

I:\2013\2013-247 RIDGWAY\002 Structural\Drawings\Working\Structural General Notes.dwg Plotted: 5/6/2014 4:08 PM By: Jammal Pricer

Design Criteria:

Code Edition: 2006 IBC

Live Loads:

Ground Snow Load 65 psf
Exposure Factor, $C_e = 1.0$
Thermal Factor, $C_t = 1.1$
Importance Factor, $I = 1.2$

Roof Snow Load 60 psf

Sliding Snow Surcharge
on Flat Roof 60 psf

Mezzanine Floor 125 psf

Dead Loads:

Steel Frame Roof 15 psf
Wood Frame Roof 15 psf + 4 psf for solar panels where noted.
Flat Roof 50 psf
Mezzanine Floor 50 psf

Lateral Loads:

Basic Wind Speed: 90 mph (3 second gust)
Exposure: C
Importance Factor, $I = 1.15$

Seismic Design Data

$I_e = 1.5$
Occupancy Classification: Category IV
Site Class: D
 $0.2 \text{ sec SRC Sds} = 0.427$
 $1.0 \text{ sec SRC Sd1} = 0.155$
Seismic Design Category: D

Geo-Technical Information:

- A. Design is based upon report #M13026GE by Lambert and Associates, dated December 16, 2013.
- B. A minimum of 1 foot of compacted structural fill is required beneath all footings and slab on grade floors. Structural fill shall be moisture conditioned and compacted in lifts in accordance with the geotechnical engineer's recommendations.
- C. Foundation Design Values used per Lambert and Associates recommendations:
C.A. Shallow Foundations... Building footings have been designed to be placed on a minimum of 1 foot of compacted structural fill in accordance with the geotechnical engineer's recommendations. Allowable bearing pressures based on depth of embedment per Lambert and Associates are:

Depth ft.	Continuous footing psf	Isolated footing psf
0	800	1000
1	900	1150
2	1000	1250
3	1100	1350
4	1200	1450

Reinforced Concrete:

- A. All structural concrete had been designed in accordance with ACI 318-05. All structural concrete construction work shall conform to ACI 301-05 (or latest edition) unless noted otherwise.
- B. Cast in place concrete shall be made with type I/II sulfate-resistant cement to maintain the following requirements, admixtures containing chloride salts shall not be used.

Element:	w/c Ratio:	Strength:	Entrained Air:
Walls, Footings,	0.53	4000 psi	NR
Structural Slabs			
Curb, Gutter,	0.45	4500 psi	5 - 7%
Flatwork			
Interior Flatwork	0.53	3500 psi	NR

Concrete coverage for reinforcing steel shall provide the following:

- Concrete poured permanently against earth: 3"
 - Concrete poured in forms (exposed to weather, fluid or earth): 2"
 - Concrete (not exposed to weather, fluid, or earth)
 - Slabs and walls 3/4"
 - Beams and columns 1 1/2"
- D. Concrete slabs on grade shall have sawn or trowel cut control joints at a maximum spacing of 15'-0" in each direction or 225 sq-ft within 12 hours of pouring. Carry reinforcement through joints and locate isolation joints around columns at exterior wall. Consult engineer prior to connecting the slab on grade to other portions of the superstructure.
- E. Hot and cold weather concreting procedures shall conform to the recommendations in the ACI Manual of Concrete Practice.
- F. Bolts for beam and column bearing plates shall be set with templates.
- G. Expansion bolts shall be placed a minimum of 6 bolt diameters from concrete edge and maintain a 10 bolt diameter in spacing, unless noted otherwise.
- H. Any stop in concrete work must be made at third point of span with vertical bulkheads and horizontal shear keys, unless noted otherwise. Slabs, footings, beams and walls shall not have joints in a horizontal plane.

Reinforcing Steel:

- A. All reinforcement detailing, fabrication and placement shall conform to the ACI Details and Detailing of Reinforcement (ACI 315-05).
- B. All reinforcing shall be of high grade deformed bars conforming to ASTM A615, grade 60, except ties and anchors which shall conform to ASTM A615, grade 40 or ASTM A706, grade 60.
- C. Welded wire fabric shall conform to ASTM A185, grade 60 and be lapped a minimum of one full mesh plus two inches at side and end and splices and be wired together.
- D. Lap splices of reinforcement, where permitted, shall be a minimum of 38 bar diameters for #6 bar and smaller and 47 bar diameters for #7 and larger bar, for Class A splice increase to 50 and 62 respectively for Class B lap splices unless noted otherwise. Contact engineer for splicing recommendations prior to construction where not specifically detailed or noted. Do not weld or use mechanical splicing.
- E. Continuous top bars shall be spliced at mid-span and continuous bottom bars over supports.
- F. At corners make bar continuous through discontinuity or provide corner bars. Corner bars to extend 3'-0" each side of corner. Place two #5's (per 8" of thickness) to extend a minimum of 2'-6" around all openings/steps in walls, slabs and beams. Provide #5 x 5'-0" diagonal at all openings/steps in walls, slabs and beams.
- G. Contractor shall place (2)-#5's vertically full height of wall at high side of all wall steps higher than 4'-0" in addition to wall reinforcing shown otherwise.
- H. Extend reinforcing steel a minimum of 2'-6" through cold joints and coordinate cold joint locations with structural engineer.

Structural Steel:

- A. Structural steel shall be detailed, fabricated and erected in accordance with the latest provisions of AISC "Manual of Steel Construction".
- B. All structural steel rolled shapes, including plates and angles, shall conform to ASTM A992 Grade 50 for wide flange and channel members, and ASTM A36 Grade 36 for angles and plates. Tube shapes shall conform to ASTM A500 Grade B. Pipe columns shall conform to ASTM A53. The latest editions of these requirements shall be used.
- C. All structural bolts used in steel framing shall be A325-N, installed to a minimum snug nut condition. All anchor bolts shall be of ASTM A307.
- D. Typical Framed beam connections with steel bolts shall use the maximum number of bolts per AISC "Manual of Steel Construction" Table IIA and/or AISC "Simple Shear Connection Manual" with A325-N bolts.
- E. All welding shall be performed by an AWS qualified welder.
- F. Delay painting within 3" of field welds until welds are completed.

Grout:

- A. All grout beneath column plates and steel beams at bearing shall be non-shrink, non-metallic type grout.
- B. Grout shall have a minimum compressive strength of 5000 psi.

Structural Masonry:

- A. Masonry design assumptions require that Level 1 special inspection be provided during construction according to the provisions of the 2006 IBC Sections 1704.5 and 2107.2.1.
- B. Hollow load-bearing concrete masonry shall be lightweight units conforming to ASTM C90. Exterior walls and walls below grade shall be grade N-1. Interior walls not exposed to weather or earth may be grade M-1 or S-1. Unit strength $F'm$ shall be 1900 psi.
- C. Mortar shall conform to ASTM C270 and shall be Type S with a minimum cube strength of 1800 psi. Do not use masonry cement or admixtures unless approved by the structural engineer.
- D. Grout shall be course grout as defined in 2006 IBC (Table 2103.10) with a minimum cube strength of 2000 psi. Admixtures shall not be used unless approved by structural engineer.
- E. Minimum prism strength of masonry wall assemblies shall be $F'm = 1500 \text{ psi}$.
- F. Conform to size and height limitations set forth in Table 1.15.1 of ACI 530.
- G. Bond Beam units shall be produced from standard vertically voided units with pre-cut knock-out cross walls.
- H. All masonry shall be laid up in running bond with exposed joints tooled.
- I. Use continuous horizontal joint reinforcing in all masonry walls, consisting of 9 gauge side wire welded to 9 gauge trussed cross wire. Width of joint reinforcing shall be approximately 2" less than width of wall. Provide prefabricated corners and tees. Wire shall conform to ASTM specification A-82. Maximum vertical spacing of joint reinforcing shall be 16" o.c.
- J. Provide 1/2" clearance or expansion material between masonry and other structural elements, unless noted otherwise.
- K. Vertical control joints shall be provided full height of masonry walls at:
K.A. At all changes in wall height.
K.B. At all changes in wall thickness
K.C. At all expansion joints in foundations, floors, and roofs.
K.D. Spaced 1 1/2 times wall height to a maximum of 25 feet.
- Construct control joints as continuous head joints with mortar raked 3/4" at both faces and 50% of the horizontal joint reinforcing cut at the joint. Bond beam reinforcing and grout shall continue through the joint.
- L. Fill all voids and cells within 12" either side of centerline of beam and continuous to foundation, unless noted otherwise.
- M. Masonry walls, including site walls, shall have a continuous horizontal bond beam consisting of (2)-#5 bars and solid grout at the top of the wall, roof, or floor elevations and at 8'-0" maximum vertical spacing.
- N. Openings in masonry walls shall be reinforced with a #5 bar in a vertical grouted cells each side of opening up to 10'-0" wide. Openings greater than 10' wide shall have 2 vertical grouted cells w/ #5 reinforcement. Extend reinforcing and grout 2'-6" past opening on all sides.
- O. Masonry walls shall be grouted only at those containing reinforcing steel unless specifically authorized by structural engineer.

Steel Deck:

- A. Steel roof and floor deck shall be the depth, gauge and rib type indicated on the plans and fabricated from sheet steel conforming to ASTM A.611 or A.446 having a minimum yield strength of 33 ksi. If substitutions are desired, contact structural engineer.
- B. Decking shall be manufactured and erected in accordance with the standard recommendations of the Steel Deck Institute with welding patterns and details as indicated in the manufacturer's shop drawings. Required diaphragm shear values or connection patterns are indicated on the structural plans.
- C. Decking shall be finished by phosphatizing and painting with a baked-on acrylic primer. Decking used as a concrete form shall be phosphatized but not painted on the side in contact with the concrete.
- D. Openings larger than 6" in diameter shall be approved by the structural engineer prior to being cut in the decking.
- E. Welding washers shall be used for decking with a thickness less than 18 gauge.
- F. Decking shall be a 2-Span condition, minimum.

Steel Joists:

- A. Steel joists shall be designed, fabricated and erected in accordance with the Steel Joist Institute's "SJI Standard Specifications" for open web K or LH series joists, with special end bearings and chord extensions as indicated on the structural plans.
- B. Bridging, bracing and other accessories specified by the manufacturer shall be installed in accordance with the SJI requirements.
- C. Shop Drawings, including calculations, shall be provided to the structural engineer for review prior to fabrication.

General Requirements:

- A. Structural erection and bracing: The structural drawings illustrate the completed structure with all elements in their final positions supported and braced. The contractor, in the proper sequence, shall provide shoring and bracing as may be required during construction to achieve the final completed structure. Contact engineer for consultation (not in contract) as required.
- B. Shop drawings: Submit shop and erection drawings for all structural steel, structural aluminum, miscellaneous steel, steel joists and girders, steel deck, masonry reinforcing steel, engineer to review prior to fabrication. This review is for general compliance with the intent of the structural design. The manufacturing or fabrication of any items prior to written review of the shop drawings will be at the risk of the contractor. The architect and/or contractor are responsible for checking quantities, dimensions and coordination with other trades.
- C. Dimensions: Check all dimensions against field and architectural drawings prior to construction. Do not scale drawings.
- D. Construction practices: The general contractor is responsible for means, methods, techniques, sequences and procedures for construction of this project. Notify structural engineer of omissions or conflicts between the working drawings and existing conditions.
- E. Coordinate requirements for mechanical/electrical/plumbing penetrations through structural elements with structural engineer. Prior to installation of such equipment or other items to be attached to the structure, the contractor shall obtain approval for connections and support. Contractor shall furnish required hangers, connections, etc. required for installation of such items, unless specifically noted on plans.
- F. Jobsite safety is the sole responsibility of the contractor. All methods used for construction shall be in accordance with the latest edition of the IBC.
- G. The structural engineer may make periodic observation visits to the jobsite for determination of general conformance with the construction documents. Such observation visits shall not replace required inspections by the governing authorities or serve as "special inspections" as may be required by Section 17 of the International Building Code.
- H. Though every effort has been made to provide a complete and clear set of construction documents, discrepancies or omissions may occur. Release of these drawings anticipates cooperation and continued communication between the contractor, architect and engineer to provide the best possible structure. These drawings have been prepared for the use of a qualified contractor experienced in the construction techniques and systems depicted.

Construction Joints:

- A. Contractor to provide a slab and/or wall construction joint plan for each tank/structure to the engineer of record for approval PRIOR to placing any concrete.
- B. Contractor's construction joint plan should be laid out to minimize the number of construction joints in each individual structure.
- C. Construction joints in walls shall not occur close to wall corners or intersections such that they will divide additional corner/intersection reinforcement. Re: details for lengths of additional corner/intersection reinforcement.
- D. The maximum spacing between construction joints shall be as follows:
Walls 50 ft on-center maximum parallel spacing
Slabs Construction joints shall be spaced in accordance to the latest ACI & IBC codes.

Wood Framing:

1. Wood framing shall be connected in accordance with 2006 IBC unless noted otherwise. Materials shall be as follows:
-Studs: Douglas Fir Larch No.2
-Sawn Headers & Beams: Douglas Fir Larch, No. 1/No. 2
-Roof Rafter: 1 1/4" Boise Cascade I-joists or solid LVL as noted on plan, or approved equal
-Laminated Veneer Lumber:
1 1/2" wide shall be Boise Cascade 1.7E 2400 DF or approved equal
1 3/4" wide shall be Boise Cascade 2.0E 2800 DF or approved equal
3 1/2" wide shall be Boise Cascade 2.0E 3100 DF or approved equal
-Glu-Lam: 24F-V4 for single span beams, 24F-V8 for continuous beams.
2. Headers shall be 4x8 DF-L#2 with a 2X6 trimmer and 2x6 king stud each side, unless noted otherwise.
3. Hanger-type connections shall be made with Simpson Strong-Tie connectors and manufacturer-supplied fasteners. Wood columns shall be extended to foundations, or stud blocking the same size as the column installed tight in the joist space under the column.
4. Roof and floor sheathing shall be APA Rated for the roof and floor spans as indicated on the sheathing with CDX glue for exterior applications. Roofs shall be 5/8" OSB or plywood nailed with 8d @ 6" on center at panel edges and over braced wall lines, and at 12" on center in the panel field. Floors shall be 3/4" OSB or plywood glued and nailed with 8d @ 6" on center at edges, and 12" on center in panel field. Sheath exterior walls with 1/2" OSB nailed with 6d @ 6" o.c. at panel edges and 6d @ 12" o.c. in the panel field, unless noted otherwise.
5. Roof trusses shall be designed, fabricated, and erected in accordance with ANSI/TPI National Design Standard for Metal-Plate-Connected Wood Truss Construction. Trusses shall be designed for loads shown above. Truss calculations and shop drawings shall bear the stamp of a Colorado Registered Engineer. Submit calculations and shop drawings to the Engineer for review and approval prior to fabrication.
6. Girder trusses shall be attached to wall framing with Simpson LGT-2, minimum 2000 pounds uplift, or equal.

ABBREVIATIONS

⌀ A.B AF ARCH BF BLDG BM BRO BW C.I.P. CJ CLR CMU CONC CONT EA E.O. E.S. EXP EXT FD	AT ANCHOR BOLT ABOVE FINISHED FLOOR ARCHITECT BOTTOM OF BUILDING BEAM BEARING BOTTOM OF WALL CAST IN PLACE CONTROL JOINT CLEAR CONCRETE MASONRY UNIT CONCRETE CONTINUOUS EXISTING EACH EDGE OF EACH SIDE EXPANSION EXTERIOR FLOOR DRAIN	FDN FF FRP FT FTG H.A.S. HORIZ HT INT JOINT MANUF MAX MIN O.A.C. O.C. O.H. PLY PT REF REINF R.O. SP SIM	FOUNDATION FINISHED FLOOR FIBER REINFORCED PANEL FOOT FOOTING HEADED ANCHOR STUD HORIZONTAL HEAVY TIMBER INTERIOR JOINT MANUFACTURER MAXIMUM MINIMUM OR APPROVED EQUAL ON CENTER OVERHANG PLYWOOD PRESSURE TREATED REFERENCE REINFORCE ROUGH OPENING SQUARE FEET SIMILAR	SO SS STD STL T&B T.O.M. T.O.W. TYP U.N.O. VERT V.I.F.	SQUARE STAINLESS STEEL STANDARD STEEL TOP OF TOP AND BOTTOM TOP OF MASONRY TOP OF WALL TYPICAL UNLESS NOTED OTHERWISE VERTICAL VERIFY IN FIELD
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SYMBOLS LEGEND

	REVISION MARK		BEAM POCKET
	ELEVATION MARK		BEAM HANGING
	SECTION CUT LABEL		BEARING, JOIST OR RAFTER
	ELEVATION VIEW LABEL		COLUMN ABOVE
	GRID LINE		TOP OF COLUMN
			WALL STEP
			FOOTING STEP
			PLYWOOD/SLAB STEP

MATERIALS LEGEND

	CAST IN PLACE CONCRETE
	CONCRETE MASONRY UNIT
	CLAY MASONRY / BRICK
	STEEL
	DIMENSIONED LUMBER
	BLOCKING
	PLYWOOD
	NATIVE SOIL
	COMPACTED SOIL
	GRAVEL

ISSUE LOG
05/05/14 COORDINATION SET
05/09/14 BID SET

GENERAL NOTES & LEGENDS

PROJ. NO. 2013-247-001

PROJECT DATE: 05/05/14

SHEET NUMBER:

S0.0

RIDGWAY FIRE STATION
RIDGWAY FIRE PROTECTION DISTRICT
LOT 26-B1, RIDGWAY, CO 81432

SGM
118 West Sixth Street, Suite 200
Glenwood Springs, CO 81601
970.945.1004 www.sgm-inc.com

NOT FOR CONSTRUCTION - BID SET

Statement of Special Inspections

This Statement of Special Inspections is prepared in accordance with the 2006 International Building Code Section 1705. It is limited to structural elements and does not include requirements for fire resistant materials, insulation systems and smoke control systems as outlined in IBC Sections 1704.12, 1704.13, 1704, 14, 1704.15 and 1704.16. Additional Statements may be required from other Design Professionals.

Items noted below by (X) shall be inspected or tested in accordance with the referenced standards or IBC reference. See IBC for appropriate references.

Inspections and testing shall be performed by the Jurisdiction Building Official or by an approved agency recognized by the Building Official in accordance with IBC Section 1703.

Table 1704.3					
REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION					
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE	
1. Material verification of high-strength bolts, nuts and washers:					
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	-	X	Applicable ASTM material standards; AISC 360, Section A3.3		
b. Manufacturer's certificate of compliance required.	-	X	-	-	
2. Inspection of high-strength bolting:					
a. Bearing-type connections.	-	X	AISC 360, Section M2.5	1704.3.3	
b. Slip-critical connections.	X	X			
3. Material verification of structural steel.					
a. Identification markings to conform to ASTM standards specified in the approved construction documents.					
b. Manufacturer's certified mill test reports.	-	-	ASTM A 6 or ASTM A 568		
4. Material verification of weld filler materials:					
a. Identification markings to conform to AWS specification in the approved construction documents.	-	-	AISC 360, Section A3.5	-	
b. Manufacturer's certificate of compliance required.					
5. Inspection of welding:					
a. Structural steel:	-	-			
1) Complete and partial joint penetration groove welds.	X	-	AWS D1.1	1704.3.1	
2) Multipass fillet welds.					
3) Single-pass fillet welds > 5/16"					
4) Single-pass fillet welds ≤ 5/16"	-	X			
5) Floor and roof deck welds.	-	X			
b. Reinforcing steel:					
1) Verification of weldability of reinforcing steel other than ASTM A706.	-	X			
2) Reinforcing steel resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	X	-			
3) Shear reinforcement.	X	-			
4) Other reinforcing steel.	-	X			
6. Inspection of steel frame joint details for compliance:					
a. Details such as bracing and stiffening.	-	-			
b. Member locations.	-	-			
c. Application of joint details at each connection.	-				
For SI: 1 inch = 25.4 mm					
a. Where applicable, see also Section 1707.1, Special Inspection for seismic resistance.					

Table 1704.4				
REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION				
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCED STANDARDS	IBC REFERENCE
1. Inspection of reinforcing steel, including prestressing tendons, and placement.	—	X	ACI 318: 3.5, 7.1-7.7	1913.4
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5b.	—	—	AWS D1.4 ACI 318: 3.5.2	—
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased.	X	—	—	1911.5
4. Verifying use of required design mix.	—	X	ACI 318: Ch. 4, 5.2-5.4	1904.2.2, 1913.2, 1913.3
5. At the time fresh concrete is sampled to 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: 5.6, 5.8	1913.1
6. Inspection of concrete and shotcrete placement for proper application techniques.	X	—	ACI 318: 5.9, 5.10	1913.6, 1913.7, 1913.8
7. Inspection for maintenance of specified curing temperature and techniques.	—	X	ACI 318: 5.11-5.13	1913.9
8. Inspection of prestressed concrete: a. Application of prestressing forces. b. Grouting of bonded prestressing tendons in the seismic-force-resisting system.	X X	—	ACI 318: 18.20 ACI 318: 18.18.4	—
9. Erection of precast concrete members.	—	X	ACI 318: Ch. 16	—
10. Verification of in-situ concrete strength, prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs.	—	X	ACI 318: 6.2	—
11. Inspect formwork for shape, location and dimensions of the concrete member being formed.	—	X	ACI 318: 6.1.1	—
For SI: 1 inch = 25.4 mm a. Where applicable, see also Section 1707.1, Special Inspection for seismic resistance.				

Table 1704.5.1					
LEVEL 1 REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION					
VERIFICATION AND INSPECTION	CONTINUOUS	PERIODIC	REFERENCE FOR CRITERIA		
			IBC SECTION	TMS 402/ACI 530/ASCE 5a	TMS 602/ACI 530.1/ASCE 6a
1. As masonry construction begins, the following shall be verified to ensure compliance:					
a. Proportions of site-prepared mortar.	—	X	—	—	Art. 2.6A
b. Construction of mortar joints.	—	X	—	—	Art. 3.3B
c. Location of reinforcements, connectors, prestressing tendons and anchorages.	—	X	—	—	Art. 3.4, 3.6A
d. Prestressing technique.	—	X	—	—	Art. 3.6B
e. Grade and size of prestressing tendons and anchorages.	—	X	—	—	Art. 2.4B, 2.4H
2. The inspection program shall verify:					
a. Size and location of structural elements.	—	X	—	—	Art. 3.3G
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	—	X	—	Sec. 1.2.2(e), 2.1.4, 3.1.6	—
c. Specified size, grade and type of reinforcement.	—	X	—	Sec. 1.13	Art. 2.4, 3.4
d. Welding of reinforcing bars.	X	—	—	Sec. 2.1.10.7.2, 3.3.3.4(b)	—
e. Preparation, construction and protection of masonry during cold weather (temperature below 400F) or hot weather (temperature above 900F).	—	X	Sec. 2104.3, 2104.4	—	Art. 1.8C, 1.8D
f. Application and measurement of prestressing force.	—	X	—	—	Art. 3.6B
3. Prior to grouting, the following shall be verified to ensure compliance:					
a. Grout space is clean.	—	X	—	—	Art. 3.2D
b. Placement of reinforcement and connectors, and prestressing tendons and anchorages.	—	X	—	Sec. 1.13	Art. 3.4
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	—	X	—	—	Art. 2.6B
d. Construction of mortar joints.	—	X	—	—	Art. 3.3B
4. Grout placement shall be verified to ensure compliance:	X	—	—	—	Art. 3.5
a. Grouting of prestressing bonded tendons.	X	—	—	—	Art. 3.6C
5. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	—	X	Sec. 2105.2.2, 2105.3	—	Art. 1.4
6. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	—	X	—	—	Art. 1.5
For SI: C=[(F)-32]/1.8					
a. The specific standards referenced are those listed in Chapter 35.					

Table 1704.7		
REQUIRED VERIFICATION AND INSPECTION OF SOILS		
VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
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 controlled fill materials.	-	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	-
5. Prior to placement of controlled fill, observe subgrade and verify that site has been prepared properly.	-	X

RIDGWAY FIRE STATION

RIDGWAY FIRE PROTECTION DISTRICT

LOT 26-B1, RIDGWAY, CO 81432

ISSUE LOG
05/05/14 COORDINATION SET
05/09/14 BID SET

STATEMENT OF SPECIAL INSPECTIONS

PROJ. NO. 2013-247-001

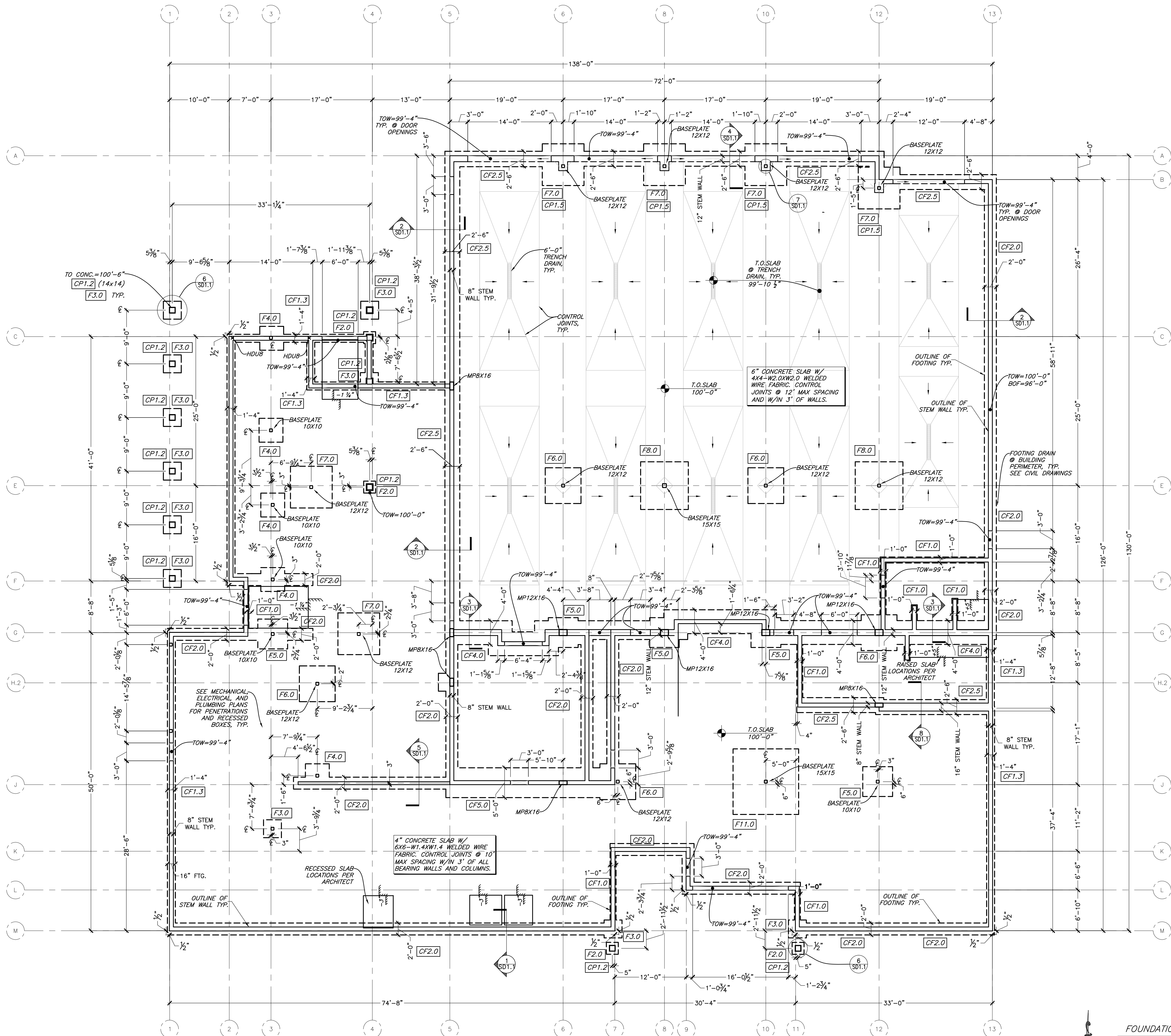
PROJECT DATE: 05/05/14

SHEET NUMBER:

S0.1

NOT FOR CONSTRUCTION - BID SET

I:\2013\2013-247 Ridgway\002 Strucl-H-Dwg\000 Working\RF\5 FoundationPlan_Updated.dwg Plotted: 5/9/2014 12:56 PM By: John Patch



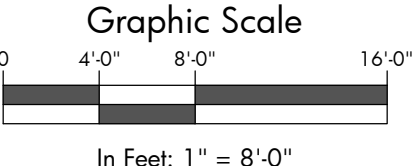
Footing Schedule		
Mark	Size	Reinforcement
F2.0	2'-0"x2'-0"x0'-10"	(2)-#5's Each Way
F3.0	3'-0"x3'-0"x1'-0"	(3)-#5's Each Way
F4.0	4'-0"x4'-0"x1'-2"	(4)-#5's Each Way
F5.0	5'-0"x5'-0"x1'-4"	(5)-#5's Each Way
F6.0	6'-0"x6'-0"x1'-6"	(6)-#5's Each Way
F7.0	7'-0"x7'-0"x1'-8"	(7)-#5's Each Way
F8.0	8'-0"x8'-0"x1'-8"	(8)-#5's Each Way
F11.0	11'-0"x11'-0"x2'-6"	(15)-#5's Each Way

Continuous Footing Schedule		
Mark	Size	Reinforcement
CF1.0	1'-0"x6"	(2)-#5's Continuous
CF1.3	1'-6"x8"	(2)-#5's Continuous
CF2.0	2'-0"x10"	(2)-#5's Continuous
CF2.5	2'-6"x12"	(3)-#5's Continuous
CF4.0	4'-0"x14"	(4)-#5's Continuous & #5's Transverse @ 16" o.c.
CF5.0	5'-0"x16"	(5)-#5's Continuous & #5's Transverse @ 16" o.c.

Concrete Pier & Column Schedule			
Mark	Size	Reinforcement	Remarks
CP1.2	1'-2"x1'-2"	(8)-#5's Vertical, (3) Each Face #3 Ties @ 6" o.c.	Standard Hook into Footing at each vertical bar
CP1.5	1'-6"x1'-6"	(12)-#5's Vertical, (4) Each Face #3 Ties @ 8" o.c.	Standard Hook into Footing at each vertical bar

NOT FOR
CONSTRUCTION
- BID SET

FOUNDATION PLAN
SCALE: 1/8" = 1'-0"



ISSUE LOG

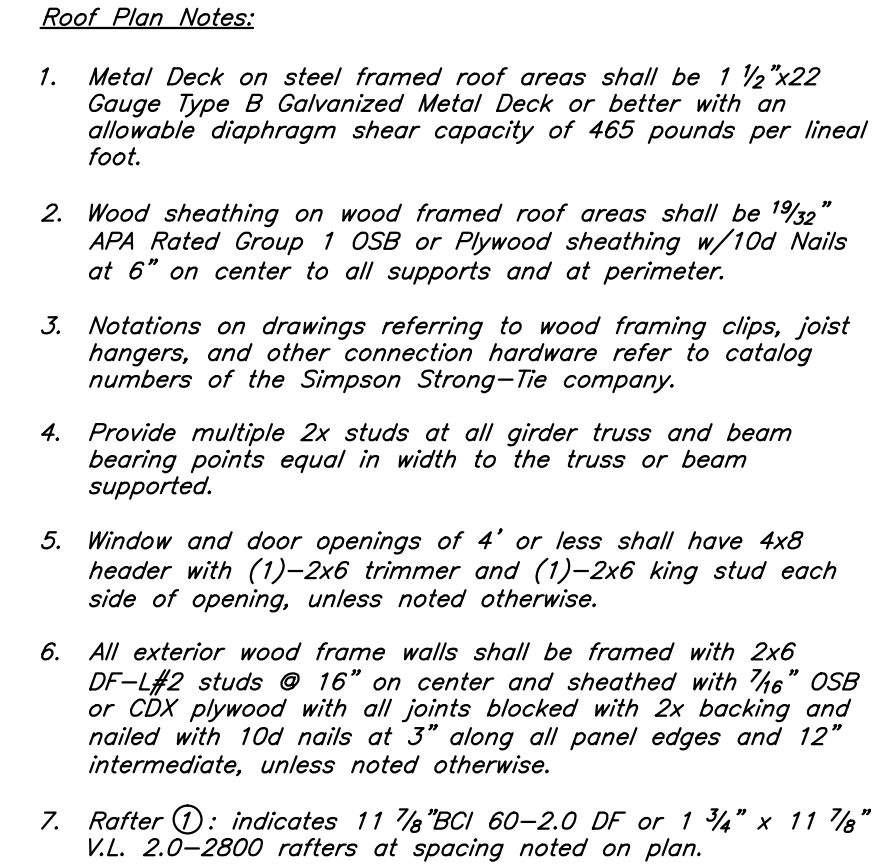
05/05/14	COORDINATION SET
05/09/14	BIDSET

FOUNDATION PLAN

PROJ. NO. 2013-247.001
PROJECT DATE: 05/05/14
SHEET NUMBER:

S1.0

RIDGWAY FIRE STATION
RIDGWAY FIRE PROTECTION DISTRICT
LOT 26-B1, RIDGWAY, CO 81432



Wood Frame Header Schedule			
Mark	Header Size	Trimmer and King Studs	
		DF-L#2 Option	Versalram Option
H1	4X8 DF-L #2	(1)-2X6 Trimmer & (1)-2x6 King Stud Ea. Side	(1)-1 3/4"x5 1/2" Trimmer & (1)-1 3/4"x5 1/2" King Stud Ea. Side
H2	3 1/2" x 9 1/2" Versalram 2.0/31000DF	(2)-2X6 Trimmer & (2)-2x6 King Stud Ea. Side	(1)-1 3/4"x5 1/2" Trimmer & (1)-1 3/4"x5 1/2" King Stud Ea. Side
H3	3 1/2" x 11 7/8" Versalram 2.0/31000DF	(2)-2X6 Trimmer & (2)-2x6 King Stud Ea. Side	(2)-1 3/4"x5 1/2" Trimmer & (1)-1 3/4"x5 1/2" King Stud Ea. Side
H4	5 1/4" x 14" Versalram 2.0/31000DF	(3)-2X6 Trimmer & (3)-2x6 King Stud Ea. Side	(2)-1 3/4"x5 1/2" Trimmer & (2)-1 3/4"x5 1/2" King Stud Ea. Side

Overframed Rafter Schedule			
Horizontal Rafter Span, ft.	DF-L#2	1-3/4" Versalam 2.0-2800	BCI 60-2.0
0 to 4'	2x4's @ 24 oc	1 3/4"x5 1/2" @ 24 oc	11 7/8" @ 24 oc
4'1 to 7'0	2x6's @ 24 oc	1 3/4"x5 1/2" @ 24 oc	11 7/8" @ 24 oc
7'1 to 9'0	2x8's @ 24 oc	1 3/4"x5 1/2" @ 24 oc	11 7/8" @ 24 oc
9'1 to 11'0	2x10's @ 24 oc	1 3/4"x7 1/4" @ 24 oc	11 7/8" @ 24 oc
11'1 to 13'0	2x12's @ 24 oc	1 3/4"x9 1/2" @ 24 oc	11 7/8" @ 24 oc
13'1 to 16'0	2x16's @ 16 oc	1 3/4"x9 1/2" @ 24 oc	11 7/8" @ 24 oc
16'1 to 18'0	NA	1 3/4"x11 7/8" @ 24 oc	11 7/8" @ 24 oc
18'1 to 20'0	NA	1 3/4"x11 7/8" @ 24 oc	11 7/8" @ 19.2 oc

[illegible]

ROOF
FRAMING
PLAN

PROJ. NO. 2013-247.001

PROJECT DATE: 05/05/14

SHEET NUMBER:

S3.0

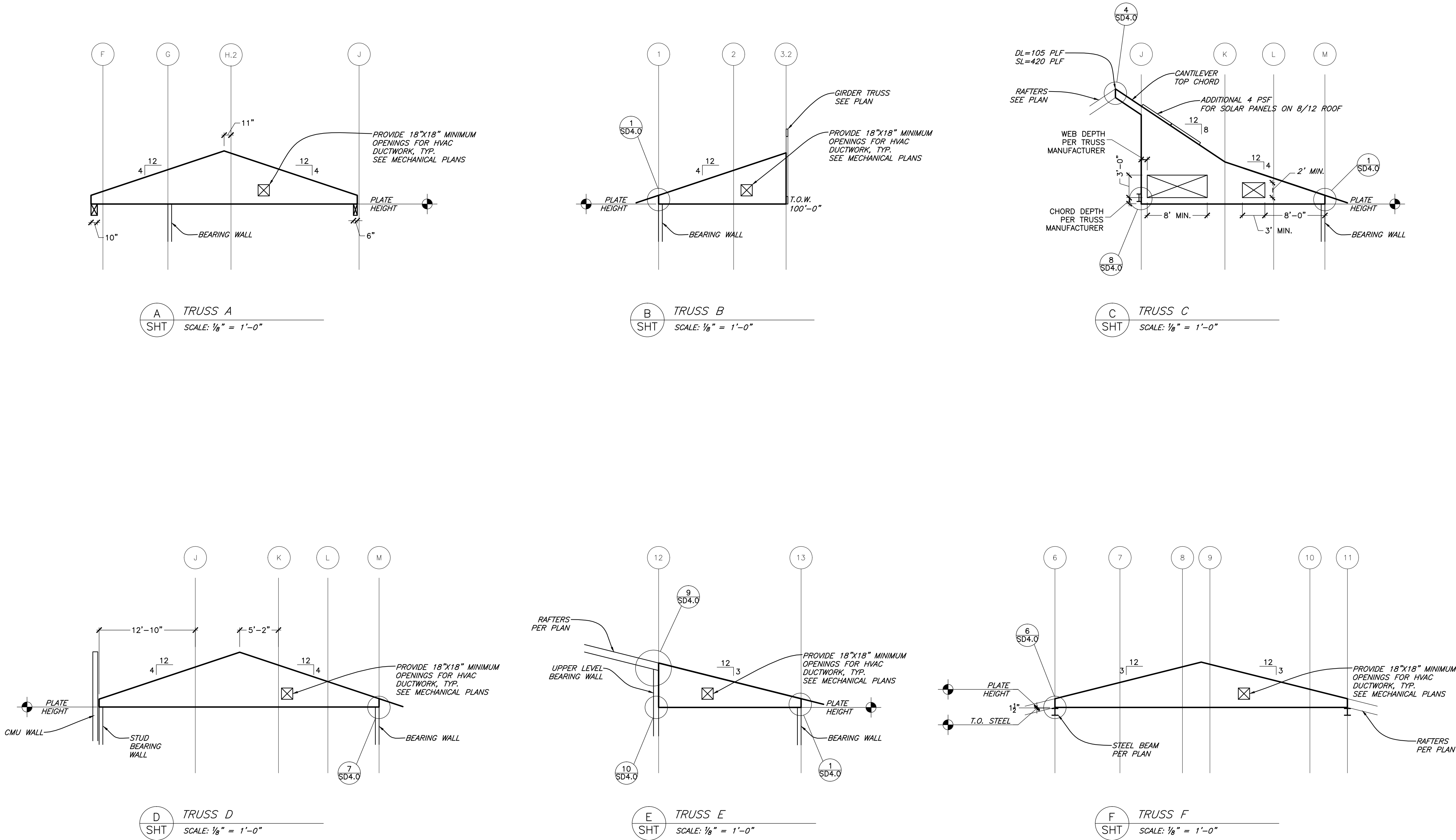
NOT FOR
CONSTRUCTION
- BID SET

ROOF FRAMING PLAN

SCALE: $\frac{1}{8}" = 1'-0"$

RAFETR ①: 11 7/8 BCI 60-2.0 DF or 1 3/4" x
11 7/8" VL 2.0-2800

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ISSUE LOG	
05/05/14	COORDINATION SET
05/09/14	BID SET
TRUSS ELEVATIONS	
PROJ. NO. 2013-247.001	
PROJECT DATE: 05/05/14	
SHEET NUMBER:	
S4.0	

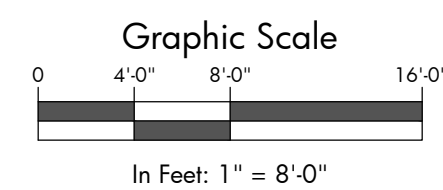
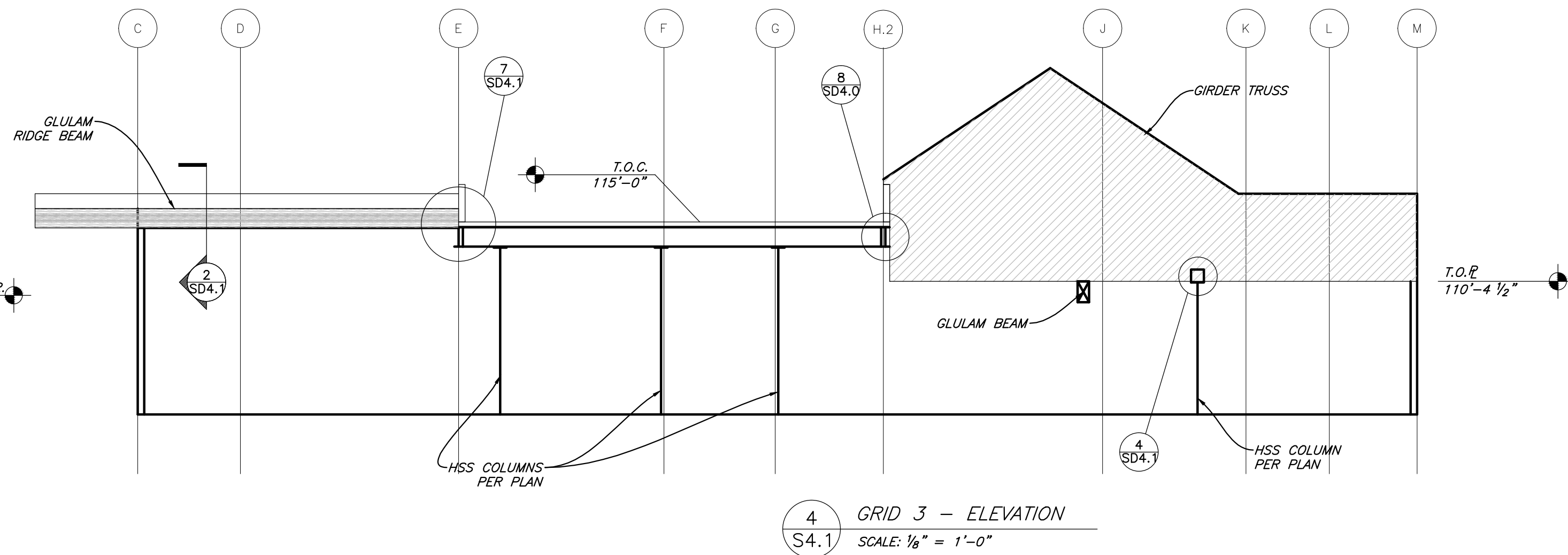
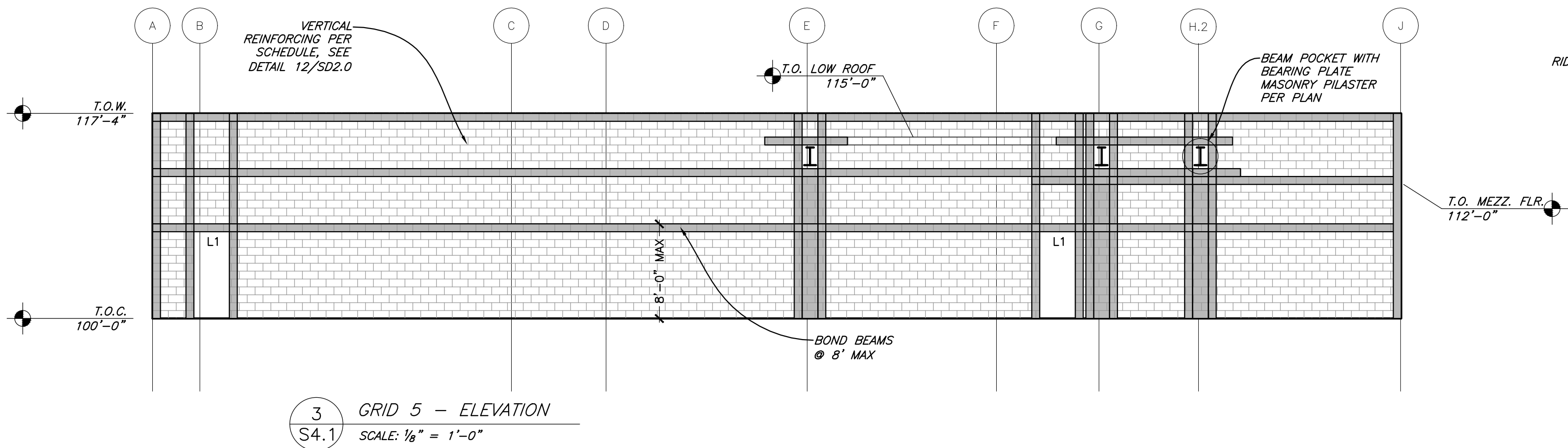
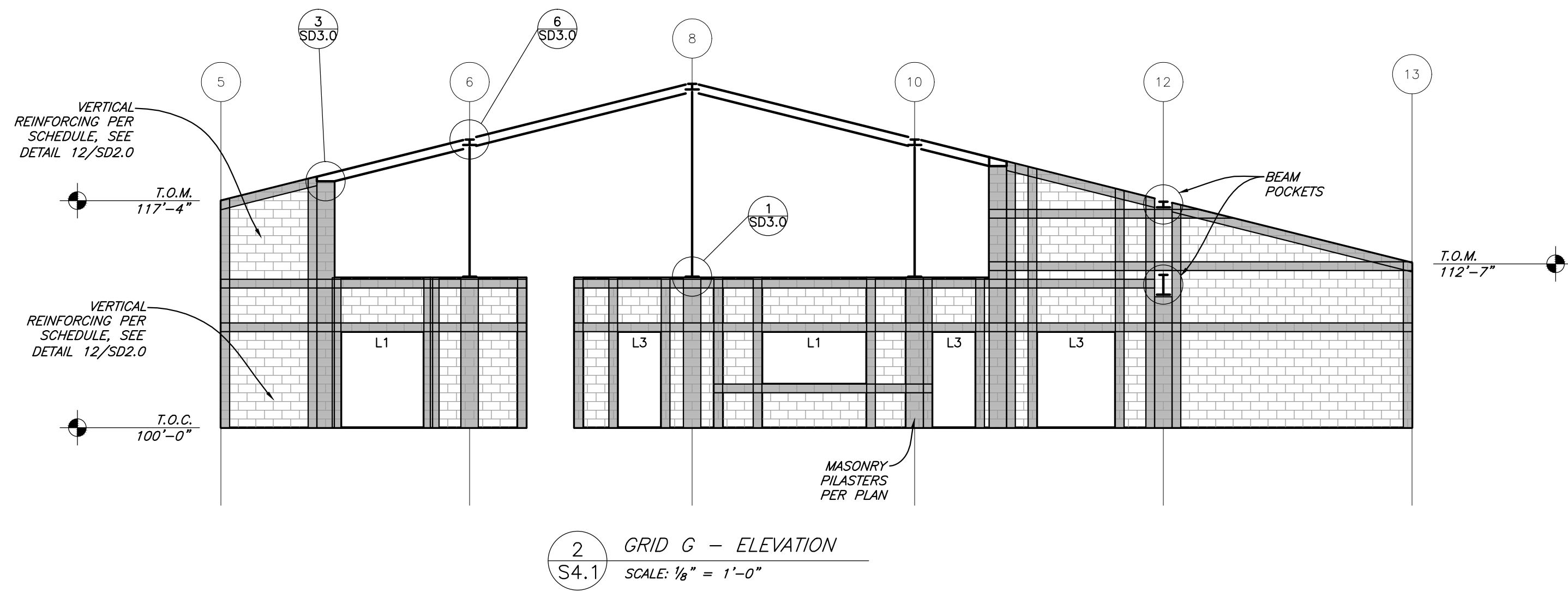
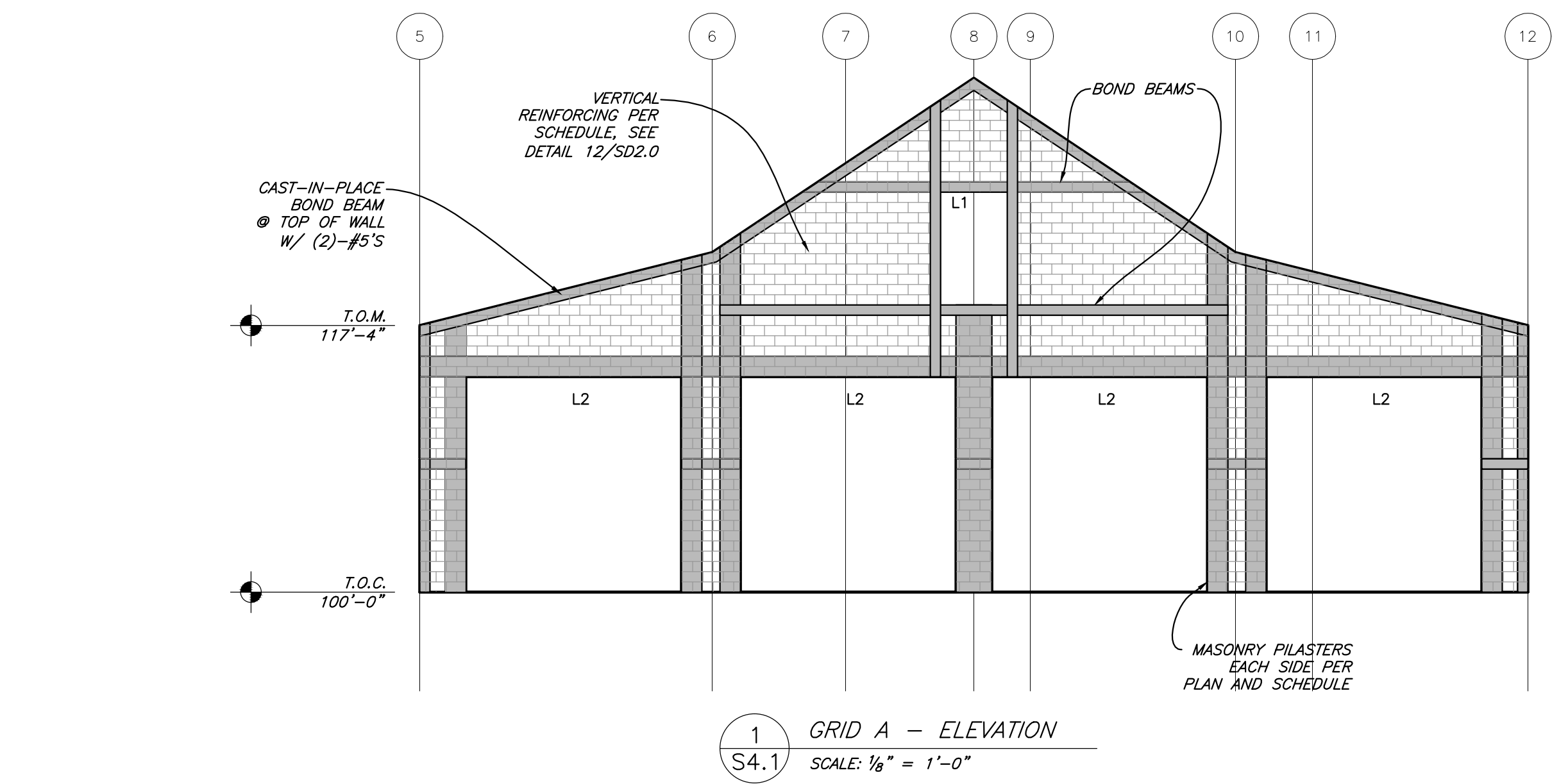
RIDGWAY FIRE STATION
RIDGWAY FIRE PROTECTION DISTRICT
LOT 26-B1, RIDGWAY, CO 81432

ISSUE LOG	
05/05/14	COORDINATION SET
05/09/14	BID SET

ELEVATIONS

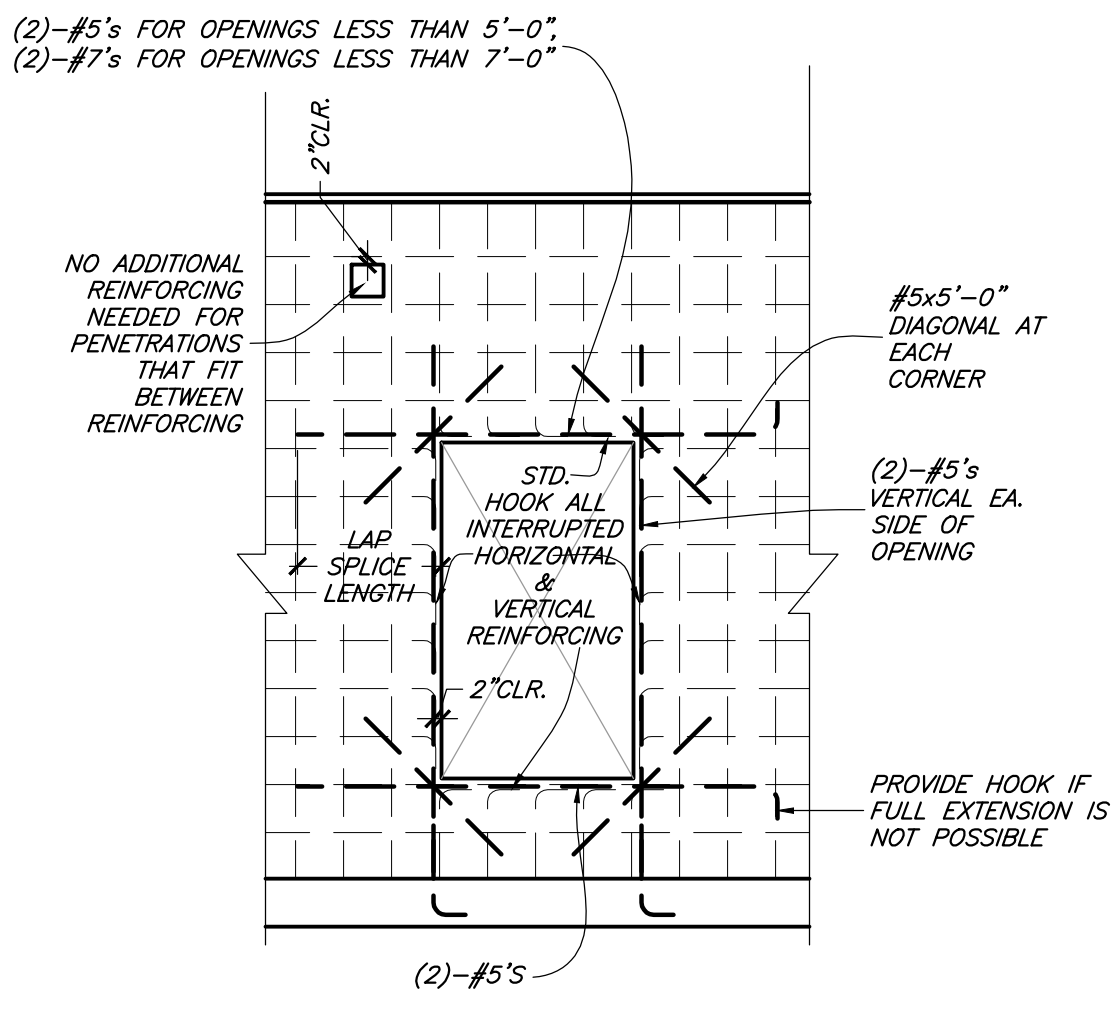
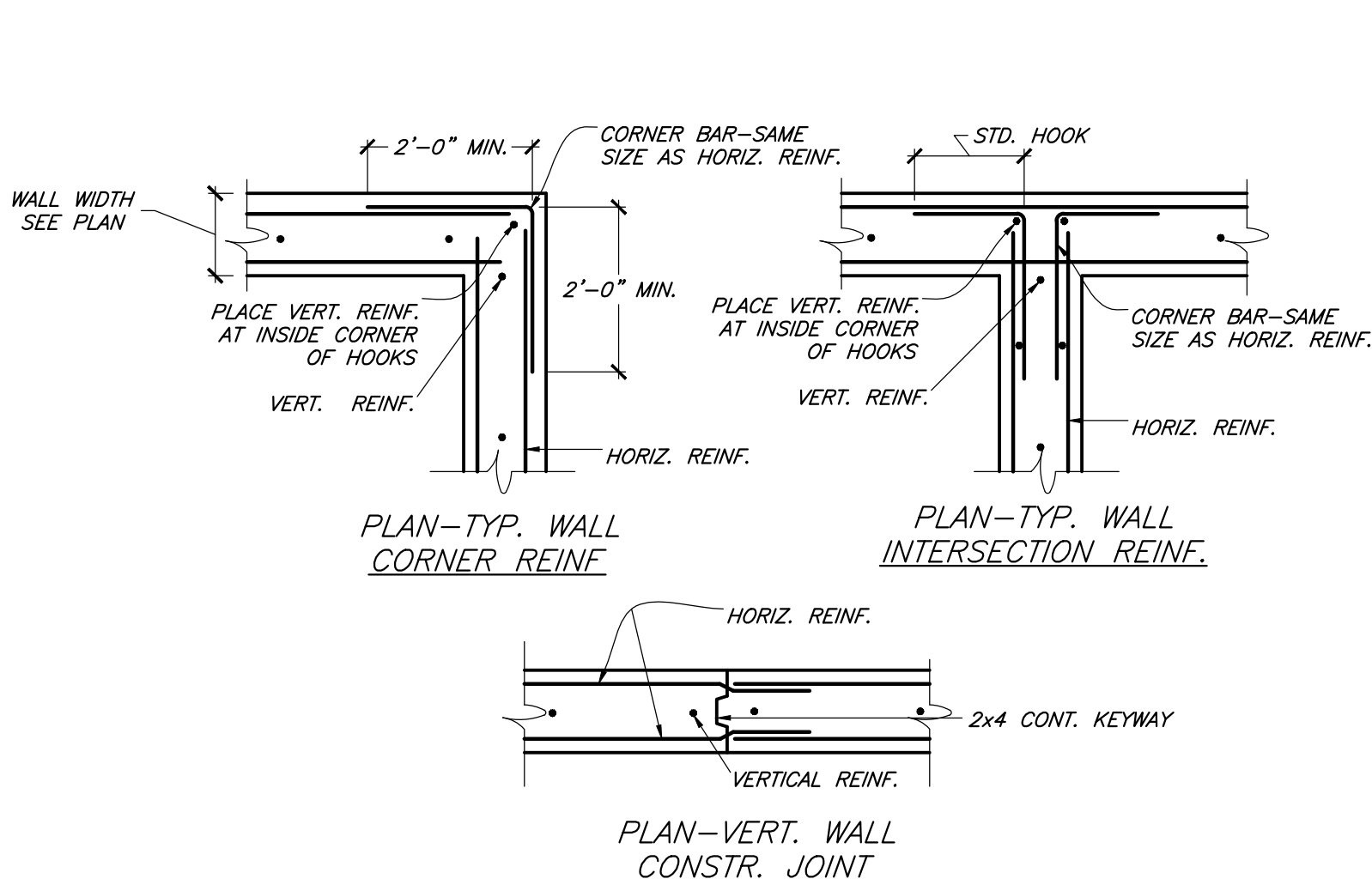
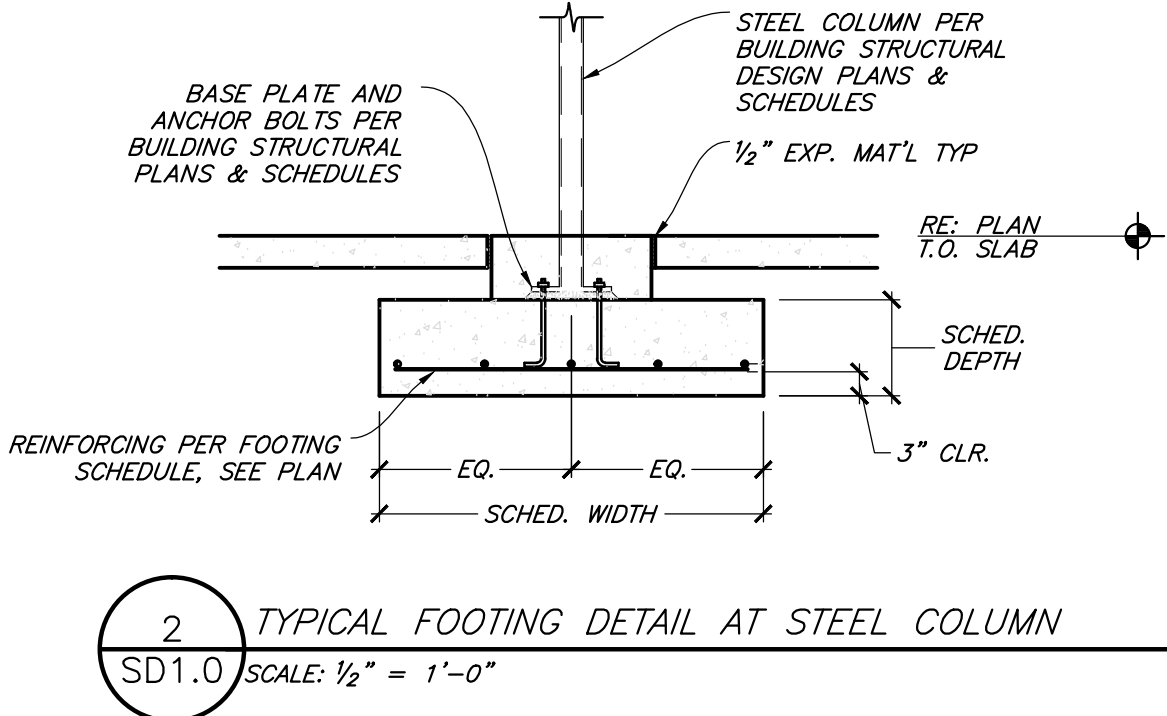
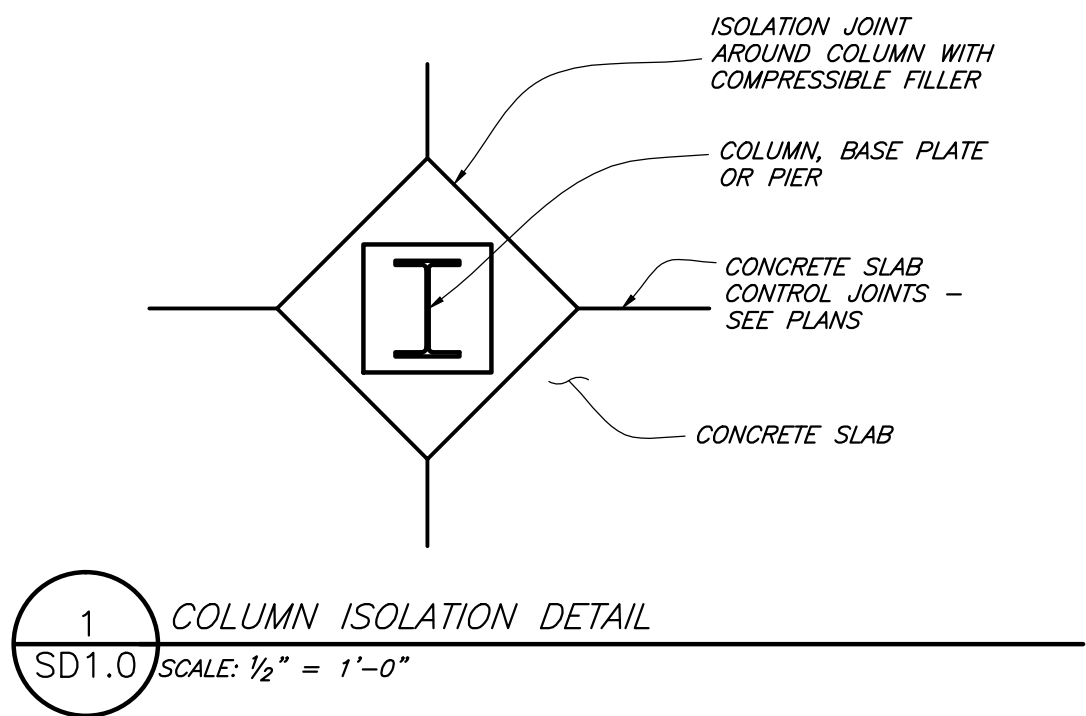
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PROJECT DATE: 05/05/14
SHEET NUMBER:

S4.1



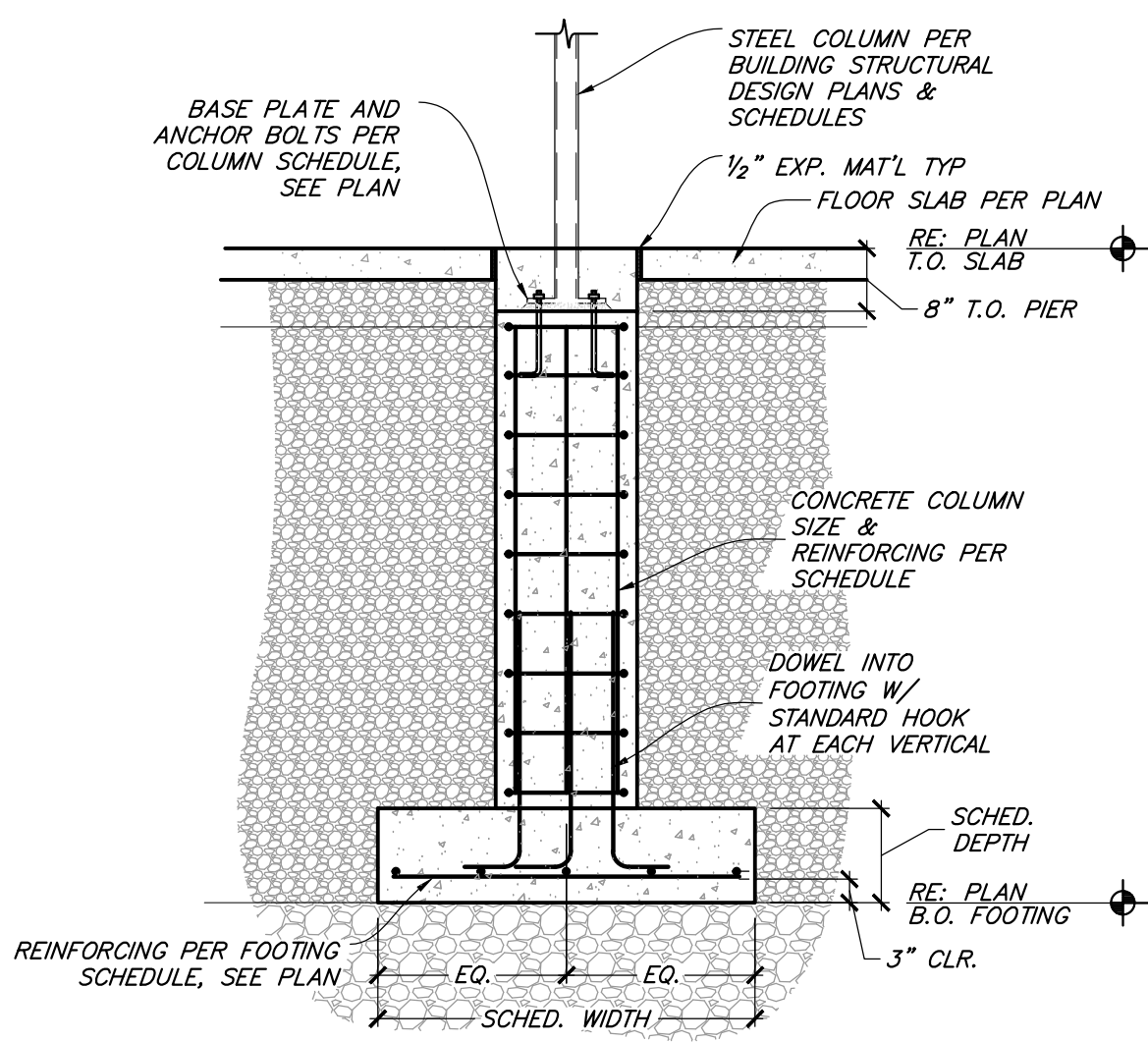
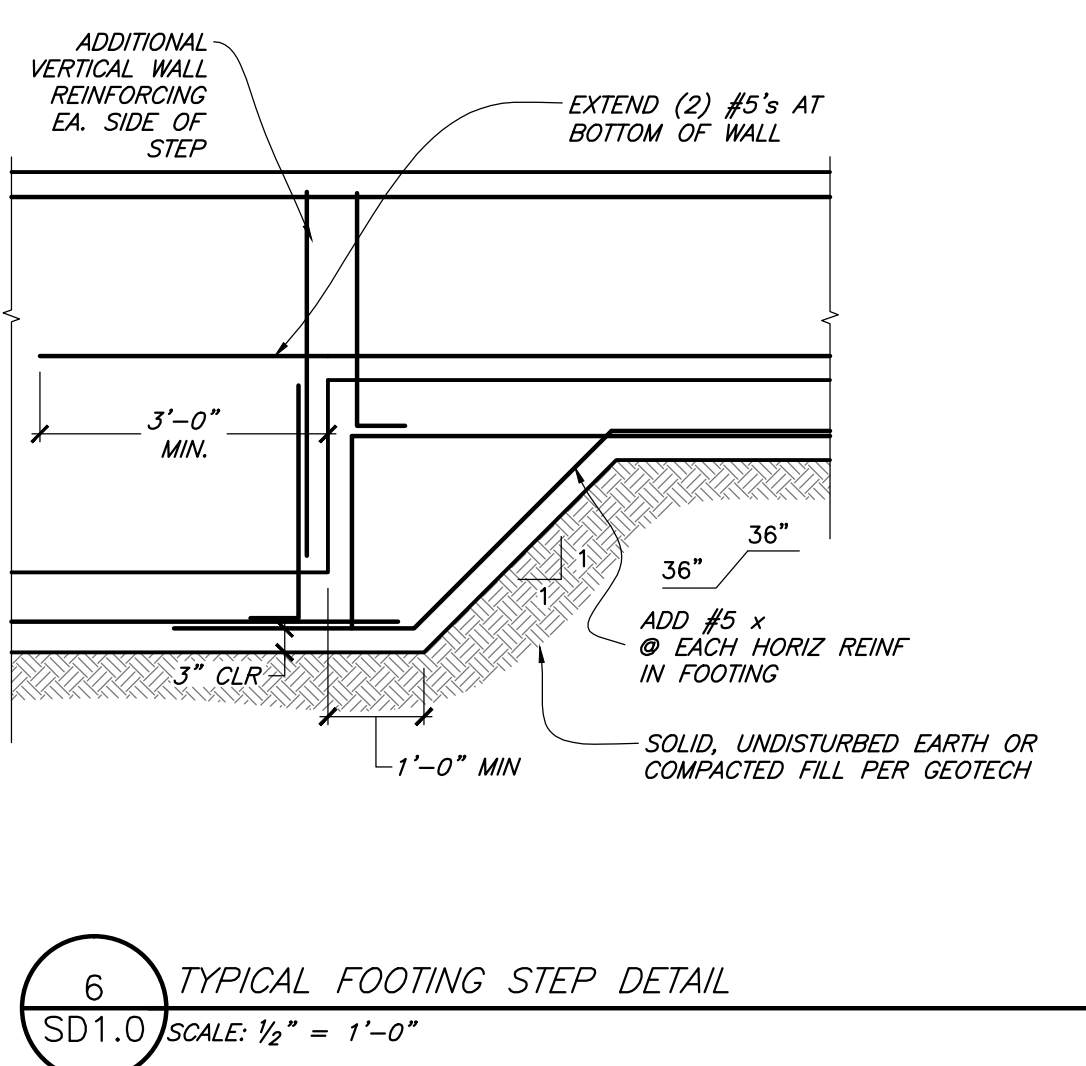
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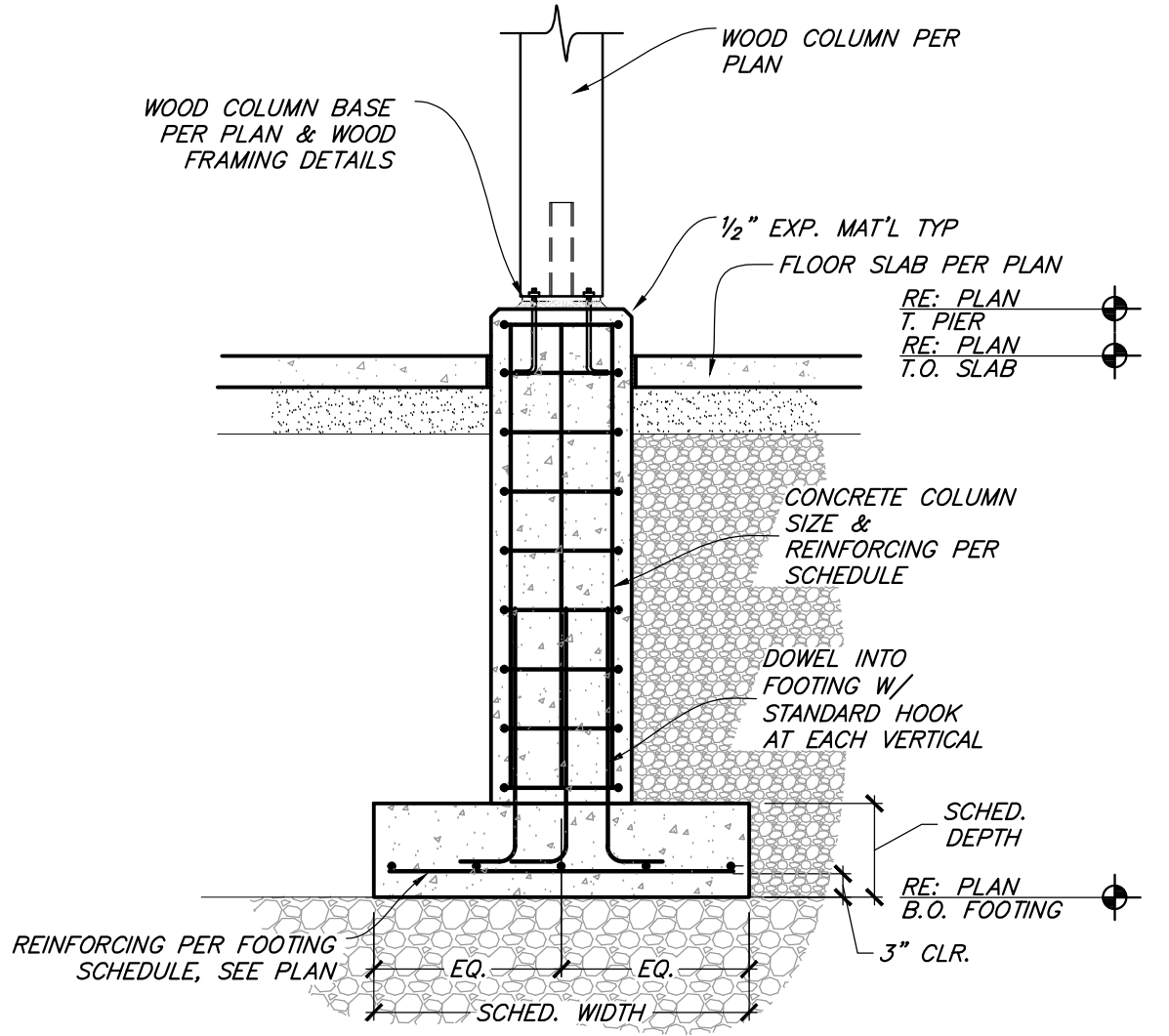


4 TYPICAL FOUNDATION WALL REINFORCING
SD1.0 SCALE: 1/2" = 1'-0"

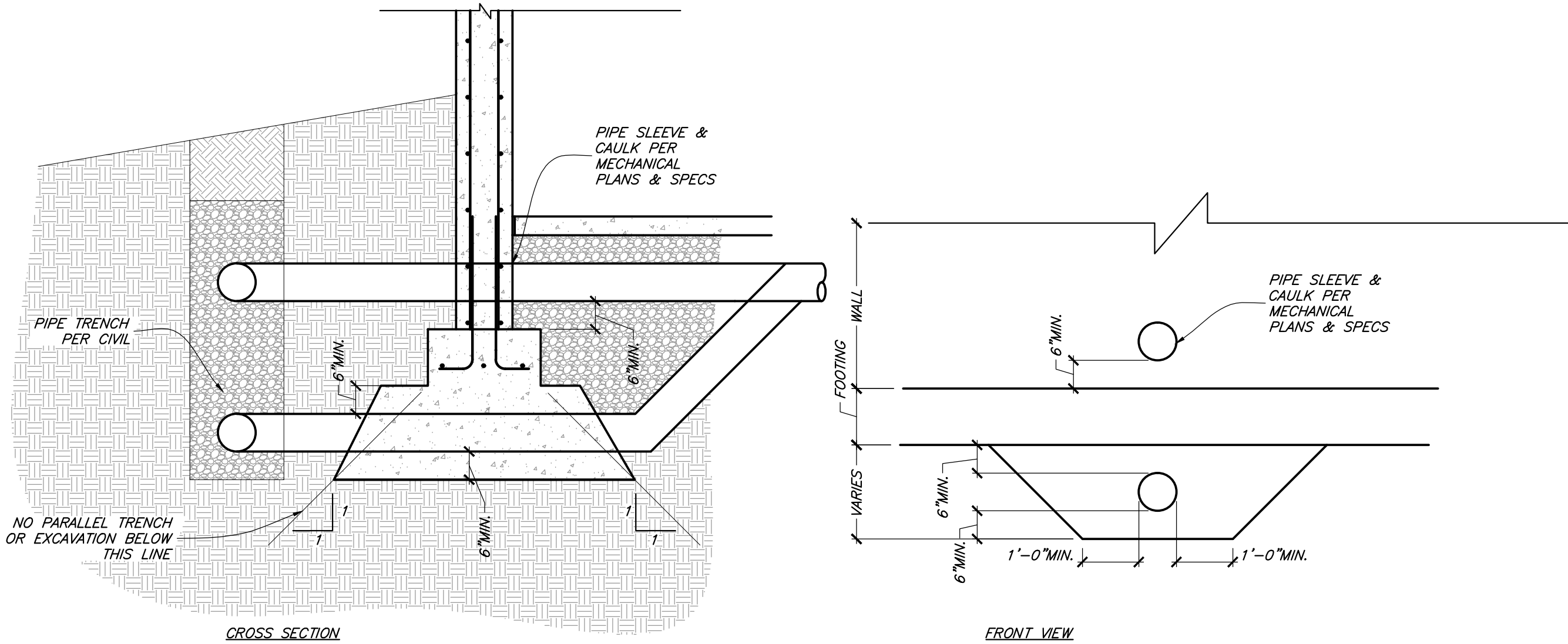
5 TYPICAL CONCRETE WALL ROUGH OPENING DETAIL
SD1.0 SCALE: 1/4" = 1'-0"



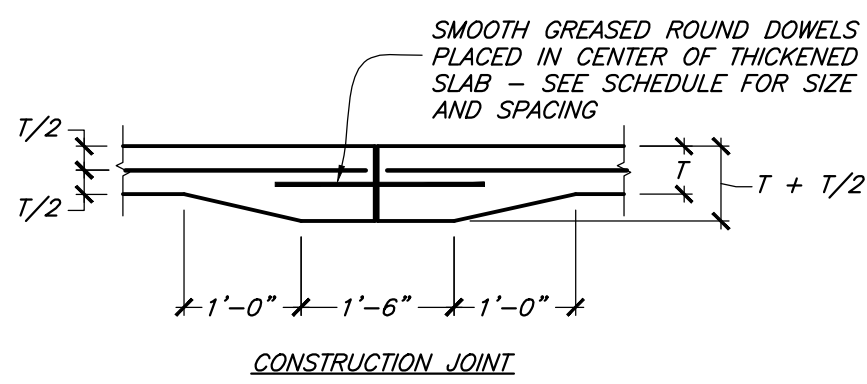
7 CONCRETE PIER & FOOTING DETAIL AT STEEL COLUMN
SD1.0 SCALE: 1/2" = 1'-0"



8 CONCRETE PIER & FOOTING DETAIL AT WOOD COLUMN
SD1.0 SCALE: 1/2" = 1'-0"



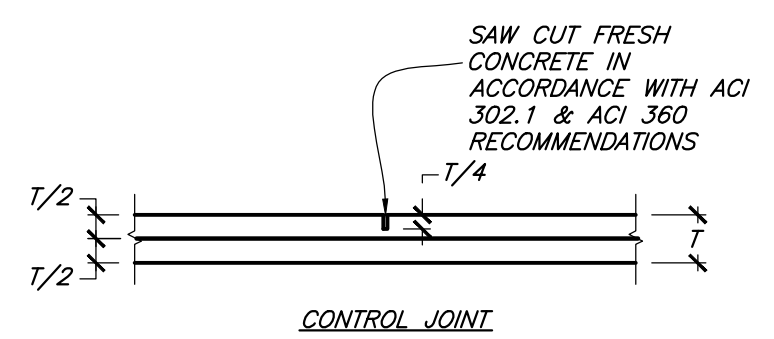
3 PIPE TRENCH DETAIL
SD1.0 SCALE: 1/2" = 1'-0"



- SEE DRAWINGS FOR CONSTRUCTION JOINT LOCATIONS
- STOP REINFORCING AT CONSTRUCTION JOINT
- SEE DRAWINGS FOR SLAB REINFORCING SIZE & SPACING
- THICKEN SLABS TO T+T/2 FOR SLABS LESS THAN 6"

DOWEL SCHEDULE			
T	SIZE & TYPE	LENGTH	SPACING
4"	3/8" DIA. ROUND	12"	12"
5"	3/4" DIA. ROUND	14"	12"
6"	3/4" DIA. ROUND	14"	12"
7"	7/8" DIA. ROUND	16"	12"
8"	1" DIA. ROUND	16"	12"

- CONSTRUCTION JOINT DOWELS ARE BASE ON THE PORTLAND CEMENT ASSOCIATION PUBLICATION CONCRETE FLOORS ON GROUND AND THE ACI MANUAL OF CONCRETE PRACTICE



- SEE DRAWINGS FOR CONTROL JOINT LOCATIONS
- FILL JOINT WITH SEMI-RIGID EPOXY JOINT FILLER
- SEE DRAWINGS FOR SLAB REINFORCING SIZE & SPACING

RECOMMENDED CONTROL JOINT SPACING		
T	MAX. AGGREGATE SIZE LESS THAN 3/4"	MAX. AGGREGATE SIZE 3/4" AND LARGER
4"	10'	12'
5"	10'	13'
6"	12'	15'
7"	14'	18'
8"	16'	20'

- CONTROL JOINT SPACINGS ARE BASE ON THE PORTLAND CEMENT ASSOCIATION PUBLICATION CONCRETE FLOORS ON GROUND AND THE ACI MANUAL OF CONCRETE PRACTICE

9 CONCRETE SLAB JOINTS DETAIL
SD1.0 SCALE: 1/2" = 1'-0"

RIDGWAY FIRE STATION

RIDGWAY FIRE PROTECTION DISTRICT
LOT 26-B1, RIDGWAY, CO 81432

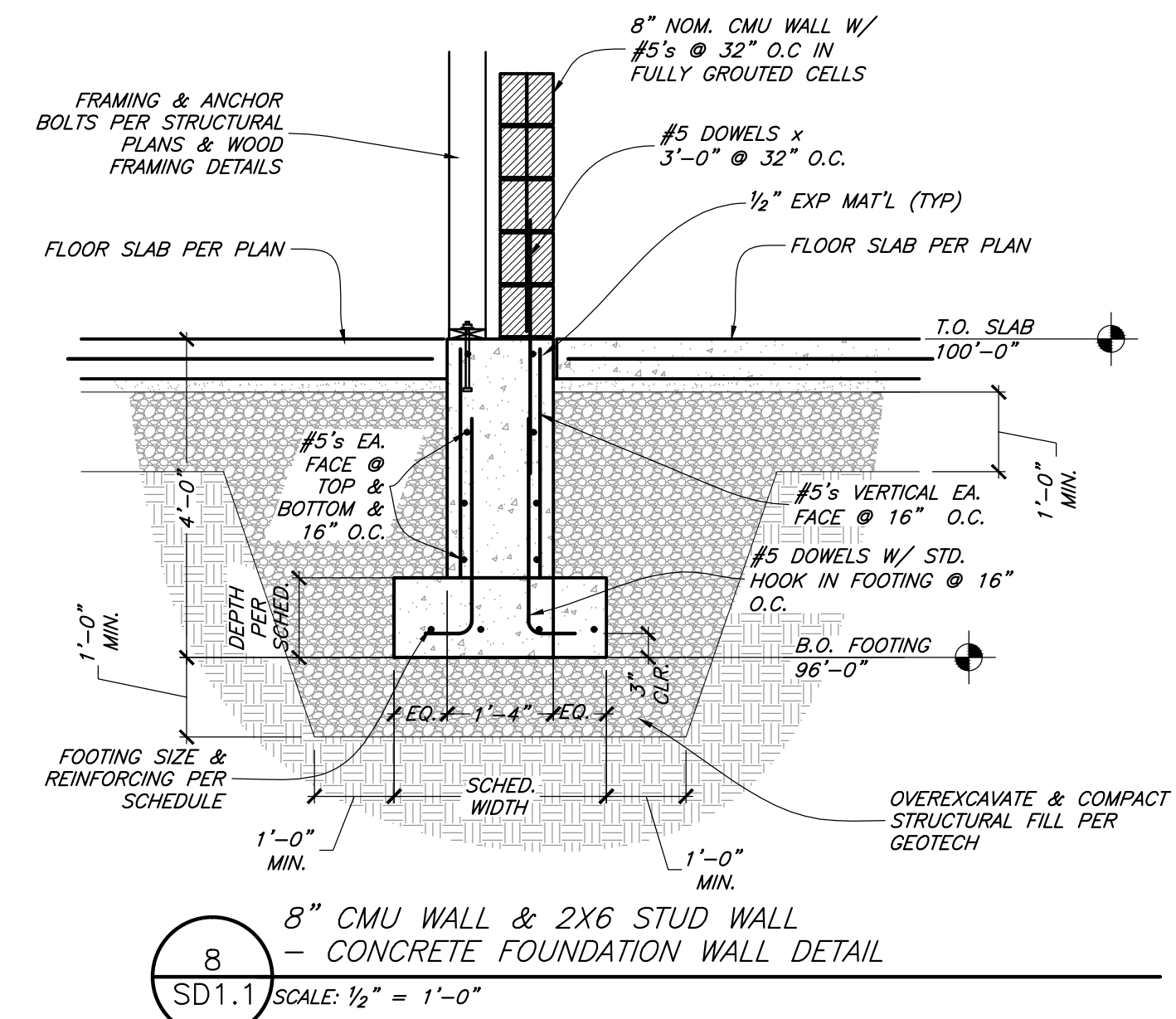
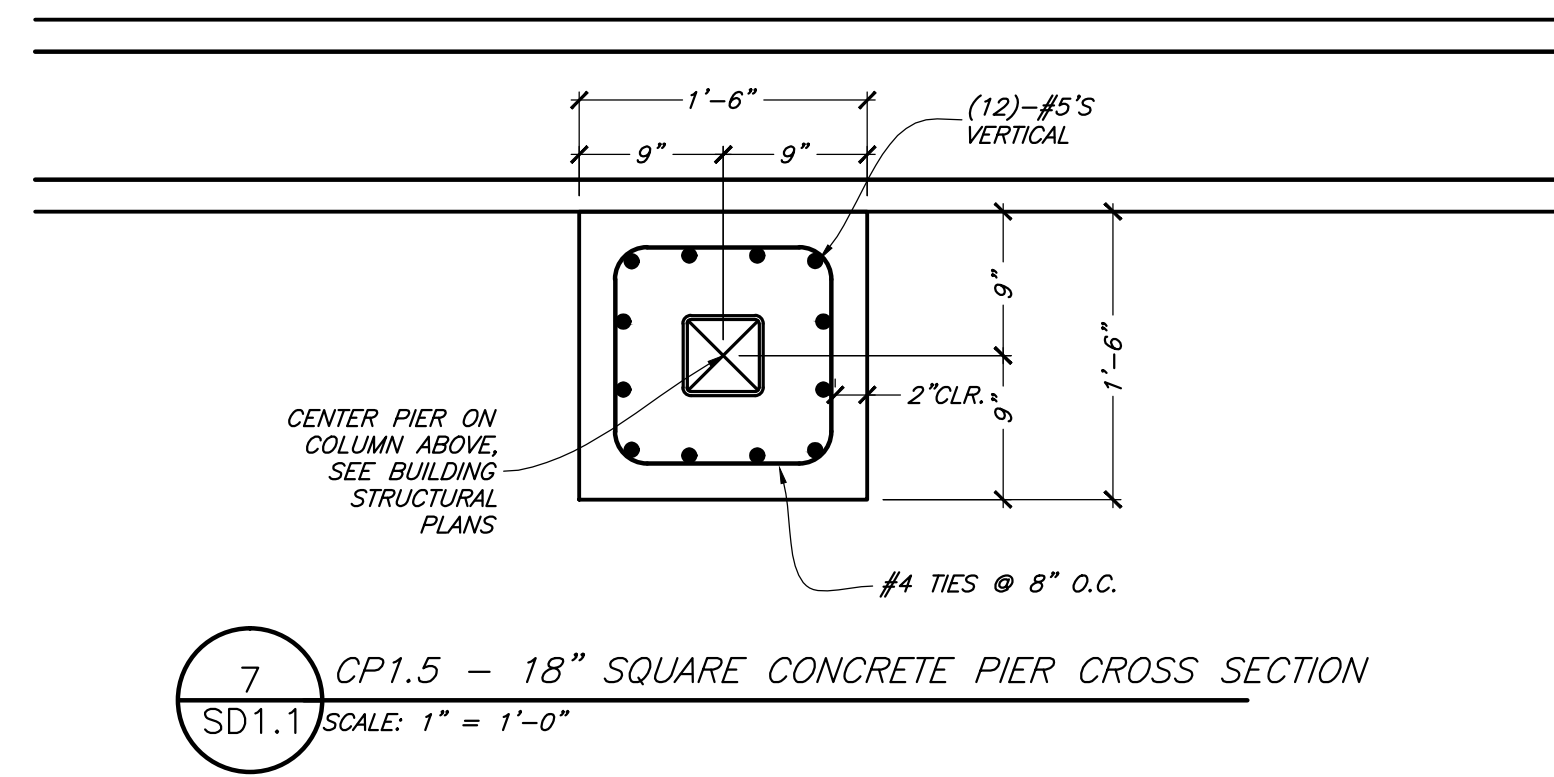
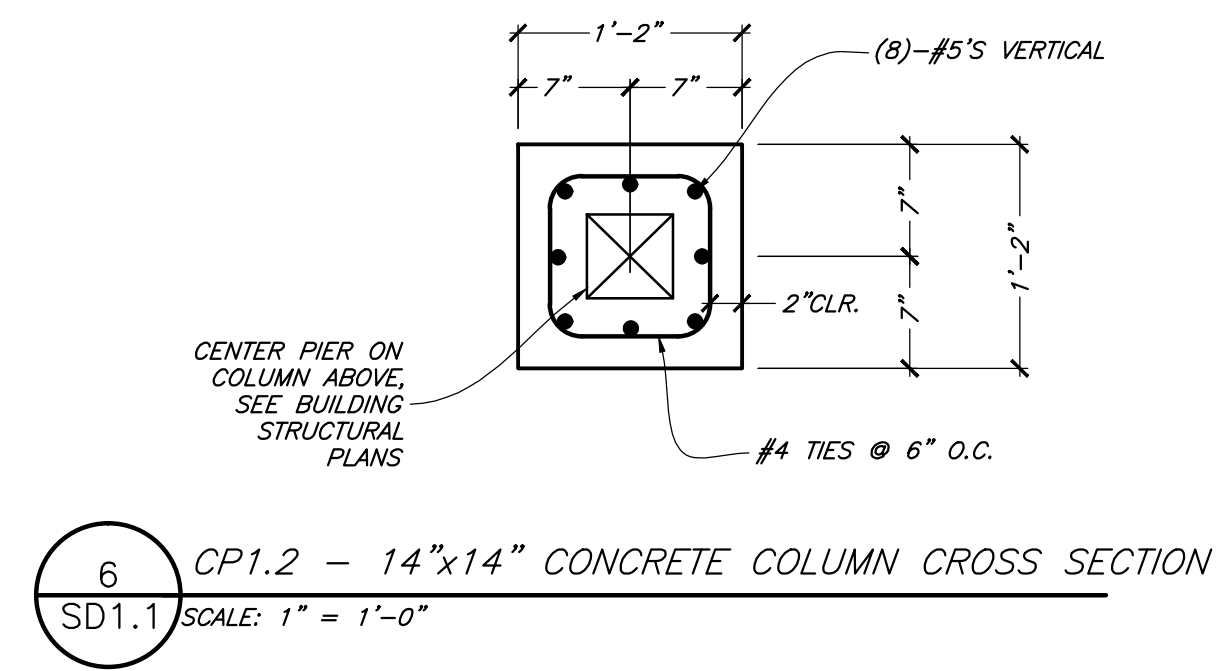
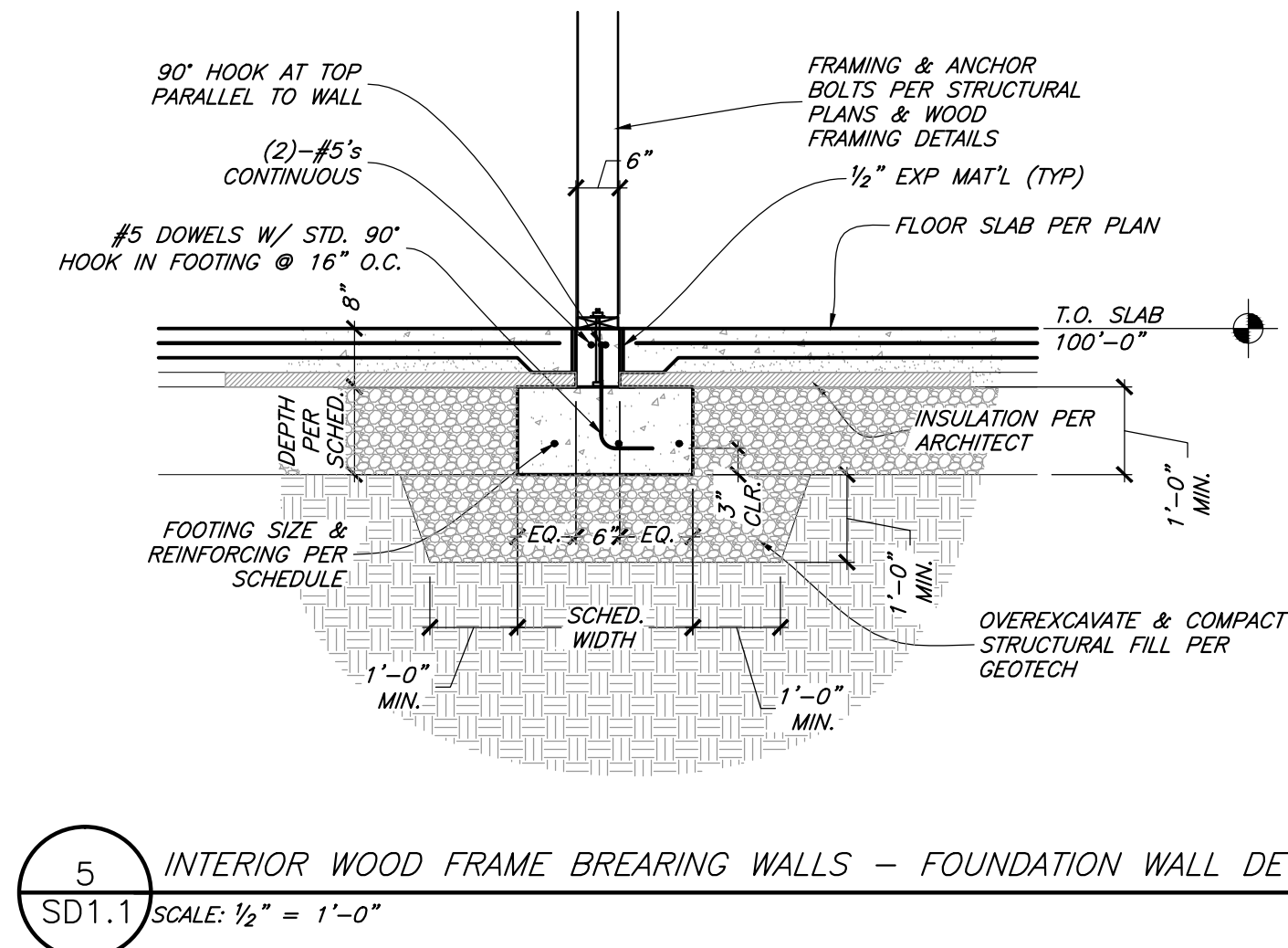
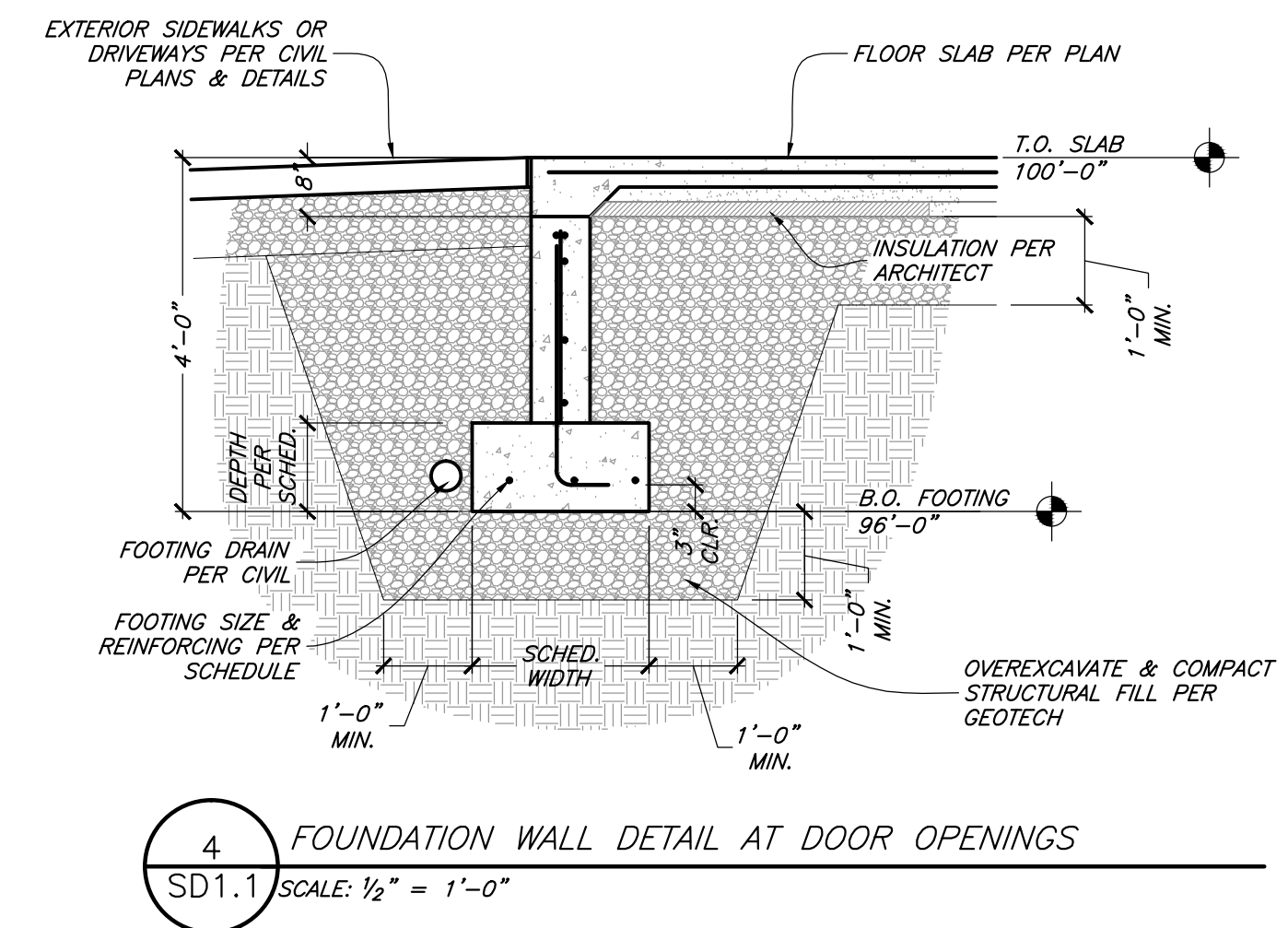
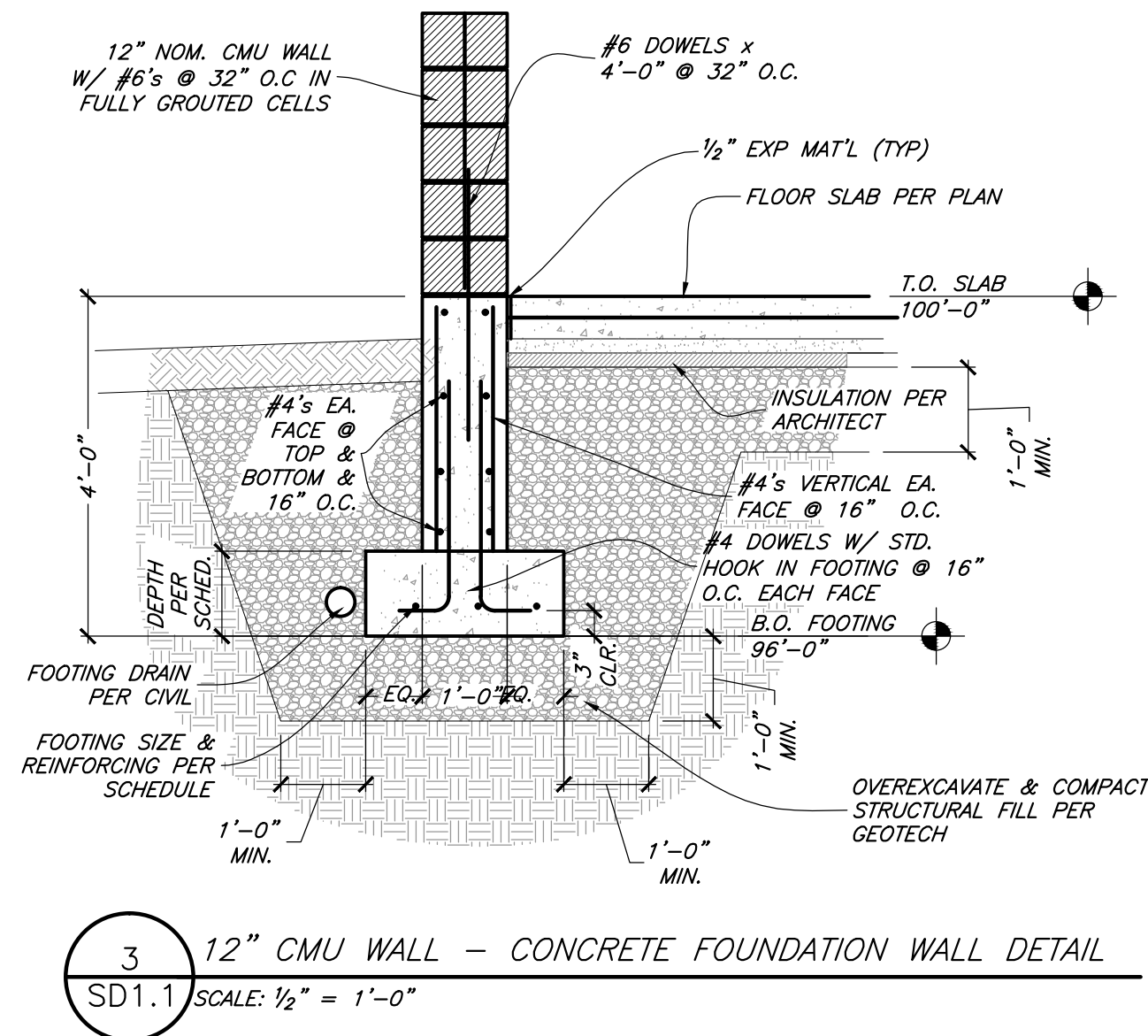
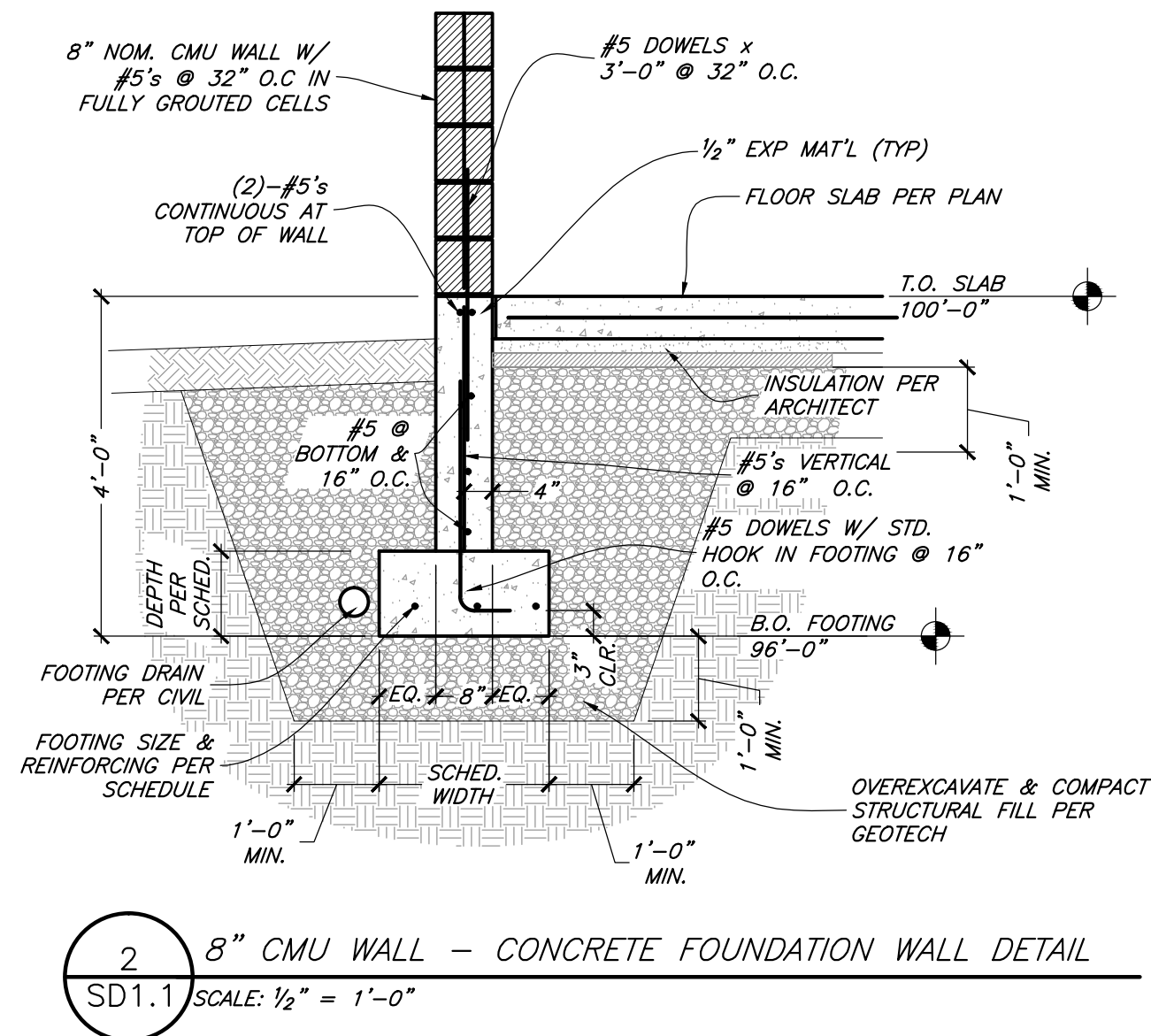
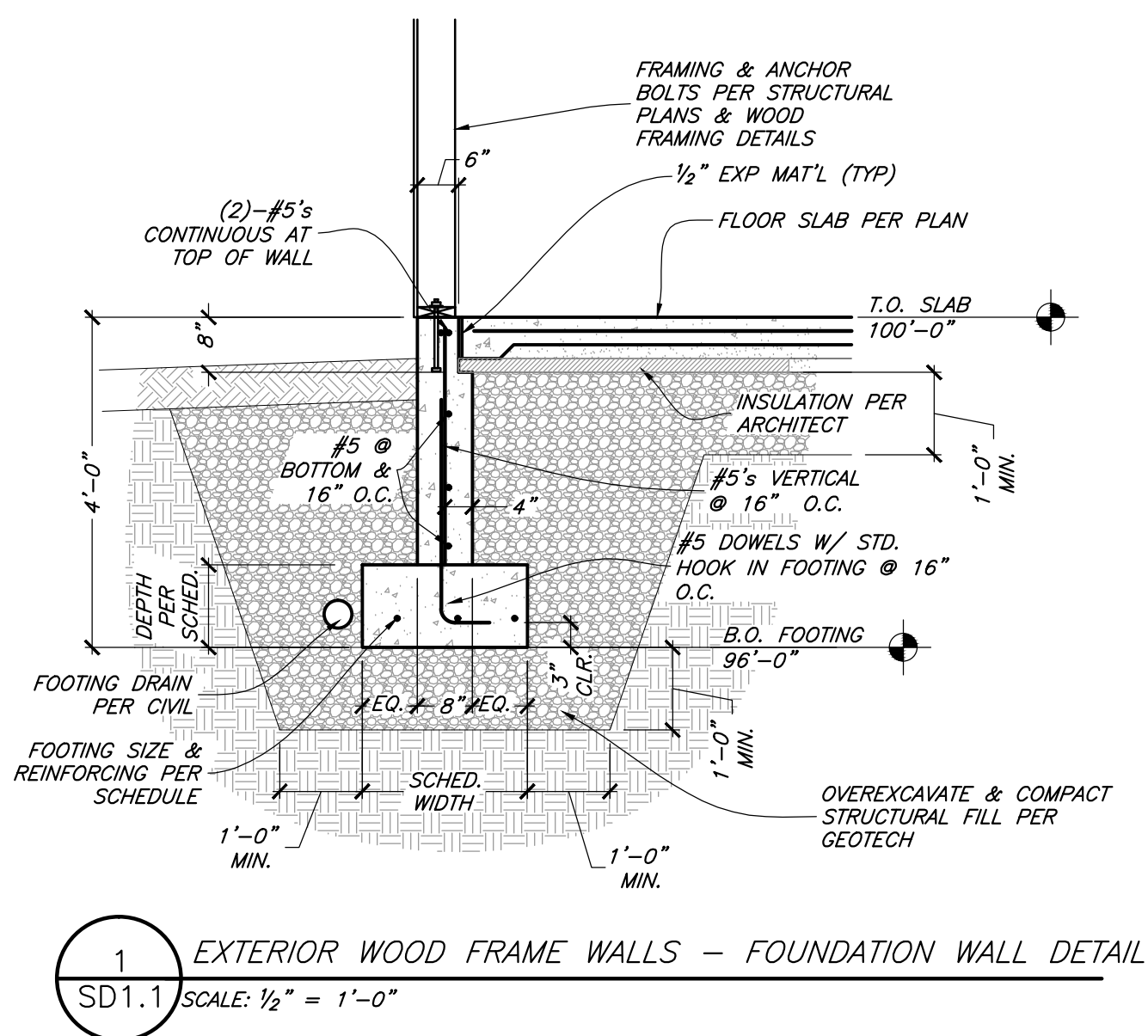
ISSUE LOG	
05/05/14	COORDINATION SET
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CONCRETE DETAILS

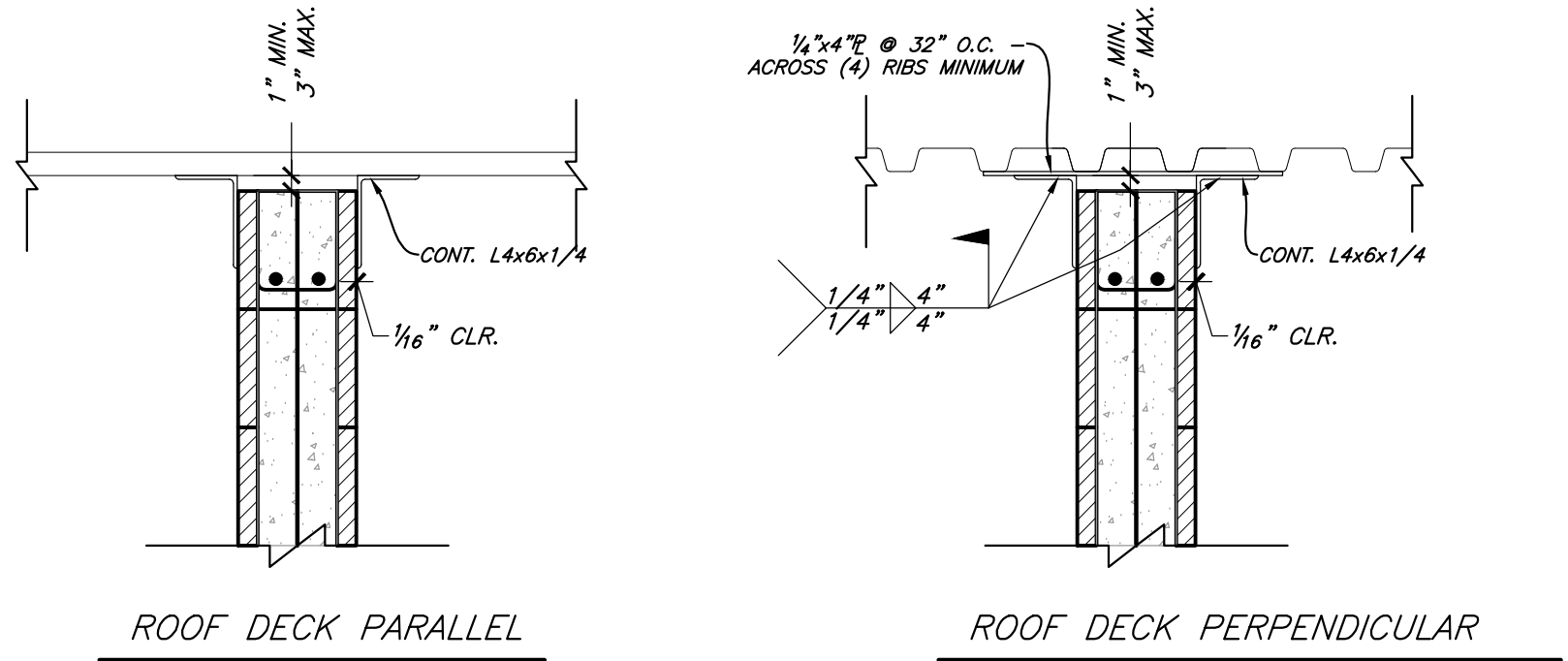
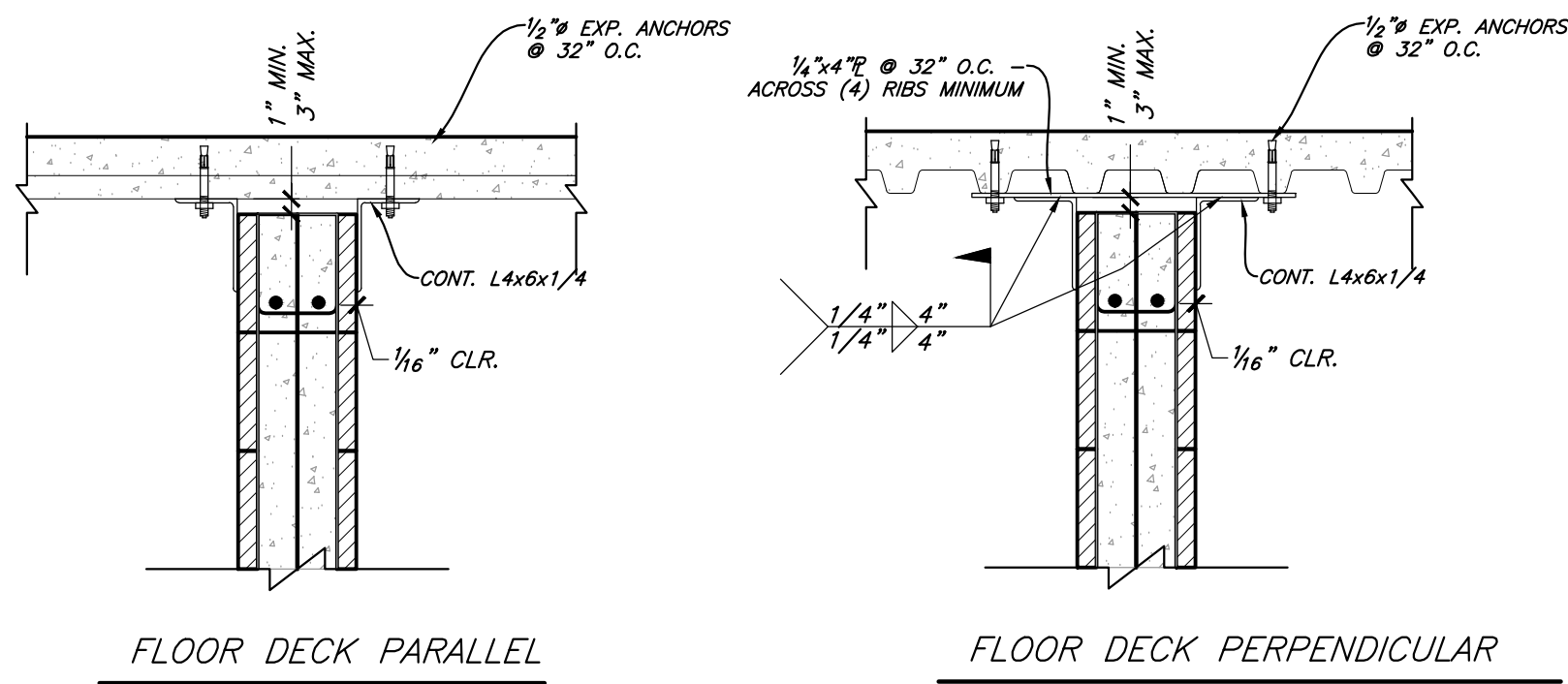
PROJ. NO. 2013-247.001
PROJECT DATE: 05/05/14
SHEET NUMBER:

SD1.0

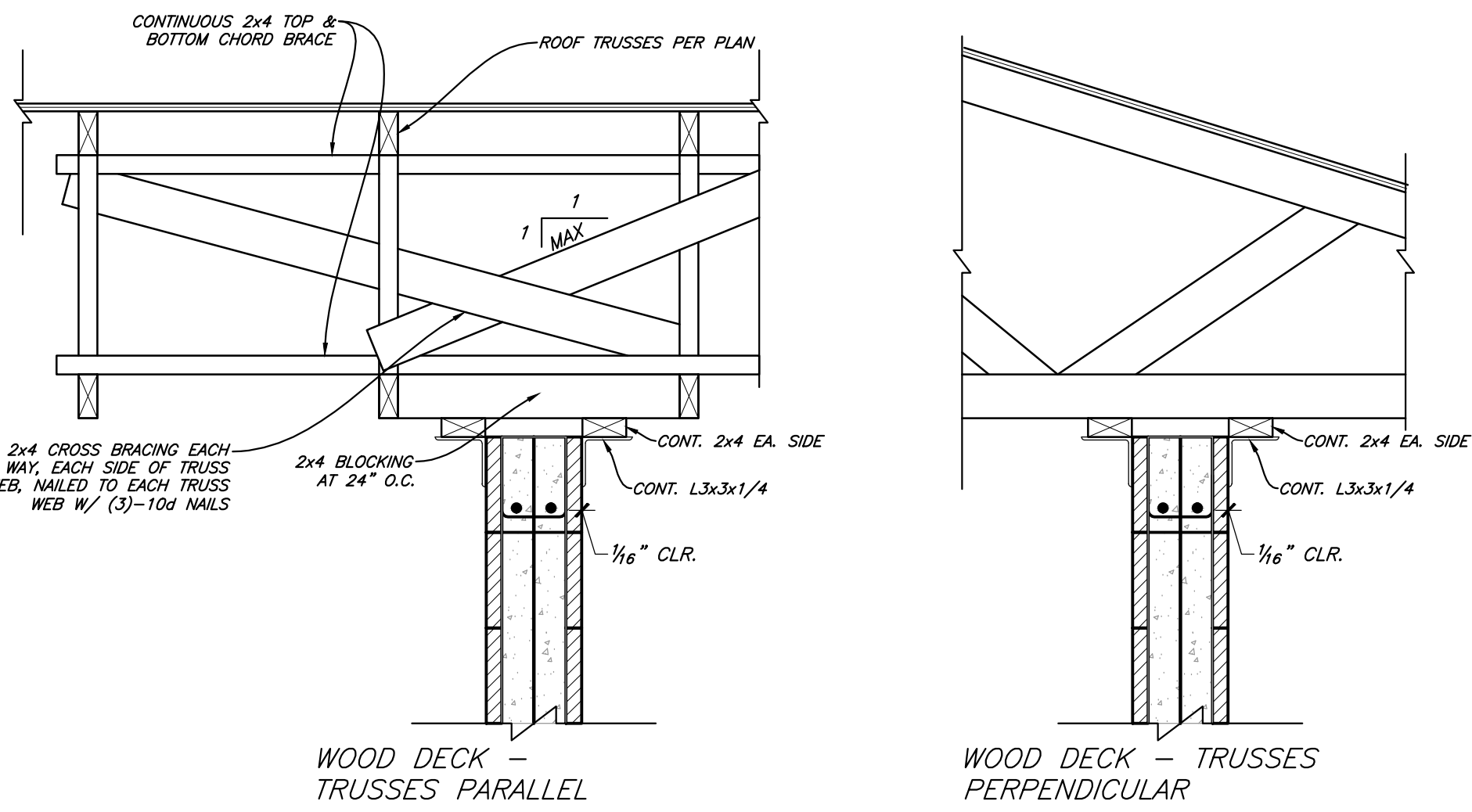
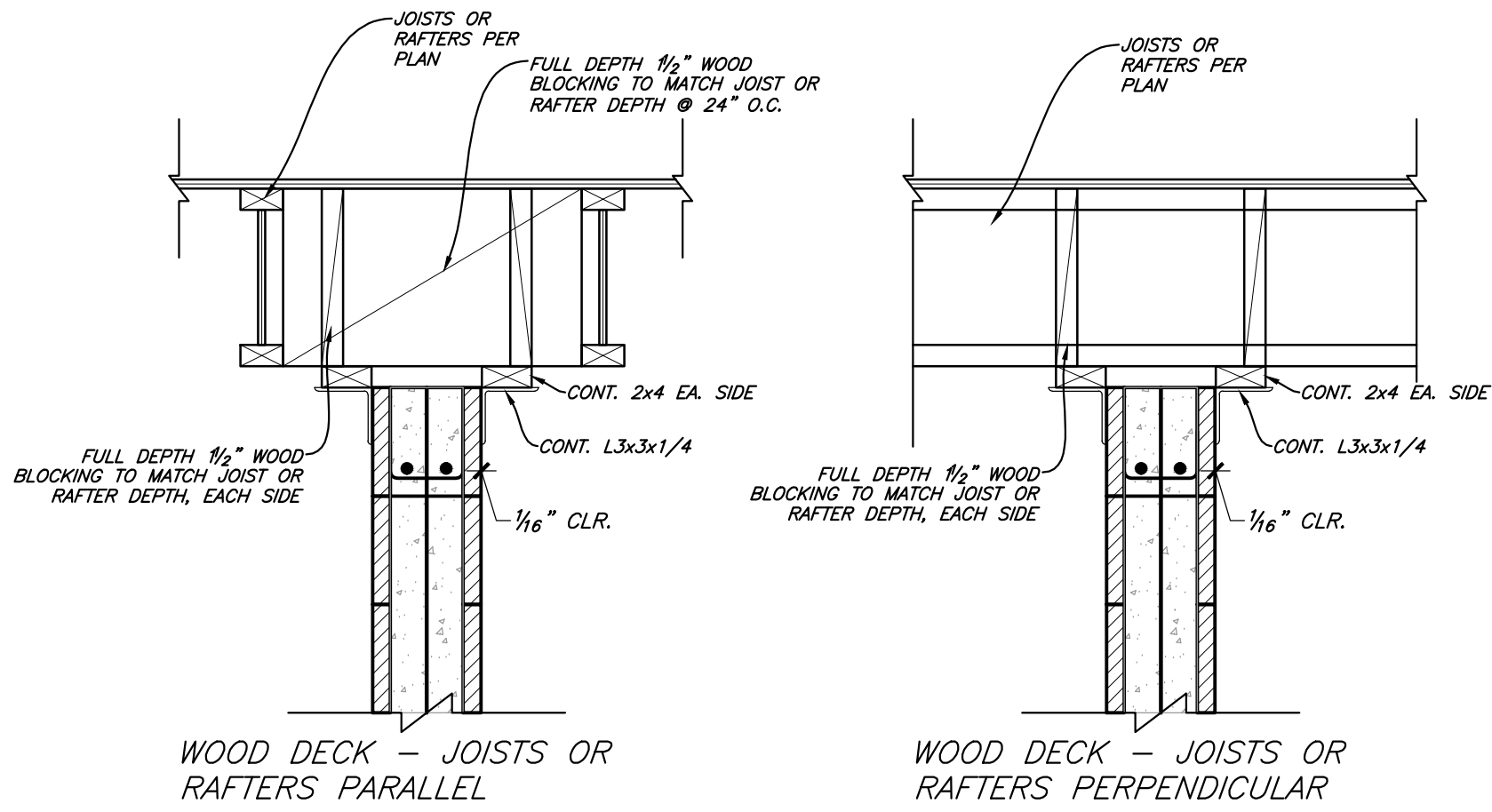
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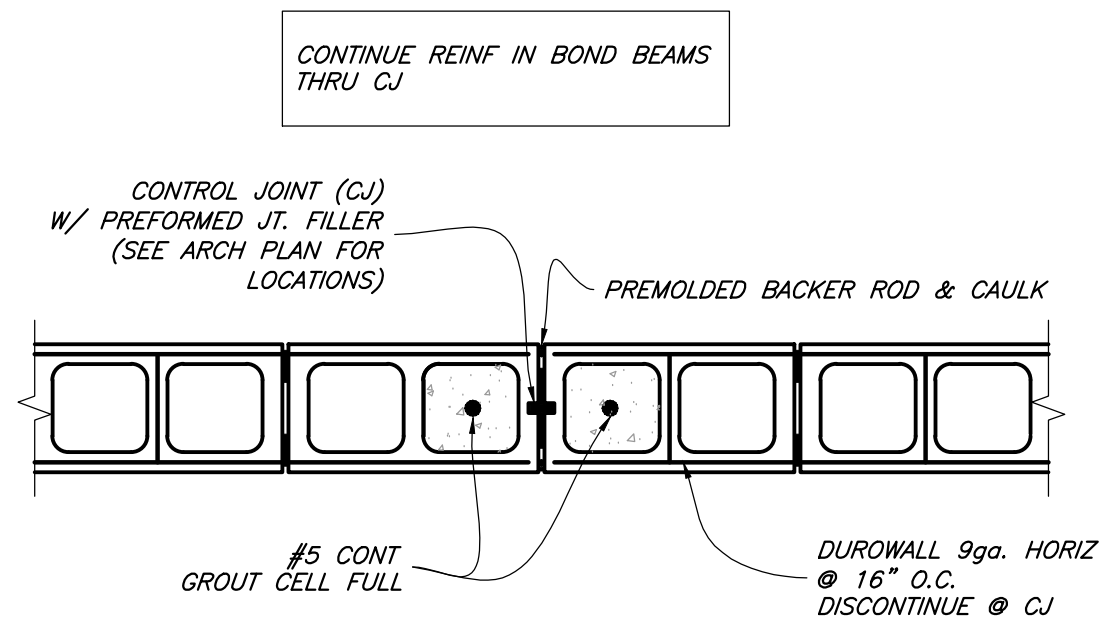
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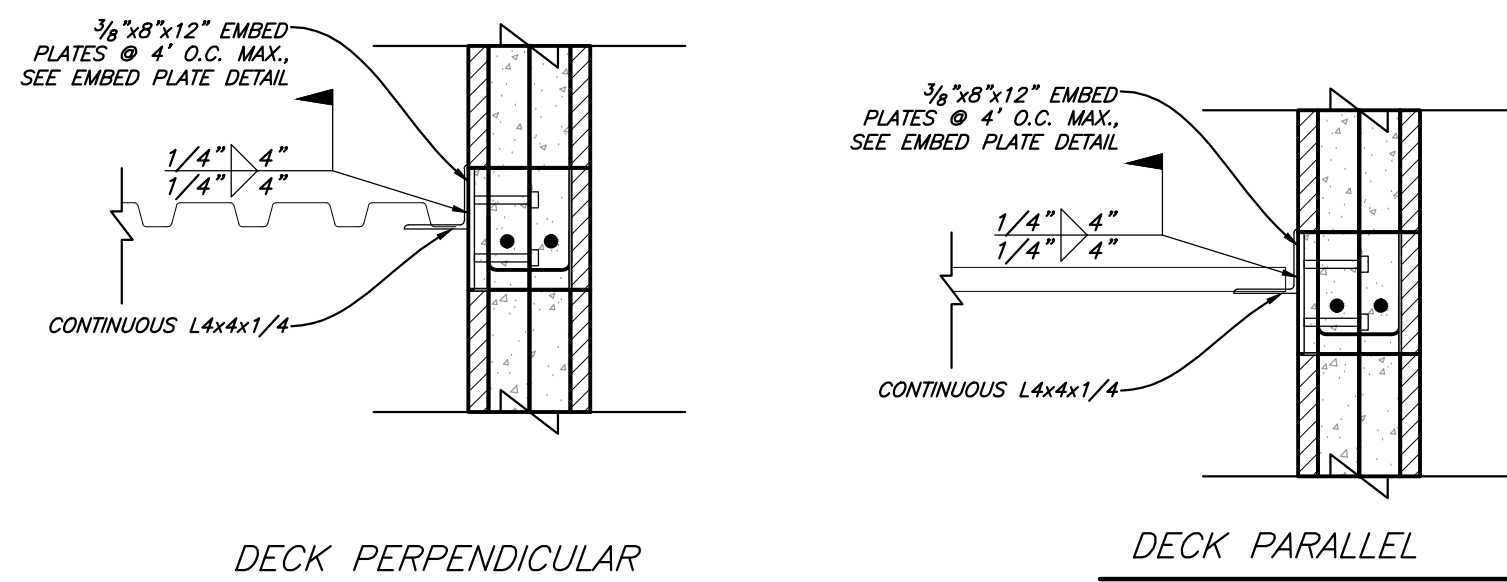
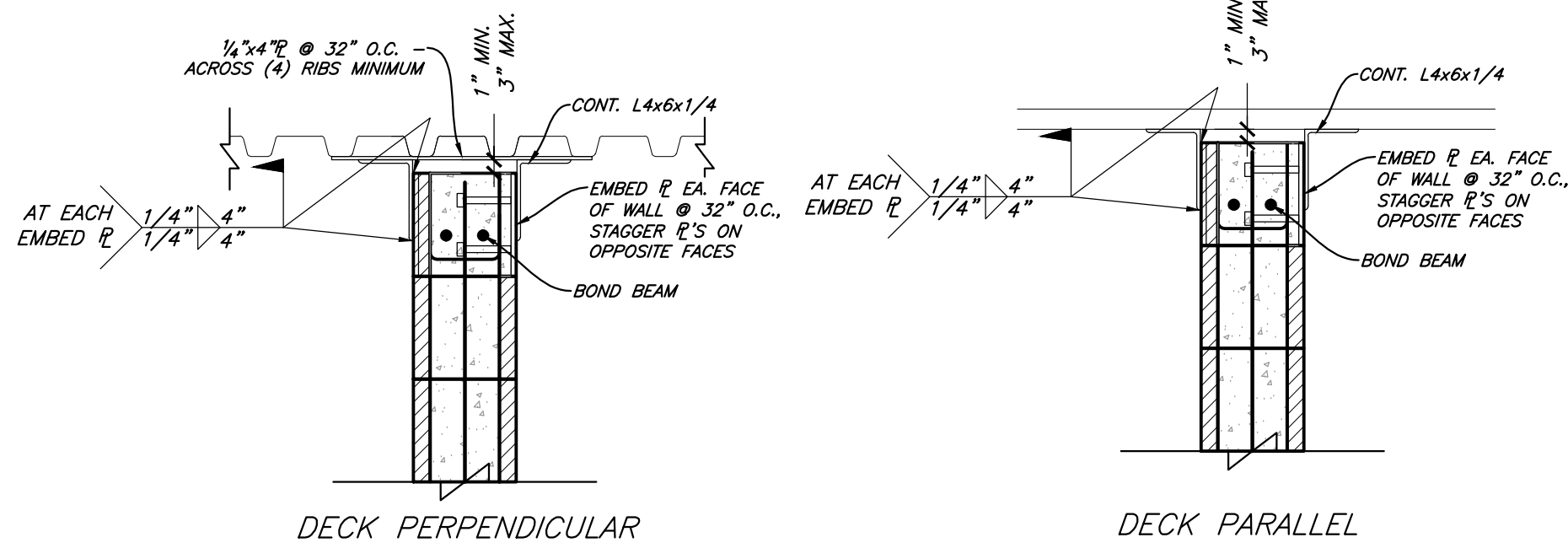
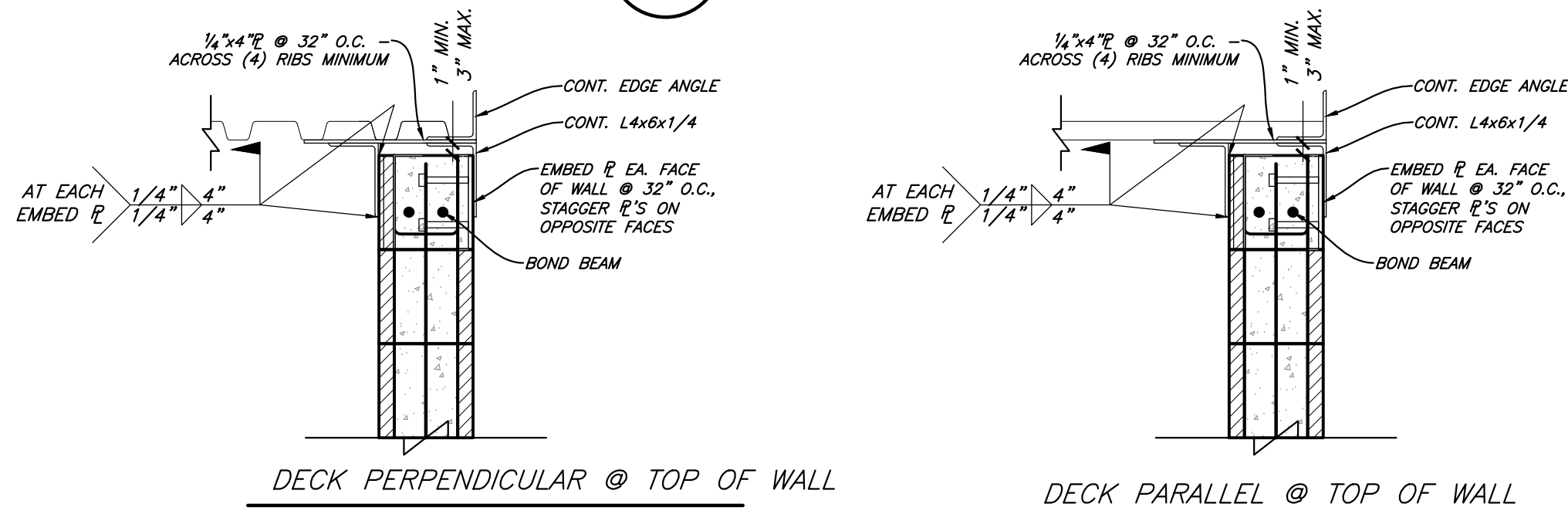
5 TYPICAL CMU BRACING AT TOP OF PARTITION WALL
SD2.0 SCALE: 1" = 1'-0"



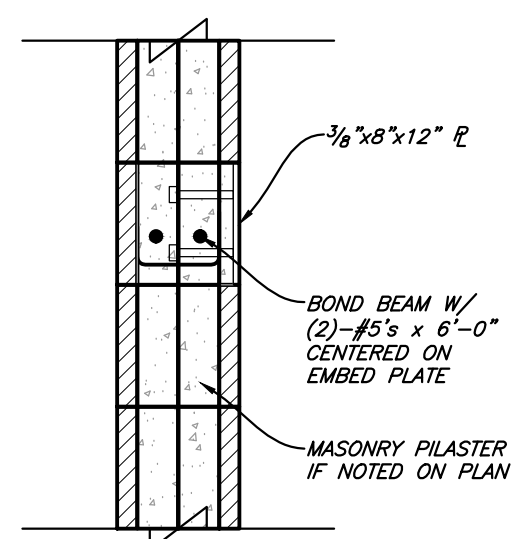
9 TYPICAL CMU BRACING TO WOOD DECK AT TOP OF PARTITION WALL
SD2.0 SCALE: 1" = 1'-0"



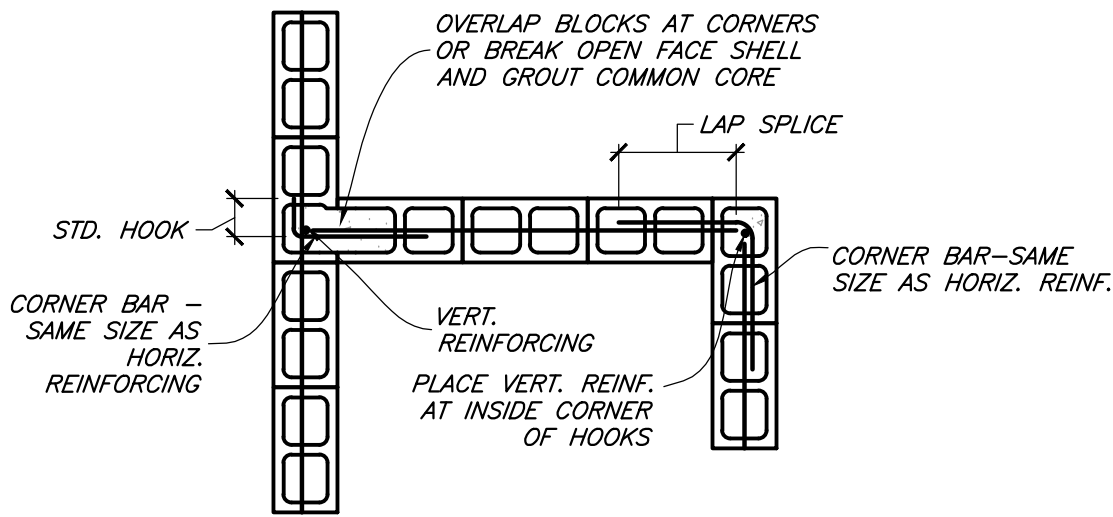
2 TYPICAL CMU CONTROL JOINT
SD2.0 SCALE: 1" = 1'-0"



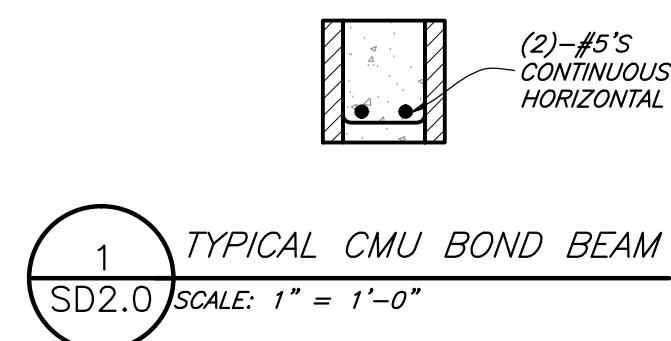
6 TYPICAL ROOF AND FLOOR DECK CONNECTION TO STRUCTURAL CMU WALLS
SD2.0 SCALE: 1" = 1'-0"



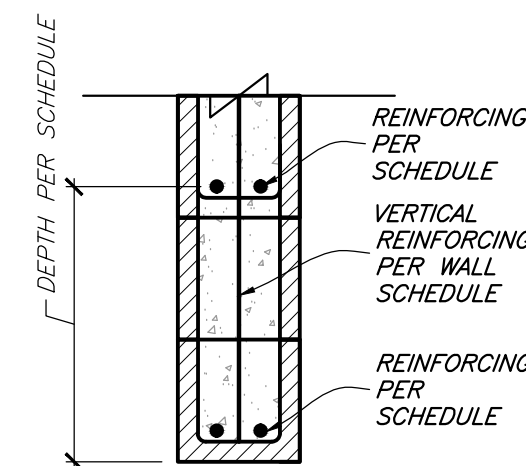
10 TYPICAL CMU EMBED PLATE
SD2.0 SCALE: 1" = 1'-0"



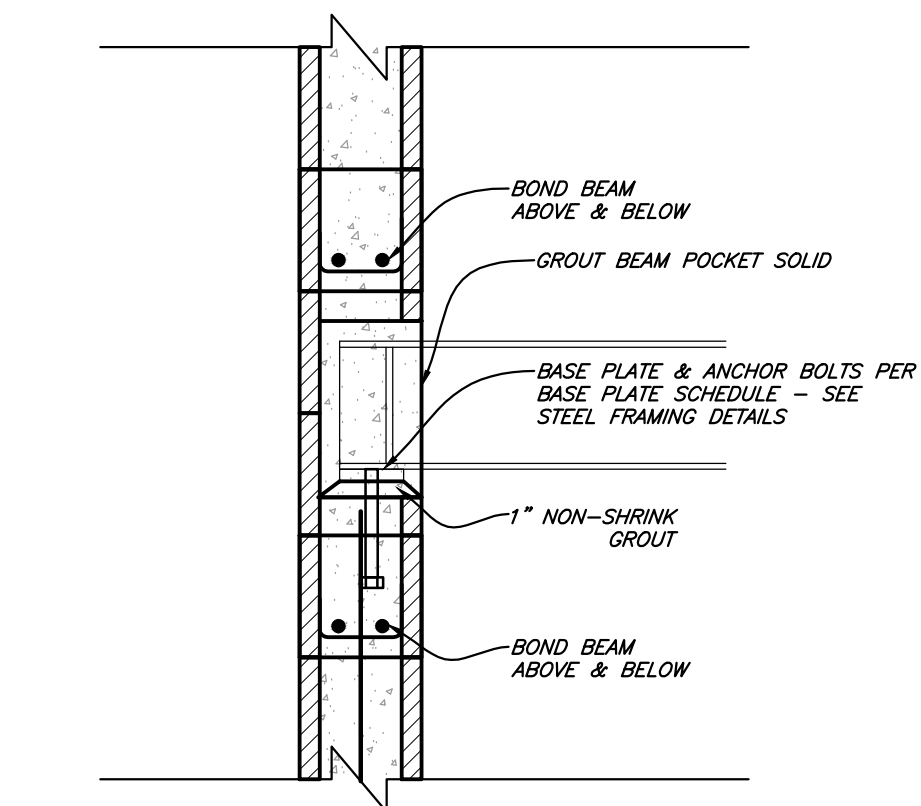
3 TYPICAL CMU WALL CORNER REINFORCING
SD2.0 SCALE: 1/2" = 1'-0"



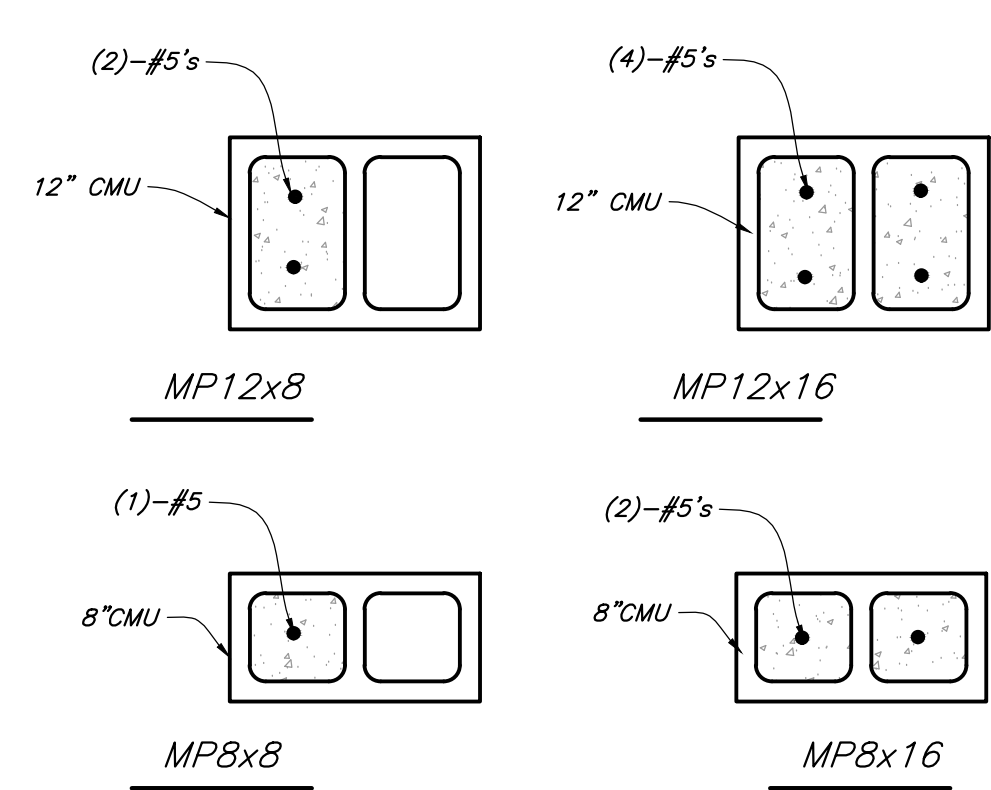
1 TYPICAL CMU BOND BEAM
SD2.0 SCALE: 1" = 1'-0"



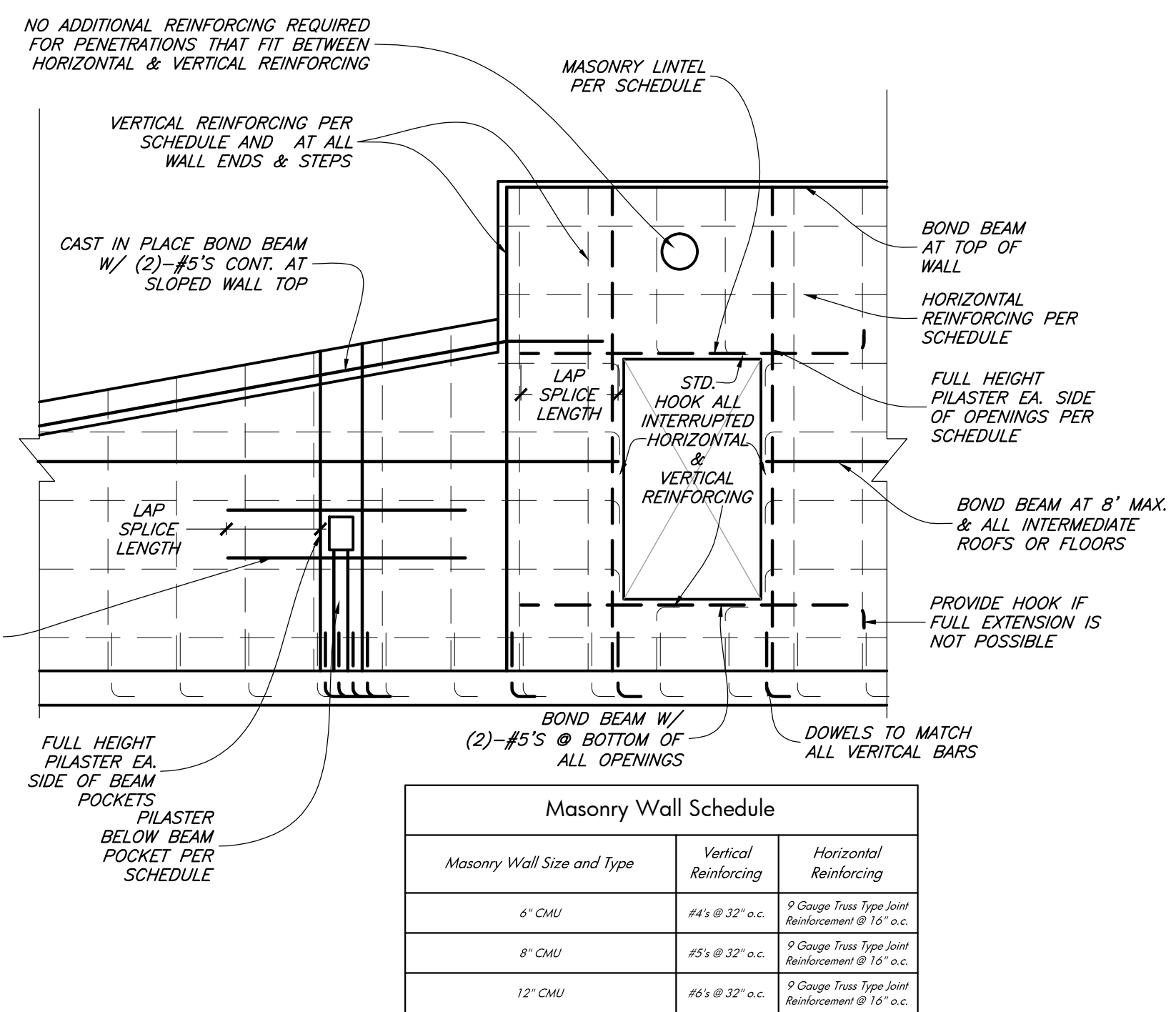
7 TYPICAL LINTEL
SD2.0 SCALE: 1" = 1'-0"



4 TYPICAL BEAM OR JOIST POCKET
SD2.0 SCALE: 1" = 1'-0"

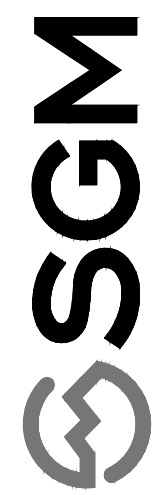


8 TYPICAL CMU PILASTERS
SD2.0 SCALE: 1" = 1'-0"



Masonry Wall Schedule			
Masonry Wall Size and Type	Vertical Reinforcing	Horizontal Reinforcing	
8" CMU	#4 @ 32" o.c.	#4 @ 32" o.c. 9 Gauge Ties Type Joint Reinforcement @ 16" o.c.	
8" CMU	#5 @ 32" o.c.	#5 @ 32" o.c. 9 Gauge Ties Type Joint Reinforcement @ 16" o.c.	
12" CMU	#6 @ 32" o.c.	#6 @ 32" o.c. 9 Gauge Ties Type Joint Reinforcement @ 16" o.c.	

12 TYPICAL CMU WALL ELEVATION
SD2.0 SCALE: 1/4" = 1'-0"



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RIDGWAY FIRE STATION

RIDGWAY FIRE PROTECTION DISTRICT

LOT 26-B1, RIDGWAY, CO 81432

ISSUE LOG	
05/05/14	COORDINATION SET
05/09/14	BID SET

MASONRY DETAILS

PROJ. NO. 2013-247.001

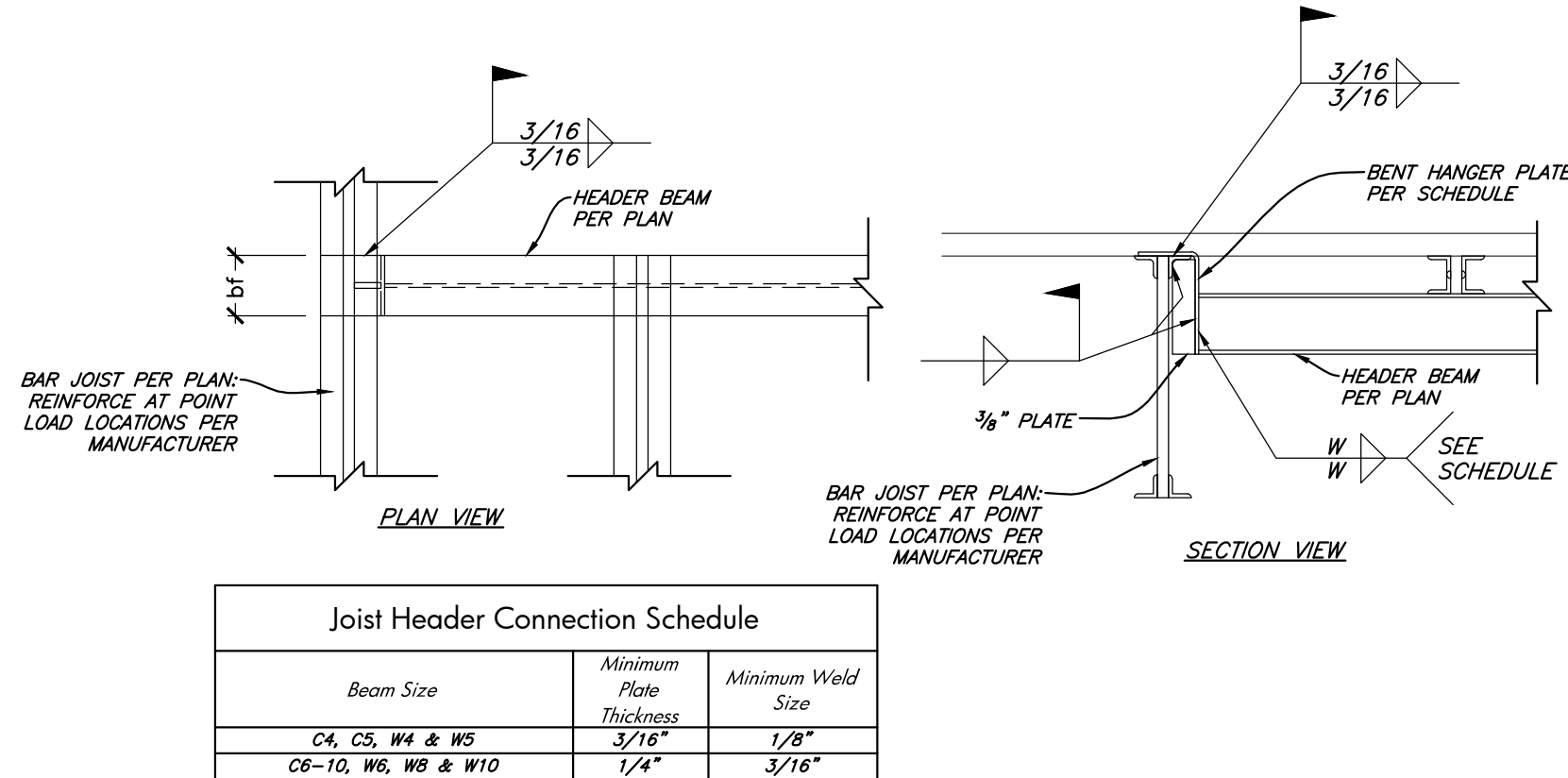
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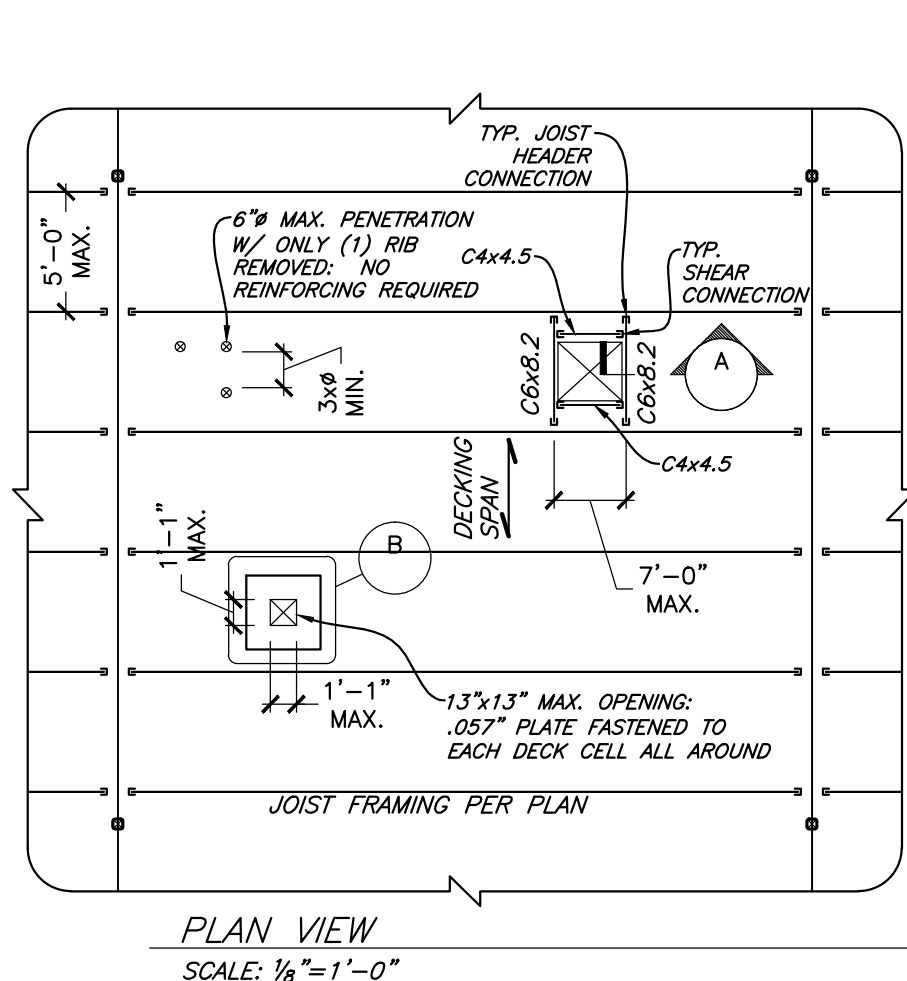
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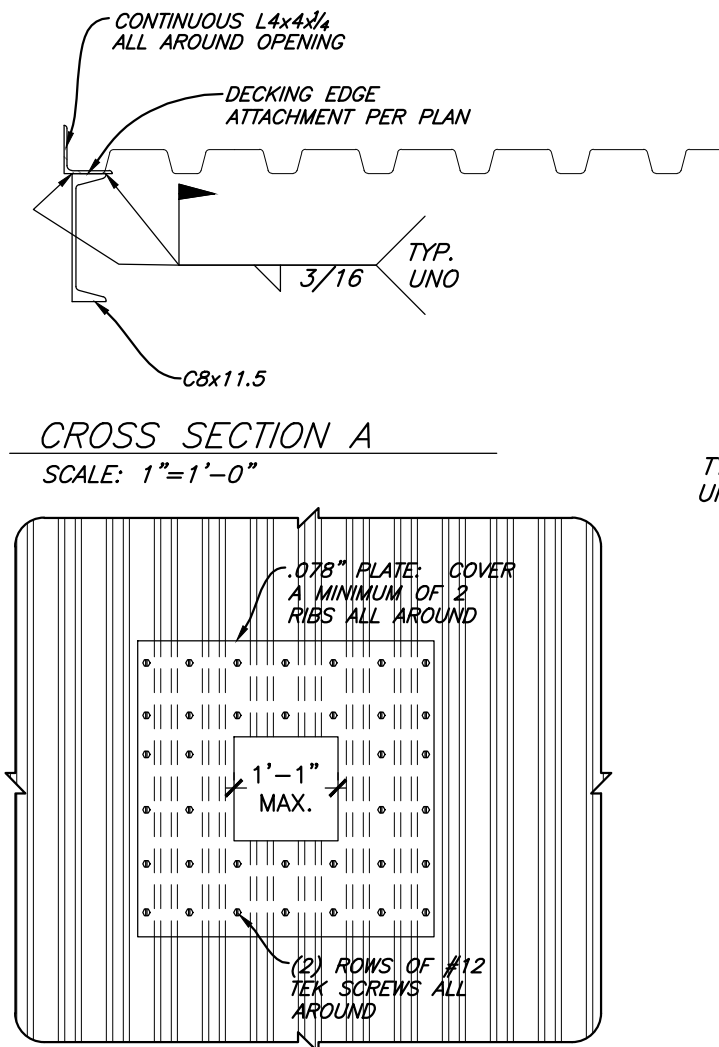
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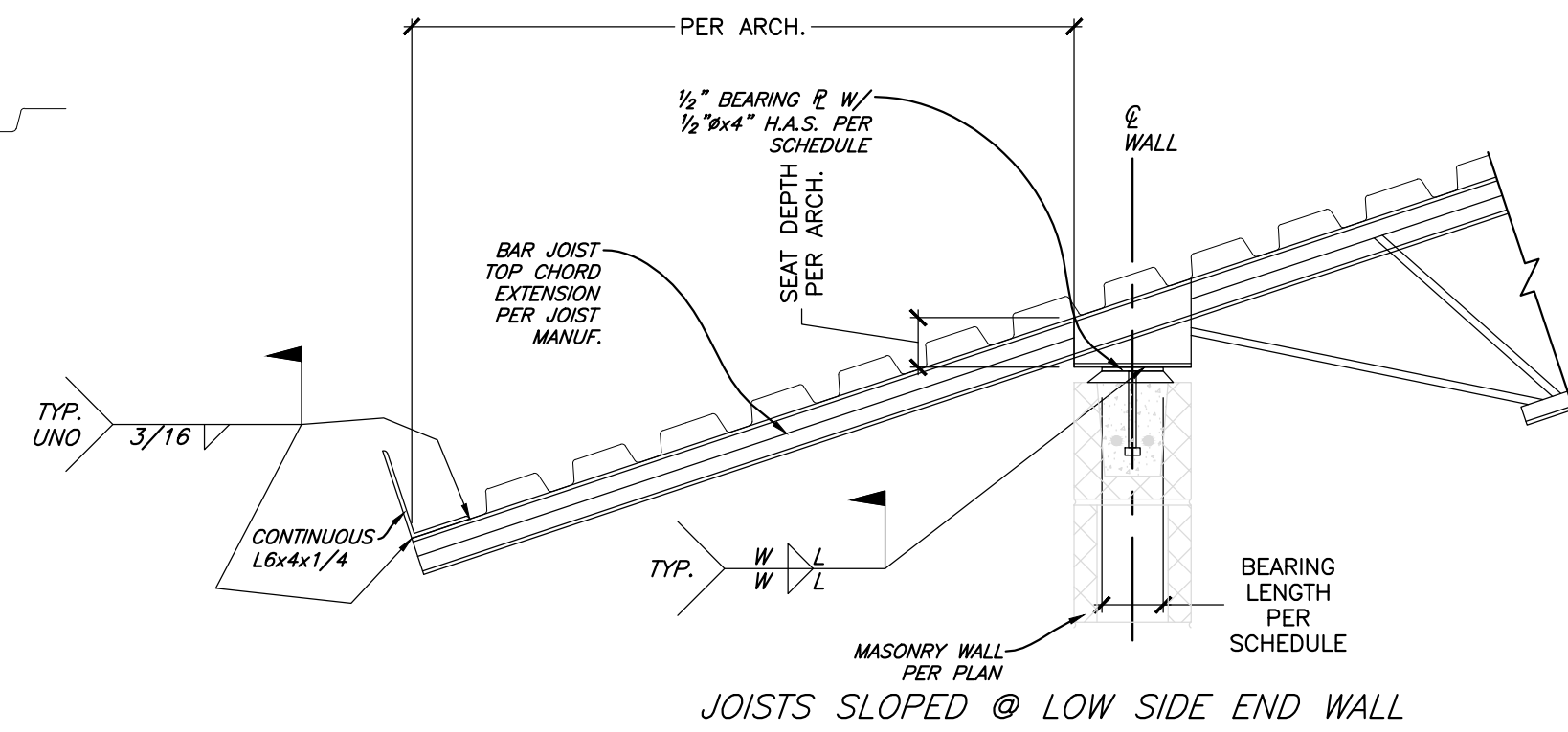
1 TYPICAL JOIST HEADER CONNECTION
SCALE: 1" = 1'-0"



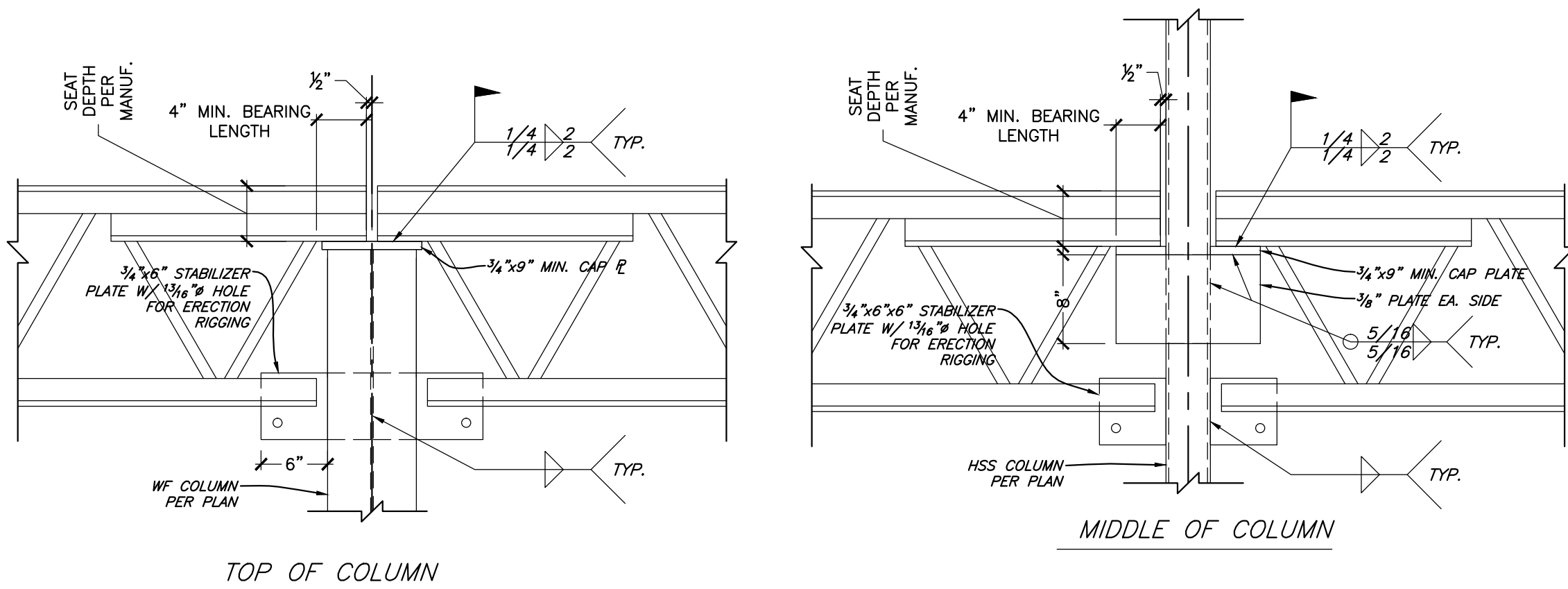
2 TYPICAL ROOF DECK OPENINGS - JOIST FRAMING
SCALE: VARIES



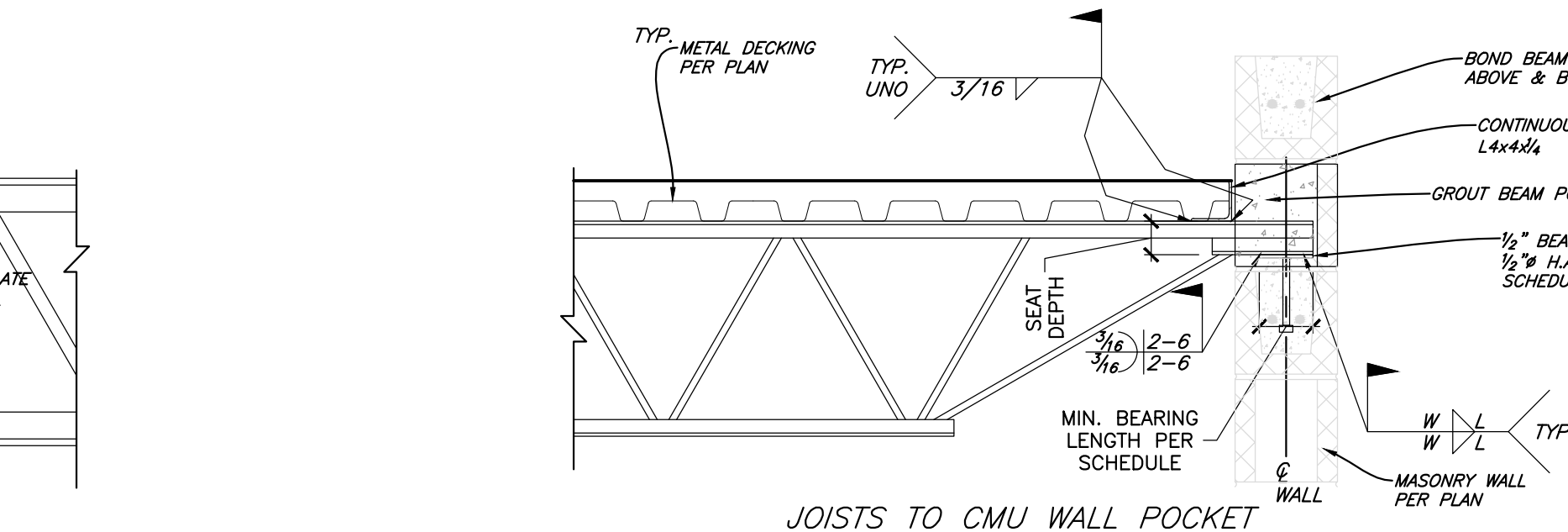
DETAIL B
SCALE: 1/2" = 1'-0"



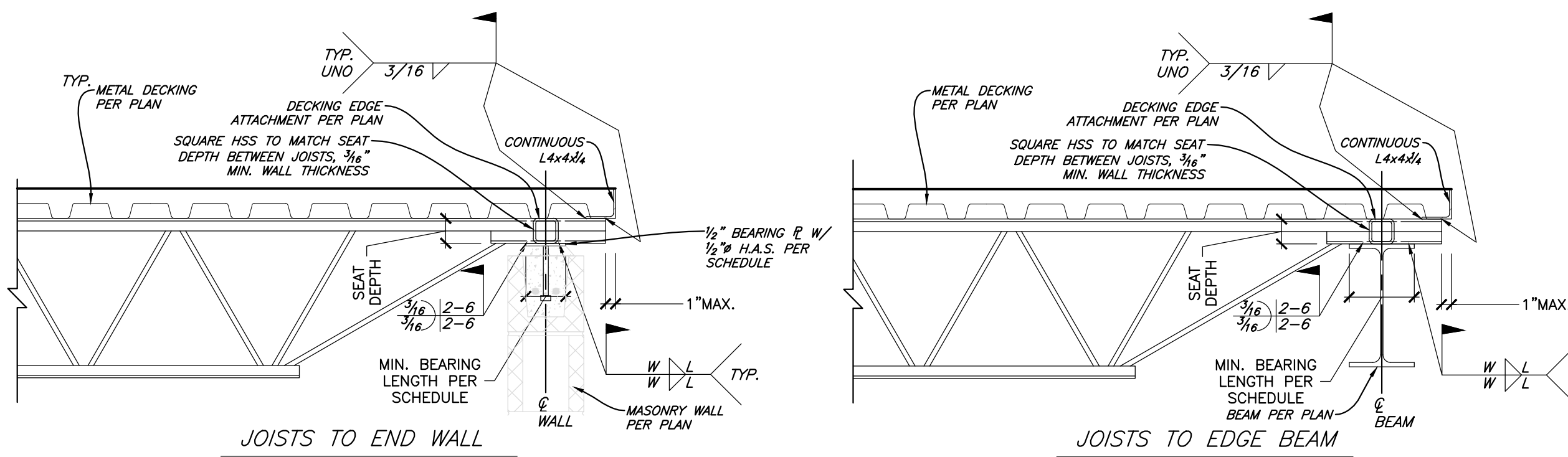
3 TYPICAL SLOPED ROOF JOIST BEARING ON MASONRY WALL
SCALE: 1" = 1'-0"



4 TYPICAL GIRDER JOIST/COLUMN BEARING CONNECTIONS
SCALE: 1" = 1'-0"

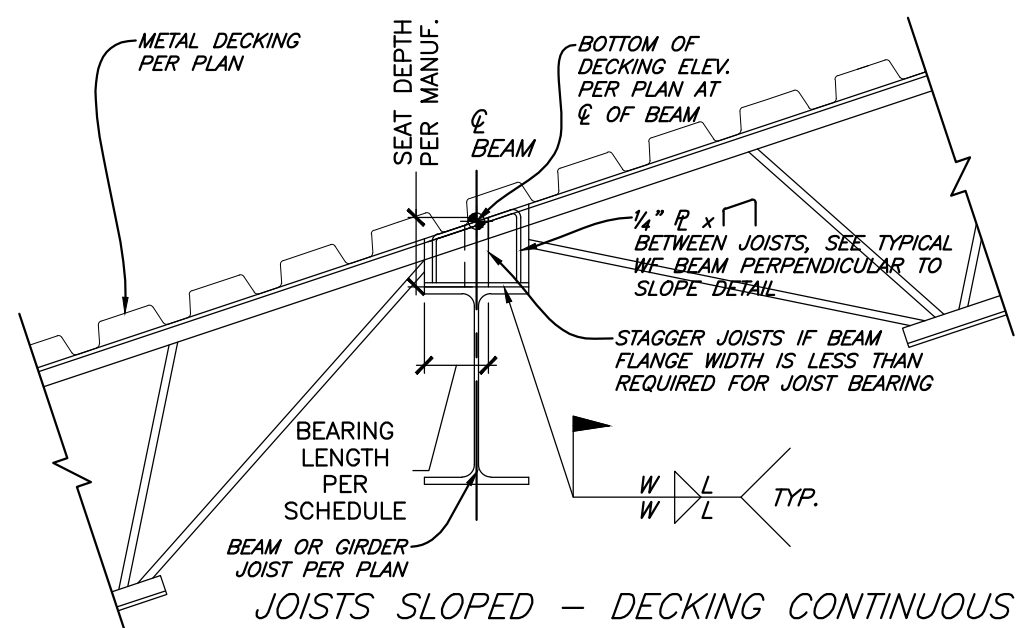


JOISTS TO CMU WALL POCKET

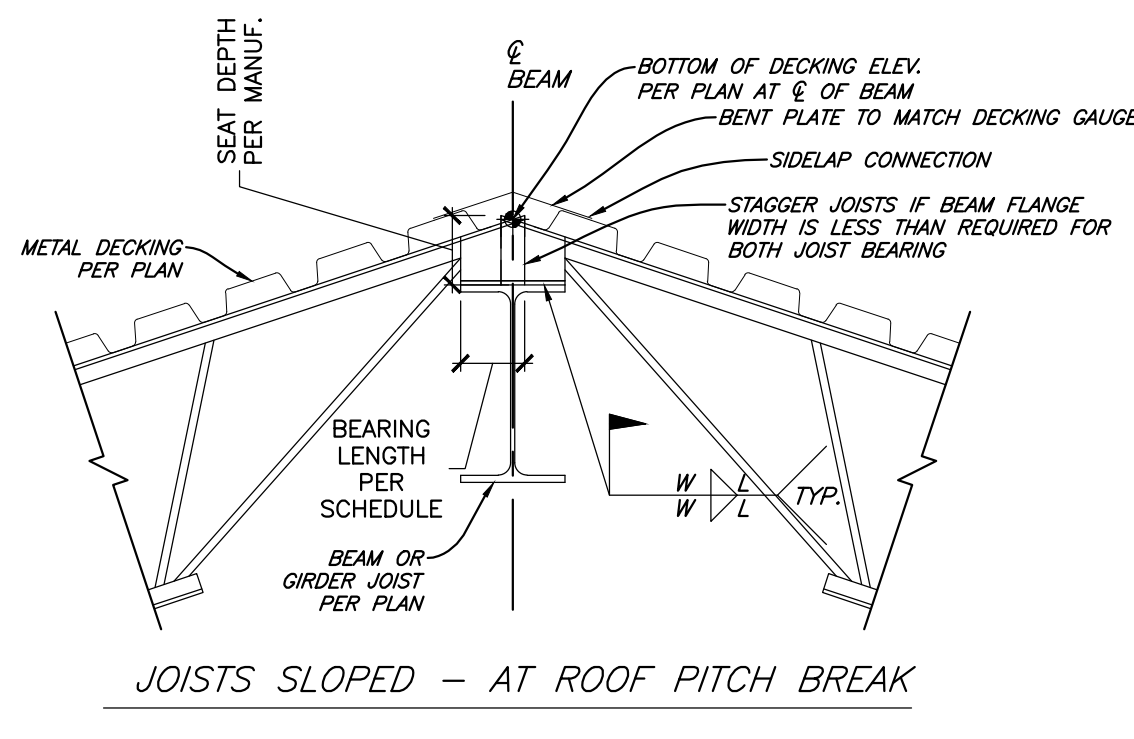


JOISTS TO END WALL

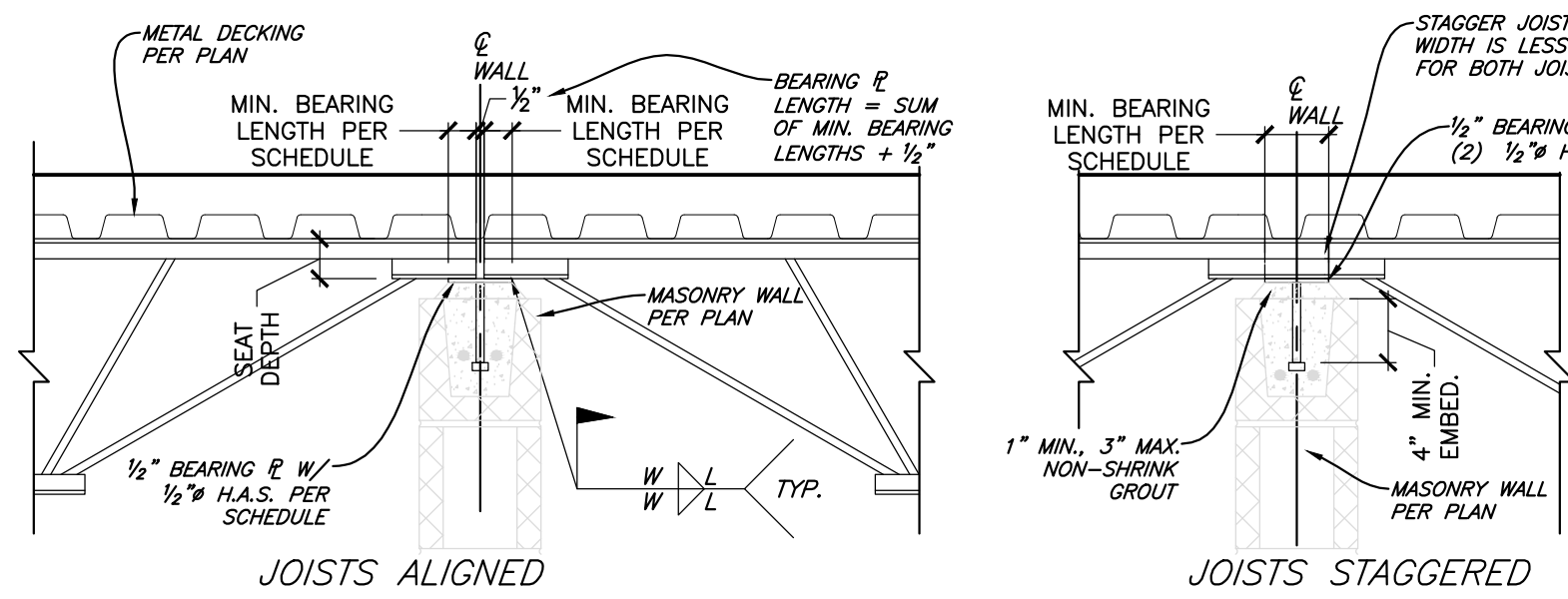
JOISTS TO EDGE BEAM



JOISTS SLOPED - DECKING CONTINUOUS



JOISTS SLOPED - AT ROOF PITCH BREAK

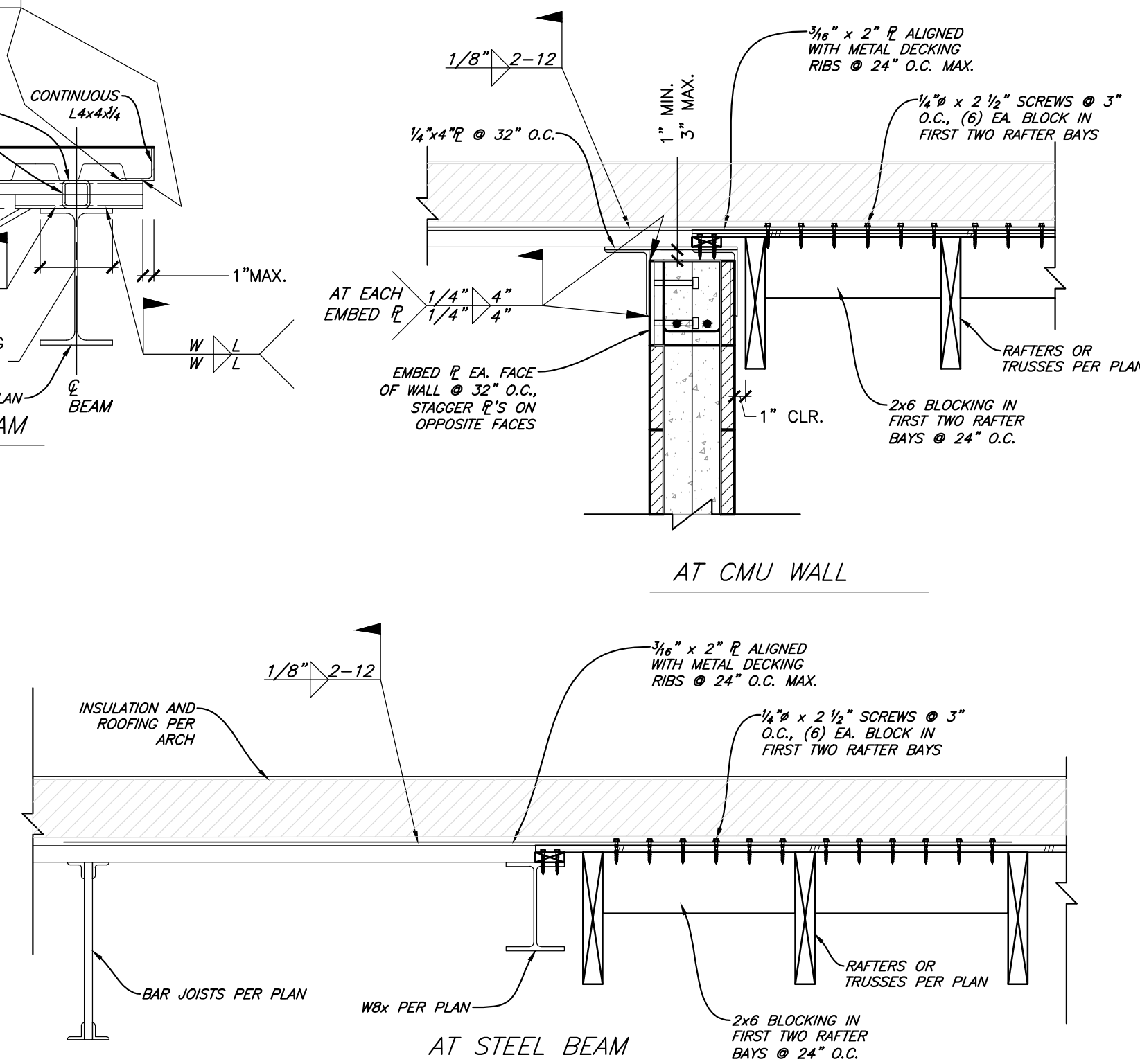


JOISTS ALIGNED

JOISTS STAGGERED

Joist Bearing on Masonry Wall Connection Schedule						
Joist Series	Minimum Bearing Length	Minimum Seal Depth	Typical Weld size (W)	Typical Weld Length (L)	Masonry Wall Width	Maximum Bearing Plate Length
K, KCS	4"	2"	1/8"	3"	6"	4"

6 TYPICAL FLOOR JOIST BEARING
SCALE: 1" = 1'-0"



8 METAL ROOF TO WOOD ROOF CONNECTION
SCALE: 1" = 1'-0"

NOT FOR CONSTRUCTION - BID SET

ISSUE LOG	
05/05/14	COORDINATION SET
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STEEL DETAILS

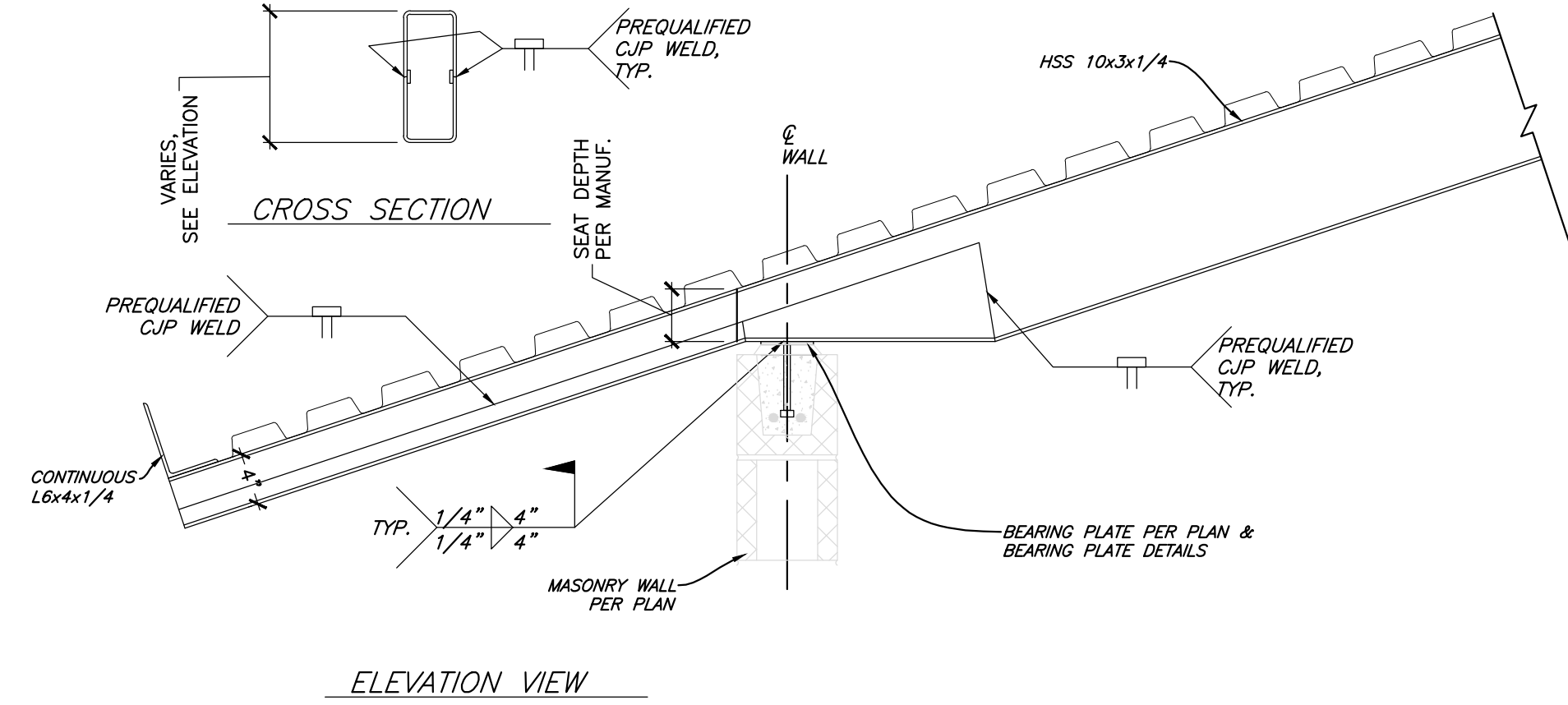
PROJ. NO. 2013-247.001
PROJECT DATE: 05/05/14
SHEET NUMBER:

SD3.1

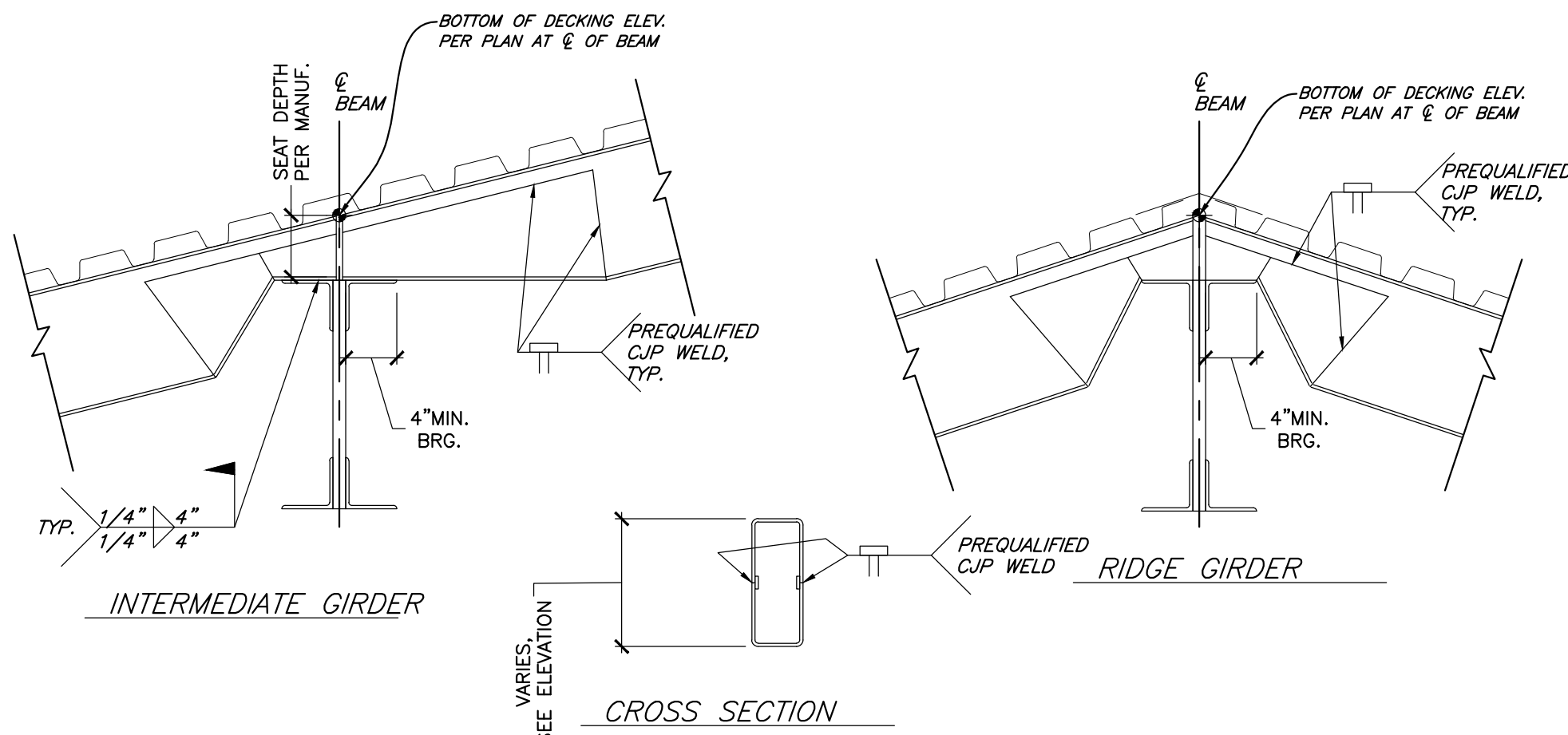
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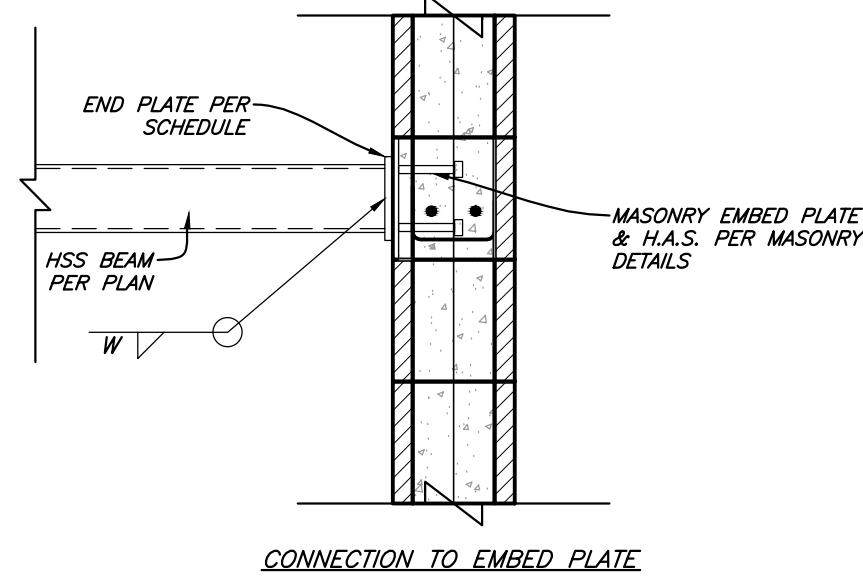
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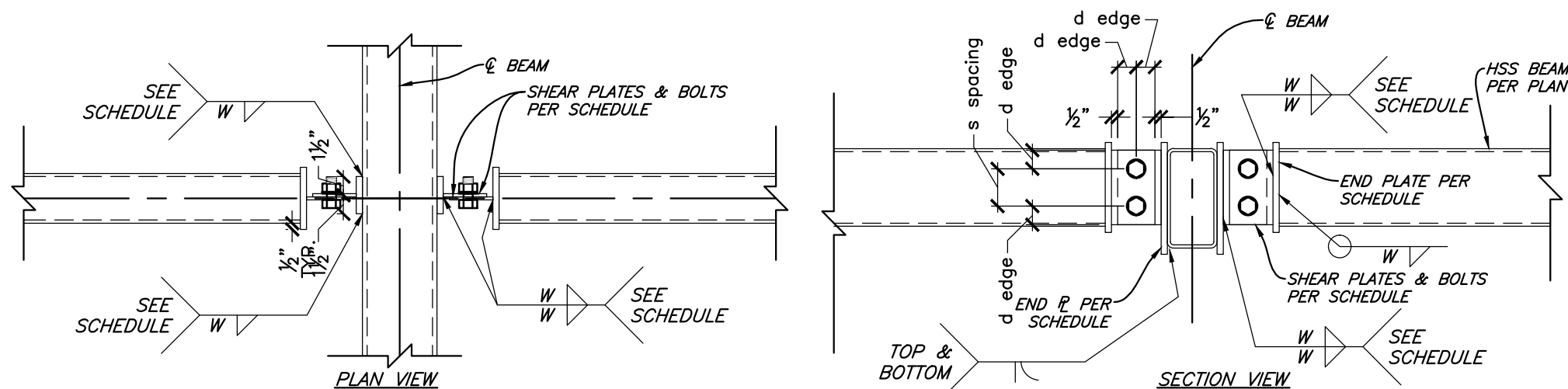
1
SD3.2 SLOPED HSS ROOF JOIST W/ RAFTER TAIL BEARING ON MASONRY WALL
SCALE: 1" = 1'-0"



3
SD3.2 HSS ROOF RAFTER BEARING ON GIRDER TRUSS
SCALE: 1" = 1'-0"

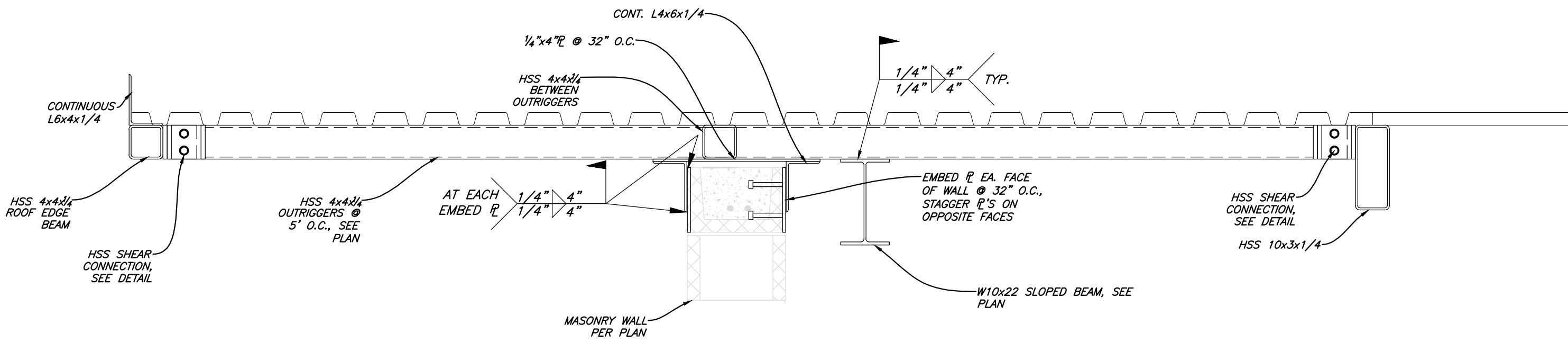


CONNECTION TO EMBED PLATE



Single Plate Bolted Shear Connection Schedule							
Beam Size	Minimum Shear Plate Thickness	Minimum End Plate Thickness	# of A325N Bolts Required	A325N Bolt Diameter (in.)	End Edge Distance (in.)	s, Spacing (in.)	Minimum Weld Size
HSS3 & HSS4	1/4"	1/2"	2	1/2"	1"	2"	3/16"

4
SD3.2 TYPICAL HSS BEAM SHEAR CONNECTIONS & SCHEDULE
SCALE: 1" = 1'-0"



2
SD3.2 HSS OUTRIGGER FRAMING - GABLE END CROSS SECTION
SCALE: 1" = 1'-0"

ISSUE LOG	
05/05/14	COORDINATION SET
05/09/14	BID SET

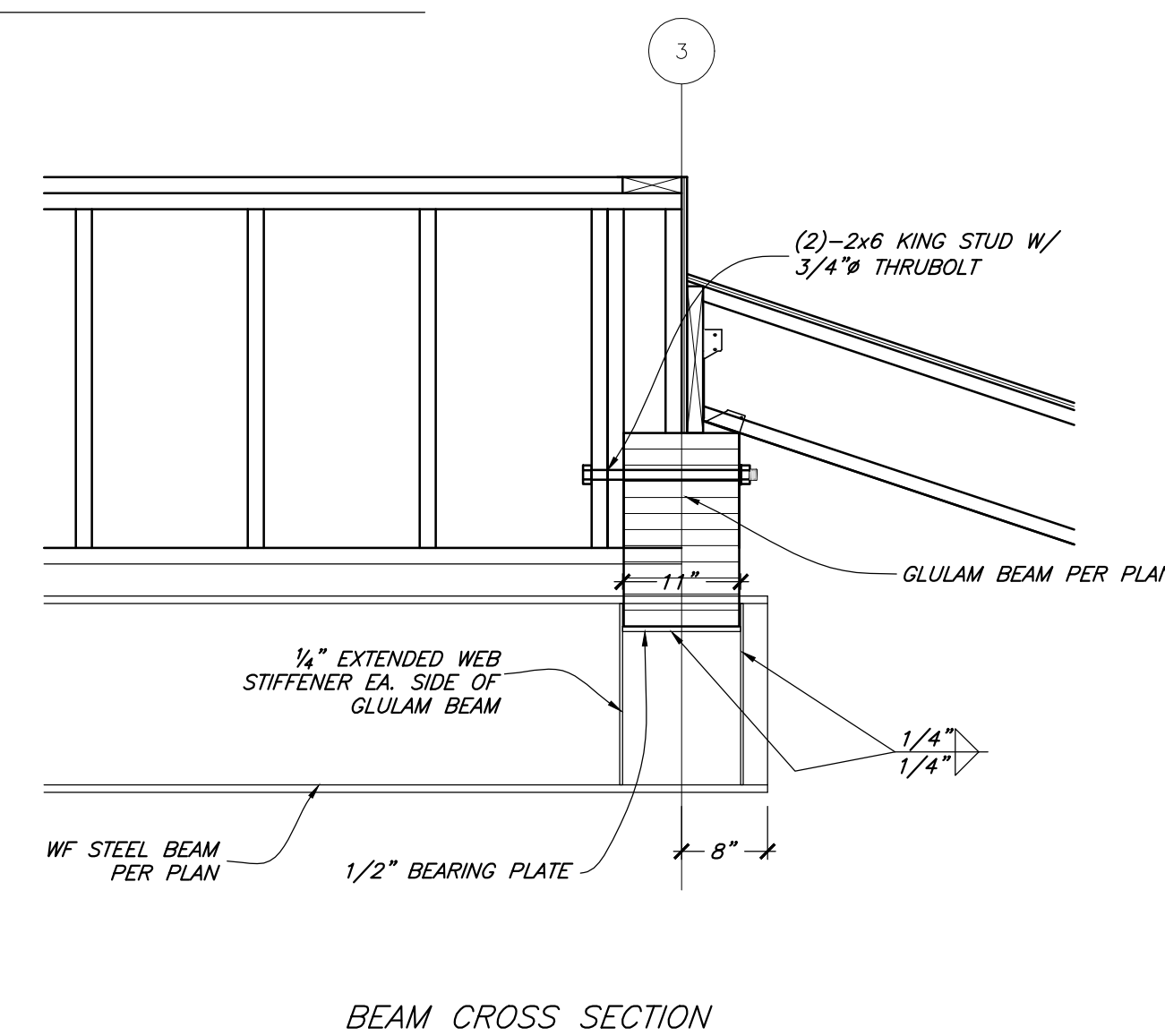
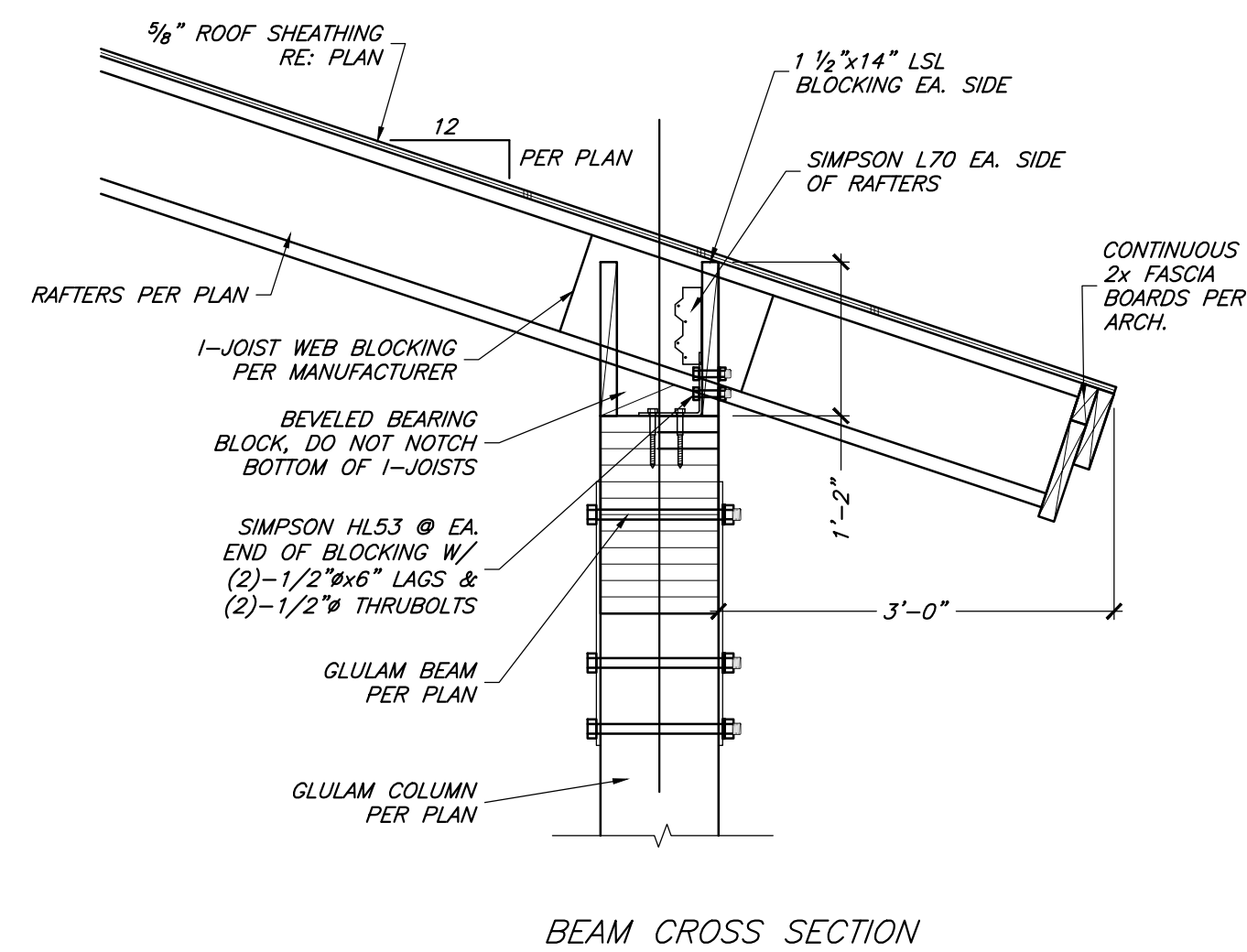
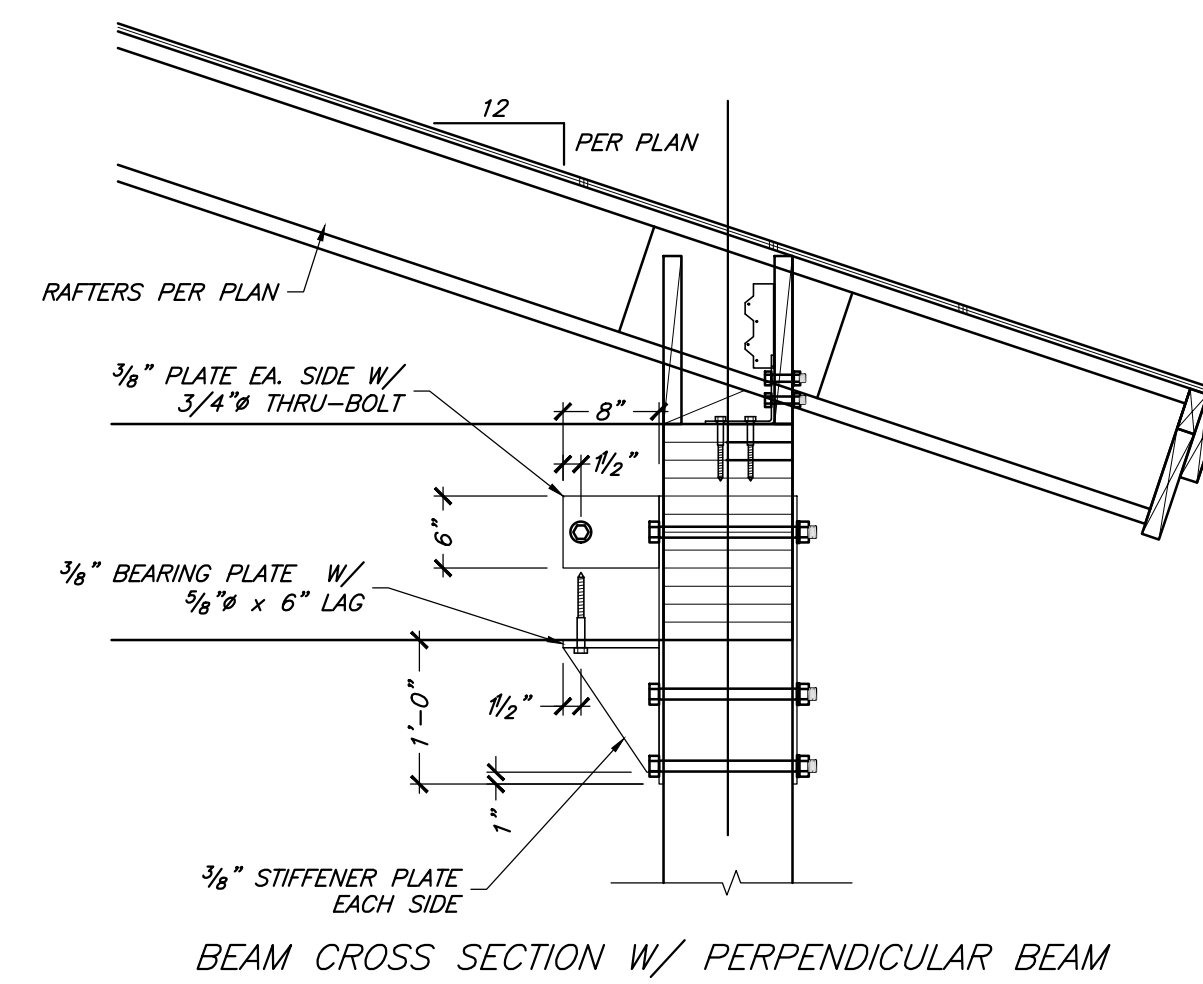
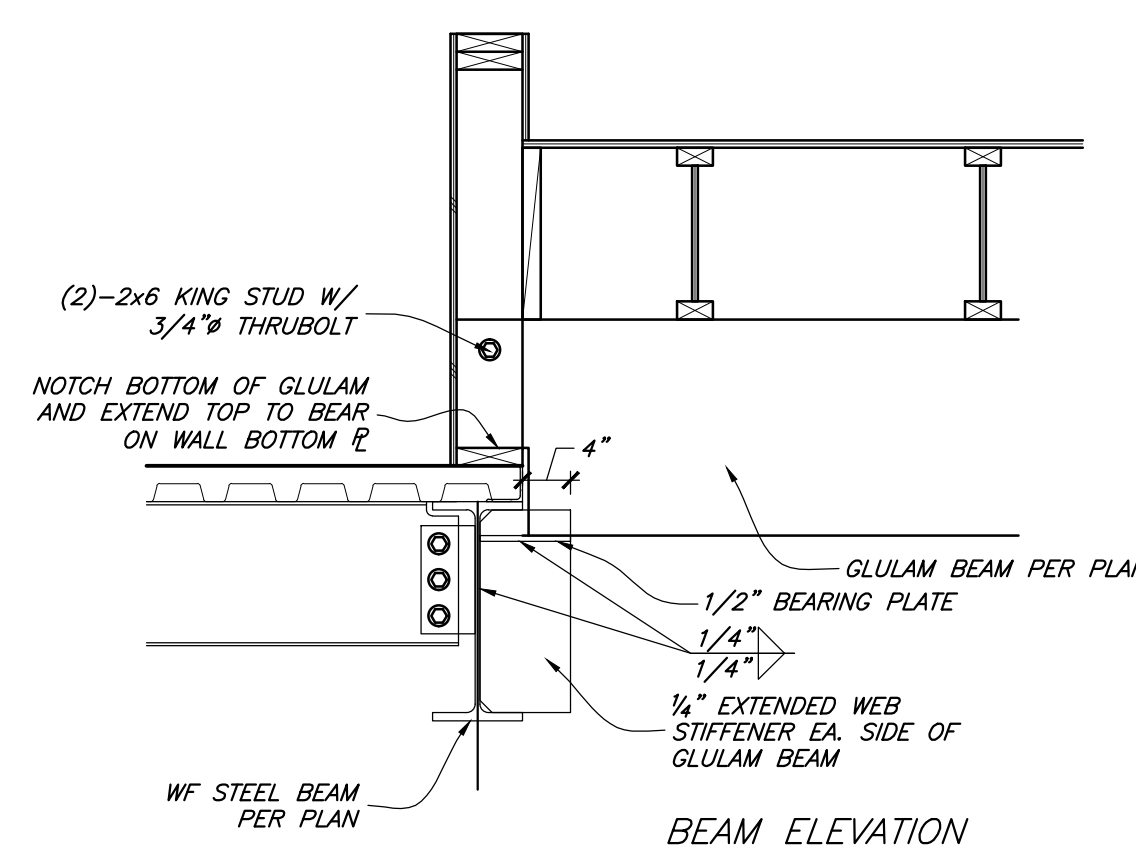
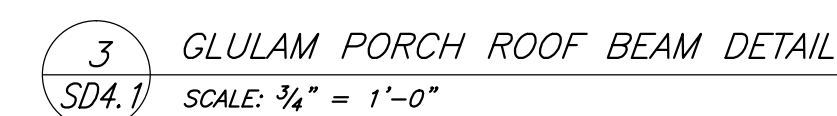
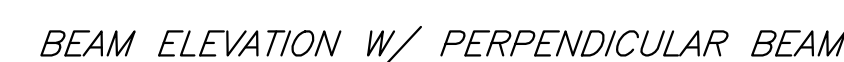
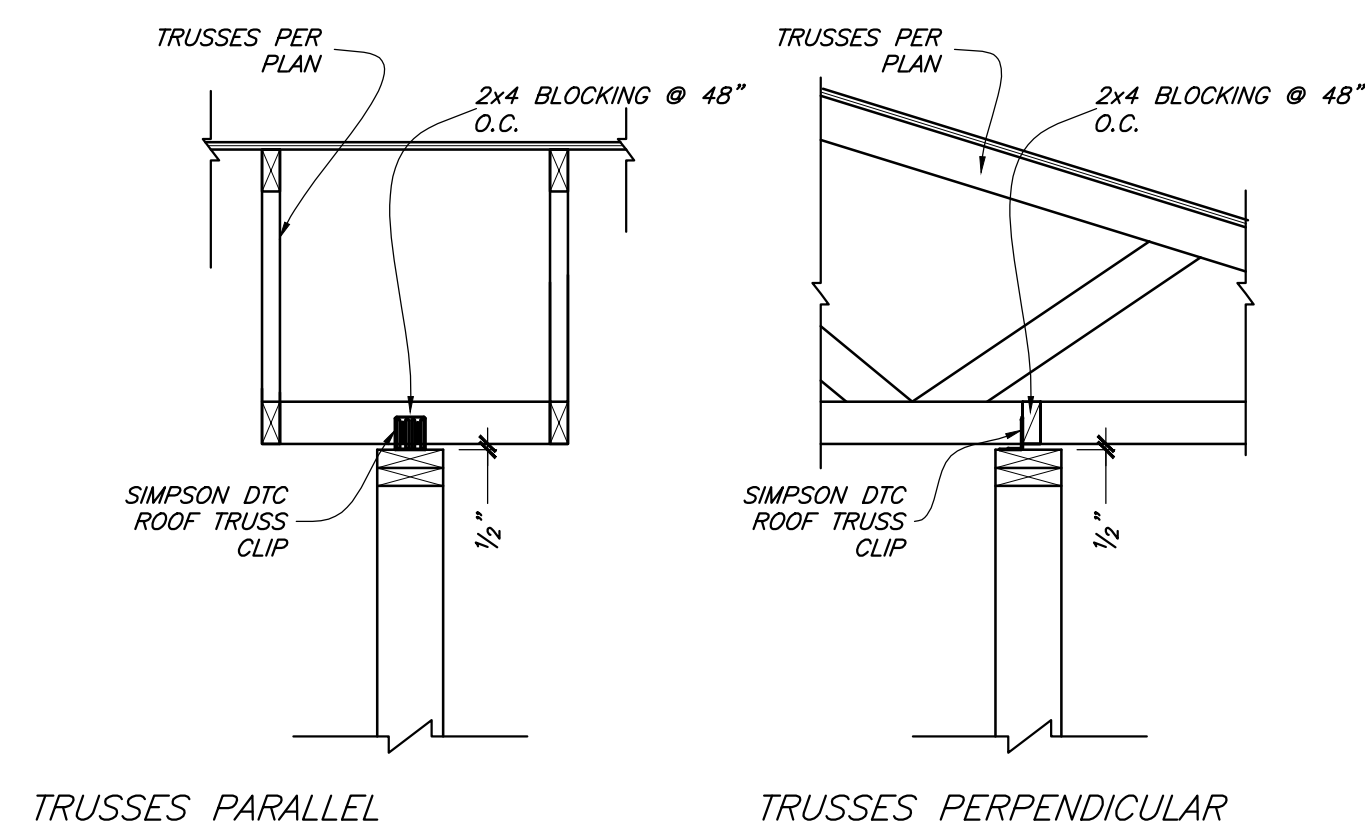
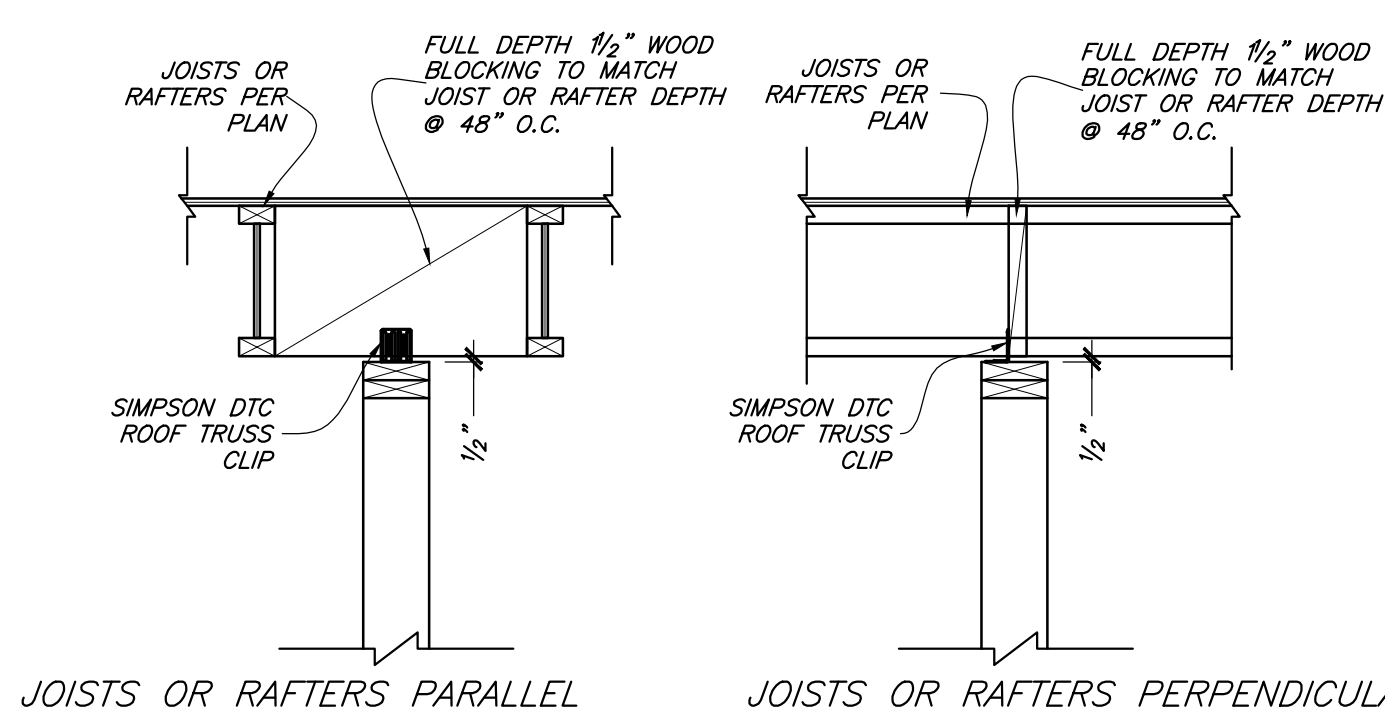
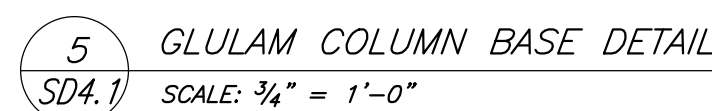
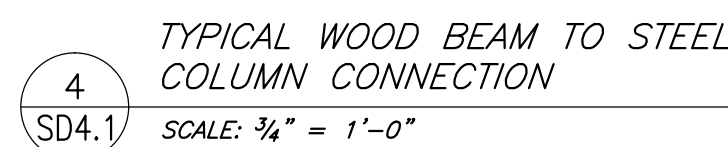
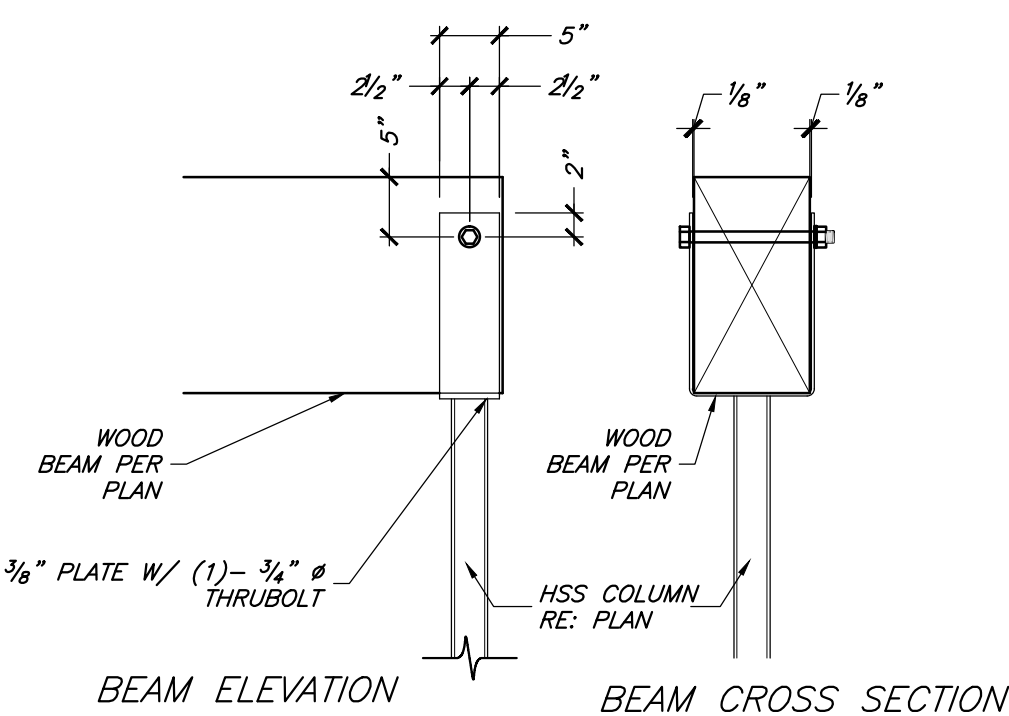
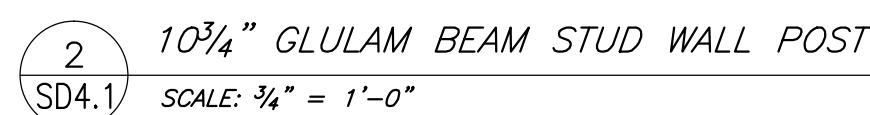
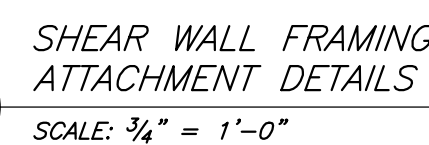
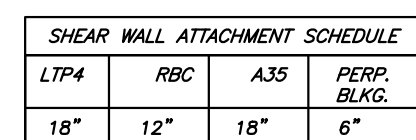
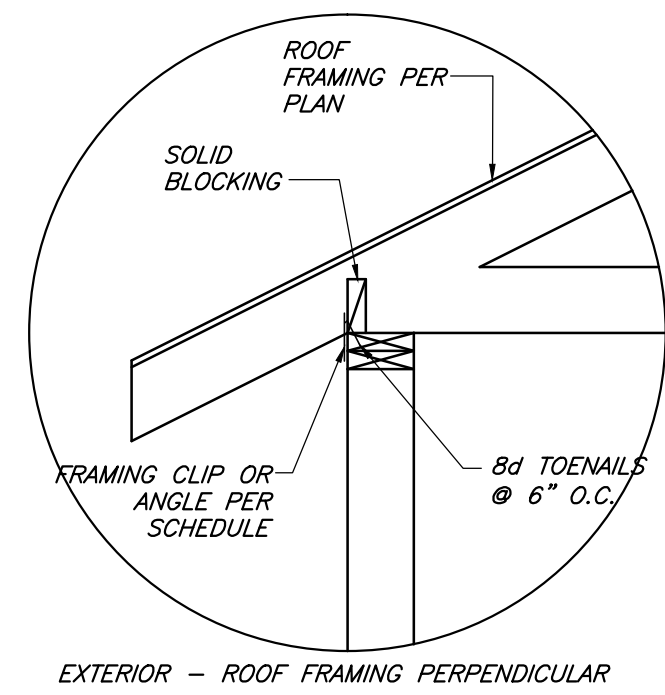
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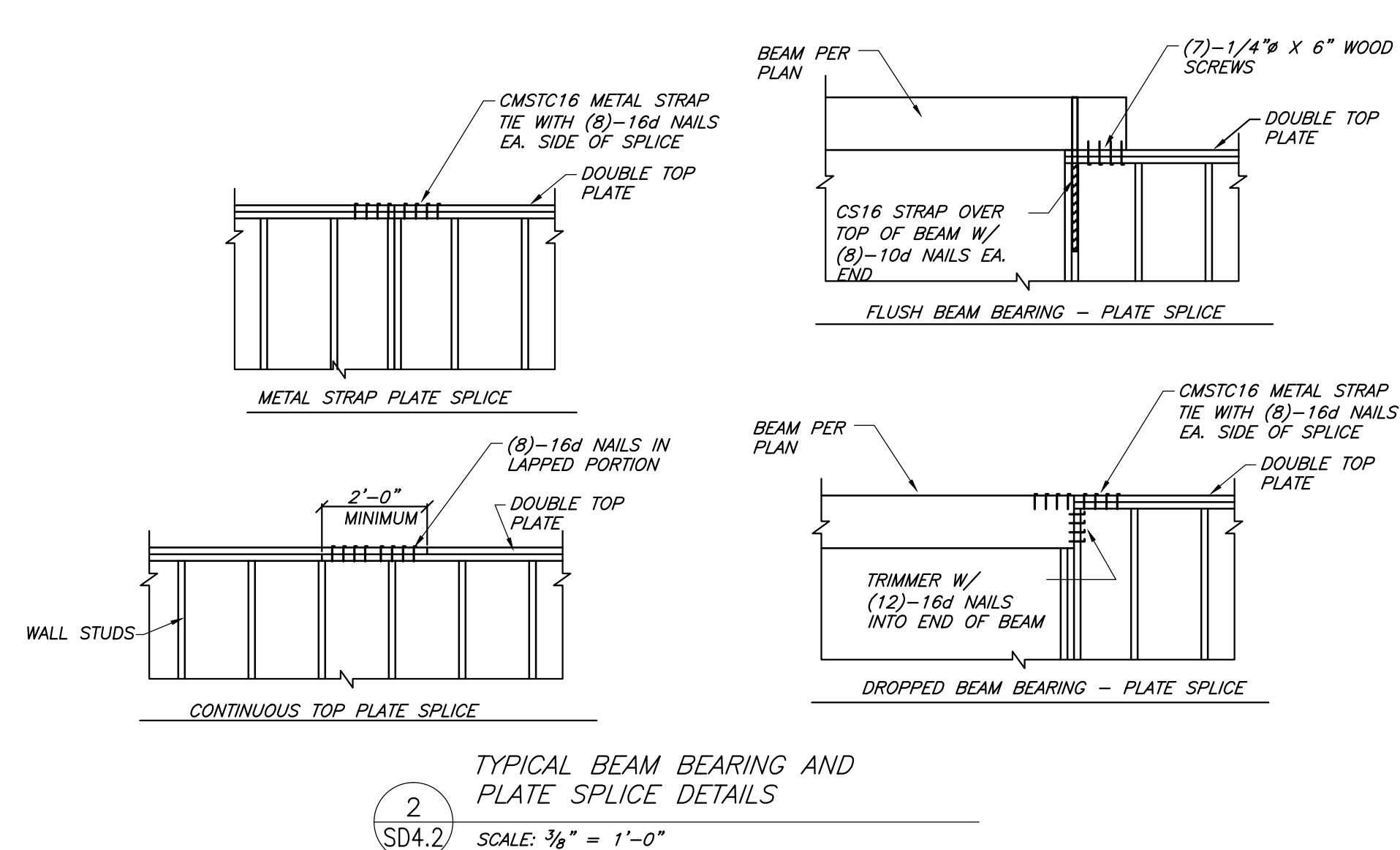
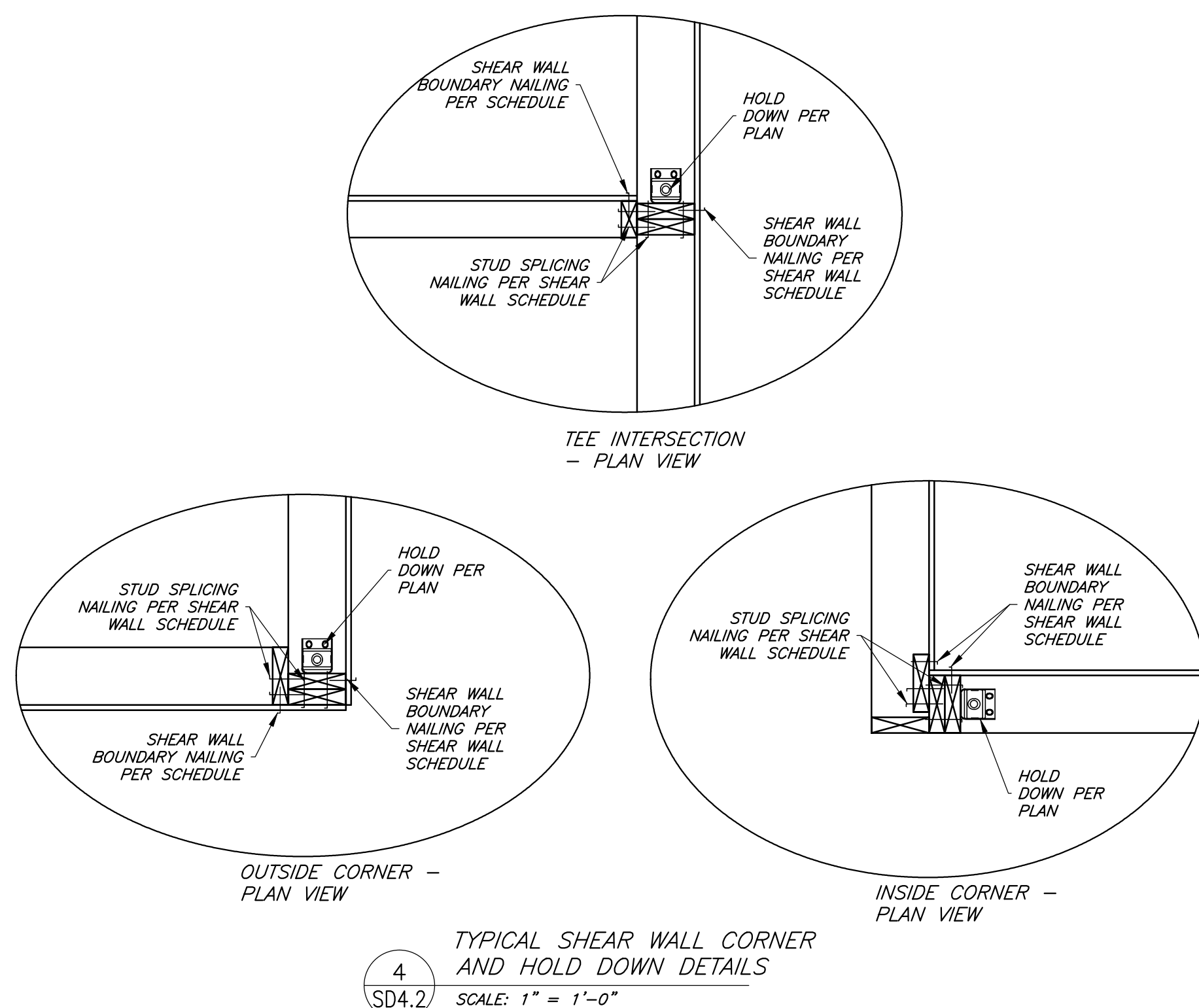
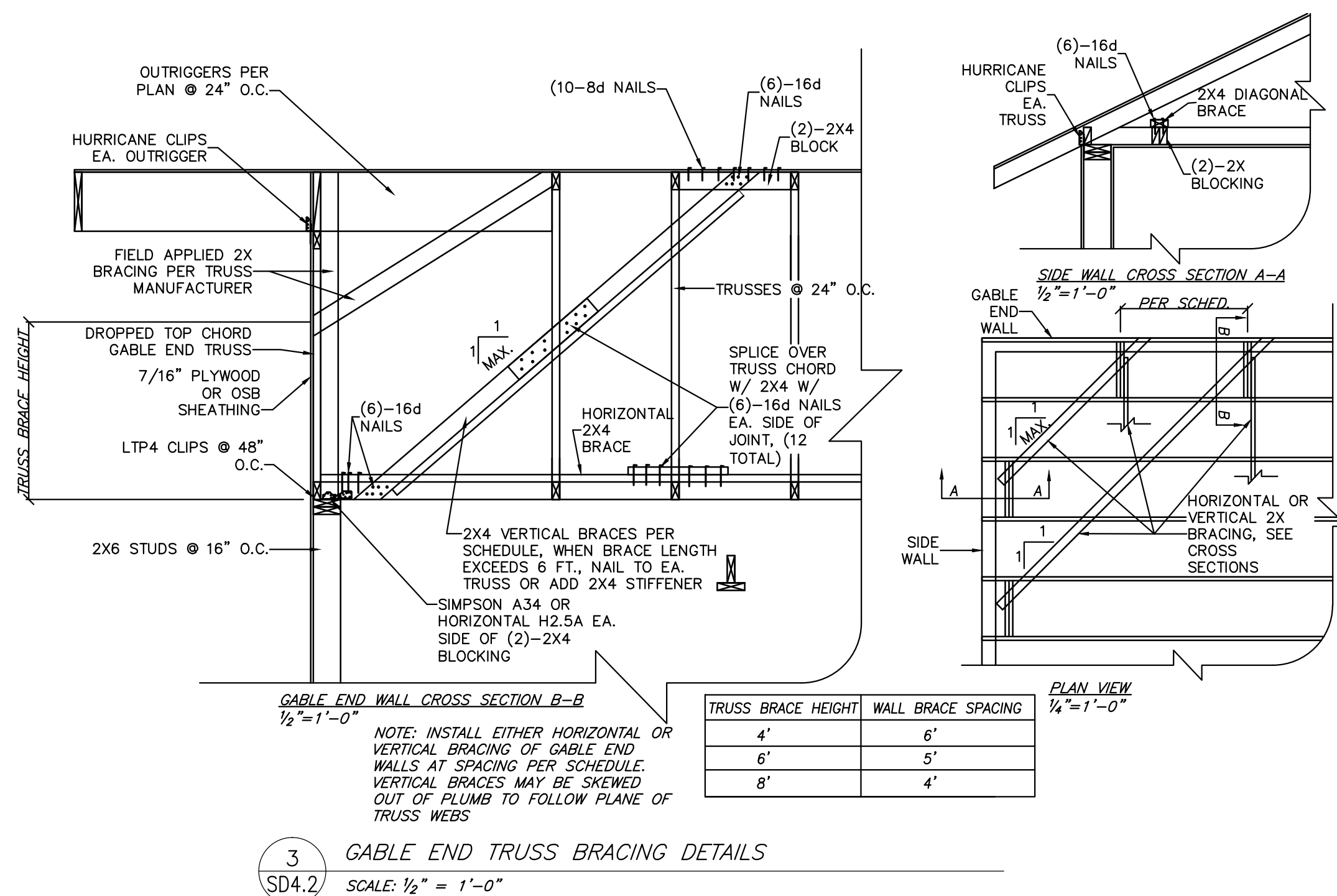
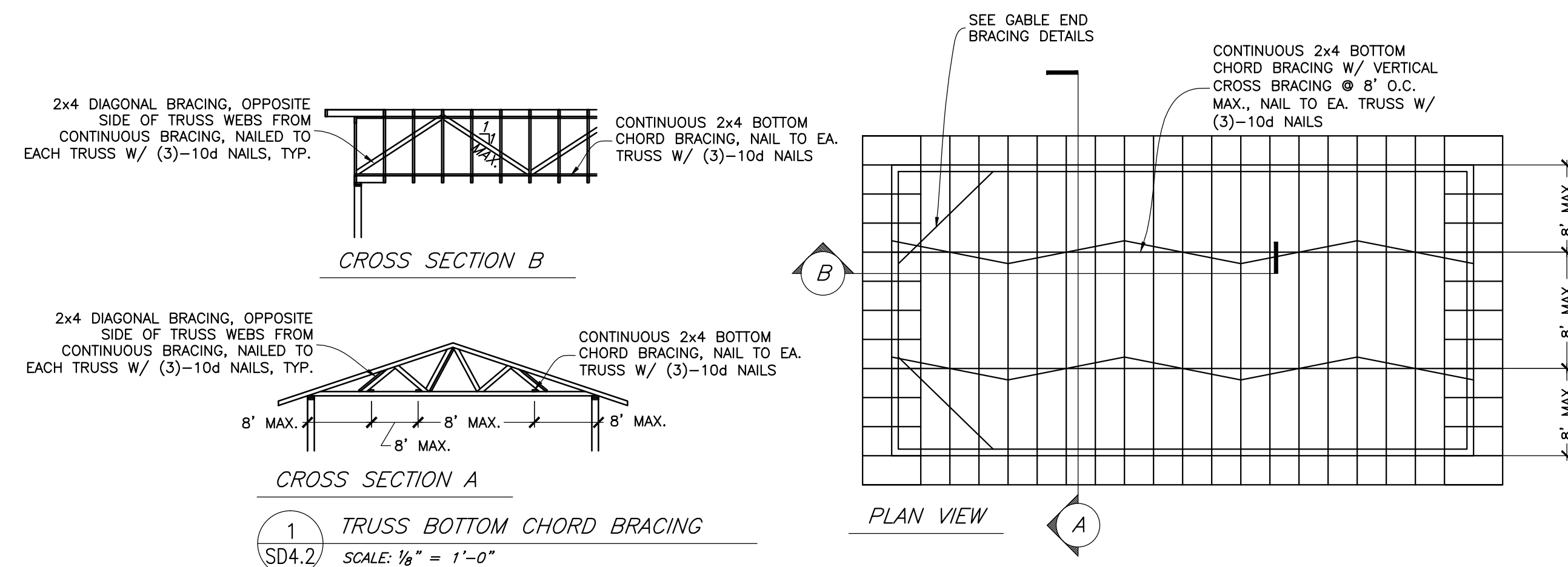
PROJ. NO. 2013-247.001
PROJECT DATE: 05/05/14
SHEET NUMBER:

SD3.2

RIDGWAY FIRE STATION
RIDGWAY FIRE PROTECTION DISTRICT
LOT 26-B1, RIDGWAY, CO 81432

SGM
118 West Sixth Street, Suite 200
Glenwood Springs, CO 81601
970.945.1004 www.sgm-inc.com





SHEAR WALL SCHEDULE 1, 2

SHEAR WALL TYPE	Sheeting	Fastener spacing OR all edges (Blocked)	Intermediate framing nail spacing	Framing backing size	Bottom plate nailing & doubled stud splicing	Anchor Bolts	Maximum allowable shear	Notes
CS-WSP OR CDX EA. SIDE	7/16" OSB OR CDX PLYWOOD	8d @ 4" OC OR 15 GA @ 3" OC	8d @ 6" OC for stud framing @ 24" OC 8d @ 12" OC for stud framing @ 16"	2x	2-16d @ 3" OC	5/8" X10" @ 24" O.C.	800 PLF	2, 3, 5, 6
CS-WSP 10d@3	7/16" OSB OR CDX PLYWOOD	10d @ 3" OC	10d @ 6" OC for stud framing @ 24" OC 10d @ 12" OC for stud framing @ 16"	3x or DBL 2x	2-16d @ 3" OC	5/8" X10" @ 24" O.C.	800 PLF	2, 3, 4, 5, 6

Notes:

- ALL WALLS SHALL BE GALVANIZED BOX NAILS OR COMMON NAILS, FASTENERS SHALL MEET THE FOLLOWING CRITERIA:
1d common = .0137" dia X 1-5/8" min. 5d GWB = .088" dia X 1-5/8" min.
10d common = .148" dia X 3" min. 6d cooler = .092" dia X 1-7/8" min. 8d box = .113" dia X 2-1/2" min.
6d GWB = .092" dia X 1-7/8" min. 10 box = .128" dia X 3" min. 16d common = .162" dia X 3-1/2" min.
15 GA. staple = .072" dia X 1-1/2" min.
- PROVIDE AREA SHEATHING PLYWOOD OR OSB AREA RATED SIDING 303 OF INNER SEAL OSB RATED PANEL SIDING ON ALL EXTERIOR WALLS AND NAIL PER NOTE 1.
- SPECIFIED SHEATHING AND SIDING PANEL EDGES SHALL BE BACKED WITH 2" OR 3" FRAMING (PER THE TABLE) INCLUDING FOUNDATION SILL PLATES, VERTICAL FRAMING, AND BLOCKING. PANELS MAY BE INSTALLED EITHER HORIZONTALLY OR VERTICALLY (SEE NOTE 4 FOR EXCEPTION). NAILS SHALL BE STAGGERED FOR 3" FRAMING.
- PANELS ARE APPLIED WITH LONG DIMENSION ACROSS STUDS FOR FRAMING SPACED AT 24" (BLOCKED).
- WHERE PANELS ARE APPLIED ON BOTH FACES OF A WALL AND NAIL SPACING IS LESS THAN 6 INCHES ON CENTER ON EITHER SIDE, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS OR FRAMING SHALL BE 3-INCH NOMINAL AND NAILS ON EACH SIDE SHALL BE STAGGERED.
- NAILS TO BE DRIVEN FLUSH WITH SHEATHING. DO NOT OVER DRIVE NAILS.
- ALL SHEAR PANELS SHALL BE BLOCKED.

