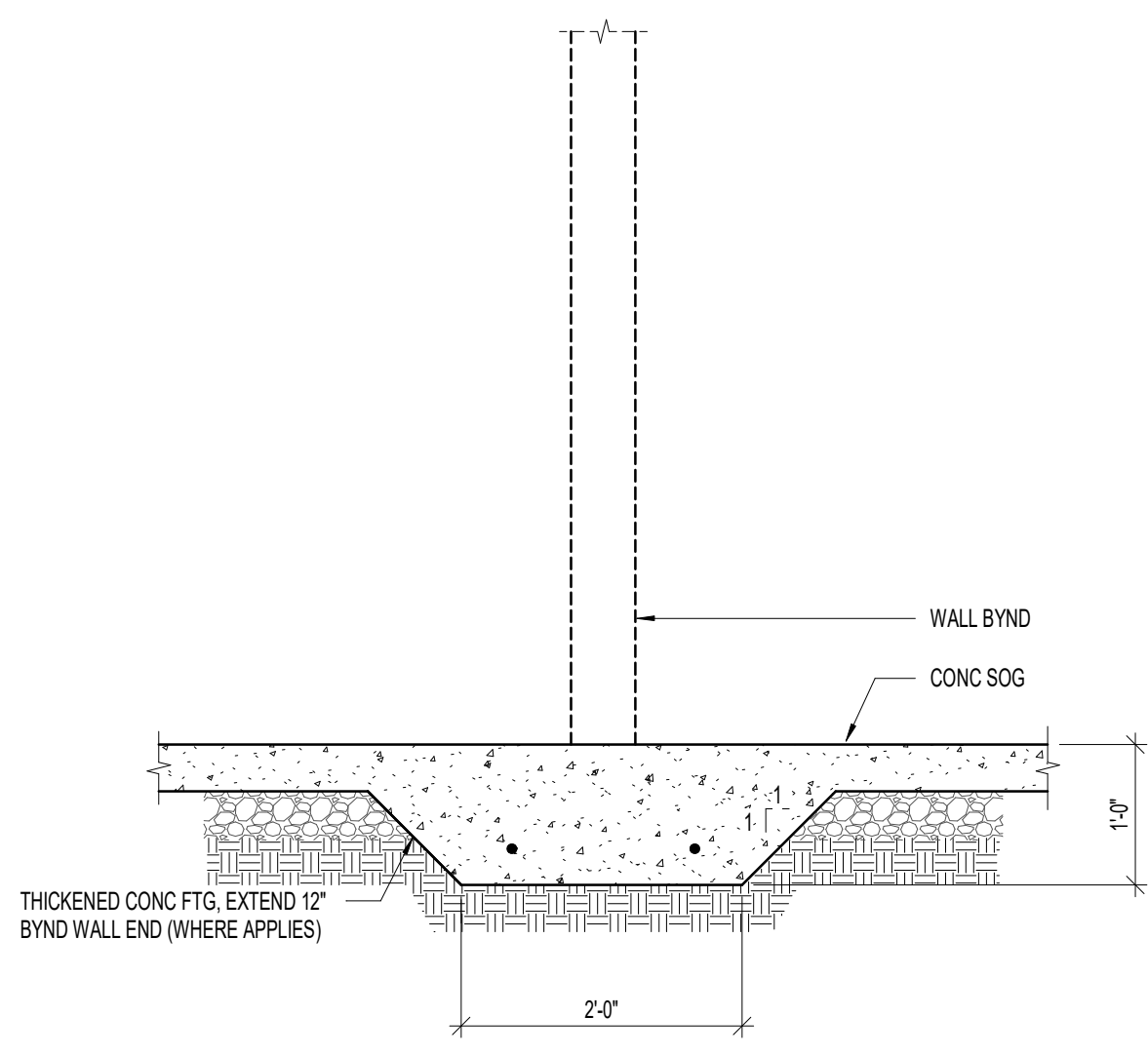
## FOOTING AND FOUNDATION DETAILS

# S-502



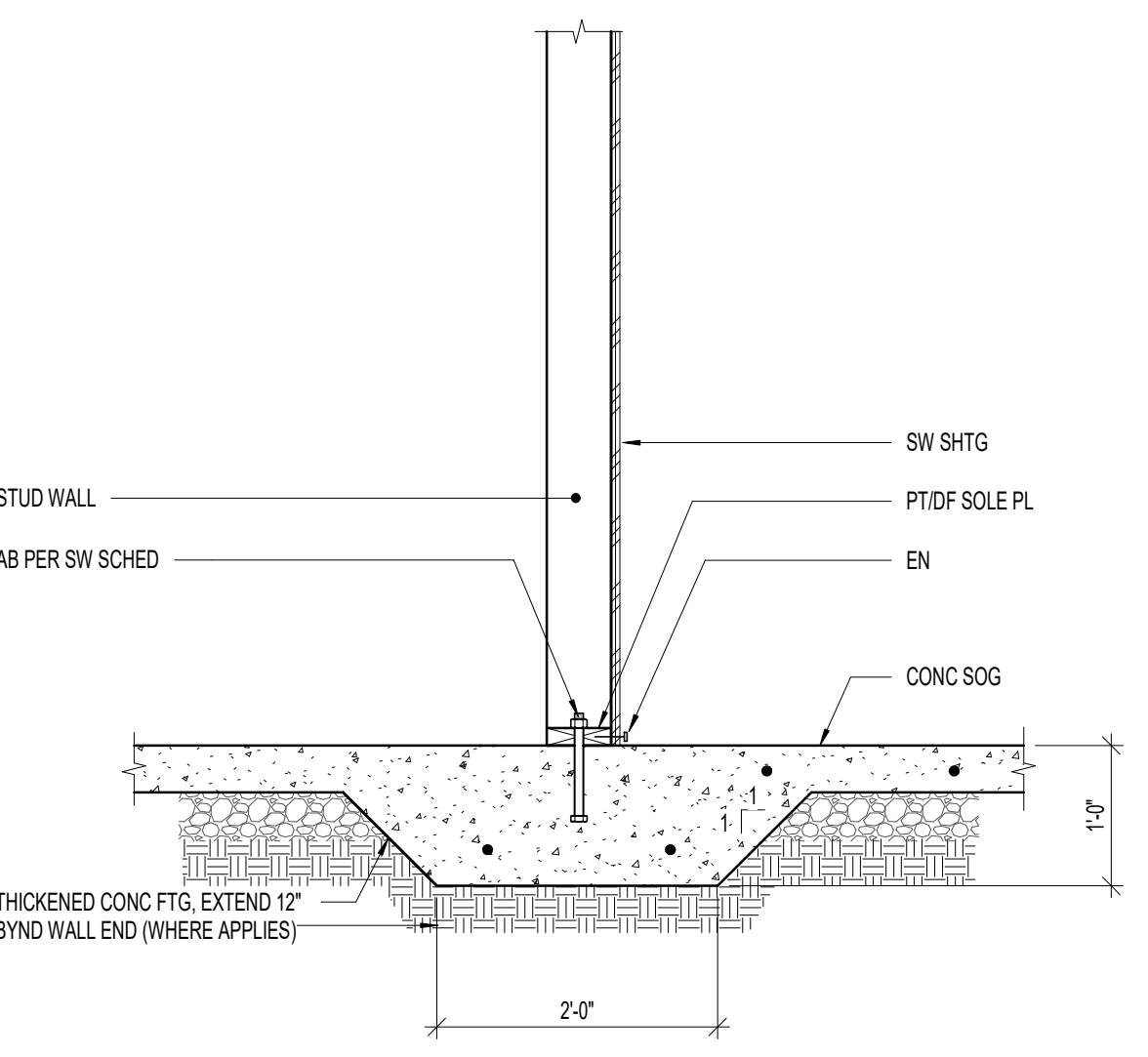
**1 TYPICAL INTERIOR BEARING WALL**

S-502 NO SCALE:  
1-050/01



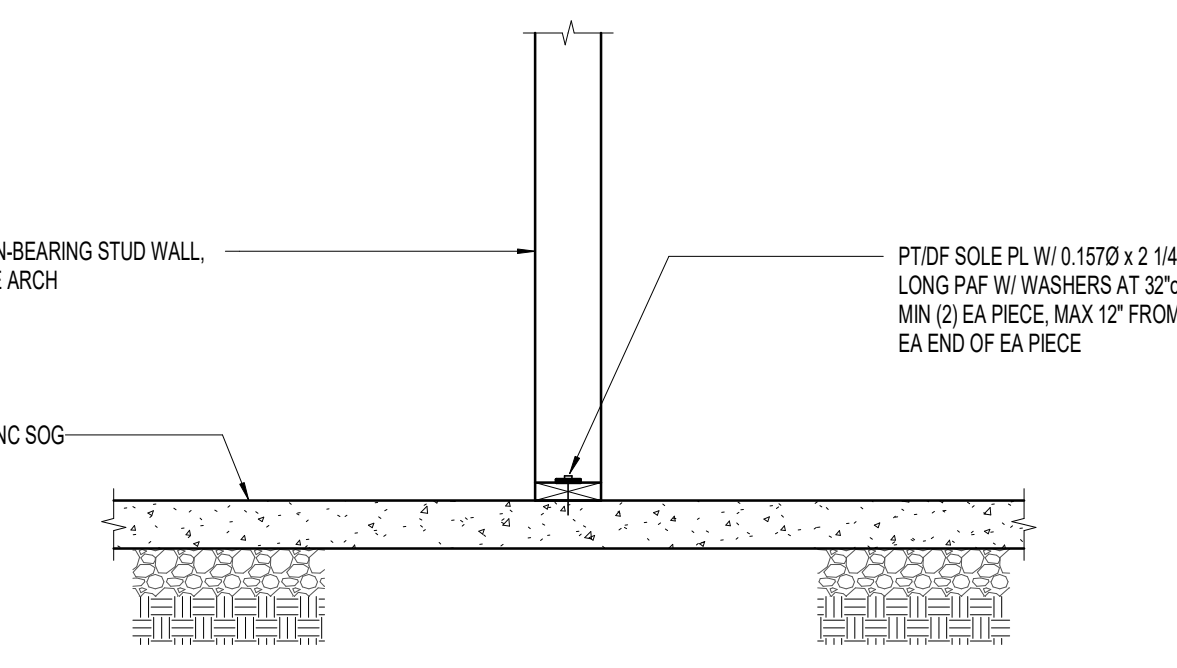
**2 TYPICAL INTERIOR FOOTING AT WALL OPENING**

S-502 NO SCALE:  
1-050/02



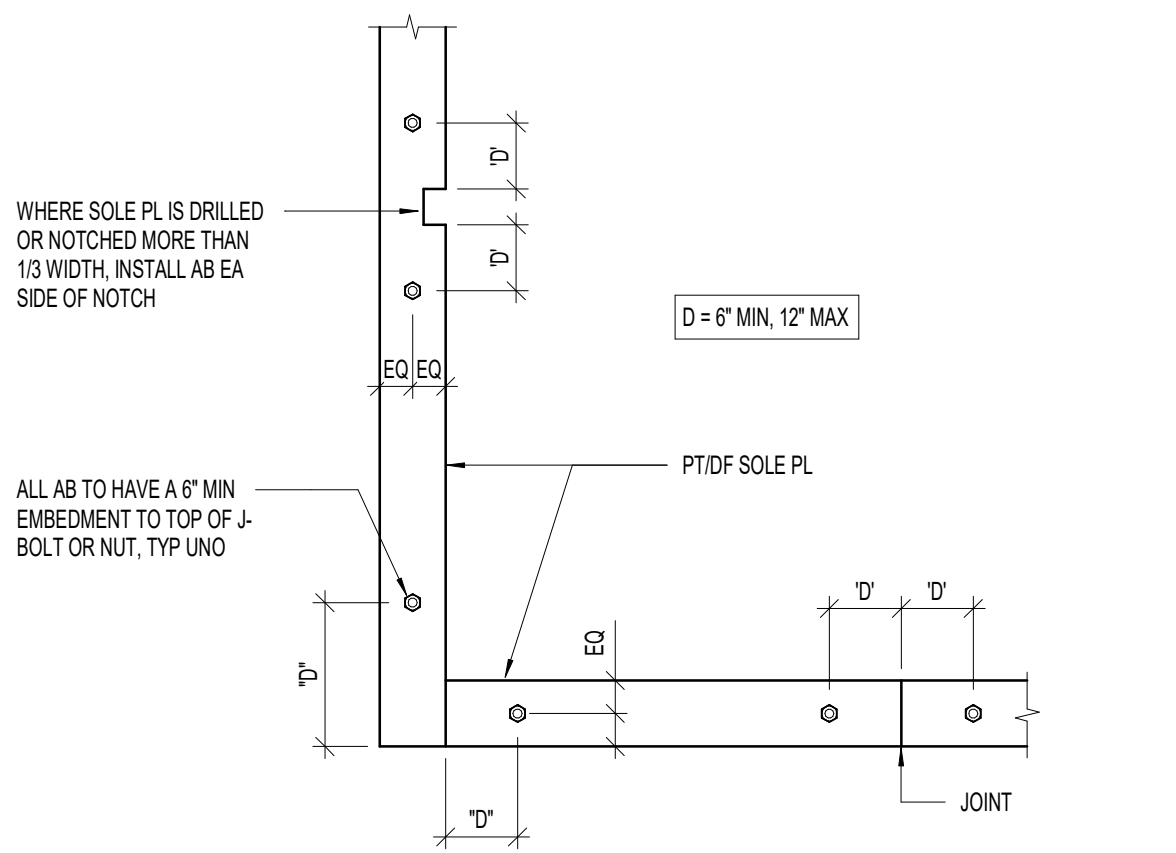
**3 TYPICAL INTERIOR SHEAR WALL**

S-502 NO SCALE:  
1-050/03



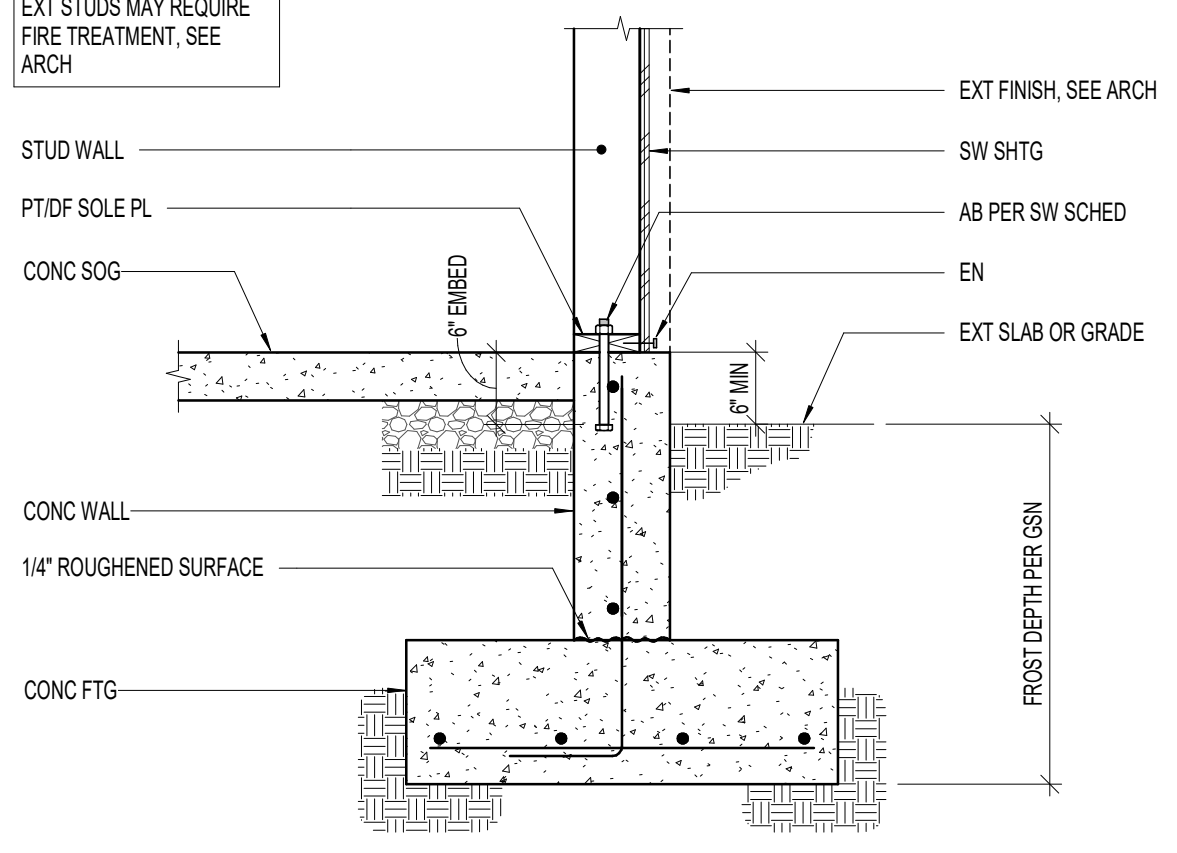
**4 TYPICAL NON-BEARING WALL AT SLAB ON GRADE**

S-502 NO SCALE:  
1-050/04



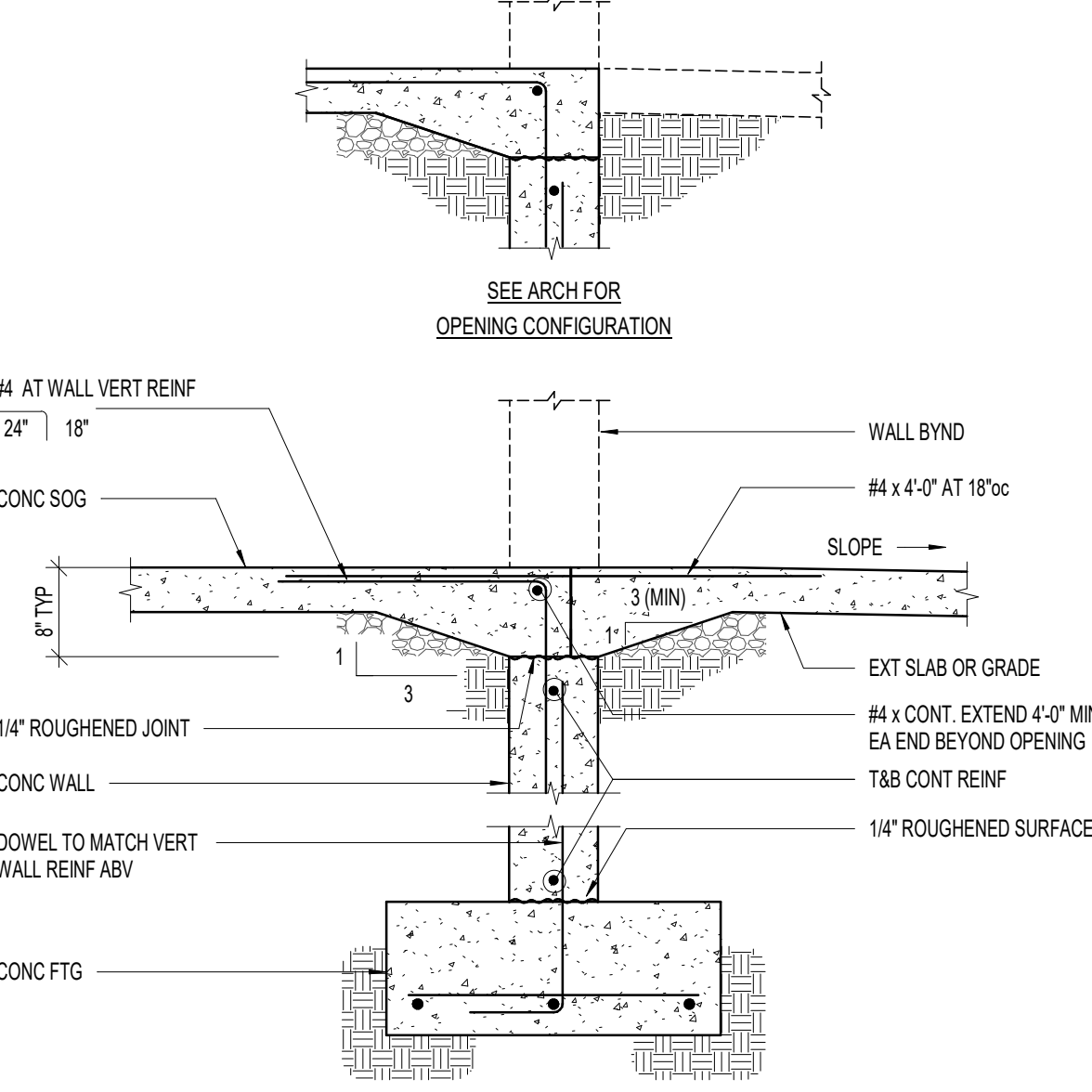
**5 TYPICAL SOLE PLATE BOLTING TO CONCRETE (PLAN VIEW)**

S-502 NO SCALE:  
1-050/05



**6 TYPICAL PERIMETER WALL**

S-502 NO SCALE:  
1-050/07



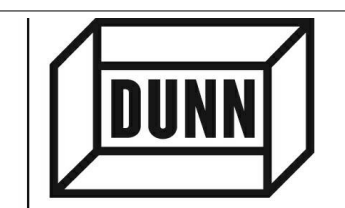
**7 FOUNDATION WALL AT OPENING DETAIL**

S-502 NO SCALE:  
1-050/10

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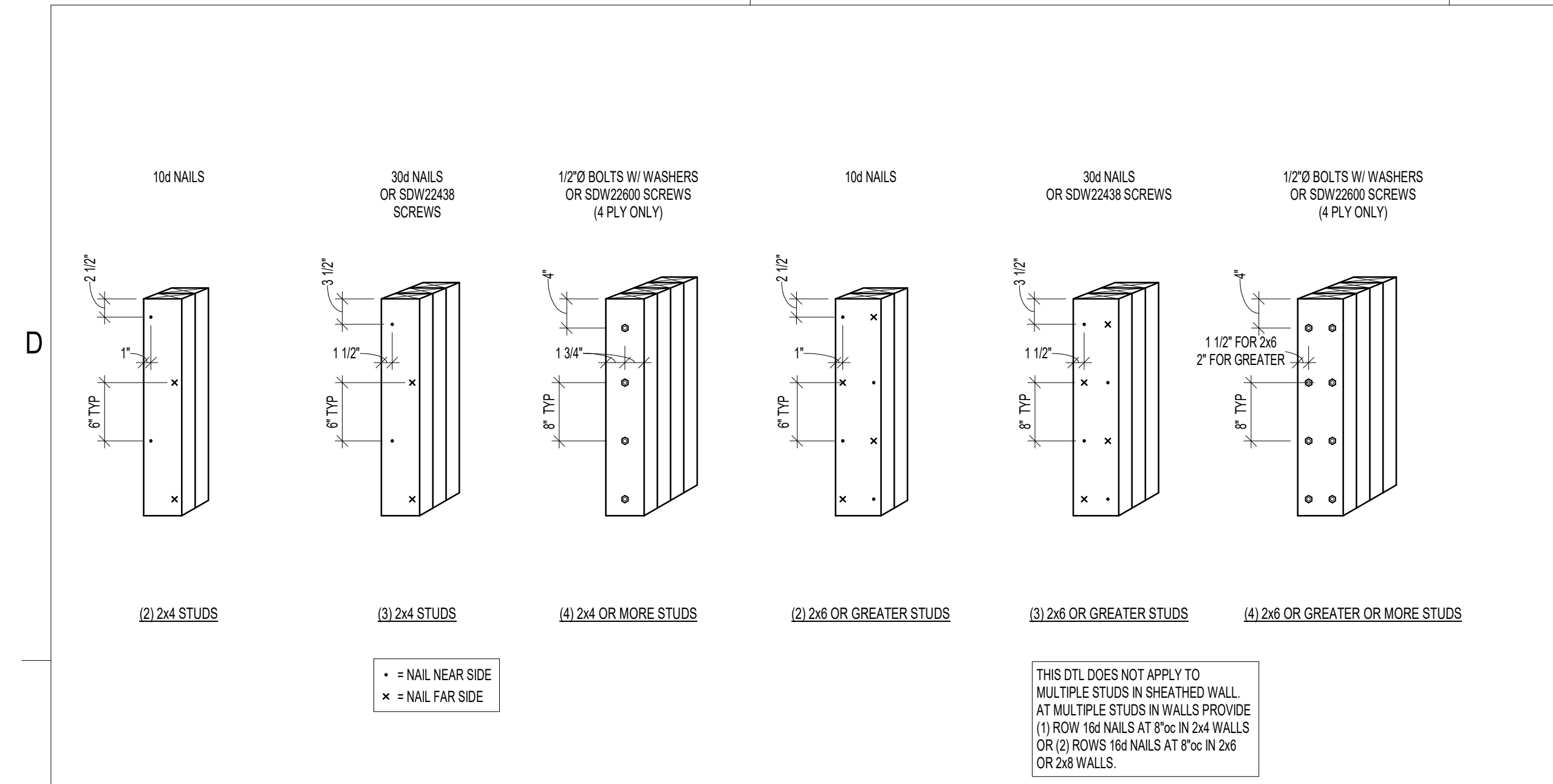
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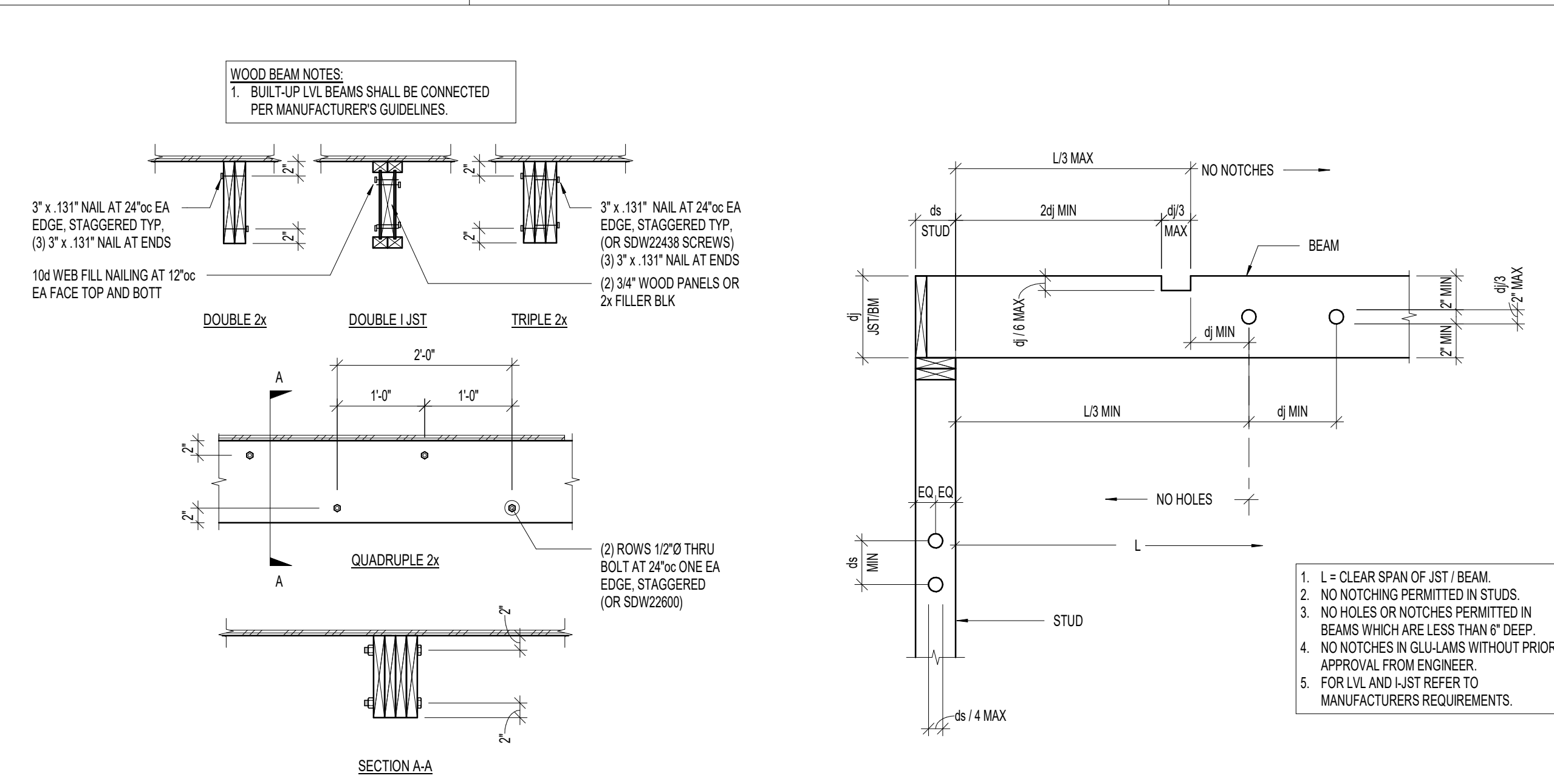
## ROOF FRAMING DETAILS

# S-701



**1 TYPICAL BUILT-UP 2x WOOD COLUMN CONNECTIONS**

S-701 NO SCALE  
1480-01

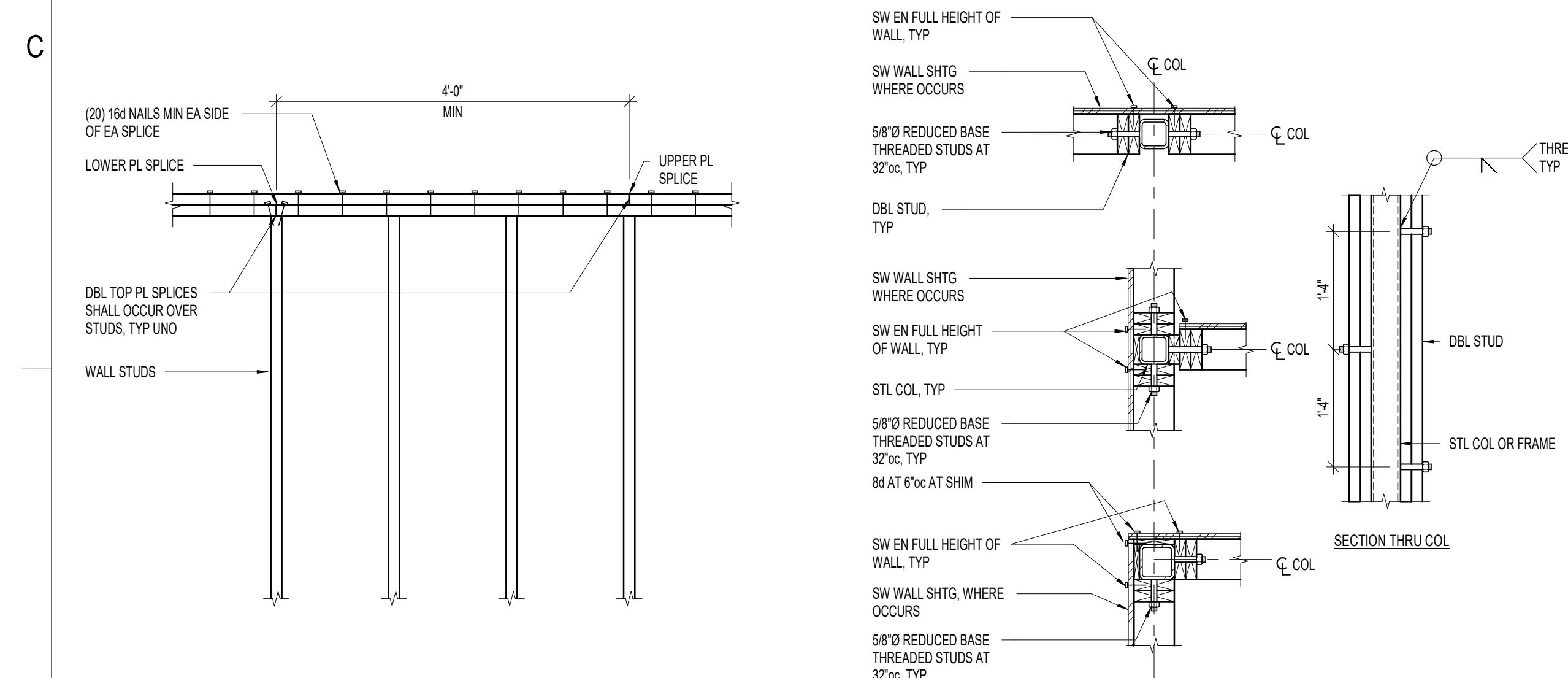


**2 TYPICAL BUILT-UP WOOD BEAM CONNECTIONS**

S-701 NO SCALE  
1480-02

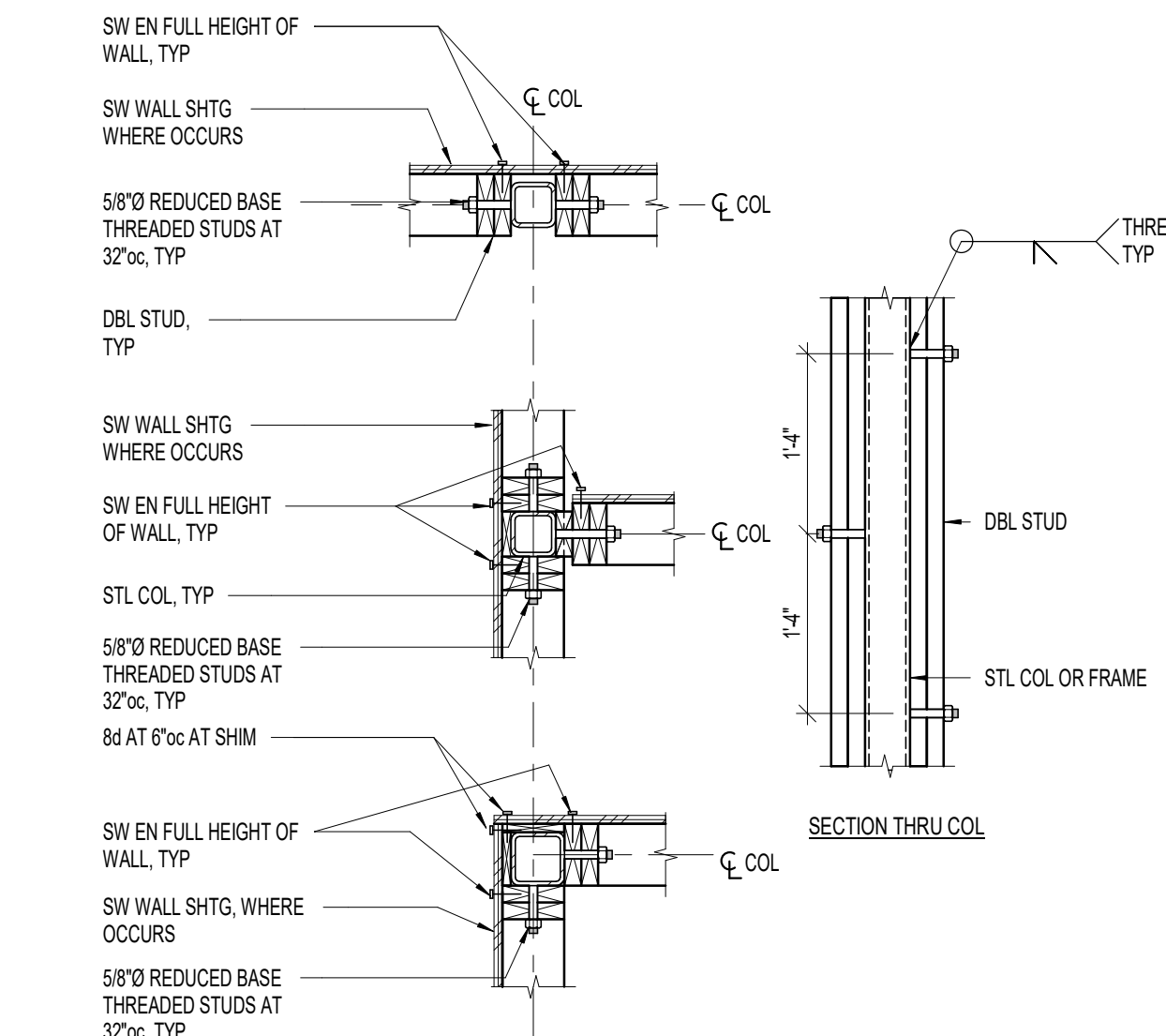
**3 TYPICAL PERMITTED NOTCHES AND HOLES**

S-701 NO SCALE  
1480-03



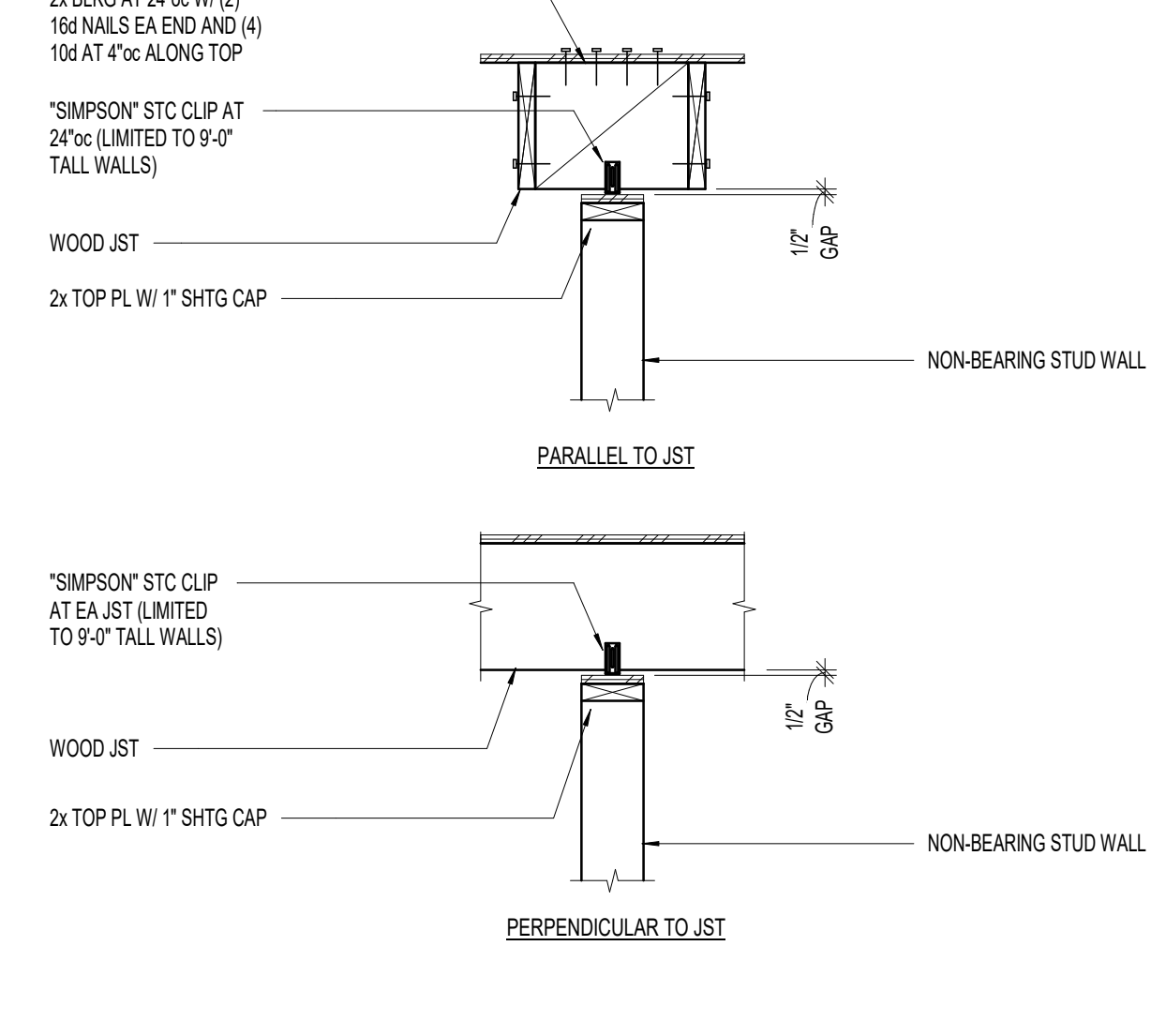
**4 TYPICAL TOP PLATE SPLICE**

S-701 NO SCALE  
1480-04



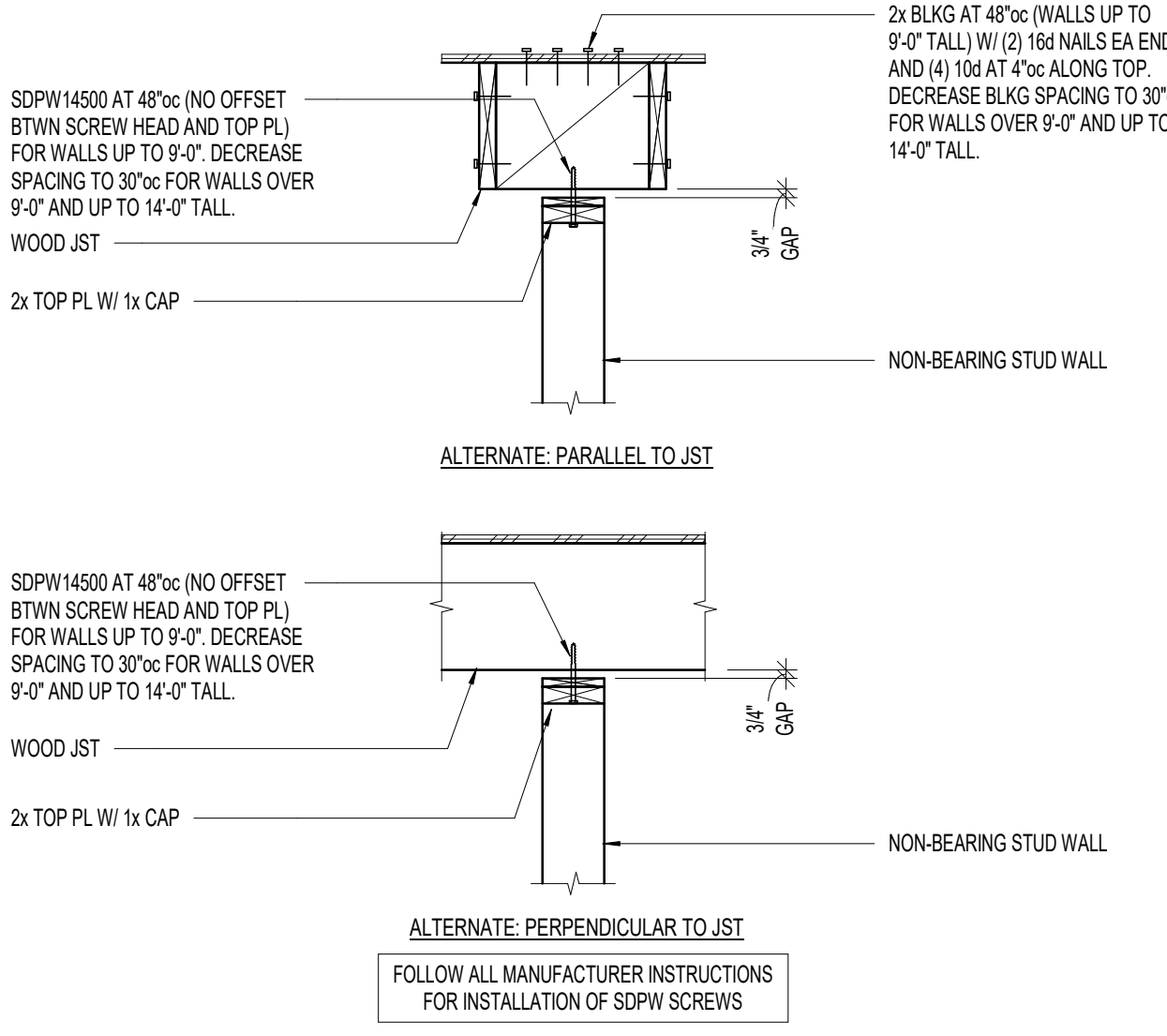
**5 TYPICAL STEEL COLUMN IN WOOD STUD WALLS**

S-701 NO SCALE  
1480-07



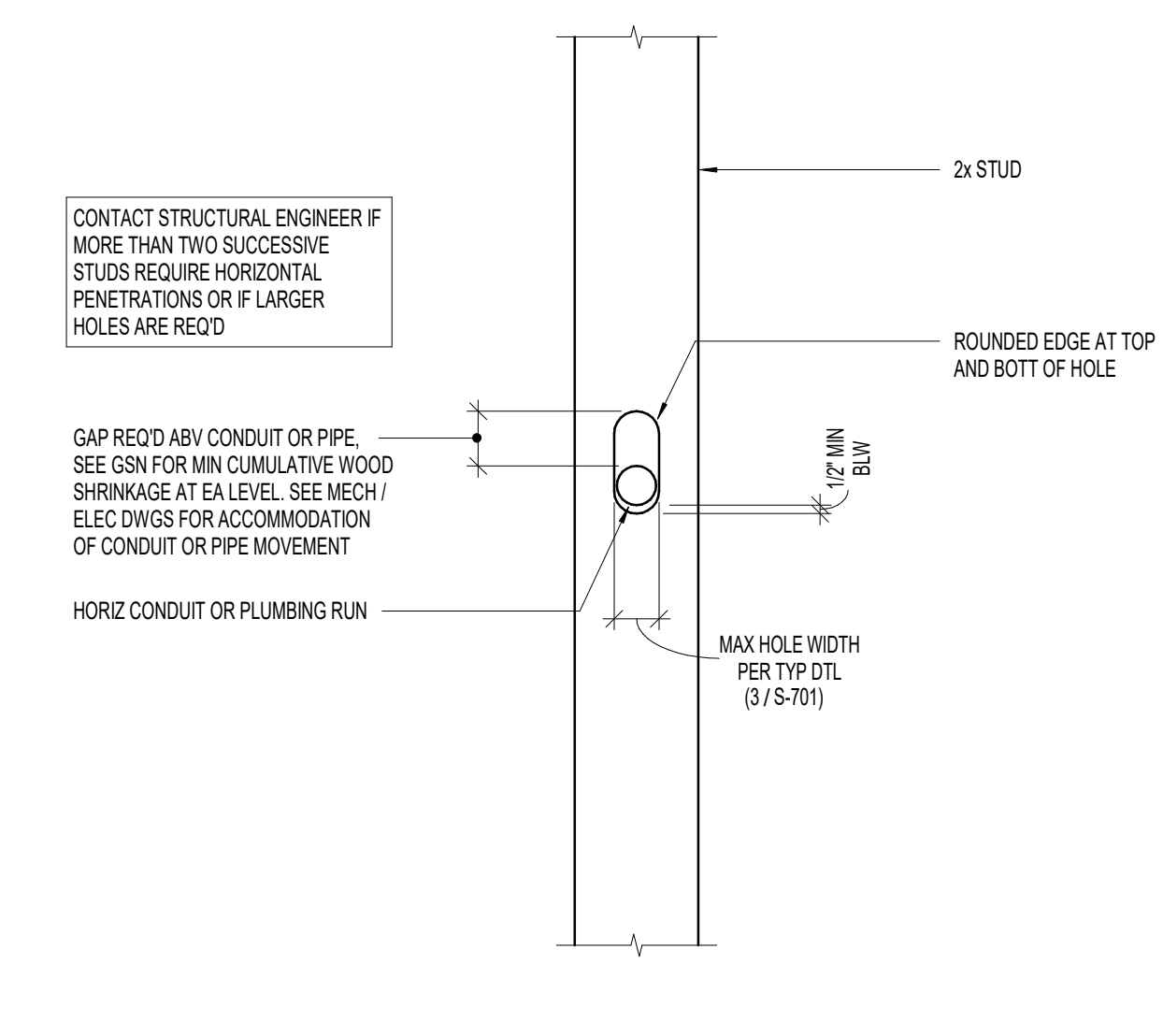
**6 TYPICAL NON-BEARING WALL TO WOOD FLOOR ABOVE CONNECTION**

S-701 NO SCALE  
1480-08



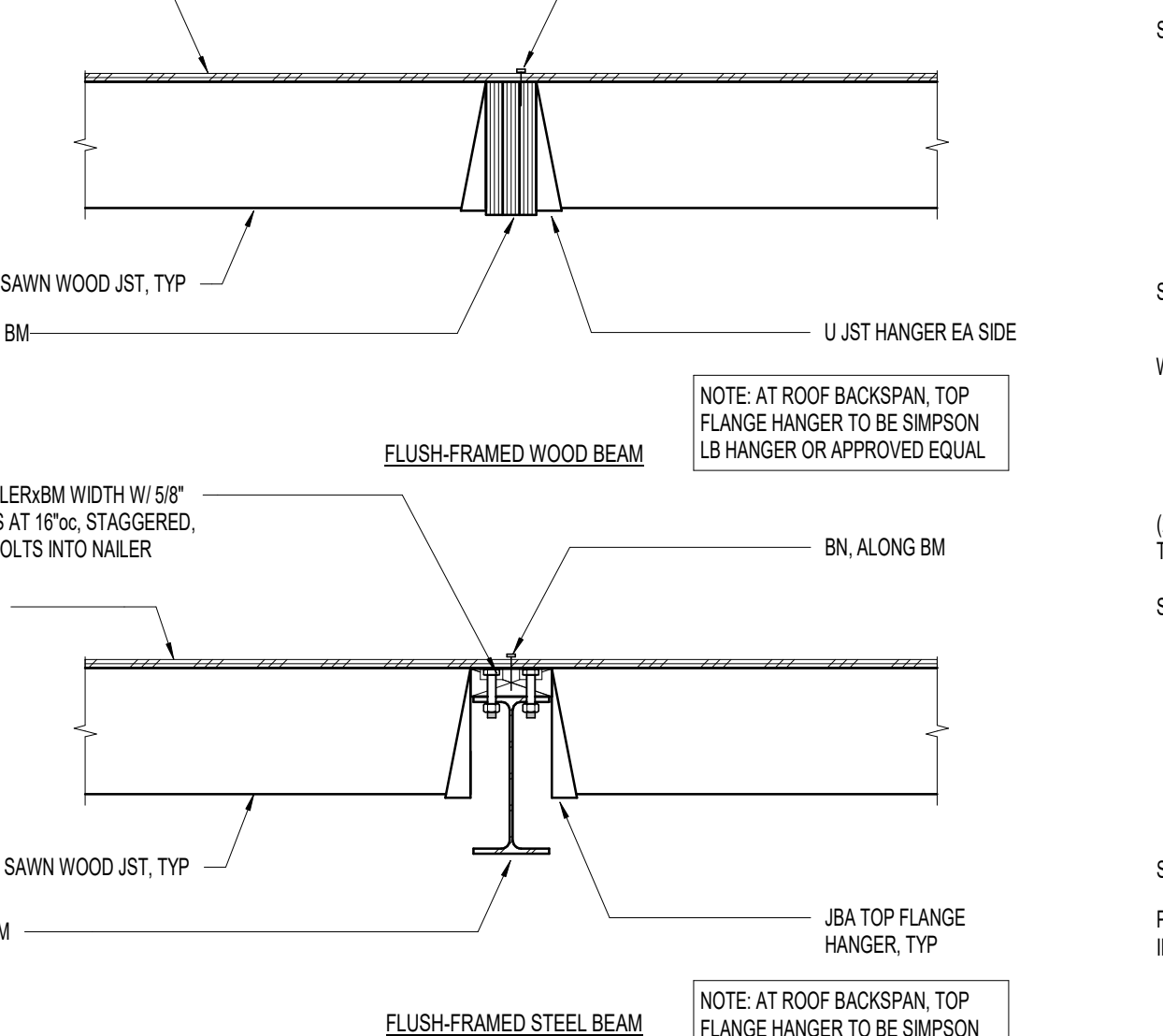
**7 TYPICAL SHEATHING JOINT NOT AT FLOORS**

S-701 NO SCALE  
1480-11



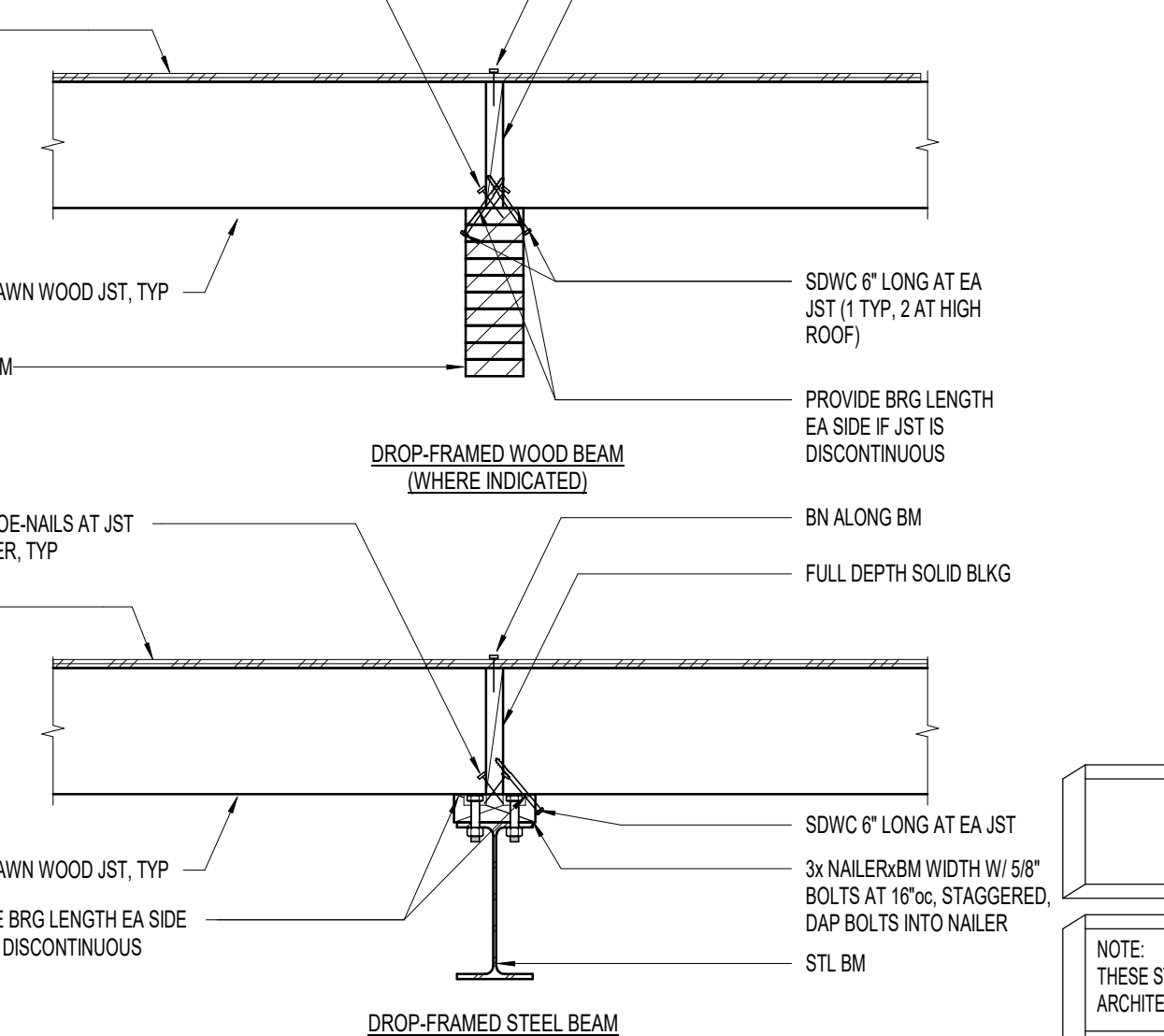
**8 TYPICAL HORIZONTAL STUD PENETRATION**

S-701 NO SCALE  
1480-12



**9 TYPICAL SOLID SAWN WOOD JOIST AT BEAM**

S-701 NO SCALE  
1480-13



**10 TYPICAL SOLID SAWN WOOD JOIST AT BEAM**

S-701 NO SCALE  
1480-14

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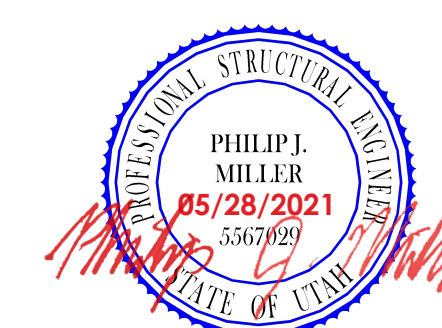
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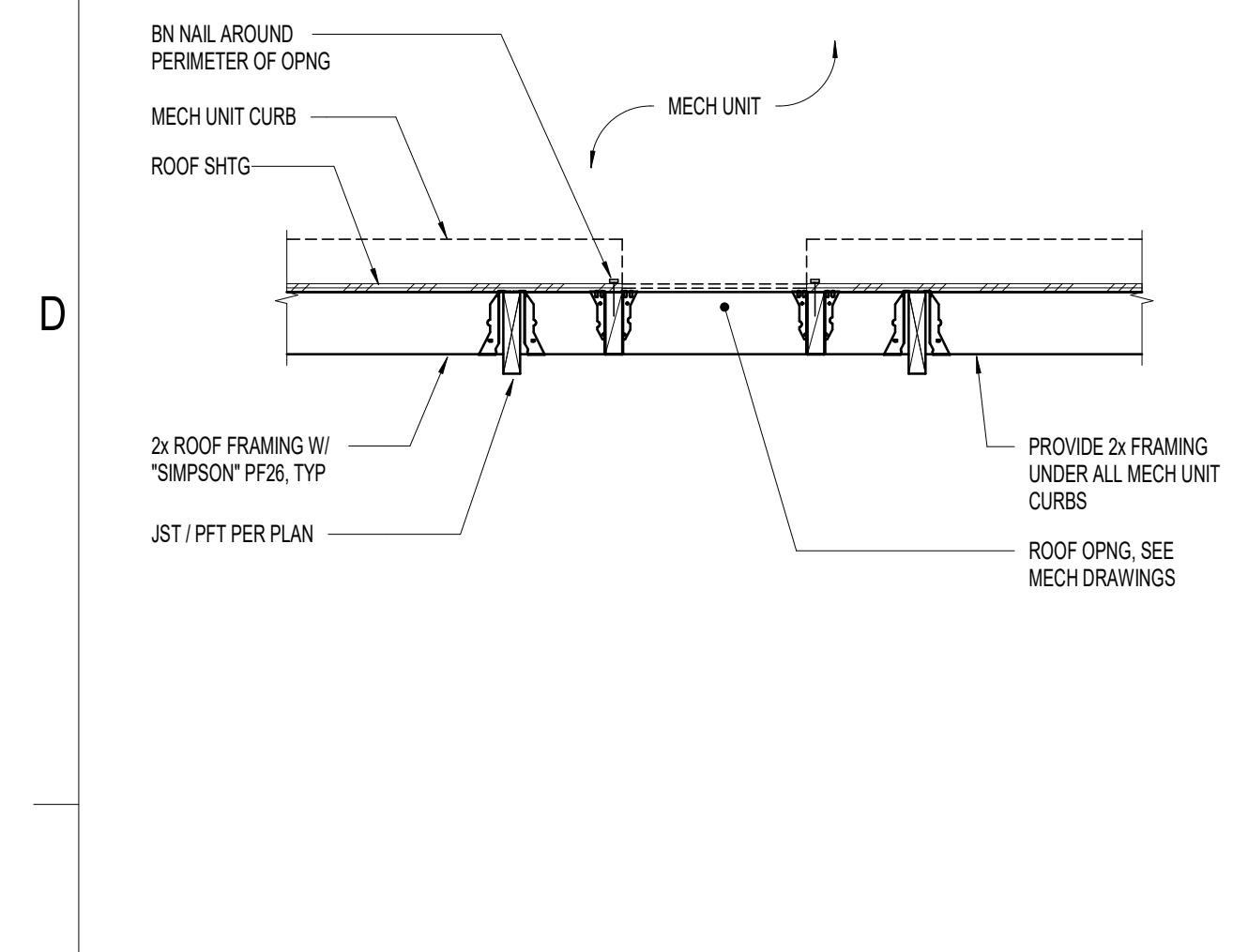


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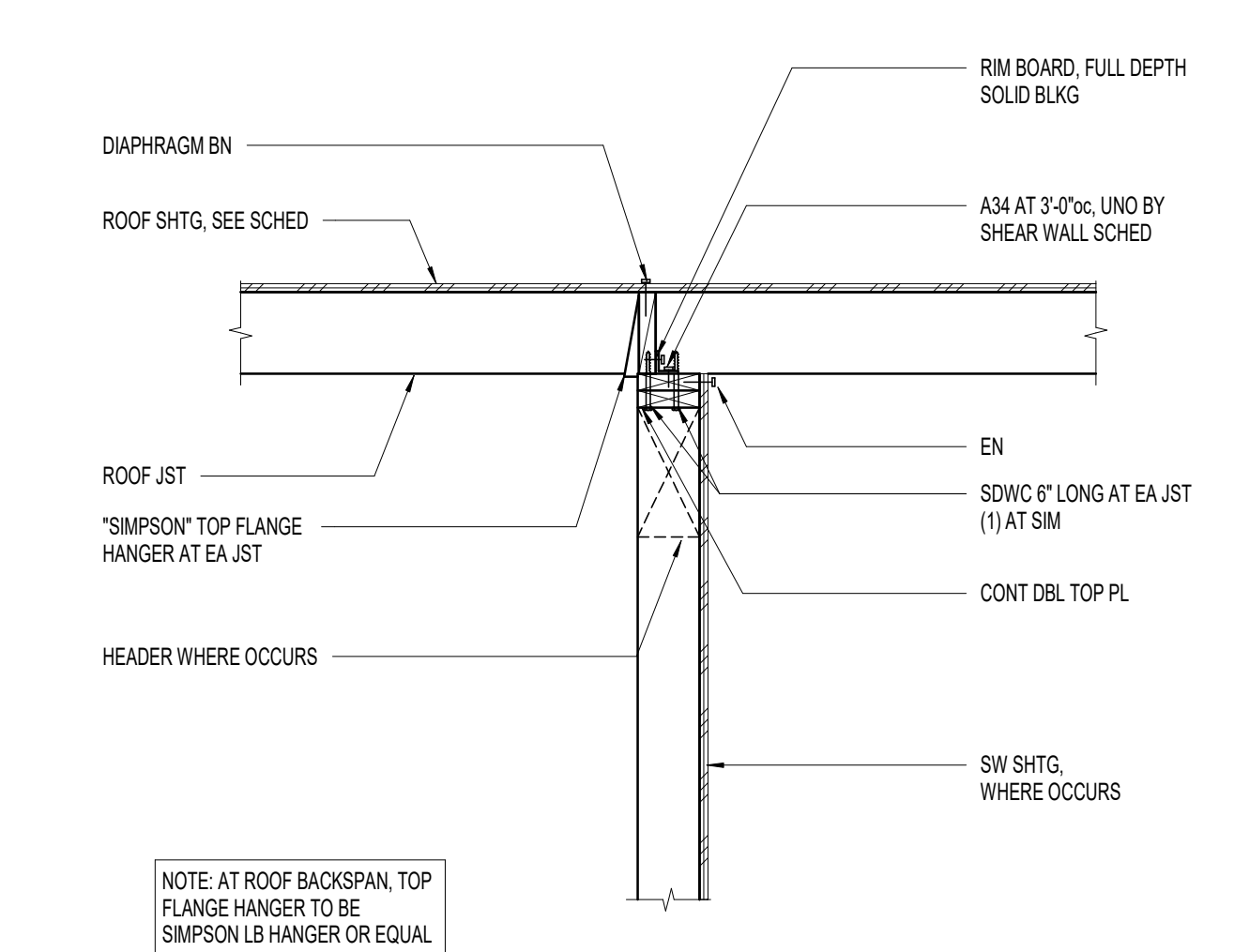
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ROOF FRAMING  
DETAILS

S-702

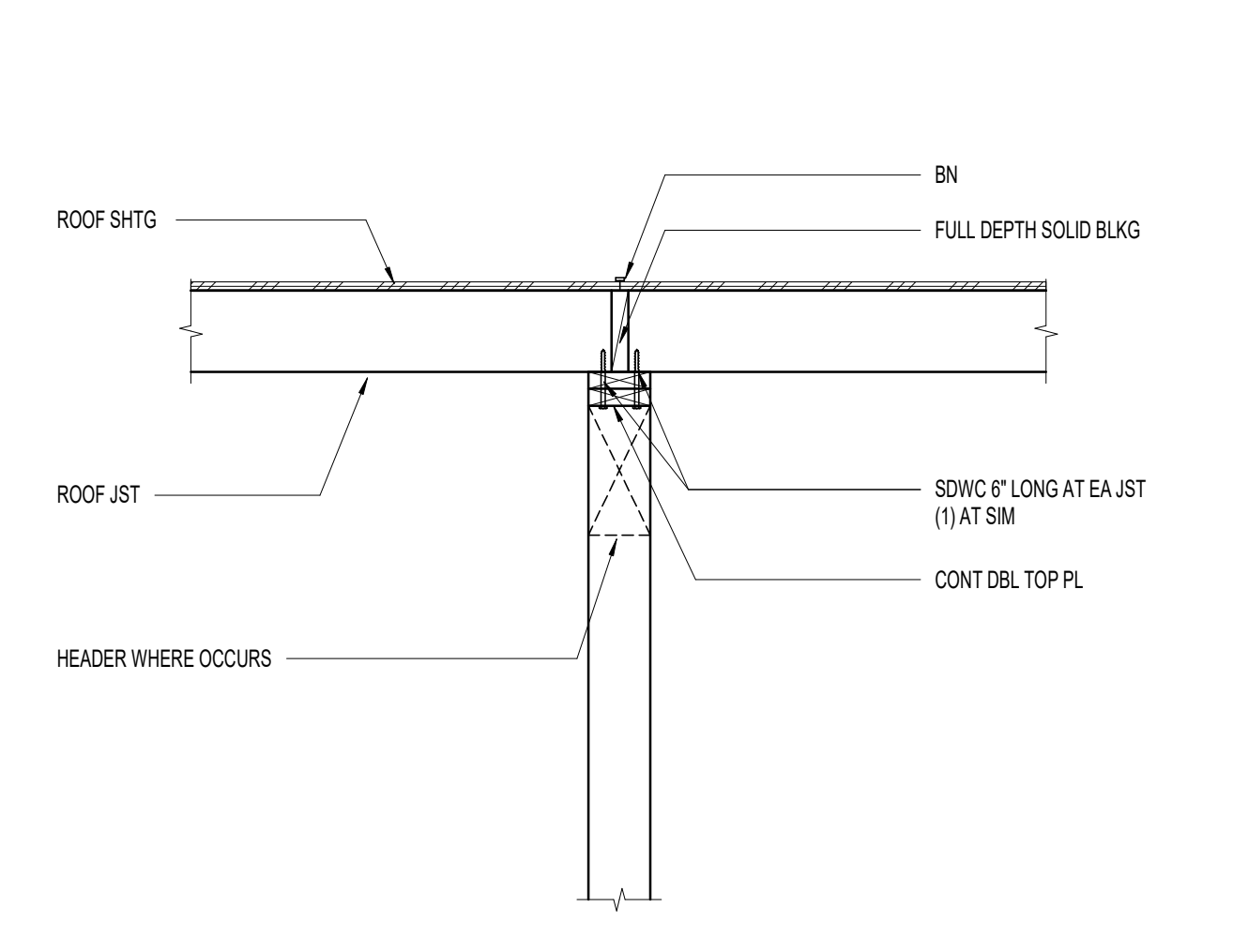


1 TYPICAL FRAMING AT ROOF OPENING BETWEEN JOISTS  
S-702 NO SCALE: 1-79-01

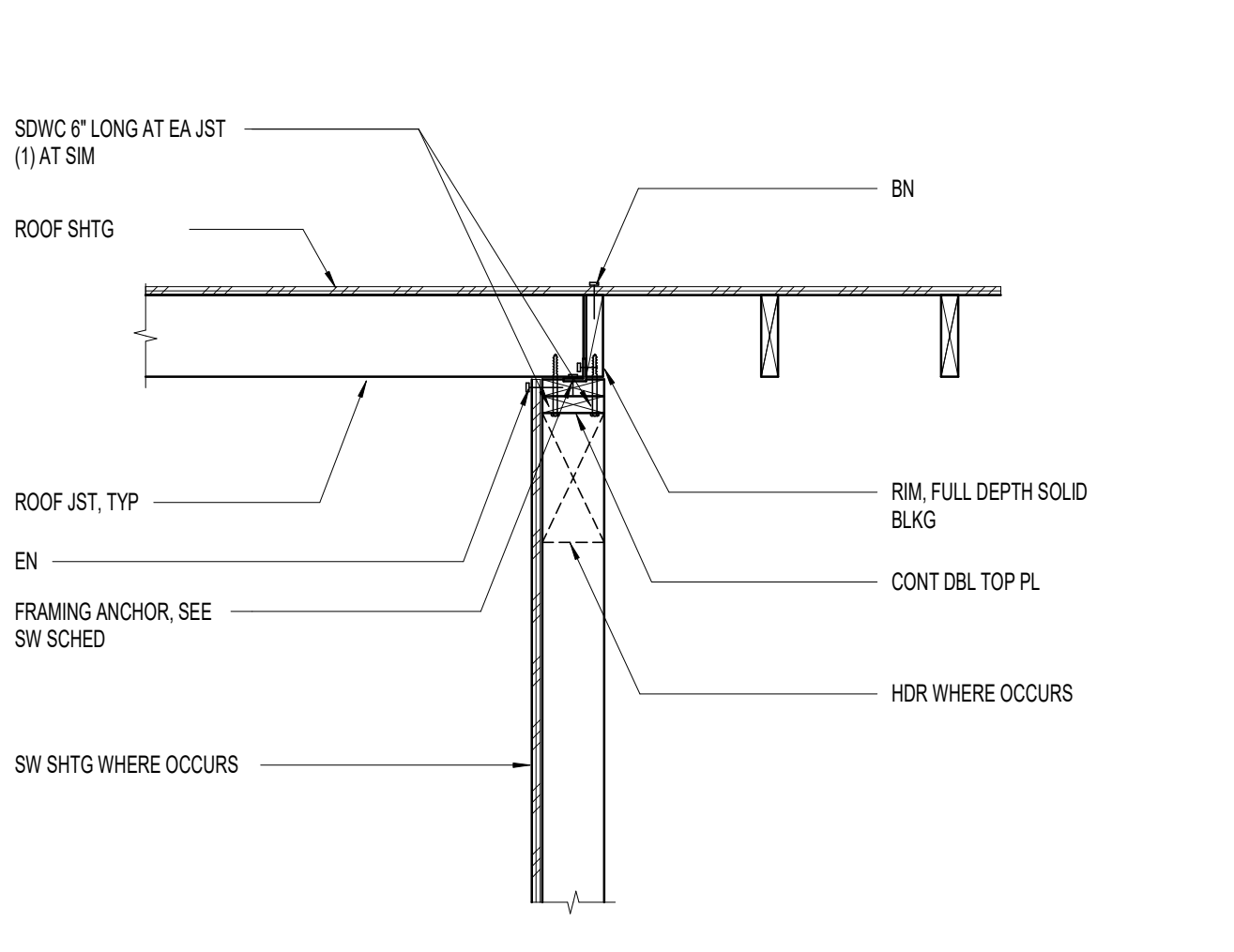


2 TYPICAL ROOF FRAMING AT CORRIDOR  
S-702 NO SCALE: 1-79-04

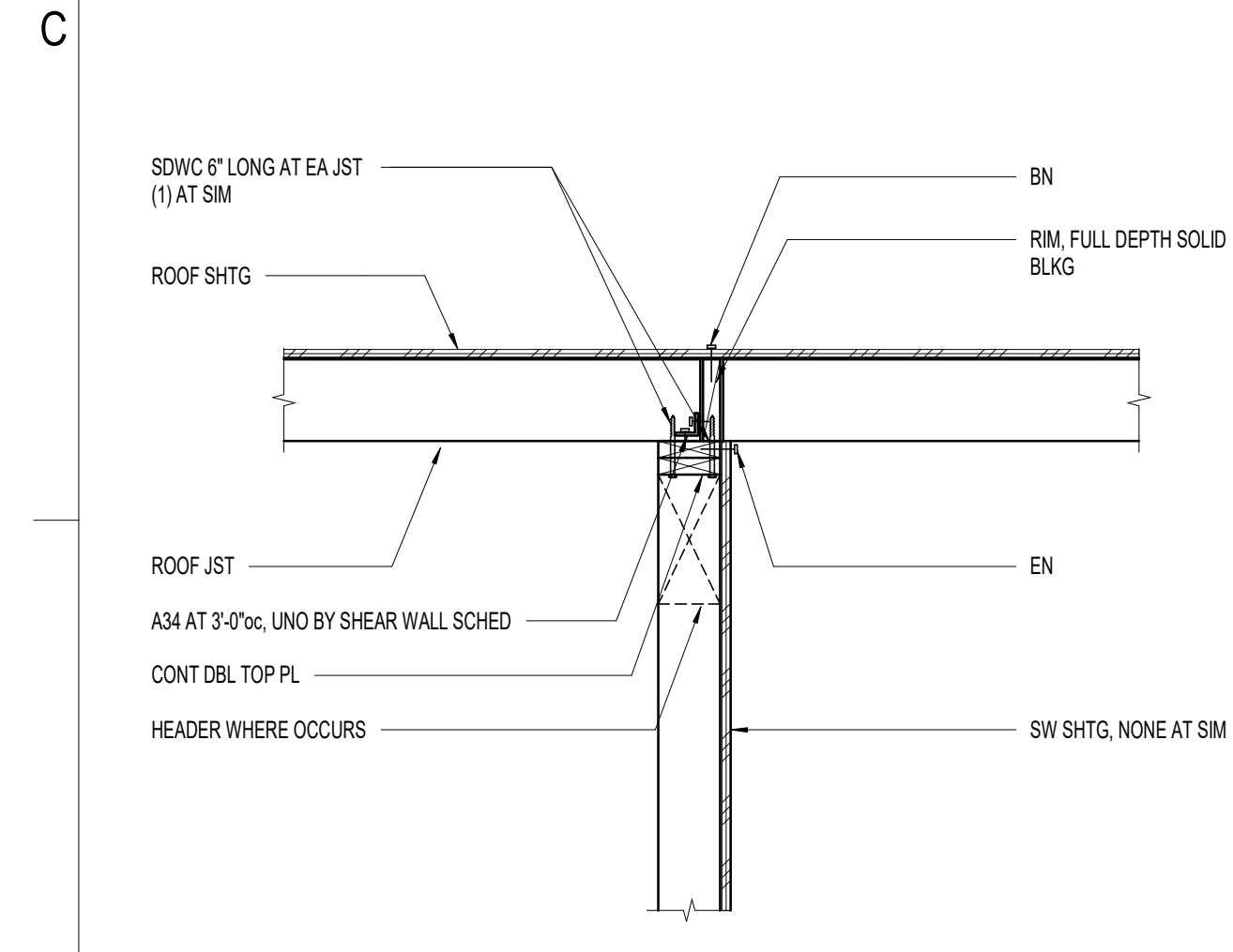
NOTE: AT ROOF BACKSPAN, TOP FLANGE HANGER TO BE SIMPSON LB HANGER OR EQUAL



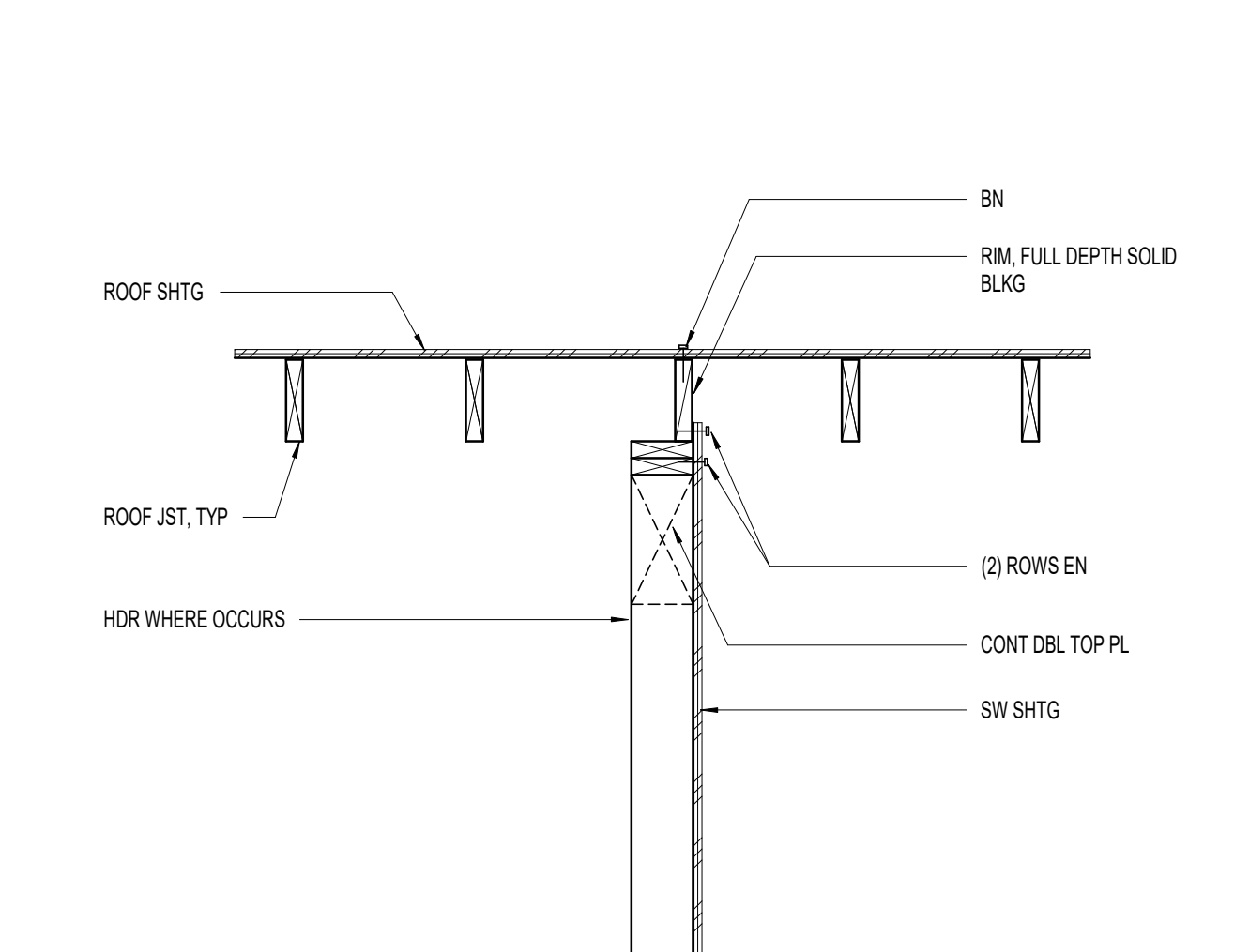
3 ROOF FRAMING AT INTERIOR BEARING WALL  
S-702 NO SCALE: 1-79-06



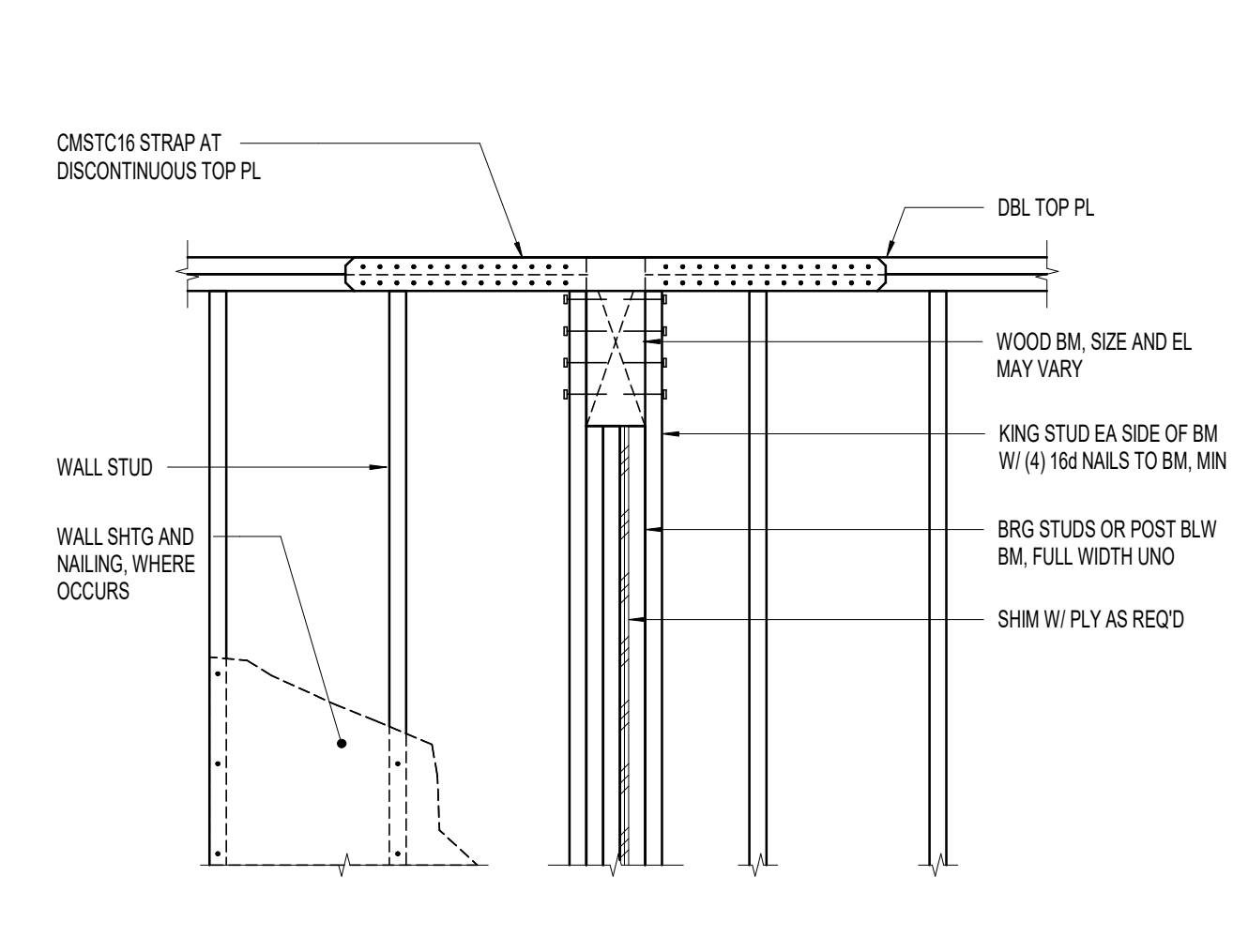
4 WOOD ROOF FRAMING - I-JOIST CHANGE DIRECTION  
S-702 NO SCALE: 1-79-08



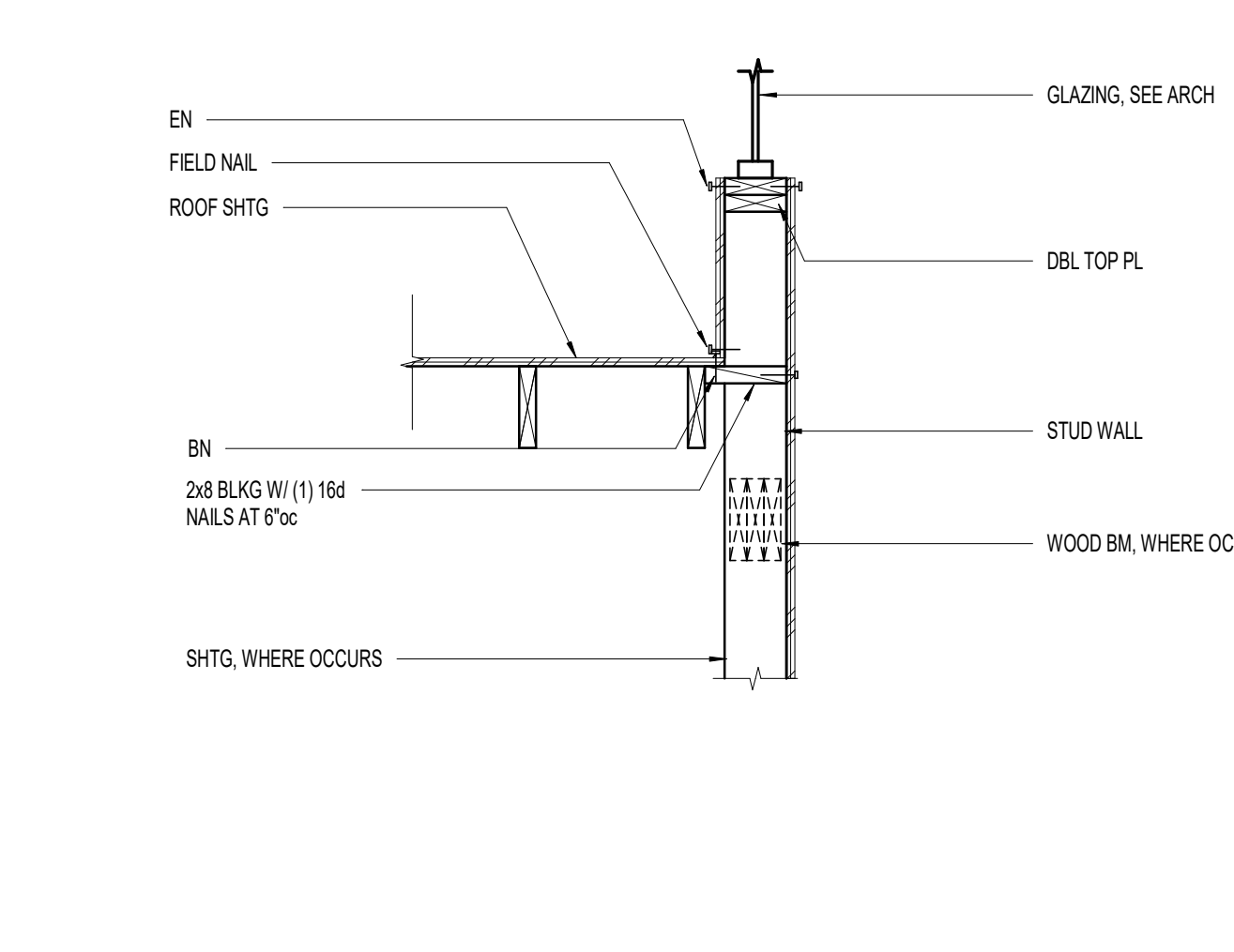
5 TYPICAL WOOD FRAMING AT SHEARWALL OR EXTERIOR  
S-702 NO SCALE: 1-79-07



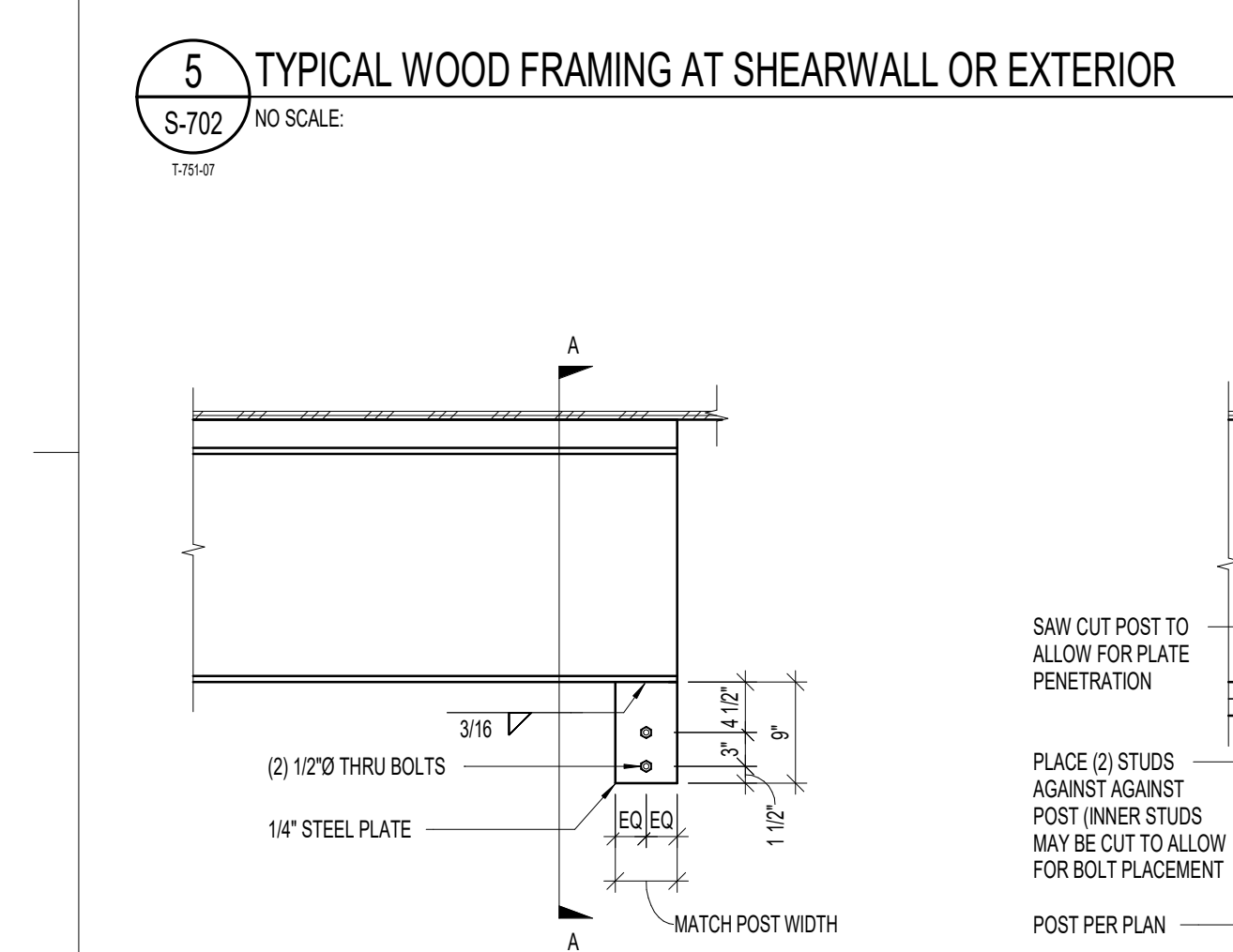
6 WOOD ROOF FRAMING AT SHEAR WALL AND EXTERIOR OVERHANG - I-JOIST PARALLEL  
S-702 NO SCALE: 1-79-09



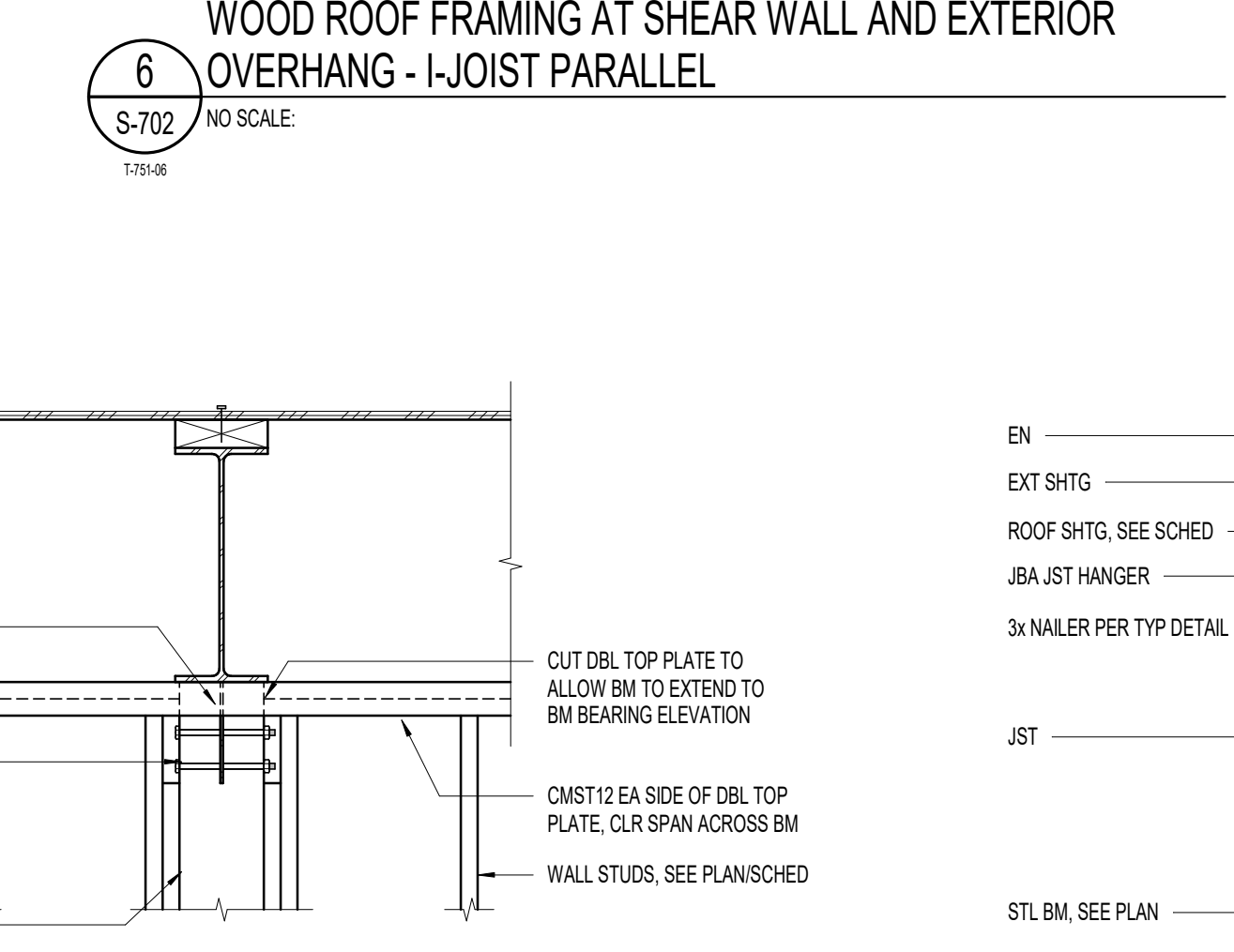
7 TYPICAL BEAM POCKET  
S-702 NO SCALE: 1-80-06



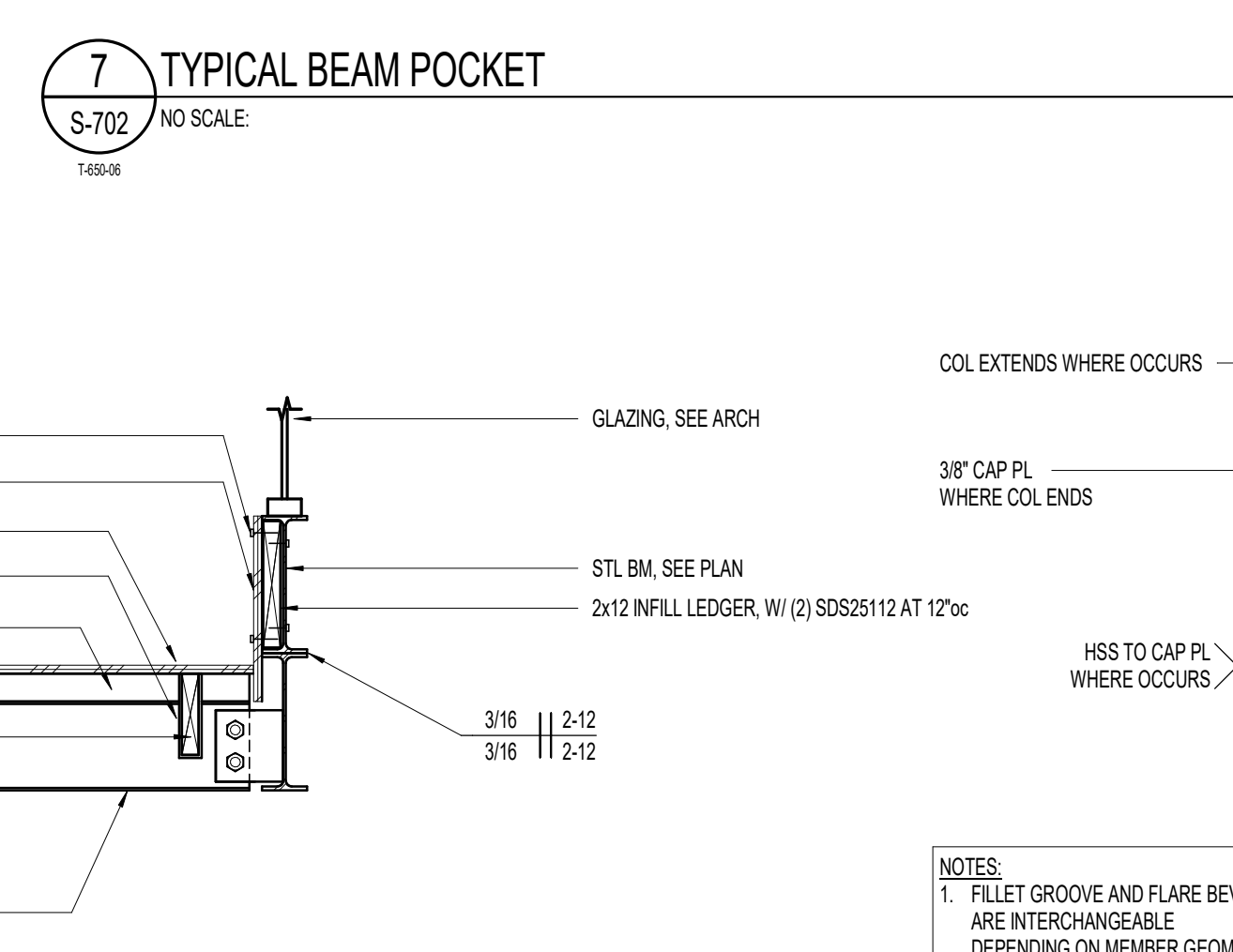
8 ROOF JOISTS PARALLEL TO HIGH WALL AT TRANSOM WINDOW  
S-702 NO SCALE: 1-80-08



9 STEEL BEAM TO WOOD POST  
S-702 NO SCALE: 1-80-01



10 STEEL BEAM TO TRANSOM WINDOW SUPPORT DETAIL  
S-702 NO SCALE: 1-80-02



NOTES:  
1. FILLET GROOVE AND FLARE BEVEL WELDS ARE INTERCHANGEABLE DEPENDING ON MEMBER GEOMETRY.  
2. IF GEOMETRY PERMITS, FLARE BEVEL WELD TO BE REPLACED WITH 5/16" EFFECTIVE FILLET WELD.

11 TYPICAL HSS TO HSS CONNECTION  
S-702 NO SCALE: 1-80-03

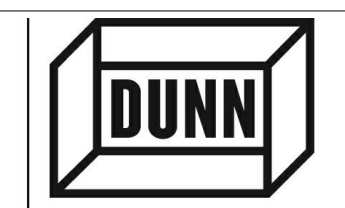
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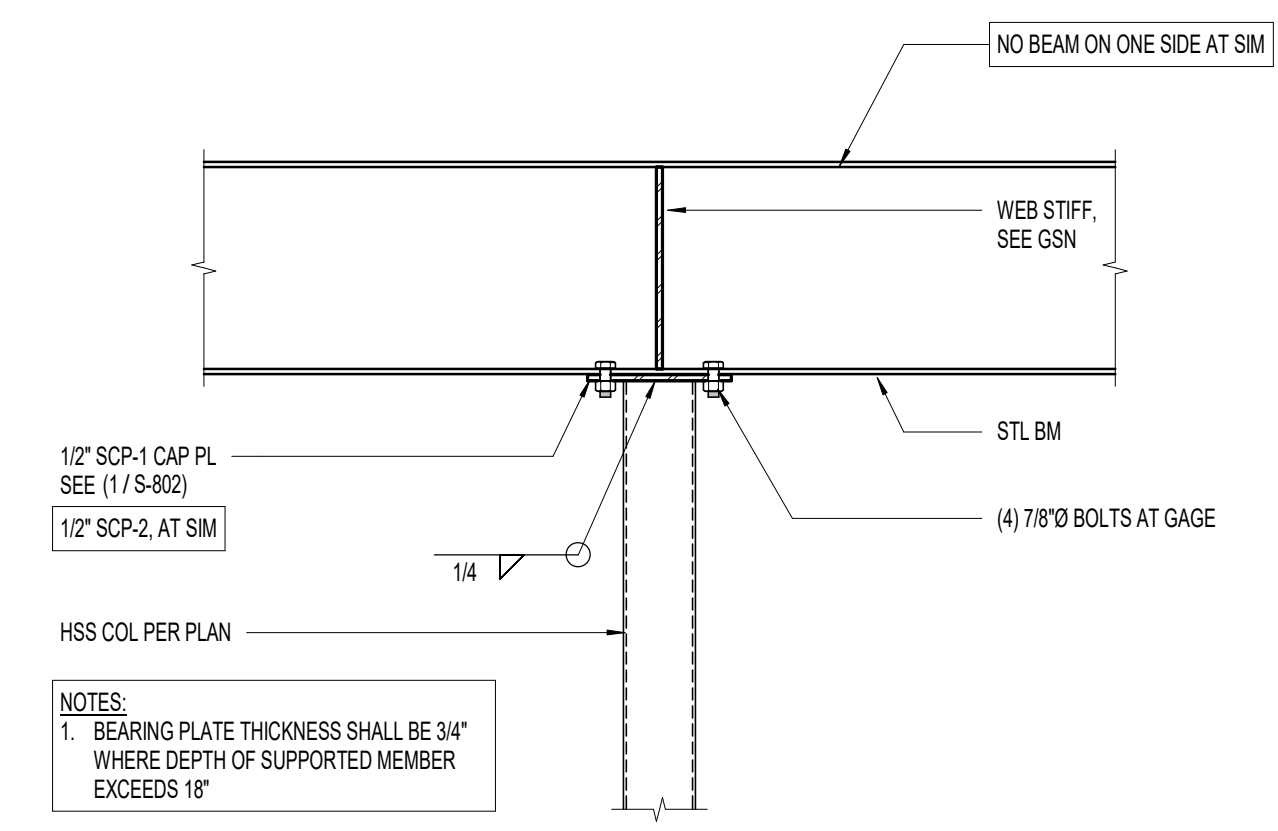


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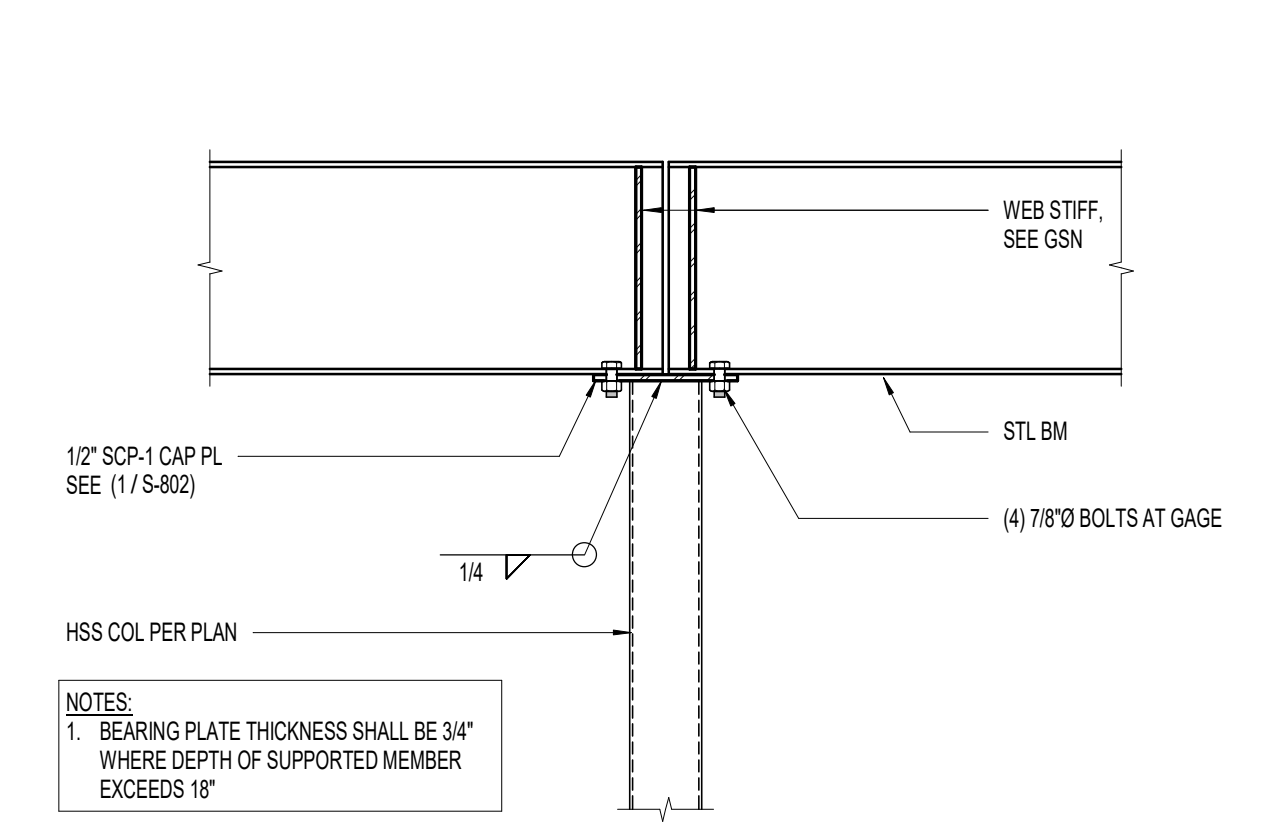


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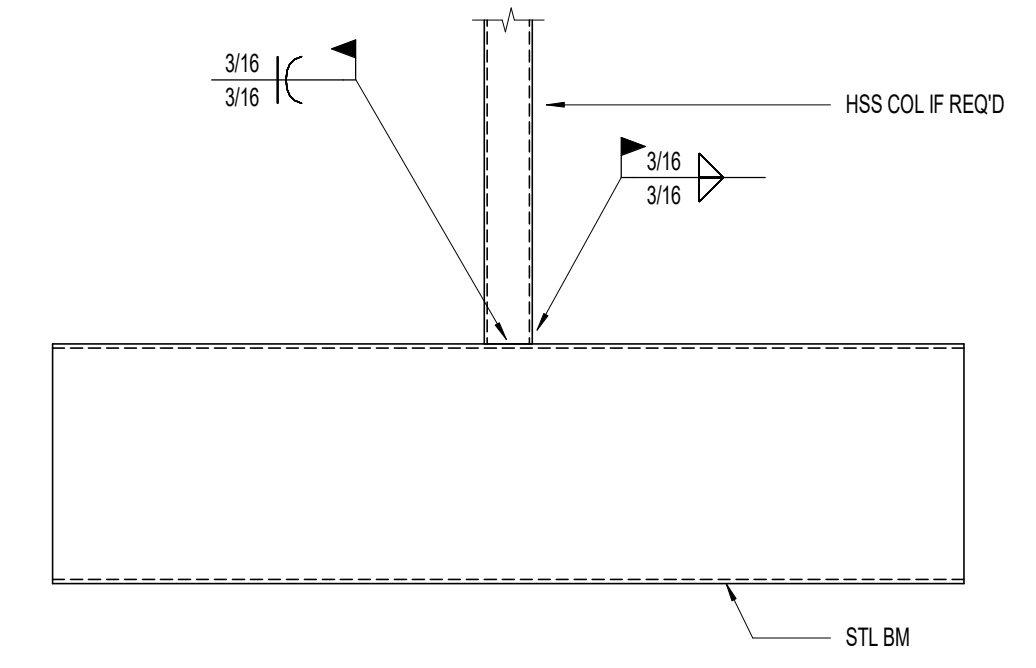
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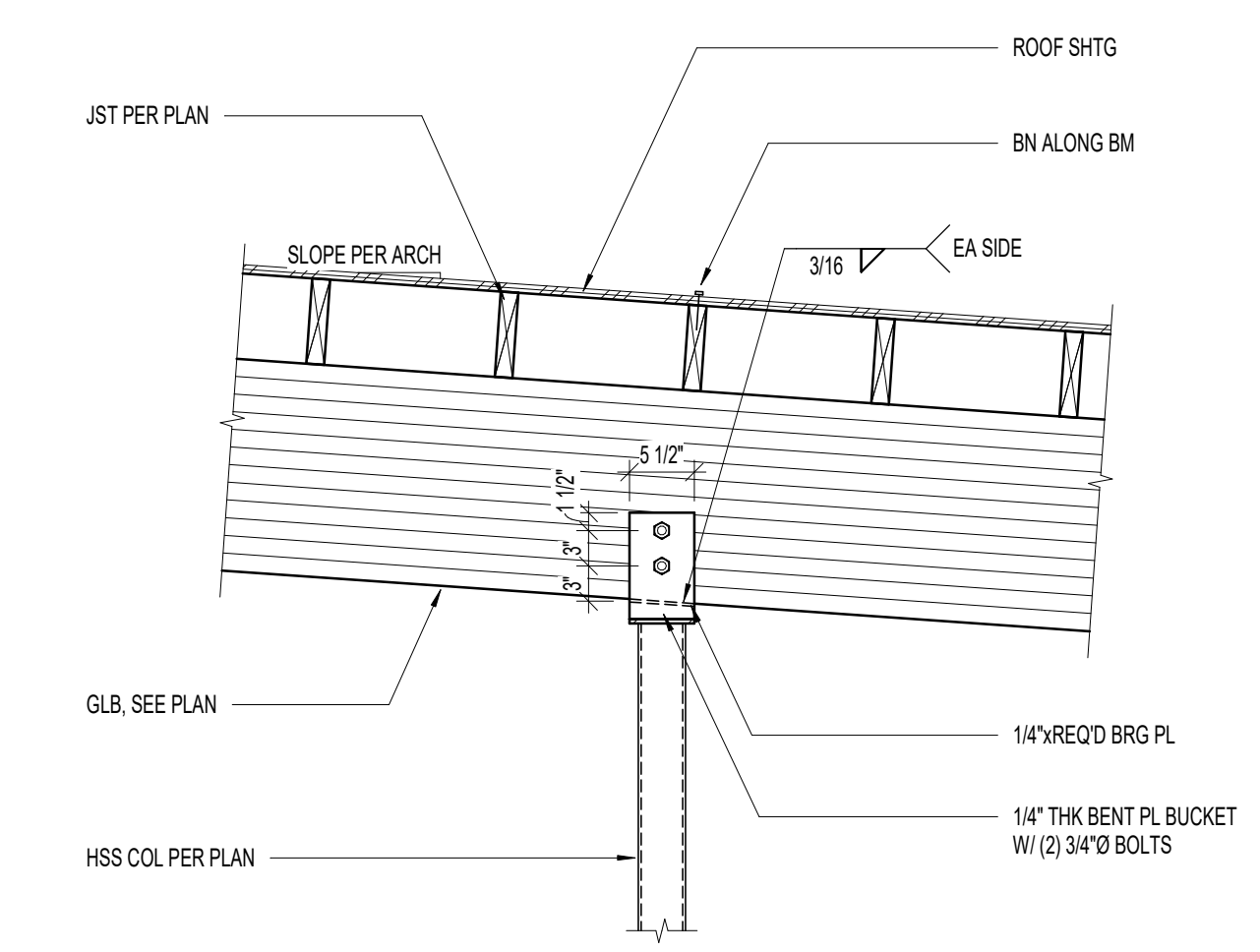
**1** TYPICAL BEAM OVER HSS COLUMN CONNECTION  
S-703 NO SCALE:  
1400-17



**2** TYPICAL BEAM OVER HSS COLUMN CONNECTION  
S-703 NO SCALE:  
1400-17

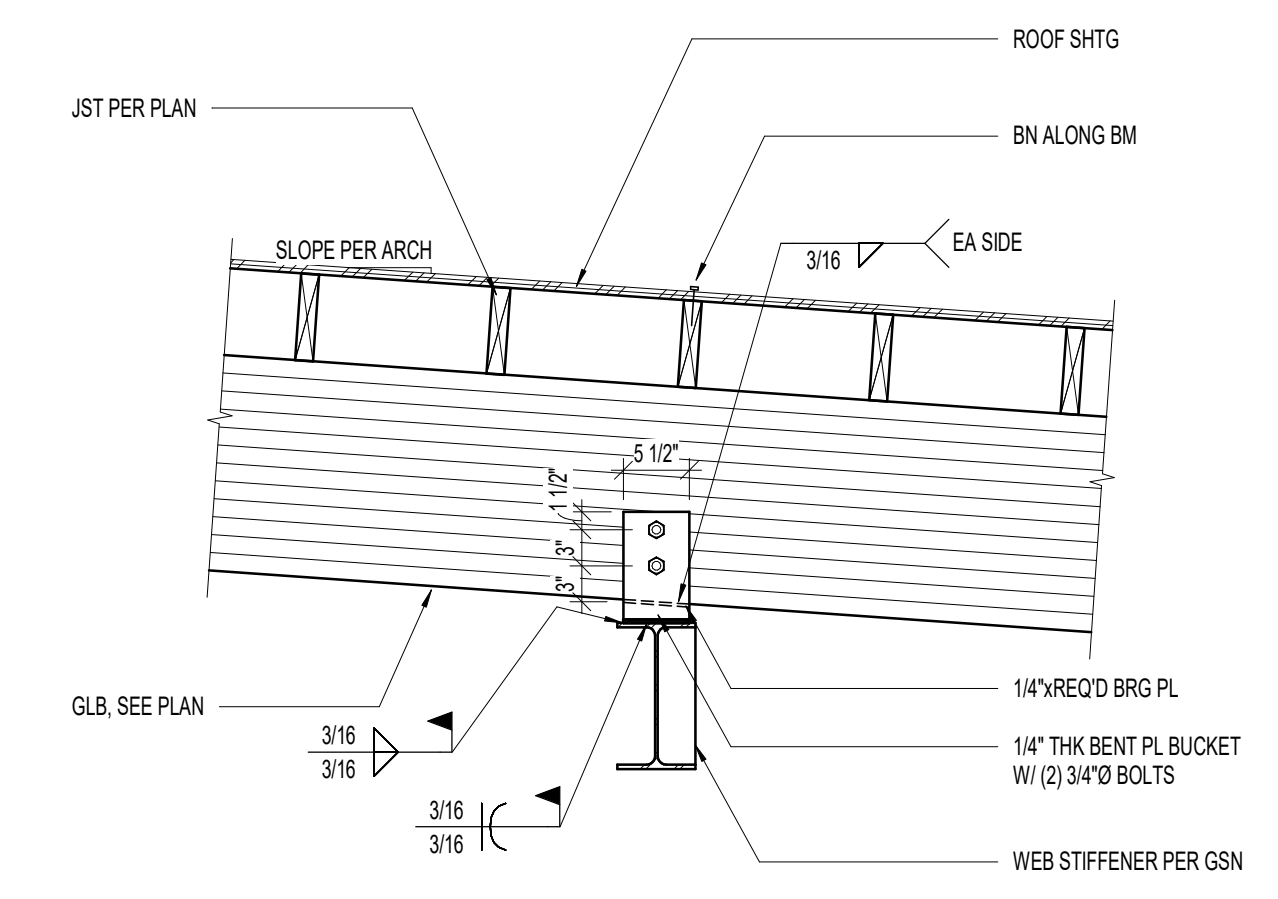


**3** TYPICAL TUBE COLUMN OVER BEAM CONNECTION  
S-703 NO SCALE:  
1400-17

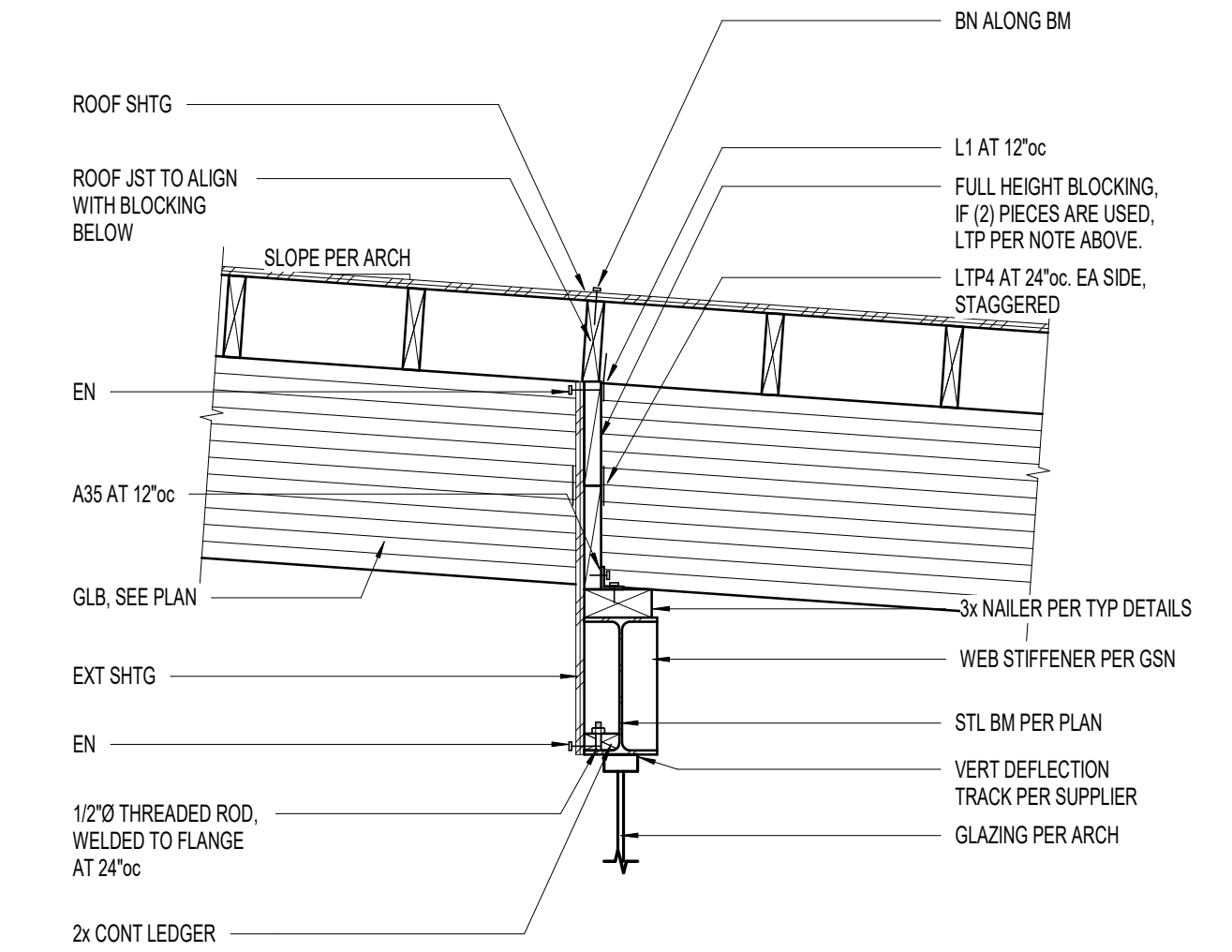


**4** TYPICAL GLB TO STEEL COLUMN CONNECTION DETAIL  
S-703 NO SCALE:

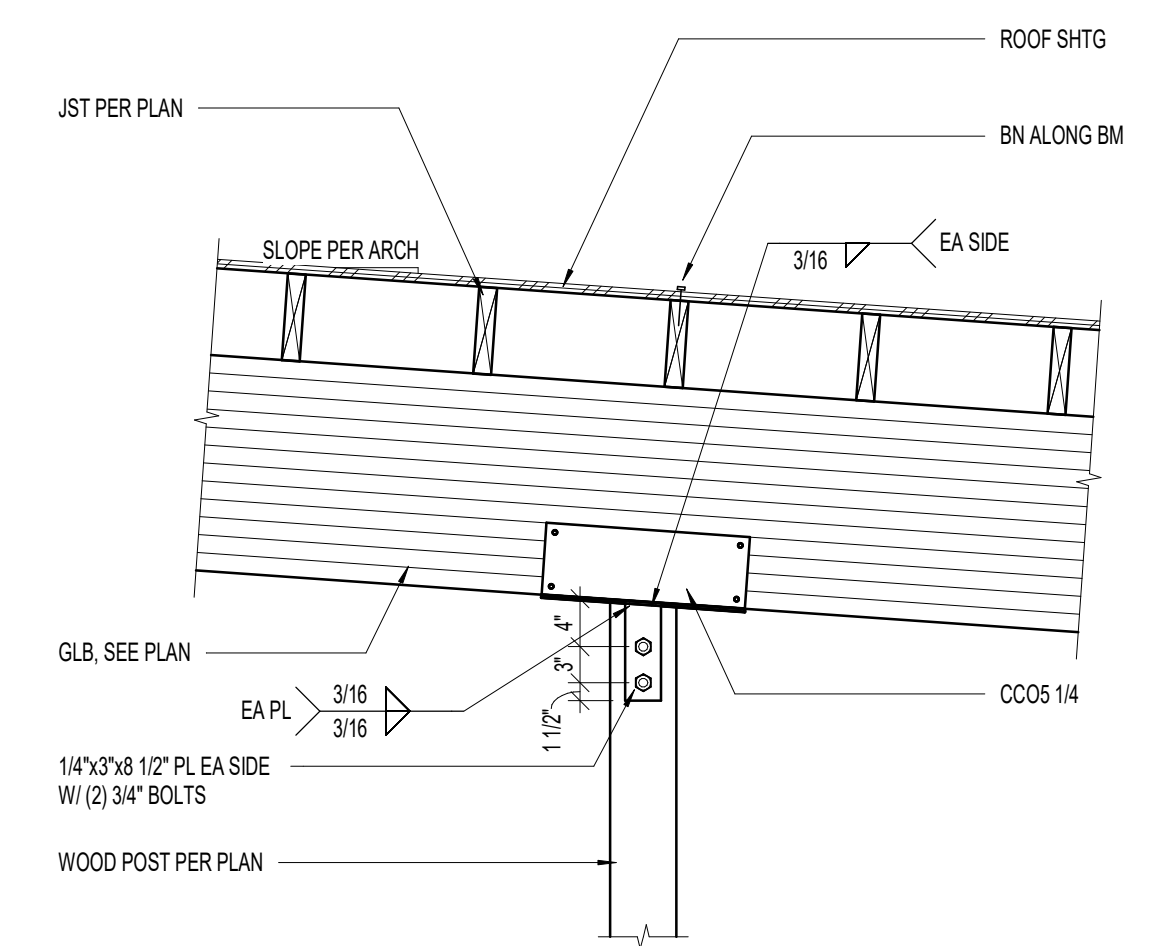
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**5** TYPICAL GLB TO STEEL BEAM CONNECTION DETAIL  
S-703 NO SCALE:



**6** TYPICAL GLB TO STEEL BEAM BLOCKING DETAIL  
S-703 NO SCALE:



**7** TYPICAL GLB TO WOOD POST CONNECTION DETAIL  
S-703 NO SCALE:

B

A

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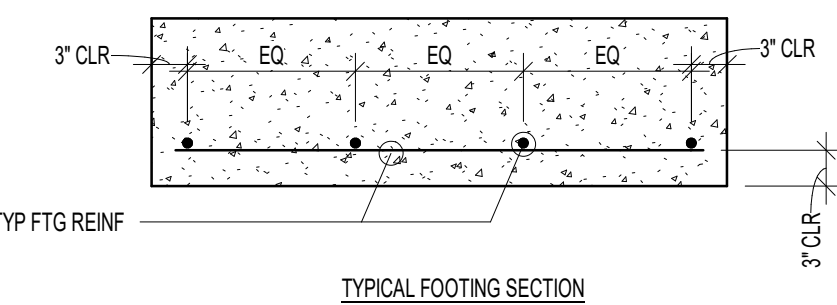
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**ROOF FRAMING DETAILS**

**S-703**

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CONCRETE FOOTING SCHEDULE										
MARK	WIDTH	LENGTH	DEPTH	REINFORCING CROSSWISE			REINFORCING LENGTHWISE			COMMENTS
				NO	SIZE	SPACING	NO	SIZE	SPACING	
FC2.0	2'-0"		12"				3	#4	CONT	EQ
FTS2.0	2'-0"		12"				2	#5	CONT	EQ
FTS2.0A	2'-0"		12"				2	#5	CONT	EQ
FS4.0	4'-0"	4'-0"	13"	4	#5	3'-6"	4	#5	3'-6"	EQ



**CONCRETE FOOTING NOTES:**

1. PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER, UNLESS NOTED OTHERWISE.
2. TOP REINFORCING, WHERE SPECIFIED, SHALL BE PLACED IN THE TOP OF THE FOOTING WITH 2" MINIMUM CONCRETE COVER.
3. IF FOOTINGS ARE EARTH FORMED, FOOTING WIDTH AND LENGTH SHALL BE 6" WIDER AND LONGER THAN SCHEDULED.
4. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.
5. NOT ALL FOOTINGS ARE USED. SEE FOUNDATION PLAN FOR FOOTING MARKS.
6. RUN CONTINUOUS BARS IN FC FOOTING THROUGH INTERSECTED FS FOOTINGS.
7. EXTEND CONTINUOUS FOOTINGS 1'-0" BEYOND END OF WALL, EXCEPT AT INTERSECTING CORNERS OR UNO ON PLAN.
8. FOOTINGS MAY BE THICKER THAN THE SCHEDULED DEPTH IN AREAS SURROUNDING ANCHOR BOLTS OR HOLD DOWNS. SEE ANCHORAGE AND HOLD DOWN DETAILS.
9. IN FC FOOTINGS CROSSWISE BAR SHALL BE BELOW THE LENGTHWISE BAR.

CONCRETE WALL SCHEDULE						
MARK	THICKNESS	REINFORCING			WALL TYPE	COMMENTS
		VERTICAL	HORIZONTAL	TOP AND BOTTOM		
CW-08	8"	(1) #4 AT 18"oc	(1) #4 AT 12"oc	(2) #4	A	

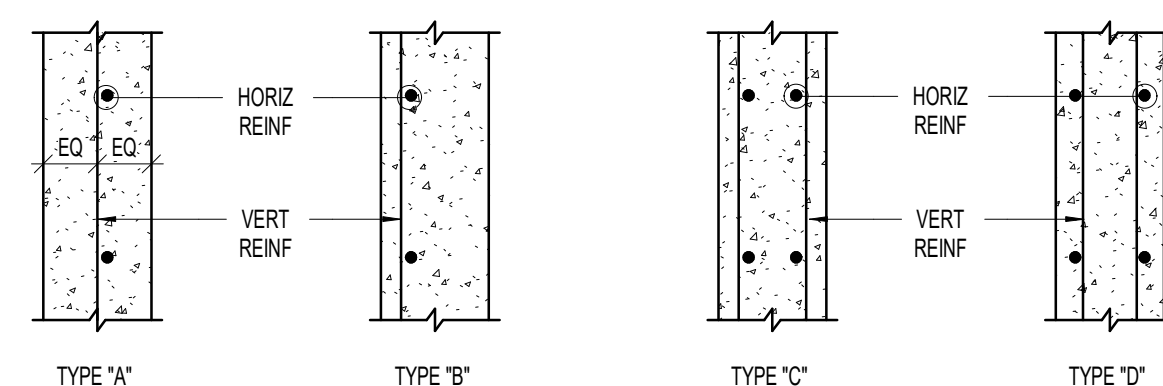
**CONCRETE WALL NOTES:**

1. SEE GENERAL STRUCTURAL NOTES FOR COVER AND OTHER REQUIREMENTS NOT NOTED IN SCHEDULE.
2. CONCRETE WALLS NOT DESIGNATED ON THE PLANS SHALL BE REINFORCED AS FOLLOWS:

THICKNESS	VERTICAL REINFORCING	HORIZONTAL REINFORCING
6"	#4 BARS AT 18"oc	#4 BARS AT 16"oc
8"	#4 BARS AT 18"oc	#4 BARS AT 12"oc
10"	#4 BARS AT 18"oc	#5 BARS AT 15"oc
12"	#4 BARS AT 18"oc EA FACE	#4 BARS AT 16"oc EA FACE

3. PLACE STEEL IN THE CENTER OF THE WALL (EXCEPT TYPE 'B' AND RETAINING WALLS). WALLS THICKER THAN 10" SHALL HAVE TWO CURTAINS OF REINFORCEMENT (PLACED NEAR EA FACE OF THE WALL), UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.

**WALL REINFORCEMENT PLACEMENT TYPES:**

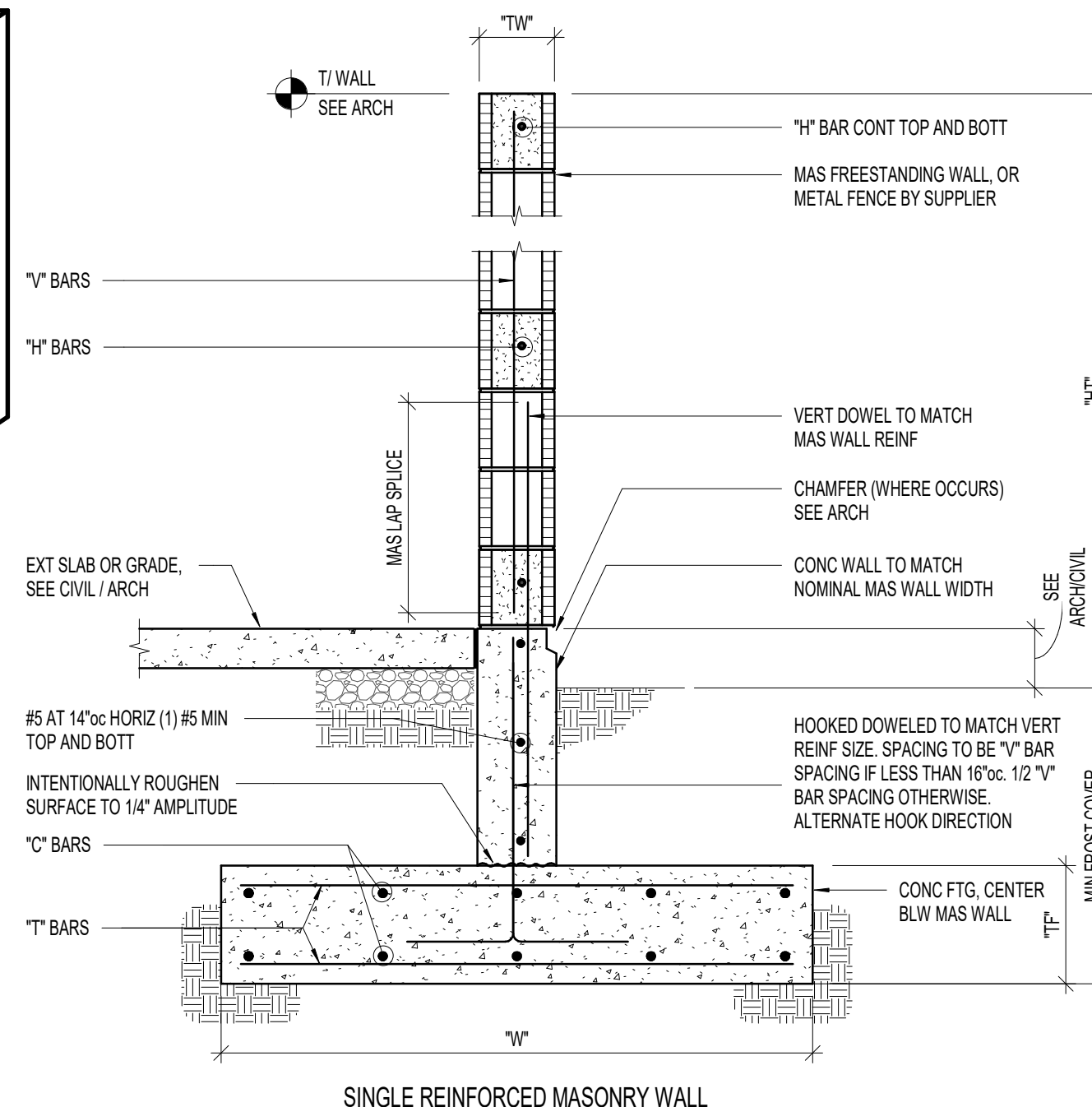


MASONRY FREESTANDING WALL SCHEDULE											
WALL GEOMETRY		FTG GEOMETRY		"V" BARS		"H" BARS		"T" BARS		"C" BARS	
"TW"	"HT"	"W"	"TF"	SIZE	SPACE	SIZE	SPACE	SIZE	SPACE	SIZE	SPACE
8"	4'-0"	2'-6"	12"	(1) #5	32"oc	(1) #5	48"oc	#4	18"oc	#4	18"oc
8"	6'-0"	3'-6"	12"	(1) #5	32"oc	(1) #5	48"oc	#4	18"oc	#4	18"oc
8"	8'-0"	4'-0"	12"	(1) #5	32"oc	(1) #5	48"oc	#4	18"oc	#4	18"oc
8"	10'-0"	5'-0"	12"	(1) #5	24"oc	(1) #5	48"oc	#4	18"oc	#4	18"oc
8"	12'-0"	5'-6"	12"	(1) #5	16"oc	(1) #5	48"oc	#4	12"oc	#4	18"oc
8"	14'-0"	6'-0"	12"	(1) #5	8"oc	(1) #5	48"oc	#5	12"oc	#4	18"oc

1500 PSF

**MASONRY FREESTANDING WALL NOTES:**

1.  $f_m = 2000$  psi (MIN),  $f_c = 3000$  psi (MIN). SEE GSN FOR MORE STRINGENT REQUIREMENTS IF APPLICABLE.
2. WALLS DESIGNED FOR WIND SPEED OF 115 MPH.
3. WALLS ARE DESIGNED FOR MAX SDS OF 1.2. NO CLADDING.
4. "HT" IS A MAXIMUM DIMENSION.
5. WALLS ARE FOR MINIMUM 30' FROST DEPTH.



MASONRY FREE STANDING WALL SCHEDULE (8" WALL, 1500 PSF SOIL)

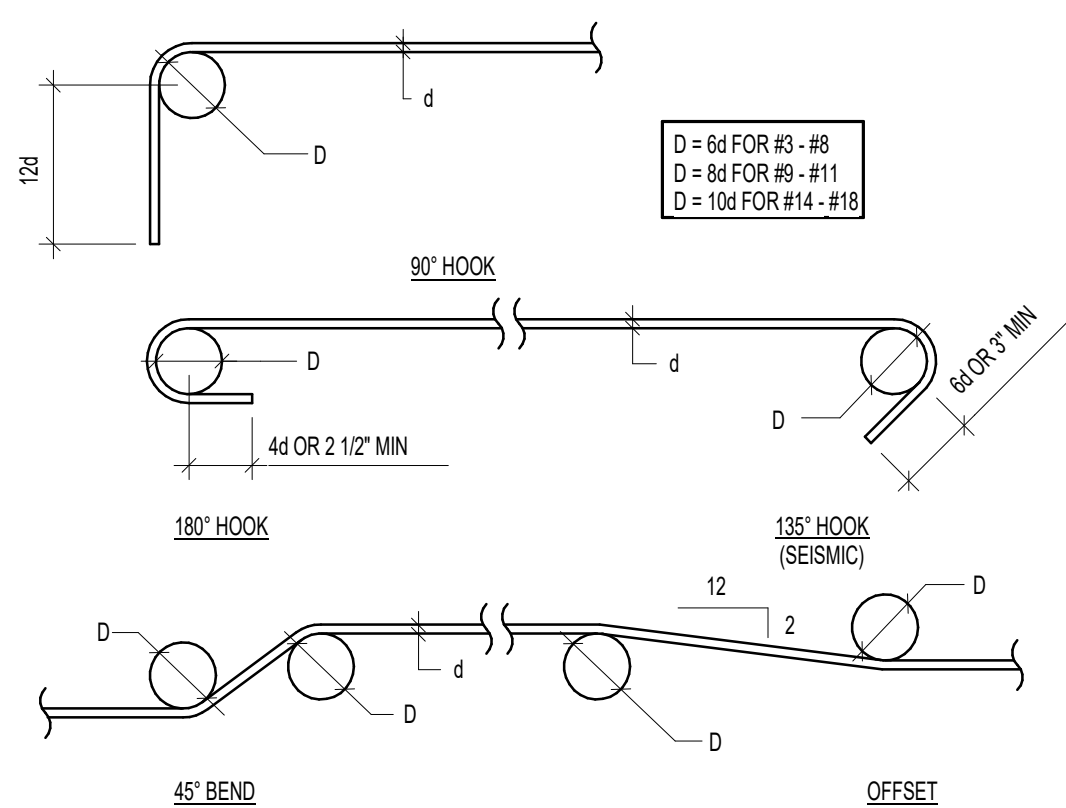
1 CONCRETE FOOTING SCHEDULE  
S-801 NO SCALE

2 CONCRETE WALL SCHEDULE  
S-801 NO SCALE

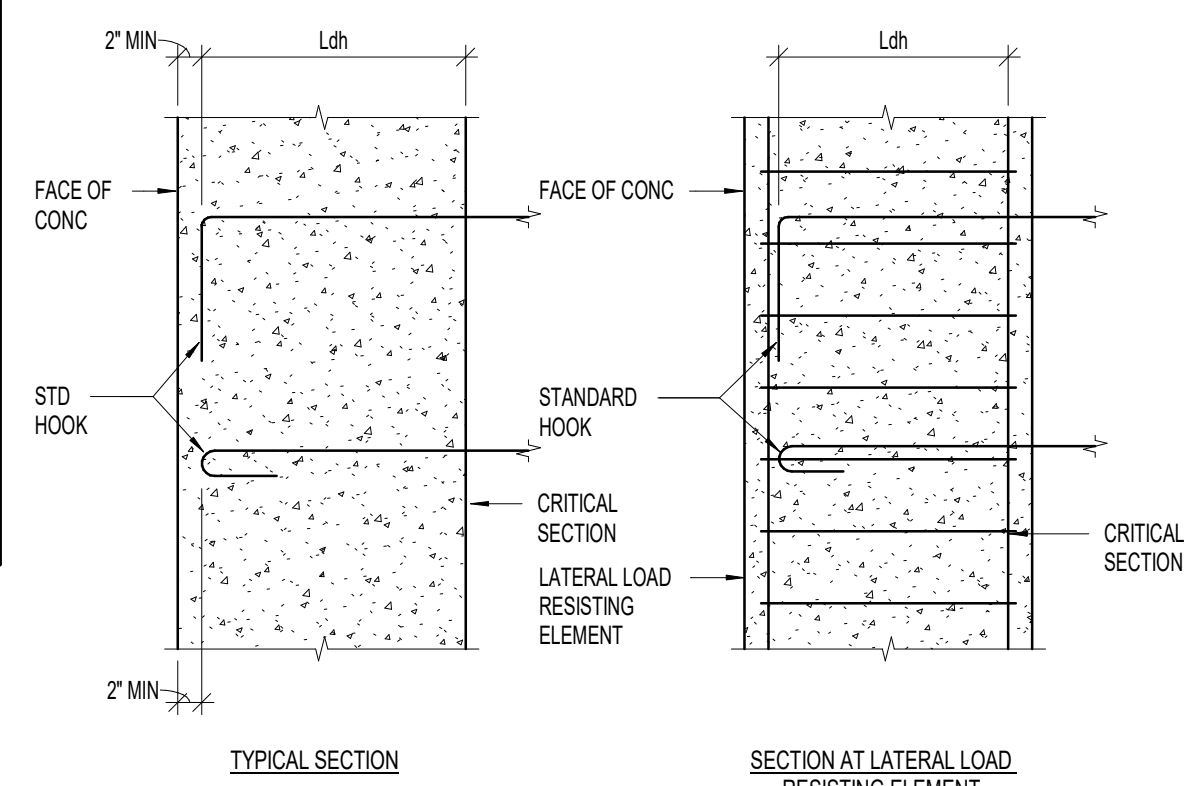
3 MASONRY FREE STANDING WALL SCHEDULE (8" WALL, 1500 PSF SOIL)  
S-801 NO SCALE

CONCRETE REINFORCING BAR LAP SPLICE SCHEDULE												
BAR SIZE	$f_c = 3000$ PSI		$f_c = 3500$ PSI		$f_c = 4000$ PSI		$f_c = 4500$ PSI		$f_c = 5000$ PSI		$f_c = 6000$ PSI	
	REGULAR	TOP	REGULAR	TOP	REGULAR	TOP	REGULAR	TOP	REGULAR	TOP	REGULAR	TOP
	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS	CLASS
#3	17"	22"	22"	28"	16"	21"	21"	26"	15"	19"	19"	25"
#4	22"	29"	29"	38"	21"	27"	27"	36"	19"	25"	25"	33"
#5	28"	36"	36"	47"	26"	34"	34"	44"	24"	31"	31"	41"
#6	33"	43"	43"	56"	31"	40"	40"	52"	29"	37"	37"	49"
#7	48"	63"	63"	81"	45"	59"	59"	75"	42"	54"	54"	71"
#8	55"	72"	72"	93"	51"	67"	67"	82"	48"	62"	62"	81"
#9	62"	81"	81"	105"	58"	75"	75"	98"	54"	70"	70"	91"
#10	70"	91"	91"	118"	65"	85"	85"	110"	61"	79"	79"	102"
#11	78"	101"	101"	131"	73"	94"	94"	122"	67"	87"	87"	114"

- NOTES:**
1. THIS SCHEDULE SHALL BE USED FOR ALL SPLICES, UNLESS NOTED OTHERWISE.
  2. HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS WHERE 12", OR MORE, OF FRESH CONCRETE IS CAST BELOW THE REINFORCING BARS.
  3. CLASS 'B' SPLICES SHALL BE USED FOR ALL SPLICES UNLESS NOTED OTHERWISE.
  4. TIES AND STIRRUPS SHALL NOT BE SPLICED.
  5. FOR ALL LIGHTWEIGHT CONCRETE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3.
  6. FOR ALL EPOXY COATED BARS, LAP LENGTHS SHALL BE MULTIPLIED BY 1.5 FOR BARS WITH CLEAR COVER LESS THAN 3 BAR DIAMETERS OR CLEAR SPACING LESS THAN 6 BAR DIAMETERS, OTHERWISE MULTIPLY BY 1.2.
  7. LAP LENGTHS SHALL BE MULTIPLIED BY 1.25 AT SHEARWALL BOUNDARY ELEMENTS.
  8. DEVELOPMENT LENGTH  $l_d$  IS EQUAL TO CLASS 'A' SPLICE.
  9. IF REINFORCING HAS CLEAR COVER LESS THAN ONE BAR DIAMETER, LAP LENGTHS SHALL BE MULTIPLIED BY 1.5.
  10. IF REINFORCING IS NOT ENCLOSED IN TIES OR STIRRUPS AND IS SPACED TIGHTER THAN 2 BAR DIAMETERS ON CENTER, LAP LENGTHS SHALL BE MULTIPLIED BY 1.5.
  11. LAP LENGTHS SHALL BE MULTIPLIED BY 1.25 FOR GRADE 75 REBAR.
  12. WHERE BARS OF DIFFERENT SIZES ARE LAPPED, THE SPLICE LENGTH SHALL BE THE LARGER OF  $l_d$  OF THE LARGER BARS AND THE SPLICE LENGTH OF THE SMALLER BAR.



HOOKED BAR DEVELOPMENT LENGTHS, $l_{dh}$					
BAR SIZE	$f_c = 3000$ PSI	$f_c = 4000$ PSI	$f_c = 5000$ PSI	$f_c = 6000$ PSI	$f_c = 6000$ PSI
#3	9"	8"	7"	7"	6"
#4	11"	10"	9"	9"	8"
#5	14"	12"	12"	11"	10"
#6	17"	15"	14"	13"	12"
#7	20"	17"	16"	15"	14"
#8	22"	19"	18"	17"	16"
#9	25"	22"	21"	20"	18"
#10	28"	25"	23"	22"	20"
#11	31"	27"	26"	24"	22"



- NOTES:**
1. FOR GRADE 75 REBAR, MULTIPLY LENGTHS BY 1.25.
  2. FOR LIGHTWEIGHT CONCRETE, MULTIPLY LENGTHS BY 1.3.
  3. FOR EPOXY COATED REINFORCEMENT, MULTIPLY LENGTHS BY 1.2.
  4. FOR HOOKS WITH 2.5" MINIMUM SIDE COVER PERPENDICULAR TO PLANE OF HOOK, MULTIPLY LENGTHS BY 0.7.
  5. FOR LATERAL LOAD RESISTING ELEMENTS, CRITICAL SECTIONS SHALL BE TAKEN AS THE FACE OF THE TIE / HOOP AT CONFINED CORES OF COLUMN JOINTS OR SHEAR WALL BOUNDARY ZONE.

4 CONCRETE REINFORCING BAR LAP SCHEDULES AND DIAGRAMS  
S-801 NO SCALE



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**CONCRETE SCHEDULES**

**S-801**

STEEL COLUMN SCHEDULE				
MARK	SIZE	STEEL BASE PLATE	STEEL CAP PLATE THICKNESS	COMMENTS
SC-1	HSS5x5x5/16	3/4" (SBP - 2 OR 3)	SCP-1/SCP-2 PER DET	
SC-2	HSS4x4x1/4	3/4" (SBP - 2 OR 3)	1/2" (SCP - 1 OR 2)	

STEEL COLUMN NOTES:

- ALL ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 55 (AT CONTRACTOR'S OPTION, GRADE 55 ANCHORS MAY BE SUBSTITUTED WITH GRADE 105 ANCHORS), UNLESS NOTED OTHERWISE. ALL COLUMNS SHALL BE INSTALLED WITH HEADED (OR DOUBLE NUT) ANCHOR BOLTS. PROJECT ANCHOR BOLTS 4" MINIMUM ABOVE THE TOP OF THE BASE PLATE.
- ANCHOR BOLTS SHALL NOT BE WELDED (INCLUDING TACK WELDS).
- IF DESIRED SPLICE LOCATIONS DIFFER FROM THOSE LEVELS SHOWN ON PLAN, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION. WRITTEN APPROVAL REQUIRED.
- ALL CAP PLATE BOLTS SHALL BE 3/4" A325N BOLTS, TYPICAL UNLESS NOTED OTHERWISE.
- ALL CAP PLATES TO BE 3/4" THICK, UNO.
- SEE GENERAL STRUCTURAL NOTES FOR OTHER REQUIREMENTS.
- ERECTION AIDS TO BE REMOVED AFTER COLUMN SPLICING.
- FOR HSS14x14 AND HSS16x16 COLUMNS, ANCHOR BOLTS SHOULD BE 1" DIAMETER WITH 12" EMBEDS WITH 3/8"x2" PLATE WASHERS FOR HSS 12x12 COLUMNS OR SMALLER ANCHOR BOLTS SHOULD BE 3/4" WITH 8" EMBEDS WITH 1/4"x2" PLATE WASHERS FOR HSS10x10 COLUMNS OR SMALLER HSS COLUMNS, ASTM F1554 GRADE 36 RODS MAY BE SUBSTITUTED.
- OVERSIZED HOLES MAY BE USED IN BASE PLATES PROVIDED THEY DO NOT EXCEED THE FOLLOWING SIZES:  
 3/4" Ø BOLT ≤ 1 1/16"  
 1" Ø BOLT ≤ 1 1/2"  
 1 1/4" Ø BOLT ≤ 1 7/8"  
 1 1/2" Ø BOLT ≤ 2 1/4"
- HOLES IN PLATE WASHERS SHOULD BE 1/16" GREATER THAN BOLT DIMENSION.
- NON-SHRINK GROUT UNDER BASE PLATES SHALL BE 1 1/2" THICK UNO.
- ANCHOR BOLT EMBEDMENT SHALL BE 12 x ANCHOR BOLT DIAMETER, UNO.
- COLUMN LOCATIONS SHOWN ON SCHEDULE ARE APPROXIMATE. PLEASE SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS.
- DO NOT WELD IN WIDE FLANGE "K" ZONES. WELDS ARE NOT REQUIRED AT "K" ZONES.
- WELDING OF PLATE WASHERS TO BASE PLATES MAY BE OMITTED AT SINGLE STORY COLUMNS AND HSS 8x8 COLUMNS OR SMALLER.

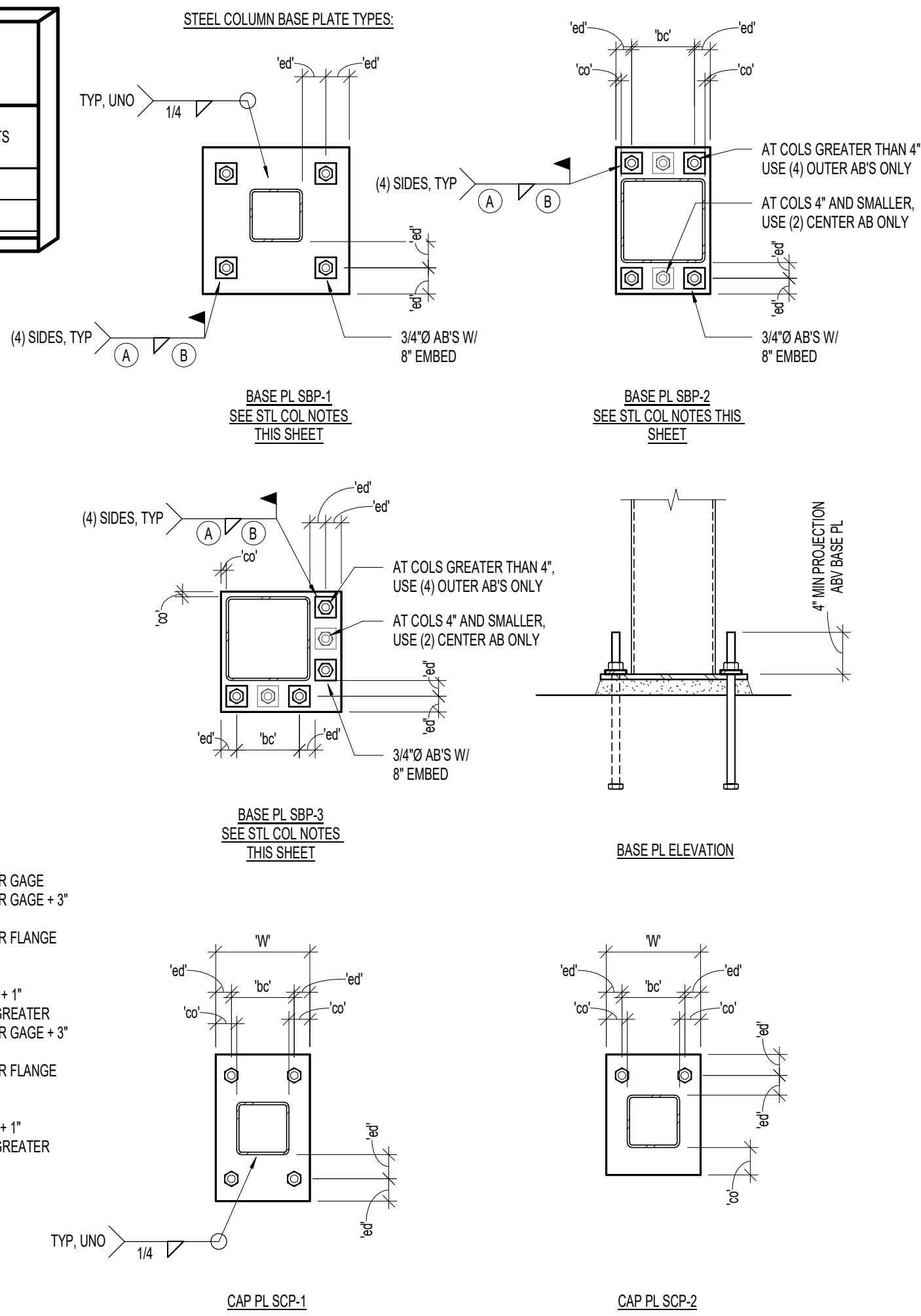
BASE PL LEGEND:

- 3/4" Ø BOLT ≤ 1 1/16"
- 1" Ø BOLT ≤ 1 1/2"
- 1 1/4" Ø BOLT ≤ 1 7/8"
- 1 1/2" Ø BOLT ≤ 2 1/4"

CAP PL LEGEND:

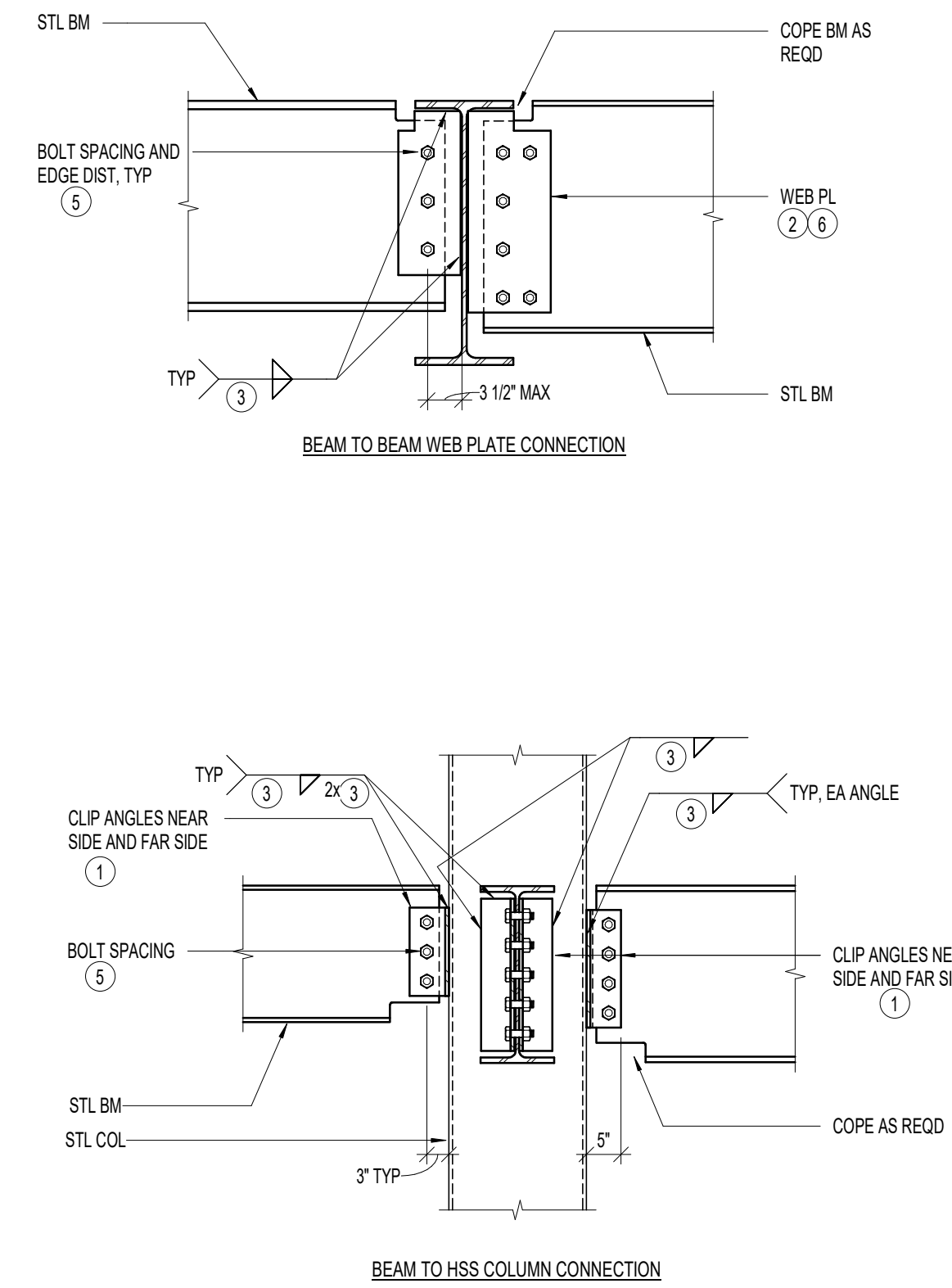
- 3/4" = 1/2" MINIMUM
- 1/2" = 1 1/2" MINIMUM
- 1" = 2" MINIMUM
- 1 1/4" = 3" MINIMUM
- 1 1/2" = 3" MINIMUM

- A = PLATE WASHER THICKNESS - 1/16" (MAX WELD SIZE 5/16")
- B = 2" FOR HSS16x16 OTHERWISE 1"



A-325N BOLT SCHEDULE		
MAXIMUM BEAM SIZE IN EACH BEAM DEPTH GROUP	No. PER BEAM	SIZE
W8	2	7/8"Ø
W10	2	7/8"Ø
W12	3	7/8"Ø

- CLIP ANGLES: 15x3 1/2. THICKNESS SHALL BE EQUAL TO ONE HALF THE BEAM WEB THICKNESS PLUS 1/16" (1/4" MIN). FOR TWO ROWS OF BOLTS OR SKEWED CONNECTIONS, USE BENT PLATES. WHERE COLUMN WIDTH IS SMALLER THAN THE CONNECTING CLIP ANGLES, ANGLE LEGS SHALL BE REDUCED TO MATCH WIDTH OF COLUMN.
- BEAM WEB CONNECTION PLATE THICKNESS EQUALS 3/8" MINIMUM THICK FOR W18 BEAMS OR SMALLER 1/2" MINIMUM THICK FOR W21 BEAMS OR LARGER 3/4" MINIMUM THICK FOR BEAMS WITH WEB GREATER THAN 1" THICK
- FILLET WELDS SHALL BE AS FOLLOWS:  
 1/4" FOR 3/8" PLATES  
 5/16" FOR 1/2" PLATES  
 7/16" FOR 3/4" PLATES
- THICKNESS EQUALS BEAM FLANGE THICKNESS OF BEAM FRAMING INTO COLUMN WEB (3/8" MINIMUM).
- BOLT EDGE DISTANCE SHALL BE 1 1/2" MINIMUM AT ALL EDGES. BOLT SPACING SHALL BE AT 3" BOLT SPACING MAY BE REDUCED TO 3x THE BOLT DIAMETER IF IT IS REQUIRED FOR A SINGLE ROW OF BOLTS. A SINGLE ROW OF BOLTS IS PREFERRED.
- WHEN MORE THAN ONE COLUMN OF BOLTS IS NEEDED, THE FIRST COLUMN SHALL BE COMPLETE WITH THE REMAINDER OF THE BOLTS PLACED IN THE SECOND COLUMN.
- 1/2" PLATE THICKNESS + 5/16"



TYPICAL BOLTED WEB PLATE CONNECTIONS WITH BOLT SCHEDULE (SINGLE SHEAR)

1 STEEL COLUMN SCHEDULE FOR SEISMIC DESIGN CATEGORIES C THRU F

2 TYPICAL BOLTED WEB PLATE CONNECTIONS WITH BOLT SCHEDULE (SINGLE SHEAR)



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PROJECT NUMBER: 20056  
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STEEL SCHEDULES

S-802

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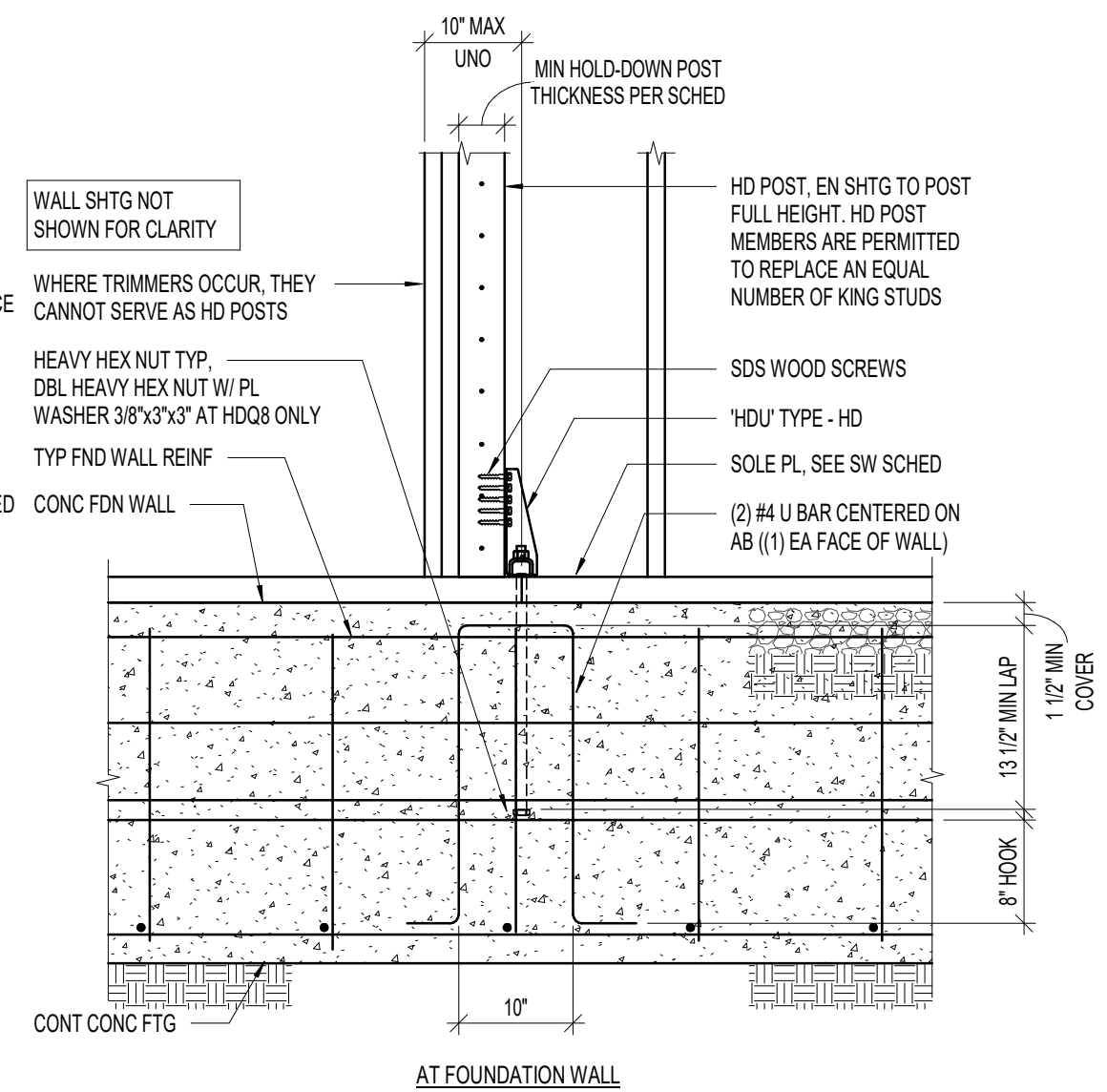
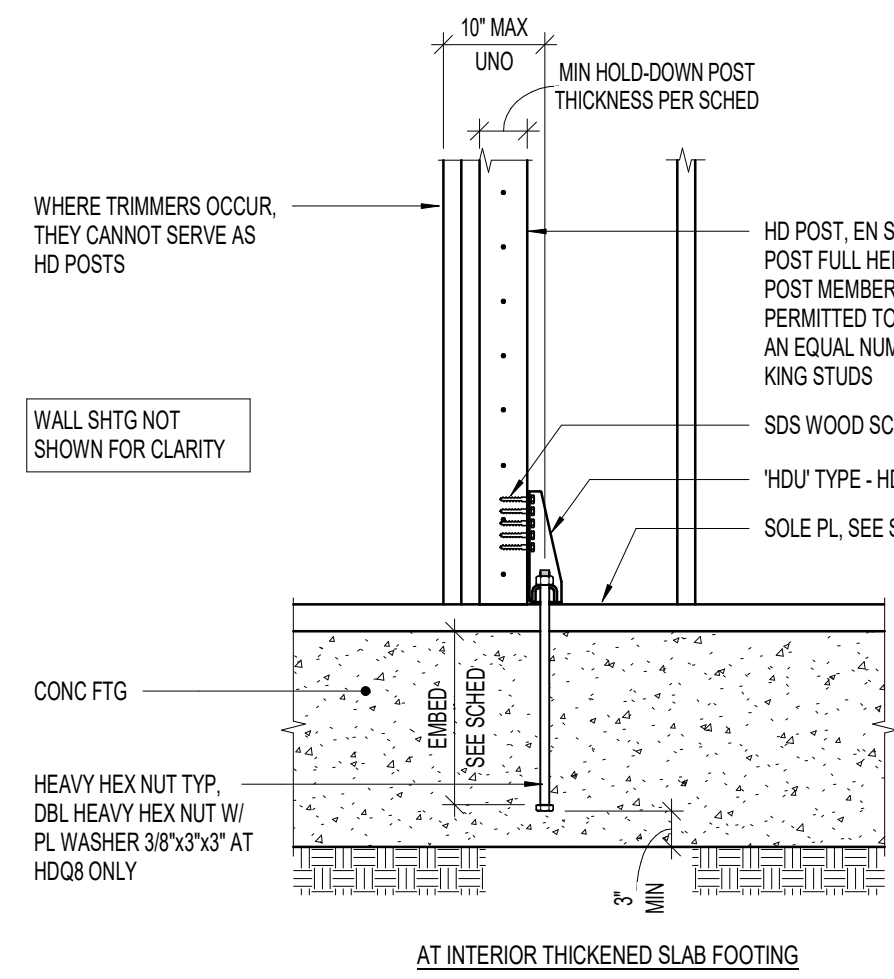
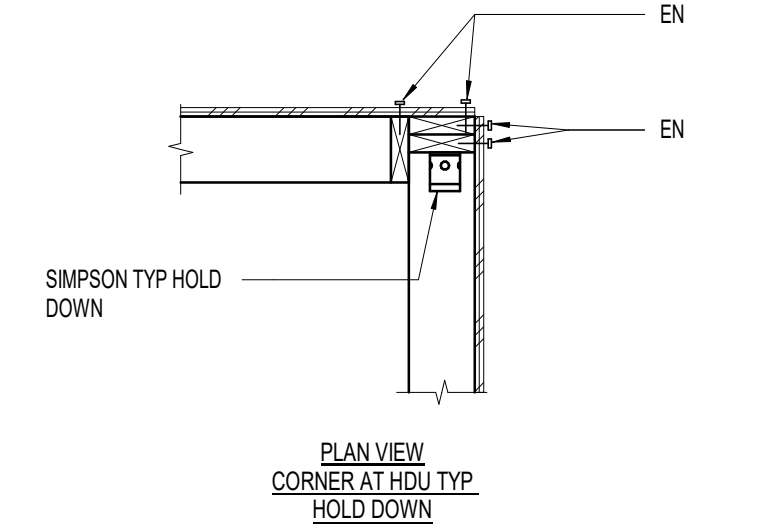
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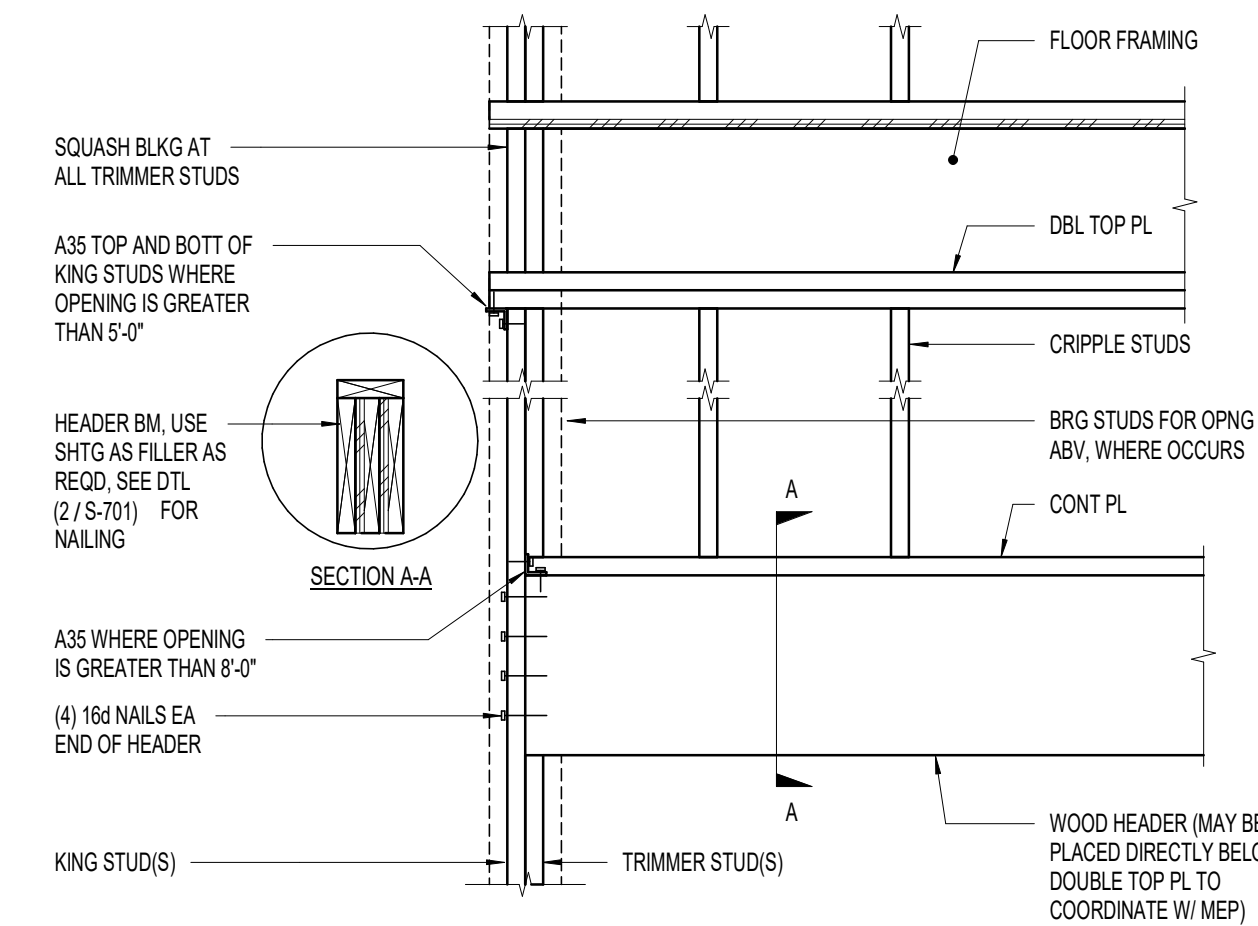
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'HDU' TYPE HOLD-DOWN SCHEDULE			
MARK	HOLD-DOWN POST THICKNESS	F1554-GR36 ANCHOR BOLT Ø	EMBED DEPTH SEE NOTE 3
HDU2	(2) 2x	5/8"	0'-6"
HDU4	(5) 2x OR (2) 2x	5/8"	0'-6"
HDU8	(3) 2x	7/8"	0'-7"
HD08	(2) 2x	7/8"	0'-10"

- NOTES:
- INCREASE FOOTING DEPTH WHERE EMBEDMENT LENGTH PLUS 3" IS GREATER THAN FOOTING DEPTH SPECIFIED.
  - USE ALL SDS WOOD SCREWS PROVIDED WITH HOLD-DOWN.
  - EMBED DEPTHS ASSUME A 12" MINIMUM DISTANCE TO EDGE OF FOOTING (15" FOR HDU14).



HEADER SCHEDULE							
EXTERIOR WALL				INTERIOR WALL			
SPAN (ft)	SIZE	NUMBER OF TRIMMER STUDS	NUMBER OF KING STUDS	SPAN	SIZE	NUMBER OF TRIM STUDS	NUMBER OF KING STUDS
0'-0" > < 3'-0"	(3) 2x8	1	1	0'-0" > < 3'-6"	(2) 2x8	1	1
3'-0" > < 5'-0"	(3) 2x10	1	2	3'-6" > < 5'-0"	(2) 2x10	2	2
5'-0" > < 6'-6"	(3) 1 3/4x7 1/4 LVL	2	3	5'-0" > < 6'-6"	(2) 1 3/4x7 1/4 LVL	3	2
> 6'-6"	SEE PLAN			> 6'-6"	SEE PLAN		

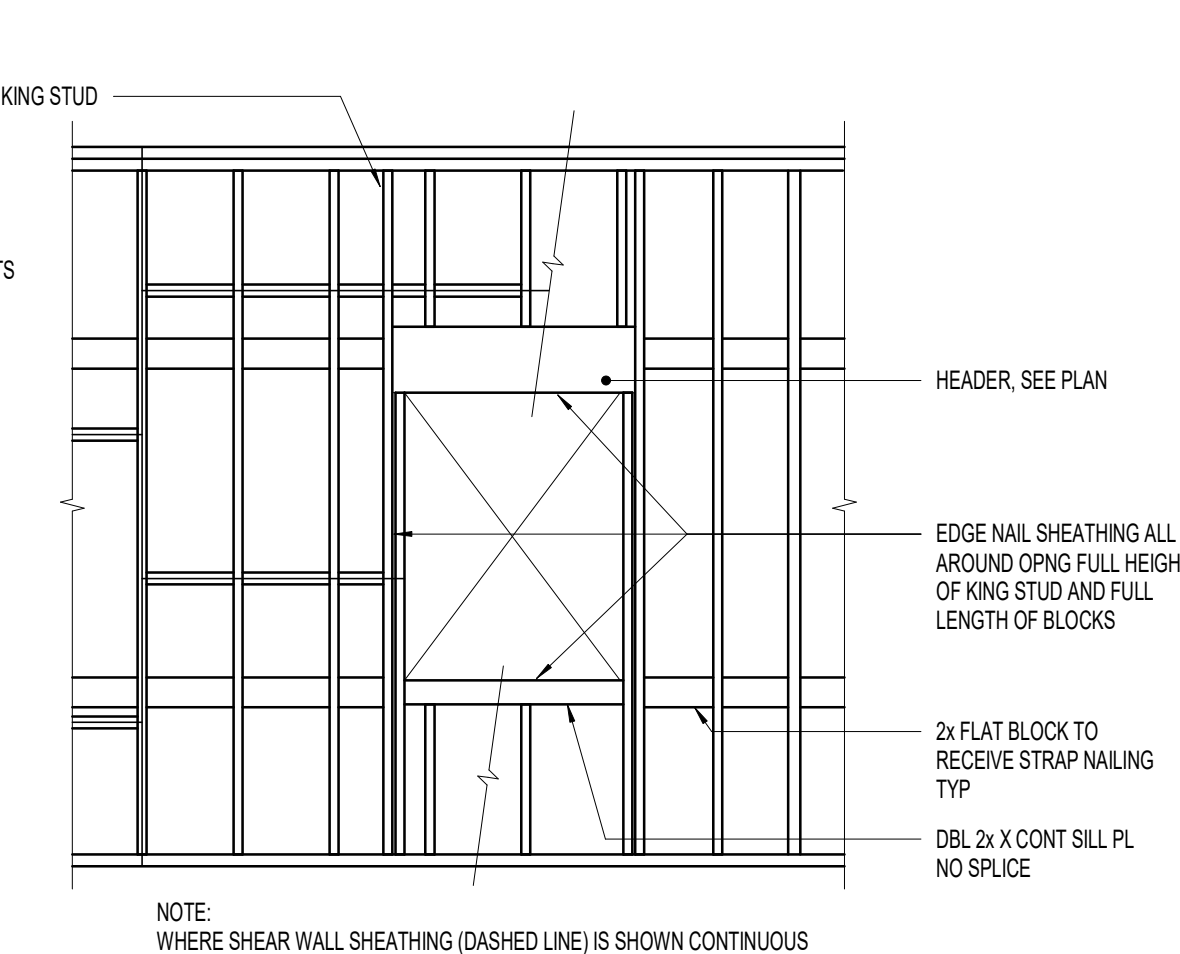
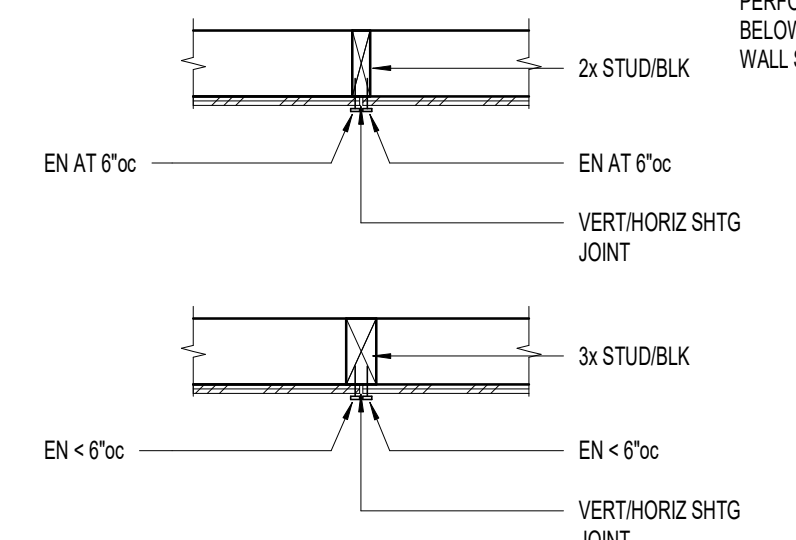
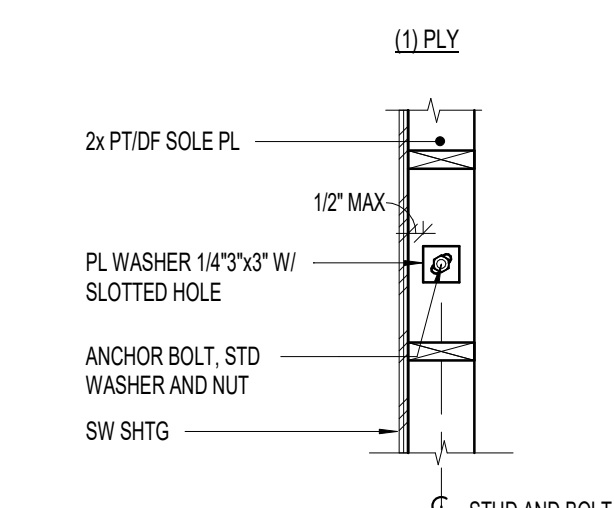
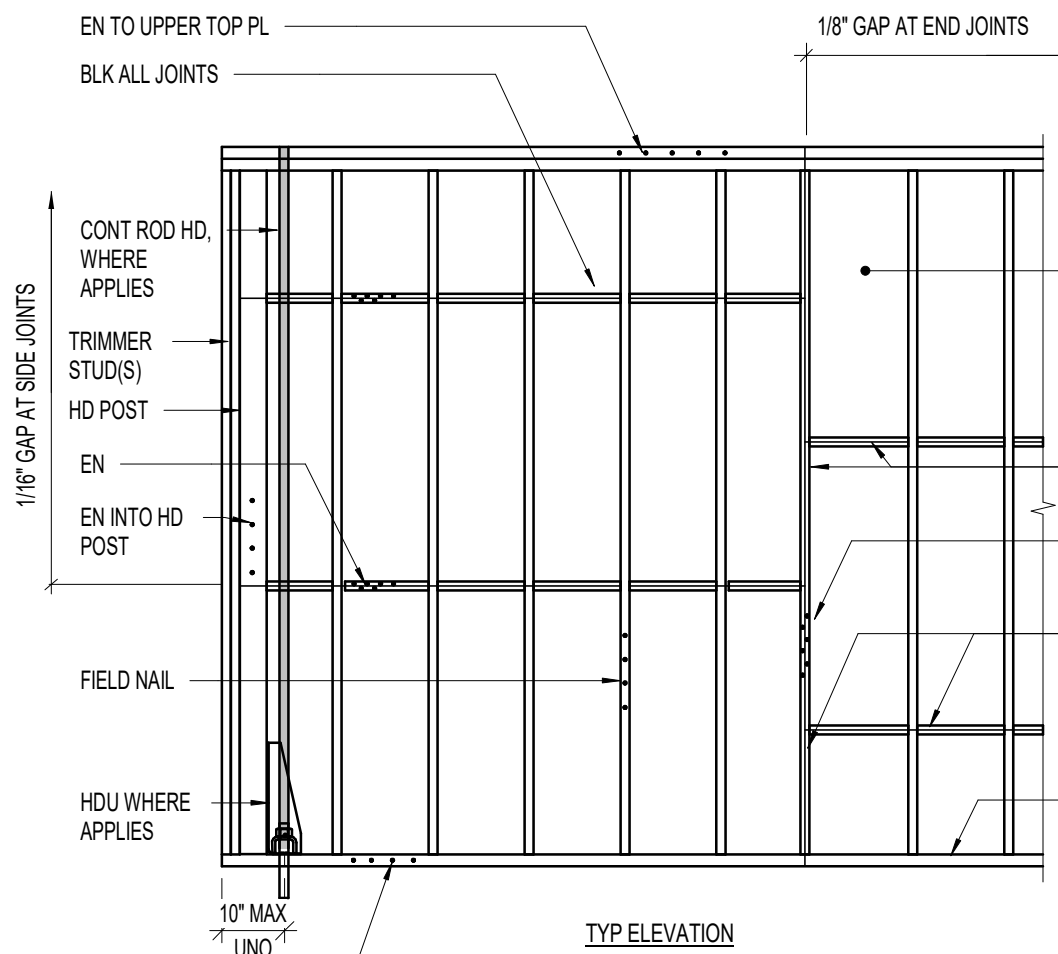


1 'HDU' TYPE HOLD-DOWN SCHEDULE  
S-803 NO SCALE:  
148481

2 HEADER SCHEDULE  
S-803 NO SCALE:  
148481

SHEAR WALL SCHEDULE								
MARK	SHGT THICKNESS	BOTH SIDES SHEATHED	NAIL SIZE	EDGE NAIL SPACING (EN)	STUD/BLKG AT JOINT	SILL NAILING (ROWS) AT BOTTL OF WALL (SEE NOTE 15)	FRAMING ANCHOR AT TOP OF WALL (SEE NOTE 15)	SOLE BOLTING TO CONCRETE (SEE NOTE 12)
SW-1	7/16"	NO	8d	6"	2x	(1) 16d AT 8"oc	(1) A34 AT 16"oc	5/8"Ø AT 48"oc
SW-2	7/16"	NO	8d	4"	3x	(2) 16d AT 10"oc	(1) A34 AT 16"oc	5/8"Ø AT 40"oc
SW-3	7/16"	NO	8d	3"	3x	(2) 16d AT 8"oc	(2) A34 AT 16"oc	5/8"Ø AT 32"oc
SW-14	1 5/8"	NO	10d	2"	3x	(3) 16d AT 8"oc	(2) A34 AT 16"oc	5/8"Ø AT 16"oc

- NOTES:
- ALL WALL SHEATHING SHALL BE APA RATED SHEATHING WITH A MINIMUM SPAN INDEX OF 24:16. USE OSB INSTEAD OF PLYWOOD UNLESS OTHERWISE APPROVED BY THE EOR.
  - ALL EXTERIOR WALLS SHALL BE SHEATHED WITH 7/16" SHEATHING AND NAILED WITH 8d NAILS AT 6"oc AT PANEL EDGES AND AT 12"oc IN THE FIELD. TYPICAL UNO, FASTEN SOLE PLATE TO FOUNDATION WITH 5/8"Ø ANCHOR BOLTS AT 48"oc. TYPICAL UNO, SEE SHEAR WALL SCHEDULE FOR ADDITIONAL REQUIREMENTS.
  - SHEATHING AT EXTERIOR WALLS MAY NEED TO BE FIRE-TREATED. SEE ARCHITECTURAL DRAWINGS.
  - USE COMMON NAILS (8d DIAMETER = 0.131", 10d DIAMETER = 0.148"). MINIMUM NAIL PENETRATION INTO FRAMING MEMBERS, 8d = 1 1/2", 10d = 1 5/8".
  - DRIVE NAILS WITH NAIL HEADS FLUSH WITH THE SURFACE OF THE SHEATHING. DO NOT OVER DRIVE OR UNDER DRIVE THE NAILS. EDGE NAILS SHALL BE PLACED 3/8" FROM EDGE OF PANEL.
  - ALL PANEL EDGES SHALL BE FULLY BLOCKED, UNO, PROVIDE PANEL EDGE NAILING AS SPECIFIED ALONG ALL PANEL EDGES, UPPER TOP PLATES, SILL PLATES, HOLD-DOWN ELEMENTS, STRAPS, COLLECTORS, AND AT ALL OTHER LOCATIONS AS INDICATED AND/OR AS REQUIRED FOR A COMPLETE INSTALLATION.
  - PROVIDE FIELD NAILING AT 12"oc TYPICAL FOR ALL SHEATHED WALLS.
  - PLACE ALL SHEATHING PANELS WITH A 1/8" GAP AT END JOINTS, 1/16" GAP AT SIDE JOINTS. PLACE ALL SHEATHING PANEL JOINTS ALONG THE CENTER OF A SINGLE COMMON BACK-UP MEMBER. TYPICAL, EXCEPT AS NOTED BELOW. SEE SCHEDULE FOR THICKNESS REQUIREMENTS FOR BACK-UP MEMBER STUDS, BLOCKING). AS AN ALTERNATE, (2) 2x MEMBERS MAY BE USED INSTEAD OF A 3x MEMBER FOR STUDS, PLATES, OR BLOCKING AT SHEATHING PANEL JOINTS PROVIDED THE (2) 2x MEMBERS ARE STITCH NAILED WITH 16d NAILS AT SPACING TO MATCH THE PANEL EDGE NAIL SPACING SHOWN IN THE SCHEDULE. SEE SKETCH.
  - DO NOT SPLICE SHEATHING ALONG TOP PLATES OR SILL PLATES UNLESS THE PLATE MEETS THE MINIMUM THICKNESS INDICATED IN THE SCHEDULE.
  - AT WALLS WITH SHEATHING ON EACH FACE OF THE WALL, STAGGER ALL PANEL JOINTS ON ONE FACE OF THE WALL FROM THE PANEL JOINTS ON THE OTHER FACE OF THE WALL, BOTH HORIZONTAL AND VERTICAL JOINTS. SEE SKETCH.
  - SOLE PLATES AT THE FOUNDATION LEVEL SHALL BE 2x MATERIAL, EXCEPT WHEN BOTH FACES OF THE WALL ARE SHEATHED THEY SHALL BE 3x MATERIAL, TYPICAL UNO. SEE SKETCH.
  - ALL ANCHOR BOLTS IN SOLE PLATES SHALL BE POSITIONED AND TIED INTO PLACE PRIOR TO CASTING CONCRETE. PLACE ANCHOR BOLTS ALONG CENTERLINE OF STUD WALL. SHIFT LAYOUT OF STUDS AS REQUIRED TO MISS ANCHOR BOLTS. PROVIDE A PLATE WASHER BELOW EACH ANCHOR BOLT NUT. THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE FACE OF THE SHEATHING. MINIMUM SIZE OF PLATE WASHER SHALL BE 3x3x1/4". HOWEVER, AT WALLS WITH SHEATHING ON EACH FACE OF THE WALL, THE PLATE WASHER WILL NEED TO EXTEND TO WITHIN 1/2" OF EACH FACE OF SHEATHING. PLATE WASHERS MAY HAVE A DIAGONALLY SLOTTED HOLE WITH A WIDTH OF UP TO THE DIAMETER OF THE BOLT PLUS 3/16" AND A LENGTH OF 1 3/4" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT. ANCHOR BOLTS SHALL HAVE 6" MINIMUM EMBED TO THE TOP OF THE J-BOLT OR NUT. SEE SKETCH.
  - PROVIDE A HOLD-DOWN AT EACH END OF EACH SHEAR WALL. SEE THE TYPICAL SHEAR WALL AND HOLD-DOWN DETAILS. PLACEMENT OF HOLD-DOWNS SHALL ALLOW FOR THE CORRECT NUMBER OF TRIMMER AND KING POSTS AT OPENINGS. HOLD-DOWN POSTS MAY SERVE AS KING POSTS OF EQUIVALENT SIZE. PLACE CONTINUOUS ROD HOLD DOWN ROD NO MORE THAN 10" FROM END OF SHEAR WALL WITH REMAINING COMPRESSION POSTS PLACED TO THE INSIDE. PLACE 'HDU' TYPE HOLD DOWNS WITHIN 10" OF END OF WALL.
  - WHERE PERPENDICULAR SHEAR WALLS MEET AT A COMMON CORNER, USE THE LARGER HOLD-DOWN SPECIFIED FOR EACH WALL AND NAIL THE SHEATHING FROM EACH WALL TO THE HOLD DOWN POST. IF SHEATHING FROM BOTH WALLS CANNOT ATTACH TO THE SAME HOLD-DOWN POST, INSTALL BOTH HOLD-DOWNS. AT CONTINUOUS ANCHOR ROD TYPE HOLD DOWNS, INSTALL BOTH HOLD DOWNS. SEE HOLD DOWN DETAILS.
  - THE SILL NAILING AND FRAMING ANCHOR PORTIONS OF THE SCHEDULE ONLY APPLY WHERE VERTICAL WALL SHEATHING IS INTERRUPTED BY FLOOR FRAMING ELEMENTS. IN CASES WHERE SILL NAILING IS NOT REQUIRED, SILL PLATES SHALL BE FASTENED TO WOOD BELOW WITH 16d NAILS AT 8"oc. USE RIM TYPE A FOR 1 OR 2 ROWS OF SILL NAILING. USE RIM TYPE B OR C FOR 3 OR 4 ROWS OF SILL NAILING. USE RIM TYPE D FOR 5 OR MORE ROWS OF SILL NAILING. SEE SKETCH.



NOTE:  
WHERE SHEAR WALL SHEATHING (DASHED LINE) IS SHOWN CONTINUOUS ACROSS OPENINGS ON PLAN, THE SHEAR WALL WAS DESIGNED AS A PERFORATED SHEAR WALL AND DOES NOT REQUIRE STRAPS ABOVE AND BELOW OPENING. STRAPS ARE NOT REQUIRED BETWEEN TYPICAL SHEAR WALL SEGMENTS.

3 SHEAR WALL SCHEDULE AND TYPICAL DETAILS  
S-803 NO SCALE:  
148482

MINIMUM NAILING SCHEDULE	
CONNECTION	NAILING
BRDG TO JST, TOE NAIL EA END	(2) 8d
SOLE PL TO JST OR BLK, FACE NAIL	16d AT 1'-4"oc
TOP PL TO STUD, END NAIL	(2) 16d
STUD TO SOLE PL, END NAIL	(2) 16d
DBL STUDS, FACE NAIL	16d AT 2'-0"oc
DBL TOP PL, FACE NAIL	16d AT 1'-4"oc
RIM JST TO TOP PL, TOE NAIL	8d AT 0'-6"oc
TOP PL LAPS AT WALL INTERSECTION, FACE NAIL	(2) 16d
CONT HEADER, TWO PIECES	16d AT 1'-4"oc ALONG EA EDGE
CEILING JST TO PL, TOE NAIL	(3) 8d
CONT HEADER TO STUD, TOE NAIL	(4) 8d
CEILING JST, LAPS OVER PARTITIONS, FACE NAIL	(3) 16d
CEILING JST TO PARALLEL RAFTERS, FACE NAIL	(3) 16d
RAFTER TO PL, TOE NAIL	(3) 8d
1" BRACE TO EA STUD AND PL, FACE NAIL	(2) 8d
BUILT-UP CORNER STUDS	16d AT 2'-0"oc
BUILT-UP GIRDER AND BM	3" x 0.131 AT 24"oc AT TOP AND BOTT AND STAGGERED, (3) 3" x 0.131 AT ENDS AND AT EA SPLICE
COLLAR TIE TO RAFTER, FACE NAIL	(3) 10d
JACK RAFTER TO HP, TOE NAIL	(3) 10d
FACE NAIL	(2) 16d
ROOF RAFTER TO 2x RIDGE BM, TOE NAIL	(2) 16d
FACE NAIL	(3) 16d
JST TO BAND JST, FACE NAIL	(3) 16d
LEDGER STRIP, FACE NAIL AT EA JOIST	(3) 16d
PLYWOOD AND PARTICLEBOARD:	
SUBFLOOR, ROOF AND WALL SHEATHING (TO FRAMING)	8d
1/2" AND LESS	8d OR 10d
1 3/8" - 1"	100
COMBINATION SUB FLOOR - UNDERLAYMENT (TO FRAMING)	
3/4" AND LESS	8d
7/8" - 1"	8d OR 10d
1 1/8" - 1 1/4"	100
NAILS SPACED AT 6 INCHES ON CENTER AT EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS, EXCEPT 6" INCHES AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF DIAPHRAGMS AND SHEAR WALLS, REFER TO THE APPROPRIATE SCHEDULE.	

- NOTES:
- NAILING SCHEDULE IS PER TABLE OF THE IBC.
  - NAILING REQUIREMENTS SHOWN HERE DO NOT REPLACE HARDWARE ON THE PLANS OR DETAILS.
  - ALL NAILS USED ARE COMMON NAILS, UNO.

4 MINIMUM NAILING SCHEDULE  
S-803 NO SCALE:  
148481

2021-05-28  
100% CD SET

NOTE:  
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 05/27/2021  
DIMENSIONS AND ELEVATIONS AS THEY RELATE TO THE BUILDING IN GENERAL, I.E. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.



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DRAWN BY: SD  
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WOOD SCHEDULES

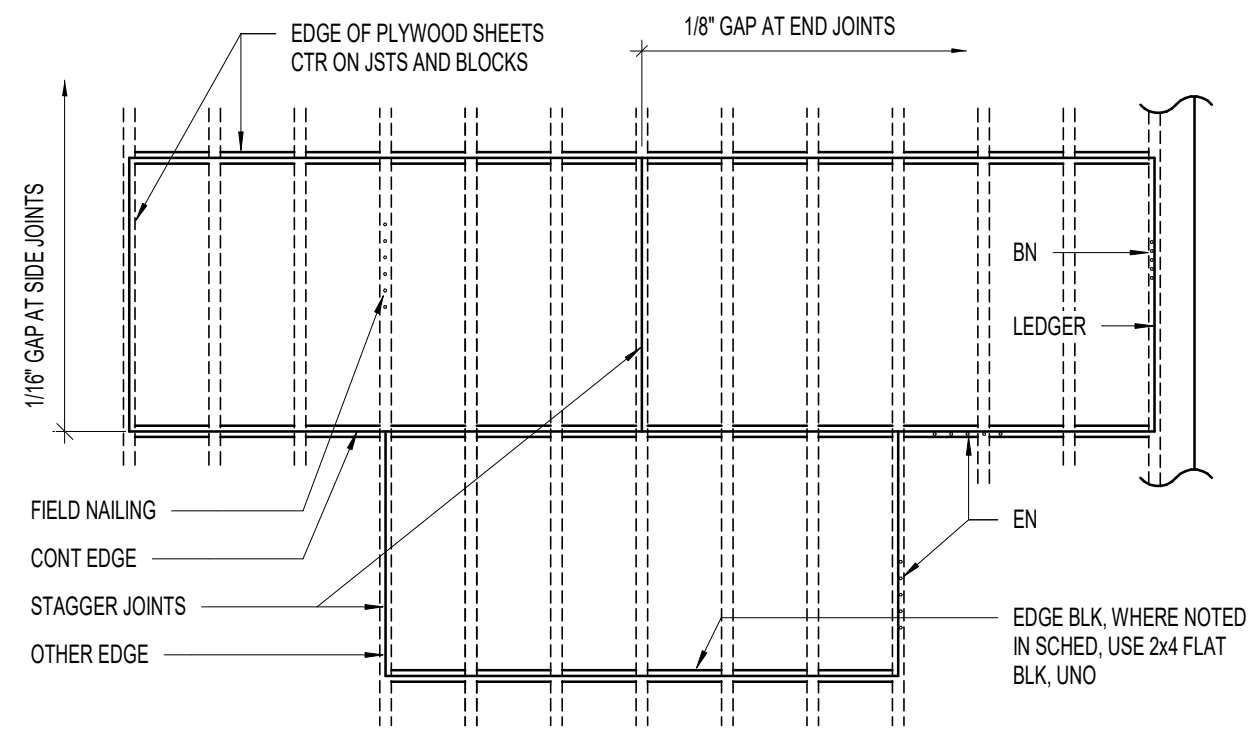
S-803

### SHEATHING SCHEDULE AT ROOF AND FLOOR

LOCATION	WOOD SHEATHING THICKNESS	NAIL SIZE	EDGE NAIL SPACING		FIELD NAIL SPACING	BOUNDARY NAIL SPACING	FULLY BLOCKED
			CONT EDGE *	OTHER EDGE			
ROOF	15/32"	8d	6"	6"	12"oc	6"	NO

\* NOT APPLICABLE FOR UNBLOCKED DIAPHRAGMS

- NOTES:
1. ALL FLOOR SHEATHING SHALL BE APA RATED SHEATHING WITH A MINIMUM SPAN RATING OF 40/24. ALL ROOF SHEATHING SHALL BE APA RATED SHEATHING WITH A MINIMUM SPAN RATING OF 40/20. USE OSB INSTEAD OF PLYWOOD UNLESS OTHERWISE APPROVED BY THE EOR.
  2. NAIL ROOF SHEATHING TO SUPPORTS. GLUE AND NAIL FLOOR SHEATHING TO SUPPORTS.
  3. USE COMMON NAILS (8d DIAMETER = 0.131", 10d DIAMETER = 0.148"). RING SHANK NAILS WITH EQUAL OR GREATER DIAMETER MAY BE USED AT FLOOR SHEATHING AT CONTRACTOR'S OPTION. MINIMUM NAIL PENETRATION INTO FRAMING MEMBERS, 3s = 1 3/8", 10s = 1 1/2".
  4. DRIVE NAILS WITH NAIL HEADS FLUSH WITH THE SURFACE OF THE SHEATHING. DO NOT OVER DRIVE OR UNDER DRIVE NAILS. EDGE NAILS SHALL BE PLACED 3/8" FROM EDGE OF PANEL.
  5. PANEL EDGES PERPENDICULAR TO SUPPORTS SHALL BE UNBLOCKED UNLESS FULLY BLOCKED IS SPECIFICALLY NOTED. PROVIDE PANEL EDGE NAILING AS SPECIFIED ALONG ALL SUPPORTED EDGES (ALL EDGES IF FULLY BLOCKED), BOUNDARIES, TOP PLATES OF SHEAR WALLS, STRAPS, COLLECTORS, AND AT ALL OTHER LOCATIONS AS INDICATED AND/OR REQUIRED FOR A COMPLETE INSTALLATION.
  6. ALL SHEATHING PANELS SHALL HAVE A MINIMUM WIDTH OF 2'-0". UNLESS PANEL IS FULLY BLOCKED AND NAILED TO ADJACENT PANELS.
  7. PLACE ALL SHEATHING PANELS JOINTS ALONG THE CENTER OF A SINGLE COMMON BACK-UP MEMBER, TYPICAL.
  8. ALL FLOOR SHEATHING TO BE TONGUE AND GROOVE. GLUE TONGUE AND GROOVE JOINT.
  9. EXTERIOR FLOOR SHEATHING SHALL BE PLYWOOD (NOT OSB) WHEN REQUIRED BY THE ARCHITECT.



**1** SHEATHING SCHEDULE AT ROOF AND FLOOR  
S-804 NO SCALE  
18441



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PROJECT NUMBER: 20056  
DRAWN BY: SD  
CHECKED BY: PJM

2021-05-28  
100% CD SET

NOTE:  
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 05/27/2021

DIMENSIONS AND ELEVATIONS AS THEY RELATE TO THE BUILDING IN GENERAL, I.E. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

**WOOD SCHEDULES**

**S-804**

D  
C  
B  
A

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**SYMBOL LEGEND**

SYMBOL	DESCRIPTION
<b>VALVES, METERS, AND GAUGES</b>	
	SHUT OFF VALVE
	GATE VALVE
	CHECK VALVE
	AUTO 2-WAY VALVE
	AUTO 3-WAY VALVE
	GLOBE VALVE
	BALL VALVE
	RELIEF VALVE
	CHAIN OPERATED GATE VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	SOLENOID VALVE
	ANGLE VALVE
	VENTURI
	BALANCING OR PLUG COCK
	FLOW SETTER
	EXPANSION VALVE (REFRIG.)
	GAS COCK
	MANUAL AIR VENT
	STRAINER
	GAUGE COCK
	FLEXIBLE CONNECTION
	PRESSURE GAUGE
	THERMOMETER
	VICTUALIC COUPLING
	REDUCER CONCENTRIC
	REDUCER ECCENTRIC
	REFRIGERANT SITE GLASS
	REFRIGERANT STRAINER
	REFRIGERANT FILTER DRIER
	90 DEG ELBOW UP
	90 DEG ELBOW DOWN
	90 DEG TEE UP
	90 DEG TEE DOWN
	UNION
	CAPPED PIPE
	ANCHOR
	FLOAT AND THERMOSTATIC TRAP
<b>HVAC SYMBOLS</b>	
	THERMOSTAT
	TEMPERATURE SENSOR
	HUMIDISTAT

**SYMBOL LEGEND**

SYMBOL	DESCRIPTION
<b>DUCT WORK</b>	
	SINGLE LINE
	DOUBLE LINE
	RECTANGULAR SUPPLY DUCT UP
	RECTANGULAR SUPPLY DUCT DOWN
	RECTANGULAR RETURN DUCT UP
	RECTANGULAR RETURN DUCT DOWN
	RECTANGULAR EXHAUST DUCT UP
	RECTANGULAR EXHAUST DUCT DOWN
	ROUND DUCT UP
	ROUND DUCT DOWN
	ACCOUSTICALLY LINED RECTANGULAR DUCT
	90° RECTANGULAR ELBOW WITH TURNING VANES
	90° RADIUS ELBOW R=1.5
	DUCT SIZE OR SHAPE TRANSITION
	OPPOSED BLADE BALANCING DAMPER (O.B.D.) IN RECT DUCT
	BUTTERFLY BALANCING DAMPER IN ROUND DUCTS
	COMBINATION TEE
	SPLITTER DAMPER
	SQUARE OR RECTANGULAR CEILING DIFFUSER
	ROUND CEILING DIFFUSER
	SIDEWALL REGISTER SUPPLY OR RETURN
	ROUND FLEXIBLE DUCT
	RETURN GRILLE
	EXHAUST GRILLE
	FIRE SMOKE DAMPER
	FIRE DAMPER
	SMOKE DAMPER
	FLEXIBLE CONNECTION
	FLEXIBLE CONNECTION

**PIPING LEGEND**

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

— HPS —	HIGH PRESSURE STEAM
— MPS —	MEDIUM PRESSURE STEAM
— LPS —	LOW PRESSURE STEAM
— HPC —	HIGH PRESSURE CONDENSATE RETURN
— MPC —	MEDIUM PRESSURE CONDENSATE RETURN
— LPC —	LOW PRESSURE CONDENSATE RETURN
— PC —	TEMPERED WATER SUPPLY
— TWS —	TEMPERED WATER SUPPLY
— CWS —	CHILLED WATER SUPPLY
— CWR —	CHILLED WATER RETURN
— HWS —	HEATING HOT WATER SUPPLY
— HWR —	HEATING HOT WATER RETURN
— RL —	REFRIGERANT LIQUID
— RS —	REFRIGERANT SUPPLY
— CWS —	CONDENSER WATER SUPPLY
— CWR —	CONDENSER WATER RETURN
— D —	DRAIN LINE
— HG —	HOT GAS BYPASS
— GS —	GLYCOL SUPPLY
— GR —	GLYCOL RETURN
— FOS —	FUEL OIL SUPPLY
— FOV —	FUEL OIL VENT

**DEFINITIONS**

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", "AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND "SIMILAR PHRASES."

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

**SYMBOL LEGEND**

SYMBOL	DESCRIPTION
<b>REFERENCE LINES AND SYMBOLS</b>	
	DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
	ELEVATION OR SECTION INDICATOR, EXTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
	ELEVATION OR SECTION INDICATOR, INTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
	SPACE NUMBER
	KEYNOTE INDICATOR
	REVISION INDICATOR
	EQUIPMENT INDICATOR
	PLUMBING FIXTURE INDICATOR
	DIFFUSER/GRILLE INDICATOR
	DIFFUSER/GRILLE INDICATOR
	BREAK, STRAIGHT
	BREAK, ROUND
	MATCHLINE INDICATOR
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE
	NEW CONNECTION TO EXISTING
	POINT OF DEMOLITION

**ABBREVIATIONS**

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

(E)	EXISTING
(F)	FUTURE
AD	ACCESS DOOR
AIR COND	AIR CONDITION(-ING, -ED)
APD	AIR PRESSURE DROP
BD	BALANCING DAMPER
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
BTUH	BTU/HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
COND	CONDENS(-ER, -ING, -ATION)
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
DP	DEPTH OR DEEP
EA	EXHAUST AIR
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
ELEC	ELECTRIC
ELEV	ELEVATION
ENT	ENTERING
EVAP	EVAPORAT(-E, -ING, -ED, -OR)
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERNAL
FC	FLEXIBLE CONNECT(-OR, -ION)
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPI	FINS PER INCH
FFM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE SMOKE DAMPER
GE	GREASE EXHAUST
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HG	MERCURY
HP	HORSEPOWER
HR	HOUR
HT	HEIGHT
HTG	HEATING
HZ	HERTZ (FREQUENCY)
ID	INSIDE DIAMETER
IN	INCH
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LH	LENGTH
LG	LATENT HEAT
LRA	LOCKED ROTOR AMPS
LVS	LEAVING
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTUR(-ER, -ED)
NC	NORMALLY CLOSED
NC	NOISE CRITERIA
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OZ	OUNCE
PD	PRESSURE DROP OR DIFFERENCE
PG	PROPYLENE GLYCOL
PH	PHASE
PPM	PARTS PER MILLION
PRESS	PRESSURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
R	THERMAL RESISTANCE
RA	RETURN AIR
RECIRC	RECIRCULATE
REFR	REFRIGERATION
REQD	REQUIRED
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SCW	SOFT COLD WATER
SW	SAFETY FACTOR
SH	SENSIBLE HEAT
SL	SEA LEVEL
SP	STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STD	STANDARD
SW	SOIL, WASTE
TA(R)	TRANSFER AIR (RETURN)
TA(S)	TRANSFER AIR (SUPPLY)
TD	TEMP, DROP OR DIFF.
TEMP	TEMPERATURE
THERM	THERMAL
TOT	TOTAL
TSTAT	THERMOSTAT
V	VOLT
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY TEMPERATURE
VEL	VELOCITY
VENT	VENT, VENTILATION
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
WB	WET BULB TEMP
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
WT	WEIGHT
WTR	WATER

**MECHANICAL GENERAL NOTES**

- THE MECHANICAL DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT & EXTENT OF THE MECHANICAL SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH SLIGHT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE & OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT.
- MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
- THE DRAWINGS & SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER & SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE & NOT THE OTHER BEING FURNISHED & INSTALLED AS THOUGH SHOWN & CALLED OUT IN BOTH.
- THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, & ALL OTHER APPLICABLE CITY, COUNTY, STATE, & FEDERAL CODES & REGULATIONS IN EFFECT.
- THE ENTIRE MECHANICAL INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS & REQUIREMENTS OF THE BUILDING OWNER.
- PRIOR TO FABRICATION & INSTALLATION OF ANY MECHANICAL COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
- THE SPACE ABOVE ALL CEILINGS IS LIMITED. CAREFUL COORDINATION IS REQUIRED WITH ALL TRADES BEFORE ANY PIPE, DUCT, OR EQUIPMENT IS ORDERED & OR INSTALLED. ANY CONFLICTS &/OR CHANGES FOUND DURING INSTALLATION THAT RESULTS FROM THE LACK OF COORDINATION BY THE CONTRACTORS DURING THE SHOP DRAWING PROCESS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL MECHANICAL INFORMATION IS NOT SHOWN ON THE MECHANICAL DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW & USE, WHERE APPROPRIATE, ALL THE MECHANICAL DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE MECHANICAL SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE STRUCTURE SHOWN ON ALL DETAILS MAY OR MAY NOT PERTAIN TO A PORTION OR ANY PORTION OF THE BUILDING. COORDINATE ALL MOUNTING REQUIREMENTS WITH ARCHITECTURAL & STRUCTURAL DRAWINGS.
- ANY PART OF THE MECHANICAL INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF ALL CEILING DIFFUSERS & GRILLES.
- CONTRACTOR SHALL OPERATE THE SYSTEM & DEMONSTRATE ALL ASPECTS OF THE SYSTEM TO THE ENGINEER &/OR OWNER TO PROVE ALL SYSTEMS ARE OPERATIONAL.
- DURING CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT REDLINED RECORD DRAWINGS AT THE PROJECT SITE. ALL CHANGES IN LAYOUT, ROUTING, EQUIPMENT, COMPONENTS, & ACCESSORIES SHALL BE RECORDED. THESE REDLINED DRAWINGS SHALL BE GIVEN TO THE ARCHITECT/ENGINEER AFTER THE FINAL INSPECTION IN ACCORDANCE WITH SPECIFICATIONS.

**GENERAL EQUIPMENT NOTES**

- ALL CAPACITIES ARE AT JOB SITE CONDITIONS & ARE MINIMUM CAPACITY.
- ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED TO CONFORM WITH LOCAL SEISMIC REQUIREMENTS & THE REQUIREMENTS OF THESE CONSTRUCTION DOCUMENTS.
- VERIFY ALL REQUIRED SERVICE CONNECTIONS, INCLUDING ELECTRICAL CHARACTERISTICS FOR ALL EQUIPMENT PRIOR TO ORDERING EQUIPMENT.
- ALL EQUIPMENT SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURAL MEMBERS.
- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS.
- ALL SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.
- AIR INLETS & OUTLETS SHALL BE OF THE SAME MANUFACTURER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE HVAC EQUIPMENT CHECK-IN, SAFEKEEPING, & DAMAGE.

**MECHANICAL SHEET INDEX**

ME001	MECHANICAL COVER SHEET
ME001	MECHANICAL DETAILS
ME001	MECHANICAL SCHEDULES
MH101	LEVEL 1 MECHANICAL PLAN
MH102	ROOF MECHANICAL PLAN

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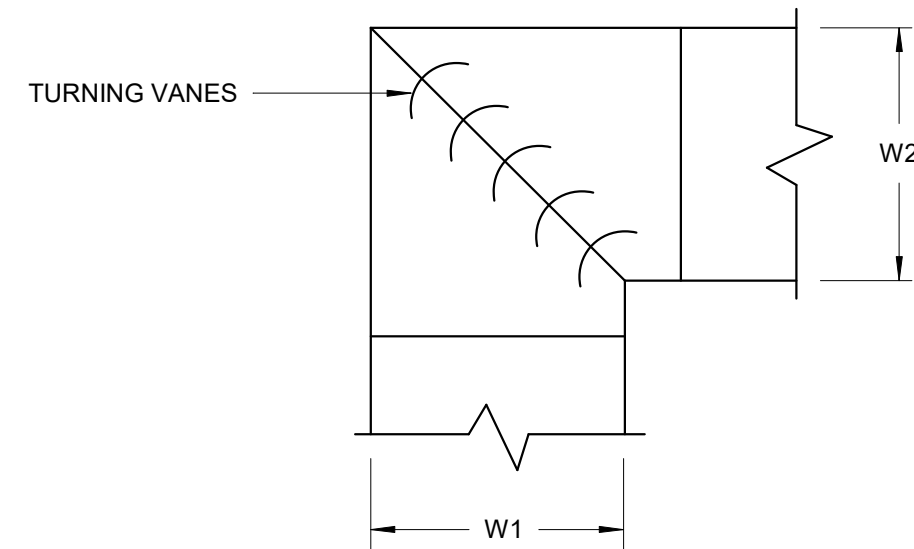
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**MECHANICAL COVER SHEET**

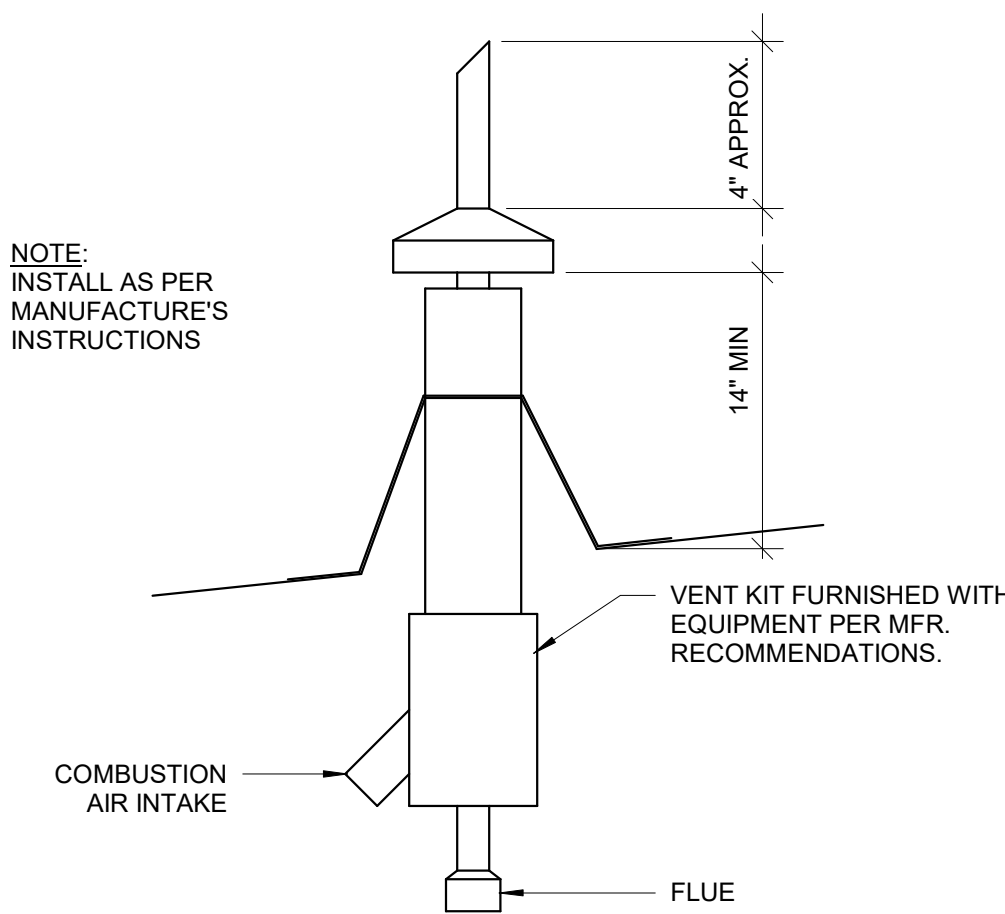
**ME001**



NOTES:  
 1. ALL TURNING VANES SHALL BE SINGLE VANE TYPE REGARDLESS OF DIMENSION.  
 2. ALL SINGLE VANES SHALL HAVE A 2 INCH RADIUS, 1 INCH MAXIMUM SPACE BETWEEN VANES AND A 3/4 INCH TRAILING EDGE.

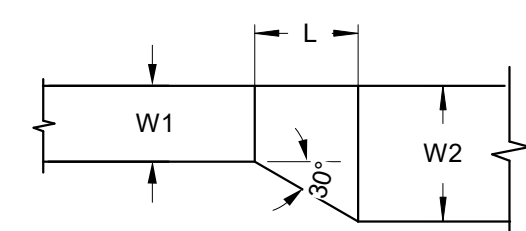
**1C DUCT ELBOW - SQUARE**

ME501 1/8" = 1'-0"

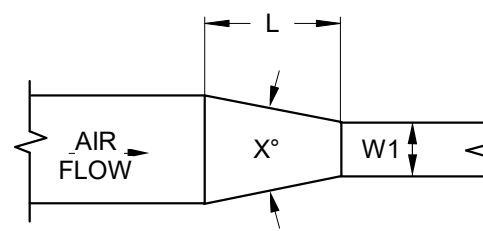


**1B CONCENTRIC VENT KIT DETAIL**

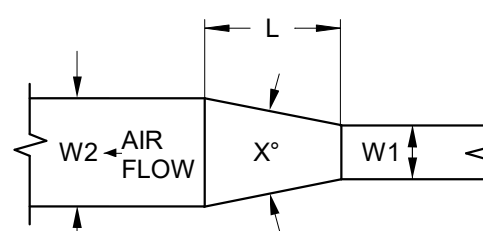
ME501 1/8" = 1'-0"



ECCENTRIC TRANSITION:  
 MAX. 30° ANGLE  
 EXCEPT 45° IS PERMITTED AT ROUND TO FLAT OVAL  
 $L (MIN.) = (W2 - W1) / 0.58$  FOR 30°  
 $L (MIN.) = W2 - W1$  FOR 45°



CONVERGING CONCENTRIC TRANSITION:  
 $X° = 60°$  MAX.  
 $L (MIN.) = W$

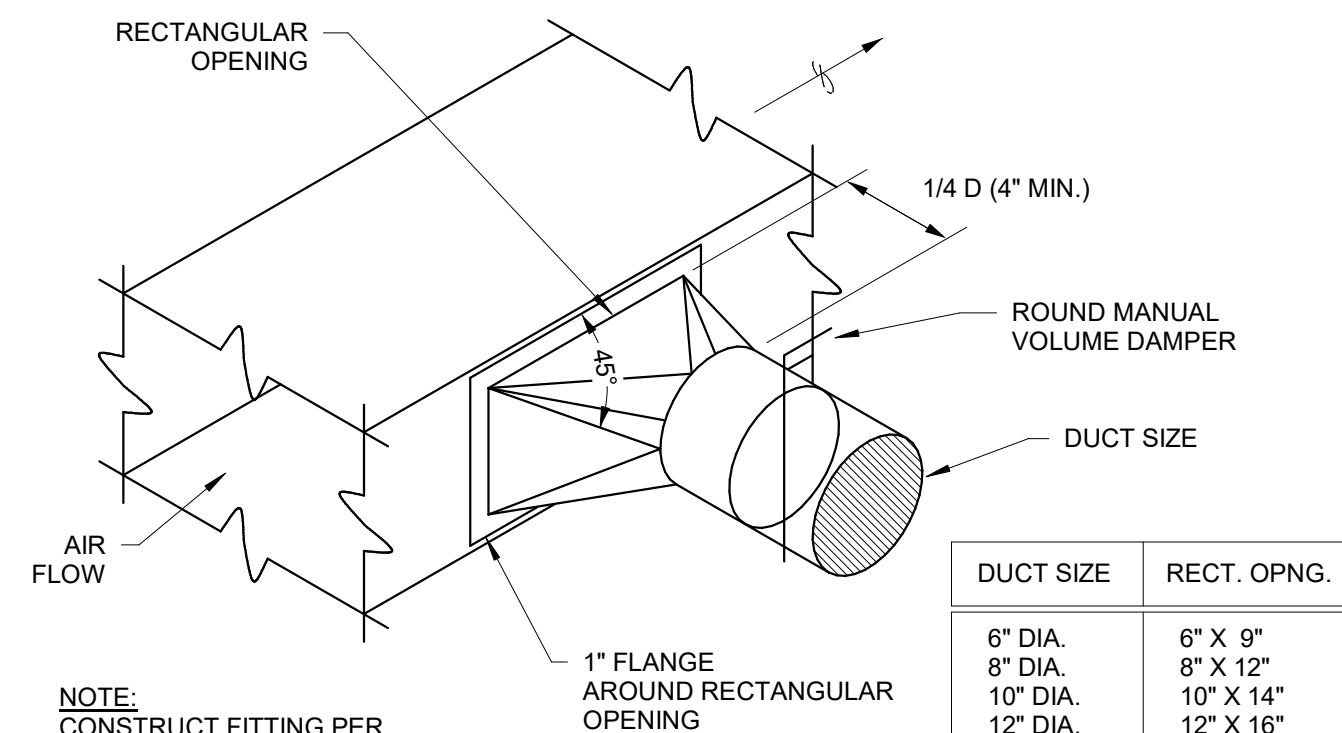


DIVERGING CONCENTRIC TRANSITION:  
 $X° = 45°$  MAX.  
 $L (MIN.) = (W2 - W1) / 2$

NOTE:  
 UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLE SHOWN SHALL APPLY.

**1A DUCT TRANSITIONS DETAIL**

ME501 1/8" = 1'-0"

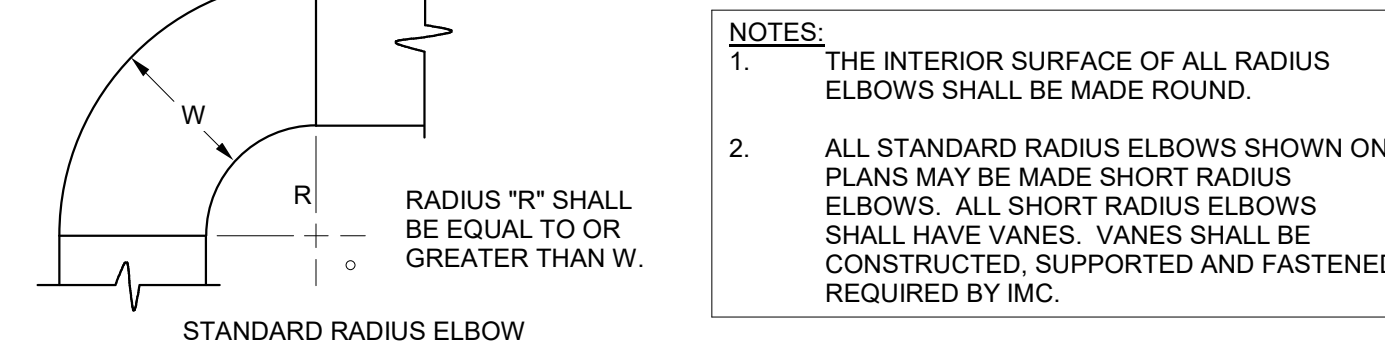
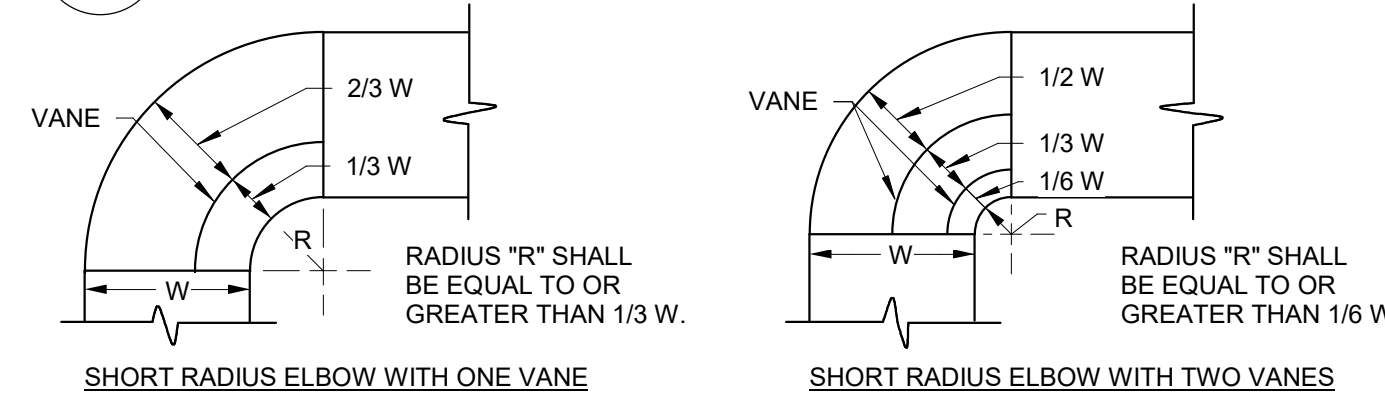


NOTE:  
 CONSTRUCT FITTING PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE FIGURE 2-6.

DUCT SIZE	RECT. OPNG.
6" DIA.	6" X 9"
8" DIA.	8" X 12"
10" DIA.	10" X 14"
12" DIA.	12" X 16"
14" DIA.	14" X 18"

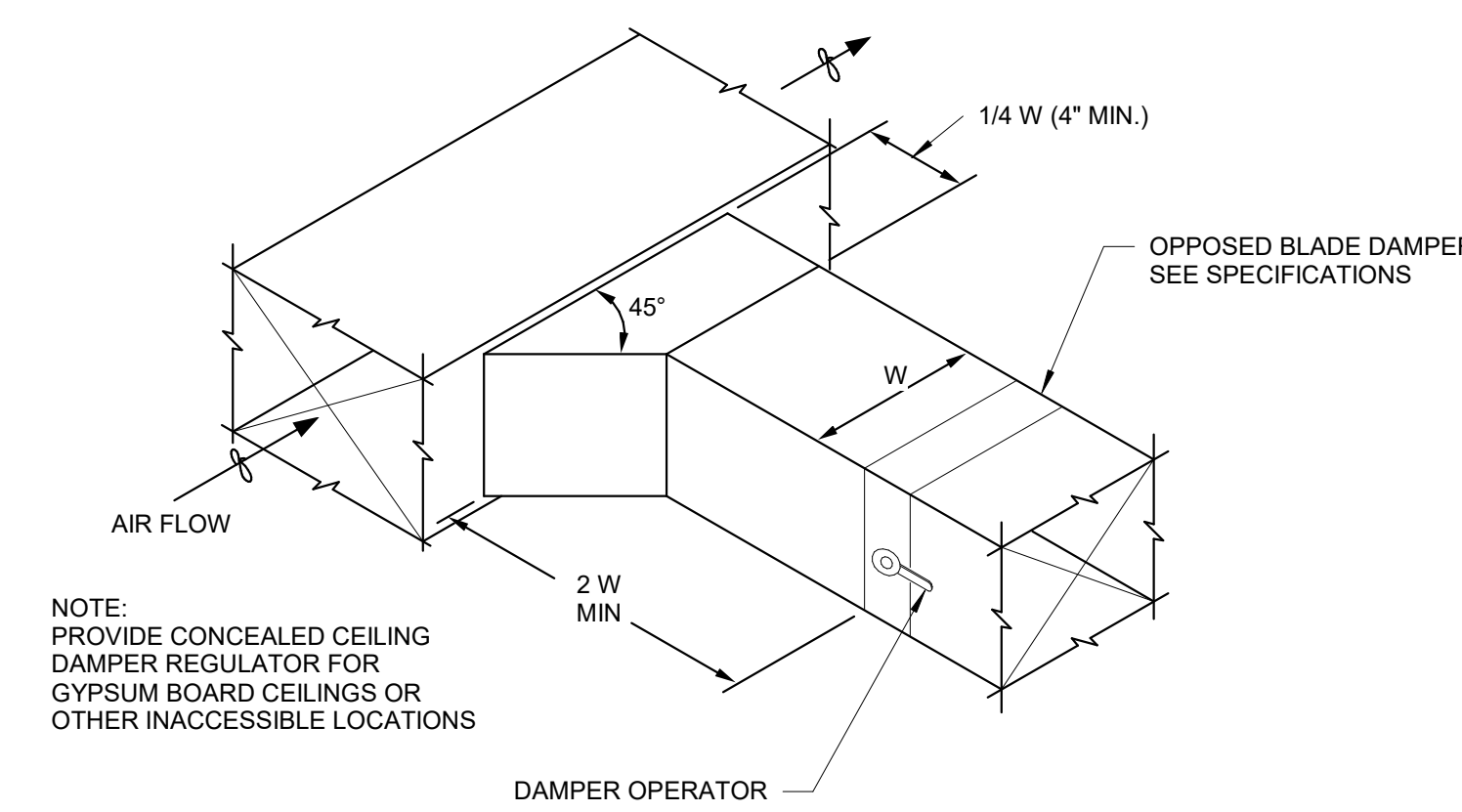
**3D DUCT TAKE-OFF DETAIL**

ME501 1/8" = 1'-0"



**3C DUCT ELBOW - ROUND**

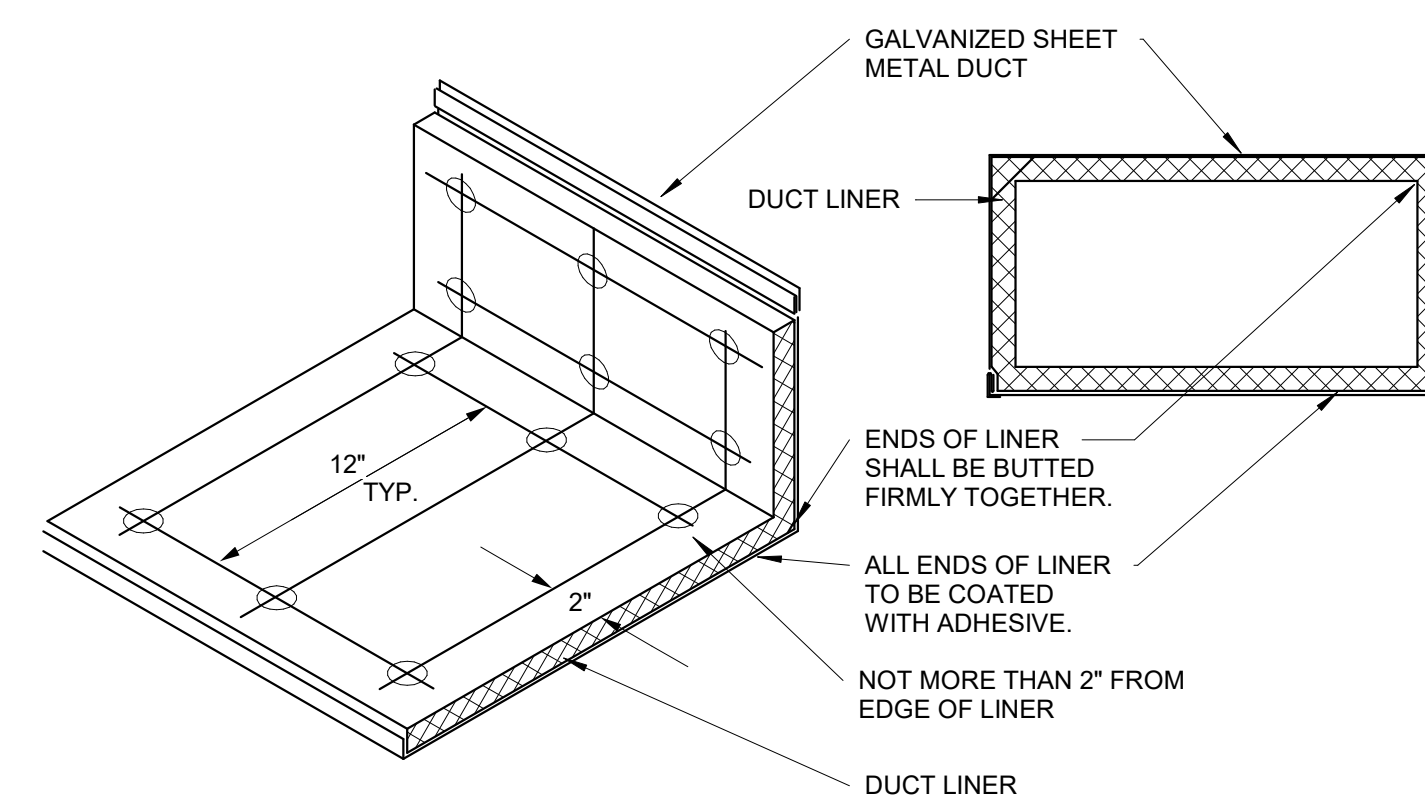
ME501 1/8" = 1'-0"



NOTE:  
 PROVIDE CONCEALED CEILING DAMPER REGULATOR FOR GYPSUM BOARD CEILINGS OR OTHER INACCESSIBLE LOCATIONS

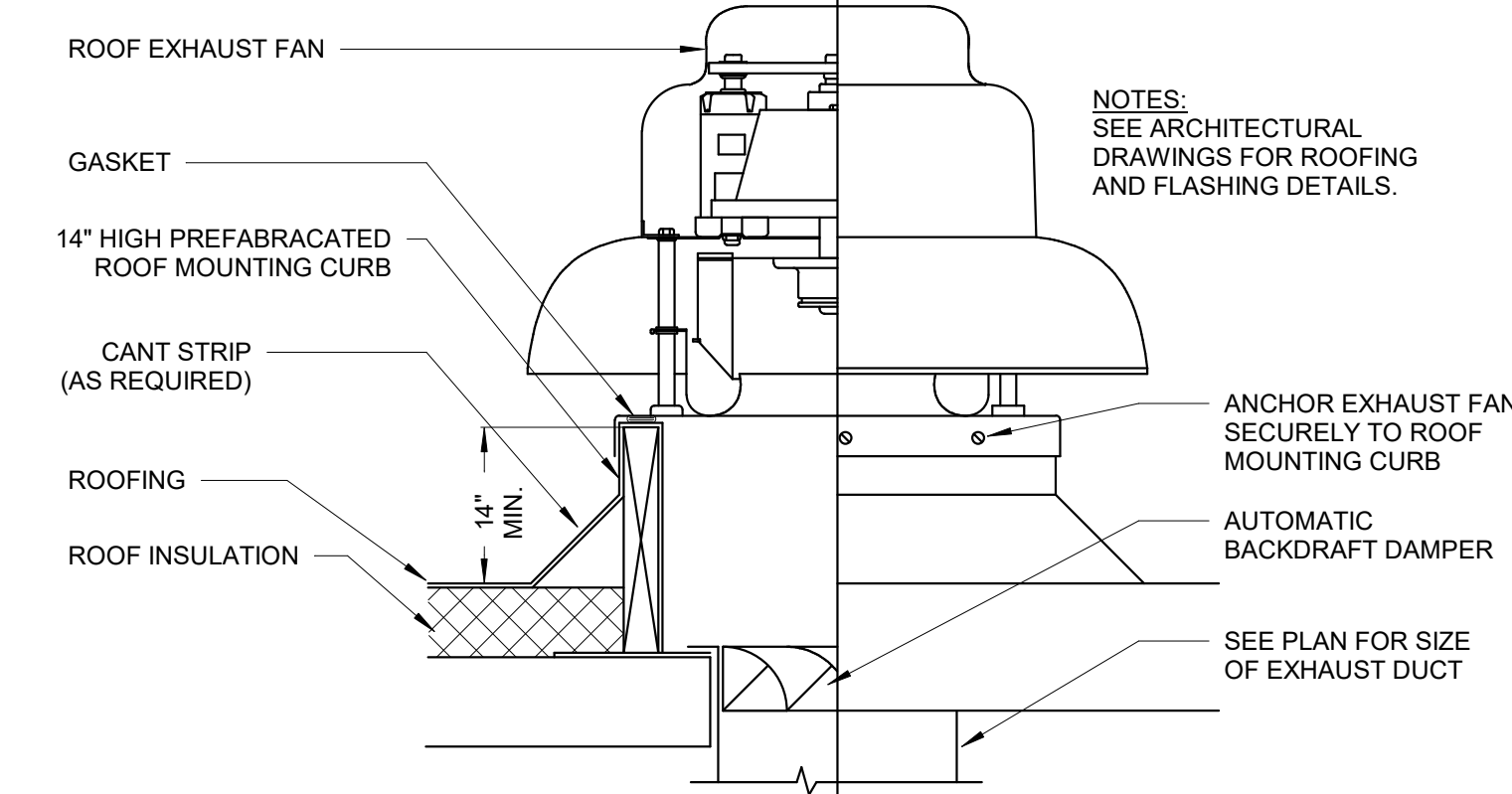
**3B BRANCH TAKE-OFF DETAIL**

ME501 1/8" = 1'-0"



**3A DUCT LINER DETAIL**

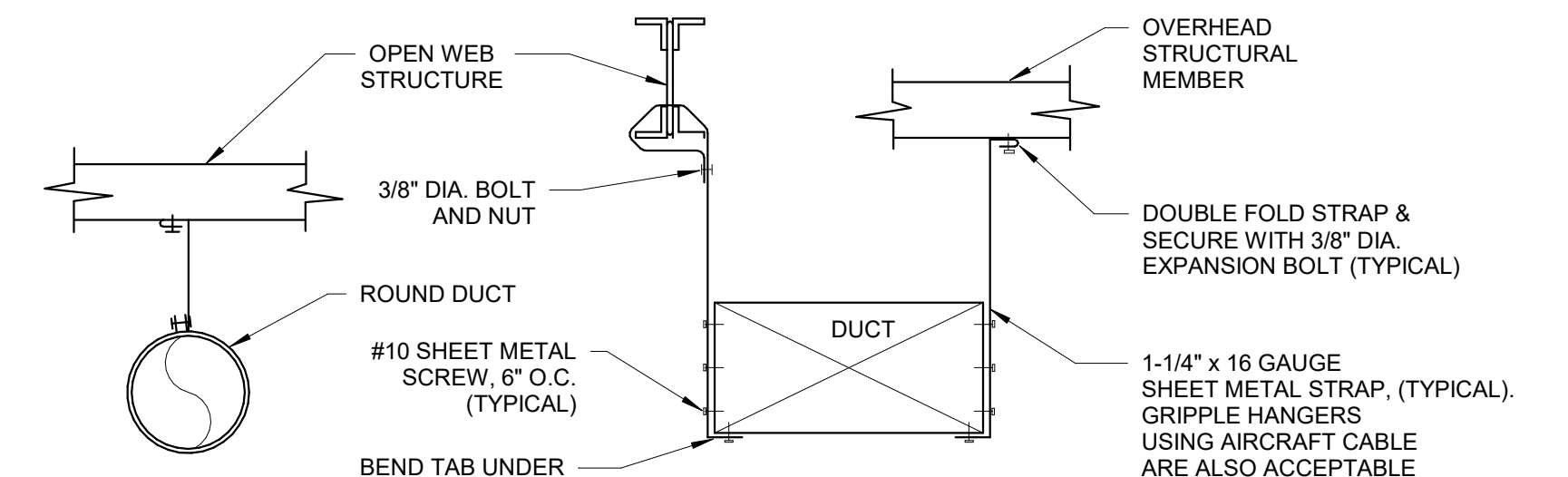
ME501 1/8" = 1'-0"



NOTES:  
 SEE ARCHITECTURAL DRAWINGS FOR ROOFING AND FLASHING DETAILS.

**4D ROOF EXHAUST FAN DETAIL**

ME501 1/8" = 1'-0"



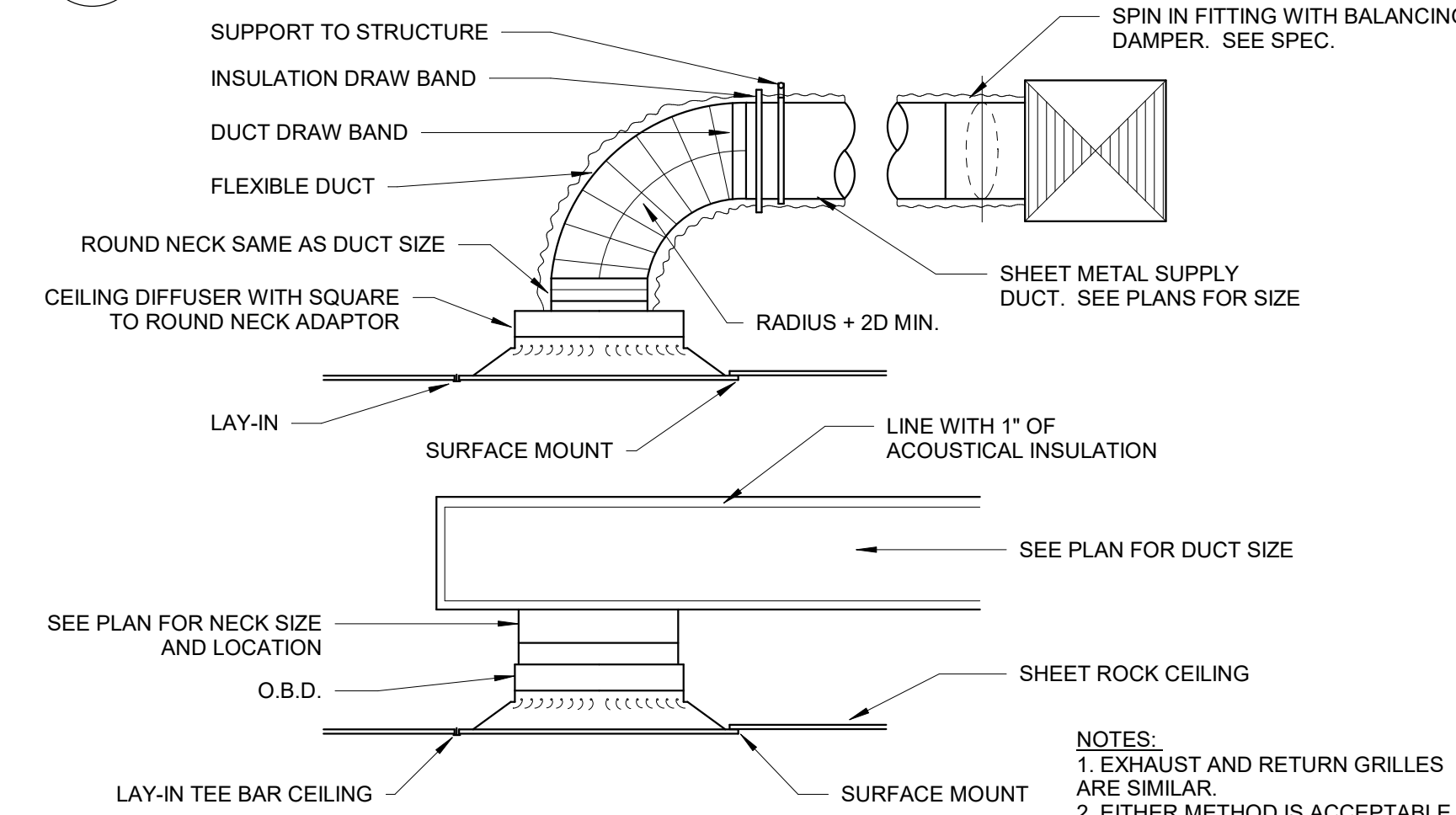
NOTE:  
 USE SPECIFIED SPACING AND NOT LESS THAN ONE SUPPORT PER BRANCH.

NOTE:  
 ONE HANGER REQUIRED DUCT 24\"/>

NOTE:  
 REFER TO SMACNA HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE - THIRD EDITION FOR ALL REQUIREMENTS

**4C DUCT HANGER DETAIL**

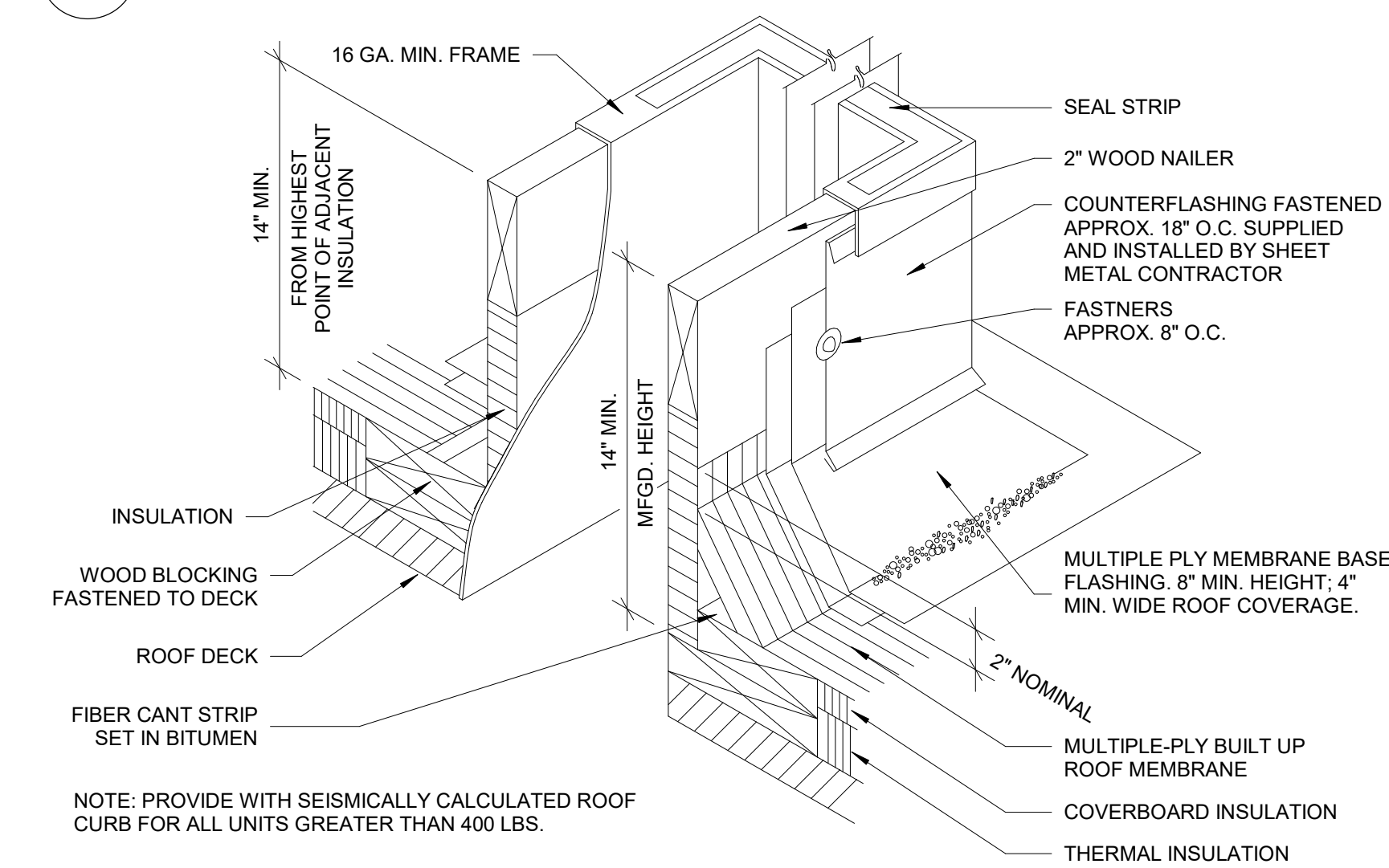
ME501 1/8" = 1'-0"



NOTE:  
 1. EXHAUST AND RETURN GRILLES ARE SIMILAR.  
 2. EITHER METHOD IS ACCEPTABLE

**4B CEILING DIFFUSER DETAIL**

ME501 1/8" = 1'-0"



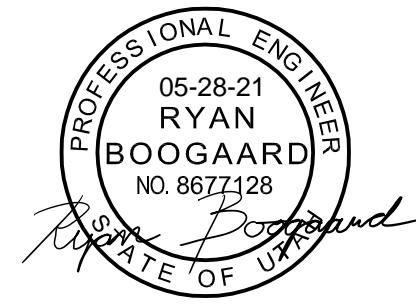
NOTE:  
 PROVIDE WITH SEISMICALLY CALCULATED ROOF CURB FOR ALL UNITS GREATER THAN 400 LBS.

**4A ROOF CURB DETAIL**

ME501 1/8" = 1'-0"



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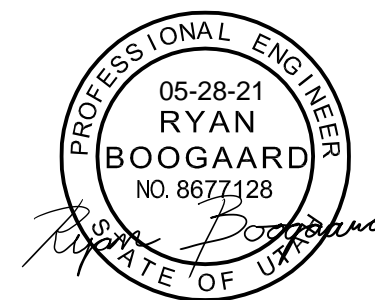
**MECHANICAL DETAILS**

**ME501**





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### ROOFTOP UNIT SCHEDULE

LABEL	SERVES	TOTAL CFM	EXT. S.P. (WC)	O. A. CFM	RATED COOLING CAP. (BTUH)	HEATING CAPACITY (BTUH)		VOLTAGE	PHASE	Hz	MCA	MOCP	EMERGENCY POWER	DISCONNECT		WEIGHT	MANUFACTURER	MODEL	REMARKS
						INPUT	OUTPUT							FURN BY ELEC	FURN BY MECH				
RTU-1A	CENTRAL	500	0.60	70	18000.0	36800.0	29365.0	208	1	60	10	15	NO	YES	NO	300	TRANE	4YCC3018	1,2,3,4,7,8,9,10,11,12
RTU-2A	SOUTH	685	0.60	160	23000.0	58880.0	47105.0	208	1	60	13.6	20	NO	YES	NO	575	TRANE	4YCC3024	1,2,3,4,6,8,9,10,11,12
RTU-2B	NORTH WEST	685	0.60	95	23000.0	58880.0	47105.0	208	1	60	13.6	20	NO	YES	NO	575	TRANE	4YCC3024	1,2,3,4,6,8,9,10,11,12
RTU-3A	SOUTH WEST	1200	1.20	95	36000.0	110400.0	77280.0	208	1	60	20	30	NO	YES	NO	750	TRANE	YSC036	1,2,3,4,6,8,9,10,11,12
RTU-3B	SOUTH EAST	1200	1.20	95	36000.0	110400.0	77280.0	208	1	60	20	30	NO	YES	NO	750	TRANE	YSC036	1,2,3,4,6,7,8,9,10,11,12
RTU-3C	INTERIOR	1200	1.20	55	36000.0	110400.0	77280.0	208	1	60	20	30	NO	YES	NO	750	TRANE	YSC036	1,2,3,4,6,8,9,10,11,12
RTU-5A	NORTH EAST	2000	0.80	650	60000.0	111780.0	78290.0	208	1	60	29	40	NO	YES	NO	850	TRANE	YSC060	1,2,3,4,5,6,7,8,9,10,11,12

- ALL CAPACITIES ARE RATED AT SITE ELEVATION AND AMBIENT TEMPERATURE OF 95, SWB OF 63, WDB 5.
- PROVIDE ECOBEE3 THERMOSTAT AND MERV 8 FILTERS.
- 100% ECONOMIZER WITH DRY BULB CONTROL WITH LOW LEAK DAMPERS AND FAULT DETECTION DIAGNOSTICS.
- PROVIDE 100% MODULATING POWERED EXHAUST FOR UNITS OVER 4 TONS AND BAROMETRIC RELIEF FOR ALL OTHER UNITS.
- SMOKE DETECTORS IN THE RETURN DUCT OF ALL UNITS SUPPLYING 2000 CFM. UNIT TO SHUTDOWN UPON SENSING SMOKE. (COORDINATE WITH AHJ PRIOR TO INSTALLATION TO CONFIRM IF NEEDED IN SUPPLY OR RETURN - MANUFACTURER DEFAULTS TO RETURN)
- PROVIDE WITH SEISMICALLY CALCULATED SLOPED ROOF CURB WITH HOLD DOWN CLIPS. ROOF CURB TO BE 14" TALL FROM THE TOP OF ROOF INSULATION. SEE MECHANICAL ROOF PLAN.
- PROVIDE WITH VIBRATION ISOLATING ROOF CURB.
- PROVIDE WITH FACTORY MOUNTED CIRCUIT BREAKER SIZED IN ACCORDANCE WITH CURRENT NEC.
- CONTRACTOR TO PROVIDE CONDENSATE DRAIN TRAP PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE CONDENSER COIL HAIL GUARD GRILLE.
- ACCEPTABLE MANUFACTURERS: TRANE, CARRIER, DIAKIN, AAOB OR PRIOR APPROVED EQUAL.
- PROVIDE FACTORY AUTHORIZED STARTUP OF EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS.

### EXHAUST FAN SCHEDULE

LABEL	CFM	STATIC PRESSURE	FAN RPM	SOUND RATING	VOLTAGE	PHASE	Hz	HP	EMERGENCY POWER	DISCONNECT		WEIGHT	MANUFACTURER	MODEL	REMARKS
										FURN BY ELEC	FURN BY MECH				
EF-1	300	0.75 in-wg	1715	7.9 SONES	115	1	60	1/4	NO	YES	NO	100	COOK	100C17DEC	1,2,3,4,5,6

- PROVIDE WITH TIME CLOCK AND RUN CONTINUOUSLY DURING BUSINESS HOURS.
- PROVIDE WITH 14" HIGH PREFABRICATED ROOF CURB.
- PROVIDE WITH BACKDRAFT DAMPER, DISCONNECT SWITCH, SUPPORT BRACKETS AND ISOLATOR, FLEXIBLE CONNECTION, AND BELT TENSIONER (BELT DRIVE MODELS ONLY).
- PROVIDE VARIABLE SPEED CONTROLLER FOR ALL DIRECT DRIVE FANS. TEST AND BALANCE CONTRACTOR SHALL MARK BALANCED POSITION ON CONTROLLER.
- ACCEPTABLE MANUFACTURERS: COOK, GREENHECK, PENN BARRY OR PRIOR APPROVED EQUAL.
- PROVIDE FACTORY AUTHORIZED STARTUP OF EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS.

### REGISTER - GRILLE- DIFFUSER SCHEDULE

LABEL	TYPE	BLOW PATTERN	MAX AIR FLOW (CFM)	FACE SIZE	NECK SIZE	MAX NC	PRESSURE DROP (in-wg)	THROW	MANUFACTURER	MODEL	REMARKS
D-1	SQUARE PLAQUE DIFFUSER	4-WAY	125	12" X 12"	4" Ø	30	0.208	4-6-9	PRICE	SPD	1,2,3,4,5
D-2	SQUARE PLAQUE DIFFUSER	4-WAY	200	12" X 12"	6" Ø	30	0.237	5-7-11	PRICE	SPD	1,2,3,4,5
D-3	SQUARE PLAQUE DIFFUSER	4-WAY	235	24" X 24"	6" Ø	30	0.093	4-5-8	PRICE	SPD	1,2,3,4,5
D-4	SQUARE PLAQUE DIFFUSER	4-WAY	350	24" X 24"	8" Ø	30	0.115	4-6-10	PRICE	SPD	1,2,3,4,5
D-5	LOUVERED SIDEWALL GRILLE	2-WAY	180	8" X 4"	7" X 3"	30	0.060	7-9-12	PRICE	520	1,2,3,4,5,6
D-6	LOUVERED SIDEWALL GRILLE	2-WAY	280	12" X 4"	11" X 3"	30	0.060	8-11-15	PRICE	520	1,2,3,4,5,6
EG-1	LOUVERED RETURN GRILLE	N/A	100	12" X 12"	6" DIA.	30	0.100	N/A	PRICE	535	1,2,3,4,5
EG-2	LOUVERED RETURN GRILLE	N/A	125	12" X 24"	6" DIA.	30	0.100	N/A	PRICE	535	1,2,3,4,5
R-1	LOUVERED RETURN GRILLE	N/A	100	12" X 12"	6" DIA.	30	0.100	N/A	PRICE	535	1,2,3,4,5
R-2	LOUVERED RETURN GRILLE	N/A	250	12" X 12"	8" DIA.	30	0.100	N/A	PRICE	535	1,2,3,4,5
R-3	LOUVERED RETURN GRILLE	N/A	125	12" X 24"	6" DIA.	30	0.100	N/A	PRICE	535	1,2,3,4,5
R-4	LOUVERED RETURN GRILLE	N/A	250	12" X 24"	8" DIA.	30	0.100	N/A	PRICE	535	1,2,3,4,5
R-5	LOUVERED RETURN GRILLE	N/A	450	12" X 24"	10" DIA.	30	0.100	N/A	PRICE	535	1,2,3,4,5
R-6	LOUVERED RETURN GRILLE	N/A	1000	24" X 24"	14" DIA.	30	0.100	N/A	PRICE	535	1,2,3,4,5
R-7	LOUVERED SIDEWALL GRILLE	N/A	185	8" X 4"	7" X 3"	30	0.100	N/A	PRICE	535	1,2,3,4,5
R-8	LOUVERED SIDEWALL GRILLE	N/A	300	14" X 6"	13" X 5"	30	0.100	N/A	PRICE	535	1,2,3,4,5

- PROVIDE TRANSITION AS NECESSARY.
- PROVIDE LAY-IN MODULE AS NECESSARY.
- COLOR BY ARCHITECT.
- PROVIDE WITH WITH LAY-IN TO HARD LID ADAPTER AS NECESSARY.
- ACCEPTABLE MANUFACTURERS: PRICE, KRUEGER, TITUS OR PRIOR APPROVED EQUAL.
- PROVIDE WITH A BALANCING DAMPER OR OBD WITH BUSHINGS FOR BALANCING.

### SAFE HARBOR LIFELINE

223 WEST 475 SOUTH  
LAYTON, UT

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DATE: Issue Date: MAY 28, 2021

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CHECKED BY: RHB

MECHANICAL SCHEDULES

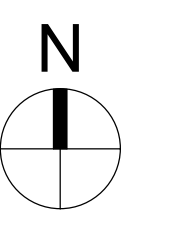
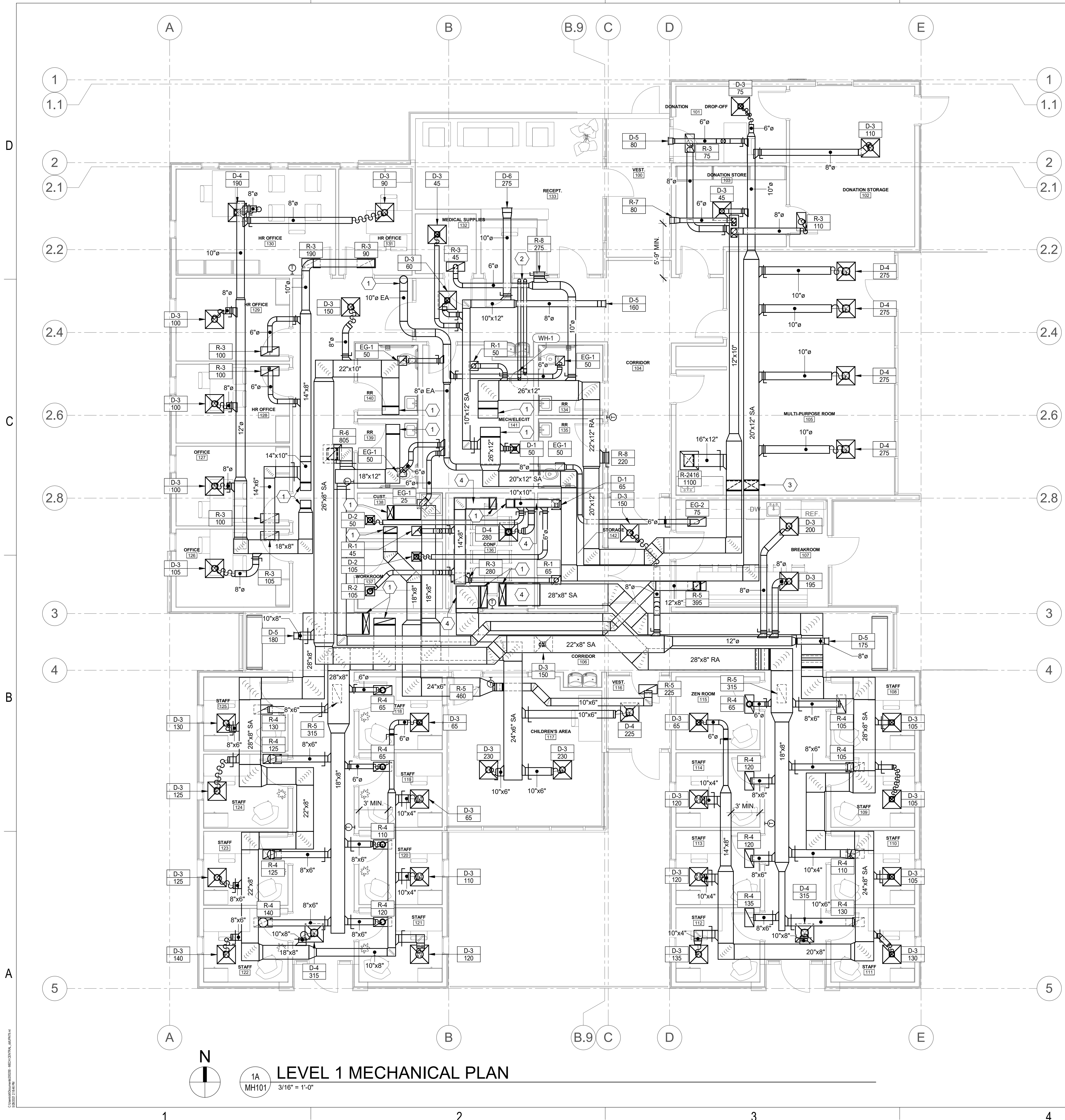
ME601

D

C

B

A



1A LEVEL 1 MECHANICAL PLAN  
 3/16" = 1'-0"

### MECHANICAL GENERAL NOTES

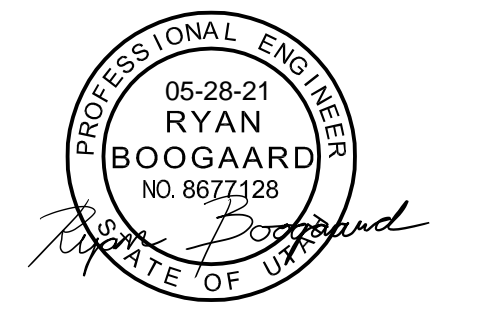
- ALL EQUIPMENT TO BE SELECTED BASED OFF OF SITE INFORMATION, INCLUDING CURBS EQUAL TO OR GREATER THAN DESIGN SNOW DEPTH. ELEVATION: 4500' SDB: 95'F SWB: 63'F WDB: 5'F DESIGN SNOW DEPTH: 14"
- THIS CONTRACTOR SHALL CLOSELY COORDINATE MECHANICAL AND PLUMBING WITH ELECTRICAL, ARCHITECTURAL, AND BUILDING STRUCTURE.
- ALL SUPPLY AND RETURN DUCTWORK TO BE EXTERNALLY WRAPPED WITH INSULATION WITH AN R-VALUE OF R-6.
- ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS.
- FLEXIBLE DUCT MAY BE USED AT FINAL TERMINATION OF DUCT TO DIFFUSER OR GRILLE. MAXIMUM FLEXIBLE DUCT LENGTH IS 5'-0". PROVIDE DUCT SUPPORTS EVERY 3 FEET.
- PROVIDE FLEX DUCT ELBOW (FLEX FLOW ELBOW BY THERMAFLEX, FLEX RIGHT ELBOW BY FLEXMASTER, SMART FLOW ELBOW BY HART AND COOLEY, OR EQUAL) AT ALL CEILING MOUNTED DIFFUSER CONNECTIONS. NOT FOR USE WHERE ABOVE CEILING SPACE IS USED AS RETURN PLENUM.
- GRILLES AND DUCTWORK ARE SIZED INDEPENDENTLY. THE NECK SIZE OF GRILLES MAY NOT MATCH THE ASSOCIATED DUCT SIZE. PROVIDE TRANSITION TO GRILLES AS NECESSARY.
- PROVIDE BALANCING DAMPER WITH LOCKING QUADRANT IN EACH DUCT BRANCH OF SUPPLY AND EXHAUST DUCTWORK.
- PROVIDE REMOTE CABLE OPERATED DAMPERS FOR ALL DUCTWORK ABOVE HARD LID CEILINGS OR WHERE DAMPER IS INACCESSIBLE OR PROVIDE OPPOSED BLADE DAMPER WITH NYLON BUSHINGS AT GRILLE.
- PROVIDE ACCESS DOORS FOR ALL SERVICEABLE EQUIPMENT OR VALVES ABOVE HARD LID CEILINGS OR IN WALLS. ALL ACCESS PANELS ARE TO BE PAINTED TO MATCH ADJACENT SURFACES.
- GC TO HIRE NEBB OR AABC CERTIFIED THIRD PARTY TEST AND BALANCE (TAB) CONTRACTOR. TAB CONTRACTOR SHALL ADJUST SHEAVES, BELTS, DAMPERS, ETC AS NECESSARY TO BALANCE SYSTEM TO AIRFLOWS REQUIRED AT LOWEST POSSIBLE SPEEDS. TAB CONTRACTOR SHALL VERIFY THE OUTSIDE AIR AT EACH RTU IS AS SCHEDULED. FOLLOW PROCEDURES AS LAID FORTH IN THE CURRENT VERSION OF "PROCEDURAL STANDARDS FOR TESTING ADJUSTING AND BALANCING OF ENVIRONMENTAL SYSTEMS" BY NEBB. PROVIDE REPORT ON NEBB FORMS TO ENGINEER FOR REVIEW.
- WHERE PIPE, OR DUCT PENETRATES A RATED ASSEMBLY OR FLOOR AND IS NOT REQUIRED TO BE PROTECTED BY A DAMPER, ALL SPACE BETWEEN THE DUCT AND ASSEMBLY IS TO BE FIRE CAULKED. INSULATION OR COVERINGS ARE NOT TO CONTINUE THROUGH ASSEMBLY UNLESS TESTED AS PART OF AN APPROVED PENETRATION FIRESTOP SYSTEM.
- THIS CONTRACTOR SHALL ENGAGE A FIRE PROTECTION DESIGN BUILD CONTRACTOR TO MODIFY THE EXISTING FIRE SPRINKLER SYSTEM. DESIGNER SHALL BE NICET LEVEL III TECHNICIAN. WORKING PLANS AND CALCULATIONS SHALL BE PREPARED ACCORDING TO NFPA 13, AND BE APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING HYDRAULIC CALCULATIONS IF APPLICABLE.
- COORDINATE EXACT THERMOSTAT LOCATIONS WITH FURNITURE AND OWNER. FAILURE TO DO SO MAY REQUIRE MOVING THERMOSTATS AT CONTRACTORS COST.
- PROVIDE FACTORY AUTHORIZED STARTUP OF ALL EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS.
- GENERAL CONTRACTOR SHALL HIRE A 3RD PARTY COMMISSIONING AGENT TO COMMISSION NEW HVAC EQUIPMENT. COMMISSIONING AGENT SHALL BE LICENSED MECHANICAL ENGINEER. COMMISSIONING AGENT TO PROVIDE COMMISSIONING PLAN LISTING EQUIPMENT AND TEST TO BE PERFORMED TO ENGINEER FOR REVIEW. COMMISSIONING AGENT SHALL PROVIDE REPORT STATING ANY SYSTEM DEFICIENCIES AND LISTING ANY DEFERRED TESTS.
- PROVIDE OPERATION AND MAINTENANCE MANUALS (O&M) WITHIN 30 DAYS OF CERTIFICATE OF OCCUPANCY FOR ALL EQUIPMENT IN DIGITAL FORMAT TO ENGINEER FOR REVIEW. O&M SHALL INCLUDE DOCUMENTATION OF ALL WARRANTIES, REPORTS AND TESTS, RECORD DRAWINGS, CONTROLS SEQUENCE OF OPERATIONS WITH DIAGRAMS, & EQUIPMENT INFORMATION. EQUIPMENT INFORMATION INCLUDES MAKE & MODEL, WIRING, PIPING, STARTUP, SHUTDOWN, TROUBLE SHOOTING SYSTEM BALANCING REPORT, FINAL COMMISSIONING REPORT AND MAINTENANCE PROCEDURES.
- PIPING AND DUCTWORK SHALL NOT BE SUPPORTED FROM THE ROOF DECK, JOIST BRIDGING OR OTHER PIPES. HANG PIPES FROM BEAMS, JOIST OR SUPPLEMENTARY STRUCTURAL MEMBERS. WHERE POSSIBLE INSTALL ALL PIPING AND DUCTWORK WITHIN 12" FROM SUPPORTING STRUCTURE.
- REFRIGERANT PIPING TO BE ACR TYPE L - BRAZED

### SHEET KEYNOTES

- DUCT UP THROUGH ROOF TO MECHANICAL EQUIPMENT IN THIS APPROXIMATE LOCATION. SEE ROOF PLAN FOR CONTINUATION.
- CONCENTRIC VENT UP THROUGH ROOF IN THIS APPROXIMATE LOCATION. SIZE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE CONCENTRIC VENT DETAIL ON SHEET ME501.
- DUCT RISE UP TO RUN ABOVE HIGHER CEILING IN THIS APPROXIMATE LOCATION.
- PROVIDE DUCT WITH ACOUSTIC LINING PER DETAIL.



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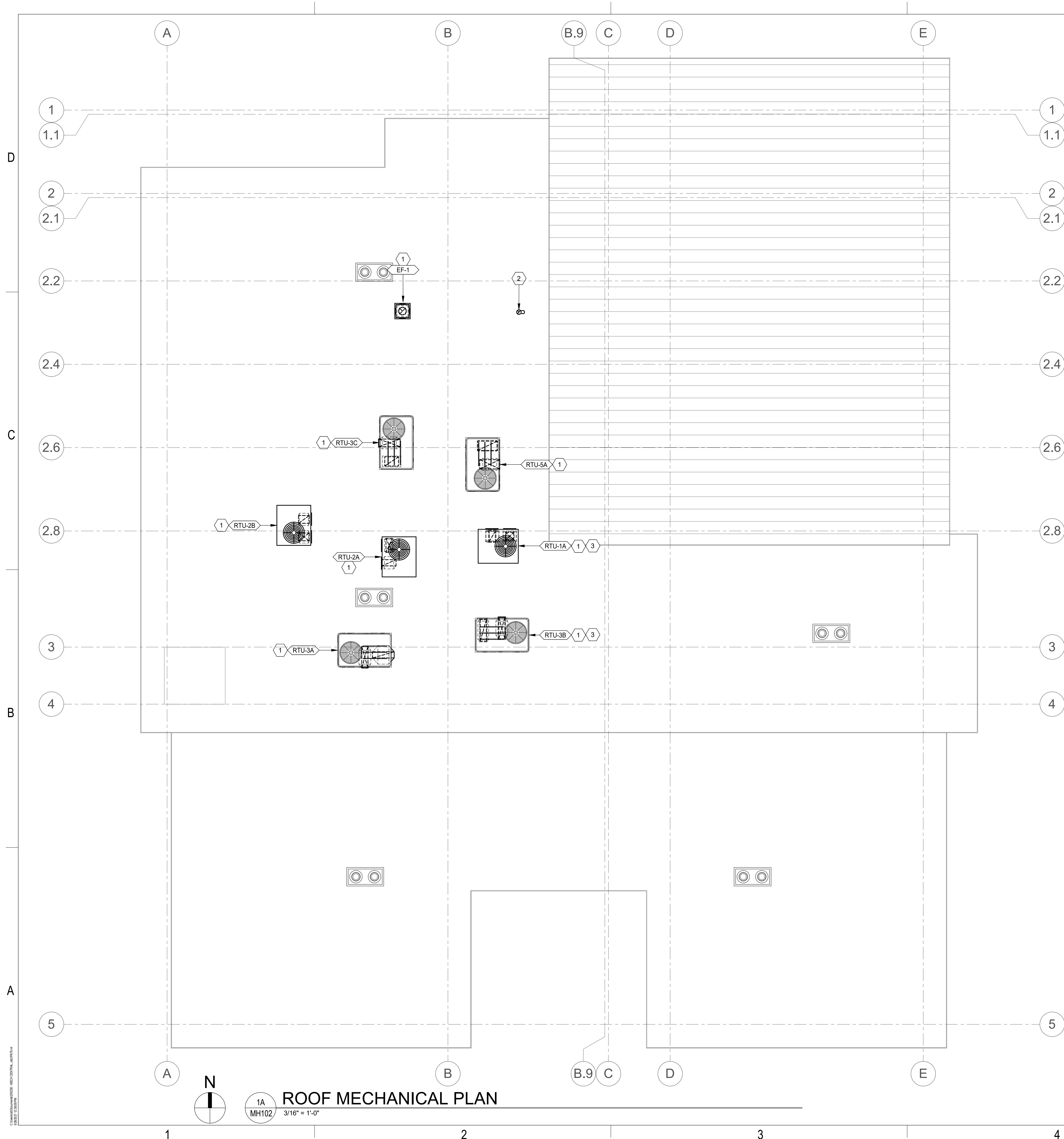
**SAFE HARBOR LIFELINE**  
 223 WEST 475 SOUTH  
 LAYTON, UT

STAMP

ISSUE	DATE:
Project Status: PERMIT SET	Issue Date: MAY 28, 2021
PROJECT NUMBER:	200250
DRAWN BY:	CLD
CHECKED BY:	RHB

**LEVEL 1 MECHANICAL PLAN**

**MH101**



**MECHANICAL GENERAL NOTES**

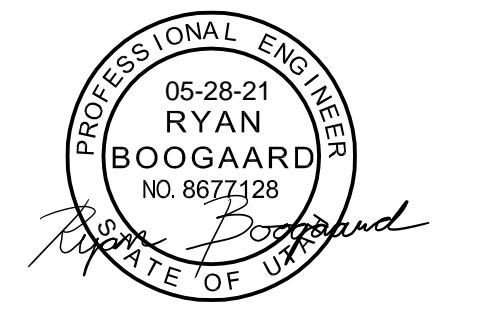
1. ALL EQUIPMENT TO BE SELECTED BASED OFF OF SITE INFORMATION, INCLUDING CURBS EQUAL TO OR GREATER THAN DESIGN SNOW DEPTH. ELEVATION: 4500' SDB: 95°F SWB: 63°F WDB: 5°F DESIGN SNOW DEPTH: 14"
2. THIS CONTRACTOR SHALL CLOSELY COORDINATE MECHANICAL AND PLUMBING WITH ELECTRICAL, ARCHITECTURAL, AND BUILDING STRUCTURE.
3. ALL SUPPLY AND RETURN DUCTWORK TO BE EXTERNALLY WRAPPED WITH INSULATION WITH AN R-VALUE OF R-6.
4. ALL DUCT DIMENSIONS ARE INSIDE CLEAR DIMENSIONS.
5. FLEXIBLE DUCT MAY BE USED AT FINAL TERMINATION OF DUCT TO DIFFUSER OR GRILLE. MAXIMUM FLEXIBLE DUCT LENGTH IS 5'-0". PROVIDE DUCT SUPPORTS EVERY 3 FEET.
6. PROVIDE FLEX DUCT ELBOW (FLEX FLOW ELBOW BY THERMAFLEX, FLEX RIGHT ELBOW BY FLEXMASTER, SMART FLOW ELBOW BY HART AND COOLEY, OR EQUAL) AT ALL CEILING MOUNTED DIFFUSER CONNECTIONS. NOT FOR USE WHERE ABOVE CEILING SPACE IS USED AS RETURN PLENUM.
7. GRILLES AND DUCTWORK ARE SIZED INDEPENDENTLY. THE NECK SIZE OF GRILLES MAY NOT MATCH THE ASSOCIATED DUCT SIZE. PROVIDE TRANSITION TO GRILLES AS NECESSARY.
8. PROVIDE BALANCING DAMPER WITH LOCKING QUADRANT IN EACH DUCT BRANCH OF SUPPLY AND EXHAUST DUCTWORK.
9. PROVIDE REMOTE CABLE OPERATED DAMPERS FOR ALL DUCTWORK ABOVE HARD LID CEILINGS OR WHERE DAMPER IS INACCESSIBLE OR PROVIDE OPPOSED BLADE DAMPER WITH NYLON BUSHINGS AT GRILLE.
10. PROVIDE ACCESS DOORS FOR ALL SERVICEABLE EQUIPMENT OR VALVES ABOVE HARD LID CEILINGS OR IN WALLS. ALL ACCESS PANELS ARE TO BE PAINTED TO MATCH ADJACENT SURFACES.
11. GC TO HIRE NEBB OR AABC CERTIFIED THIRD PARTY TEST AND BALANCE (TAB) CONTRACTOR. TAB CONTRACTOR SHALL ADJUST SHEAVES, BELTS, DAMPERS, ETC AS NECESSARY TO BALANCE SYSTEM TO AIRFLOWS REQUIRED AT LOWEST POSSIBLE SPEEDS. TAB CONTRACTOR SHALL VERIFY THE OUTSIDE AIR AT EACH RTU IS AS SCHEDULED. FOLLOW PROCEDURES AS LAID FORTH IN THE CURRENT VERSION OF "PROCEDURAL STANDARDS FOR TESTING ADJUSTING AND BALANCING OF ENVIRONMENTAL SYSTEMS" BY NEBB. PROVIDE REPORT ON NEBB FORMS TO ENGINEER FOR REVIEW.
12. WHERE PIPE, OR DUCT PENETRATES A RATED ASSEMBLY OR FLOOR AND IS NOT REQUIRED TO BE PROTECTED BY A DAMPER, ALL SPACE BETWEEN THE DUCT AND ASSEMBLY IS TO BE FIRE CAULKED. INSULATION OR COVERINGS ARE NOT TO CONTINUE THROUGH ASSEMBLY UNLESS TESTED AS PART OF AN APPROVED PENETRATION FIRESTOP SYSTEM.
13. THIS CONTRACTOR SHALL ENGAGE A FIRE PROTECTION DESIGN BUILD CONTRACTOR TO MODIFY THE EXISTING FIRE SPRINKLER SYSTEM. DESIGNER SHALL BE NICET LEVEL III TECHNICIAN. WORKING PLANS AND CALCULATIONS SHALL BE PREPARED ACCORDING TO NFPA 13, AND BE APPROVED BY AUTHORITIES HAVING JURISDICTION, INCLUDING HYDRAULIC CALCULATIONS IF APPLICABLE.
14. COORDINATE EXACT THERMOSTAT LOCATIONS WITH FURNITURE AND OWNER. FAILURE TO DO SO MAY REQUIRE MOVING THERMOSTATS AT CONTRACTORS COST.
15. PROVIDE FACTORY AUTHORIZED STARTUP OF ALL EQUIPMENT INCLUDING STARTUP OF ANY FACTORY CONTROLS TO ENSURE PROPER SEQUENCING AND/OR COMMUNICATION TO BMS.
16. GENERAL CONTRACTOR SHALL HIRE A 3RD PARTY COMMISSIONING AGENT TO COMMISSION NEW HVAC EQUIPMENT. COMMISSIONING AGENT SHALL BE LICENSED MECHANICAL ENGINEER, COMMISSIONING AGENT TO PROVIDE COMMISSIONING PLAN LISTING EQUIPMENT AND TEST TO BE PERFORMED TO ENGINEER FOR REVIEW. COMMISSIONING AGENT SHALL PROVIDE REPORT STATING ANY SYSTEM DEFICIENCIES AND LISTING ANY DEFERRED TESTS.
17. PROVIDE OPERATION AND MAINTENANCE MANUALS (O&M) WITHIN 30 DAYS OF CERTIFICATE OF OCCUPANCY FOR ALL EQUIPMENT IN DIGITAL FORMAT TO ENGINEER FOR REVIEW. O&M'S SHALL INCLUDE DOCUMENTATION OF ALL WARRANTIES, REPORTS AND TESTS, RECORD DRAWINGS, CONTROLS SEQUENCE OF OPERATIONS WITH DIAGRAMS, & EQUIPMENT INFORMATION. EQUIPMENT INFORMATION INCLUDES MAKE & MODEL, WIRING, PIPING, STARTUP, SHUTDOWN, TROUBLE SHOOTING SYSTEM BALANCING REPORT, FINAL COMMISSIONING REPORT AND MAINTENANCE PROCEDURES.
18. PIPING AND DUCTWORK SHALL NOT BE SUPPORTED FROM THE ROOF DECK, JOIST BRIDGING OR OTHER PIPES. HANG PIPES FROM BEAMS, JOIST OR SUPPLEMENTARY STRUCTURAL MEMBERS. WHERE POSSIBLE INSTALL ALL PIPING AND DUCTWORK WITHIN 12" FROM SUPPORTING STRUCTURE.
19. REFRIGERANT PIPING TO BE ACR TYPE L - BRAZED

**SHEET KEYNOTES**

- 1 DUCT DOWN TO FLOOR BELOW IN THIS APPROXIMATE LOCATION. SEE FLOOR BELOW FOR CONTINUATION.
- 2 PROVIDE CONCENTRIC VENT IN THIS APPROXIMATE LOCATION. SIZE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. SEE CONCENTRIC VENT DETAIL ON SHEET ME501.
- 3 PROVIDE WITH VIBRATION ISOLATING ROOF CURB.



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**SAFE HARBOR LIFELINE**

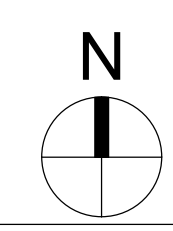
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ISSUE	DATE:
Project Status: PERMIT SET	Issue Date: MAY 28, 2021
PROJECT NUMBER:	200250
DRAWN BY:	CLD
CHECKED BY:	RHB

**ROOF MECHANICAL PLAN**

**MH102**



1A  
MH102  
3/16" = 1'-0"

DATE PLOTTED: 05/28/21 10:00 AM

## MISC. SYMBOL LEGEND

SYMBOL	DESCRIPTION
	DETAIL INDICATOR: # INDICATES DETAIL NUMBER, SHEET INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
	ELEVATION OR SECTION INDICATOR, EXTERIOR: # INDICATES ELEVATION OR SECTION NUMBER, SHEET INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
	ROOM OR SPACE NUMBER.
	KEYNOTE INDICATOR.
	REVISION INDICATOR.
	EQUIPMENT INDICATOR.
	PLUMBING FIXTURE INDICATOR.
	DIFFUSER/GRILLE INDICATOR.
	DIFFUSER/GRILLE INDICATOR.
	BREAK, STRAIGHT
	BREAK, ROUND.
	MATCH LINE INDICATOR
	HIDDEN FEATURES LINE: HIDDEN, THIN LINE.
	CONTRACT LIMIT LINE: DASHDOT, WIDE LINE.
	NEW CONNECTION POINT TO EXISTING

## PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION
	CATCH BASIN
	MANHOLE
	WALL HYDRANT
	HOSE BIBB
	CLEANOUT TO GRADE
	FLOOR CLEANOUT
	WALL CLEANOUT
	1/2 GRATE
	3/4 GRATE
	FULL GRATE

## DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

**INDICATED:** THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE. NO LIMITATION ON LOCATION IS INTENDED.

**DIRECTED:** TERMS SUCH AS "DIRECTED", "REQUESTED", "AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

**APPROVED:** THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

**FURNISH:** THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

**INSTALL:** THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

**PROVIDE:** THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

**INSTALLER:** AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

## PLUMBING PIPING LEGEND

SYMBOL	DESCRIPTION
	SANITARY SEWER (SS)
	GREASE WASTE (GW)
	VENT (V)
	ACID VENT
	ACID WASTE
	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	DOMESTIC HOT WATER RECIRC (DHWCR)
	180° HOT WATER
	180° HOT WATER RETURN
	160° HOT WATER
	160° HOT WATER RETURN
	RAINWATER
	SECONDARY RAINWATER
	STORM DRAIN
	VENT THRU ROOF
	NON POTABLE WATER
	EXISTING PIPE
	EXISTING PIPE TO BE REMOVED
	IRRIGATION WATER
	SANITARY SEWER
	LOW PRESSURE STEAM
	CHILLED WATER SUPPLY
	CHILLED WATER RETURN
	HEATING HOT WATER SUPPLY
	HEATING HOT WATER RETURN
	CONDENSER WATER SUPPLY
	CONDENSER WATER RETURN
	GLYCOL SUPPLY
	GLYCOL RETURN
	GAS
	FIRE PROTECTION
	PROPANE
	VACUUM
	COMPRESSED AIR
	MEDICAL AIR
	OXYGEN
	NITROUS OXIDE
	NITROGEN
	CARBON DIOXIDE
	EVACUATION

## SYMBOL LEGEND

SYMBOL	DESCRIPTION
<b>VALVES, METERS, AND GAUGES</b>	
	SHUT OFF VALVE
	GATE VALVE
	CHECK VALVE
	AUTO 2-WAY VALVE
	AUTO 3-WAY VALVE
	GLOBE VALVE
	BALL VALVE
	RELIEF VALVE
	CHAIN OPERATED GATE VALVE
	PRESSURE REDUCING VALVE
	BUTTERFLY VALVE
	SOLENOID VALVE
	ANGLE VALVE
	VENTURI
	BALANCING OR PLUG COCK
	FLOW SETTER
	EXPANSION VALVE (REFRIG.)
	GAS COCK
	MANUAL AIR VENT
	STRAINER
	GAUGE COCK
	FLEXIBLE CONNECTION
	PRESSURE GAUGE
	THERMOMETER
	VICTUALIC COUPLING
	REDUCER CONCENTRIC
	REDUCER ECCENTRIC
	REFRIGERANT SITE GLASS
	REFRIGERANT STRAINER
	REFRIGERANT FILTER DRIER
	90 DEG ELBOW UP
	90 DEG ELBOW DOWN
	90 DEG TEE UP
	90 DEG TEE DOWN
	UNION
	CAPPED PIPE
	ANCHOR
	FLOAT AND THERMOSTATIC TRAP

## PLUMBING SHEET INDEX

PE001	PLUMBING COVER SHEET
PE501	PLUMBING DETAILS
PE601	PLUMBING SCHEDULES
PL101	LEVEL 1 PLUMBING PLAN - DWV
PL111	LEVEL 1 PLUMBING PLAN - WATER & GAS
PL121	ROOF PLUMBING PLAN

## ABBREVIATIONS

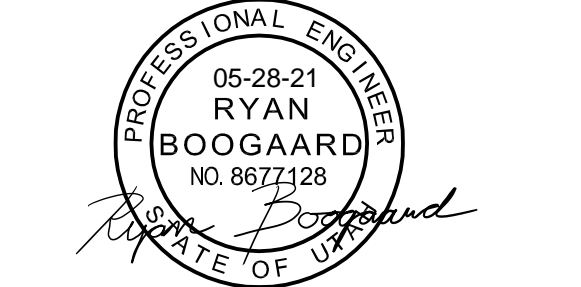
NOTE: ALL ABBREVIATIONS MAY NOT BE USED.	
(E)	EXISTING
(F)	FUTURE
AD	ACCESS DOOR
AIR COND	AIR CONDITION(-ING,-ED)
APD	AIR PRESSURE DROP
BD	BALANCING DAMPER
BHP	BRAKE HORSE POWER
BTU	BRITISH THERMAL UNIT
BTUH	BTU/HOUR
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
COND	CONDENS(-ER, -ING, -ATION)
CV	CONTROL VALVE
DB	DRY BULB TEMPERATURE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWCR	DOMESTIC HOT WATER RECIRC
DP	DEPTH OR DEEP
EA	EXHAUST AIR
EER	ENERGY EFFICIENCY RATIO
EFF	EFFICIENCY
ELEC	ELECTRIC
ELEV	ELEVATION
ENT	ENTERING
EVAP	EVAPORAT(-E, -ING, -ED, -OR)
EWT	ENTERING WATER TEMPERATURE
EXT	EXTERNAL
FC	FLEXIBLE CONNECT(-OR, -ION)
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
FPI	FEET PER INCH
FBM	FEET PER MINUTE
FPS	FEET PER SECOND
FSD	FIRE SMOKE DAMPER
GE	GREASE EXHAUST
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HG	MERCURY
HP	HORSEPOWER
HR	HOUR
HT	HEIGHT
HTG	HEATING
HZ	HERTZ (FREQUENCY)
ID	INSIDE DIAMETER
IN	INCH
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LG	LENGTH
LH	LATENT HEAT
LRA	LOCKED ROTOR AMPS
LWG	LEAVING WATER TEMPERATURE
LWT	LEAVING WATER TEMPERATURE
MBH	THOUSAND BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MFR	MANUFACTUR(-ER, -ED)
NC	NORMALLY CLOSED
NC	NOISE CRITERIA
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPSH	NET POSITIVE SUCTION HEAD
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OD	OUTSIDE DIAMETER
OZ	OUNCE
PD	PRESSURE DROP OR DIFFERENCE
PG	PROPYLENE GLYCOL
PH	PHASE
PPM	PARTS PER MILLION
PRESS	PRESSURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
R	THERMAL RESISTANCE
RA	RETURN AIR
RECIRC	RECIRCULATE
REFR	REFRIGERATION
REQD	REQUIRED
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SC	SHADING COEFFICIENT
SCFM	STANDARD CUBIC FEET PER MINUTE
SCW	SOFT COLD WATER
SF	SAFETY FACTOR
SH	SENSIBLE HEAT
SL	SEA LEVEL
SP	STATIC PRESSURE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STD	STANDARD
SW	SOIL, WASTE
TA(R)	TRANSFER AIR (RETURN)
TA(S)	TRANSFER AIR (SUPPLY)
TD	TEMP, DROP OR DIFF.
TEMP	TEMPERATURE
THERM	THERMAL
TOT	TOTAL
TSTAT	THERMOSTAT
V	VOLT
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY TEMPERATURE
VEL	VELOCITY
VENT	VENT, VENTILATION
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VOL	VOLUME
WB	WET BULB TEMP
WC	WATER COLUMN
WG	WATER GAUGE
WPD	WATER PRESSURE DROP
WT	WEIGHT
WTR	WATER

## PLUMBING GENERAL NOTES

- THE PLUMBING DRAWINGS SHOW THE GENERAL DESIGN, ARRANGEMENT AND EXTENT OF THE PLUMBING SYSTEM. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THESE DRAWINGS DO NOT SHOW ALL OFFSETS, BENDS OR ELBOWS NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. CONTRACTOR SHALL MAKE SUCH INSTANT ALTERATIONS AS MAY BE NECESSARY TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL IN ACCORDANCE WITH THE DESIGN INTENT. MAJOR DEVIATIONS SUCH AS CHANGES IN COMPONENT SIZES, WEIGHTS, QUANTITIES OR MATERIAL REQUIRE PRIOR APPROVAL BY THE DESIGN ENGINEER.
- THE DRAWINGS AND SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH THE ITEMS SHOWN ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN BOTH.
- THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE MOST RECENTLY ADOPTED BUILDING CODES, MECHANICAL CODE, PLUMBING CODE, ELECTRICAL CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT.
- THE ENTIRE PLUMBING INSTALLATION SHALL CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS OF THE BUILDING OWNER.
- PRIOR TO FABRICATION AND INSTALLATION OF ANY PLUMBING COMPONENT THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER BUILDING TRADES, INCLUDING BUILDING TRADES HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
- ALL PLUMBING INFORMATION IS NOT SHOWN ON THE PLUMBING DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW AND USE, WHERE APPROPRIATE, ALL THE PLUMBING DETAILS SHOWN ON THE DRAWINGS. DETAILS MAY OR MAY NOT BE CALLED OUT ON THE DRAWINGS WITH SYMBOLS OR KEYED NOTES. ANY CHANGES RESULTING FROM FAILURE TO INSTALL THE PLUMBING SYSTEM WITHOUT USING THE INCLUDED DETAILS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ANY PART OF THE PLUMBING INSTALLATION THAT FAILS, IS UNFIT, OR BECOMES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE PROPER PROVISIONS FOR EXPANSION, CONTRACTION, OR MOVEMENT OF ALL PIPING.
- PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALL OR FLOOR TO ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENT.
- ALL PIPING SHALL BE SUPPORT WITH CLEVIS HANGERS (MSS TYPE 1). PERFORATED METAL STRAPS OR PLASTIC STRAPPING (PLUMBER TAPE) SHALL NOT BE USED TO SUPPORT OR BRACE ANY PIPE.
- PROVIDE PIPE HANGERS WITHIN 18-INCHES OF ALL CHANGES OF DIRECTION.
- PROVIDE SWAY BRACING FOR ALL PIPING 4" AND LARGER AT ALL CHANGES IN DIRECTION GREATER THAN 45-DEGREES.
- ALL STEEL CLEVIS HANGERS USED TO SUPPORT COPPER PIPING SHALL BE COPPER OR PLASTIC COATED.
- COPPER PIPING SHALL NOT COME IN CONTACT WITH FIRE TREATED LUMBER. PROVIDE 1/2" THICK SLIP-ON CLOSED CELL INSULATION WHERE COPPER PIPING IS ADJACENT TO FIRE TREATED LUMBER. CLOSED CELL INSULATION SHALL EXTEND A MINIMUM OF 1-1/2" PAST LUMBER.
- ALL EXPOSED PIPING SHALL BE INSTALLED IN A NEATLY ARRANGED MANNER PARALLEL TO THE BUILDING STRUCTURE.
- ALL EXPOSED DOMESTIC WATER PIPE IN OCCUPIED SPACES SHALL BE POLISHED CHROME PLATED.
- ALL EXPOSED DRAINAGE PIPING IN OCCUPIED SPACES INCLUDING TRAPS UNDER SINKS SHALL BE POLISHED CHROME PLATED.
- DRAWINGS SHOW GENERAL ARRANGEMENT OF THE DRAIN WASTE AND VENT SYSTEM WITH THE REQUIRED CLEANOUTS. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL CLEANOUTS AS REQUIRED BY THE PLUMBING CODE.
- ALL SANITARY DRAINAGE SYSTEM PIPING 3" AND LARGER SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/8" PER FOOT.
- ALL SANITARY DRAINAGE SYSTEM PIPING SMALLER THAN 3" SHALL BE SLOPED IN DIRECTION OF FLOW AT A MINIMUM OF 1/4" PER FOOT.
- SLOPE VENT SYSTEM TOWARDS DRAINAGE SYSTEM.
- SIMILAR EQUIPMENT SHALL BE OF THE SAME MANUFACTURER.
- ALL EQUIPMENT SHALL PROVIDE THE SCHEDULED PERFORMANCE AT THE JOB SITE ELEVATION.
- FIXTURE AND EQUIPMENT MODEL NUMBERS SHOWN IN PLUMBING FIXTURE SCHEDULE AND PLUMBING EQUIPMENT SCHEDULE ARE SHOWN TO ESTABLISH THE TYPE OF PRODUCT THAT SHALL BE USED. THE SELECTED PRODUCT SHALL MEET THE SCHEDULED PERFORMANCE DATA SHOWN ON THE SCHEDULE EVEN IF A DIFFERENT MODEL IS SUPPLIED THAT IS DIFFERENT THAN THAT SCHEDULED.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE ALL NECESSARY FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
- SEE "PLUMBING FIXTURE SCHEDULE" FOR INDIVIDUAL TRAPS, WASTE, VENT, AND DOMESTIC WATER PIPING FOR INDIVIDUAL FIXTURES.
- ALL PLUMBING EQUIPMENT SHALL BE LISTED AND LABELED BY AN APPROVED TESTING AGENCY.
- FIXTURES, EQUIPMENT AND PIPING INSTALLATION SHALL MEET NSF STANDARDS.



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**SAFE HARBOR LIFELINE**  
223 WEST 475 SOUTH  
LAYTON, UT

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PLUMBING COVER SHEET

PE001

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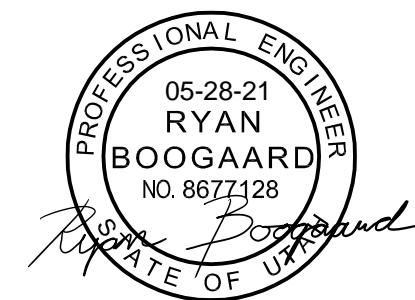
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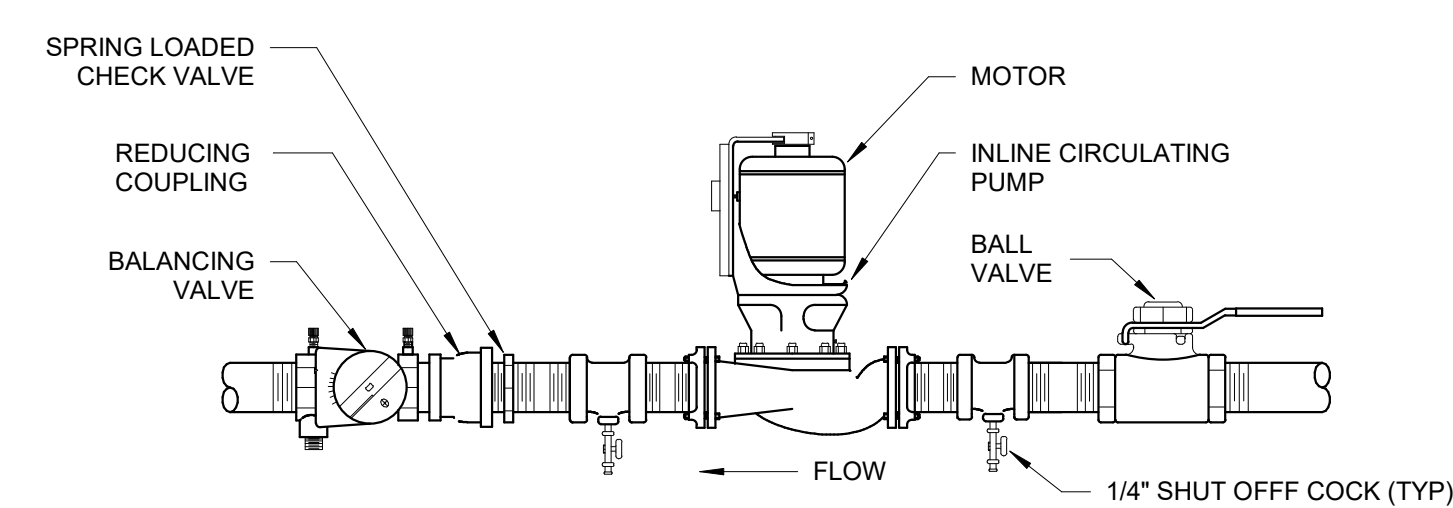
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**PLUMBING DETAILS**

**PE501**

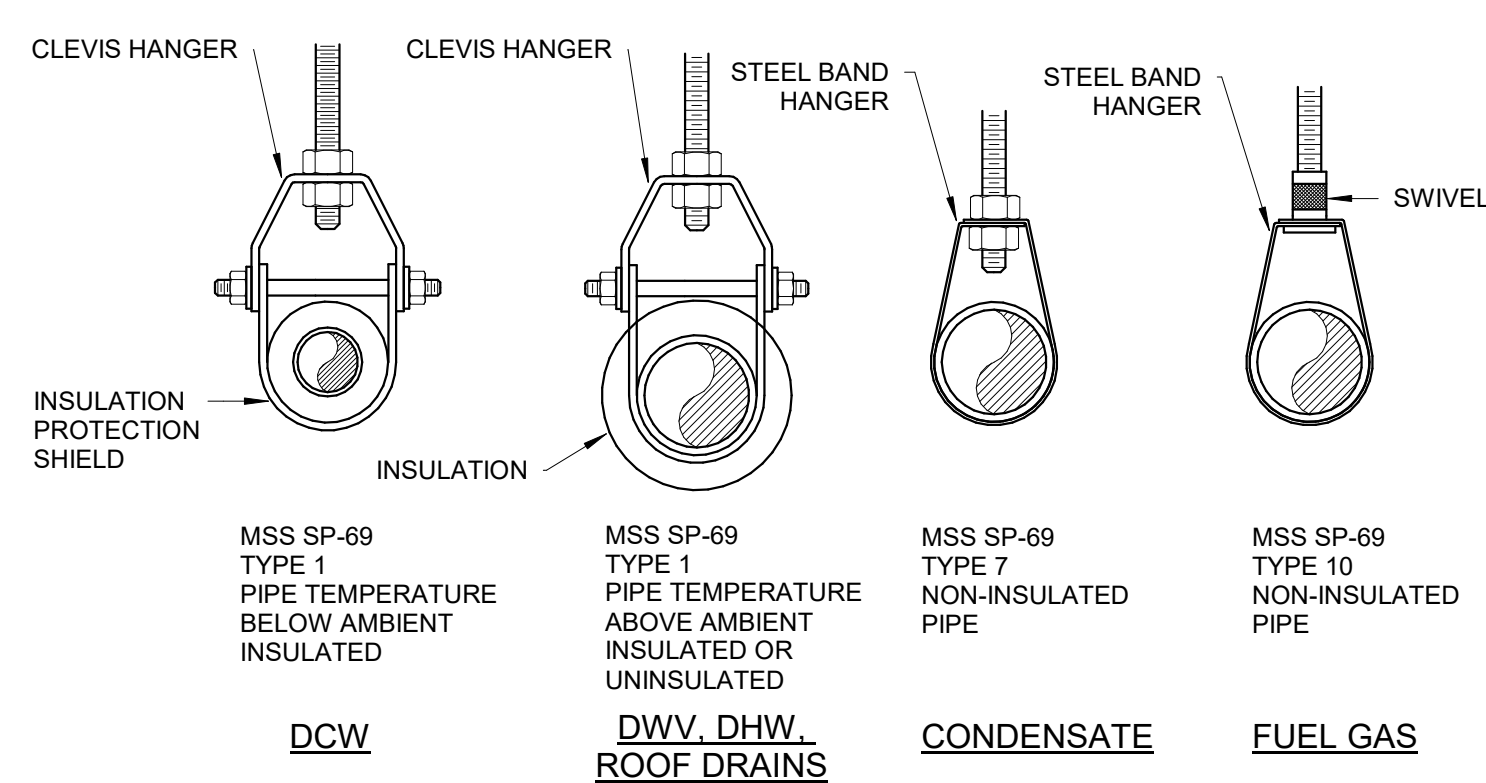


**3D PIPE MOUNTED PUMP DETAIL**  
1/8" = 1'-0"

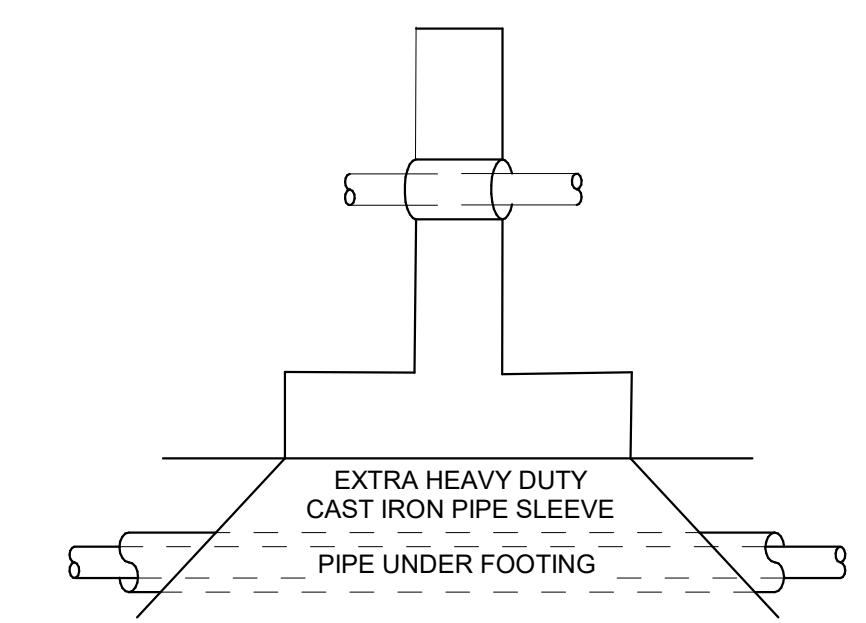
MINIMUM CENTERLINE SPACING

NOMINAL PIPE SIZE	DIM A	DIM B	DIM D	DIM E
1/2"-3/4"	5"	6"	3 1/2"	3"
1"-1 1/4"-1 1/2"	6"	8"	4"	4"
2"-2 1/2"	7"	10"	4 1/2"	5"
3"-3 1/2"	7 1/2"	11"	5"	6"
4"	8"	12"	5 1/2"	7"
5"	8 1/2"	13"	6"	8"
6"	9"	14"	6 1/2"	9"
8"	10"	16"	7 1/2"	11"

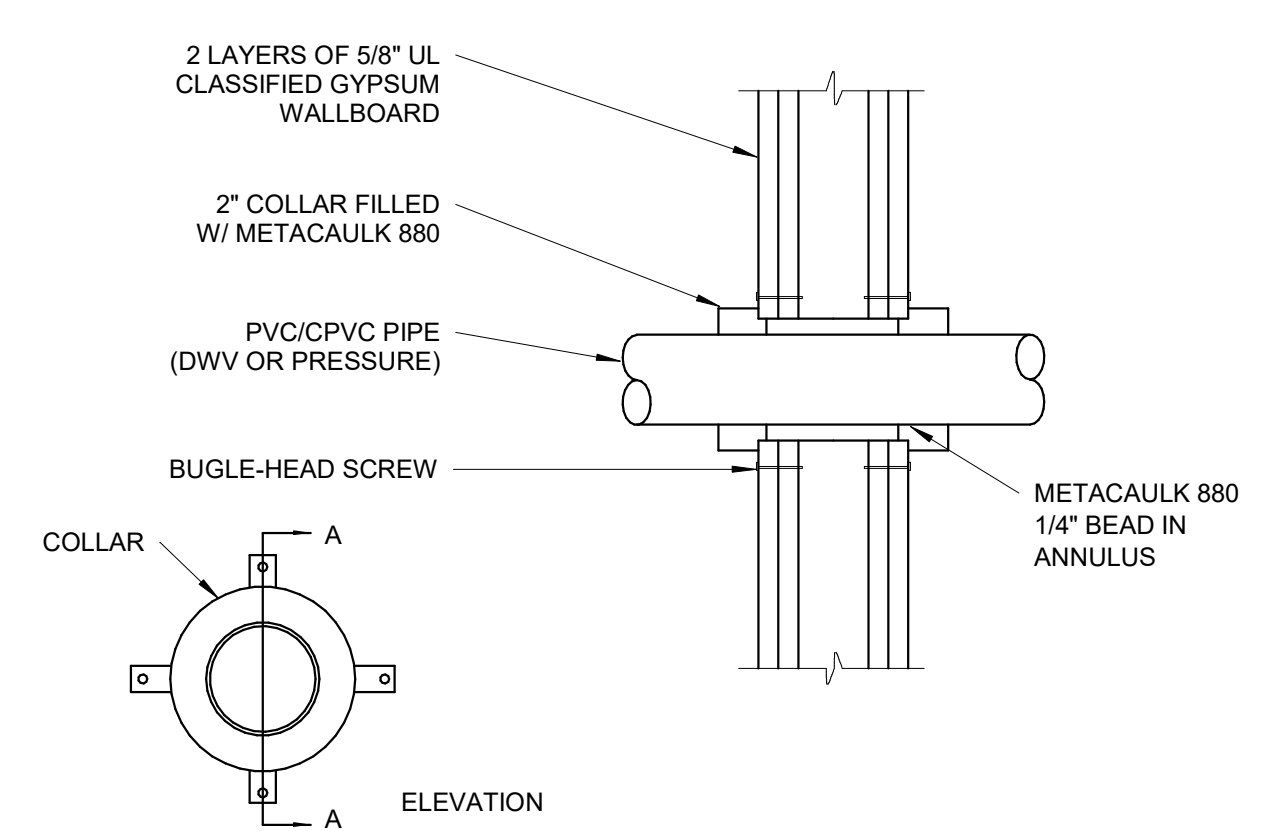
**3C PIPE CLEARANCES DETAIL**  
1/8" = 1'-0"



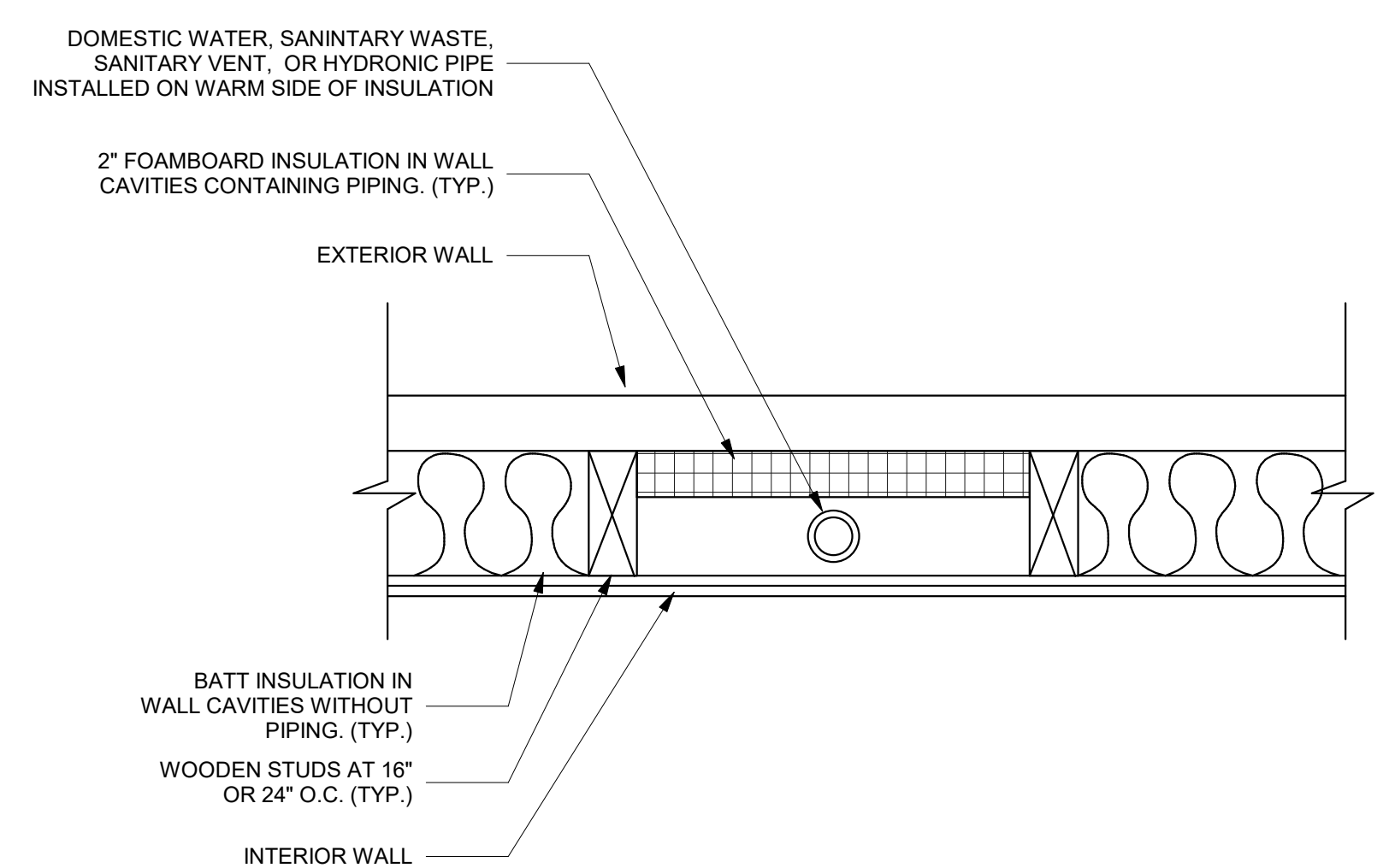
**3B PIPE HANGERS DETAIL**  
1/8" = 1'-0"



**5D PIPE UNDER FOOTING DETAIL**  
1/8" = 1'-0"



**5C PIPE WALL SLEEVE DETAIL**  
1/8" = 1'-0"

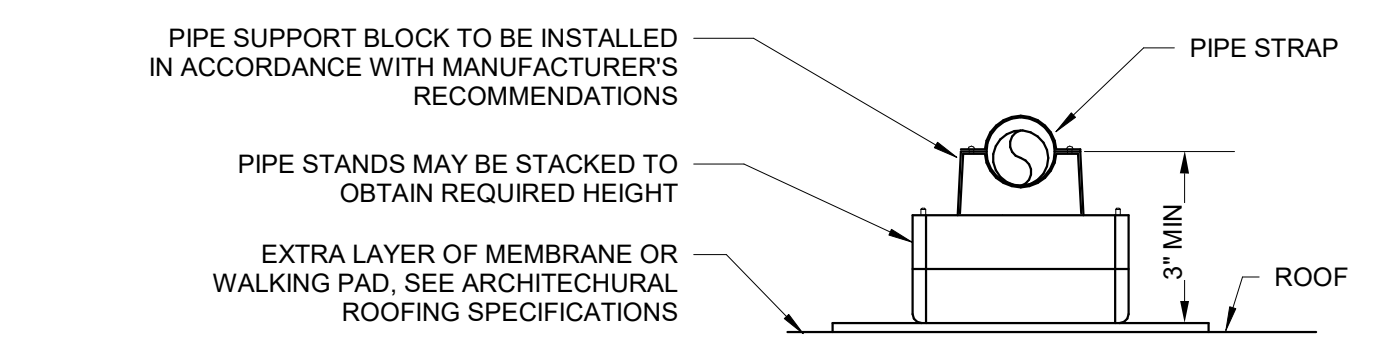


**1B PIPING IN EXTERIOR WALL DETAIL**  
1/8" = 1'-0"

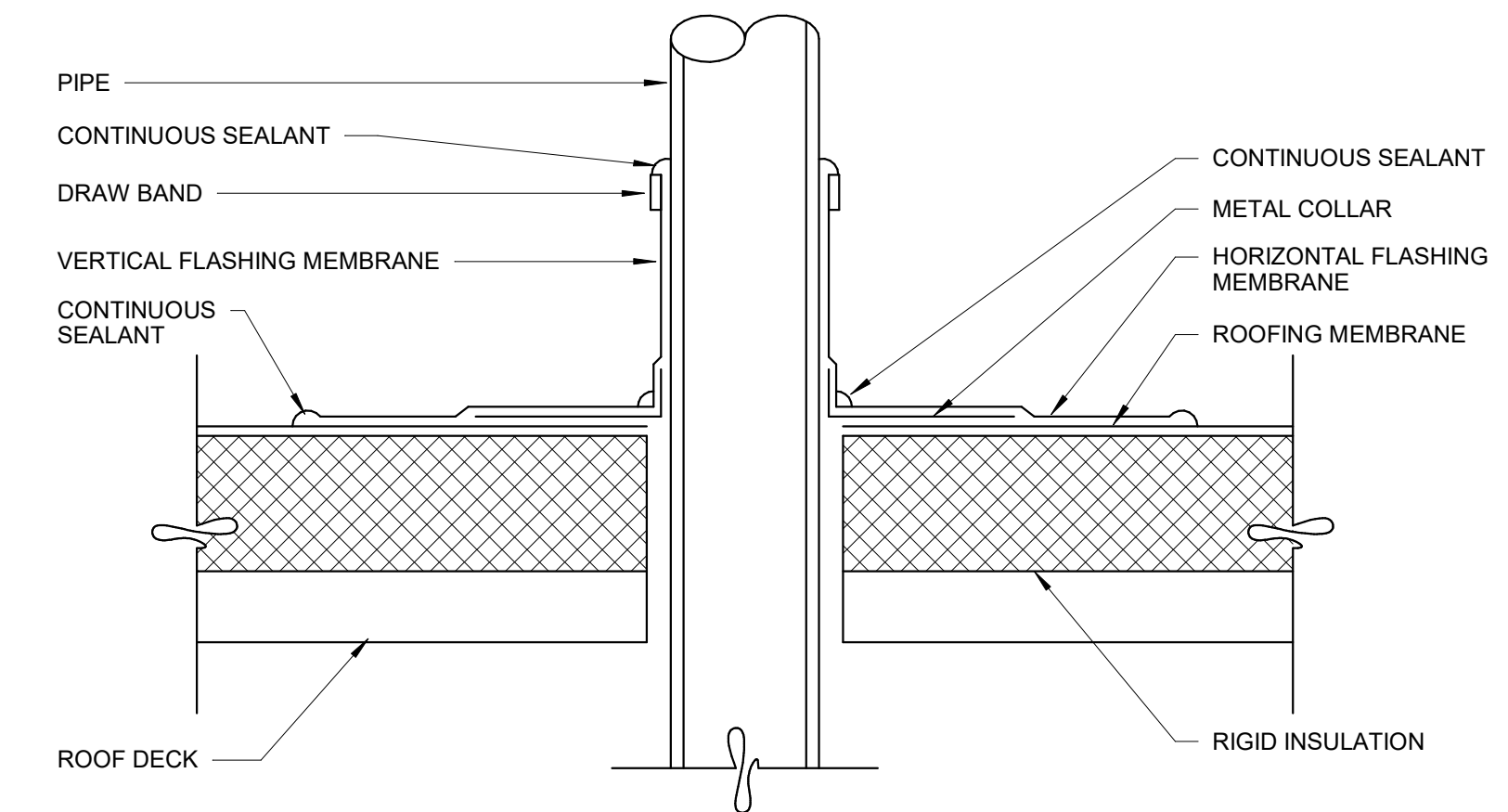
ROOF PIPE SUPPORT SCHEDULE

PIPE SIZE	MAXIMUM SPACING
1"	6'-0"
1 1/4"	6'-0"
1 1/2"	6'-0"
2"	6'-0"
2 1/2"	8'-0"
3"	8'-0"
4"	8'-0"

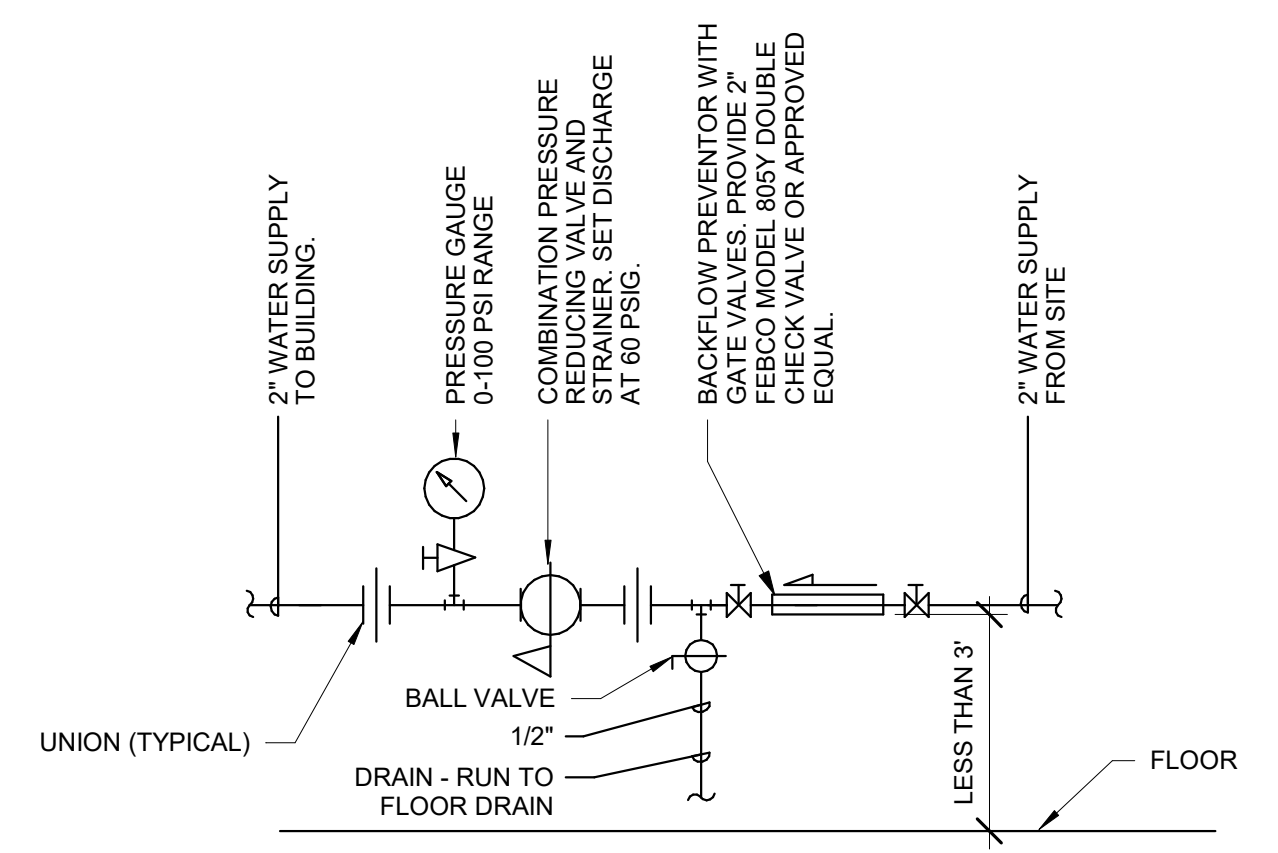
NOTES:  
1. SUPPORTED PIPE AT ALL ELBOWS AND AT SPACING SPECIFIED.  
2. PIPE SUPPORT BLOCK SHALL BE A MINIMUM OF ONE PIPE SIZE LARGER THAN PIPE.  
3. DO NOT ATTACH PIPESTANDS TO ROOF.



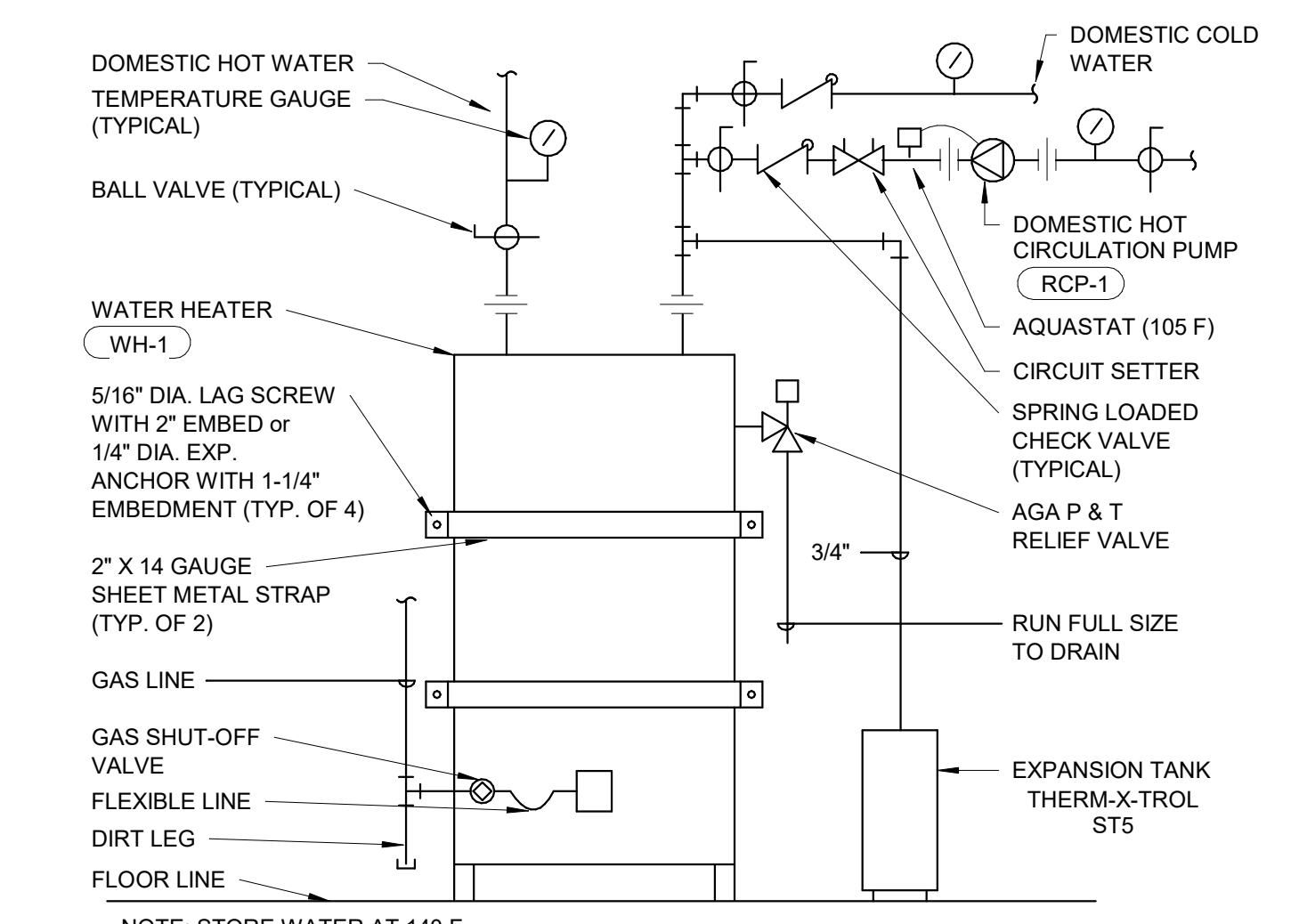
**1A ROOF PIPING SUPPORT DETAIL**  
1/8" = 1'-0"



**3A PIPE THROUGH ROOF DETAIL**  
1/8" = 1'-0"



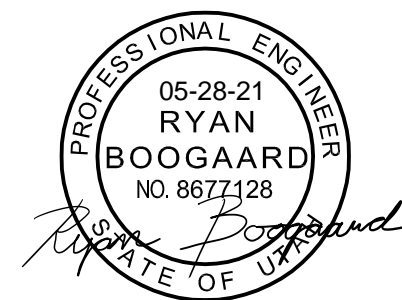
**5B PRV STATION DETAIL**  
1/8" = 1'-0"



**5A WATER HEATER DETAIL**  
1/8" = 1'-0"



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**PLUMBING SCHEDULES**

**PE601**

**WATER HEATER SCHEDULE**

LABEL	TANK SIZE (GAL)	FIRST HR RATING (GPH)	UEF	GAS INPUT(BTUH)	VOLTAGE	PHASE	Hz	DRY WEIGHT	MANUFACTURER	MODEL	REMARKS
WH-1	40	73	0.64	40000.0	120 V	1	60 Hz	200	BRADFORD WHITE	URG2PDV40S6N	1,2,3,4,5

1. PROVIDE WITH CONCENTRIC VENT KIT.
2. PROVIDE WITH EXPANSION TANK THERM-X-TROL ST-5.
3. ACCEPTABLE MANUFACTURERS: LOCHINVAR, AO SMITH, BRADFORD WHITE, RHEEM, STATE, BOCK OR PRIOR APPROVED EQUAL.
4. PROVIDE WITH UPPER AND LOWER SEISMIC STRAPS WITH TWO 5/16" LAG SCREWS HAVING 2" OF EMBED AT EACH CONNECTION LOCATION.
5. WATER HEATER TO BE ULTRA LOW NOX (15 PPM AT 3% O2 UP TO 75 MBH AND 20 PPM AT 3% O2).

**DOMESTIC RECIRC PUMP SCHEDULE**

LABEL	PUMP HEAD (FT)	PUMP GPM	TEMP. RANGE (°F)	WATTS	VOLT	PH	Hz	MANUFACTURER	MODEL	REMARKS
RCP-1	1.25	0.25	110-120	4 - 60	115	1	60	BELL & GOSSETT	19-16	1,2,3

1. PROVIDE WITH BRONZE, PLASTIC, OR STAINLESS STEEL IMPELLER AND STAINLESS STEEL BODY.
2. ACCEPTABLE MANUFACTURERS: BELL & GOSSETT, ARMSTRONG, TACO, GRUNDFOS OR PRIOR APPROVED EQUAL.
3. PUMP CONTROL OPTIONS - PROVIDE THERMALLY BALANCED SYSTEM OR MANUALLY BALANCED SYSTEM.  
 BASE BID: RUN IN CONSTANT PRESSURE MODE IN CONJUNCTION WITH CALEFFI MODEL 116 THERMAL BALANCING VALVES TO ALLOW PUMP TO RUN AT LOWER SPEED WHEN HOT WATER IS RUNNING  
 a. PROVIDE CALEFFI THERMAL BALANCING VALVE SET TO 110 F AT EACH CONNECTION POINT OF RECIRC LINE TO HOT WATER LINE.  
 OPTION 1: PROVIDE WITH AQUASTAT AND TIE INTO BUILDING TIMER WITH RUN TIME 1 HOUR BEFORE AND AFTER OCCUPIED SCHEDULE.  
 a. BALANCE DOMESTIC HOT WATER RECIRCULATING LINE. PROVIDE BALANCING VALVES AT EACH FIXTURE TIE IN, P&T PORT ON INLET AND DISCHARGE OF PUMP, AND BALANCE REPORT TO ENGINEER.

**PLUMBING FIXTURE SCHEDULE**

REFER TO PLUMBING SPECIFICATIONS FOR COMPLETE FIXTURE COMPONENTS

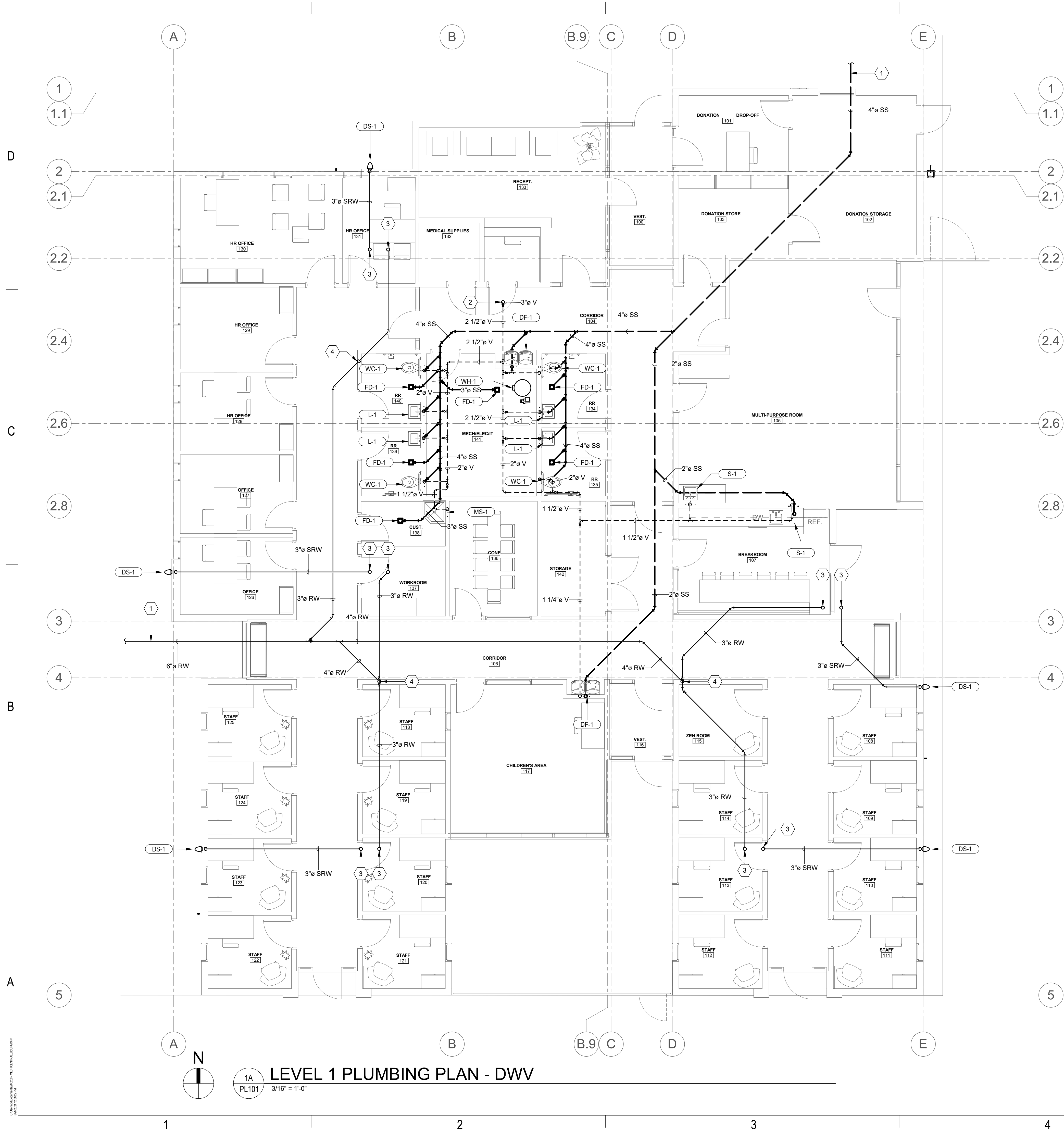
LABEL	DESCRIPTION	WASTE	VENT	CW	HW	MANUFACTURER	MODEL	REMARKS
DF-1	BI-LEVEL ELECTRIC WATER COOLER WITH BOTTLER FILLING STATION	2"	1 1/2"	1/2"	0"	ELKAY	LZSTL8WSLP	ELECTRICAL DATA: 120/1, 4 FLA, 370 WATTS
DS-1	DOWNSPOUT NOZZLE	3"	0"	0"	0"	ZURN	Z199	TO MATCH PIPE SIZE MOUNTED 12" ABOVE FINISHED GRADE OR AS PER ARCHITECT.
FD-1	FLOOR DRAIN	3"	0"	0"	0"	FIXTURE: ZURN TRAP SEAL: RECTORSEAL	FIXTURE: Z415-BZ1 TRAP SEAL: SURESEAL	TRAP SEAL TO MATCH FD SIZE
HB-1	HOSE BIBB - FREEZEPROOF W/ COVER	0"	0"	1/2"	0"	WOODFORD	MODEL B65	N/A
L-1	WALL MOUNTED LAVATORY (ACCESSIBLE)	2"	1 1/2"	1/2"	1/2"	FIXTURE: KOHLER FAUCET: KOHLER INSULATION: TRUEBRO TMV: WEBSTONE	FIXTURE: K-2035-1 FAUCET: K013461 INSULATION: LAVGUARD 2 TMV: H-77211W-TG	MOUNT AT ADA HEIGHT SET TMV AT 110 DEG. F.
MS-1	SERVICE SINK	3"	1 1/2"	3/4"	3/4"	FIXTURE: MUSTEE FAUCET: KOHLER	FIXTURE: 63M FAUCET: K-8907	PROVIDE HOSE AND HOSE HOLDER, MOP HANGER, BUMPER AND WALL GUARDS
RD-1	ROOF DRAIN	3"	0"	0"	0"	ZURN	Z100	N/A
S-1	UNDERMOUNT DOUBLE BOWL KITCHEN SINK	2"	1 1/2"	1/2"	1/2"	FIXTURE: ELKAY FAUCET: KOHLER DISPOSER: INSINKERATOR TMV: BRADLEY	FIXTURE: EFRU311810T FAUCET: K-10445 DISPOSER: BADGER 5 TMV: S59-4016 SERIES	DISPOSER ELECTRICAL: 1/2 HP, 1725 RPM, 6.3A, 120/1
SRD-1	SECONDARY ROOF DRAIN	3"	0"	0"	0"	ZURN	Z100	PROVIDE WITH INTERNAL WATER DAM.
WC-1	WALL MOUNT FLUSH VALVE WATER CLOSET (ACCESSIBLE)	4"	2"	1 1/2"	0"	FIXTURE: KOHLER FLUSH VALVE: ZURN SEAT: BEMIS	FIXTURE: K-4325-SS FLUSH VALVE: ZER6000-CP-WS1 SEAT: 1955CTJ	INSTALL PER ADA INSTALLATION REQUIREMENTS.

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**PLUMBING GENERAL NOTES**

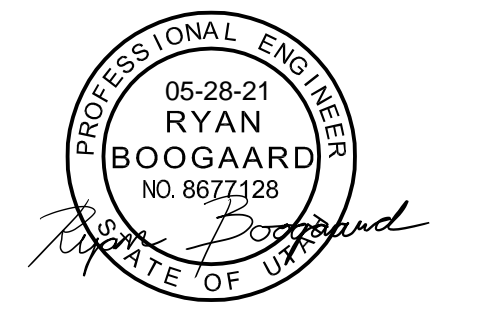
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- PLUMBING PIPING SCHEDULE:
  - DOMESTIC WATER ABOVE GRADE= CPVC OR PEX
  - DOMESTIC WATER BELOW GRADE= POLY
  - ROOF DRAIN, WASTE & VENT = DWV SOLID CORE PVC - SOLVENT CEMENT
  - NATURAL GAS PIPING ABOVE GRADE = SCHEDULE 40 BLACK STEEL PIPE - THREADED
  - NATURAL GAS PIPING BELOW GRADE = POLYETHYLENE PIPE - FUSION WELDED

**KEYNOTES**

- PIPE FROM SITE IN THIS APPROXIMATE LOCATION. COORDINATE WITH SITE PLAN AND WITH SITE PLUMBING CONTRACTOR.
- 3" VENT THROUGH ROOF IN THIS APPROXIMATE LOCATION. SEE PIPE THROUGH ROOF DETAIL AND TERMINATE A MINIMUM OF 14" ABOVE FINISHED ROOF.
- PIPE UP THROUGH ROOF IN THIS APPROXIMATE LOCATION. SEE ROOF PLAN FOR CONTINUATION.
- PIPE DROP FROM CEILING SPACE TO BELOW GRADE IN THIS APPROXIMATE LOCATION.



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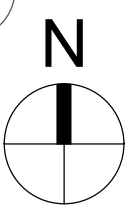
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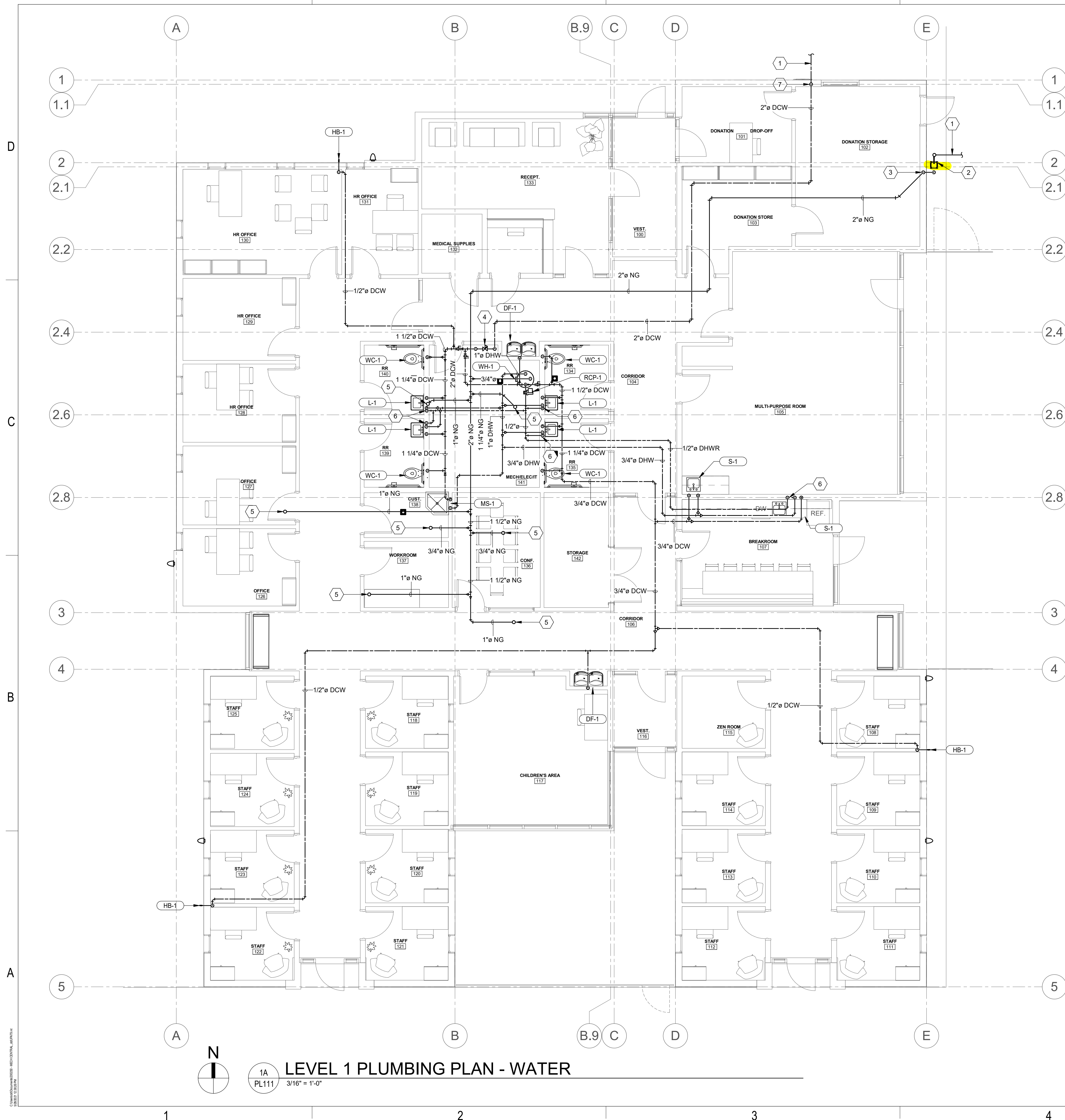
**LEVEL 1 PLUMBING PLAN - DWV**

**PL101**

1A  
PL101  
3/16" = 1'-0"



DATE PLOTTED: 05/28/2021 10:00 AM



**PLUMBING GENERAL NOTES**

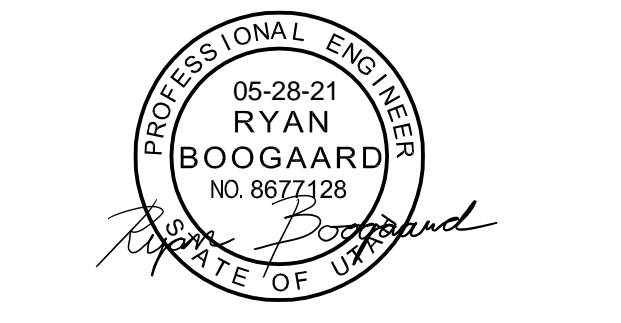
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- PLUMBING PIPING SCHEDULE:
  - DOMESTIC WATER ABOVE GRADE= CPVC OR PEX
  - DOMESTIC WATER BELOW GRADE= POLY
  - ROOF DRAIN, WASTE & VENT = DWV SOLID CORE PVC - SOLVENT CEMENT
  - NATURAL GAS PIPING ABOVE GRADE = SCHEDULE 40 BLACK STEEL PIPE - THREADED
  - NATURAL GAS PIPING BELOW GRADE = POLYETHYLENE PIPE - FUSION WELDED

**SHEET KEYNOTES**

- PIPE FROM SITE IN THIS APPROXIMATE LOCATION. COORDINATE WITH SITE PLAN AND WITH SITE PLUMBING CONTRACTOR.
- GAS METER IN THIS APPROXIMATE LOCATION. COORDINATE WITH DOMINION ENERGY. GAS METER INFORMATION: 4 OZ. PRESSURE - 150' LONGEST LENGTH - 1000 SUM CFH
- PIPE UP FROM GAS METER TO CEILING SPACE IN THIS APPROXIMATE LOCATION.
- PROVIDE BACKFLOW PREVENTER, AND PRV IN THIS APPROXIMATE LOCATION PER PRV STATION DETAIL ON SHEET PE501.
- GAS PIPE UP THROUGH ROOF TO EQUIPMENT IN THIS APPROXIMATE LOCATION. COORDINATE WITH AND INSTALL PER MANUFACTURER RECOMMENDATIONS AND THE PIPE THROUGH ROOF DETAIL ON SHEET PE501. PROVIDE WITH PIPING SUPPORT(S) PER ROOF PIPING SUPPORT DETAIL.
- PROVIDE A CALEFFI 116 THERMOSTATIC BALANCING VALVE SET TO 110°F AT DHW TO DHWR CONNECTION IN THIS APPROXIMATE LOCATION. LOCATE VALVE BENEATH SINK IN AN ACCESSIBLE LOCATION.
- WATER PIPE RISE UP FROM BELOW GRADE TO RUN IN CEILING SPACE IN THIS APPROXIMATE LOCATION. INSTALL ON THE INTERIOR OF THE BUILDING WITH INSULATION ON THE EXTERIOR PER PIPING IN EXTERIOR WALL DETAIL.



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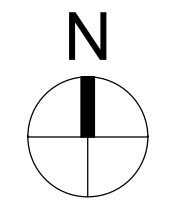
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PROJECT NUMBER:	200250
DRAWN BY:	CLD
CHECKED BY:	RHB

ISSUE	DATE:
Project Status: PERMIT SET	Issue Date: MAY 28, 2021

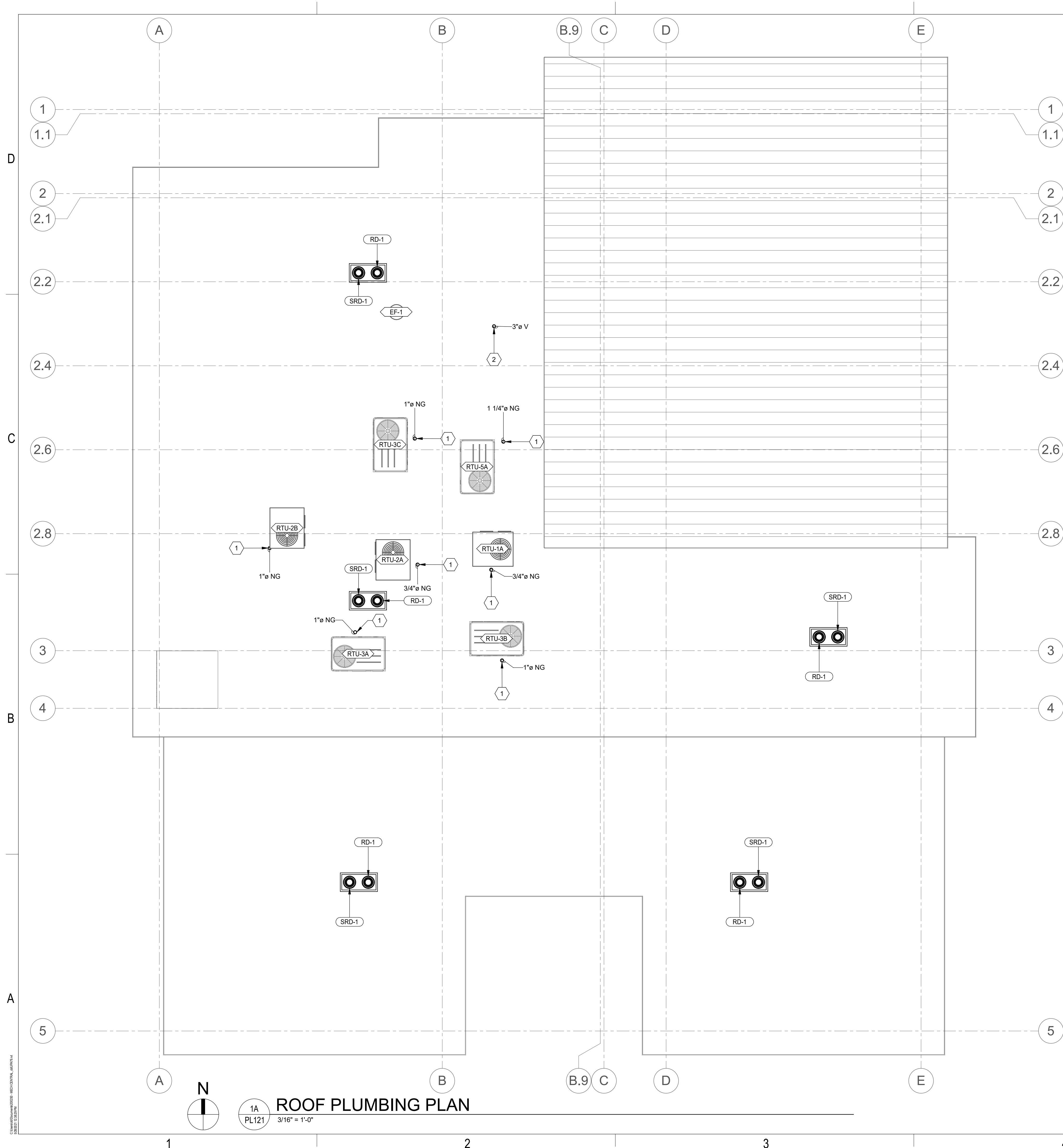
**LEVEL 1 PLUMBING PLAN - WATER & GAS**

**PL111**



**1A LEVEL 1 PLUMBING PLAN - WATER**  
3/16" = 1'-0"





**PLUMBING GENERAL NOTES**

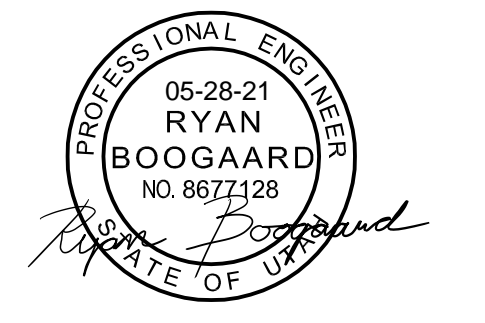
- ALL DOMESTIC WATER PIPING TO BE COPPER. ALL HOT WATER AND HOT WATER RECIRCULATING PIPING TO BE INSULATED WITH 1" UP TO 1-1/4" PIPE AND 1-1/2" INSULATION FOR PIPING 1-1/2" AND LARGER. DOMESTIC COLD WATER PIPING TO BE INSULATED WITH 1/2" UP TO 1-1/4" PIPING AND 1" INSULATION FOR PIPING 1-1/2" OR LARGER.
- THE CONTRACTOR SHALL CLOSELY COORDINATE MECHANICAL AND PLUMBING WITH ELECTRICAL, ARCHITECTURAL, AND BUILDING STRUCTURE.
- DISSIMILAR METAL PIPING CONNECTIONS SHALL HAVE DIELECTRIC ISOLATORS.
- ALL DOMESTIC WATER PIPING TO BE PRESSURE TESTED, CLEANED, AND DISINFECTED. PRESSURE TEST: CAP AND SUBJECT PIPING TO STATIC WATER PRESSURE OF 120 PSIG FOR FOUR HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED. PROVIDE RESULTS IN WRITTEN REPORT TO ENGINEER UPON COMPLETION. CLEAN AND DISINFECT: FLUSH PIPING SYSTEM, FILL SYSTEM WITH WATER/CHLORINE SOLUTION WITH AT LEAST 50 PPM OF CHLORINE FOR 24 HOURS. THOROUGHLY FLUSH SYSTEM. SUBMIT WATER SAMPLES IN STERILE BOTTLES TO AUTHORITIES HAVING JURISDICTION. PROVIDE REPORT TO ENGINEER STATING PROCEDURE FOLLOWED AND SIGNATURES OF GC AND THAT OF PERSONS PERFORMING PROCEDURE.
- BALL VALVES SHALL BE FULL PORT AND LEAD FREE. PROVIDE WITH HANDLE/STEM EXTENSIONS FOR PROPER FUNCTION WHEN FULLY INSULATED. EXTENSIONS TO BE SEALED AND VAPOR PROOF.
- ALL DOMESTIC WATER PIPING TO BE LOCATED ON WARM SIDE OF BUILDING ENVELOPE. ALL ROOF DRAIN PIPING (PRIMARY AND SECONDARY) LOCATED IN BUILDING ENVELOPE, INCLUDING ROOF DRAIN BOWLS TO BE INSULATED.
- WATER HAMMER ARRESTORS SHALL BE SIZED AND INSTALLED PER PLUMBING AND DRAINAGE INSTITUTE (STANDARD PDI-WH 201) REQUIREMENTS IN ACCESSIBLE LOCATIONS ON THE COLD WATER AND HOT WATER PIPING WHERE FLUSH VALVES OR QUICK CLOSING VALVES ARE USED.
- ALL GAS PIPING ON ROOF TO BE ON ROLLER PIPE SUPPORT. PROVIDE RUBBER BASE OR EXTRA LAYER OF MEMBRANE UNDER EACH PIPE SUPPORT. ALL PIPE SUPPORTS TO BE A MAXIMUM OF 10' ON CENTER.
- PROVIDE BALANCE REPORT OF DOMESTIC WATER RECIRCULATING SYSTEM TO ENGINEER. PROVIDE P&T PORTS AND PRESSURE GAUGES ON EACH SIDE OF RECIRCULATING PUMP. PROVIDE THERMOMETER ON DISCHARGE SIDE OF PUMP. PROVIDE A MARINE TOPSIDE BLACK PAINT ON ALL NEW GAS PIPING.
- TEST WASTE AND VENT PIPING FOR LEAKAGE. AFTER PLUMBING FIXTURES HAVE BEEN SET AND TRAPS FILLED WITH WATER, TEST CONNECTIONS AND PROVE THEY ARE GASTIGHT AND WATERTIGHT. PLUG VENT-STACK OPENINGS ON ROOF AND BUILDING DRAINS WHERE THEY LEAVE BUILDING. INTRODUCE AIR INTO PIPING SYSTEM EQUAL TO PRESSURE OF 1-INCH WG. USE U-TUBE OR MANOMETER INSERTED IN TRAP OF WATER CLOSET TO MEASURE THIS PRESSURE. AIR PRESSURE MUST REMAIN CONSTANT WITHOUT INTRODUCING ADDITIONAL AIR THROUGHOUT PERIOD OF INSPECTION. INSPECT PLUMBING FIXTURE CONNECTIONS FOR GAS AND WATER LEAKS. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING, OR PORTION THEREOF, UNTIL SATISFACTORY RESULTS ARE OBTAINED. PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION.
- PROVIDE A SAND BED WITH SIX (6") INCHES MINIMUM COVERAGE AROUND ALL BELOW GRADE PIPES. PROVIDE BACKFILL FREE OF BOULDERS LARGER THAN TWO (2") INCHES. COMPACT AND TEST ALL BACKFILL ACCORDING TO ASTM COMPACTION STANDARDS OR PROVIDE PEA GRAVEL BACKFILL. PROVIDE MINIMUM TRENCH WIDTH OF NOT LESS THAN 1.5 TIMES THE PIPE OUTSIDE DIAMETER PLUS 12 INCHES.
- PIPING SHALL NOT BE SUPPORTED FROM THE ROOF DECK, JOIST BRIDGING OR OTHER PIPES. HANG PIPES FROM BEAMS, JOIST OR SUPPLEMENTARY STRUCTURAL MEMBERS. WHERE POSSIBLE INSTALL ALL PIPING WITHIN 12" FROM SUPPORTING STRUCTURE.
- ALL PIPING THROUGH A FOUNDATION WALL OR UNDER A FOOTING TO BE PROVIDED WITH PIPE SLEEVE 2 PIPE SIZES LARGER THAN PIPE PASSING THROUGH WALL OR UNDER FOOTING. SEAL WITH CAULK OR FOAM. PIPE SLEEVE UNDER FOOTING TO BE A MINIMUM OF 2" BELOW FOOTING. PIPE TO BE IRON AND EXTEND BEYOND THE WIDTH OF THE FOOTING AT A 45 DEGREE ON BOTH SIDES OF FOOTING.
- PLUMBING PIPING SCHEDULE:
  - DOMESTIC WATER ABOVE GRADE= CPVC OR PEX
  - DOMESTIC WATER BELOW GRADE= POLY
  - ROOF DRAIN, WASTE & VENT = DWV SOLID CORE PVC - SOLVENT CEMENT
  - NATURAL GAS PIPING ABOVE GRADE = SCHEDULE 40 BLACK STEEL PIPE - THREADED
  - NATURAL GAS PIPING BELOW GRADE = POLYETHYLENE PIPE - FUSION WELDED

**SHEET KEYNOTES**

- GAS PIPE UP THROUGH ROOF TO EQUIPMENT IN THIS APPROXIMATE LOCATION. COORDINATE WITH AND INSTALL PER MANUFACTURER RECOMMENDATIONS AND THE PIPE THROUGH ROOF DETAIL ON SHEET PE501. PROVIDE WITH PIPING SUPPORT(S) PER ROOF PIPING SUPPORT DETAIL.
- 3" VENT THROUGH ROOF IN THIS APPROXIMATE LOCATION. SEE PIPE THROUGH ROOF DETAIL AND TERMINATE A MINIMUM OF 14" ABOVE FINISHED ROOF.



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**ROOF PLUMBING PLAN**

**PL121**

**1A ROOF PLUMBING PLAN**  
3/16" = 1'-0"







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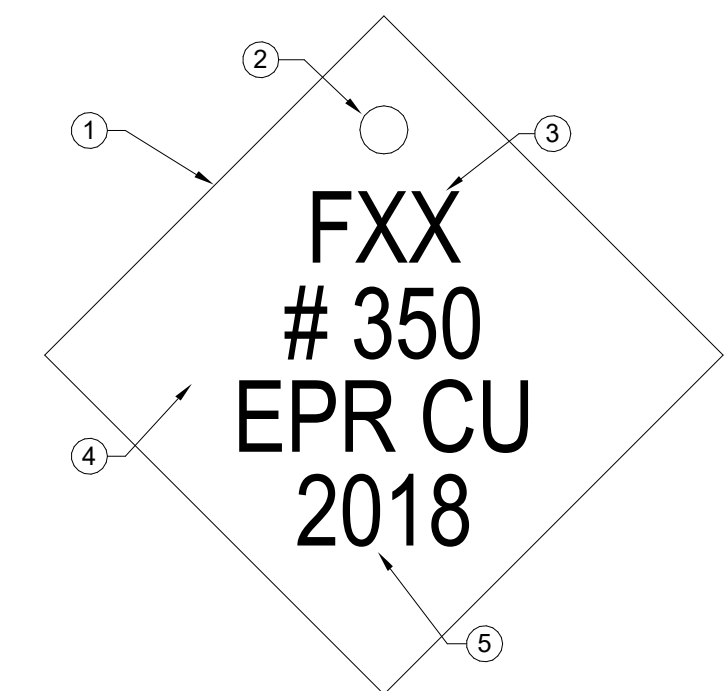


ISSUE	DATE:
DESIGN DEVELOPMENT	2021-04-14
PROJECT NUMBER:	20-028
DRAWN BY:	SAC
CHECKED BY:	MCF

TYPICAL LABELING SCHEMES

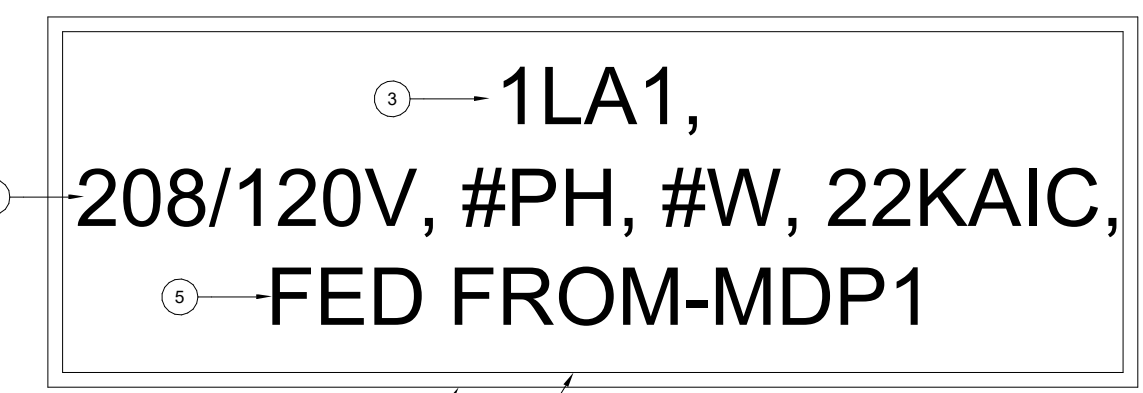
EE005

- FEEDER LABELS ARE TO BE PROVIDED FOR EACH FEEDER. LABEL IS TO BE 2 1/2" X 2 1/2" X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER YELLOW PLY, EXPOSING BLACK PLY BENEATH. LABELS ARE TO BE PROVIDED IN MANHOLES NEAR EACH DUCTBANK ENTRANCE THE FEEDER PASSES THROUGH, AND NEAR EACH SWITCH SECTION THE FEEDER CONNECTS TO. LABELS ARE ALSO TO BE PROVIDED ON THE FEEDERS OF SWITCHES AT EACH PAD OR VAULT, AND INSIDE THE PRIMARY COMPARTMENT OF EACH TRANSFORMER.
- TAG IS TO BE ATTACHED TO PHASE B OF EACH FEEDER USING A BLACK WEATHER RESISTANT ZIP TIE. TAG IS TO BE FIXED SUCH THAT THE LETTERING IS VISIBLE AND NOT PULLED SO TIGHT THAT IT CAN NOT BE ADJUSTED.
- LETTERING IS TO BE 3/8" HIGH, CENTERED AND FORMATTED AS SHOWN. COORDINATE AND MATCH FEEDER NAME WITH ONE-LINE FEEDER NAME.
- IDENTIFY CABLE SIZE/TYPE.
- YEAR INSTALLED.



**C1** MEDIUM VOLTAGE FEEDER LABEL  
SCALE: 1/8" = 1'-0"

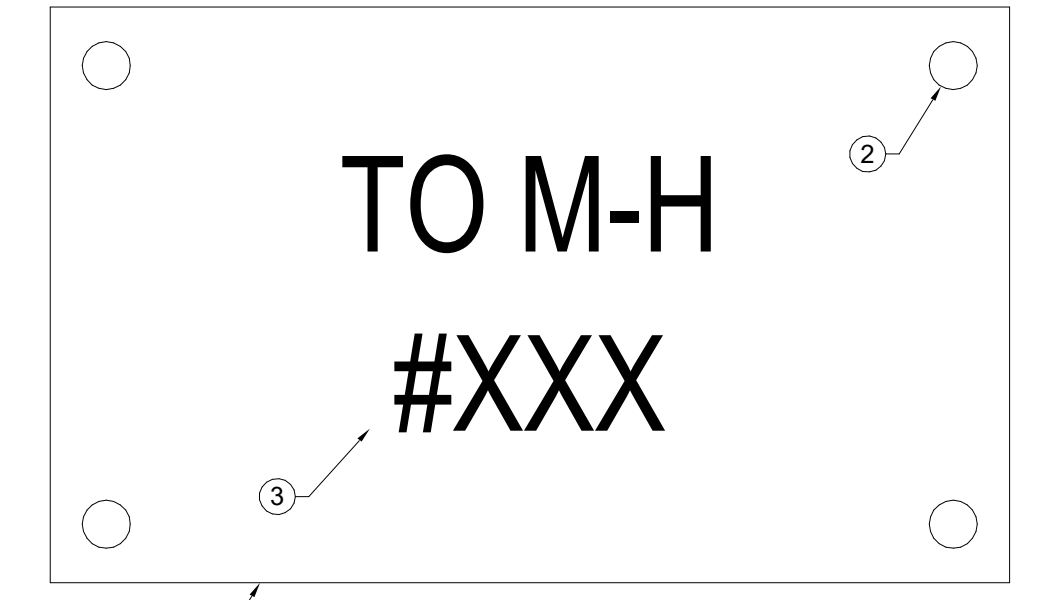
- LABEL TO BE PROVIDED AT EACH SWITCHBOARD, PANELBOARD, DISCONNECT/STARTER. LABEL IS TO BE 3" X 5" REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH.
- LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
- FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. REPLACE THE LETTER NUMBER WITH THOSE FOUND ON THE ONE-LINE DIAGRAM.
- SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED: VOLTAGE, PHASE, NUMBER OF WIRES, AND ARC RATING OF DEVICE.
- THIRD LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. PROVIDE "FED FROM-" AND REPLACE MDP1 WITH THE DEVICES NAME THAT FEEDS THE PANELBOARD.



NOTE: EMERGENCY PANELS SHALL USE LAMACOID WITH RED OUTER PLY, EXPOSING WHITE LETTERING BENEATH. CONTRACTOR TO USE SAME LABEL SCHEME EXCEPT FIRST "X" IS REPLACED WITH "E" FOR EMERGENCY. SECOND "X" TO BE "L" FOR LOW OR "H" FOR HIGH VOLTAGE (480/277V). LAST "V" TO BE REPLACED WITH LETTER INDICATING LOCATION OF PANEL.

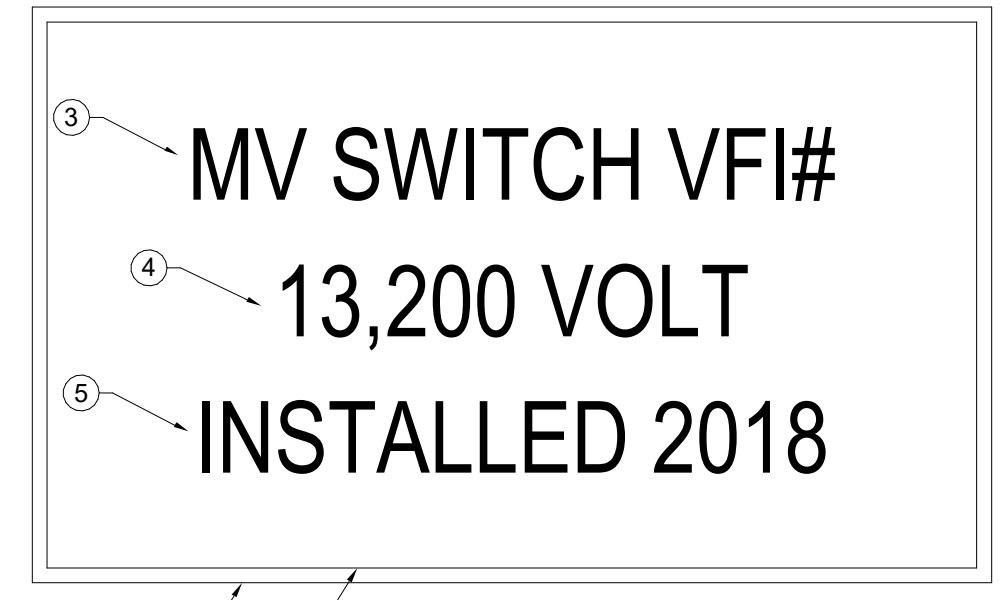
**B1** TYPICAL PANELBOARD/SWITCHBOARD LABEL  
SCALE: 1/8" = 1'-0"

- DUCTBANK LABEL TO BE PROVIDED AT EACH DUCTBANK START AND END LOCATIONS AS WELL AS AT EACH MANHOLE ENTRANCE AND EXIT THAT WORK IS HAPPENING AT IN PROJECT. LABEL IS TO BE 3" X 5" X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER YELLOW PLY, EXPOSING BLACK PLY BENEATH.
- LABEL IS TO BE MOUNTED USING 1/4" PLASTIC ANCHORS. LABEL IS TO BE LOCATED DIRECTLY ADJACENT TO THE DUCTBANK IN A WAY TO CLEARLY INDICATE WHICH DUCTBANK THE LABEL IS DEFINING.
- LETTERING IS TO BE 1/2" HIGH, CENTERED, AND FORMATTED AS SHOWN. "TO M-H #XXX" IS TO BE REPLACE WITH THE DESTINATION OF THE DUCTBANK, SUCH AS THE NEXT MANHOLE, A VAULT, OR A PAD. CONFIRM NAME WITH OWNER PRIOR TO ORDERING.

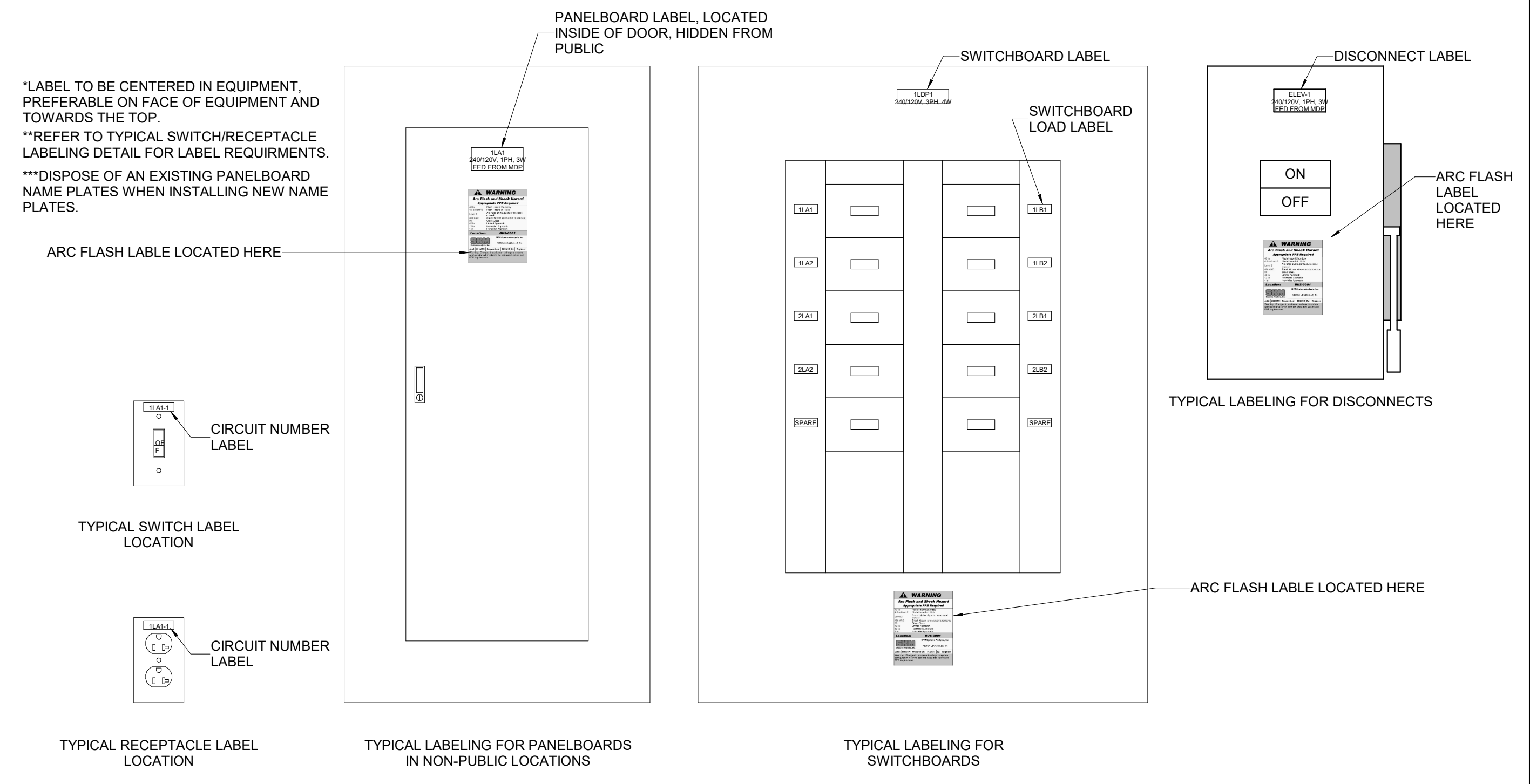


**A1** DUCTBANK LABEL  
SCALE: NTS

- MV SWITCH LABEL TO BE PROVIDED AT EACH SWITCH AND ITS CABINET. INSTALL ON EXTERIOR OF ENCLOSURE WHERE EASILY VISIBLE. LABEL IS TO BE 3" X 5" X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER YELLOW PLY, EXPOSING BLACK PLY BENEATH.
- LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
- FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. "##" IS TO BE REPLACED WITH THE NAME OF THE SWITCH AND SHALL COORRESPOND WITH ONE-LINE.
- SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN AND INDICATE THE SWITCH VOLTAGE.
- THIRD LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN AND INDICATE THE YEAR INSTALLED.

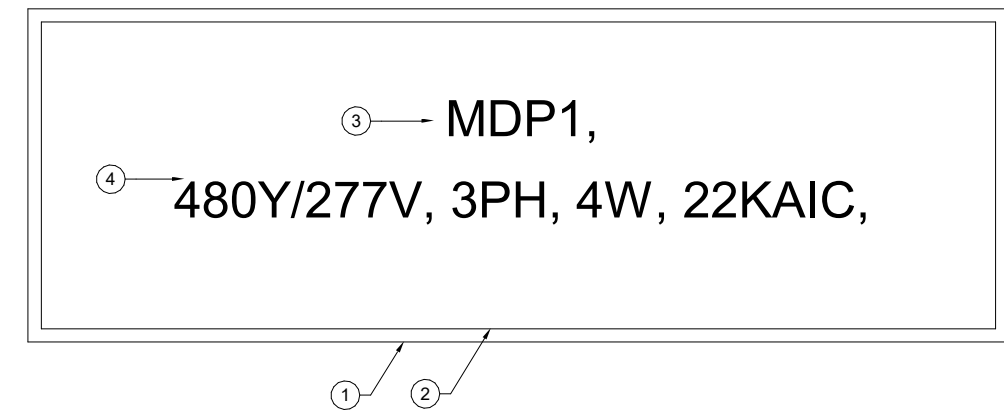


**A2** MV SWITCH CABINET LABEL  
SCALE: 1/8" = 1'-0"



**C4** TYPICAL SWITCH, RECEPTACLE AND PANELBOARD LABELING LOCATION DETAIL  
SCALE: 3/32" = 1'-0"

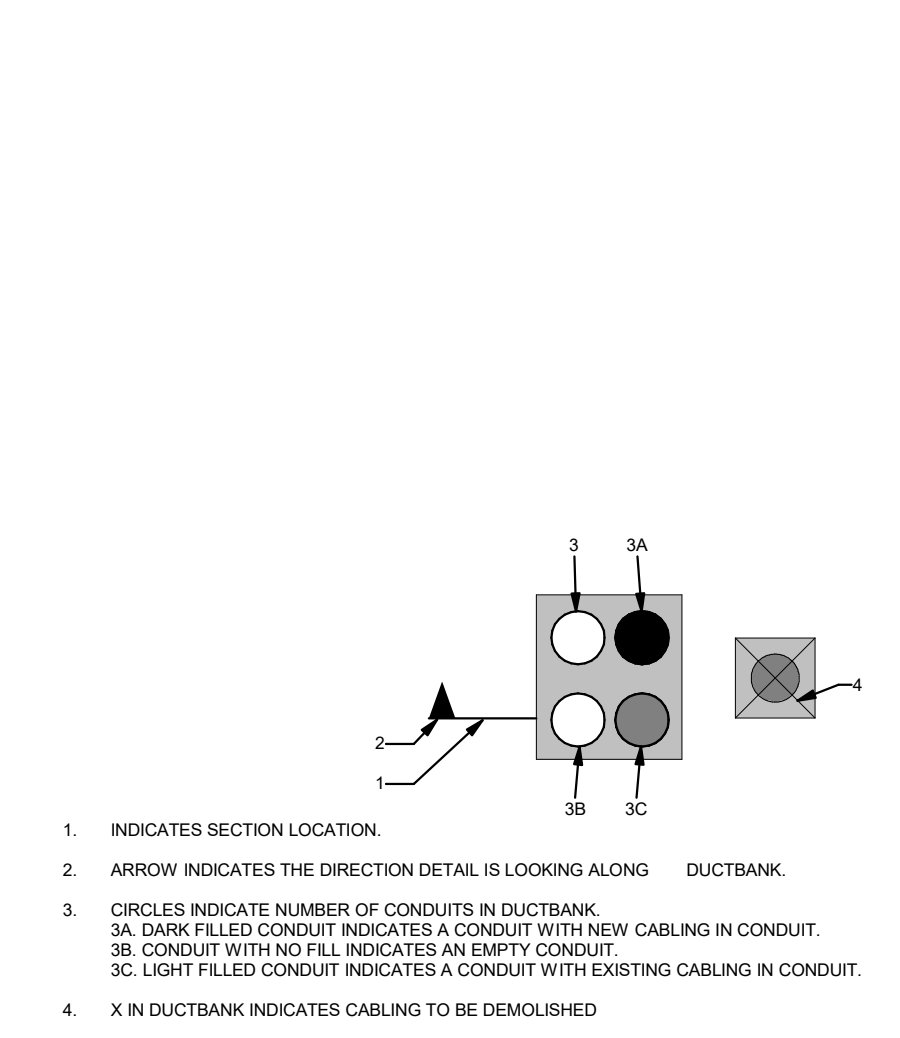
- LABEL TO BE PROVIDED THAT IS TO BE 4" X REQUIRED LENGTH X 1/16" LAMINATED 2-PLY PLASTIC LAMACOID. LETTERS SHALL BE FORMED BY ENGRAVING OUTER WHITE PLY, EXPOSING BLACK PLY BENEATH.
- LABEL IS TO BE MOUNTED USING DOUBLE SIDED ADHESIVE TAPE COVERING THE BACK OF THE LABEL.
- FIRST LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, WITH THE EQUIPMENT ID MATCHING PLANS.
- SECOND LINE: LETTERING IS TO BE 3/8" HIGH, CENTERED, AND FORMATTED AS SHOWN. THE FOLLOWING SHALL BE PROVIDED: VOLTAGE, PHASE, NUMBER OF WIRES, AND ARC RATING OF GEAR.



**B2** TYPICAL MAIN SERVICE EQUIPMENT/GEAR LABEL  
SCALE: 1" = 10'-0"

<b>WARNING</b>	
Arc Flash and Shock Hazard	
Appropriate PPE Required	
40 in	Flash Hazard Boundary
4.5 cal/cm <sup>2</sup>	Flash Hazard at 18 in
Level 2	Arc-rated shirt & pants or arc-rated coverall
480 VAC	Shock Hazard when cover is removed
00	Glove Class
42 in	Limited Approach
12 in	Restricted Approach
1 in	Prohibited Approach
<b>Location:</b>	<b>BUS-0001</b>
SKM Systems Analysis, Inc.	
XEROX LEWISVILLE, TX	
<b>Job#:</b> 20130591	<b>Prepared on:</b> 01/20/15
<b>By:</b> Engineer	
Warning: Changes in equipment settings or system configuration will invalidate the calculated values and PPE requirements	

**A3** TYPICAL ARC FLASH LABEL  
SCALE: 3/32" = 1'-0"



**D4** DUCTBANK SECTION LEGEND  
SCALE: 1" = 60'-0"

DRAWN BY: SAC

## GENERAL SHEET NOTES

1. DETERMINE MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:
  - 1 - ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).
  - 2 - EQUIPMENT SHOP DRAWINGS.
  - 3 - FIELD INSTRUCTIONS.
2. LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT UNLESS DIRECTED OTHERWISE.
3. MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOMS: COORDINATE LOCATION OF LIGHTING AND POWER RECEPTACLES WITH EQUIPMENT, PIPING, AND DUCTWORK. DO NOT INSTALL RECEPTACLES BEHIND EQUIPMENT OR WHERE OTHERWISE INACCESSIBLE. POSITION LIGHTING REGARDLESS OF WHERE SHOWN ON DRAWING TO PROVIDE PROPER ILLUMINATION.
4. MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.
5. SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.
6. LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.
7. VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.
8. LOCATE WIRING DEVICES WHICH ARE ADJACENT AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.
9. WHERE DEVICES ARE LOCATED IN CLOSE PROXIMITY OF THE SAME VERTICAL PLANE, ALIGN DEVICES VERTICALLY PER THE TYPICAL WALL MOUNTED DEVICES ALIGNMENT DETAIL, UNLESS OTHERWISE INDICATED.

## SHEET KEYNOTES

1. LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.
3. LOCATE AT BOTTOM OF BEAMS (OR JOISTS) OR AT CEILING. (REDUCE SPACING BY 5 PERPENDICULAR TO BEAM OR JOIST DIRECTION.) FOR OTHER CONDITIONS, REFER TO NFPA 72.
4. LOCATE DETECTOR ANYWHERE IN SHADED AREA BUT NOT IN TOP 4" OF PEAK.
5. LOCATE AT BOTTOM OF BEAMS IF D/H < .1 OR W/H < .4; OTHERWISE, LOCATE IN BEAM POCKET. FOR D > 4 REDUCE SPACING .33 PERPENDICULAR TO BEAMS.



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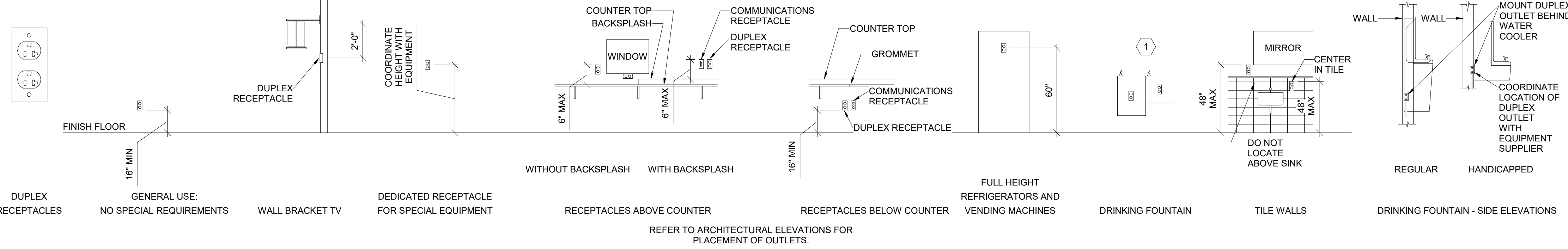
ISSUE: DESIGN DEVELOPMENT DATE: 2021-04-14

PROJECT NUMBER: 20-028  
DRAWN BY: SAC  
CHECKED BY: MCF

TYPICAL MOUNTING  
DETAILS

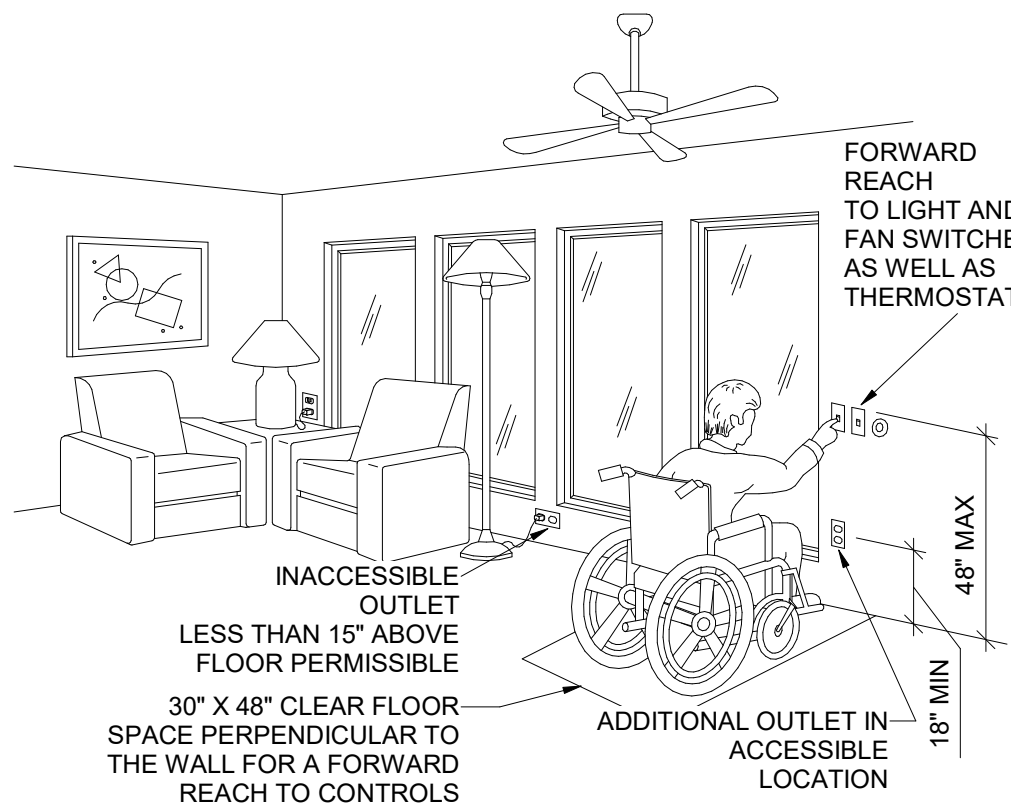
EE500

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING MOUNTING HEIGHTS OF ANY ALL ELECTRICAL DEVICES WITH BOTH ELECTRICAL DESIGN DRAWINGS AND ARCHITECTURAL DRAWING SETS - PRIOR TO INSTALLATION.



## D1 RECEPTACLE MOUNTING DETAILS

SCALE: NTS



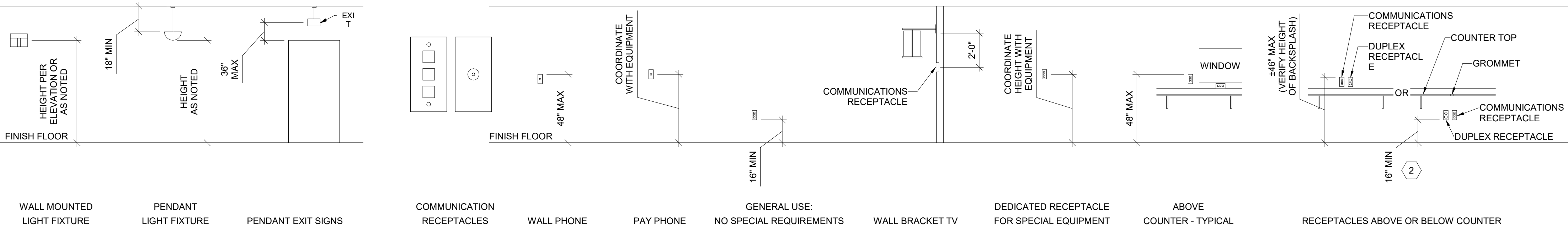
## C1 ADA DETAIL

SCALE: NTS

## C2 SWITCH MOUNTING DETAILS

SCALE: NTS

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING MOUNTING HEIGHTS OF ANY ALL ELECTRICAL DEVICES WITH BOTH ELECTRICAL DESIGN DRAWINGS AND ARCHITECTURAL DRAWING SETS - PRIOR TO INSTALLATION.



## B1 LIGHTING MOUNTING DETAILS

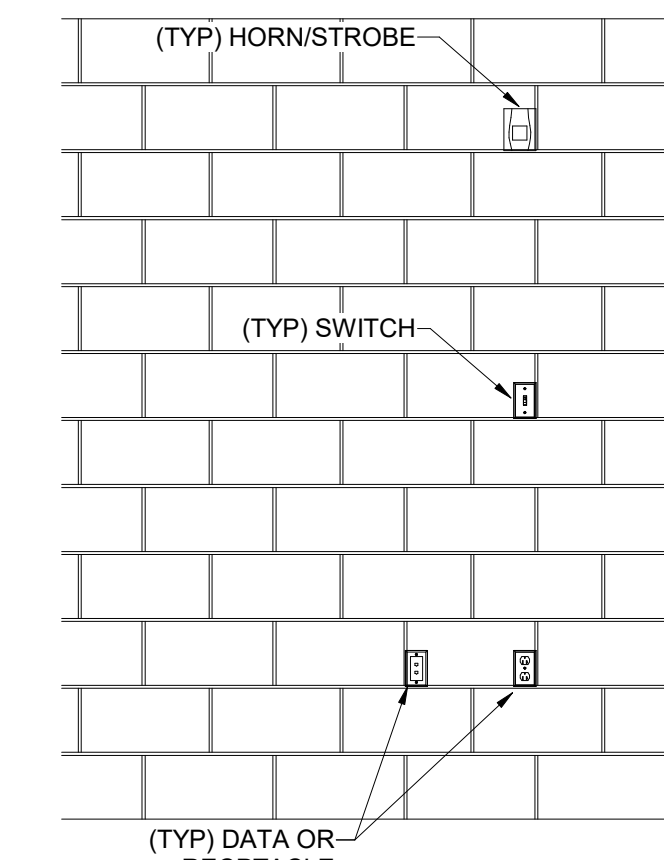
SCALE: NTS

## B2 COMMUNICATIONS MOUNTING DETAILS

SCALE: NTS

## B5 TYPICAL CMU DEVICE MOUNTING DETAIL

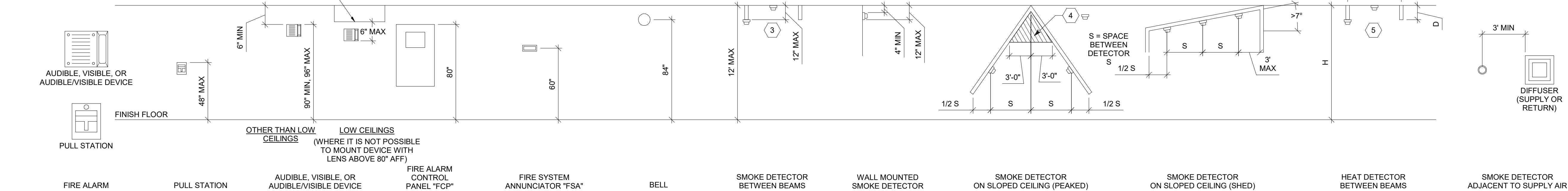
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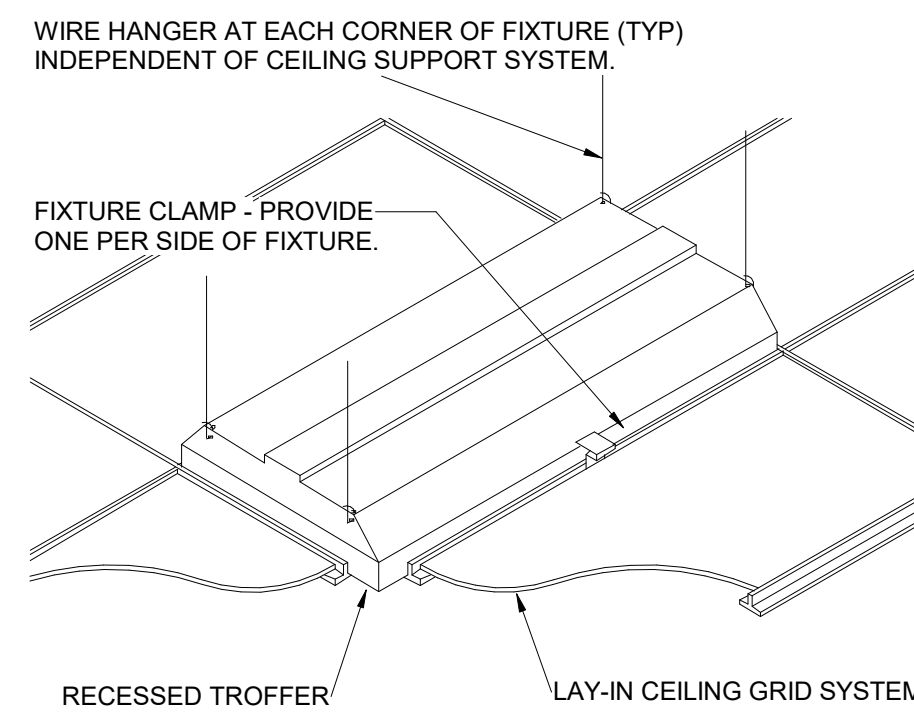


## A1 FIRE ALARM MOUNTING DETAILS

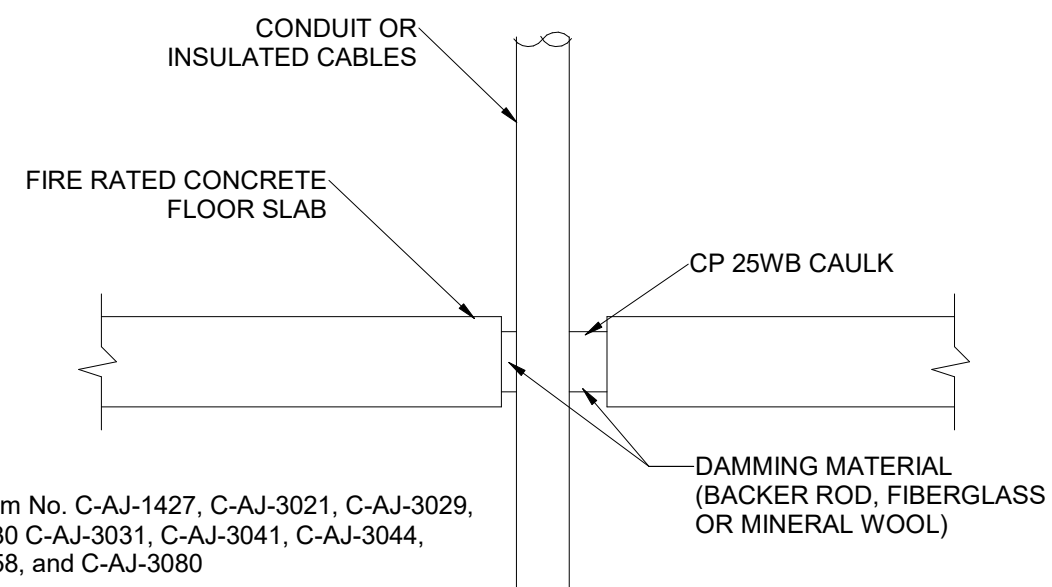
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ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING MOUNTING HEIGHTS OF ANY ALL ELECTRICAL DEVICES WITH BOTH ELECTRICAL DESIGN DRAWINGS AND ARCHITECTURAL DRAWING SETS - PRIOR TO INSTALLATION.

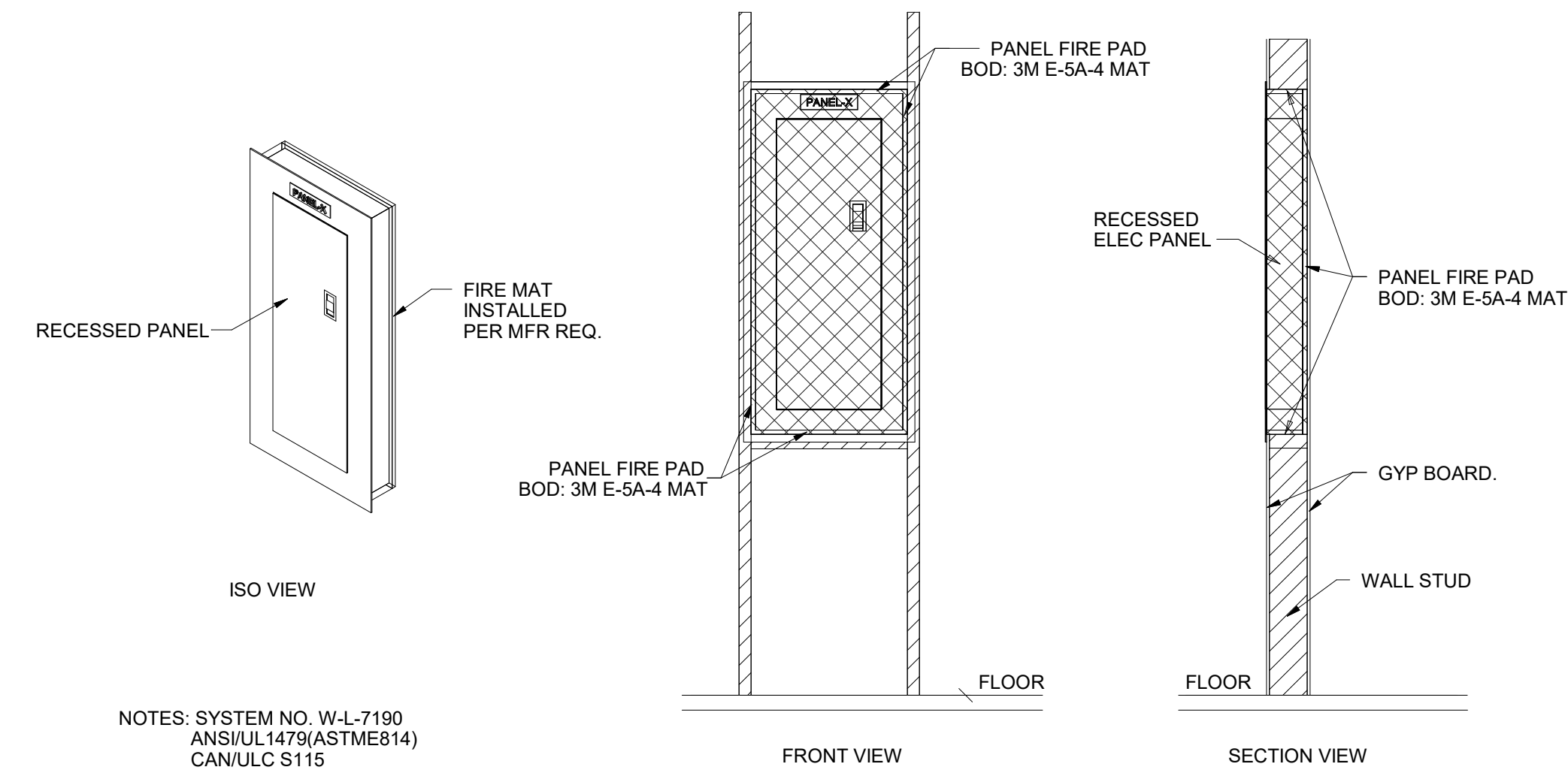




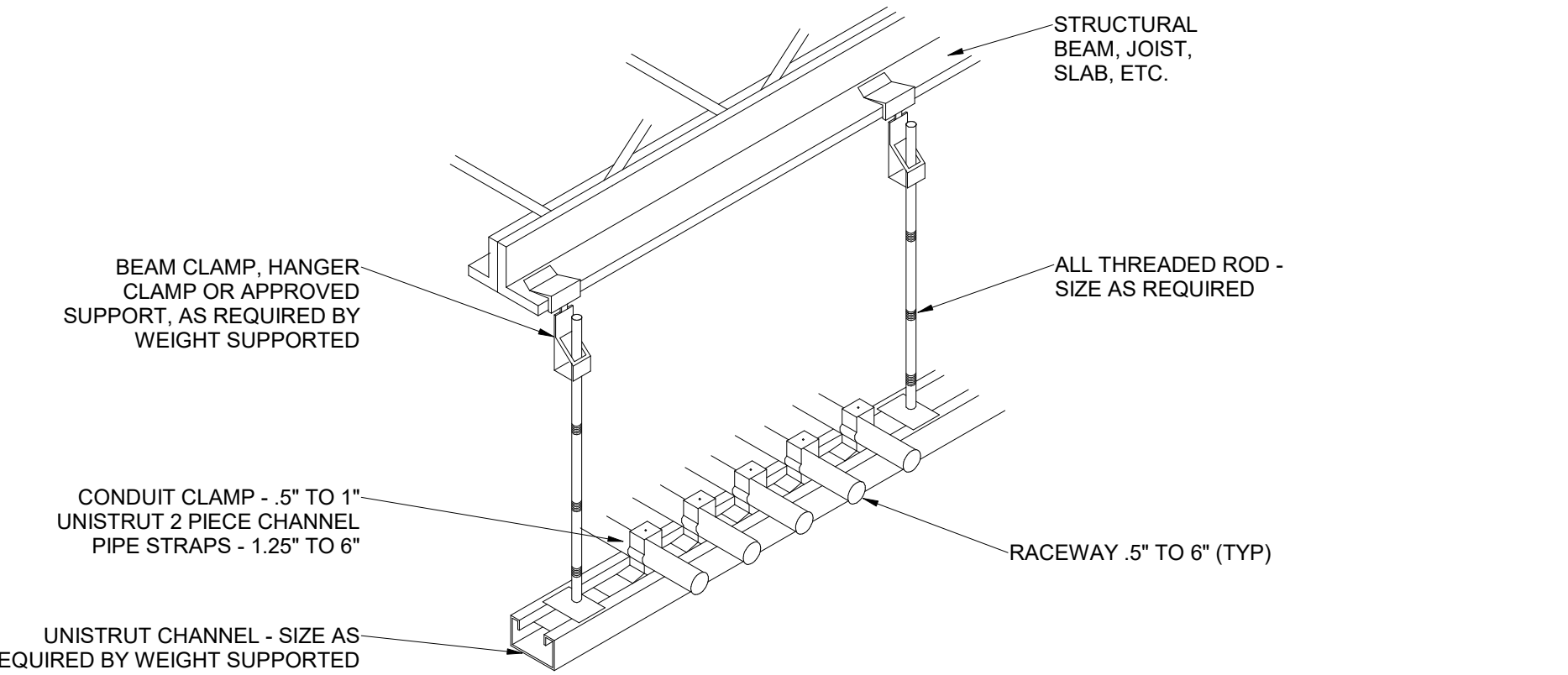
**A4** RECESSED FIXTURE MOUNTING DETAIL  
SCALE: NTS



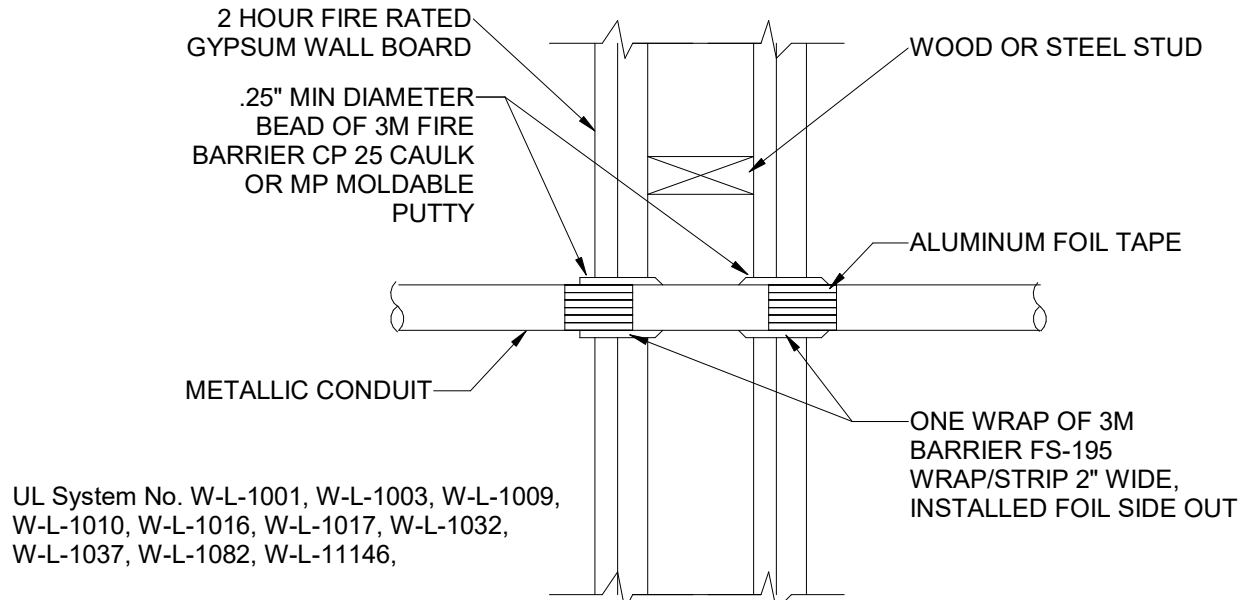
**D3** TYPICAL FIRE STOP FOR CABLES/CONDUIT THROUGH CONCRETE FLOORING  
SCALE: NTS



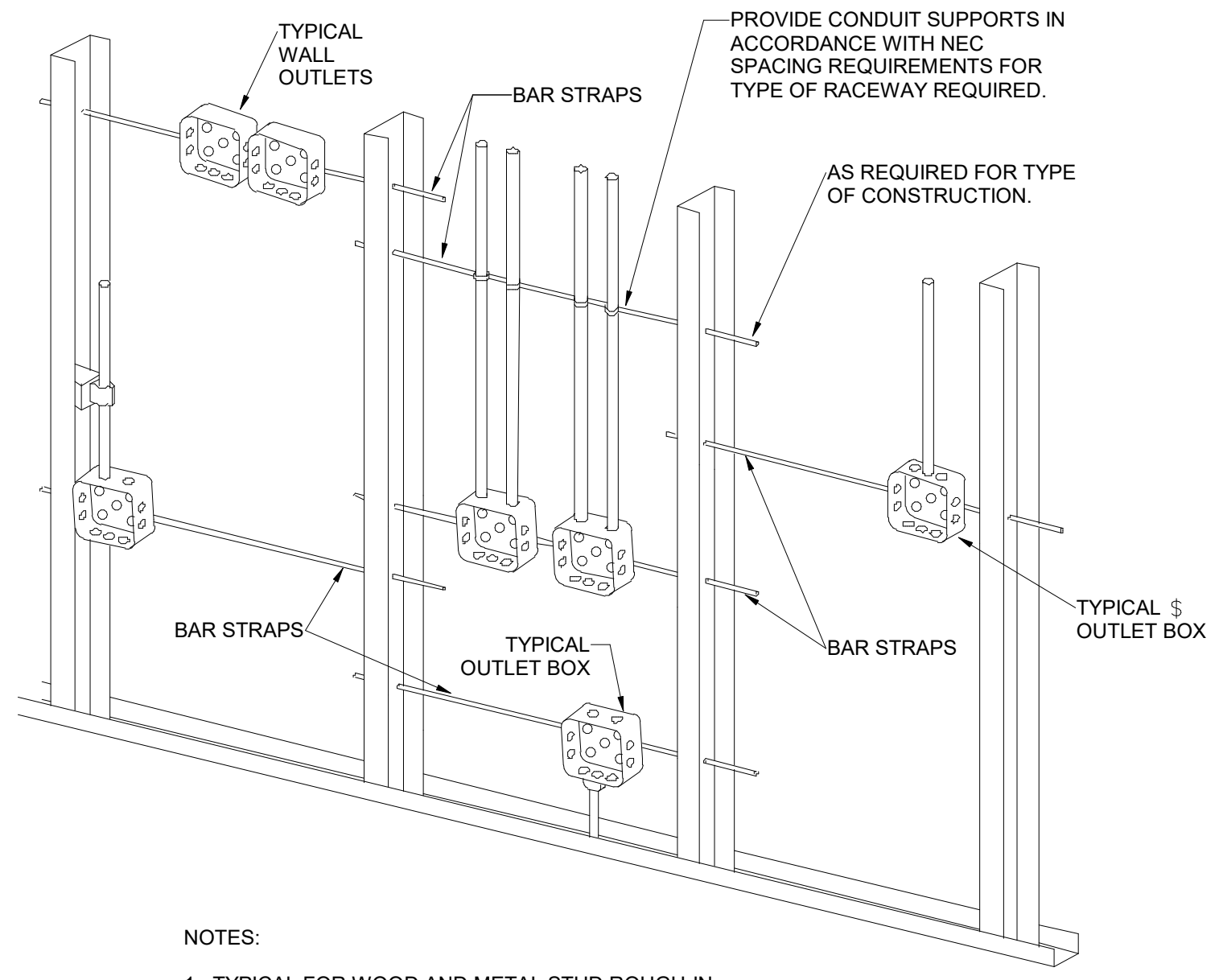
**D4** TYPICAL RECESSED PANEL FIRE STOP  
SCALE: NTS



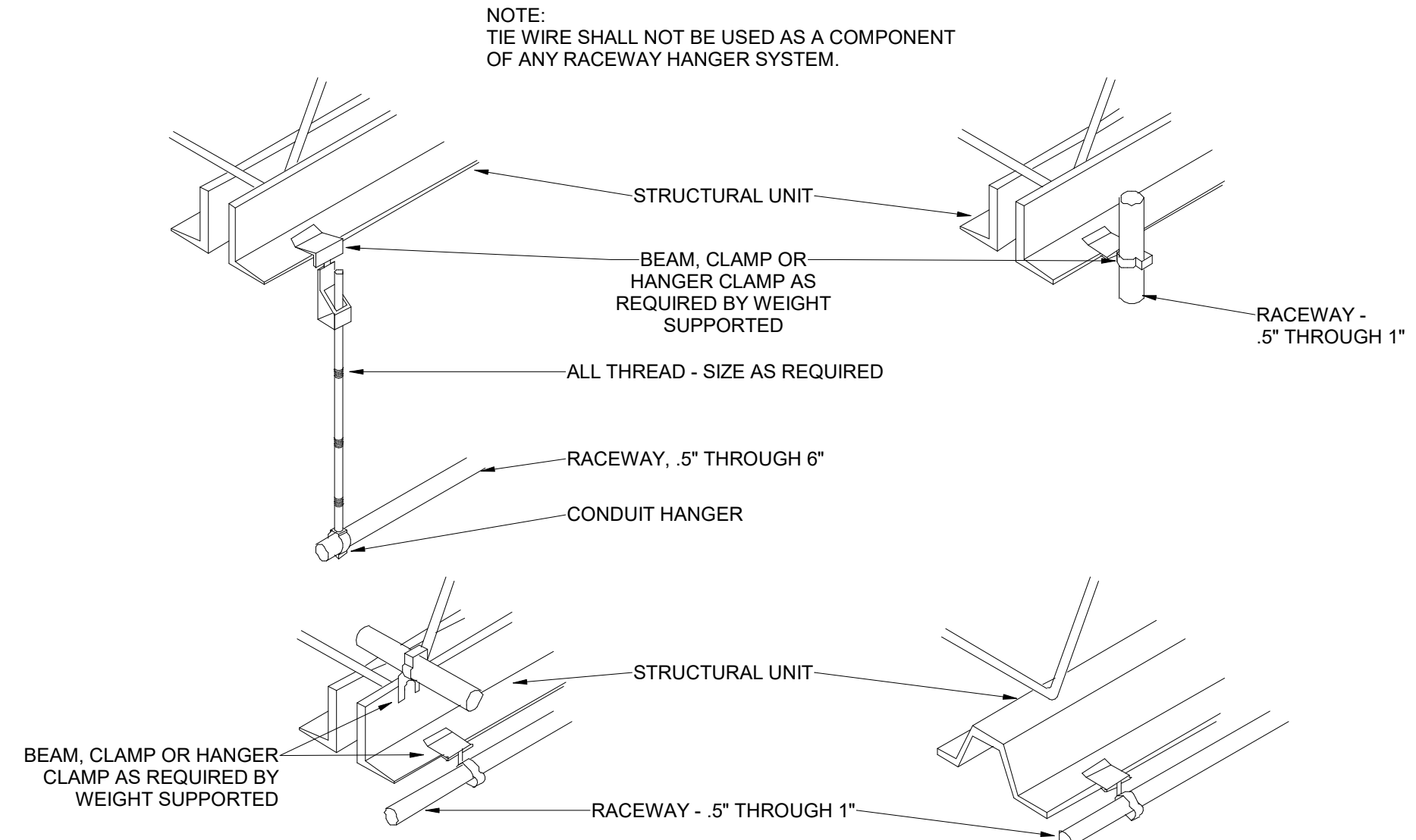
**D1** TYPICAL CONDUIT RACK DETAIL  
SCALE: 1/8" = 1'-0"



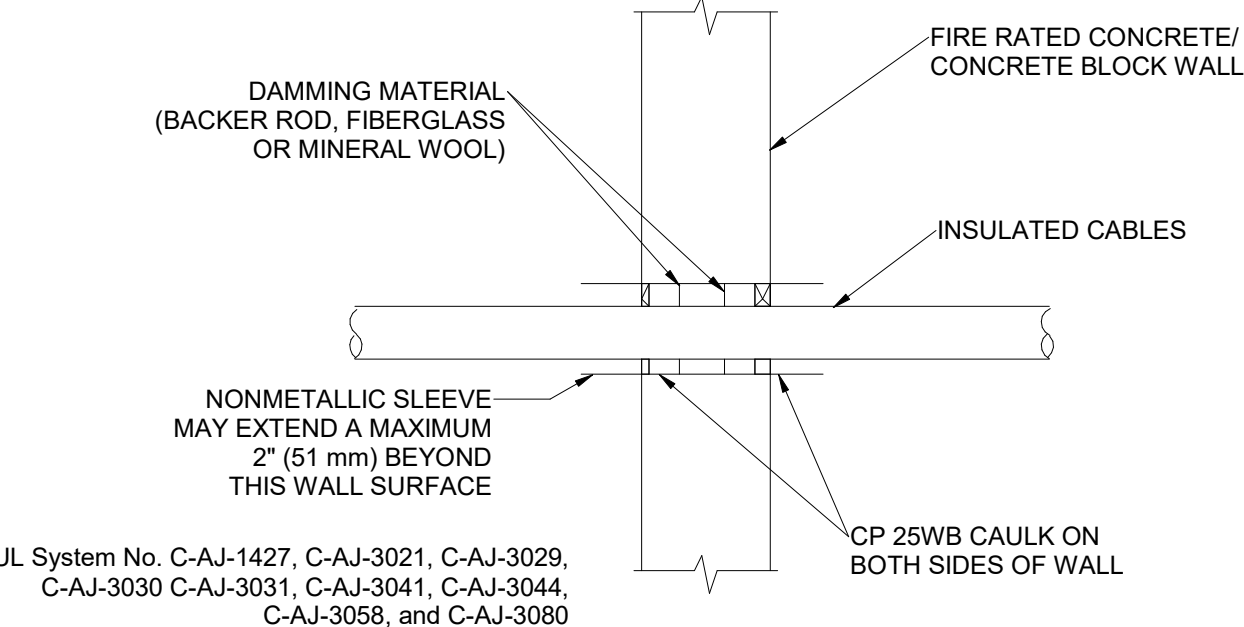
**C3** FIRE STOP FOR METAL CONDUIT THROUGH GYPSUM WALL BOARD  
SCALE: NTS



**B4** TYPICAL ROUGH-IN REQUIREMENTS DETAIL  
SCALE: NTS

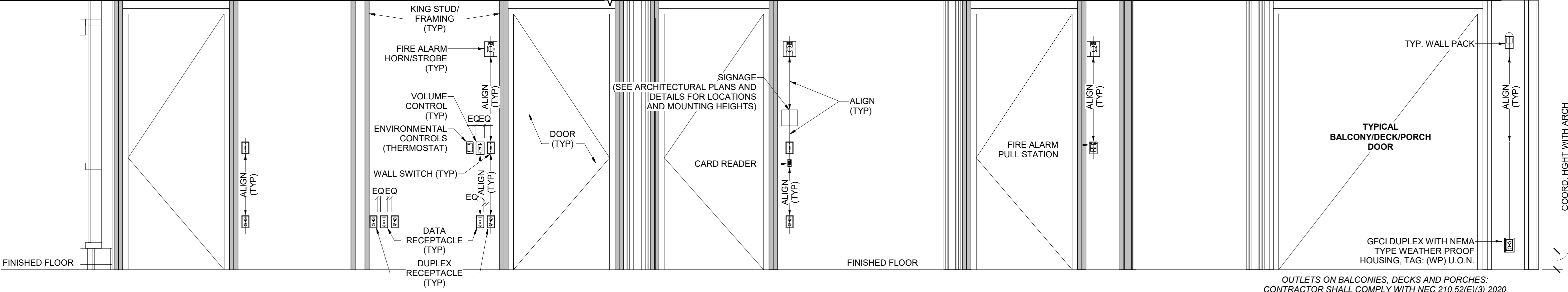


**B1** TYPICAL RACEWAY SUPPORT METHODS DETAIL  
SCALE: 1/8" = 1'-0"



**B3** TYPICAL FIRE STOP FOR CABLES/CONDUIT THROUGH CONCRETE WALLS  
SCALE: NTS

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING MOUNTING HEIGHTS OF ANY/ALL ELECTRICAL DEVICES WITH BOTH ELECTRICAL DESIGN DRAWINGS AND ARCHITECTURAL DRAWING SETS - PRIOR TO INSTALLATION.



**A1** TYPICAL WALL MOUNTED DEVICES DETAIL  
SCALE: 1/2" = 1'-0"

OUTLETS ON BALCONIES, DECKS AND PORCHES: CONTRACTOR SHALL COMPLY WITH NEC 210.52(E)(3) 2020



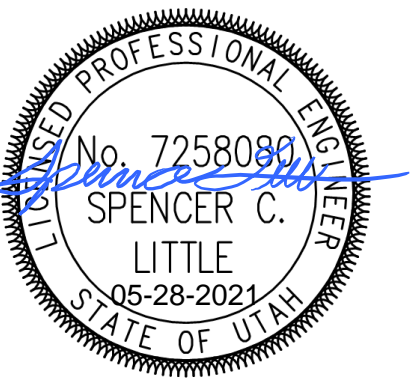
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LAYTON, UT 84041

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ISSUE	DATE:
DESIGN DEVELOPMENT	2021-04-14
PROJECT NUMBER:	20-028
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TYPICAL MOUNTING DETAILS

**EE501**



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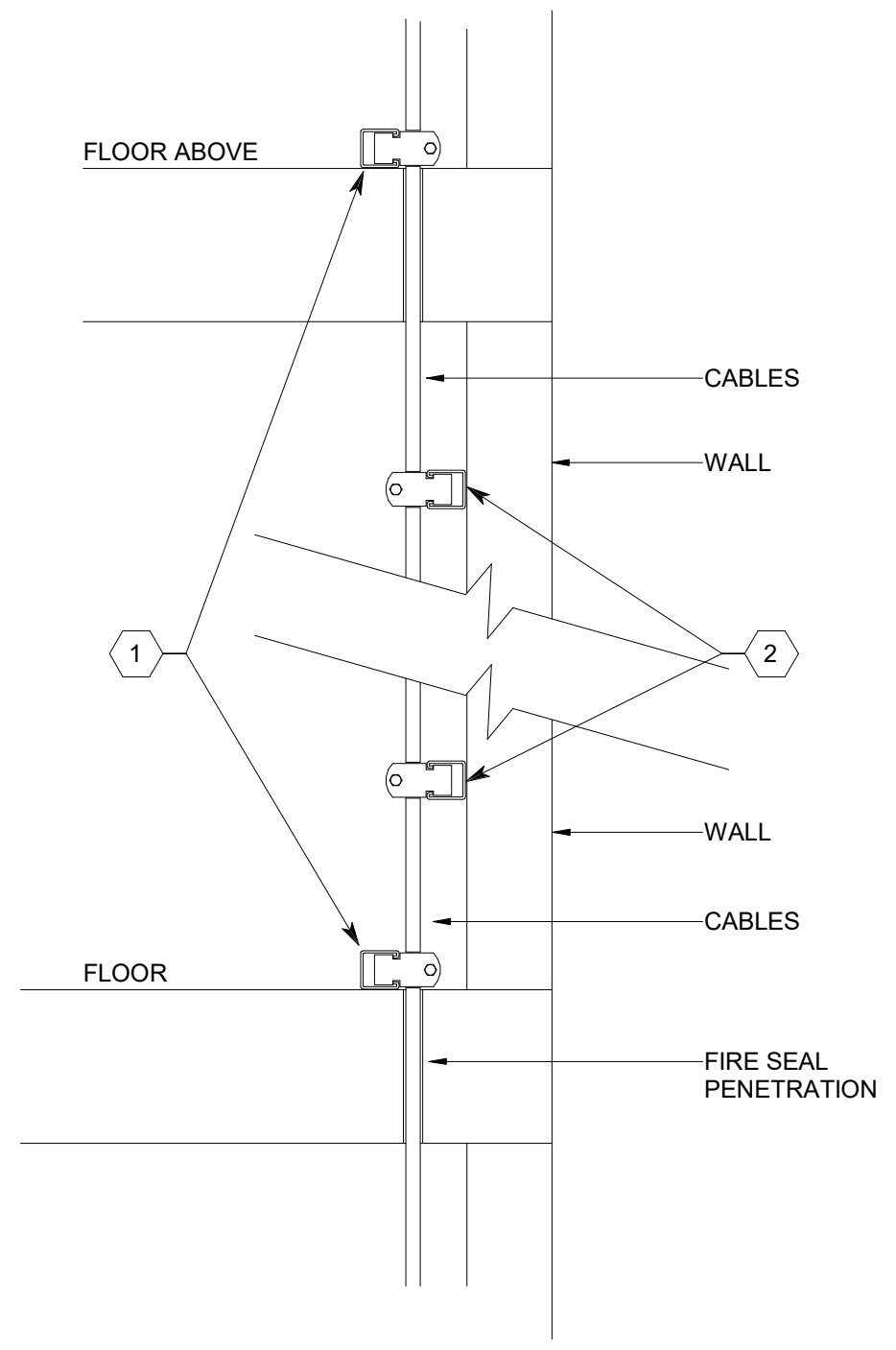
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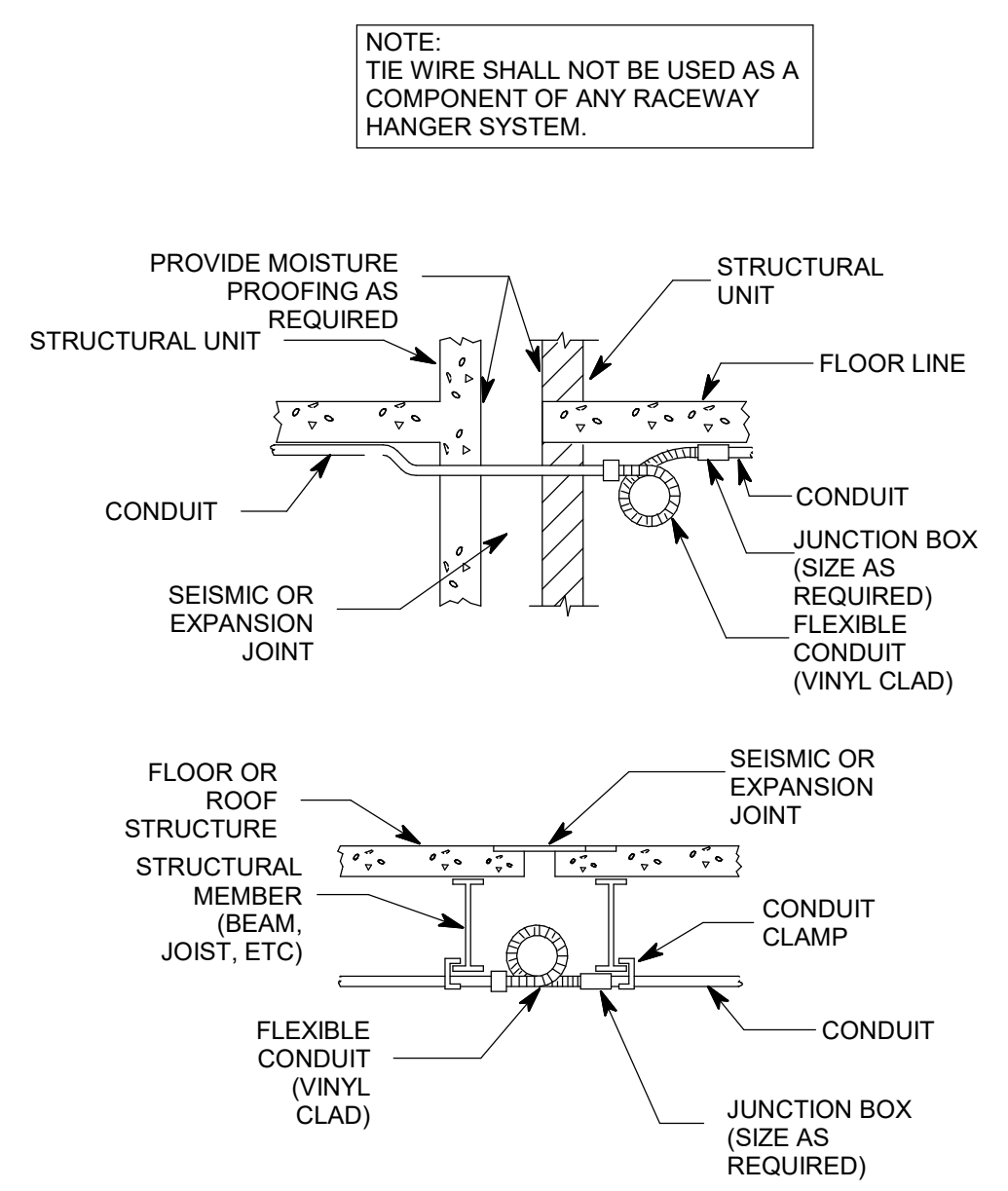
**ELECTRICAL DETAILS**

**EE502**

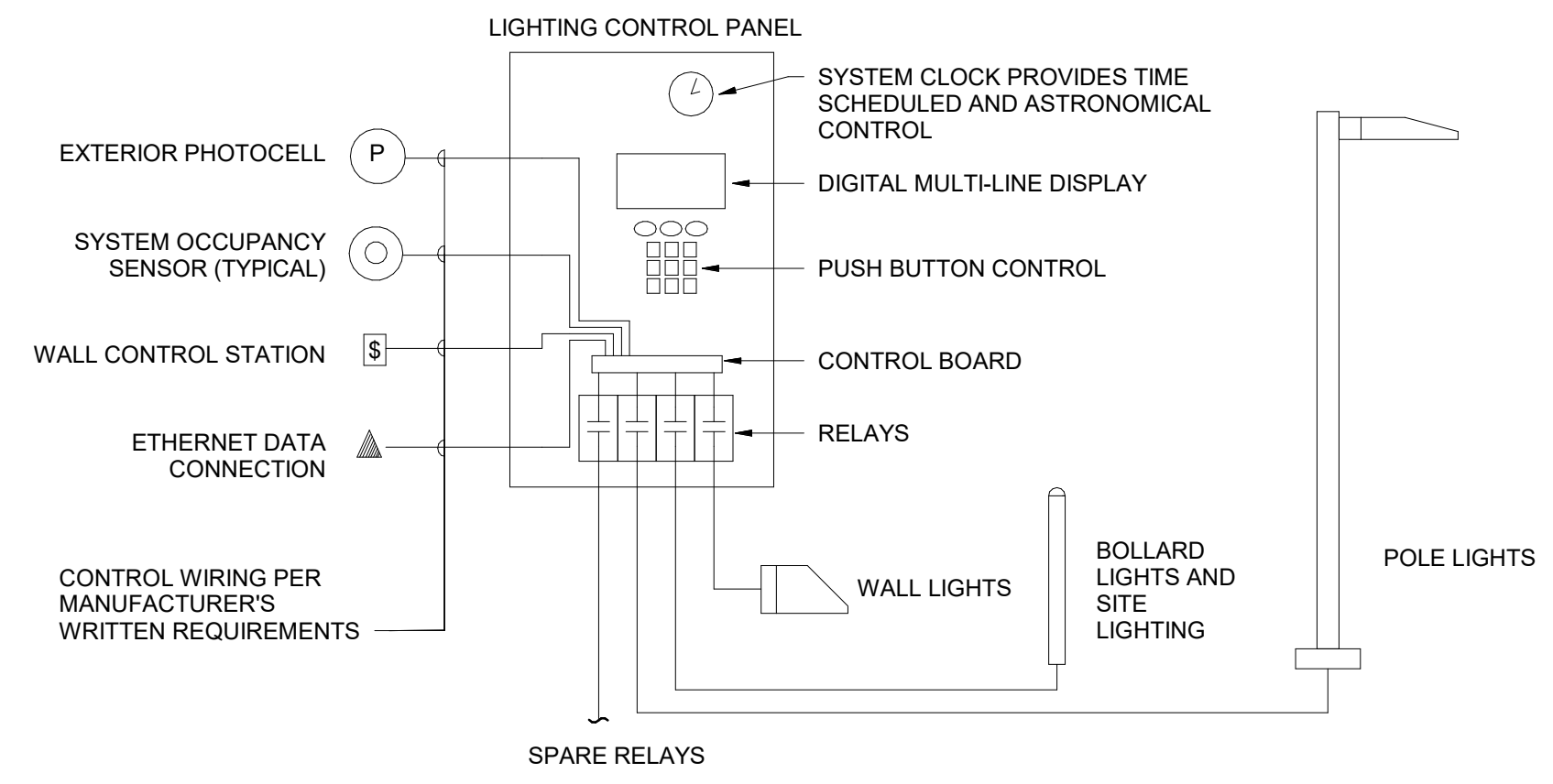


- FOR ALL VERTICAL RUNS PENETRATING MULTIPLE FLOORS, PROVIDE SUPPORT AT EACH FLOOR PENETRATED.
- FOR ALL VERTICAL RUNS, PROVIDE SUPPORT WITH A MAXIMUM SPACING OF 10 FEET BETWEEN SUPPORTS. COMPLY WITH NEC 358.30(A)

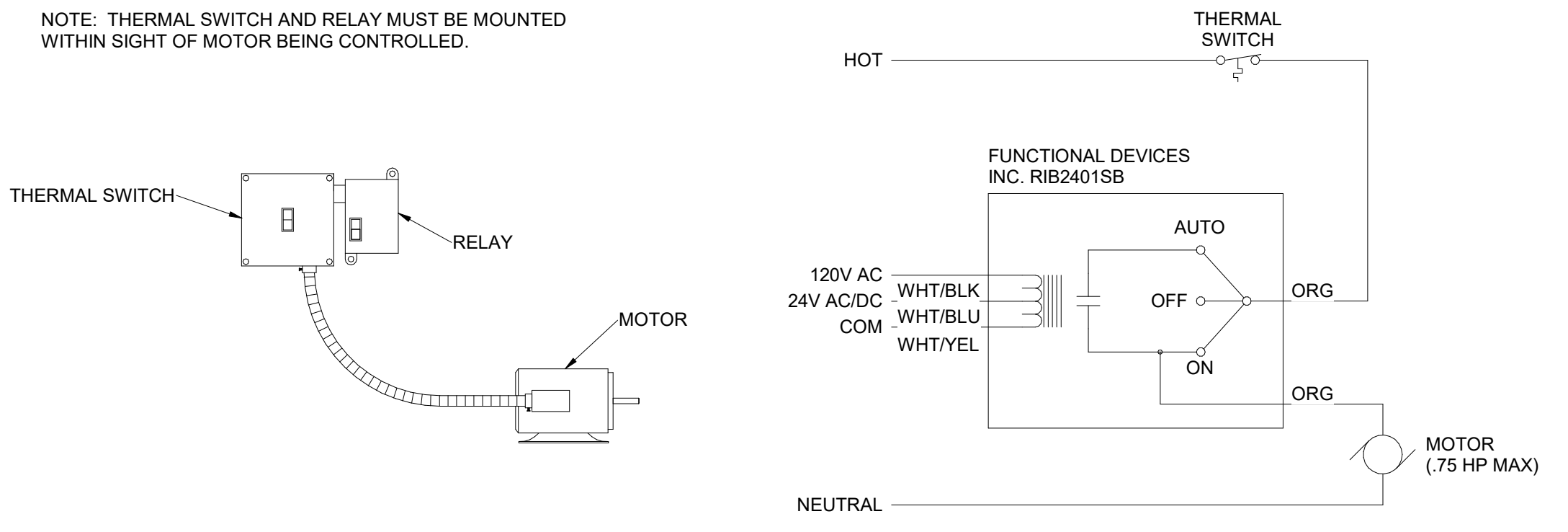
**C1 CABLE SUPPORT DETAIL**  
 SCALE: NTS



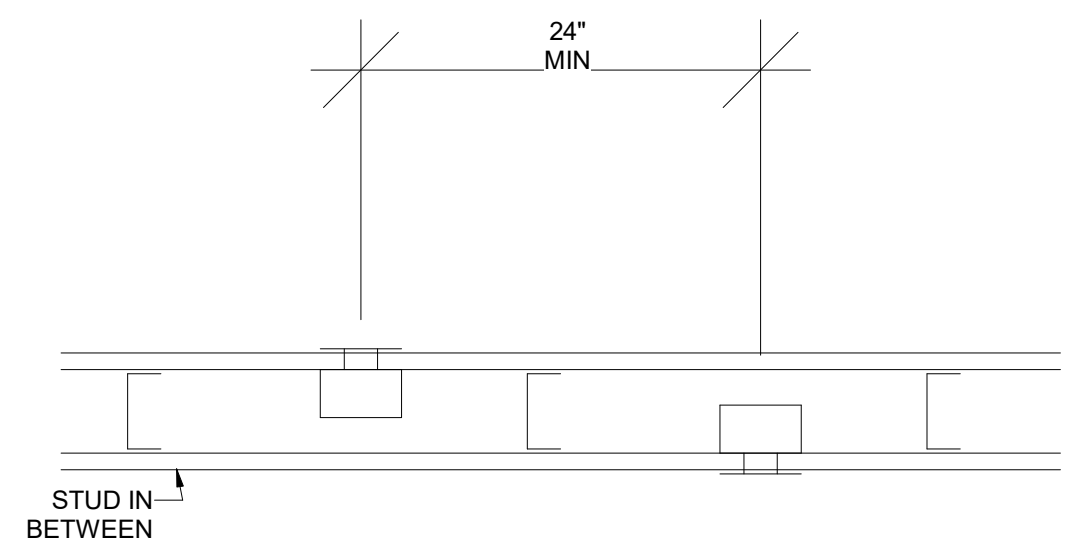
**C2 CONDUIT EXPANSION JOINT DIAGRAM**  
 SCALE: NTS



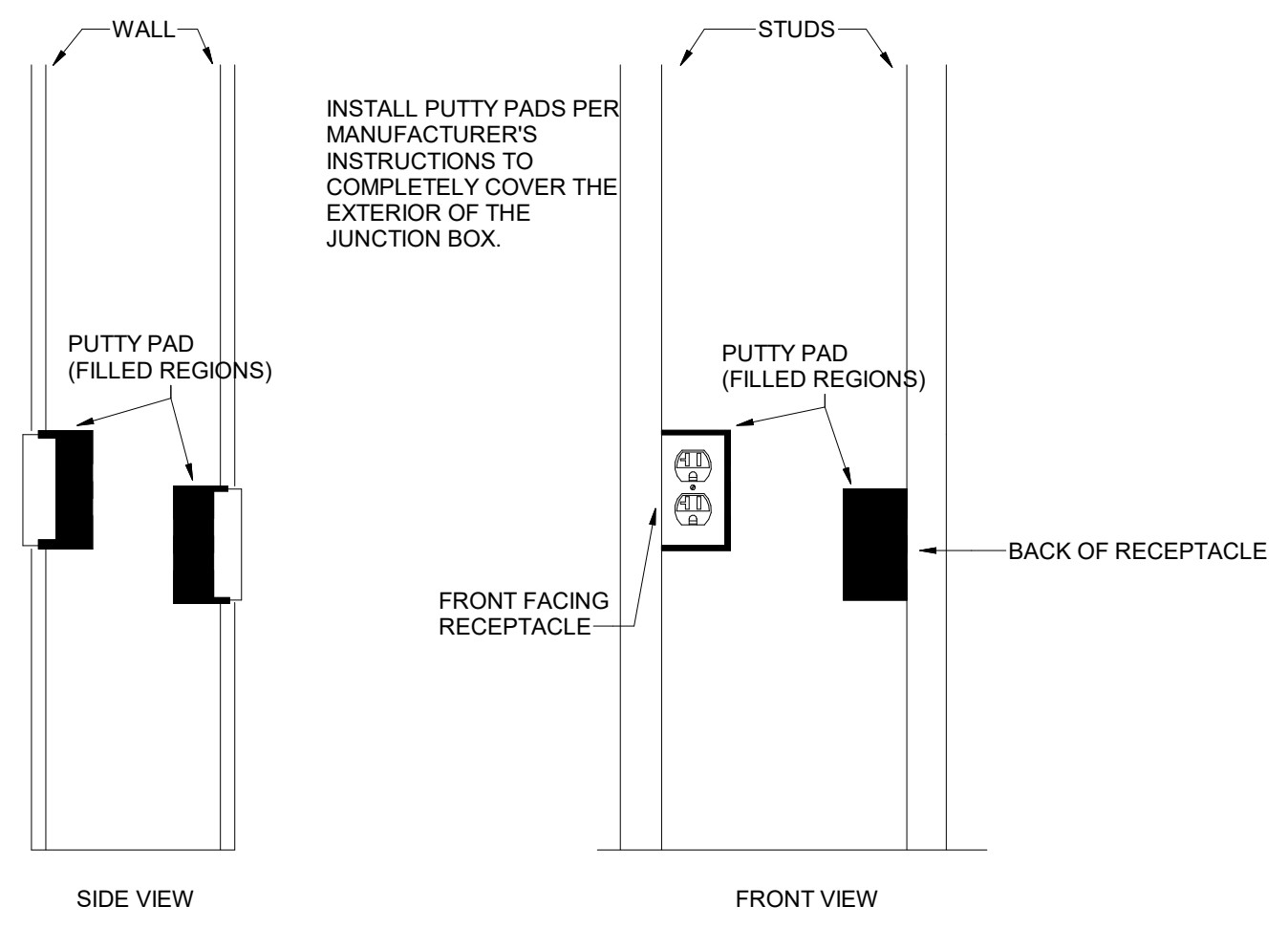
**B1 LIGHTING CONTROL PANEL RISER DIAGRAM (TYPICAL)**  
 SCALE: NTS



**A1 120V FRACTIONAL MOTOR CONTROL**  
 SCALE: NTS



**B3 BOX MOUNTING DETAILS**  
 SCALE: NTS



**A3 STC RATED PARTITIONS - BACK TO BACK DEVICES**  
 SCALE: NTS

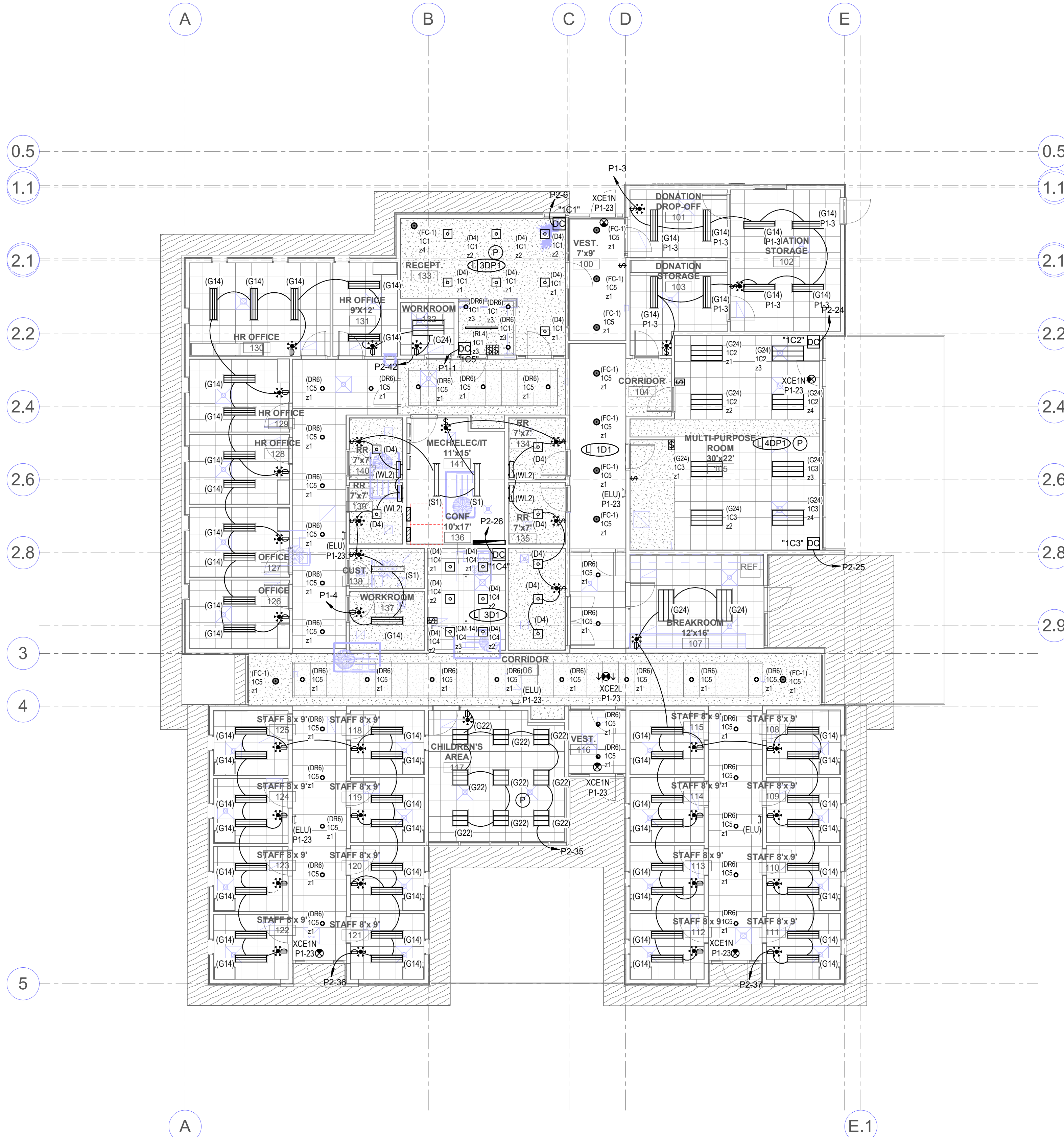
D  
C  
B  
A  
1  
2  
3  
4  
5

D

C

B

A



**A2** LEVEL 1 LIGHTING PLAN  
SCALE: 1/8" = 1'-0"

### GENERAL SHEET NOTES

- CENTER ALL CEILING MOUNTED LIGHT FIXTURES AND DEVICES SHALL BE CENTERED IN CEILING TILE, UNLESS OTHERWISE NOTED.
- CIRCUIT ALL EXIT SIGNS TO NEAREST UNSWITCHED LEG OF EMERGENCY LIGHTING CIRCUIT.
- ALL ENCLOSED SPACES SHALL HAVE MANUAL ON LIGHTING CONTROL WITH AUTOMATIC OFF VIA DUAL TECHNOLOGY SENSOR OR TIME CLOCK. SENSOR(S) SHALL PROVIDE A MINIMUM OF 90 PERCENT COVERAGE IN SPACE. PROVIDE ADDITIONAL SENSORS AS REQUIRED. COMPLY WITH 2015 IECC SECTION C405.
- PROVIDE DAYLIGHTING CONTROL FOR ALL LIGHTING WITH IN DAYLIGHT ZONE AS DEFINED BY THE 2018 IECC. PROVIDE DIMMING LIGHTING FIXTURES AND DAYLIGHT SENSOR PHOTOCELL.
- INSTALL LIGHT FIXTURES INLINE AND CENTERED.
- COORDINATE ALL LIGHT FIXTURE MOUNTING HEIGHTS WITH ARCHITECT.
- ARCHITECT TO SELECT ALL LIGHT FIXTURE FINISHES.
- COVE/CLOUD LIGHTING SHALL HAVE EVEN ILLUMINATION THE ENTIRE LENGTH OF THE COVE/CLOUD. PROVIDE THE NUMBER OF FIXTURES REQUIRED TO EVENLY ILLUMINATE THE COVE/CLOUD. STAGGER COVE/CLOUD LIGHTING OR PROVIDE DIFFERENT LENGTHS OF THE FIXTURE TO ILLUMINATE THE ENTIRE COVE/CLOUD.
- LOCATE ALL VACANCY/OCCUPANCY SENSORS MINIMUM OF 6 FEET FROM SUPPLY AIR DIFFUSERS AND 3 FEET FROM RETURN AIR DIFFUSERS.
- ALL CEILING AND WALL MOUNTED SENSORS SHALL BE DUAL TECHNOLOGY WITH BUILD IN LIGHT LEVEL SENSOR AND BASH/VAC ISOLATED RELAY.
- ALL LIGHT FIXTURES THAT PENETRATE FIRE RATED SURFACE SHALL BE IN A FIRE RATED ASSEMBLY OR BE PROVIDED WITH A FIRE RATED ASSEMBLY TO MAINTAIN A FIRE RATED SURFACE.
- LOCATE ALL ROOM CONTROLLER IN ACCESSIBLE CEILINGS OR IN THE ELECTRICAL ROOM.

### COMMISSIONING NOTES

- THE CONTRACTOR SHALL PERFORM OR SHALL ENGAGE A PARTY TO PERFORM THE FOLLOWING TESTS AND INSPECTIONS WITH THE ASSISTANCE OF A FACTORY-AUTHORIZED SERVICE REPRESENTATIVE.
- ENSURE THAT THE LIGHTING CONTROLS FOR AUTOMATIC LIGHTING SYSTEMS COMPLY WITH 2018 IECC SECTION C408.3.
- ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- WHERE REQUIRED BY THE CODE OFFICIAL, AN APPROVED PARTY INDEPENDENT FROM THE DESIGN OR CONSTRUCTION OF THE PROJECT SHALL BE RESPONSIBLE FOR THE FUNCTIONAL TESTING AND SHALL PROVIDE DOCUMENTATION TO THE CODE OFFICIAL CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET THE PROVISIONS OF 2018 IECC SECTION C405.
- PROVIDE THE FOLLOWING PROCEDURES FOR EACH, OCCUPANT SENSOR, TIME SWITCH, PROGRAMMABLE SCHEDULE CONTROL, PHOTOSENSOR, AND DAYLIGHTING CONTROL.
- CONFIRM THAT THE PLACEMENT, SENSITIVITY, AND TIME-OUT ADJUSTMENTS FOR THE OCCUPANT SENSOR S YIELD ACCEPTABLE PERFORMANCES.
- CONFIRM THAT THE TIME SWITCHES AND PROGRAMMABLE SCHEDULE CONTROLS ARE PROGRAMMED TO TURN THE LIGHTS OFF.
- CONFIRM THAT THE PLACEMENT AND SENSITIVITY ADJUSTMENTS FOR THE PHOTOSENSOR CONTROLS REDUCE ELECTRIC LIGHT BASED ON THE AMOUNT OF USABLE DAYLIGHT IN THE SPACE AS SPECIFIED.

### SHEET KEYNOTES

ISSUE	DATE:
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### LEVEL 1 LIGHTING PLAN

# EL101





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**LIGHTING COMCHECK**

**EL600**

-LIGHTING COMCHECK SUMMARY						
ID	LUMINAIRE	LAMP		TAKEOFF QUANTITY	WATTS	ID
		TYPE	LAMP QTY			
(CM-14)	UP/DOWN LINEAR LED PENDANT.	LED	0	1	80	(CM-14)
(D4)	4" ROUND RECESSED DOWNLIGHT; LED	LED	1	21	21	(D4)
(DR6)	5" SURFACE DOWNLIGHT, ROUND, JBOX MOUNTED	LED	1	35	17	(DR6)
(ELU)	EMERGENCY LIGHTING UNIT; WALL/CEILING MOUNTED DUAL HEAD, ADJUSTABLE, LED, 90 MINUTES OF ILLUMINATION VIA BATTERY	LED	2	5	10	(ELU)
(FC-1)	ROUND STICK PENDENT	LED	2	10	30	(FC-1)
(G14)	1X4 FLAT PANEL TROFFER LAY-IN, LED; PROVIDE WITH SURFACE MOUNTING KIT AS REQUIRED.	LED	1	54	30	(G14)
(G22)	2X2 FLAT PANEL TROFFER LAY-IN, LED; PROVIDE WITH SURFACE MOUNTING KIT AS REQUIRED.	LED	1	9	25	(G22)
(G24)	2X4 FLAT PANEL TROFFER LAY-IN, LED; PROVIDE WITH SURFACE MOUNTING KIT AS REQUIRED.	LED	1	11	39	(G24)
(RL4)	RECESSED LINEAR - FIXTURE SHALL BE CONTINUOUS, SEE PLANS FOR LENGTHS	LED	1	1	58	(RL4)
(S1)	STRIP LIGHT; LED; LENS; LOW PROFILE	LED	1	3	35	(S1)
(WL2)	SLIM LINE LINEAR WITH HIGH PERFORMANCE LENS; WALL/CEILING MOUNTED, VERTICAL OR HORIZONTAL, INTEGRATED CONTROLS	LED	3	4	40	(WL2)

**COMcheck Software Version 4.1.5.1**  
**Interior Lighting Compliance Certificate**

**Project Information**  
Energy Code: 2018 IECC  
Project Title: Safe Harbor Lifeline  
Project Type: New Construction

Construction Site: 223 West 475 South Layton, UT  
Owner/Agent: CRSA, 175 S Main Street, Ste 300 Salt Lake City, UT 84111  
Designer/Contractor: Michael C. Fackrell, Spectrum Engineers, 324 S State St., Suite 400 Salt Lake City, UT 84111

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

**Allowed Interior Lighting Power**

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B X C)
1-Office	7300	0.71	5190
Total Allowed Watts = 5190			

**Proposed Interior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Office				
LED 6: G14: Other:	1	54	30	1620
LED 1: D4: Other:	1	20	21	420
LED 3: DR6: Other:	1	37	10	370
LED 7: G22: Other:	1	9	25	225
LED 8: G24: Other:	1	10	39	390
LED 5: FC-1: Other:	1	10	13	130
LED 10: S1: Other:	1	3	35	105
LED 11: WL2: Other:	1	4	40	160
LED 9: RL4: Other:	1	2	58	116
Total Proposed Watts = 3536				

**Interior Lighting PASSES: Design 32% better than code**

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

MICHAEL FACKRELL - EIT  
Name - Title: MICHAEL FACKRELL - EIT  
Signature: [Signature]  
Date: 2021-05-28

Project Title: Safe Harbor Lifeline  
Data filename: Untitled.cck  
Report date: 05/28/21  
Page: 1 of 8

**COMcheck Software Version 4.1.5.1**  
**Exterior Lighting Compliance Certificate**

**Project Information**  
Energy Code: 2018 IECC  
Project Title: Safe Harbor Lifeline  
Project Type: New Construction  
Exterior Lighting Zone: 3 (Other)

Construction Site: 223 West 475 South Layton, UT  
Owner/Agent: CRSA, 175 S Main Street, Ste 300 Salt Lake City, UT 84111  
Designer/Contractor: Michael C. Fackrell, Spectrum Engineers, 324 S State St., Suite 400 Salt Lake City, UT 84111

**Allowed Exterior Lighting Power**

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Landscaping	5000 ft <sup>2</sup>	0.04	Yes	200
Parking area	6676 ft <sup>2</sup>	0.06	Yes	401
Total Tradable Watts (a) = 1890				
Total Allowed Watts = 1890				
Total Allowed Supplemental Watts (b) = 500				

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.  
(b) A supplemental allowance equal to 500 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

**Proposed Exterior Lighting Power**

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Landscaping (5000 ft <sup>2</sup> ): Tradable Wattage				
LED 13: ZX1: Other:	1	1	360	360
LED 1: D4: Other:	1	36	21	756
LED 2: D4E: Other:	1	8	21	168
Parking area (6676 ft <sup>2</sup> ): Tradable Wattage				
LED 12: ZX4: Other:	2	2	360	720
Walkway >= 10 feet wide (225 ft <sup>2</sup> ): Tradable Wattage				
Walkway < 10 feet wide (2108 ft of walkway length): Tradable Wattage				
Total Tradable Proposed Watts = 2004				

**Exterior Lighting PASSES: Design 16% better than code**

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

Project Title: Safe Harbor Lifeline  
Data filename: Untitled.cck  
Report date: 05/28/21  
Page: 2 of 8

MICHAEL FACKRELL - EIT  
Name - Title: MICHAEL FACKRELL - EIT  
Signature: [Signature]  
Date: 2021-05-28

Project Title: Safe Harbor Lifeline  
Data filename: Untitled.cck  
Report date: 05/28/21  
Page: 3 of 8

D

C

B

A



## EXTERIOR LIGHTING FIXTURE SCHEDULE

### ABBREVIATIONS

<b>LUMINAIRE</b> ARHR - AIR RETURN AND HEAT REJECTION DL - DAMP LOCATION EQC - EARTHQUAKE CLIPS F - FUSING HD - HINGED AND LATCHED DOOR HS - HOUSE SIDE SHIELD PS - PHOTOCCELL SWITCH QRS - QUARTZ RESTRIKE ST - STATIC WG - WIRE GUARD WL - WET LOCATION	<b>EMERGENCY</b> NE - NORMAL AND EMERGENCY CONNECTIONS EB - EMERGENCY BATTERY PACK ET - EMERGENCY TRANSFER DEVICE	<b>BALLAST</b> IS - INSTANT START RS - RAPID START PS - PROGRAM START, PARALLEL LAMP OPERATION PSBH - PULSE START METAL HALLIDE (CWA OR ELECTRONIC) PPLF - PROVIDE POWER LINE FILTER LVTM - LOW VOLTAGE TRANSFORMER (MAGNETIC) LVTE - LOW VOLTAGE TRANSFORMER (ELECTRONIC)	<b>FINISH</b> MW - MATTE WHITE BL - BLACK NSL - SILVER G - GOLD CL - CLEAR PW - PAINTED WHITE EA - EXTRUDED ALUMINUM S - STEEL GS - GALVANIZED STEEL C - CAST CBA - COLOR BY ARCHITECT SCBA - STANDARD COLOR BY ARCHITECT CCA - CUSTOM COLOR BY ARCHITECT FS - MEETS FEDERAL STANDARD 209D TP - THERMALLY PROTECTED FL - FLUSH R - REGRESS M - MITERED	<b>LENS</b> #A - ACRYLIC #THICK #OA - ACRYLIC #THICK (OPAL) GC - GLASS (CLEAR) GD - GLASS (OPAL) GF - GLASS (FROSTED) SGL - SOFT GLOW LENS HPL - HIGH PERFORMANCE LENS DO - DROP OPAL CGL - CONVEX GLASS LENS S - SATIN LENS	<b>MOUNTING</b> B - BASE C - CEILING F - FLANGE G - GRID P - PENDANT PL - POLE R - RECESSED S - SURFACE W - WALL	<b>CONFIGURATION</b> BA - BANNER ARMS BH - BULL HORN DL - 2" L-SHAPE DS - 2 @ 180 PT - INLINE POST TOP Q - QUAD SH - SHEPHERDS HOOK SL - SINGLE T - 3" T-SHAPE	<b>REFLECTOR AND DISTRIBUTION</b> I - TYPE I II - TYPE II III - TYPE III IV - TYPE IV V - TYPE V VSO - TYPE V SQUARE SA - SPUN ALUMINUM SR - SEGMENTED REFLECTOR BWF - NEMA BEAM WIDTH 1 THRU 7	<b>CUTOFF CLASSIFICATION</b> FC - FULL CUTOFF CO - CUTOFF SC - SEMI CUTOFF NC - NONCUTOFF	<b>POLE</b> RS - ROUND STRAIGHT RT - ROUND TAPERED SS - SQUARE STRAIGHT ST - SQUARE TAPERED	<b>NOTES</b> 1. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. 2. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES.
--	--	---	--	--	---	---	--	---	---	---

ID	IMAGE	TYPE	LUMINAIRE					LAMP			BALLAST		FINISH			DIFFUSER			REFLECTOR			MOUNTING			MANUFACTURER (CATALOG SERIES)			ALLOWANCE						
			BACK	UP	GLARE	LENGTH	WIDTH	DEPTH	DIAMETER / APERTURE	OPTIONS	COLOR	TYPE	LUMINAIRE LUMENS	INPUT VOLTS	ANSI WATTS	HOUSING	TRIM	OTHER	TYPE	FINISH	CONFIGURATION	OPTIONS	DISTRIBUTION TYPE	FINISH	EFFICIENCY	TYPE	CONFIGURATION		POLE BASE HEIGHT	POLE HEIGHT	WIND RATING	OPTIONS	OPTION 1	OPTION 2
(WD4)		4" ROUND RECESSED DOWNLIGHT; LED					7"			3000K	LED	1000	277	21	SCBA	SCBA	SCBA														PRESCOLITE (LF4LED)	LITHONIA (LP4NF)	LITON (LHALD)	
(WD4E)		4" ROUND RECESSED DOWNLIGHT; LED					7"			3000K	LED	1000	277	21	SCBA	SCBA	SCBA														PRESCOLITE (LF4LED)	LITHONIA (LP4NF)	LITON (LHALD)	
(ZX1)		MODERN STYLE, LED POLE LIGHT, CUTOFF SINGLE HEAD				32"	18"	7"		3000K	LED	31000	120	360	SCBA	SCBA	SCBA				I		0				3'-0"	25'-0"		LITHONIA (DSX2 LED)	VISIONAIRE LIGHTING (VLX-1)	COOPER LIGHTING (GALLEON LED)		
(ZX4)		MODERN STYLE, LED POLE LIGHT, CUTOFF QUAD HEAD				32"	18"	7"		3000K	LED	31000	120	360	SCBA	SCBA	SCBA				IV		0				3'-0"	25'-0"		LITHONIA (DSX2 LED)	VISIONAIRE LIGHTING (VLX-1)	COOPER LIGHTING (GALLEON LED)		

### ABBREVIATIONS

**LOCATION (LOC):**  
 C - CEILING MOUNTED  
 H - HIGH WALL MOUNTED  
 L - LOW WALL MOUNTED

**MOUNTING (MTNG):**  
 C - CEILING  
 W - WALL

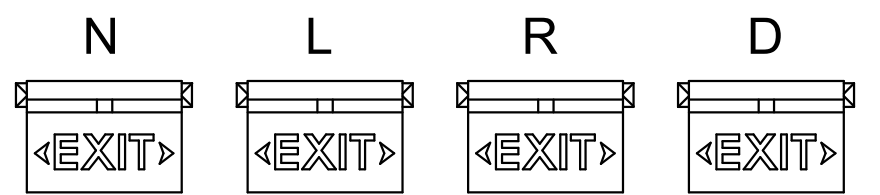
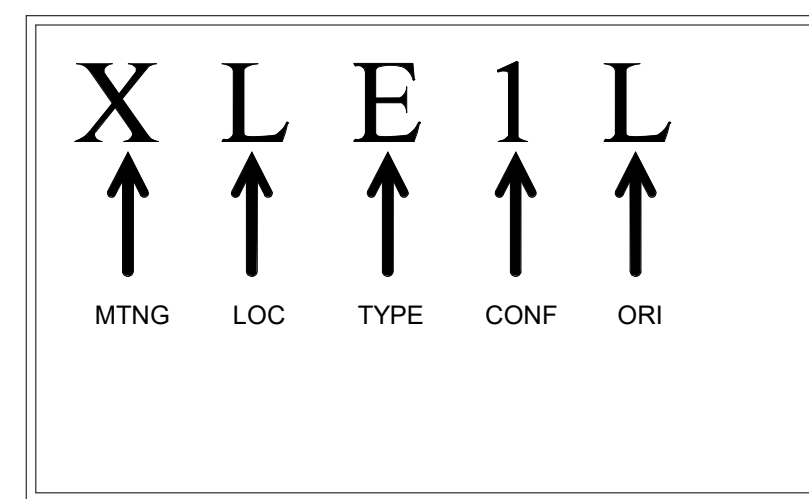
**TYPE:**  
 E - EDGE LIT  
 T - THERMALPLASTIC

**CONFIGURATIONS (CONF):**  
 1 - SINGLE SIDED  
 2 - DOUBLE SIDED

**ARROW ORIENTATION (ORI):**

N - NONE  
 L - LEFT  
 R - RIGHT  
 D - DOUBLE

### ABBREVIATIONS



## EXIT FIXTURE SCHEDULE

### GENERAL NOTES

- PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER.
- CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES.
- SUBSTITUTIONS AND/OR EQUAL FIXTURES MUST RECEIVE APPROVAL PRIOR TO BIDDING. THEY MUST BE SUBMITTED TO THE ENGINEER NO LESS THAN 2 WEEKS PRIOR TO BID OPENING.
- SAMPLES MUST BE PROVIDED FOR ANY AND ALL FIXTURES UPON A/E REQUEST PRIOR TO RELEASING FIXTURES.
- ALL FIXTURES SHALL BE LISTED AND APPROVED FOR THEIR INTENDED USE AND LOCATION.
- VERIFY THE PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS.
- COMPLY WITH THE "INTERIOR LIGHTING" SECTION OF THE SPECIFICATIONS.
- MOUNTING OF FLOOR PROXIMITY EXIT SIGNS SHALL COMPLY WITH NFPA 101 SECTION 7.10.1.6
- MOUNTING OF HIGH WALL PROXIMITY EXIT SIGNS SHALL COMPLY WITH NFPA 101 SECTION 7.10.1.9
- PROVIDE 90 MIN INTEGRAL EMERGENCY BATTERY BACKUP FOR ALL EXIT SIGNS.
- EMERGENCY BATTERY BACKUP SHALL BE PROVIDED WITH 10 YEAR PRO-RATA WARRANTY

ID	IMAGE	DESCRIPTION	MOUNTING	TYPE	VOLTAGE	WATTS	OPTIONS	MANUFACTURER (CATALOG SERIES)			
								BASIS OF DESIGN	OPTION 2	OPTION 3	OPTION 4
XCE1N		EXIT SIGN: EDGE LIT; CEILING MOUNTING; SINGLE SIDED; NO ARROWS; LED; DIFFUSE LENS PANEL; GREEN LETTERS ON WHITE BACKGROUND; SHALL COMPLY WITH NFPA ILLUMINATION STDS.	C	LED	120/277	6	-	LITHONIA (EDG)	DUAL-LITE (LE)	SURE-LITE (EUS)	CHLORIDE SYSTEMS (STERLING SERIES)
XCE2L		EXIT SIGN: EDGE LIT; CEILING MOUNTING; DOUBLE SIDED; SINGLE DIRECTION ARROWS; LED; DIFFUSE LENS PANEL; GREEN LETTERS ON WHITE BACKGROUND; SHALL COMPLY WITH NFPA ILLUMINATION STDS.	C	LED	120/277	6	-	LITHONIA (EDG)	DUAL-LITE (LE)	SURE-LITE (EUS)	CHLORIDE SYSTEMS (STERLING SERIES)



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## SAFE HARBOR LIFELINE

223 WEST 475 SOUTH  
 LAYTON, UT 84041

### STAMP



ISSUE	DATE:
DESIGN DEVELOPMENT	2021-04-14

PROJECT NUMBER:	20-028
DRAWN BY:	SAC
CHECKED BY:	MCF

## LIGHTING FIXTURE SCHEDULES

# EL602

## LIGHTING/SPACE CONTROL TYPE SCHEDULE

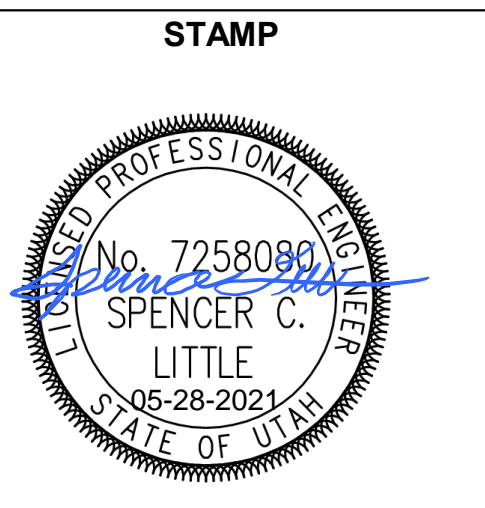
WIRING LEGEND	APPROVED MANUFACTURERS	LIGHTING CONTROL ID	GENERAL NOTES										PROJECT NOTES							
_____ LINE VOLTAGE WIRING - - - - - 0-10V WIRING - - - - - CAT5E CABLING _____ WIRING BY OTHERS ○ TWP SEGMENT NETWORK CABLING	1. WATTSTOPPER (BASIS OF DESIGN) 2. HUBBELL BUILDING AUTOMATION 3. EATON LIGHTING CONTROLS 4. nLIGHT 5. LUTRON	1. # = NUMBER OF ZONES 2. D = DIMMING, S = SWITCHING 3. P = DAYLIGHT PHOTOCELL 4. L = PLUG LOAD CONTROLLER 5. # = INSTANCE	1. COORDINATE INITIAL PROGRAMMING WITH OWNER AND MODIFY CONTROL TIMES AND OPERATION AS REQUESTED BY OWNER. 2. PROVIDE FINE TUNING PROGRAMMING AND ADJUSTMENTS UPON REQUEST BY OWNER WITHIN FIRST 6 MONTHS AFTER SUBSTANTIAL COMPLETION. 3. PROVIDE CUSTOMIZED ENGRAVED PERMANENT BUTTON LABELS ON EACH SWITCH, LABEL TO MATCH BUTTON LABEL ID OR AS DIRECTED BY OWNER. 4. PART NUMBERS SHOWN ARE BASED ON WATTSTOPPER AS THE BASIS OF DESIGN. ALL APPROVED MANUFACTURERS ARE SUBJECT TO MEETING ALL FUNCTIONS AND CAPABILITIES OF THE BASIS OF DESIGN SYSTEM AND PRODUCTS. FAILURE TO MEET THESE SHALL REQUIRE THE CONTRACTOR TO PROVIDE A SYSTEM THAT DOES AT NOT ADDITIONAL COST. 5. REFER TO PLANS FOR LOCATIONS AND QUANTITIES OF DEVICES. 6. INSTALL ONE OF EACH CONTROL TYPE WITH PROGRAMMING, ADJUST, AND OBTAIN OWNERS APPROVAL PRIOR TO PROGRAMMING THE REMAINING CONTROLS																	
ID	DETAIL	LIGHTS ON CONTROL	LIGHTS OFF CONTROL	LIGHTING CONTROL TYPE	DAYLIGHT SENSOR SETTING (FC)	TIME DELAY TO OFF (MIN.)	BAS AUX RELAY SIGNAL	PLUG LOAD CONTROLLER	NETWORKED CONTROLS	BUTTON_1	BUTTON_2	BUTTON_3	BUTTON_4	BUTTON_5	BUTTON_6	BUTTON_7	BUTTON_8	BUTTON_9	NOTES	
1D1		MANUAL & OCCUPANCY	MANUAL OR OCCUPANCY	DIMMING 0-10V	-	15	RELAY CLOSED ON OCCUPANCY	-	-	FUNCTION: PRESS TOP-ON, HOLD TOP-RAISE LABEL ID: TOP- "ON/RAISE" BOTTOM-"OFF"/LOWER	-	-	-	-	-	-	-	-	-	
3D1		MANUAL & OCCUPANCY	MANUAL OR OCCUPANCY	DIMMING 0-10V	-	15	RELAY CLOSED ON OCCUPANCY	-	-	FUNCTION: PRESS TOP-ON, HOLD TOP-RAISE LABEL ID: TOP- "ON/RAISE" BOTTOM-"OFF"/LOWER	FUNCTION: PRESS-PRESET SCENE #01 ZONE "a" 0% FOR DIMMING LABEL ID: "ZONE a"	FUNCTION: PRESS-SELECT ZONE "a" FOR DIMMING LABEL ID: "ZONE a"	FUNCTION: PRESS-SELECT ZONE "b" FOR DIMMING LABEL ID: "ZONE b"	FUNCTION: PRESS-SELECT ZONE "c" FOR DIMMING LABEL ID: "ZONE c"	-	-	-	-	-	-
3DP1		MANUAL & OCCUPANCY	MANUAL OR OCCUPANCY	DIMMING 0-10V	30	15	RELAY CLOSED ON OCCUPANCY	-	-	TOGGLE PRESS TOP-ON, PRESS BOTTOM-OFF, HOLD TOP-RAISE, HOLD BOTTOM-LOWER	PRESET SCENE #01 - ZONE "a" 0%, ZONE "b" 50%, ZONE "c" 100%	SELECT ZONE "a"	SELECT ZONE "b"	SELECT ZONE "c"	-	-	-	-	-	-
4DP1		MANUAL & OCCUPANCY	MANUAL OR OCCUPANCY	DIMMING 0-10V	30	15	RELAY CLOSED ON OCCUPANCY	-	-	FUNCTION: PRESS TOP-ON, HOLD TOP-RAISE LABEL ID: TOP- "ON/RAISE" BOTTOM-"OFF"/LOWER	FUNCTION: PRESS-SELECT ZONE "a" FOR DIMMING LABEL ID: "ZONE a"	FUNCTION: PRESS-SELECT ZONE "b" FOR DIMMING LABEL ID: "ZONE b"	FUNCTION: PRESS-SELECT ZONE "c" FOR DIMMING LABEL ID: "ZONE c"	FUNCTION: PRESS-SELECT ZONE "d" FOR DIMMING LABEL ID: "ZONE d"	FUNCTION: PRESS-PRESET SCENE #01 ZONE "a" 0% ZONE "b" 75% ZONE "c" 50% ZONE "d" 75% LABEL ID: "PRE #1"	FUNCTION: PRESS-PRESET SCENE #02 ZONE "a" 75% ZONE "b" 50% ZONE "c" 50% ZONE "d" 50% LABEL ID: "PRE #2"	FUNCTION: PRESS-PRESET SCENE #03 ZONE "a" 0% ZONE "b" 100% ZONE "c" 0% ZONE "d" 0% LABEL ID: "PRE #3"	FUNCTION: PRESS-PRESET SCENE #04 ZONE "a" 0% ZONE "b" 50% ZONE "c" 100% ZONE "d" 100% LABEL ID: "PRE #4"	MODE 1-ROOM OPERATE INDIVIDUALLY MODE 2-ROOMS OPERATE COMBINED AV INTEGRATION REQUIRED, PARTITION SENSING REQUIRED	



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### LIGHTING CONTROL SCHEDULE

# EL604

D

C

B

A

### GENERAL SHEET NOTES

- CONTRACTOR IS RESPONSIBLE FOR ALL LINE VOLTAGE AS PART OF THIS PROJECT. PROVIDE LINE VOLTAGE REQUIRED TO ALL SYSTEMS PROVIDED AS PART OF THIS PROJECT. COORDINATE WITH ALL OTHER DISCIPLINES AND DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR ALL DEVICES, GEAR, CABLE, CONDUCTORS, TERMINATIONS, OVERCURRENT PROTECTION DEVICES, AND HEAD END EQUIPMENT AS PART OF THIS PROJECT.
- CORE DRILL THE FLOOR FOR POKE THROUGH. COORDINATE EXACT LOCATION WITH ARCHITECT.
- VERIFY FLOOR BOX, POWER POLE, AND POKE-THROUGH DEVICE LOCATIONS WITH ARCHITECT/OWNER PRIOR TO ROUGH IN OR INSTALLATION.
- ALL RACEWAYS SHALL BE CONCEALED IN WALLS, FLOORS, AND CEILING UNLESS OTHERWISE NOTED. INSTANCES WHERE EXPOSED OR SURFACE MOUNTED RACEWAYS IS REQUIRED A ROUTING SKETCH SHALL BE PROVIDED TO ARCHITECT AND ENGINEER. RACEWAY TYPE SHALL BE SELECTED BY ENGINEER. FINISH OF RACEWAY SHALL BE SELECTED BY ARCHITECT.
- COORDINATE EXACT LOCATION OF ELECTRICAL CONNECTION POINT TO ROOF TOP UNITS AND ALL OTHER MECHANICAL EQUIPMENT TO ENSURE APPROPRIATE ROOF PENETRATION LOCATIONS.
- PROVIDE ELECTRICAL CONNECTION TO MOTORIZED DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURERS WRITTEN INSTRUCTIONS. COORDINATE OPERATION OF DOORS WITH SECURITY, FIRE, AND SMOKE CONTROL SEQUENCES OF OPERATION.
- WHENEVER POSSIBLE, ELECTRICAL CONDUIT SHALL BE RUN TO THE UNIT INSIDE THE ROOF CURB.
- ELECTRICAL CONDUIT CONNECTIONS MADE TO EXPOSED JUNCTION BOXES ON UNITS SHOULD BE MADE ON THE BOTTOM OF THE BOX. INSTALLATION SHOULD COMPLY WITH LOCAL CODE REQUIREMENTS. THE INSTALLATION SHOULD BE MADE WATERTIGHT.
- WHERE AN EXTERNAL ELECTRICAL JUNCTION BOX IS NOT USED, WATERTIGHT FITTINGS SHOULD BE USED AT THE PANEL JOINT. IF ELECTRICAL CONDUIT PASSES THROUGH A HOLE IN THE PANEL, THAT JOINT SHOULD BE MADE WATERTIGHT.
- INSTALLATION SHOULD BE IN ACCORDANCE WITH THE NFPA "NATIONAL ELECTRICAL CODE."



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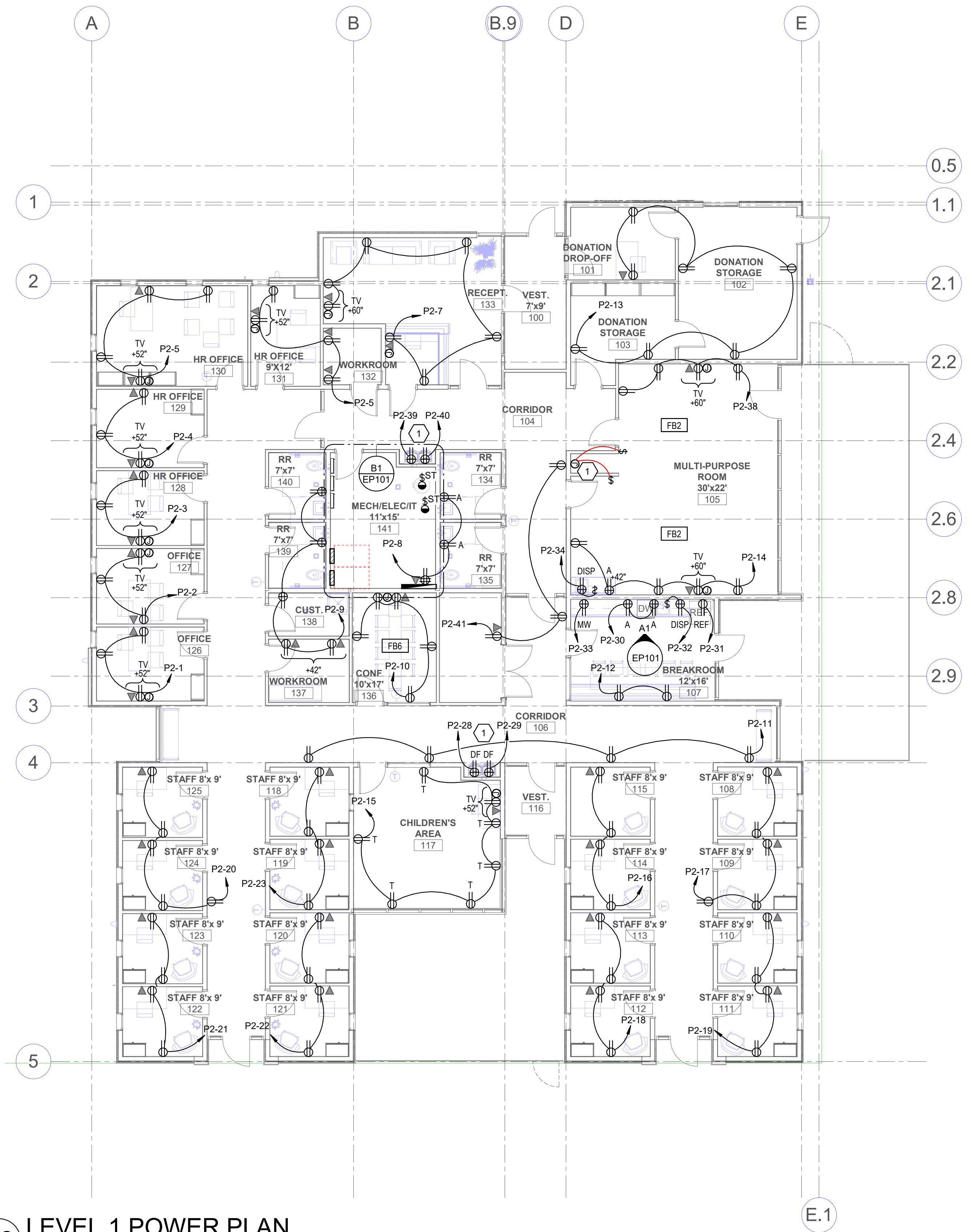
### SHEET KEYNOTES

- PROVIDE A READILY ACCESSIBLE GFCI DEVICE FOR THE ELECTRIC WATER COOLER, COMPLY WITH 2018 NEC 422.5(A) AND 422.5(B).

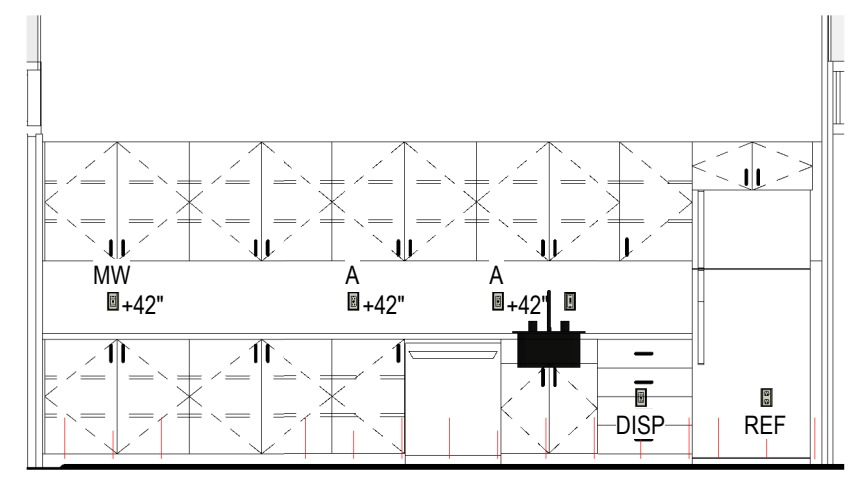
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## LEVEL 1 POWER PLAN

# EP101



**B1 ENLARGED MECH/ELEC/IT ROOM**  
 SCALE: 1/4" = 1'-0"



**A1 BREAKROOM ELEVATION**  
 SCALE: 1/4" = 1'-0"

**A2 LEVEL 1 POWER PLAN**  
 SCALE: 1/8" = 1'-0"



## COPPER CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER (E.G.) 5 IG

SUBSCRIPT (NOTE 5)

SYM	AMP	HH	CONDUIT SIZE	CONDUCTOR QTY	CONDUCTOR SIZE	G	IG/HH	SE	NOTES
1	20	-	.75	2	12	12	12	8	2
2	20	-	.75	3	12	12	12	8	2,3
3	20	24	.75	4	12	12	12	8	2,3
4	30	-	.75	2	10	10	10	8	2
5	30	-	.75	3	10	10	10	8	2
6	30	32	.75	4	10	10	10	8	2
7	40	-	1	2	8	10	8	6	2
8	40	-	1	3	8	10	8	6	2
9	40	44	1	4	8	10	8	6	2
10	55	-	1	2	6	10	8	4	2
11	55	-	1	3	6	10	8	4	2
12	55	60	1.25	4	6	10	8	4	2
13	70	-	1	2	4	8	4	2	2
14	70	-	1.25	3	4	8	4	2	2
15	70	76	1.25	4	4	8	4	2	2
16	85	-	1.25	2	3	8	3	2	2
17	85	-	1.25	3	3	8	3	2	2
18	85	92	1.25	4	3	8	3	2	2
19	95	-	1.25	3	2	8	2	2	2
20	95	104	1.50	4	2	8	2	2	2

### CONDUIT AND CONDUCTOR SCHEDULE NOTES

- CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
- PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
- PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.

## ALUMINUM CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER (E.G.) 5 IG

SUBSCRIPT (NOTE 5)

SYM	AMP	CONDUIT SIZE	CONDUCTOR QTY	CONDUCTOR SIZE	G	IG	SE	NOTES
21	130	2	3	2/0	4	1/0	4	2,7
22	130	2	4	2/0	4	1/0	4	2,7
23	150	2	3	3/0	4	1/0	4	2,7
24	150	2	4	3/0	4	1/0	4	2,7
25	175	2	3	4/0	4	1/0	2	2,7
26	175	2.50	4	4/0	4	1/0	2	2,7
27	200	2.50	3	250	4	1/0	2	2,7
28	200	3	4	250	4	1/0	2	2,7
29	230	2.50	3	300	2	1/0	1/0	2,7
30	230	3	4	300	2	1/0	1/0	2,7
31	250	3	3	350	2	2/0	1/0	2,7
32	250	3	4	350	2	2/0	1/0	2,7
33	310	3	3	500	1	3/0	1/0	2,7
34	310	4	4	500	1	3/0	1/0	2,7
35	380	2 EA 2.50	3	250	1	4/0	3/0	2,7
36	380	2 EA 3	4	250	1	4/0	3/0	2,7
37	400	2 EA 2.50	3	250	1/0	4/0	3/0	2,7
38	400	2 EA 2.50	4	250	1/0	4/0	3/0	2,7
39	500	2 EA 3	3	350	1/0	300	3/0	2,4,7
40	500	2 EA 3	4	350	1/0	300	3/0	2,4,7
41	620	2 EA 3	3	500	3/0	300	3/0	2,4,7
42	620	2 EA 4	4	500	3/0	300	3/0	2,4,7
43	750	3 EA 3	3	350	3/0	300	4/0	2,4,7
44	750	3 EA 3	4	350	3/0	300	4/0	2,4,7
45	810	3 EA 3	3	400	4/0	300	250	2,4,7
46	810	3 EA 4	4	400	4/0	300	250	2,4,7
47	1000	4 EA 3	3	350	4/0	300	250	4,7
48	1000	4 EA 3	4	350	4/0	300	250	4,7
49	1140	4 EA 4	3	500	250	300	250	4,7
50	1140	4 EA 4	4	500	250	300	250	4,7
51	1240	4 EA 4	3	500	350	300	250	4,7
52	1240	4 EA 4	4	500	350	300	250	4,7
53	1620	6 EA 4	4	400	400	350	250	4,7
54	2170	7 EA 4	4	500	400	500	250	4,7
55	2895	7 EA 4	4	750	600	750	750	4,7
56	3080	8 EA 4	4	750	600	750	750	4,7
57	4235	11 EA 4	4	750	800	750	750	4,7
58	-	5 EA 4	-	-	-	-	-	6
59	-	5	-	-	-	-	-	6
60	-	10 EA 4	-	-	-	-	-	6

### CONDUIT AND CONDUCTOR SCHEDULE NOTES

- CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 5. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
  - PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
  - PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
  - GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
  - SYMBOL SUBSCRIPTS:
  - RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.
- \*"N": INCLUDE TWO NEUTRAL CONDUCTORS, SIZED AS SCHEDULED FOR PHASED AND NEUTRAL CONDUCTORS.
- \*"FG": FULL SIZE GROUND, SIZE EQUIPMENT GROUNDING CONDUCTOR TO BE SAME SIZE AS THE PHASE CONDUCTORS.
- \*"HH": NEUTRAL CURRENTS EXIST DUE TO HIGH HARMONIC "NONLINEAR" LOADS. CURRENT CARRYING CONDUCTORS DERATED ACCORDINGLY.
- \*"IG": INCLUDE IG (INSULATED/ISOLATED GROUND CONDUCTOR) SCHEDULED ALONG WITH THE GROUND OF EQUIPMENT GROUND CONDUCTOR.
- \*"SE": SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN, WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEM.
- 7 ALUMINUM CONDUCTORS NOT TO BE USED FOR CONNECTION TO MOTORS OR MOTOR DRIVEN EQUIPMENT.

## EQUIPMENT NAMEPLATE SCHEDULE

EQUIPMENT ID SCHEME	FIRST DIGIT - BUILDING LEVEL (0, 1, 2, ETC) SECOND DIGIT - PANEL TYPE M - MECHANICAL H - (277/480) L - (120/208) E - EMERGENCY S - STANDBY Q - EQUIPMENT U - UPS K - KITCHEN (120/208) THIRD DIGIT - BUILDING AREA (A, B, C, ETC) FOURTH DIGIT - SEQUENCE # (1,2,3,...)
LABEL FORMAT	[NAME] [SYSTEM] [VOLTAGE] [FED FROM] [SOURCE(S)]
LABEL EXAMPLE	PANEL "4L1" STANDBY POWER 120/208V FED FROM BUS-A / XFMR 4TA
BUSWAY	LABEL BUSWAY EVERY 6' WHERE EXPOSED TO VIEW AND EVERY 15' WHERE NOT EXPOSED TO VIEW
OTHER	

## COLOR SCHEME

SYSTEM	EQUIPMENT	NAMEPLATE COLOR	
		TEXT	BACKGROUND
NORMAL POWER	ALL GEAR NOT INCLUDED BELOW	WHITE	BLACK
STANDBY POWER	MDPS1 AND ALL DOWNSTREAM GEAR, WHITE EXCEPT UPS GEAR AS NOTED	WHITE	ORANGE
EMERGENCY POWER	GDP1, GDP2, ATS-E AND ALL DOWNSTREAM GEAR	WHITE	RED
LEGALLY-REQUIRED STANDBY POWER	ATS-S AND ALL DOWNSTREAM GEAR	RED	WHITE
UPS "A" POWER	UPSA AND ALL DOWNSTREAM GEAR	WHITE	BLUE
UPS "B" POWER	UPSB AND ALL DOWNSTREAM GEAR	BLACK	YELLOW

## BRANCH CIRCUIT CONDUCTOR AND CONDUIT SIZING TABLE

CIRCUIT AMPACITY/VOLTAGE	CIRCUIT LENGTH	CONDUCTOR SIZE (PHASE, NEUTRAL AND GR)	CONDUIT SIZE
20A/120V	0 - 80'	#12 AWG	0.75" Ø
20A/120V	80 - 95'	#10 AWG	0.75" Ø
20A/120V	95 - 150'	#8 AWG	1" Ø
20A/120V	150 - 240'	#6 AWG	1.25" Ø
20A/277V	0 - 140'	#12 AWG	0.75" Ø
20A/277V	140 - 220'	#10 AWG	0.75" Ø
20A/277V	220 - 350'	#8 AWG	1" Ø
20A/277V	350 - 550'	#6 AWG	1.25" Ø

- NOTES:
- WIRE SIZING IS BASED ON COPPER CONDUCTORS SUPPLYING A 20A, 120V CIRCUIT AT THE INDICATED VOLTAGE, ASSUMED TO BE 80% LOAD (16A), WITH MAXIMUM VOLTAGE DROP OF 3% AT THE LOAD.
  - DOWN-SIZE WIRE AT DEVICE/LOAD AS REQUIRED AND TERMINATE CONDUCTORS IN A SAFE AND CODE COMPLIANT MANNER.
  - CONDUIT SIZE IS BASED ON A MAXIMUM OF 3 CIRCUITS PER CONDUIT, EACH WITH A SEPARATE NEUTRAL CONDUCTOR.

## GENERAL SHEET NOTES

- CONTRACTOR IS RESPONSIBLE FOR ALL LINE VOLTAGE AS PART OF THIS PROJECT. PROVIDE LINE VOLTAGE REQUIRED TO ALL SYSTEMS PROVIDED AS PART OF THIS PROJECT. COORDINATE WITH ALL OTHER DISCIPLINES AND DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR ALL DEVICES, GEAR, CABLE, CONDUCTORS, TERMINATIONS, OVERCURRENT PROTECTION DEVICES, AND HEAD END EQUIPMENT AS PART OF THIS PROJECT.
- CORE DRILL THE FLOOR FOR POKE THROUGH. COORDINATE EXACT LOCATION WITH ARCHITECT.
- VERIFY FLOOR BOX, POWER POLE, AND POKE-THROUGH DEVICE LOCATIONS WITH ARCHITECT/OOWNER PRIOR TO ROUGH IN OR INSTALLATION.
- ALL RACEWAYS SHALL BE CONCEALED IN WALLS, FLOORS, AND CEILING UNLESS OTHERWISE NOTED. INSTANCES WHERE EXPOSED OR SURFACE MOUNTED RACEWAYS IS REQUIRED A ROUTING SKETCH SHALL BE PROVIDED TO ARCHITECT AND ENGINEER. RACEWAY TYPE SHALL BE SELECTED BY ENGINEER. FINISH OF RACEWAY SHALL BE SELECTED BY ARCHITECT.
- COORDINATE EXACT LOCATION OF ELECTRICAL CONNECTION POINT TO ROOF TOP UNITS AND ALL OTHER MECHANICAL EQUIPMENT TO ENSURE APPROPRIATE ROOF PENETRATION LOCATIONS.
- PROVIDE ELECTRICAL CONNECTION TO MOTORIZED DOORS WITH ALL POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. COORDINATE OPERATION OF DOORS WITH SECURITY, FIRE, AND SMOKE CONTROL SEQUENCES OF OPERATION.
- WHENEVER POSSIBLE, ELECTRICAL CONDUIT SHALL BE RUN TO THE UNIT INSIDE THE ROOF CURB.
- ELECTRICAL CONDUIT CONNECTIONS MADE TO EXPOSED JUNCTION BOXES ON UNITS SHOULD BE MADE ON THE BOTTOM OF THE BOX. INSTALLATION SHOULD COMPLY WITH LOCAL CODE REQUIREMENTS. THE INSTALLATION SHOULD BE MADE WATERTIGHT.
- WHERE AN EXTERNAL ELECTRICAL JUNCTION BOX IS NOT USED, WATERTIGHT FITTINGS SHOULD BE USED AT THE PANEL JOINT. IF ELECTRICAL CONDUIT PASSES THROUGH A HOLE IN THE PANEL, THAT JOINT SHOULD BE MADE WATERTIGHT.
- INSTALLATION SHOULD BE IN ACCORDANCE WITH THE NFPA "NATIONAL ELECTRICAL CODE."



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### STAMP

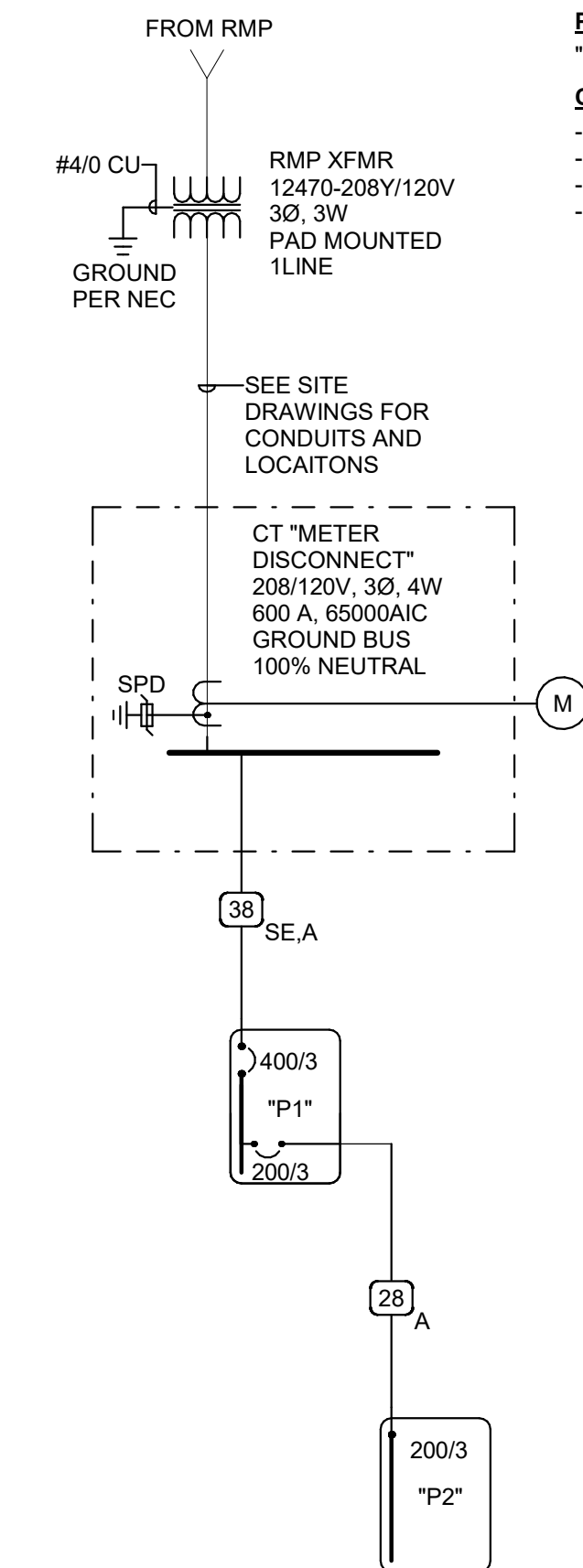


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## ONE-LINE DIAGRAM

# EP601



## A1 ONE LINE DIAGRAM

SCALE: NTS

**PANEL: "P1"**

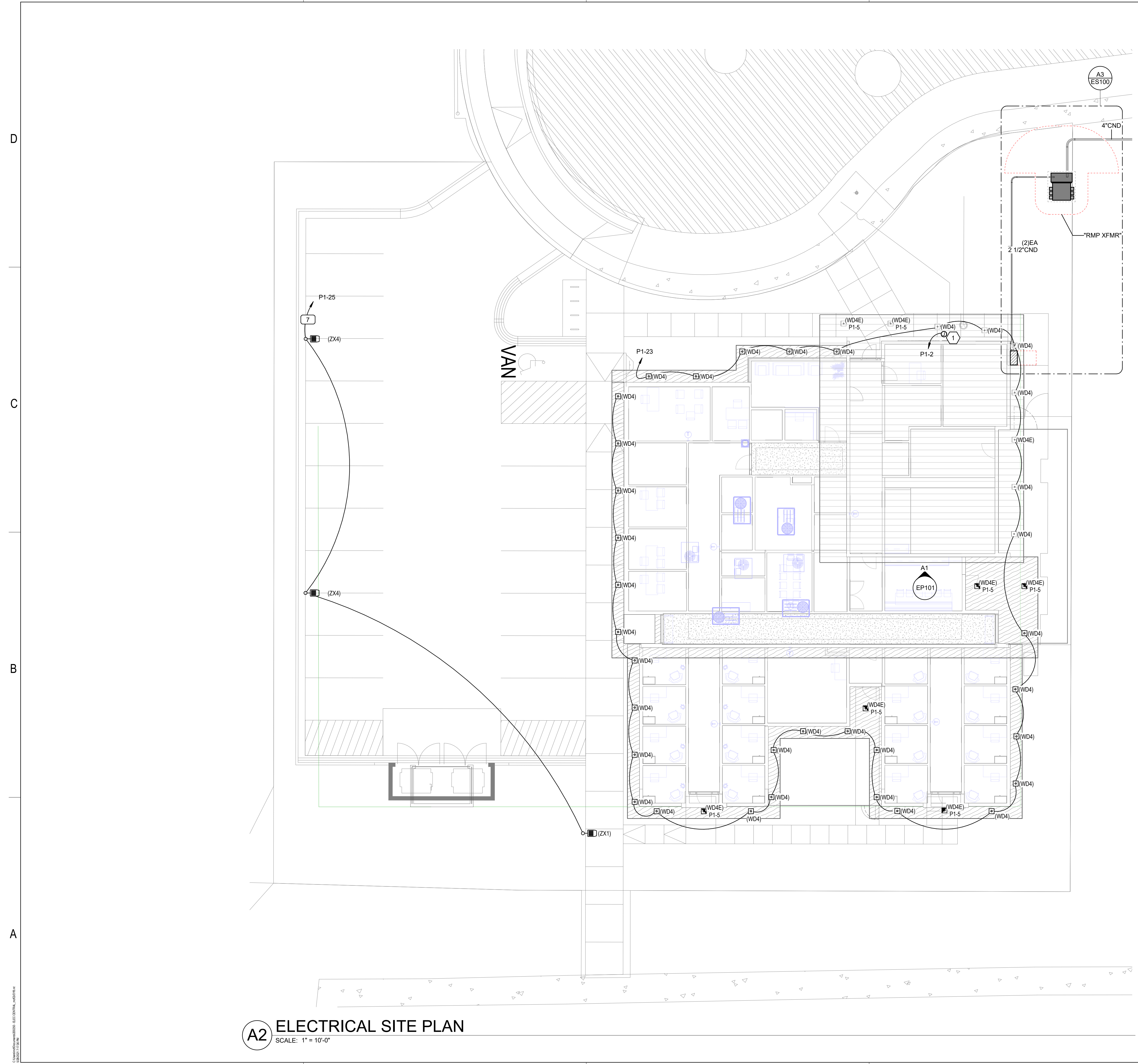
VOLTS/PHASE/WIRE:		PANEL SIZE & TYPE:		MAIN SIZE AND TYPE:		FED FROM:	CABINET:	LOCATION:	NOTES:																																								
120/208V, 3 PH 4 WIRE		22" W x 6" D, BOLT-ON		225 AMPERE MAIN CB			SURFACE	MECH/ELEC/IT...																																									
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR																																																	
AIC RATING: 0																																																	
CKT NO	AMP	POLE	BKR	LTG	PWR	CO	PHASE LOAD			DESCRIPTION	LOAD (KVA)	CO	PWR	LTG	BKR	POLE	AMP	CKT NO																															
1	0	1		0.5	0.0	0.0	0.8	0.2										20	2																														
PANEL "1C5"										POWER	0.0	0.2	0.0																																				
3	20	1		0.2	0.0	0.0		0.2	0.4									20	4																														
LIGHTING										LIGHTING	0.0	0.0	0.4																																				
5	20	1		0.2	0.0	0.0				0.2	2.0							20	6																														
OUTDOOR WALKWAY LIGHTING										ROOF TOP UNIT (RTU-2A)	0.0	3.9	0.0																																				
7								2.0																																									
ROOF TOP UNIT (RTU-2B)										ROOF TOP UNIT (RTU-3A)	0.0	6.4	0.0						2	30	10																												
9	20	2		0.0	3.9	0.0		2.0	3.2																																								
ROOF TOP UNIT (RTU-2B)										ROOF TOP UNIT (RTU-3A)	0.0	6.4	0.0																																				
11										2.0	3.2																																						
ROOF TOP UNIT (RTU-3B)										ROOF TOP UNIT (RTU-3C)	0.0	6.4	0.0						2	30	14																												
13	30	2		0.0	6.4	0.0		3.2	3.2																																								
ROOF TOP UNIT (RTU-3B)										ROOF TOP UNIT (RTU-3C)	0.0	6.4	0.0																																				
15								3.2	3.2																																								
ROOF TOP UNIT (RTU-5A)										MECH/ELEC/IT...	0.0	0.2	0.0					1	15	18																													
17	40	2		0.0	6.4	0.0				3.2	0.2																																						
ROOF TOP UNIT (RTU-5A)										MECH/ELEC/IT...	0.0	0.2	0.0					1	15	20																													
19								3.2	0.2																																								
ROOF TOP UNIT (RTU-5A)										MECH/ELEC/IT...	0.0	0.2	0.0					1	15	20																													
21	15	1		0.0	0.4	0.0		0.4	1.4																																								
EXHAUST FAN (EF-1)										ROOF TOP UNIT (RTU-1A)	0.0	2.7	0.0						2	15	22																												
23	20	1		1.5	0.0	0.0				1.5	1.4																																						
EMERGENCY OUTDOOR LIGHTING																																																	
25	20	1		1.1	0.0	0.0																																											
PARKING LOT LIGHTING										SPARE									1	20	26																												
27	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	28																												
29	20	1									0.0																																						
SPARE										SPARE									1	20	30																												
31	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	32																												
33	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	34																												
35	20	1									0.0	0.0																																					
SPARE										SPARE									1	20	36																												
37	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	38																												
39	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	40																												
41	20	1									0.0	0.0																																					
SPARE										SPARE									1	20	42																												
43	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	44																												
45	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	46																												
47	20	1									0.0	0.0																																					
SPARE										SPARE									1	20	48																												
49	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	50																												
51	20	1								0.0	0.0																																						
SPARE										SPARE									1	20	52																												
53	20	1									0.0	0.0																																					
SPARE										SPARE									1	20	54																												
55	20	1								0.0	10.0																																						
SPARE										P2	20.8	3.3	2.6							3	200	56																											
57	20	1								0.0	8.9																																						
SPARE																																																	
59	20	1									0.0	7.9																																					
SPARE																																																	
TOTALS:										CONNECTED KVA PER PHASE	24	23	22							CONNECTED TOTAL KVA =	68																												
										CONNECTED AMPS PER PHASE	200	193	179								AVERAGE CONNECTED AMPS PER PHASE =	190																											
NEC DIVERSIFIED LOAD CALCULATIONS										LIGHTING & CONTINUOUS LOADS: 6.5 kVA @ 125% = 8.1 kVA										- 100% CONNECTED LOAD PLUS 25%										DIVERSIFIED TOTAL KVA =										66									
										RECEPTACLES: 20.8 kVA @ 74% = 15.4 kVA										- FIRST 10kVA @ 100%, REMAINDER @ 50%										AVERAGE AMPS PER PHASE =										184									
										ALL OTHER LOADS @ 100%: 42.2 kVA										- MOTOR TOTALS INCLUDED IN ALL OTHER LOADS WITH LARGEST MOTOR CALCULATED @ 125% PER NEC																													

**PANEL: "P2"**

VOLTS/PHASE/WIRE:		PANEL SIZE & TYPE:		MAIN SIZE AND TYPE:		FED FROM:	CABINET:	LOCATION:	NOTES:												
120/208V, 3 PH 4 WIRE		22" W x 6" D, BOLT-ON		225 AMPERE MAIN LUGS			SURFACE	MECH/ELEC/IT...													
ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR																					
AIC RATING: 0																					
CKT NO	AMP	POLE	BKR	LTG	PWR	CO	PHASE LOAD			DESCRIPTION	LOAD (KVA)	CO	PWR	LTG	BKR	POLE	AMP	CKT NO			
1	20	1		0.0	0.0	0.5	0.5	0.5											20	2	
CO OFFICE 126										CO OFFICE 127	0.5	0.0	0.0								
3	20	1		0.0	0.0	0.5			0.5	0.5									20	4	
CO HR OFFICE 128										CO HR OFFICE 129	0.5	0.0	0.0								
5	20	1		0.0	0.0	1.4				1.4	0.2								20	6	
CO HR OFFICE 130										XCX	0.0	0.0	0.3								
7	20	1		0.0	0.0	1.3			1.3	0.7									20	8	
CO RECEIPT, 133										POWER CORRIDOR 104	0.7	0.0	0.0								
9	20	1		0.0	0.0	0.9				0.9	0.9								20	10	
CO RR 7'X7' 140										CO CONF 10'X17' 136	0.9	0.0	0.0								
11	20	1		0.0	0.0	0.7				0.7	0.4								20	12	
CO CORRIDOR 106										POWER BREAKROOM 12'X16' 107	0.4	0.0	0.0								
13	20	1		0.0	0.0	1.3			1.3	0.9									20	14	
CO DONATION DROP-OFF...										CO MULTI-PURPOSE ROOM	0.9	0.0	0.0								
15	20	1		0.0	0.0	1.3				1.3	0.7								20	16	
CO CHILDREN'S AREA 117										CO STAFF 8'X 9' 115	0.7	0.0	0.0								
17	20	1		0.0	0.0	0.9				0.9	0.7								20	18	
STAFF ROOM 108 & 109										CO STAFF 8'X 9' 113	0.7	0.0	0.0								
19	20	1		0.0	0.0	0.7				0.7	0.9								20	20	
CO STAFF 8'X 9' 110										CO STAFF 8'X 9' 125	0.9	0.0	0.0								
21	20	1		0.0	0.0	0.7				0.7	0.7								20	22	
CO STAFF 8'X 9' 123										CO STAFF 8'X 9' 120	0.7	0.0	0.0								
23	20	1		0.0	0.0	0.7					0.7	0.1							20	24	
CO STAFF 8'X 9' 118										CM2	0.0	0.0	0.2								
25	0	1		0.2	0.0	0.0				0.1	0.2								0	26	
PANEL "1C3"										PANEL "1C4"	0.0	0.0	0.3								
27										0.7											
DRINKING FOUNTAIN										DRINKING FOUNTAIN	0.0	0.7	0.0								
29	20	1		0.0	0.7	0.0				0.7	0.4								20	30	
DRINKING FOUNTAIN										CO BREAKROOM 12'X16' 107	0.4	0.0	0.0								
31	20	1		0.0	0.0	1.2				1.2	0.2								20	32	
REFRIGERATOR										DISPOSAL - BREAK ROOM	0.0	0.2	0.0								
33	20	1		0.0	0.2	0.0				0.2	0.2								20	34	
MICROWAVE										DISPOSAL - MUTLI PURPOSE ROOM	0.0	0.2	0.0								
35	20	1		0.2	0.0	0.0															







### GENERAL SHEET NOTES

- 1 THE ELECTRICAL CONTRACTOR SHALL MEET WITH AND COORDINATE WITH ALL SERVICE PROVIDERS (POWER, COMMUNICATION, CABLE/SATELLITE, ETC.) TO THE FACILITY ON SITE PRIOR TO ANY WORK BEING PERFORMED. CONFIRM WITH EACH SERVICE PROVIDER EXACT LOCATIONS EQUIPMENT AND ROUTING. COMPLY WITH ALL SERVICE PROVIDER'S CURRENT STANDARDS AND REQUIREMENTS. PROVIDE THE REQUIRED EQUIPMENT, RACEWAYS, BOXES, CABLE, ETC. AS REQUIRED BY THE SERVICE PROVIDER WEATHER SHOWN ON THE DRAWINGS OR NOT.
- 2 FOR ALL LIGHT FIXTURES, POLE LIGHTS, AND ALL OTHER ELECTRICAL DEVICES THE CONTRACTOR SHALL COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS WITH ARCHITECT, OWNER, ENGINEER, AND ALL OF THE CONTRACT DOCUMENTS PRIOR TO ROUGH IN AND TRENCHING.
- 3 CONTRACTOR IS RESPONSIBLE FOR ALL TRENCHING, BACKFILL, AND COMPACTION ASSOCIATED TO ALL ELECTRICAL UNDERGROUND RACEWAYS AND CABLES. COORDINATE WITH ARCHITECTURAL AND CIVIL DRAWINGS. SEE UNDERGROUND RACEWAY DETAILS FOR REQUIREMENTS FOR EACH TRENCH.
- 4 CONTRACTOR SHALL INSTALL POLE MOUNTED LIGHTS IN STRAIGHT LINES, SQUARE, AND PLUMB. COORDINATE WITH ARCHITECT AND CIVIL DRAWINGS. CONTRACTOR SHALL INSTALL POLE MOUNTED LIGHTS IN STRAIGHT LINES, SQUARE, AND PLUMB. COORDINATE WITH ARCHITECT AND CIVIL DRAWINGS.
- 5 THE ELECTRICAL CONTRACTOR SHALL HAVE ANY AND ALL CONCRETE POLE BASES AND SLABS REVIEWED BY A STRUCTURAL ENGINEER AND SHALL MODIFY DESIGN PER STRUCTURAL ENGINEER'S AND OR AHJ'S RECOMMENDATIONS.
- 6 PROVIDE BATTERY PACKS IN ALL EXTERIOR FIXTURES ADJACENT TO EGRESS DOORS.
- 7 PROVIDE PHOTOCELL ON NORTH SIDE OF FACILITY TO CONTROL EXTERIOR LIGHTS.
- 8 ALL EXTERIOR RECEPTACLES SHOWN SHALL BE NEMA 5-20R GFCI "WEATHER RESISTANT" RECEPTACLE WITH "WEATHER PROOF IN-USE COVER."
- 9 THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CONCRETE/ASPHALT CUTTING AND REPLACEMENT OF CONCRETE/ASPHALT TO MATCH EXISTING ASSOCIATED WITH UNDERGROUND RACEWAYS PROVIDED AS PART OF THIS PROJECT.
- 10 REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
- 11 PROVIDE SERVICE RATED EQUIPMENT AT EACH SERVICE ENTRANCE.
- 12 SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. VERIFY OR RE-CALCULATE THE AVAILABLE FAULT CURRENT AT THE SERVICE WHERE MODIFICATIONS TO THE ELECTRICAL INSTALLATION OCCUR. PLEASE INCLUDE NOTES IN THE ELECTRICAL DRAWINGS OR SUPPLY CALCULATIONS WHERE APPLICABLE. SEE NEC 110.24. (B)

### SHEET KEYNOTES

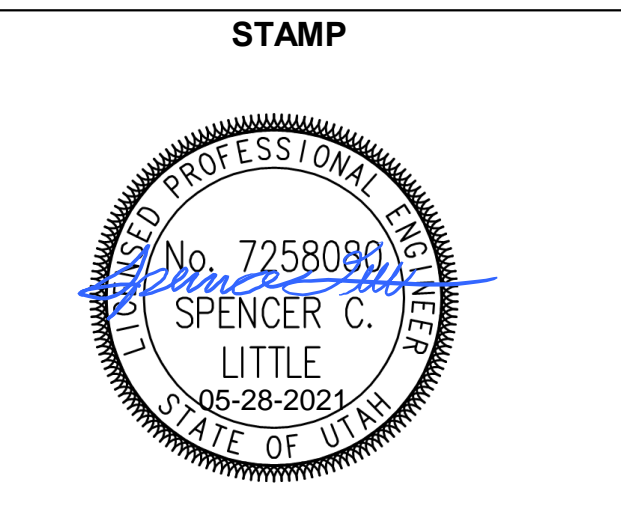
- 1 PROVIDE ELECTRICAL CONNECTION TO BUILDING SIGNAGE. CIRCUIT THROUGH PHOTOCELL AND LIGHTING CONTROL PANEL. COORDINATE EXACT LOCATION OF CONNECTION WITH SHOP DRAWINGS AND BUILDING SIGN PROVIDER.



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**SAFE HARBOR LIFELINE**  
223 WEST 475 SOUTH  
LAYTON, UT 84041



ISSUE	DATE:
DESIGN DEVELOPMENT	2021-04-14
PROJECT NUMBER:	20-028
DRAWN BY:	SAC
CHECKED BY:	MCF

**ELECTRICAL SITE PLAN**

**ES101**

**A2 ELECTRICAL SITE PLAN**  
SCALE: 1" = 10'-0"



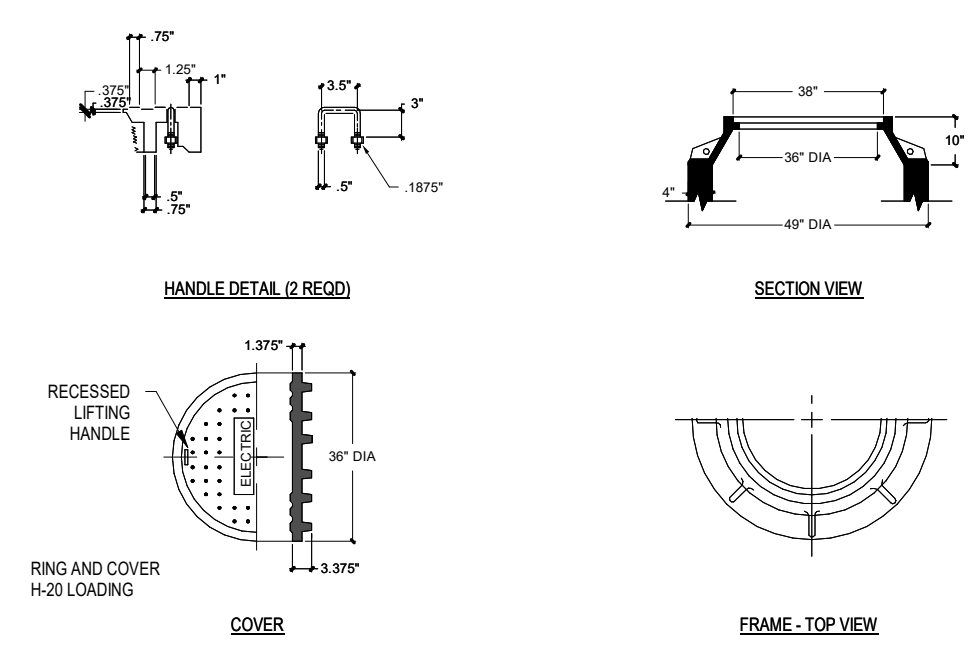


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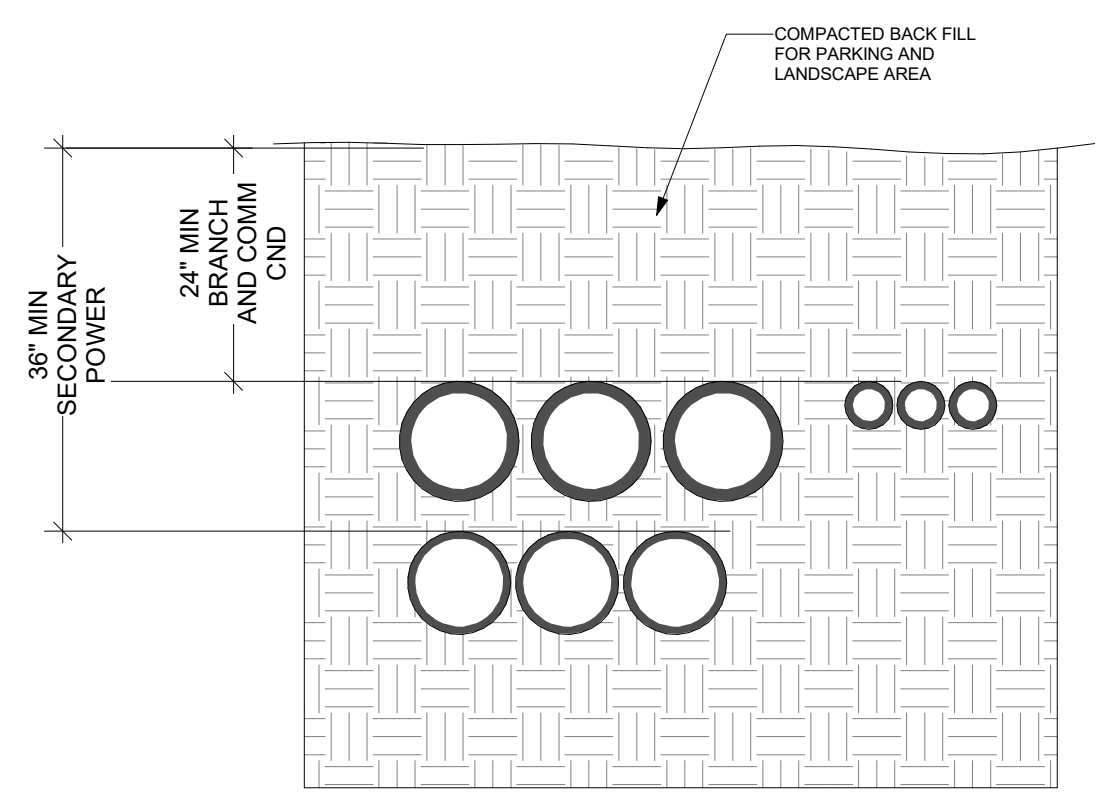
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A

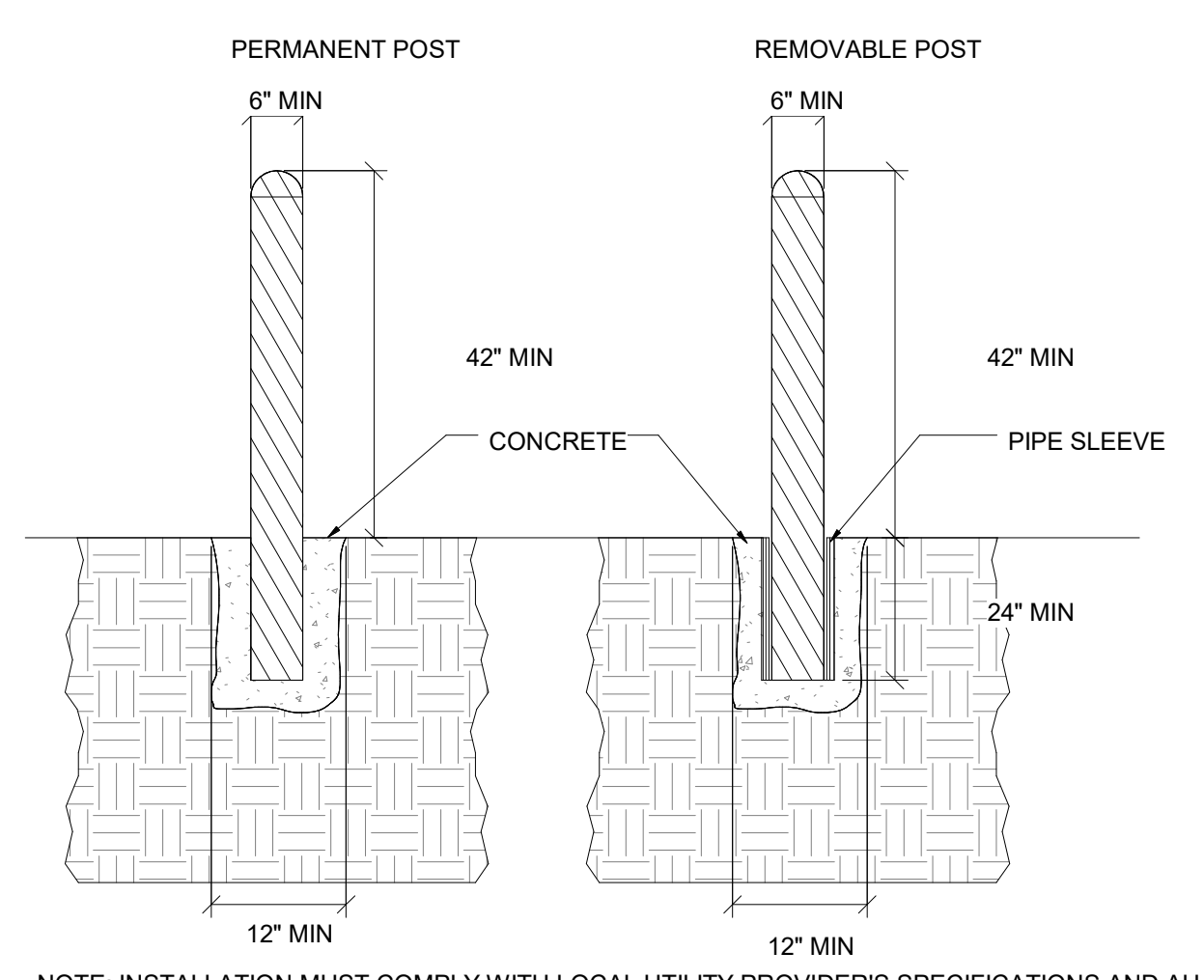


**D3** TYPICAL MANHOLE RING AND COVER DETAIL  
SCALE: NTS

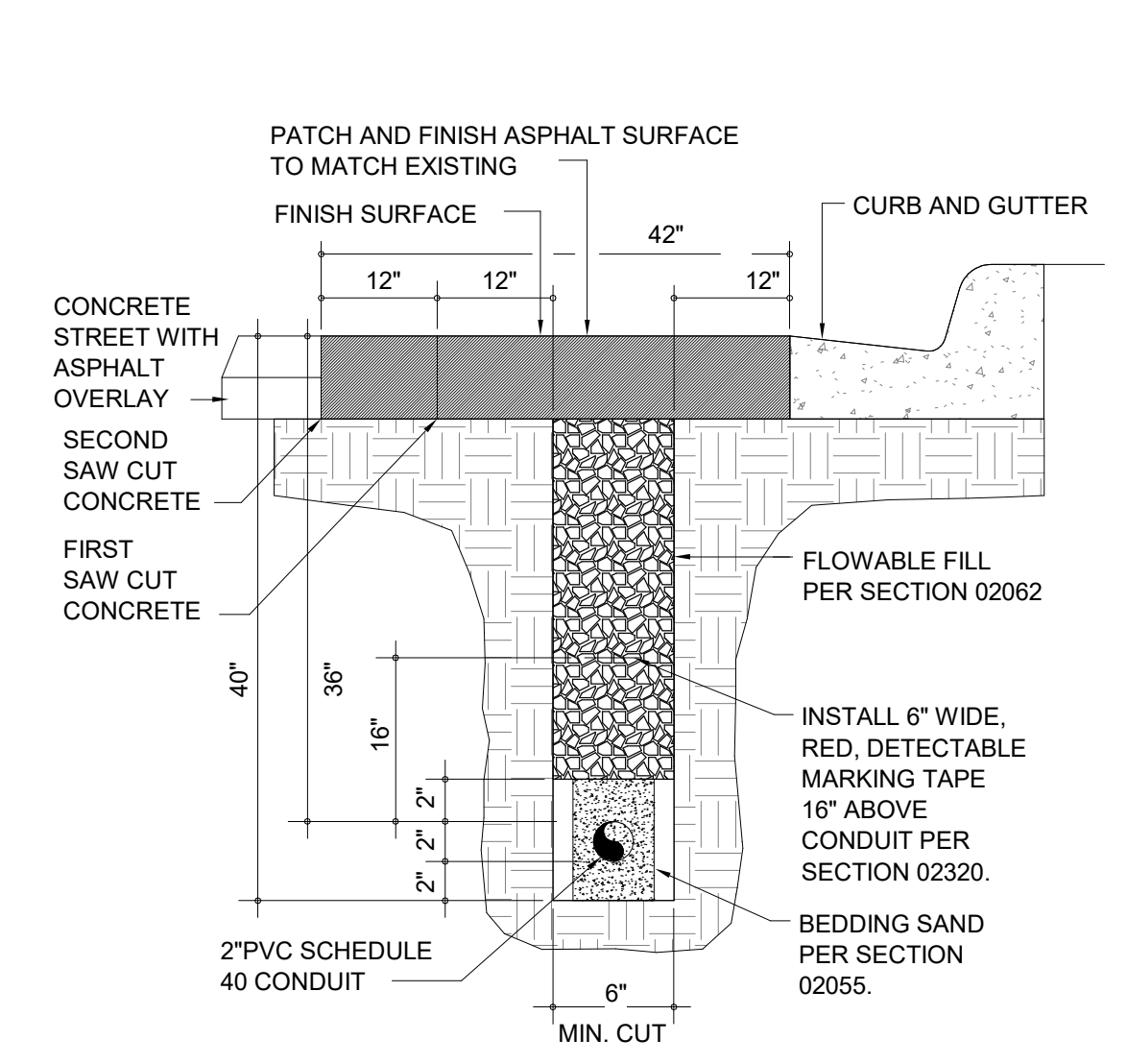


- NOTES:
1. ALL BENDS SHALL BE LARGE RADIUS.
  2. ALL CONDUIT ABOVE GROUND, ALL BENDS AND FIRST 10' BELOW GROUND SHALL BE PVC WRAPPED RMC. CONDUIT BELOW GROUND, MAY BE PVC.
  3. PROVIDE POLYPROPYLENE PULL ROPE IN EMPTY CONDUITS.

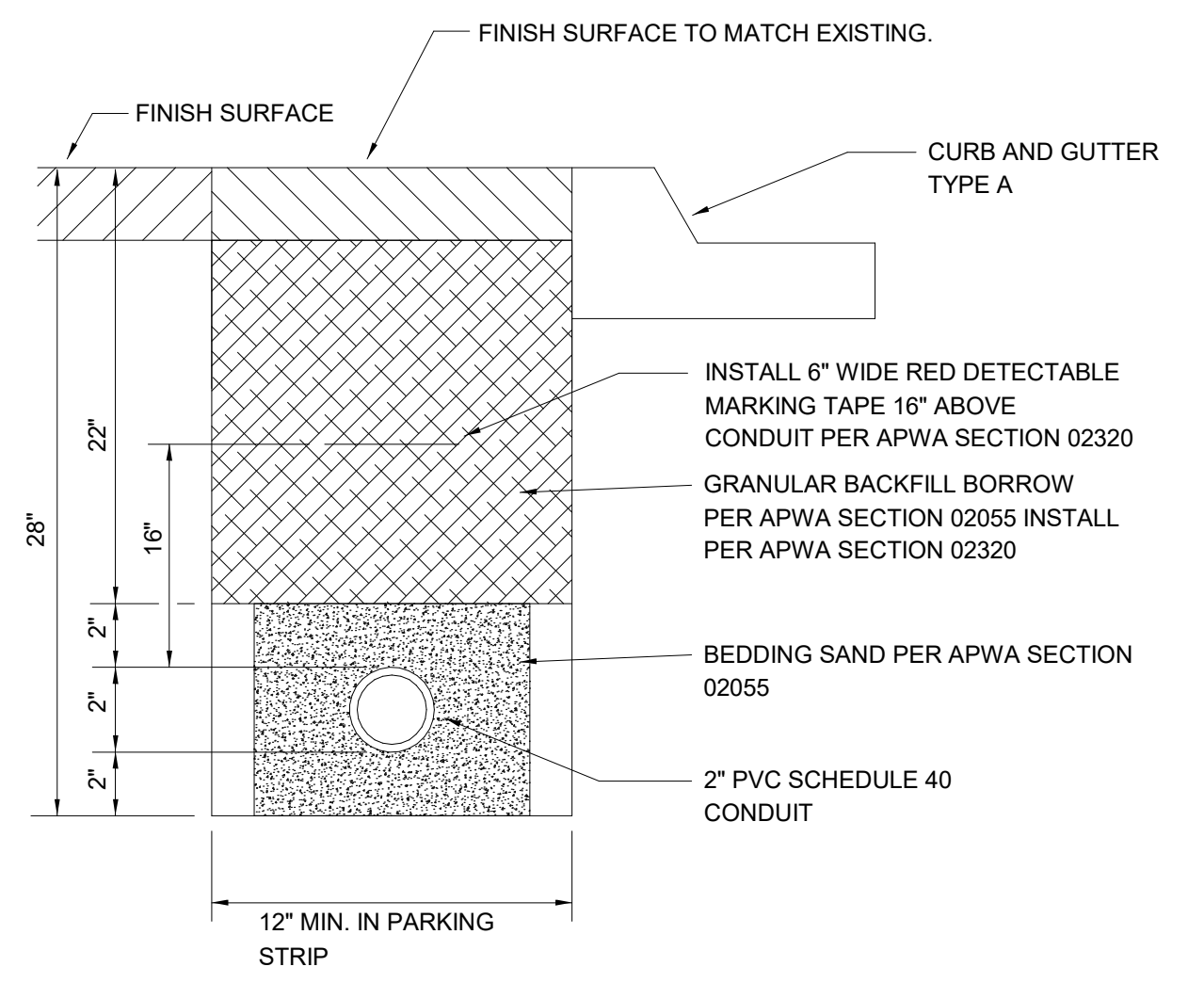
**B1** TYPICAL CONDUIT DIRECT BURY DETAIL  
SCALE: NTS



**B3** BARRIER BOLLARD DETAIL (RMP COMPLIANT)  
SCALE: NTS



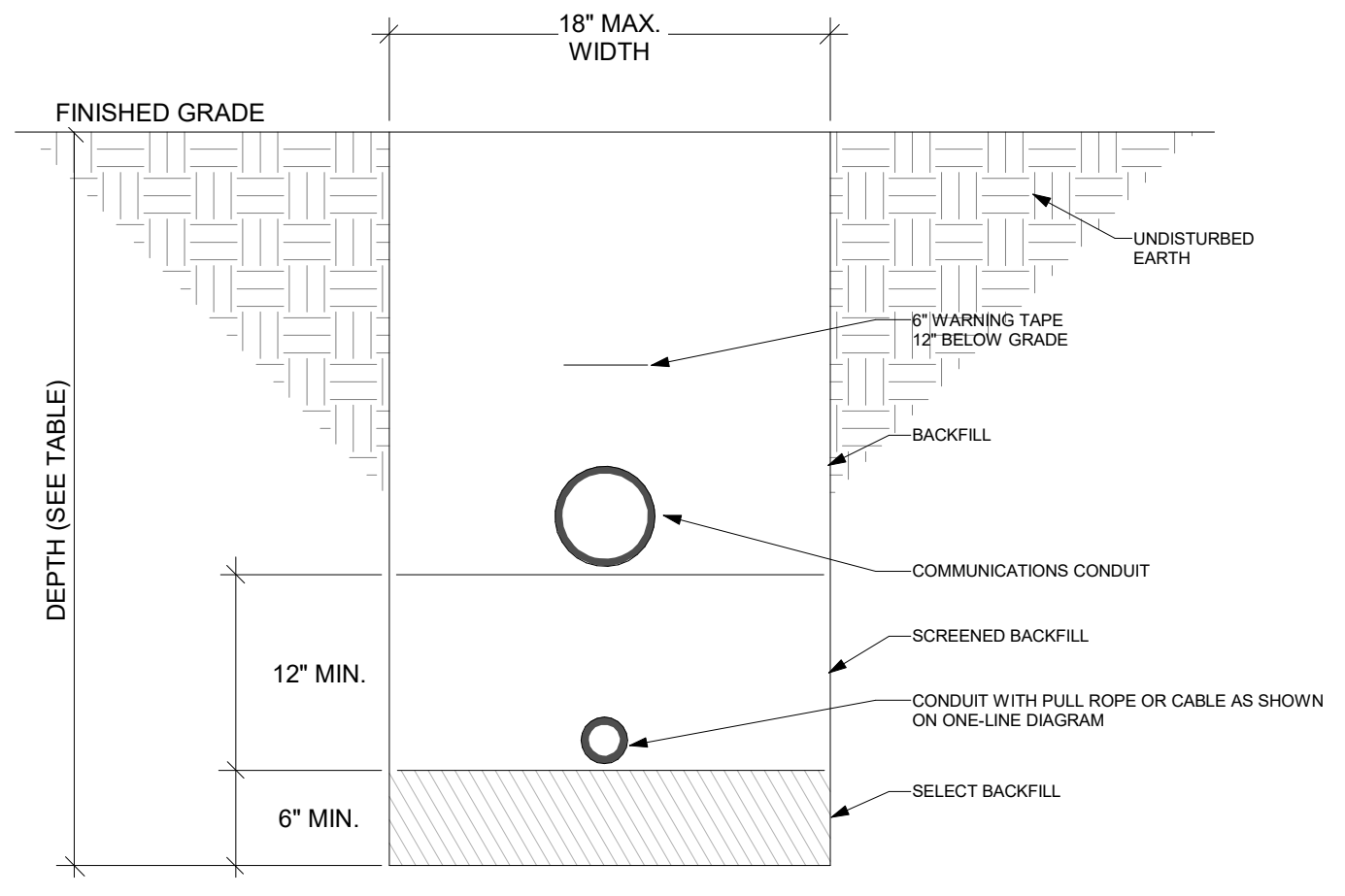
**A1** TRENCH DETAIL - IN STREET  
SCALE: NTS



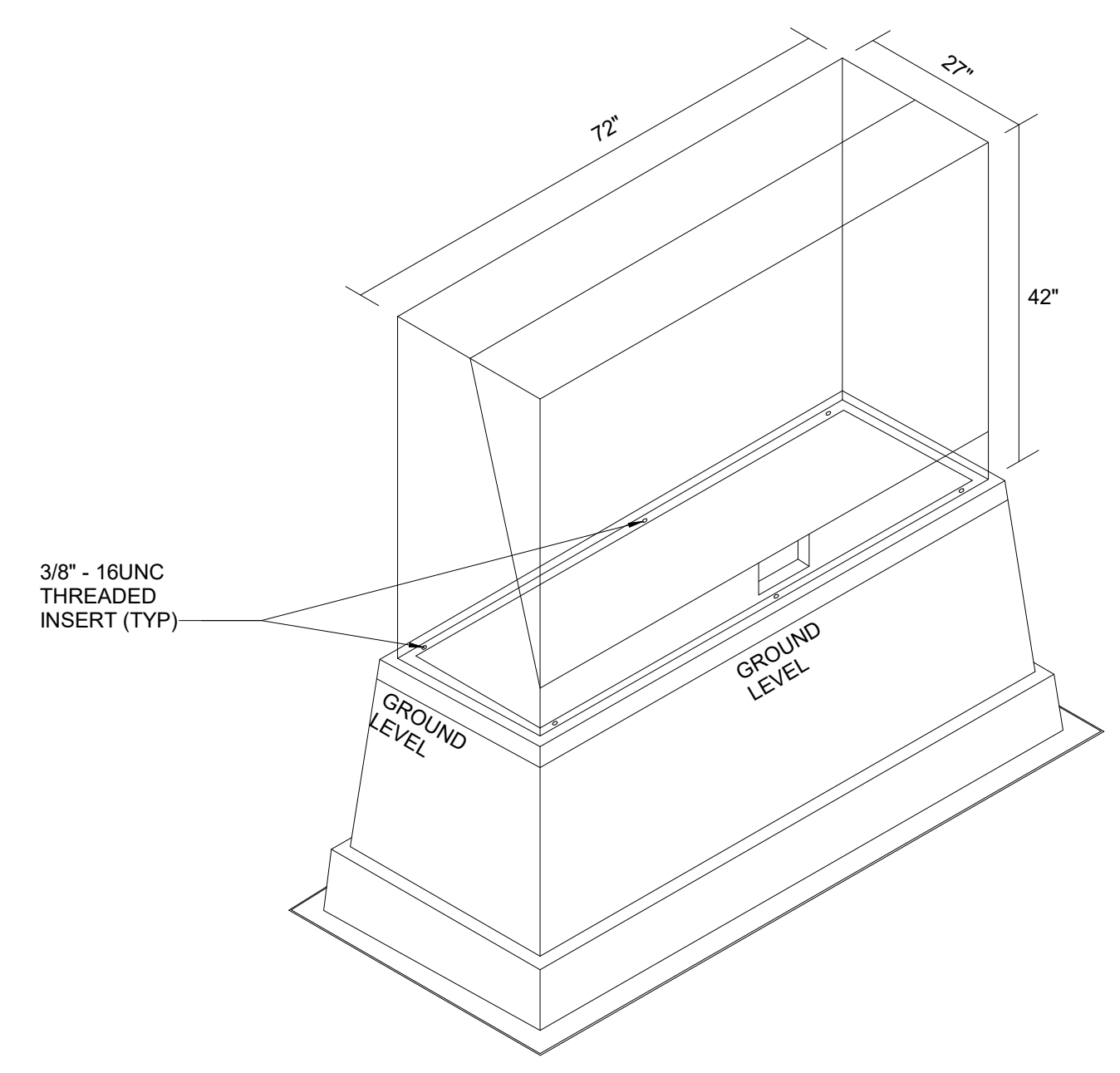
**A2** TRENCH DETAIL - NON TRAFFIC AREA  
SCALE: NTS

LOCATION DESCRIPTION	DEPTH
BELOW CONCRETE SLAB (NOT TRAFFIC)	14 INCHES
BELOW TRAFFIC SURFACES	34 INCHES
PARKING LOT (PAVED OR NON-PAVED)	34 INCHES
OTHER LOCATIONS	28 INCHES
UTILITY SECONDARY	34 INCHES*
UTILITY PRIMARY	48 INCHES*

(SEE NEC TABLE 300.5)  
\*VERIFY ALL DIMENSIONS WITH LOCAL POWER COMPANY STANDARDS AND SPECIFICATIONS



**A3** TRENCHING DETAIL  
SCALE: NTS



**A4** RMP GROUND SLEEVE DETAIL  
SCALE: NTS



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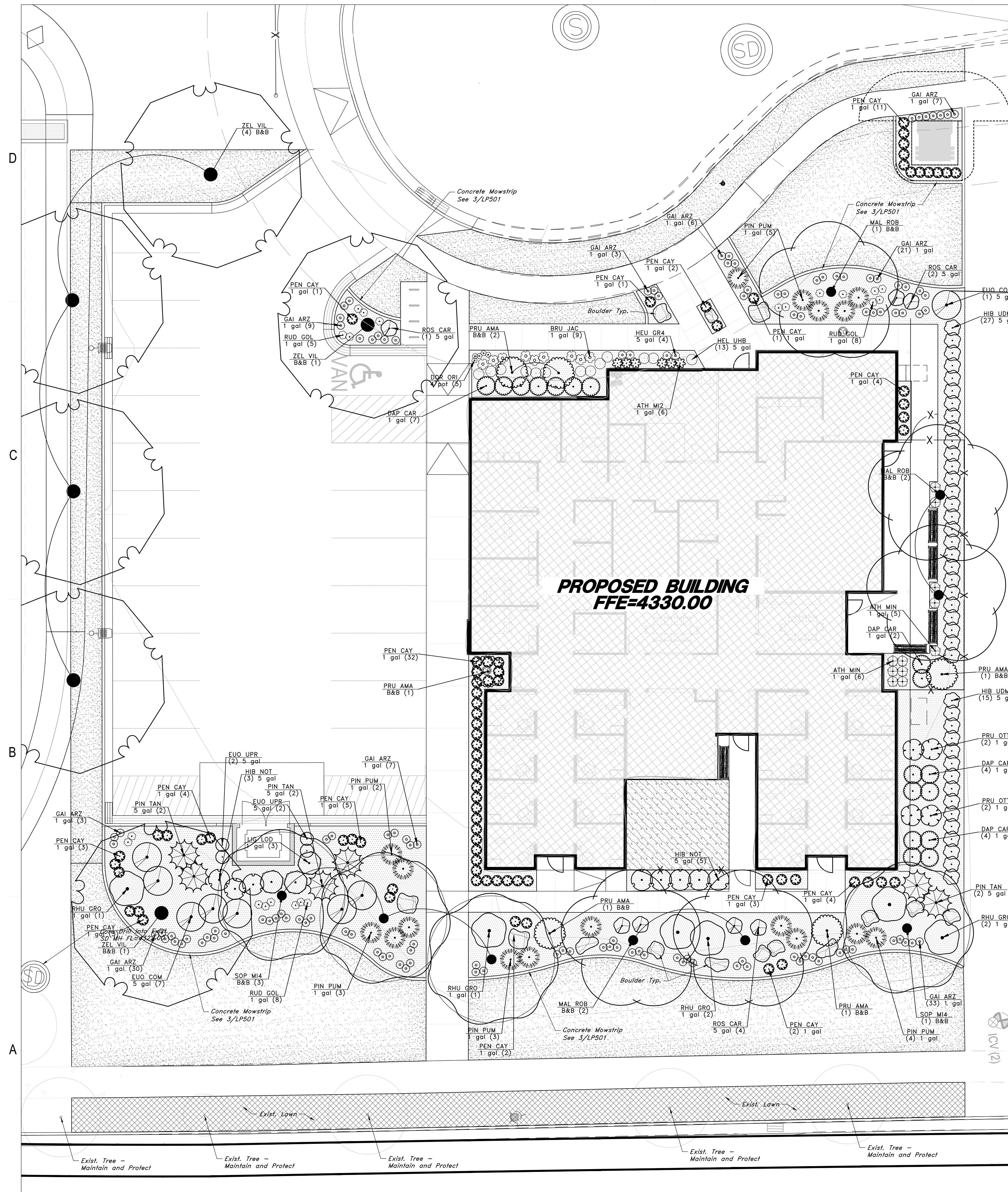
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ISSUE	DATE:
DESIGN DEVELOPMENT	2021-04-14
PROJECT NUMBER:	20-028
DRAWN BY:	SAC
CHECKED BY:	MCF

**SITE ELECTRICAL DETAILS**

**ES502**



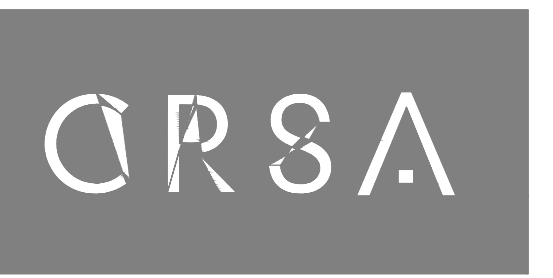
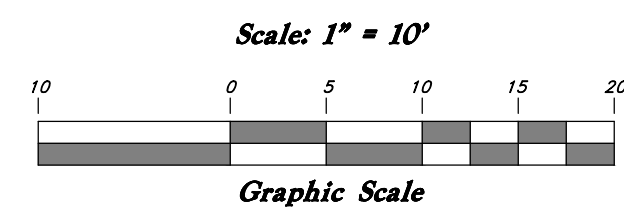
**PLANT SCHEDULE**

TREES	QTY	BOTANICAL / COMMON NAME	CONT	CAL
MAL ROB	5	Malus x 'Robinson' / Robinson Crab Apple	B&B	2"Cal
PRU AMA	6	Prunus serrulata 'Amanagawa' / Japanese Flowering Cherry	B&B	2"Cal
SOP MI4	4	Sophora japonica 'Millstone' / Japanese Pagoda Tree	B&B	1.5"Cal
ZEL VIL	6	Zelkova serrata 'Village Green' / Sawleaf Zelkova	B&B	2"Cal
SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	
DAP CAR	17	Daphne x burkwoodii 'Carol Mackie' / Carol Mackie Daphne	1 gal	
EUO COM	8	Euonymus alatus 'Compactus' / Compact Burning Bush	5 gal	
EUO UPR	4	Euonymus japonicus 'Greenspire' / Greenspire Upright Euonymus	5 gal	
HIB UDM	42	Hibiscus syriacus 'Gandini Santiago' / Columnar Rose Of Sharon	5 gal	
HIB NOT	8	Hibiscus syriacus 'Notwoodthree' TM / Blue Chiffon Rose of Sharon	5 gal	
LIG LOD	3	Ligustrum vulgare 'Lodense' / Lodense Privet	1 gal	
PIN PUM	17	Pinus mugo 'Pumilio' / Mugo Pine	1 gal	
PIN TAN	6	Pinus mugo 'Tannenbaum' / Mugo Pine	5 gal	
PRU OTT	4	Prunus laurocerasus 'Otto Luyken' / Luykens Laurel	1 gal	
RHU GRO	6	Rhus aromatica 'Gro-Low' / Gro-Low Fragrant Sumac	1 gal	
ROS CAR	7	Rosa x 'Carefree Wonder' / Rose	5 gal	
ANNUALS/PERENNIALS	QTY	BOTANICAL / COMMON NAME	SIZE	
ATH MIN	11	Athyrium filix-femina 'Minutissimum' / Dwarf Lady Fern	1 gal	
ATH M2	6	Athyrium filix-femina 'Minutissimum' / Dwarf Lady Fern	1 gal	
BRU JAC	9	Brunnera macrophylla 'Jack Frost' TM / Siberian Bugloss	1 gal	
DOR ORI	5	Doronicum orientale 'Little Leo' / Leopard's Bane	4"pot	
GAI ARZ	119	Gaillardia x 'Arizona Sun' / Blanket Flower	1 gal	
HEL UHB	13	Helleborus x hybridus 'Painted' TM / Winter Jewels Doubles Lenten Rose	5 gal	
HEU GR4	4	Heuchera x 'Green Spice' / Coral Bells	5 gal	
RUD GOL	21	Rudbeckia fulgida 'Goldstrum' / Coneflower	1 gal	
GRASSES	QTY	BOTANICAL / COMMON NAME	SIZE	
PEN CAY	78	Pennisetum alopecuroides 'Cayenne' / Fountain Grass	1 gal	

GROUND COVERS	QTY	BOTANICAL / COMMON NAME	CONT	TYPE
	4,499 sf	Decorative Gravel Mulch / 3/4"-1" Washed Gravel Place 4" deep over 12" deep topsoil and Dewitt Pro5 Weed Barrier Fabric. Color by owner.	Stone Mulch	Stone
	6,068 sf	Dwarf Fescue Mix Sod Install over 6" deep topsoil.	sod	Sod
	1,113 sf	Lawn Repair Repair existing lawn: Install new sod over utility trenches and other disturbances, spray and remove weeds, fill depressions, aerate, thatch rake, overseed, fertilize, and topdress with 1/4" topsoil.	na	na
	332 sf	Sof'Fall Playground Surfacing / Engineerd Wood Fibers Install 8" deep over Drainage - See Detail	na	na
	14	Boulders 60% 3'x4' 40% 4'x4'		
	5	6' Bench Landscape Farms Lakeside Grass Backed - White or Approved Equal		

**PLANTING NOTES**

- EXAMINE THE SITE CONDITIONS, THE SUBGRADE AND VERIFY THE DEPTHS OF TOPSOIL AND MULCH. NOTIFY THE ARCHITECT IN WRITING OF ANY UNSATISFACTORY CONDITIONS. DO NOT BEGIN LANDSCAPE WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN RESOLVED.
- VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO ANY DIGGING. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY THIS CONTRACTOR SHALL BE REPAIRED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- TOPSOIL IS TO BE IMPORTED TO THE SITE. SCREEN AND AMEND AS NECESSARY TO MEET 'ACCEPTABLE' STANDARDS FOR TOPSOIL AS DESCRIBED IN 'TOPSOIL QUALITY GUIDELINES FOR LANDSCAPING' (KOEING, ISAMAN, UTAH STATE UNIVERSITY) <http://extension.usu.edu/files/publications/publication/AG-50-02.pdf> CONTRACTOR IS RESPONSIBLE FOR PROVIDING 6" OF TOPSOIL FOR TURF AND 12" OF TOPSOIL FOR SHRUBS AND TREES.
- THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINISH GRADE ELEVATIONS. ALLOW FOR A MINIMUM OF 6" THICK MULCH LAYER. COORDINATE ROUGH GRADING WITH THE GENERAL CONTRACTOR.
- ALL PLANT MATERIAL MUST MEET THE SIZES AS INDICATED ON THE PLANT SCHEDULE. PLANT MATERIAL THAT DOES NOT MEET THE QUALITY STANDARDS OF THE PROJECT WILL BE REFUSED BY THE LANDSCAPE ARCHITECT.
- TURFGRASS SOD SHALL BE CERTIFIED NUMBER 1 QUALITY PREMIUM SOD - SEE SPECIFICATIONS



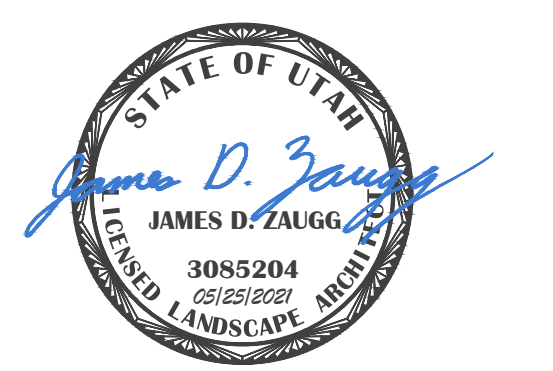
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ISSUE TYPE:	DATE:
Project Status: 95% Review Set	Issue Date: May 25, 2021

PROJECT NUMBER:	Project Number
20N908	

DRAWN BY:	Author
RC	

CHECKED BY:	Checker
ACM	

**LANDSCAPE PLAN**

**LP101**

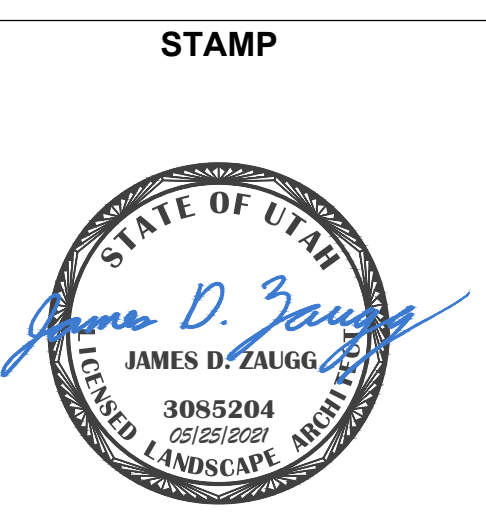


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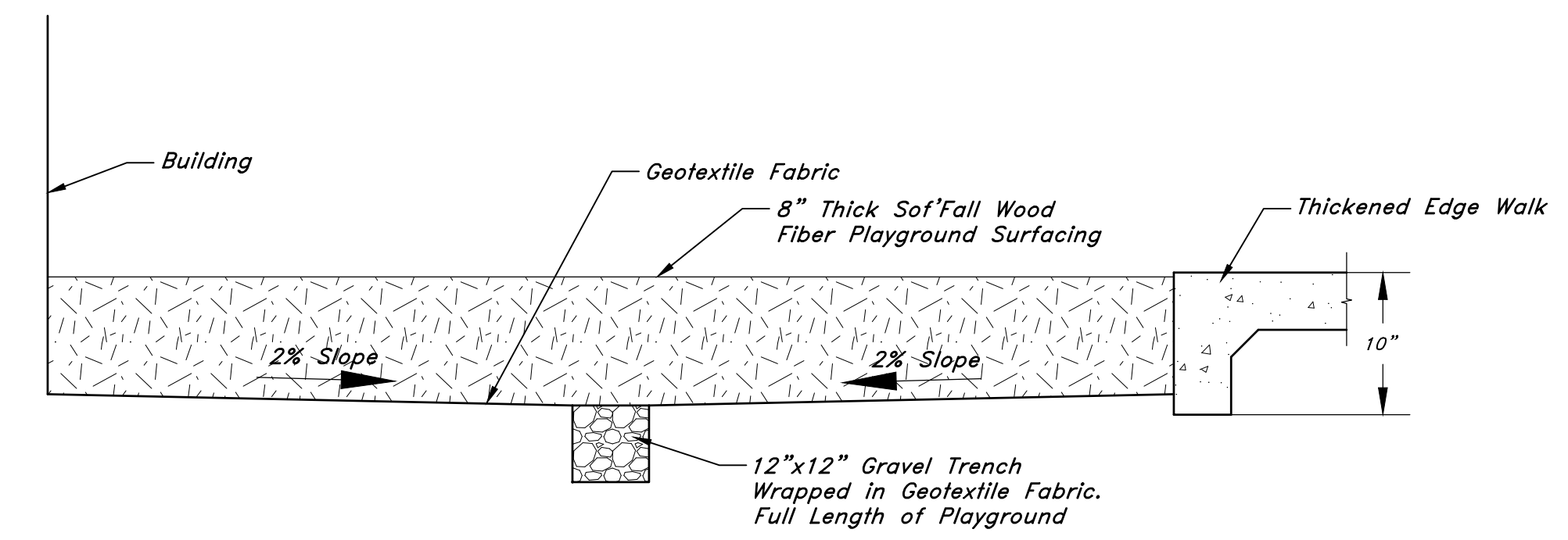
SAFE HARBOR  
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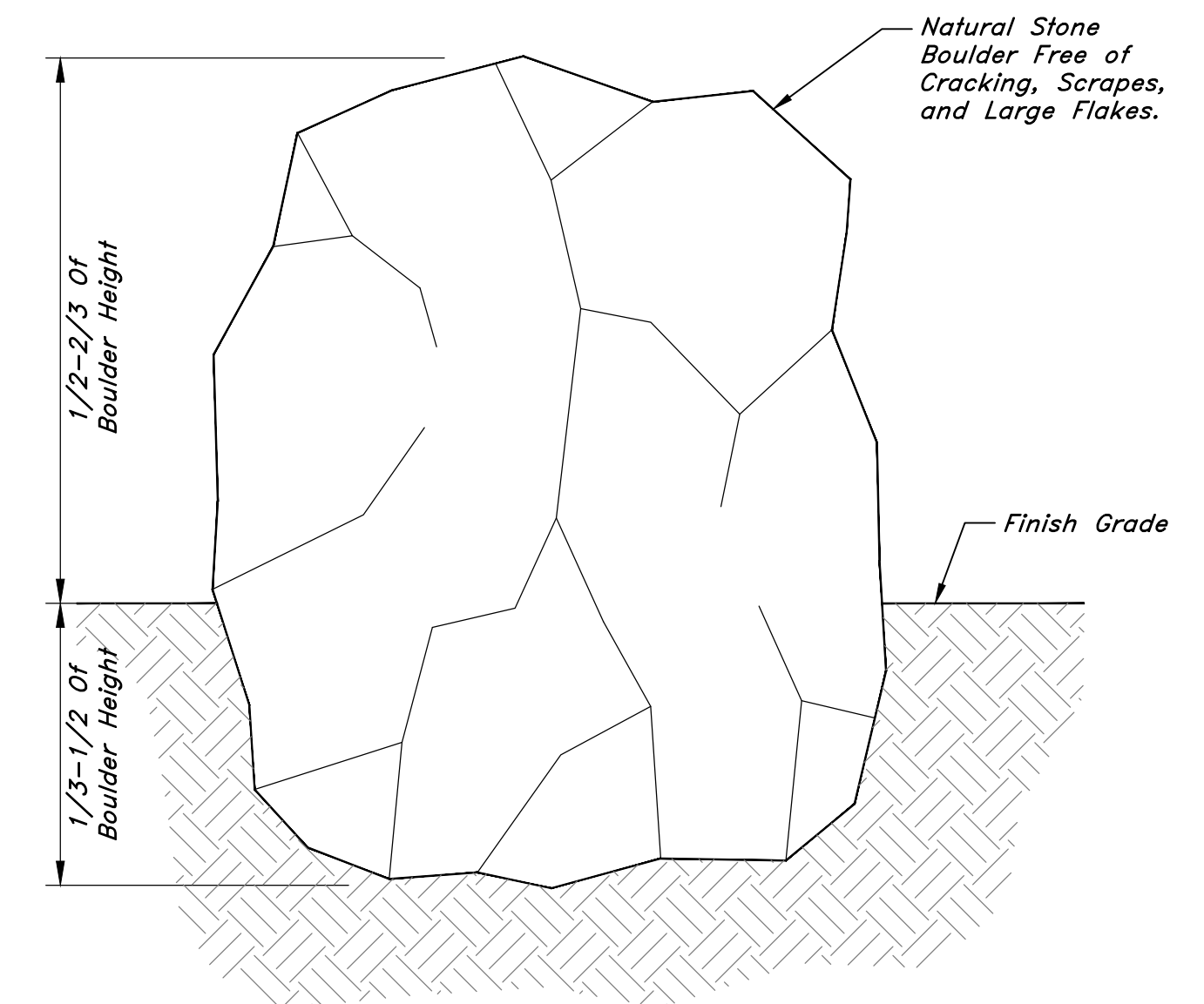
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Project Status: 95% Review Set	Issue Date: May 25, 2021
PROJECT NUMBER: 20N908	Project Number
DRAWN BY: RC	Author
CHECKED BY: ACM	Checker

LANDSCAPE  
 DETAILS

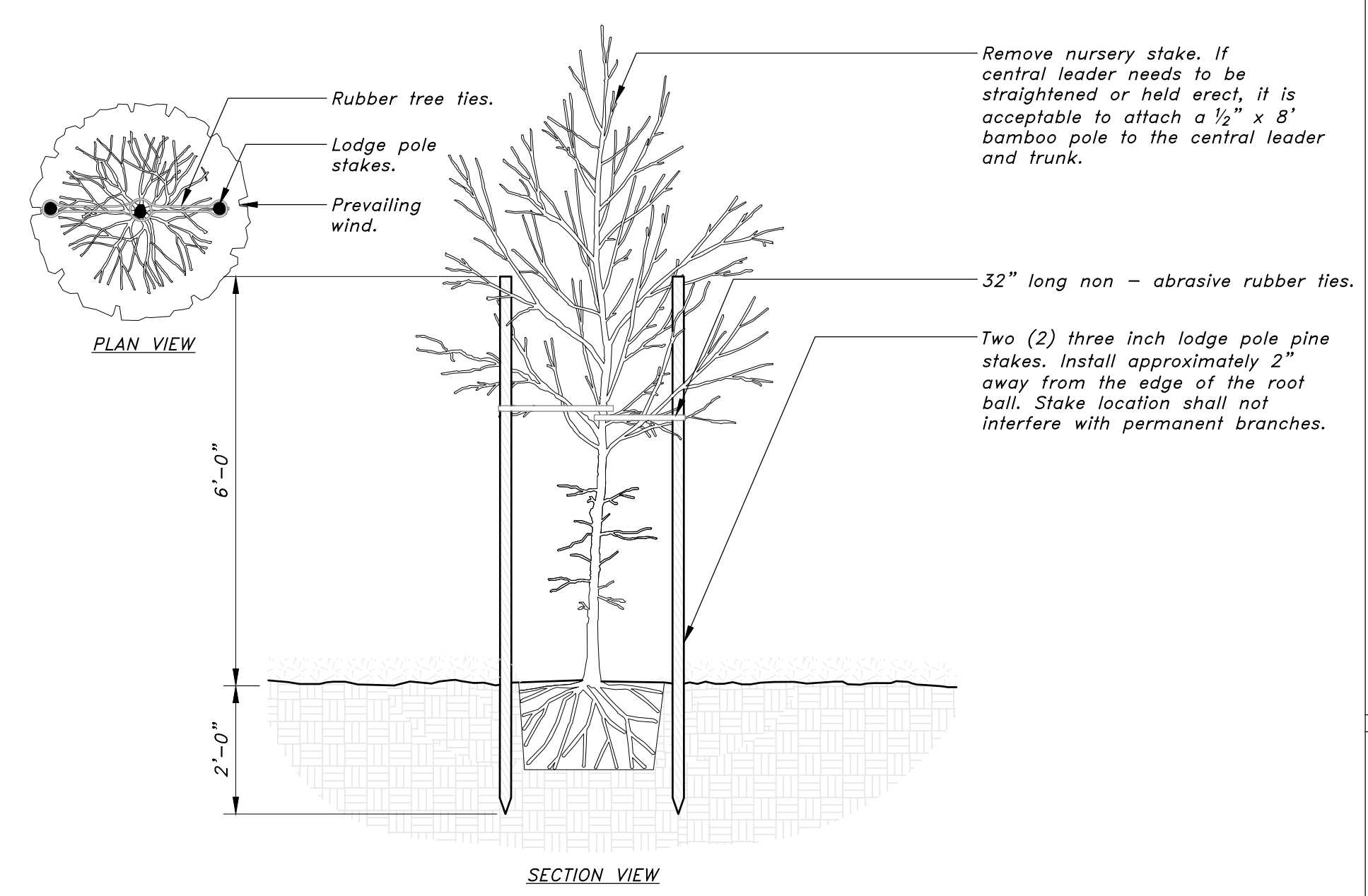
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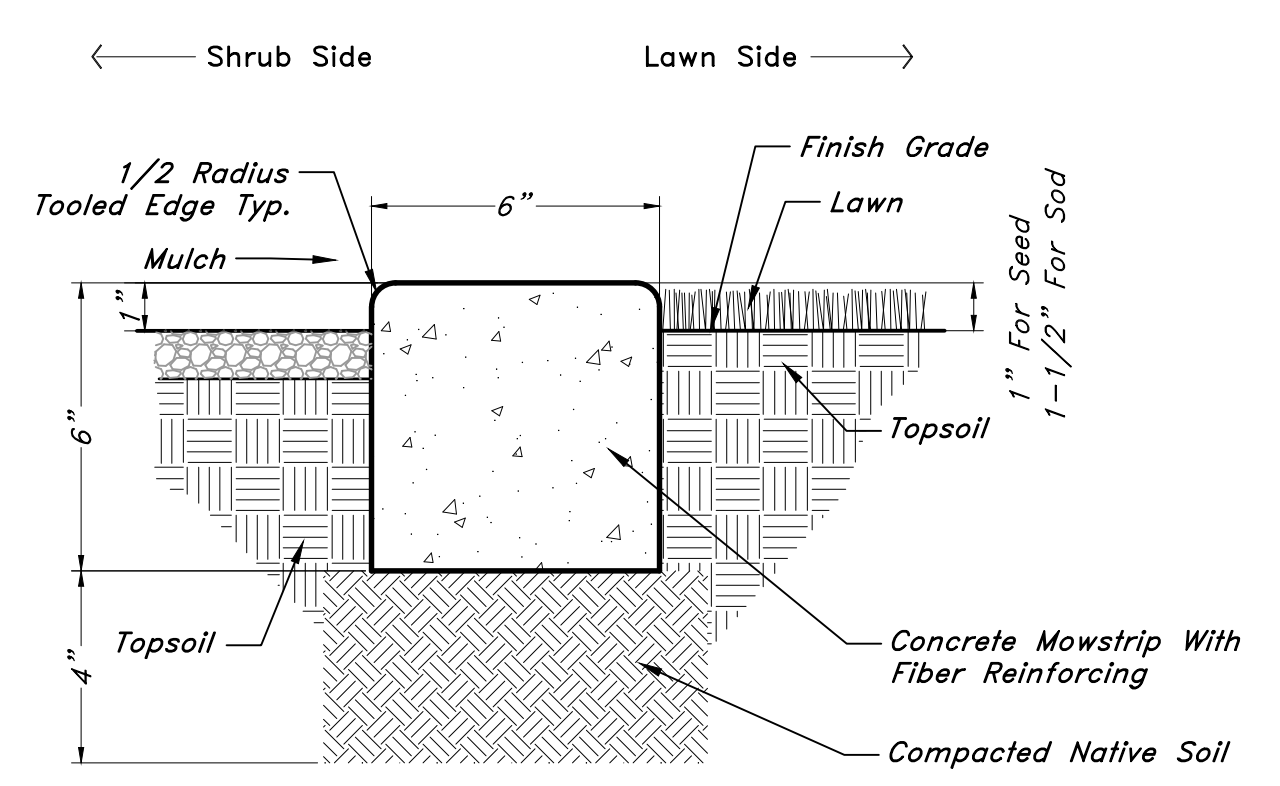
6 Playground Surfacing



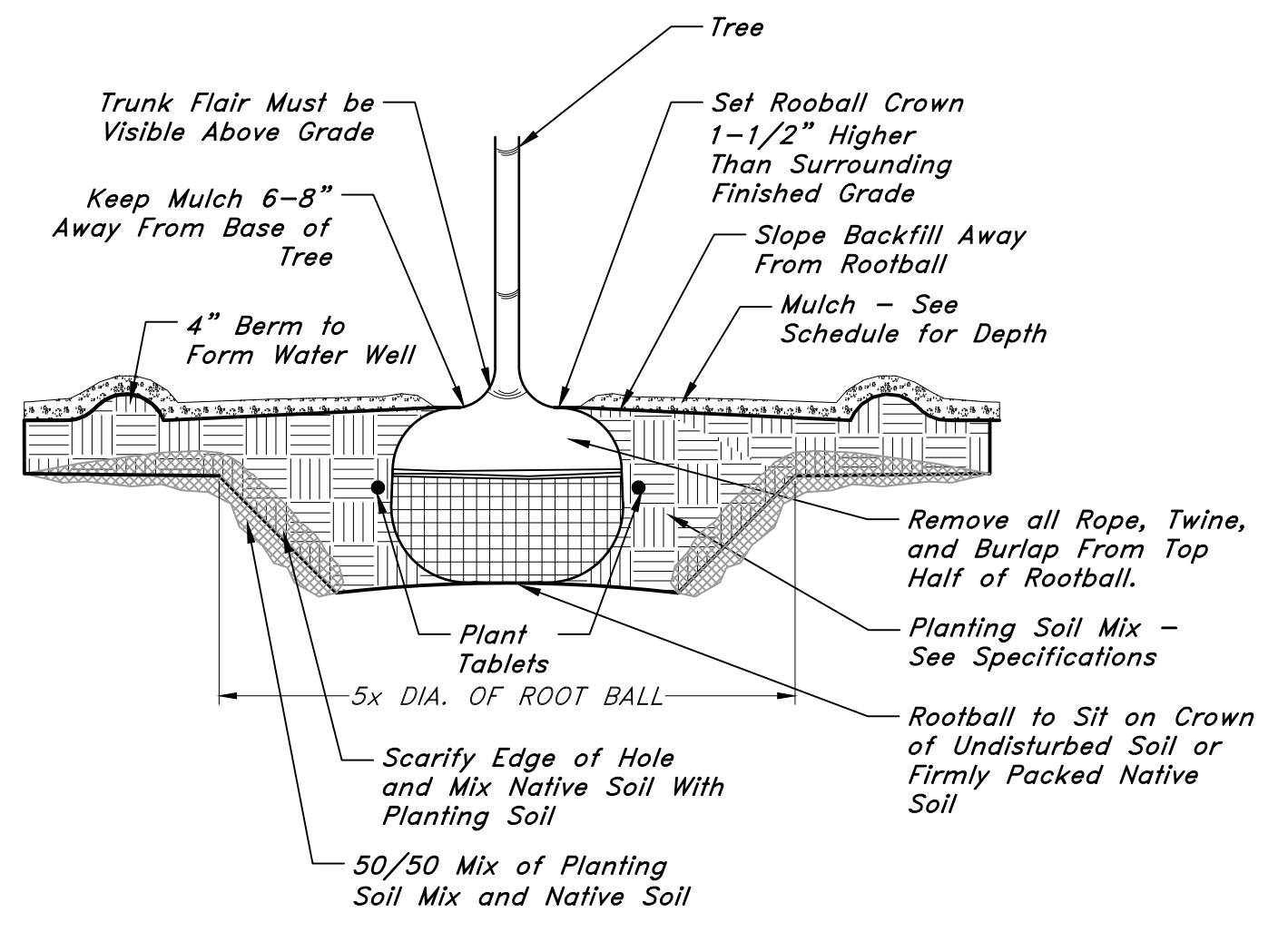
5 LANDSCAPE BOULDER  
 NTS  
 DETAIL-FILE



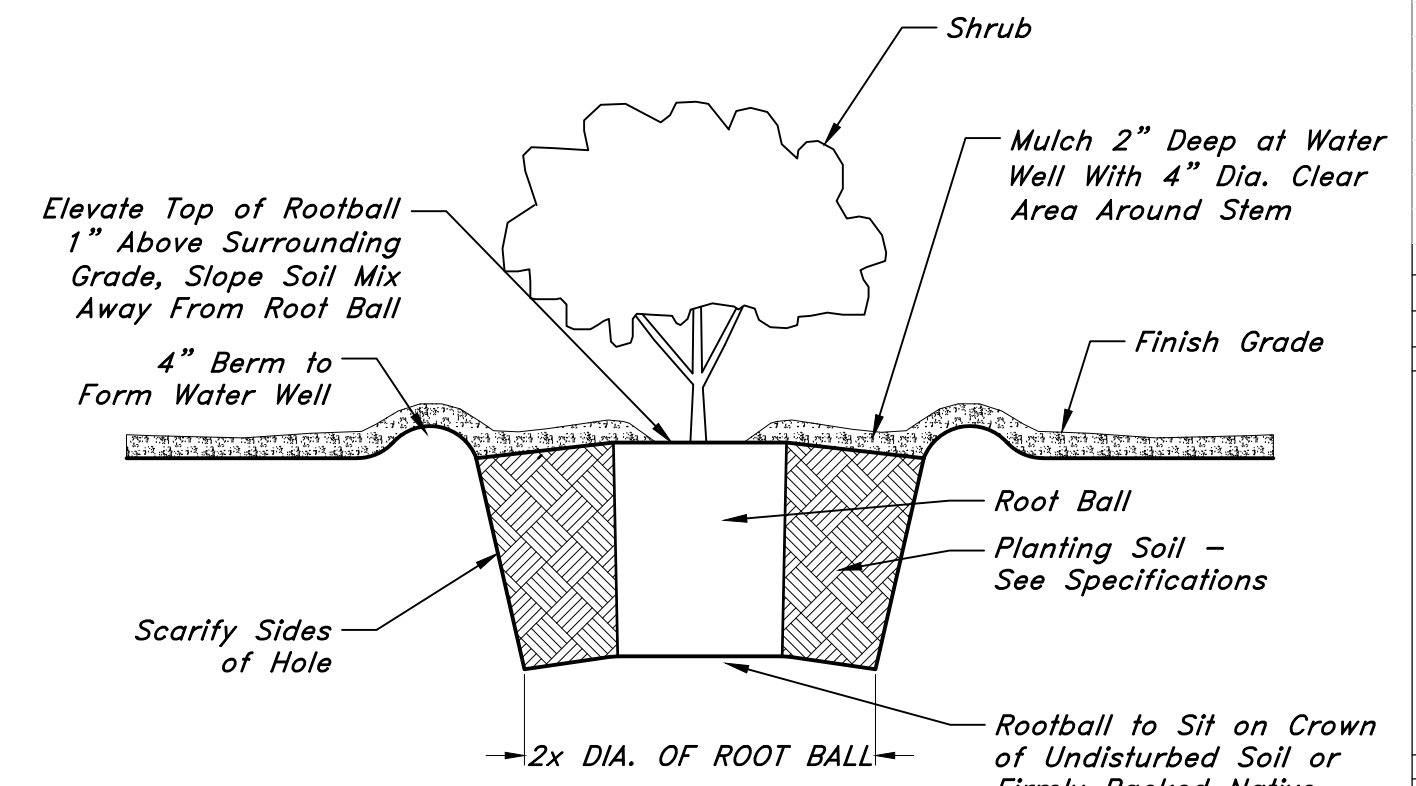
4 TREE STAKING - LODGE POLES (2)  
 1/2" = 1'-0"  
 URBAN TREE FOUNDATION © 2014  
 OPEN SOURCE FREE TO USE  
 FX-PL-FX-TREE-27



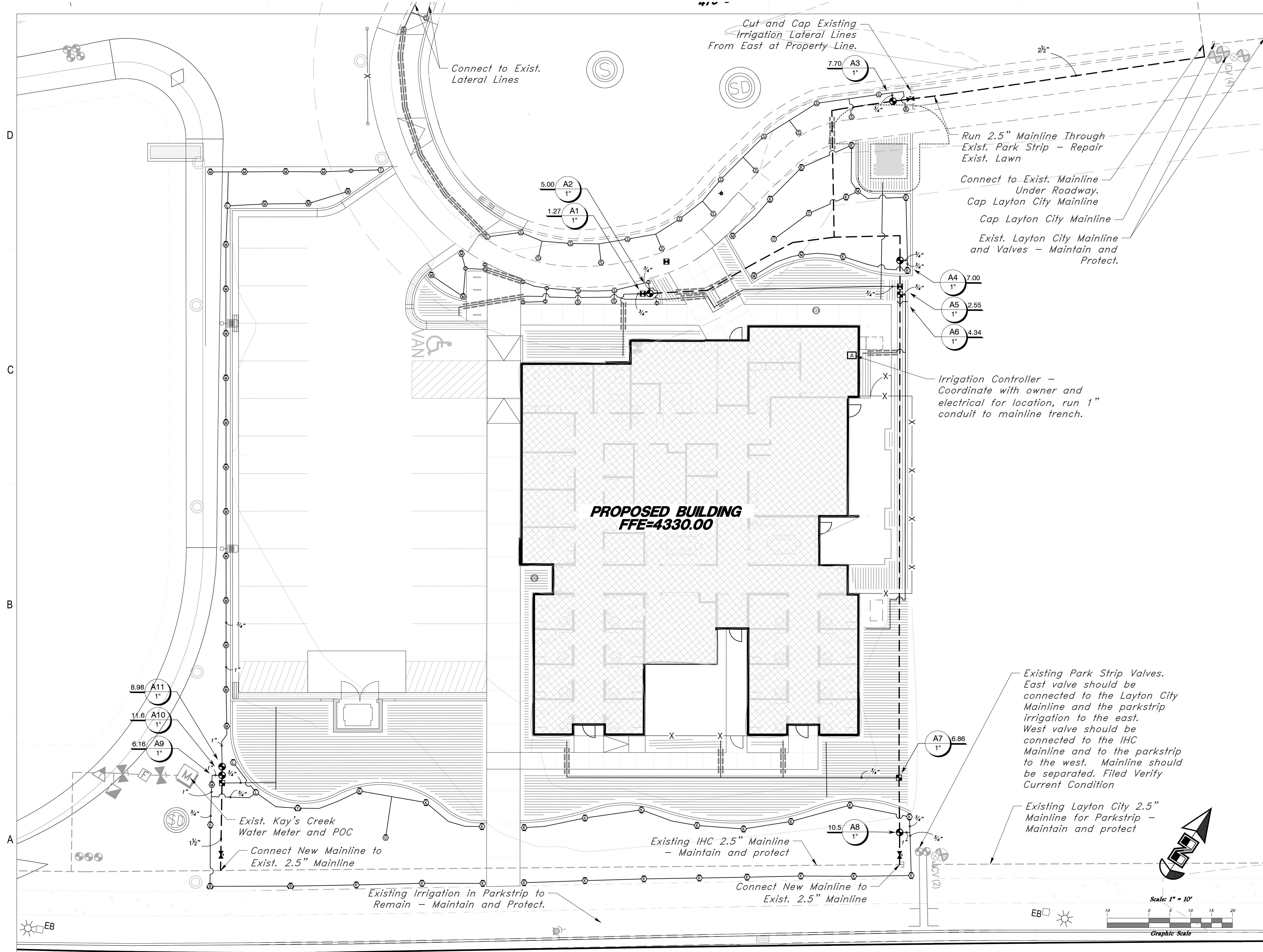
3 6" MOWSTRIP  
 3" = 1'-0"  
 329413.19-07



2 TREE PLANTING  
 NTS  
 32 9343.01-01



1 SHRUB PLANTING  
 NTS  
 32 9333.01-01



<b>ISSUE TYPE:</b>	<b>DATE:</b>
Project Status: 95% Review Set	Issue Date: May 25, 2021
<b>PROJECT NUMBER:</b> 20N908	<b>Project Number</b>
<b>DRAWN BY:</b> RC	<b>Author</b>
<b>CHECKED BY:</b> ACM	<b>Checker</b>



**IRRIGATION REMODEL NOTES**

1. This project requires the remodel of an existing irrigation system. Protect and maintain portions of the existing system to remain.
2. Field verify the locations and sizes of the expected tie-ins for main lines and lateral lines.
3. Maintain and protect the existing controller and existing control wires that are to remain.

**IRRIGATION NOTES**

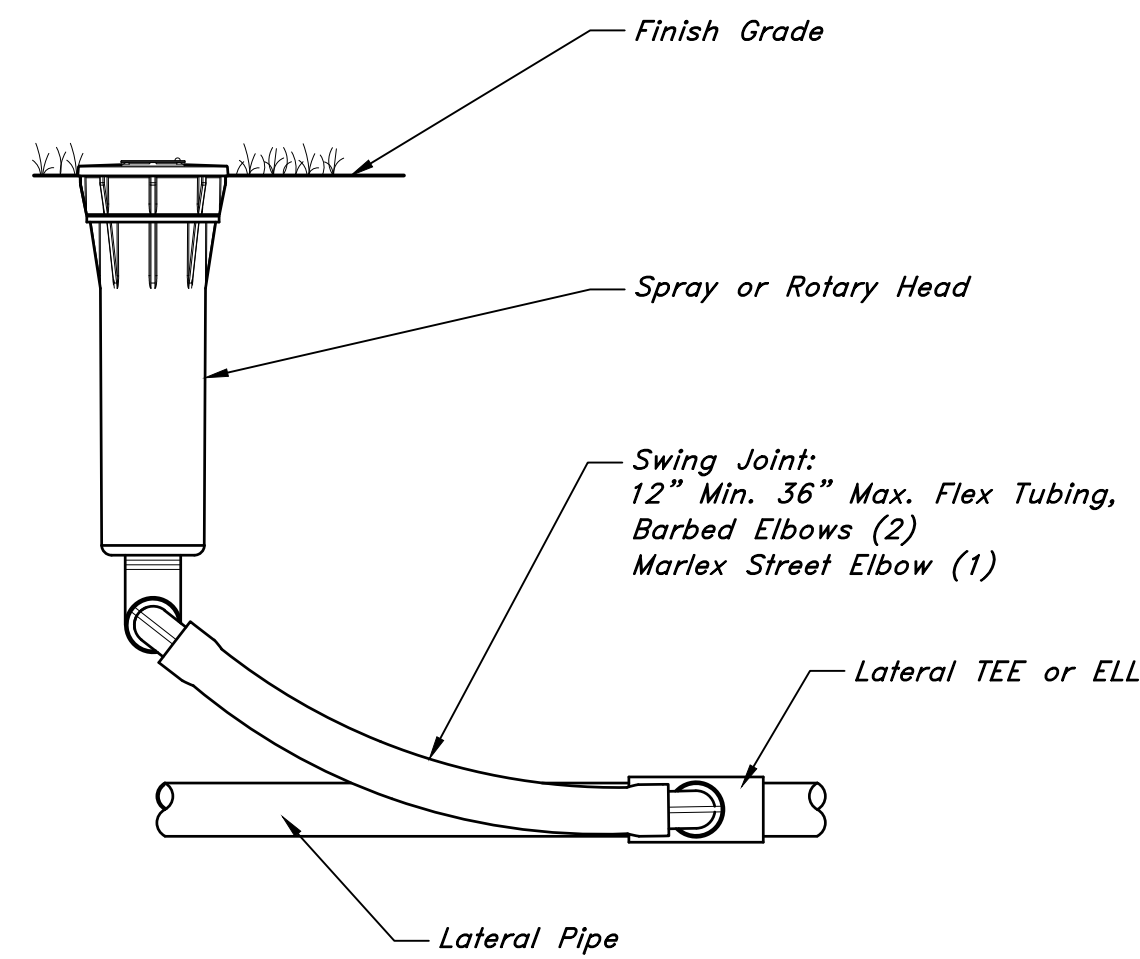
1. Install irrigation wire under paved areas in separate PVC sleeve, size for number of wires.
2. Examine the site conditions, the subgrade and verify elevations. Notify the architect in writing of any unsatisfactory conditions. Do not begin landscape work until unsatisfactory conditions have been resolved.
3. Verify locations of all utilities and site features prior to any digging. Any damage to existing utilities and site features caused by this contractor shall be repaired at no additional expense to the owner.
4. Before any trenching, excavation, or digging, the contractor shall have the area 'Blue Staked' and contact the appropriate utility companies. Contractor shall protect all utilities from damage.
5. All lines shall slope to drain, add manual drains at all mainline low points as necessary for complete drainage of the entire system. Indicate all drain locations on record drawings.
6. This drawing is diagrammatic and is intended to convey the general layout of irrigation system components. Field adjustments may be necessary to maintain full coverage in actual site conditions. Contact the landscape architect if significant changes are necessary. The contractor shall assume full responsibility for revisions to the irrigation system if the irrigation system is installed when site conditions differ from plan layout and the landscape architect was not informed.
7. Lateral and main lines shall be laid in common trenches in landscape areas wherever possible.
8. All piping and wiring under pavement shall be run through separate sleeves. Control wires not laid in a common trench with a main line shall be installed in a conduit of sufficient size.
9. All irrigation equipment not detailed shall be installed as per manufacturer recommendations, specifications, and details.
10. This system is designed to operate at 60 psi for rotor heads, 30 psi for spray heads, and 40 psi for all drip emitters.
11. The irrigation water source is \_\_\_\_\_. Pressure at the pump is expected to be \_\_\_\_\_ psi. If actual pressure varies from the expected, contact landscape architect.
12. Supply products as specified. No substitutions will be allowed unless pre-approved in writing by the owner or landscape architect.
13. Contractor to supply all keys and attic stock per the specifications.
14. Contractor to shut down and winterize the irrigation system at the end of the first season and turn on the system at the beginning of the following season. This work is to be done in the presence of the owners' maintenance personnel.
15. All modifications when accomplished on-site shall be coordinated with Layton City Parks and Recreation Department.

**IRRIGATION SCHEDULE**

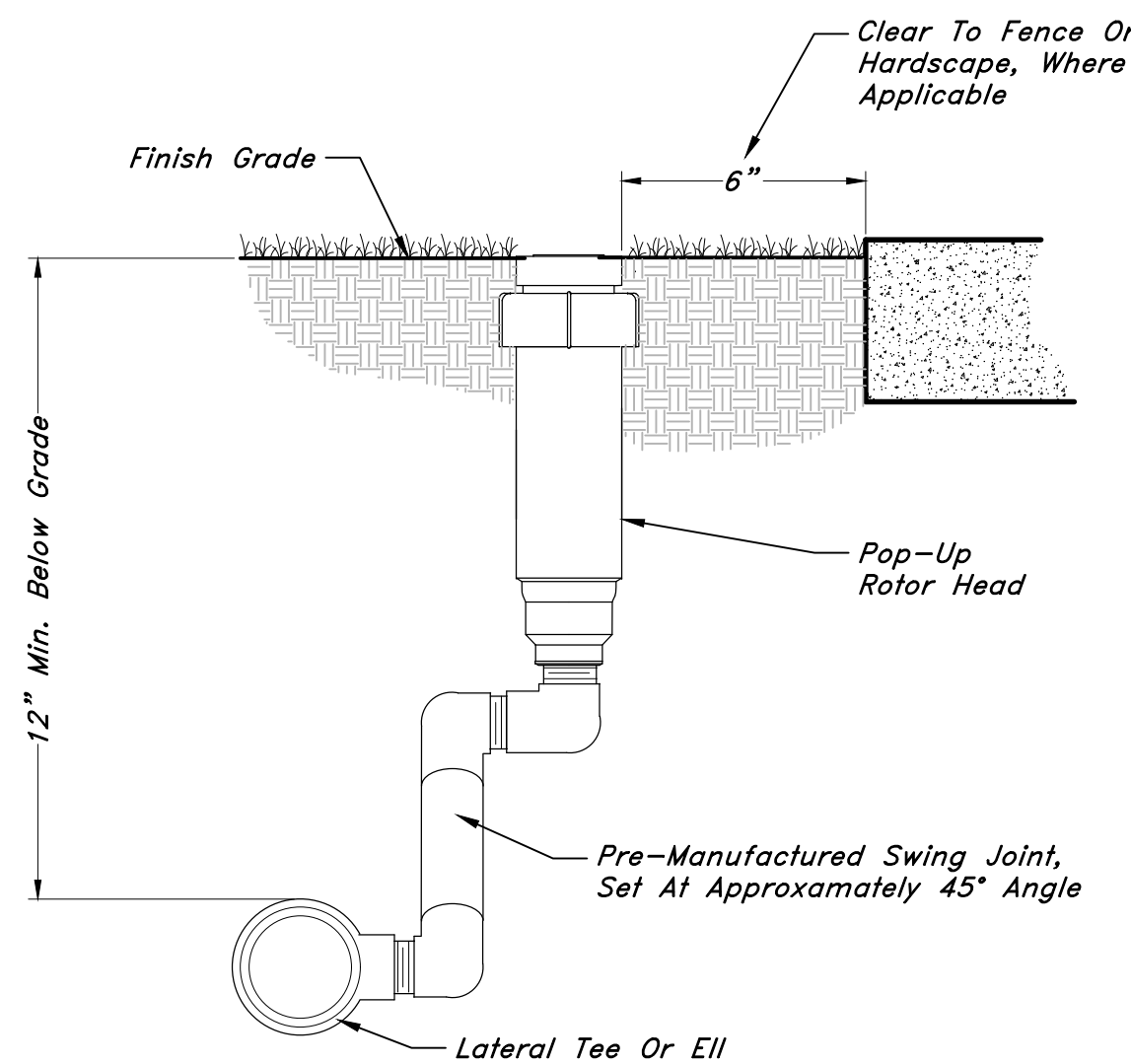
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
①	Hunter MP Corner PROS-06-PRS40-CV-R Turf Rotator, 6" pop-up with factory installed check valve, reclaimed body cap, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. T=Turquoise adj arc 45-105.	40
② ③ ④ LST SST RST	Hunter MP Strip PROS-06-PRS40-CV-R Turf Rotator, 6" pop-up with factory installed check valve, reclaimed body cap, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. LST=Ivory left strip, SST=Brown side strip, RST=Copper right strip.	40
⑤ ⑥ ⑦	Hunter MP1000 PROS-06-PRS40-CV-R Turf Rotator, 6" pop-up with check valve, reclaimed body cap, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.	40
⑧ ⑨ ⑩	Hunter MP2000 PROS-06-PRS40-CV-R Turf Rotator, 6" pop-up with check valve, reclaimed body cap, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. K=Black adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	40
⑪ ⑫ ⑬	Hunter MP3000 PROS-06-PRS40-CV-R Turf Rotator, 6" pop-up with factory installed check valve, reclaimed body cap, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. B=Blue adj arc 90-210, Y=Yellow adj arc 210-270, A=Gray 360 arc.	40
⑭ ⑮ ⑯ 800 A 800 F	Hunter MP800SR PROS-06-PRS40-CV-R Turf Rotator, 6" pop-up with check valve, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. ADJ=Orange and Gray ( arc 90-210), 360=Lime Green and Gray (arc 360)	40

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
⑰	Hunter ICZ-101-40 Drip Control Zone Kit. 1" ICV Globe Valve with 1" HY100 filter system. Pressure Regulation: 40psi. Flow Range: 2 GPM to 20 GPM. 150 mesh stainless steel screen.	
⑱	Area to Receive Dripline Nefatim TLCV-04-12 Techline Pressure Compensating Landscape Dripline with Check Valve. 0.4 GPH emitters at 12" O.C. Dripline laterals spaced at 12" apart, with emitters offset for triangular pattern. 17mm.	

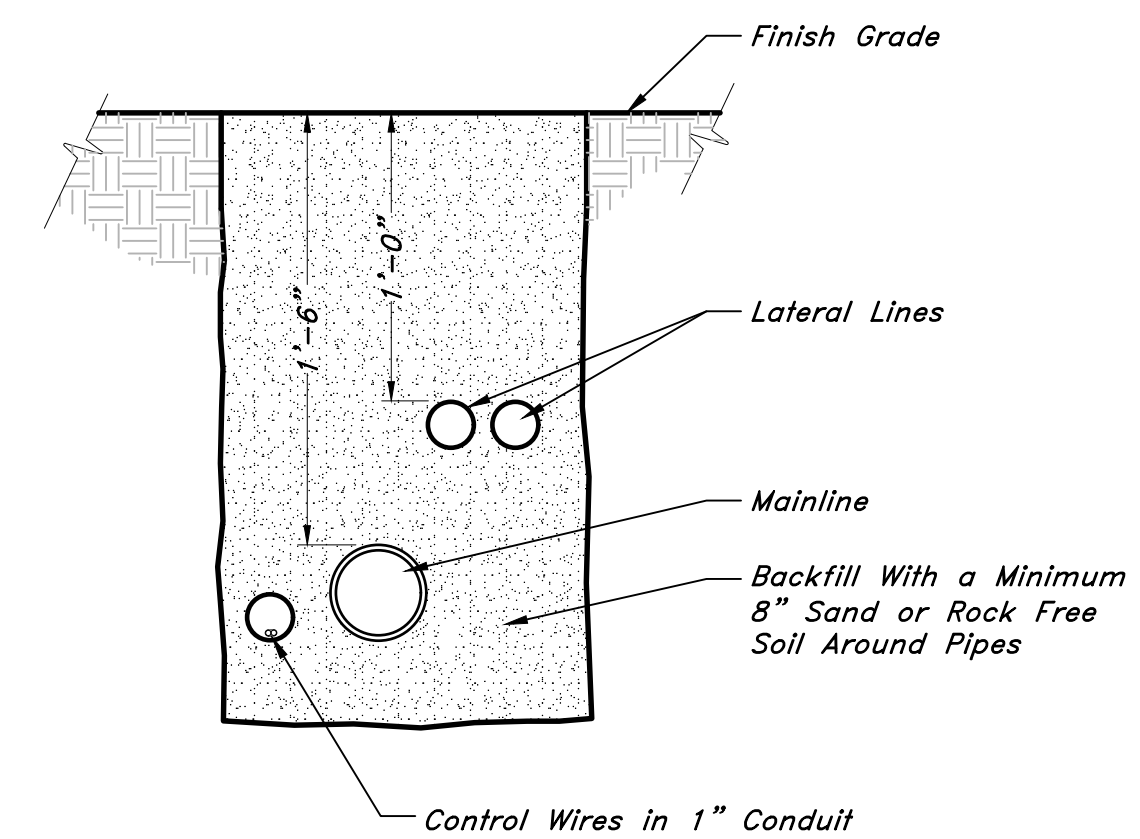
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
⑲	Hunter ICV-G 1", 1-1/2", 2", and 3" Plastic Electric Remote Control Valves, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use.	
Ⓐ	Hunter HC-12 12 station controller with Wi-Fi connection	
Ⓑ	Hunter NODE-BT-100 1-Station Bluetooth Controller, Outdoor, Battery Powered with DC Latching Solenoid Included.	
—	Irrigation Lateral Line: PVC Schedule 40	
—	Irrigation Mainline: PVC Schedule 40	
---	Pipe Sleeve: PVC Class 200 SDR 21	
Ⓢ	Valve Callout	
Ⓣ	Valve Number	
Ⓤ	Valve Flow	
Ⓥ	Valve Size	
---	Existing Mainline	
---	Existing Lateral Line	
Ⓦ	Existing Irrigation Head	
Ⓧ	Existing Irrigation Valve	



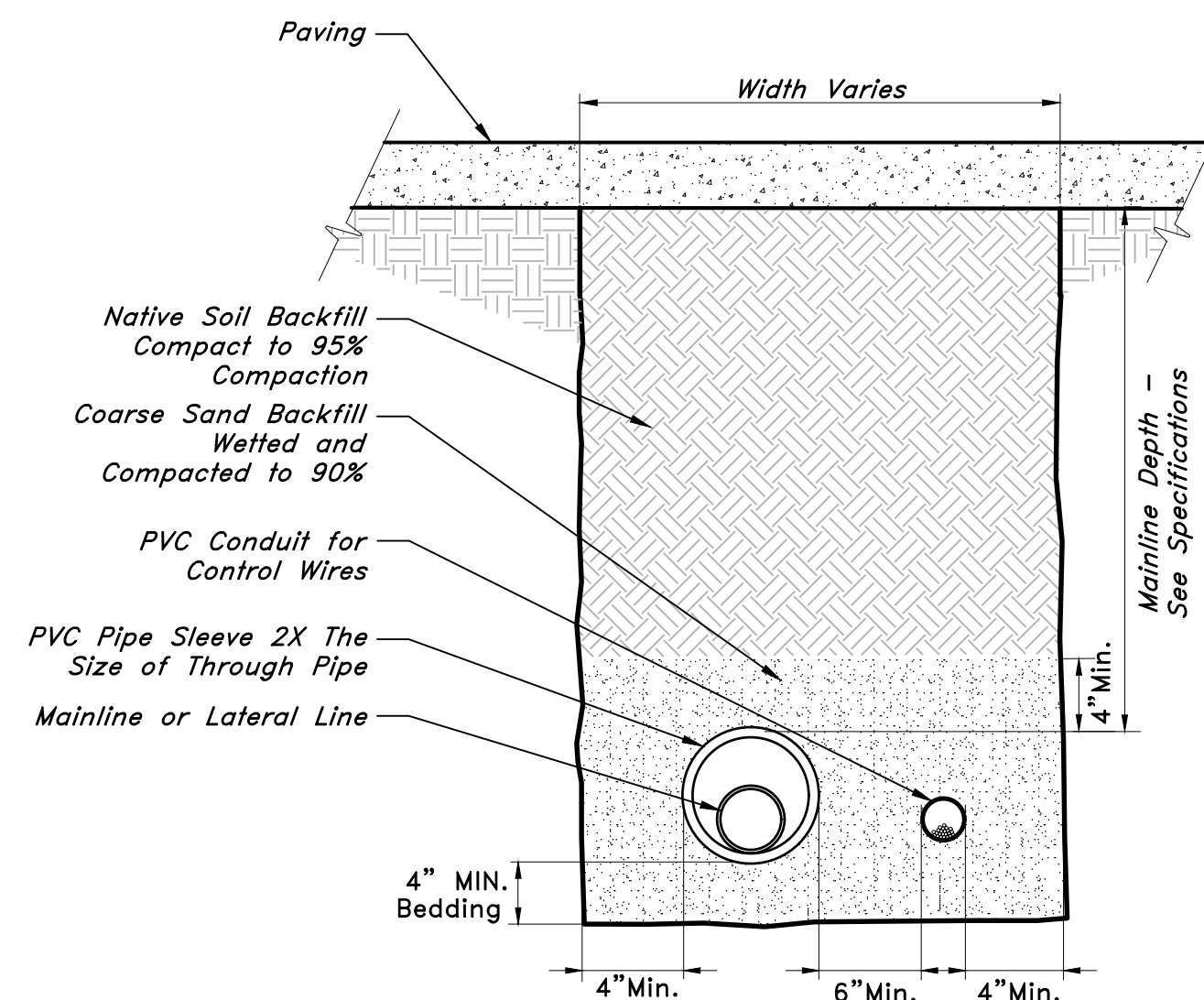
**4 POP-UP SPRAY HEAD**  
NTS 328403.01-02



**3 POP-UP ROTOR HEAD**  
NTS 328403.01-01



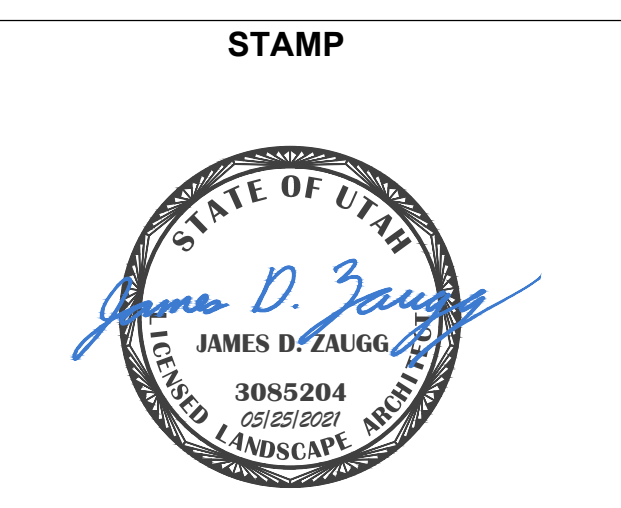
**2 TRENCHING**  
1 1/2" = 1'-0" 328401-02



**1 SLEEVING**  
1 1/2" = 1'-0" 328401-01



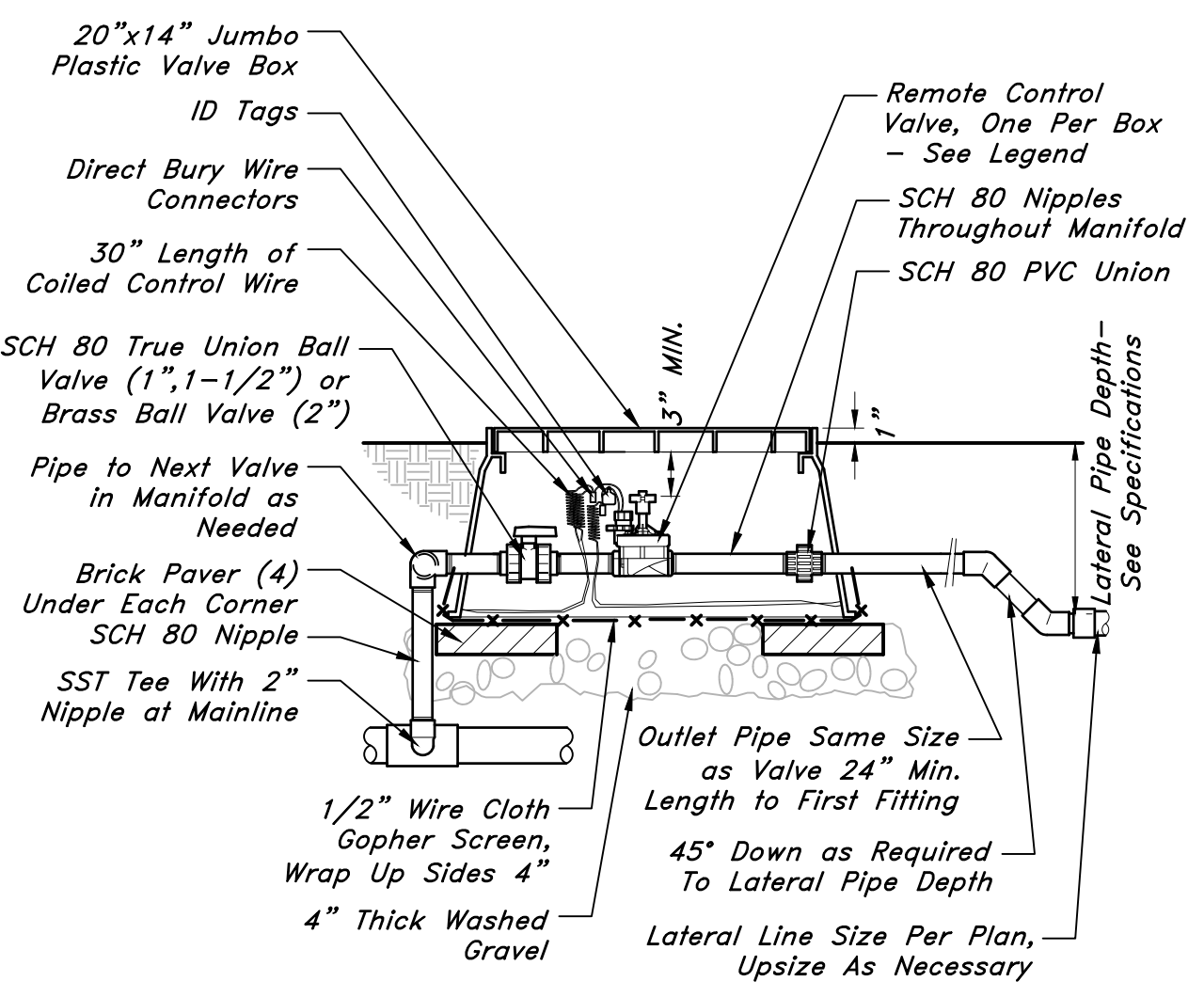
**SAFE HARBOR LIFELINE**  
223 WEST 475 SOUTH  
LAYTON, UT



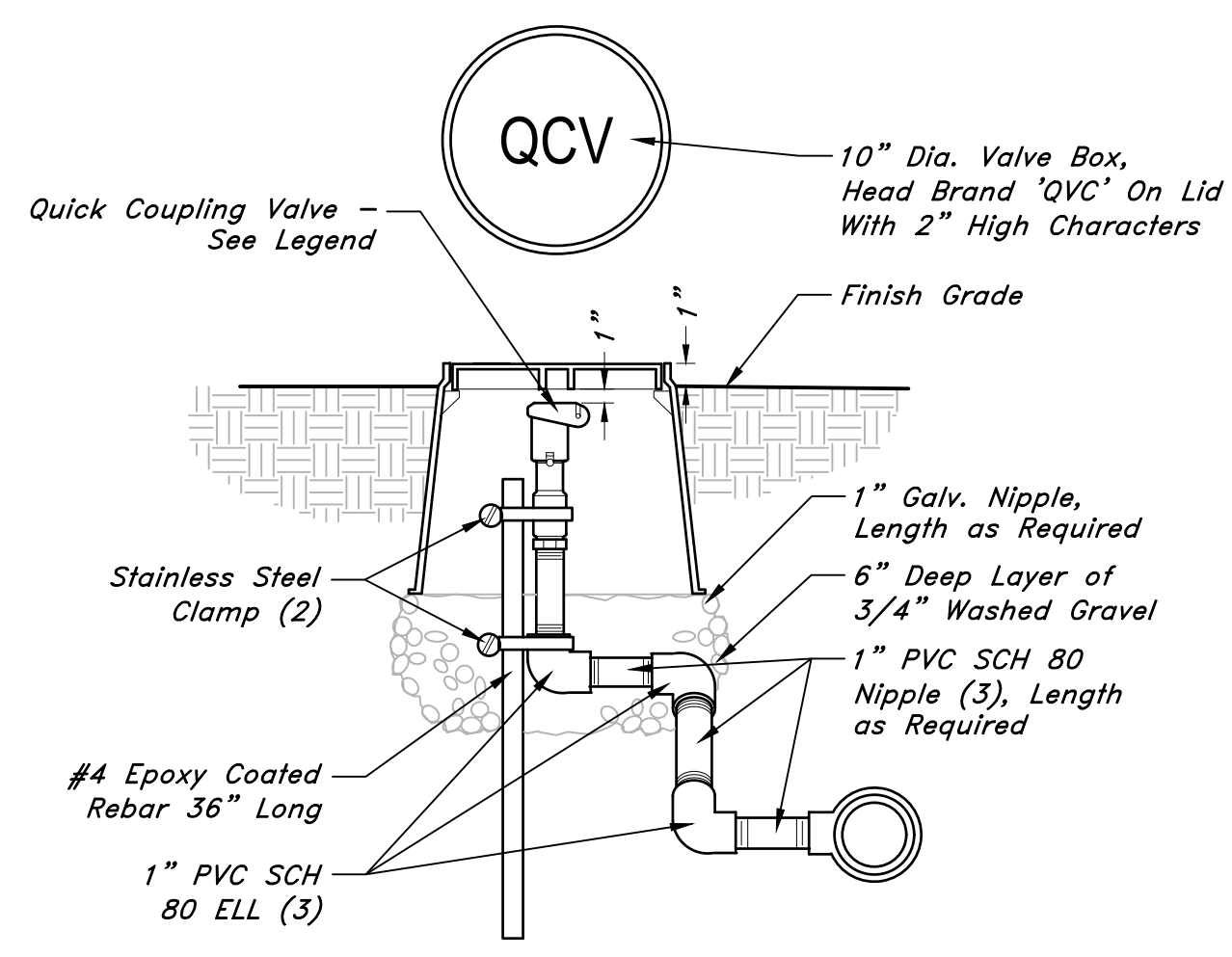
ISSUE TYPE:	DATE:
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PROJECT NUMBER: 20N908	Project Number
DRAWN BY: RC	Author
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**IRRIGATION DETAILS**

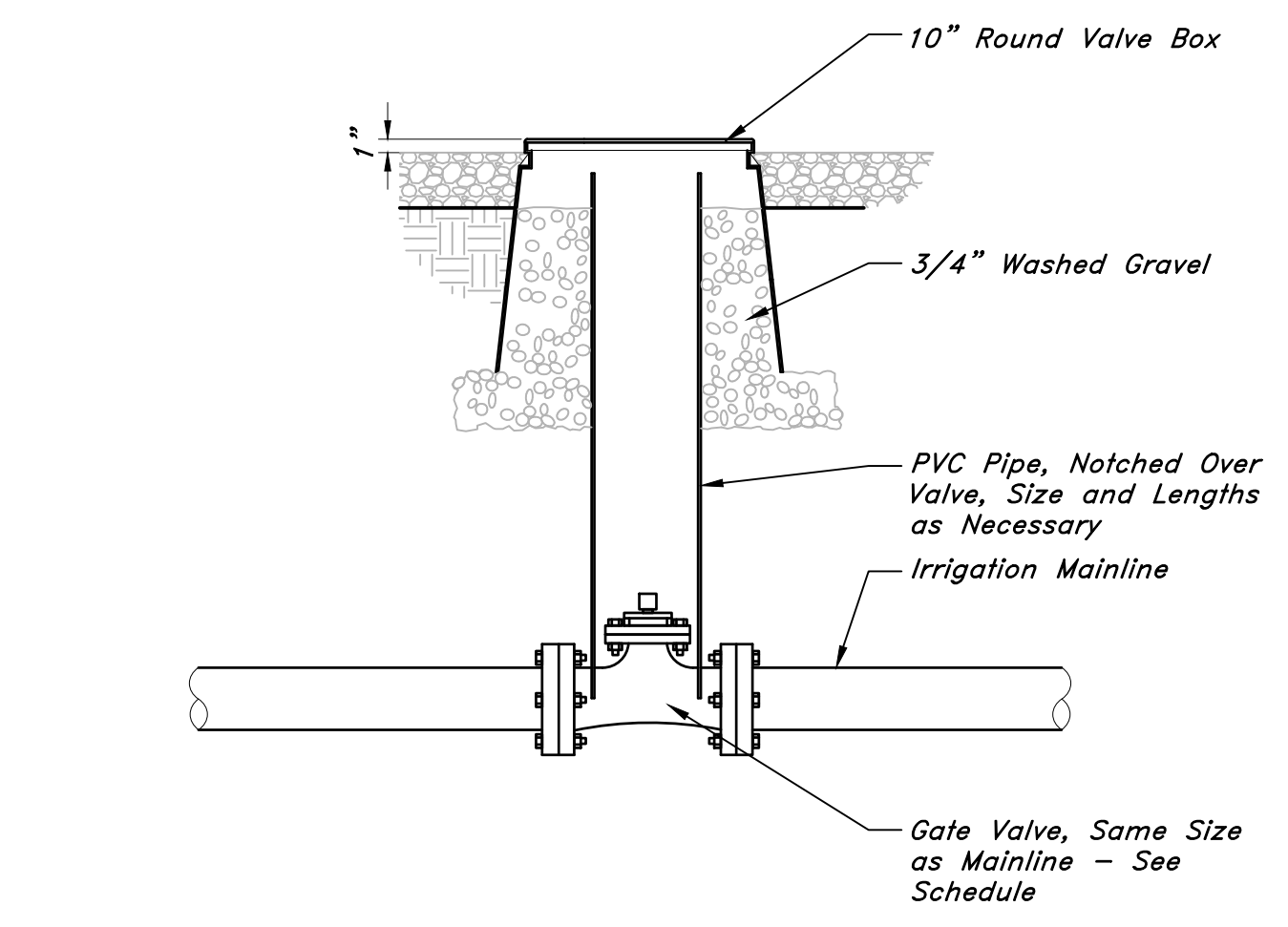
**LI501**



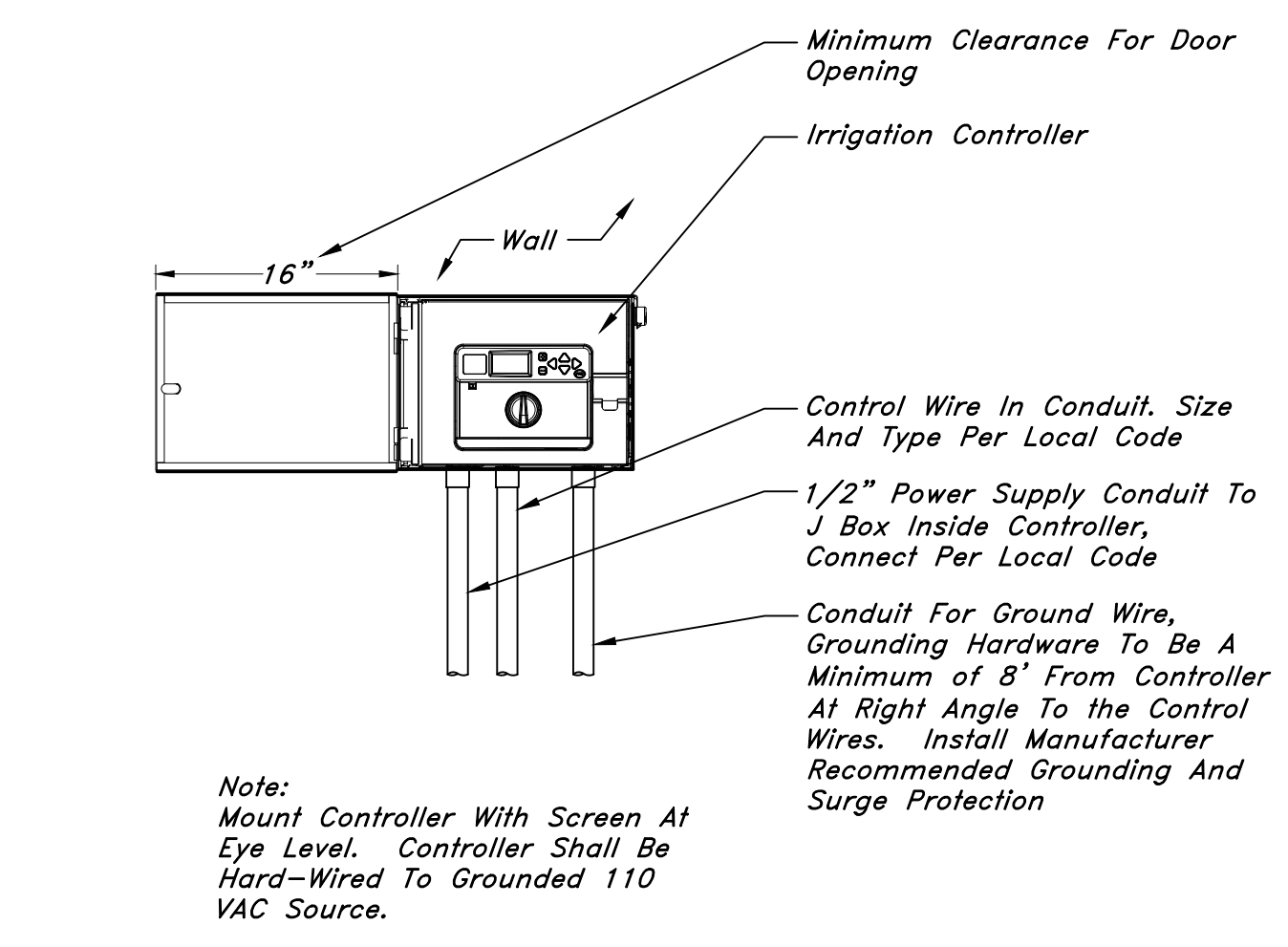
**9 REMOTE CONTROL VALVE**  
1" = 1'-0" 328406.13-08



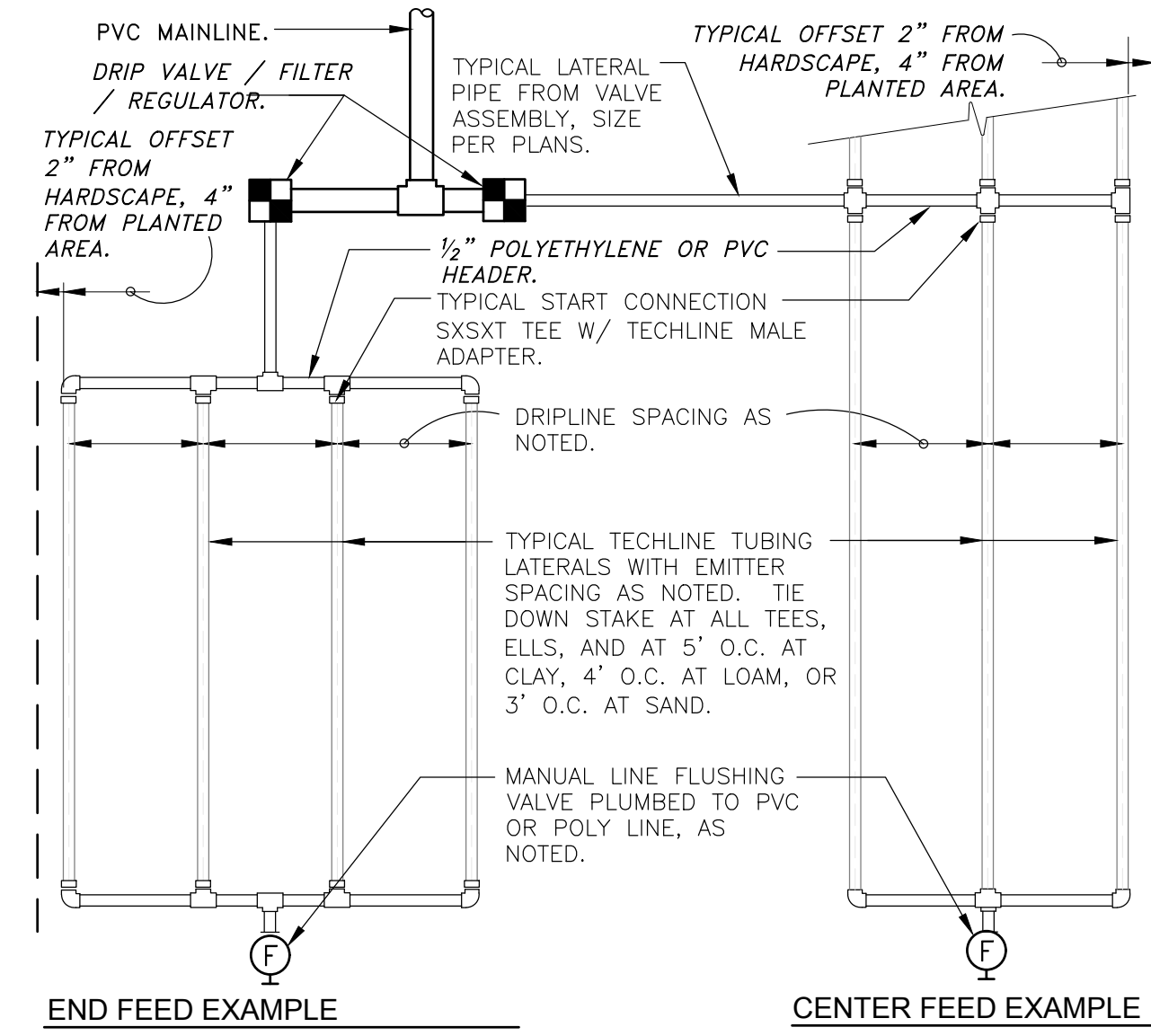
**8 QUICK COUPLER**  
1 1/2" = 1'-0" 328406.43-06



**7 GATE VALVE**  
1 1/2" = 1'-0" 328406.33-06



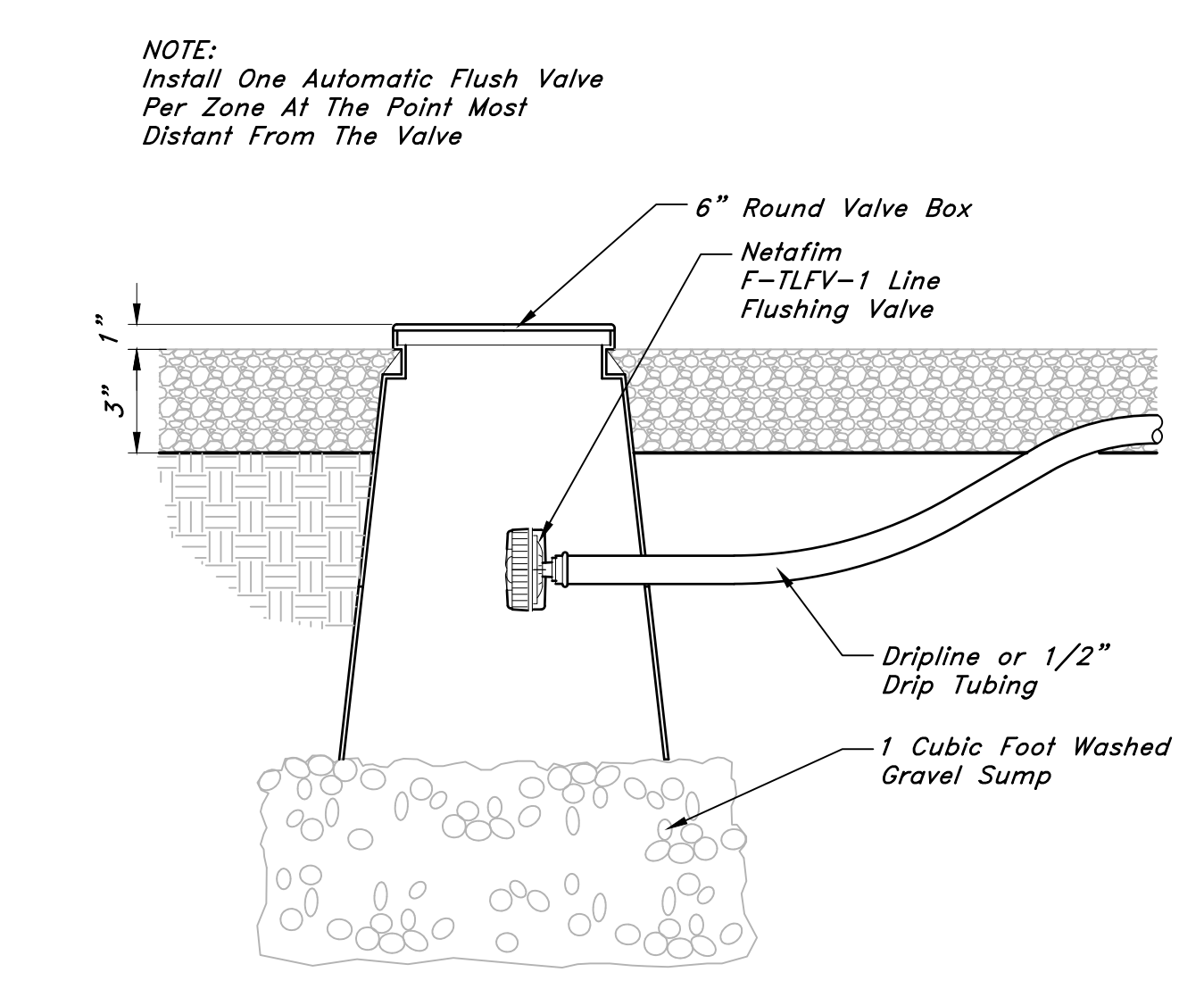
**6 IRRIGATION CONTROLLER - WALL MOUNT**  
NTS 328409.01-01



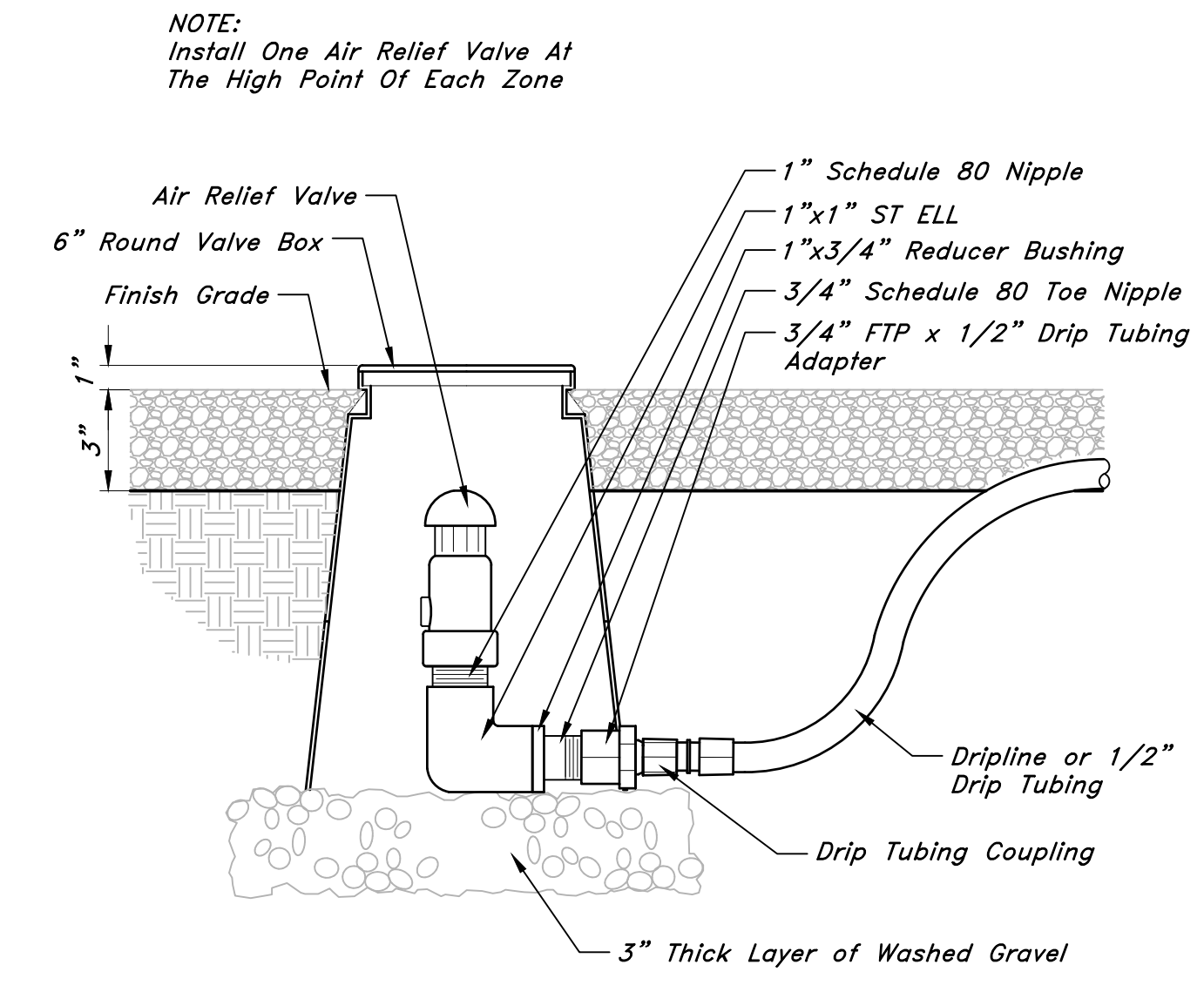
TECHLINE CV MAXIMUM LENGTH OF SINGLE LATERAL (FEET)											
DRIPPER SPACING		12"			18"			24"			
INLET PRESSURE (PSI)	DRIPPER FLOW RATE (GPH)	0.26	0.4	0.6	0.9	0.26	0.4	0.6	0.9	0.6	0.9
		15	127	109	86	65	177	151	120	91	152
25	427	325	256	194	604	459	361	274	458	348	
35	539	409	322	244	763	579	456	346	580	440	
45	618	469	369	280	877	664	523	397	666	506	

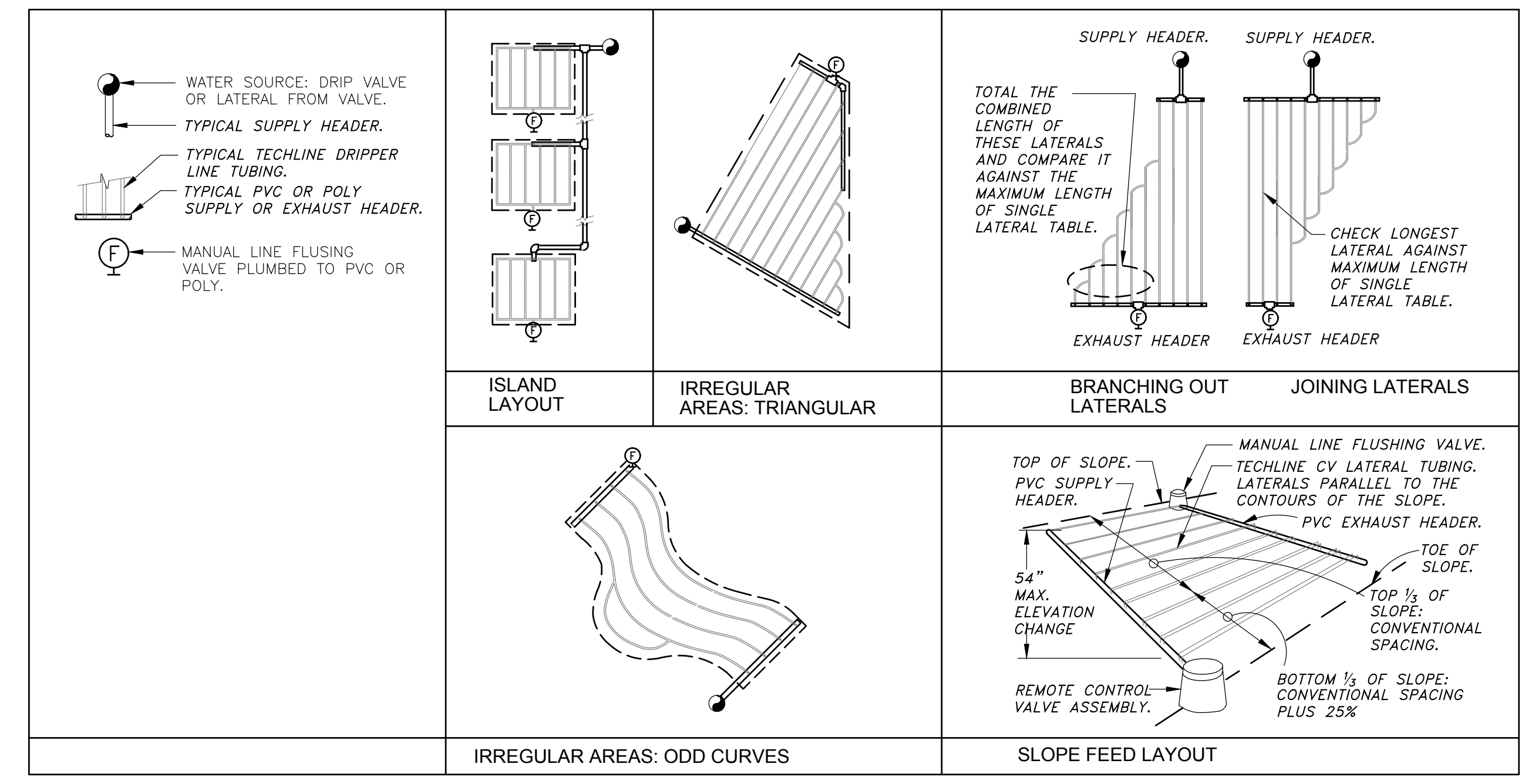
TECHLINE CV FLOW PER 100 FEET									
DRIPPER SPACING	0.26 GPH DRIPPER		0.4 GPH DRIPPER		0.6 GPH DRIPPER		0.9 GPH DRIPPER		GPM
	GPH	GPM	GPH	GPM	GPH	GPM	GPH	GPM	
12"	26.40	0.44	40.00	0.67	61.00	1.02	92.00	1.53	
18"	17.58	0.29	26.67	0.44	41.00	0.68	61.00	1.02	
24"	N/A	N/A	N/A	N/A	31.00	0.51	46.00	0.77	



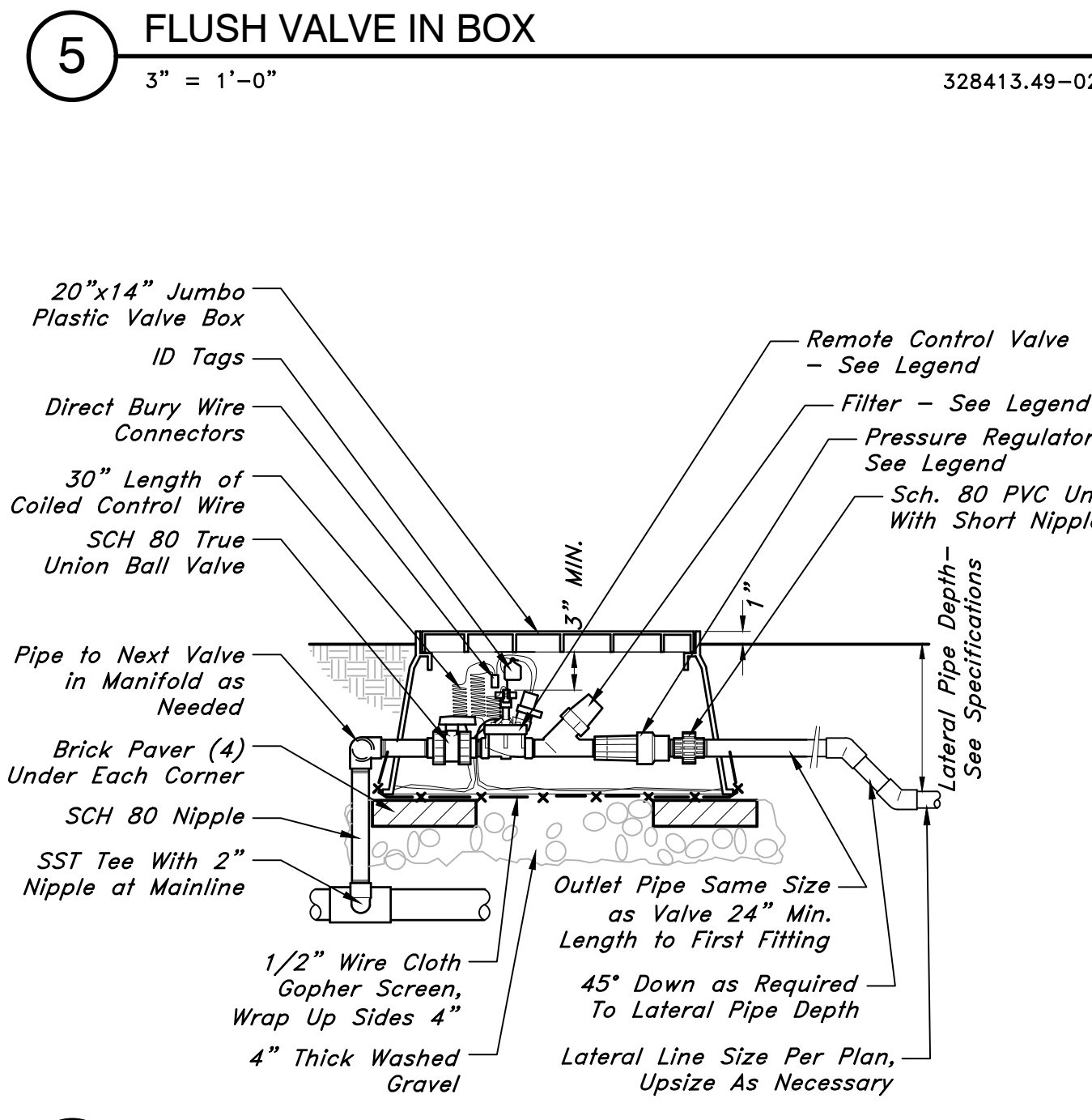
**5 FLUSH VALVE IN BOX**  
3" = 1'-0" 328413.49-02



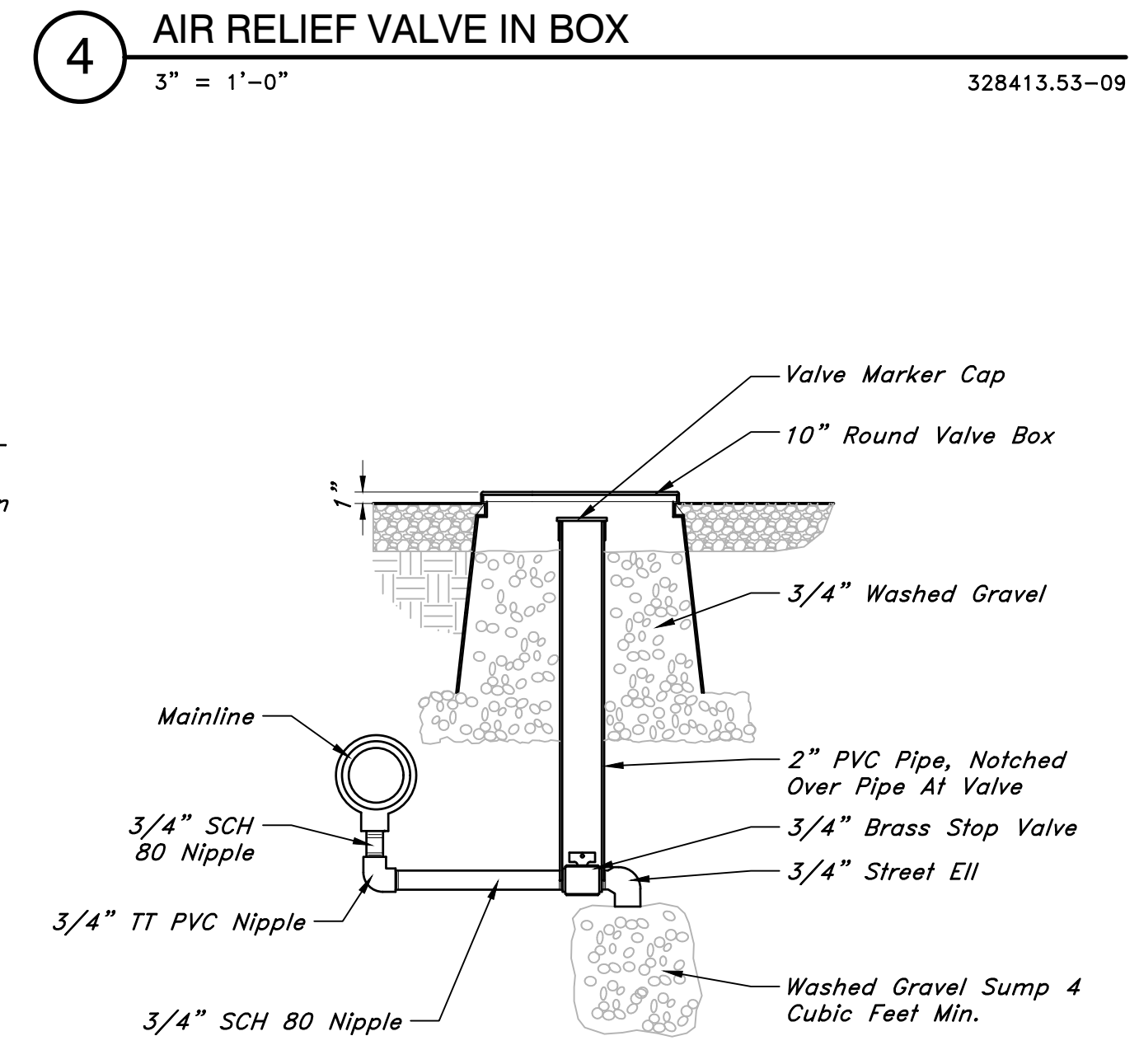
**4 AIR RELIEF VALVE IN BOX**  
3" = 1'-0" 328413.53-09



**3 TYPICAL NETAFIM TECHLINE CV REQUIREMENTS**  
3" = 1'-0" FX-IR-NETA-DRIP-14



**2 DRIP VALVE - CONTROL ZONE KIT**  
1" = 1'-0" 328406.13-09



**1 MANUAL DRAIN**  
1 1/2" = 1'-0" 328409.86-01