

STRUCTURAL ABBREVIATION INDEX

AB	Anchor Bolt/Column Anchor Rod	IF	Inside Face
ACIP	Augered Cast In Place	INT	Interior
A/E	Architect/Engineer	JB	Joist Bearing Elevation
A/ESS	Architecturally Exposed Structural Steel	L	Lintel
AFF	Above Finished Floor	LAT	Lateral
ALT	Alternate	LD	Load
AP	Anchor Plate	LF	Linear Foot
ARCH	Architectural	LG	Long
B.O.	Bottom of	LLH	Long Leg Horizontal
BB	Bond Beam	LLV	Long Leg Vertical
BFF	Below Finished Floor	LOC'N	Location
BL	Brick Ledge	LP	Low Point
BM	Beam	LT	Light
BP	Bearing Plate	LW	Long Way
BRG	Bearing	MAX	Maximum
BT	Bent	MECH	Mechanical
C	Centerline	MCJ	Masonry Control Joint
CANT	Cantilever	MIN	Minimum
C/C	Center-to-Center	NS	Near Side
CBP	Column Base Plate	NTS	Not To Scale
CJP	Complete Joint Penetration Weld	O/O	Out-to-Out
CJ	Construction Joint	OC	On-Center
CJ	Contraction Joint	OD	Outside Diameter
CJ	Control Joint	OF	Outside Face
CLR	Clear	OFD	Overflow Drain
CMU	Concrete Masonry Unit	OH	Opposite Hand
COL	Column	P	Pier
CONC	Concrete	PEMB	Pre-Engineered Metal Building
CONN	Connection, Connect	PERP	Perpendicular
CONT	Continuous	P	Plate
COORD	Coordinate	PT	Pressure Treated
DBE	Deck Bearing Elevation	R, RAD	Radius
DA	Deck Angle	RD	Roof Drain
DB	Deck Bar	Reference	Refer to
DIA, Ø	Diameter	REINF	Reinforce
DP	Deck Plate	REQ'D	Required
DWG	Drawing(s)	RMW	Reinforced Masonry Wall
EA	Each	RTU	Roof Top Unit
EF	Each Face	RXN	Reaction
EL	Elevation	SC	Slip Critical
EQ	Equal	SF	Step Footing
ES	Each Side	SIM	Similar
EW	Each Way	SOG	Slab On Grade
EX	Existing	SPCS	Spaces
EXP	Expansion	SS	Stainless Steel
EXT	Exterior	STL	Steel
FD	Floor Drain	SW	Short Way
FF	Finished Floor	T&B	Top and Bottom
FFE	Finished Floor Elevation	TC	Torque Controlled
FDN	Foundation	TCX	Top Chord Extension
FP	Foundation Pier	T.O.	Top of
FS	For Side	TOB	Top of Beam
FTG, F	Footing	TOF	Top of Footing
FV	Field Verify	TOL	Top of Ledge
GA	Gauge	TOM	Top of Masonry
GALV	Galvanized	TOS	Top of Steel
GB	Grade Beam	TOW	Top of Wall
GS	Grout Solid	TYP	Typical
GT	Girder Truss	UNO	Unless Noted Otherwise
HD	Hold Down Anchor	VERT	Vertical
HORZ	Horizontal	w/	With
HP	High Point	w/o	Without
HS	Headed Stud	WF	Wall Footing
HT	Height	WP	Working Point
ID	Inside Diameter	WWF	Welded Wire Fabric

GENERAL STRUCTURAL NOTES

- All work shall be performed in accordance with the contract documents. In case of a conflict within the contract documents, the more stringent condition shall govern, unless directed otherwise by the engineer of record. Prior to implementation, any discrepancies shall be reported to the architect for clarification.
- In the event that certain details of construction are not indicated or noted in the drawings, details for similar conditions that are indicated or noted shall be utilized, subject to the structural engineer's approval.
- The structure has been designed for the in-service loads only. The methods, procedures and sequences of construction are the responsibility of the contractor. Contractor shall take all necessary precautions to maintain and ensure the integrity of the structure at all stages of construction. Contractor shall immediately notify the structural engineer of any condition which, in his opinion, might endanger the stability of the structure or cause distress in the structure.
- All existing conditions and all related dimensions indicated in the contract documents shall be field verified prior to fabrication, erection and/or construction. Any condition that differs from that indicated in the contract documents shall be submitted to the architect for review prior to fabrication, erection and/or construction.
- Provide special inspection in accordance with chapter 17 of the Michigan Building Code and with project specifications.

STEEL NOTES

- Structural steel shall be finished as follows:
 - Non-fireproofed interior steel shall be shop painted with min. 1.5 mil dry film thickness of a rust inhibiting primer.
- Beam and lintel bearing on concrete and masonry wall shall be 8" unless otherwise shown. Provide beam bearing plates as required.
- Beams without a specified camber shall be oriented such that any incidental camber is upward.
- Bolting connections not specified to be slip critical shall be tightened snug tight (all metal surfaces in contact).
- All gusset plates to be minimum 3/8" thick. Unless noted otherwise, all column and beam web stiffeners and gusset plates shall be 3/8" thick.

STEEL SPEC NOTES

- All steel shall be fabricated, detailed, and erected in accordance with AISC Code of Standard Practice, ASTM A6 "Specification for General Requirements for Rolled Steel Plates, Shapes, Sheet Piling, and Bars for Structural Use", and Research Council on Structural Connections (RCS) "Specifications for Structural Joints Using ASTM A325 or A490 Bolts."
- Provide shop drawing submittal laying out and detailing structural steel and bolts.
- Inspect all steel in accordance with Michigan Building Code and AISC requirements. At a minimum visually inspect all fillet welds, non-destructively test all full penetration welds, inspect all bolted connections, etc.
- All welding shall be done in accordance with AWS D1.1 "Structural Welding - Steel."

WOOD NOTES

- Comply with National Design Specification (NDS), American Forest Products Association (AFPA), and American Institute of Wood Construction (AIWC).
- Bolt beam plates with 1/2" diameter bolts at 24" o.c., staggered.
- When treated lumber is in contact with steel (bolts, nails, fasteners, hangers, etc.), steel shall be G-185 galvanized or stainless. Dimensional lumber bolted to steel beams and columns shall be untreated, or protective coatings equivalent to G-185 shall be applied to the steel. Unless noted otherwise, do not countersink bolts or fasteners into wood. Provide washers with bolts that are a minimum of 2 times the diameter of the bolt.
- Unless noted otherwise, refer to International Building Code Table 2304.9.1 for minimum nailing requirements. All nails shall be common wire nails.

SCOPE OF PROJECT NOTE:
 These drawings and this project are intended to improve upon the state of the existing roof structure of the building. The retrofits are not intended to bring the roof in full compliance with current building codes. Rather, the project is intended to make improvements to the condition of various components and increase strength of components where they were deemed to be severely deficient. Stresses in existing structural elements will be reduced if the existing clay tile roof is replaced with lighter materials.

ENGINEERING DATA

Design stresses		
Steel	W shapes	Fy = 50000 psi
	Rectangular HSS shapes (A500)	Fy = 46000 psi
	Round HSS & Pipe shapes (A500)	Fy = 42000 psi
	All other shapes	Fy = 36000 psi
	Structural bolts	ASTM A325
	Welding electrode	E70XX
Lumber	Dimension lumber (SPF #2 or better)	Fb = 850 psi Fv = 135 psi
	Engineered lumber (LVL)	Fb = 2600 psi Fv = 285 psi
	Engineered lumber (PSL)	E = 1900 ksi Fb = 2900 psi Fv = 290 psi E = 2000 ksi

Structural design requirements		
Roof live load		20 psf
Risk Category		II
Roof snow load		
Ground snow load (Pg)		25 psf
Flat roof snow load (Pf)		20 psf + Drift
Snow exposure (Ce)		1.0
Snow load importance factor (Is)		1.0
Thermal factor (Ct)		1.1
Wind Load		
Ultimate design wind speed (3 sec)		115 mph
Nominal design wind speed (3 sec)		90 mph
Wind exposure category		B
Internal Pressure coeff (GCpi)		0.18
Components & cladding (varies)		varies - per ASCE7

Specific Design Loads		
Roof dead loads		
Clay tile		20
Asphalt shingles or built up roofing		8
Insulation		5
Trusses		3
Roof sheathing		3
Ceiling (plaster)		10
M/E/P		2
Misc		2
		45 psf Total (Clay Tile)
		33 psf Total (Asphalt)
Roof truss design loads		
Bottom chord dead load		15 psf
Top chord dead load		30 psf
Top chord snow load:		
Balanced		20 psf balanced
Unbalanced (see Fig 7-5 of ASCE 7-10)		
Windward		N/A
Leeward		N/A
Leeward ridge		N/A

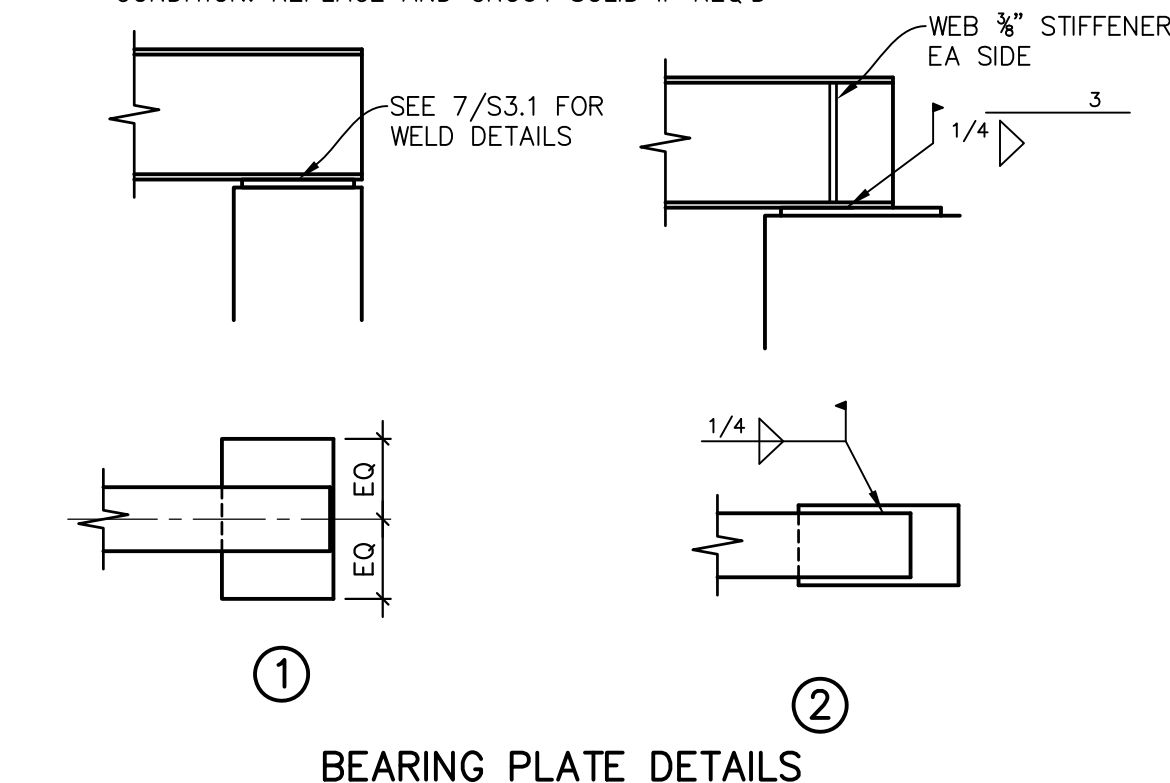
Design codes	
General building code	Michigan Building Code 2015
Steel	AISC 360 - ASD
Wood	NDS

EXISTING BUILDING SURVEY NOTE:
 COMPLETE CONSTRUCTION DRAWINGS FOR THE EXISTING BUILDING WERE UNAVAILABLE. THEREFORE, AN ATTEMPT HAS BEEN MADE TO ANTICIPATE CONDITIONS IN THE EXISTING STRUCTURE. STRUCTURAL COMPONENTS MAY OR MAY NOT HAVE BEEN EXPOSED TO VIEW DURING STRUCTURAL SURVEYS. ALL EXISTING STRUCTURAL INFORMATION, INCLUDING SIZES AND DIMENSIONS, SHALL BE FIELD VERIFIED. NOTIFY A/E IF ACTUAL CONDITIONS DIFFER FROM THE CONTRACT DOCUMENTS.

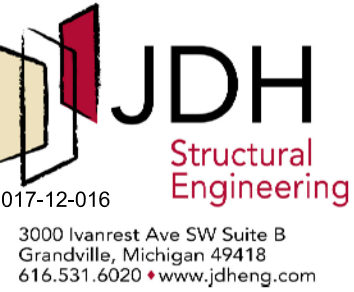
CONTRACTOR NOTE:
 IF CONDITIONS ARE FOUND TO BE QUESTIONABLE FOR LONG-TERM SUPPORT OR INTEGRITY (ADDITIONAL DRYROT, SPLITTING OF WOOD MEMBERS, INADEQUATE SUPPORT), NOTIFY A/E FOR RESOLUTION

BEARING PLATE SCHEDULE			
MARK	SIZE	HEADED ANCHORS	DETAIL
BP1	3/4"x8"x16"	N/A	①
BP2	3/4"x8"x24"	N/A	②

- NOTES:**
- GROUT ALL BEAM POCKETS SOLID.
 - PROVIDE 1/2" SETBACK OF BRG FROM FACE OF MASONRY, UNO
 - CONFIRM THAT EXISTING BRICK UNDER BRG IS IN GOOD CONDITION. REPLACE AND GROUT SOLID IF REQ'D



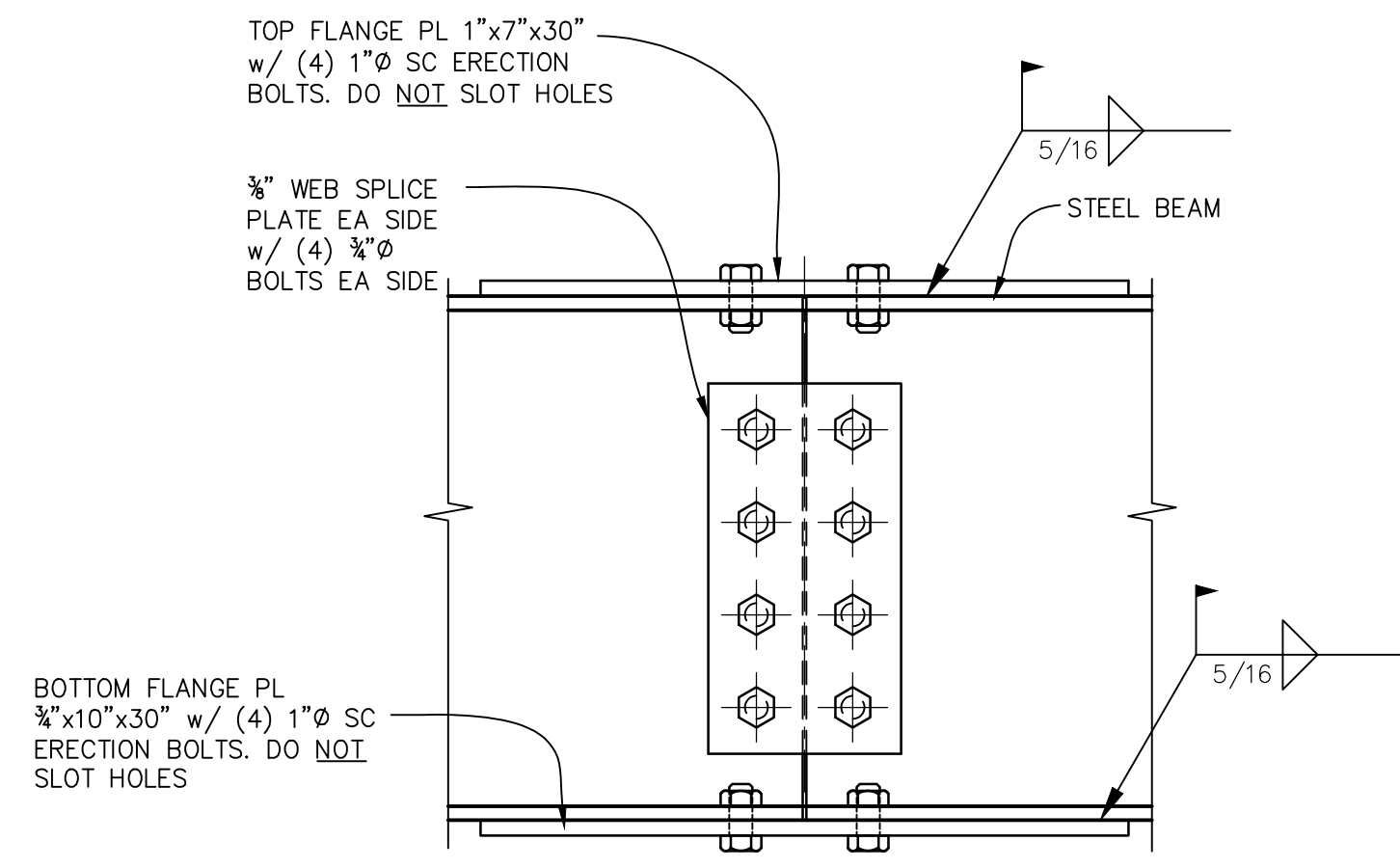
BEARING PLATE DETAILS



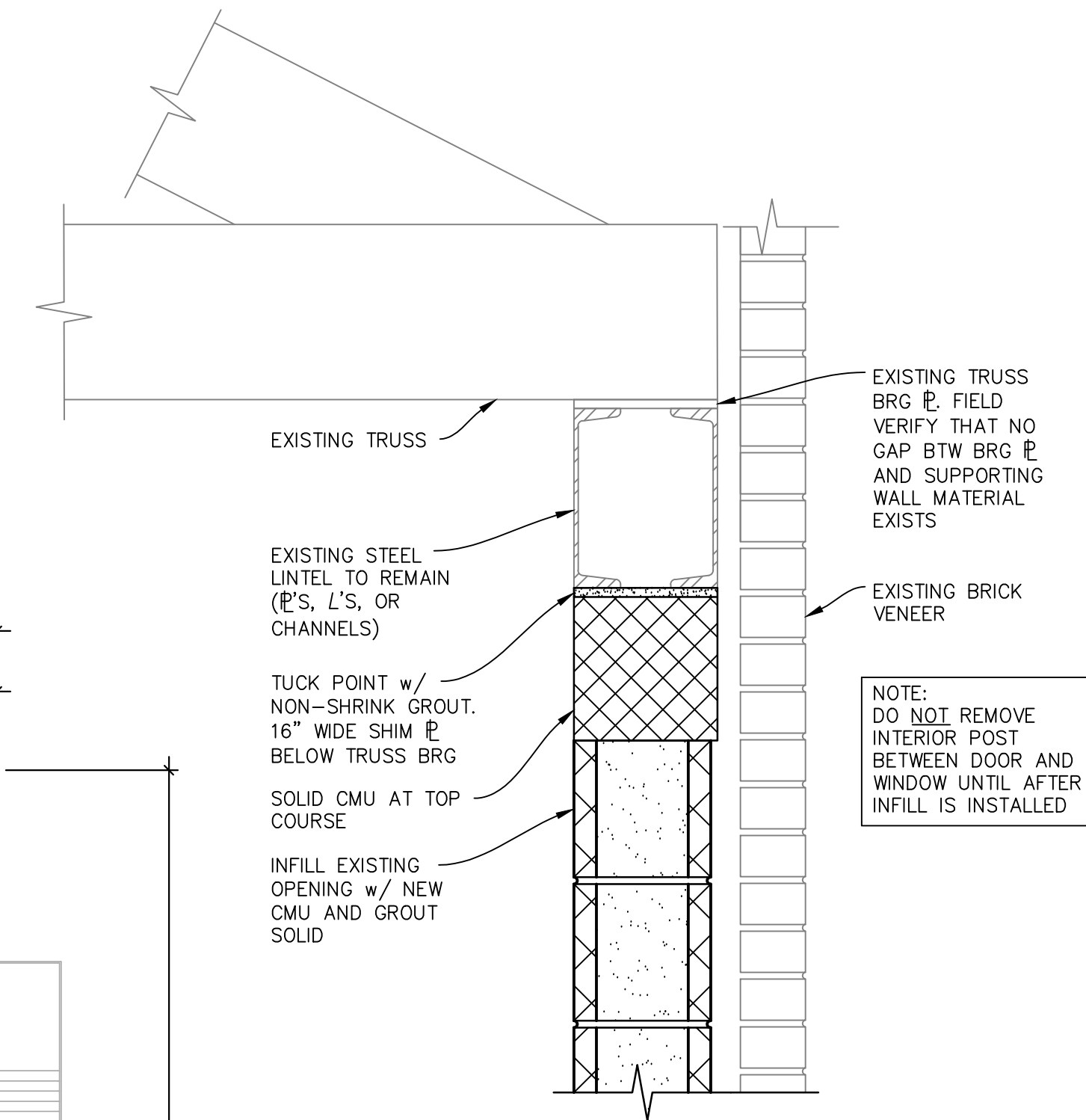
MASONIC TEMPLE RETROFITS

STRUCTURAL NOTES

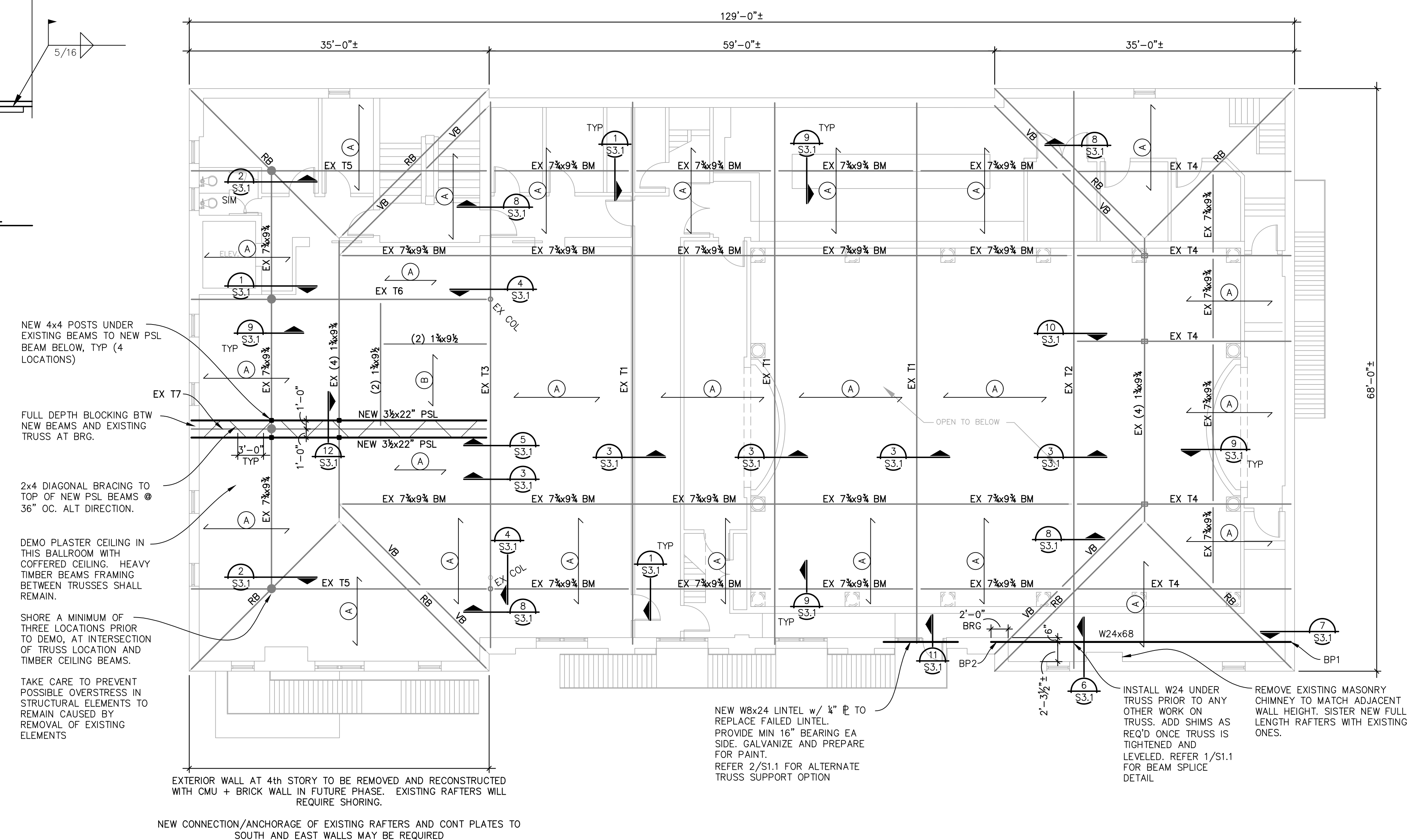
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1 BEAM SPLICE DTL
NOT TO SCALE



2 ALTERNATE FAILED LINTEL SUPPORT DETAIL
NOT TO SCALE



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

- RECOMMENDED SEQUENCING:
1. Remove interior finishes as directed by architect.
 2. Remove clay tile roof to lighten loads on existing structural elements.
 3. Shore structure as required and straighten/tighten trusses per structural design documents.
 4. Install structural reinforcement per details in structural design documents.
 5. Re-construct roof envelope as directed by architect.
- At the contractor's option, repairs could be phased rather than doing each sequence for the entire roof at once. Construction sequencing and means and methods of construction are the responsibility of the contractor.

- GENERAL NOTES
1. Ensure truss type T1 has (2) 2"Ø rods running along bottom chord. Report to A/E if found otherwise.
 2. Ensure truss type T2 & T3 have (4) 2"Ø rods running along bottom chord. Report to A/E if found otherwise.
 3. Refer to S2.1 & S2.2 for existing truss elevations
 4. Contractor to verify that all existing structural members are sound and in good condition without indications of rot or moisture. Report to A/E if found otherwise
 5. Contractor to tighten all truss connections until all members are snug and in full contact with each other. Tighten rods evenly, starting from end of truss and working toward middle.
 6. Where significant deflection of the existing trusses is noted, raise trusses until they are level and install shims over columns as required to maintain height.

- PLAN KEY:
- (A) 1 1/2"x9 1/2" RAFTERS @ 16" OC
 - (B) 1 1/2"x7 1/4" RAFTERS @ 16" OC
 - "RB" Ridge beam
 - "VB" Valley beam
 - Temporary shoring location while ceiling is being removed

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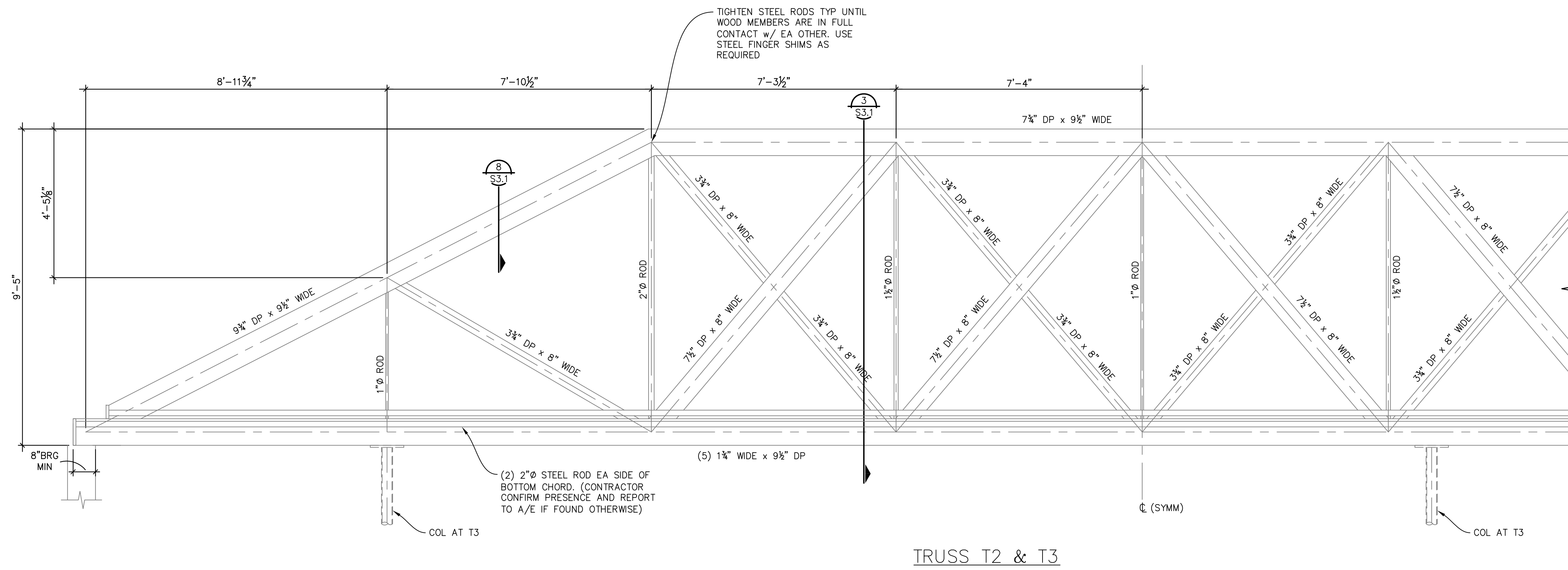
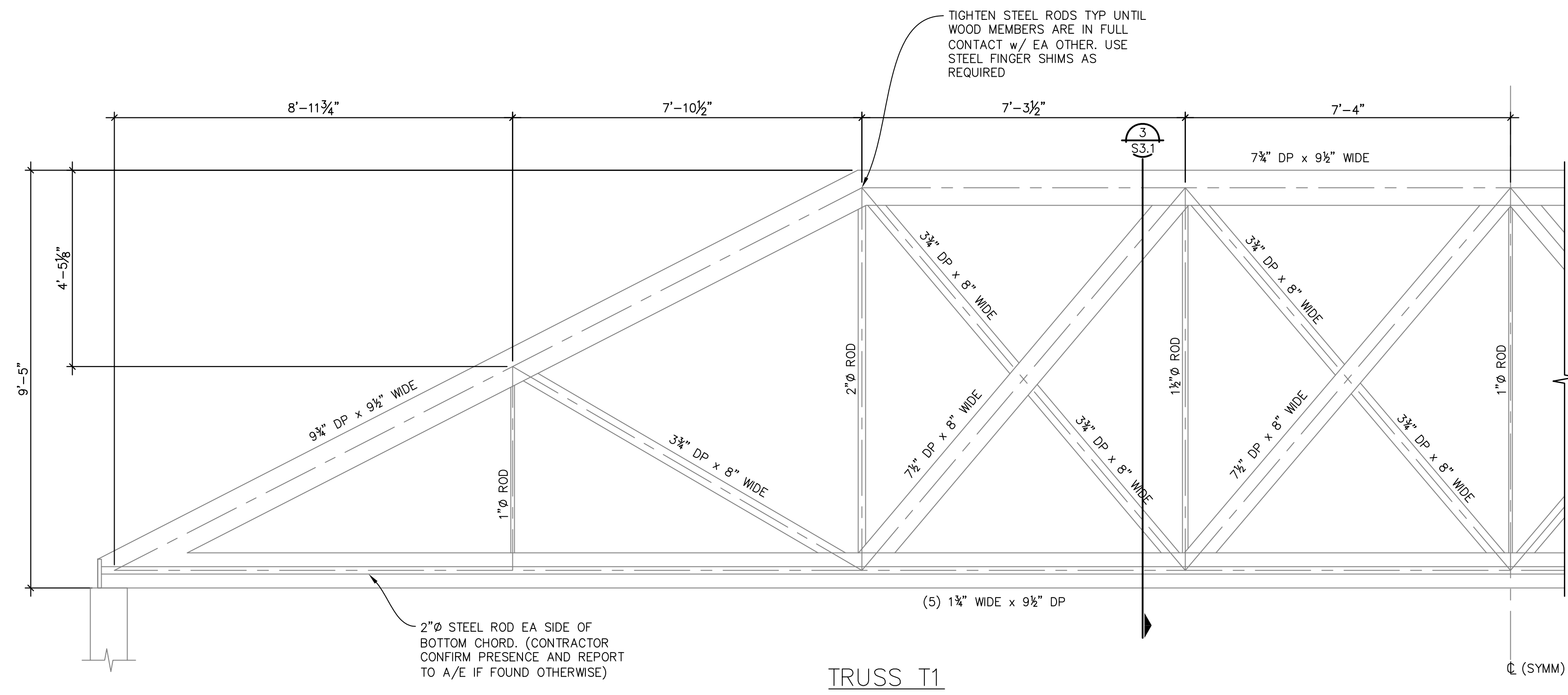
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S2.1



NOTE:
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MEMBER SIZES SHALL BE
CONSIDERED TO BE ±

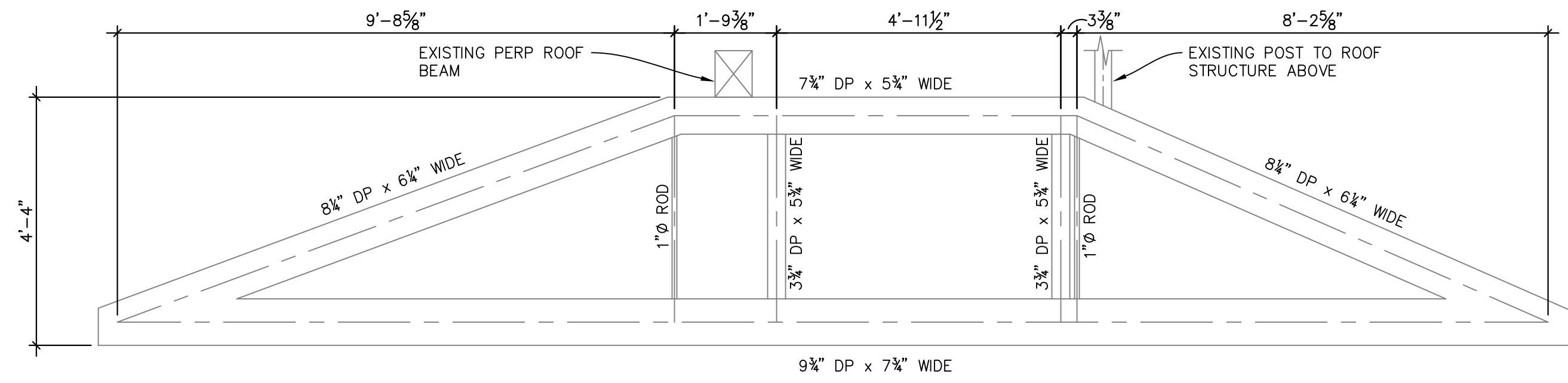
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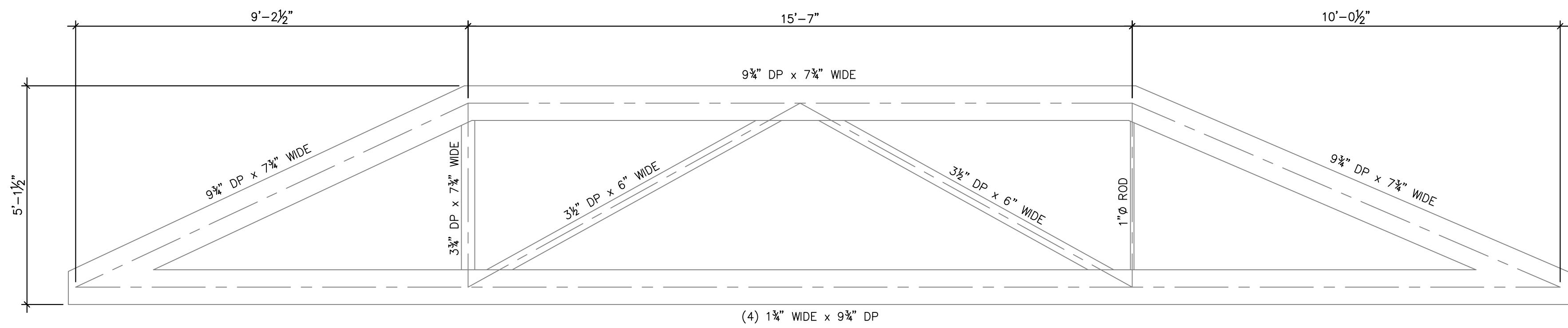
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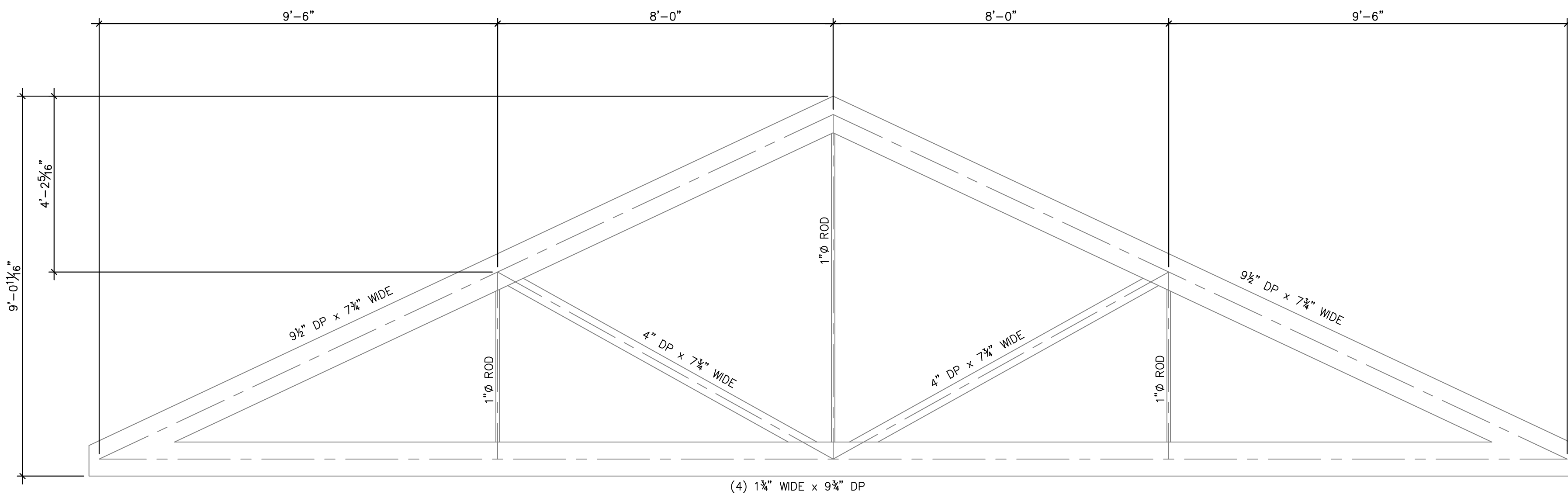
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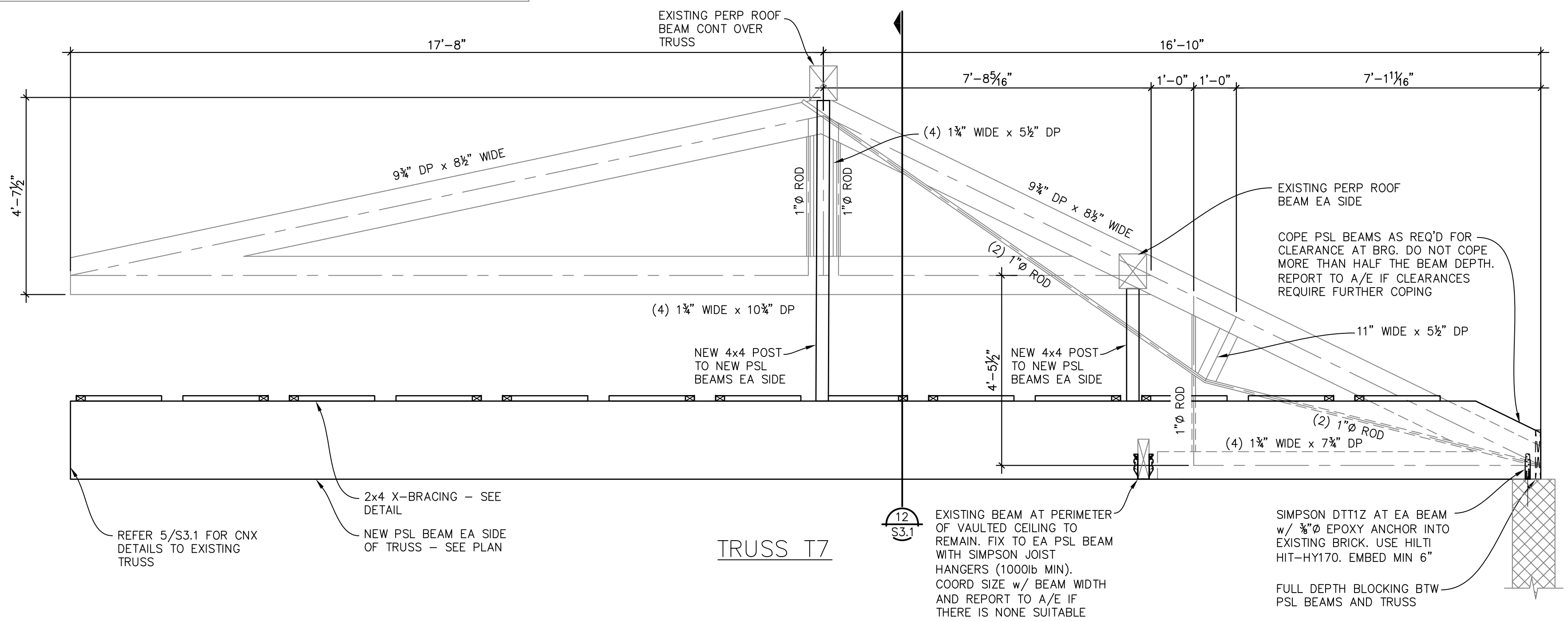
TRUSS T4



TRUSS T5

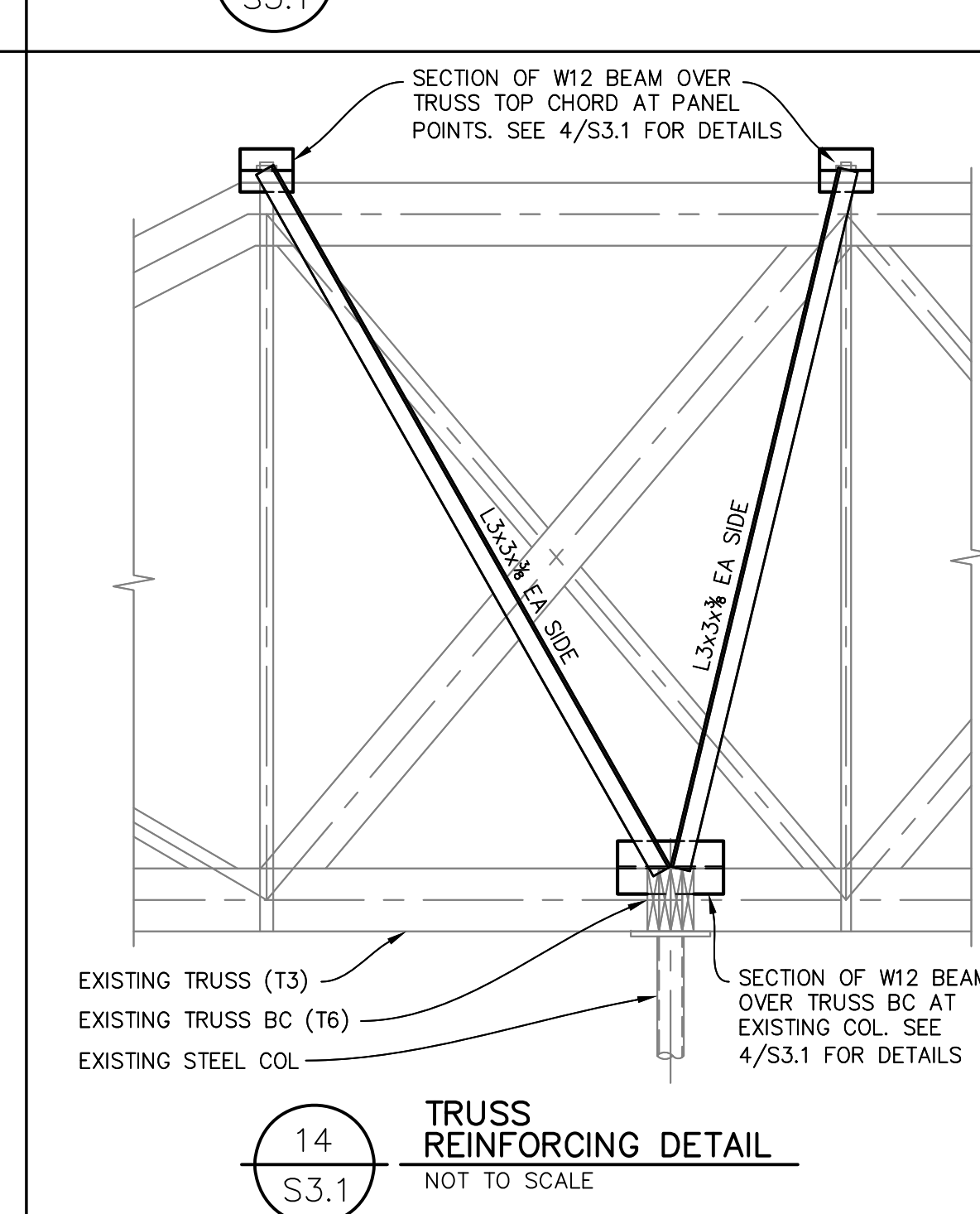
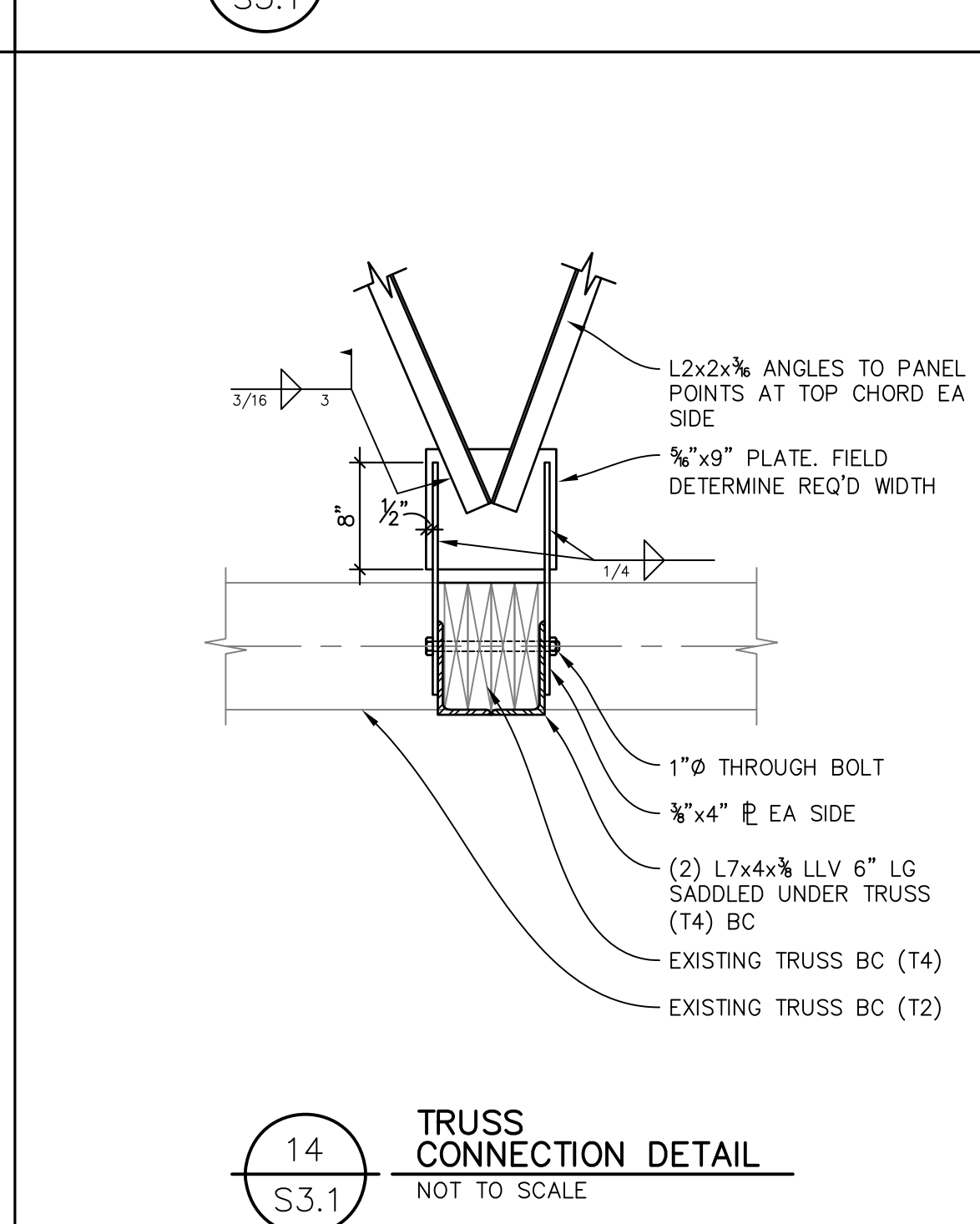
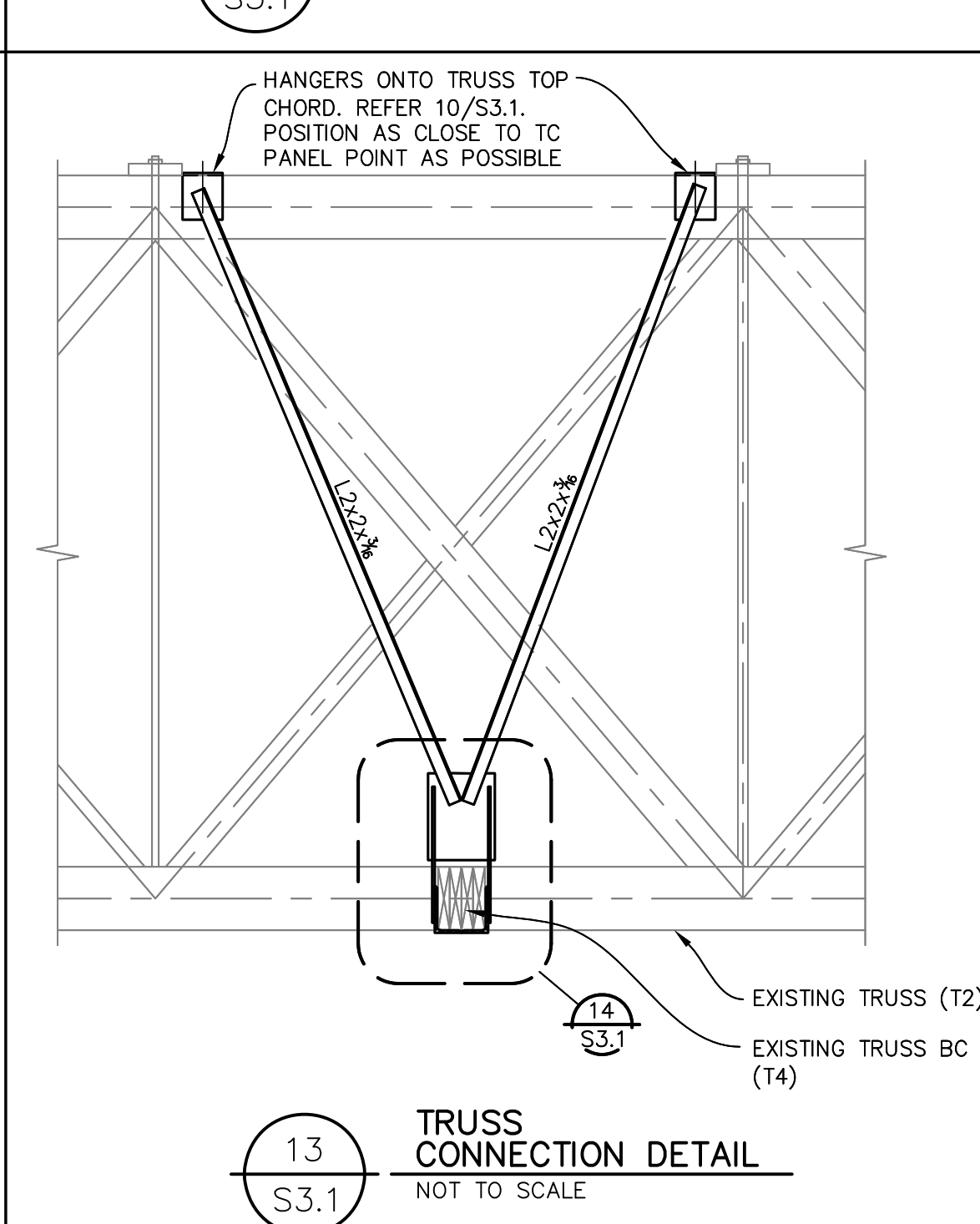
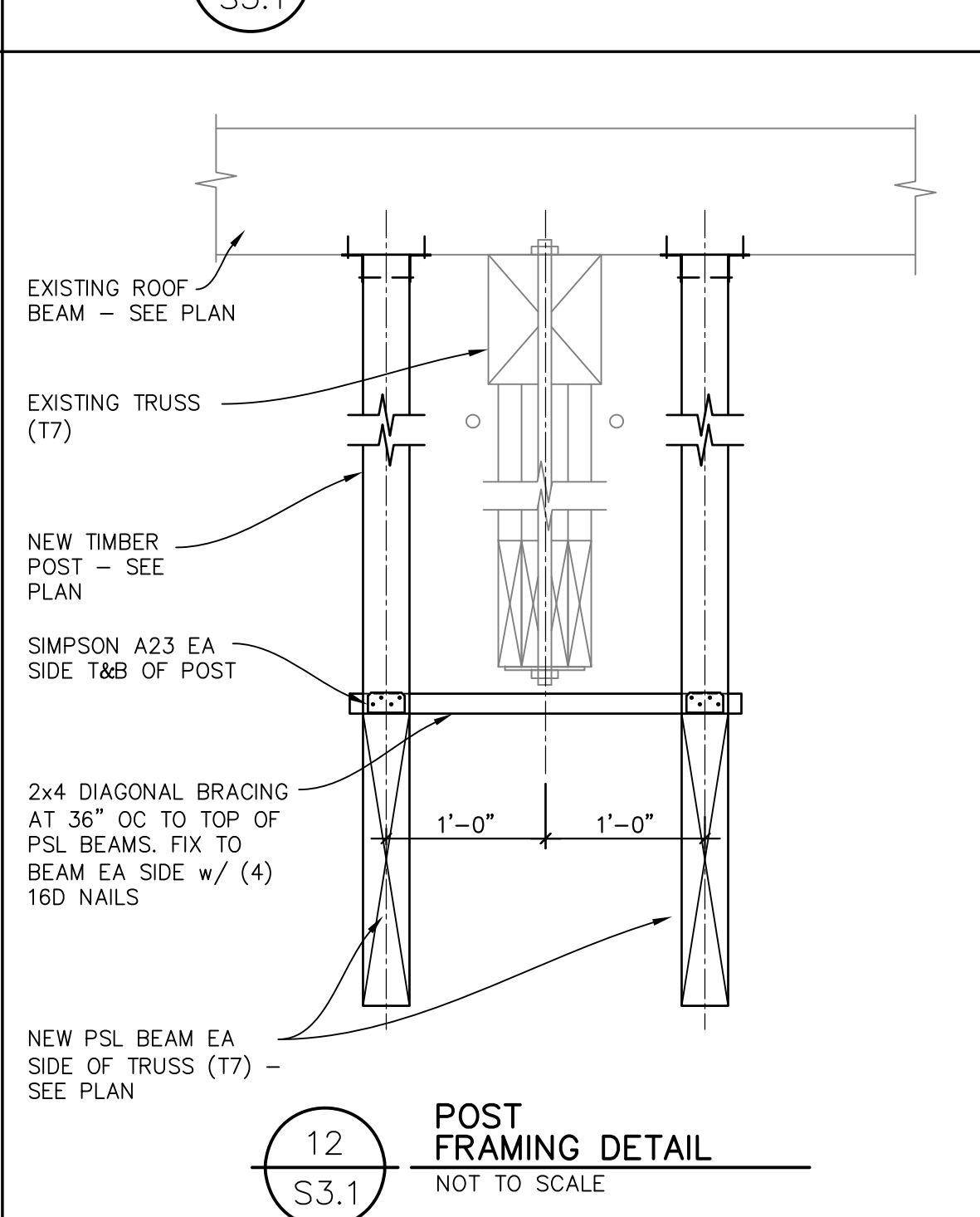
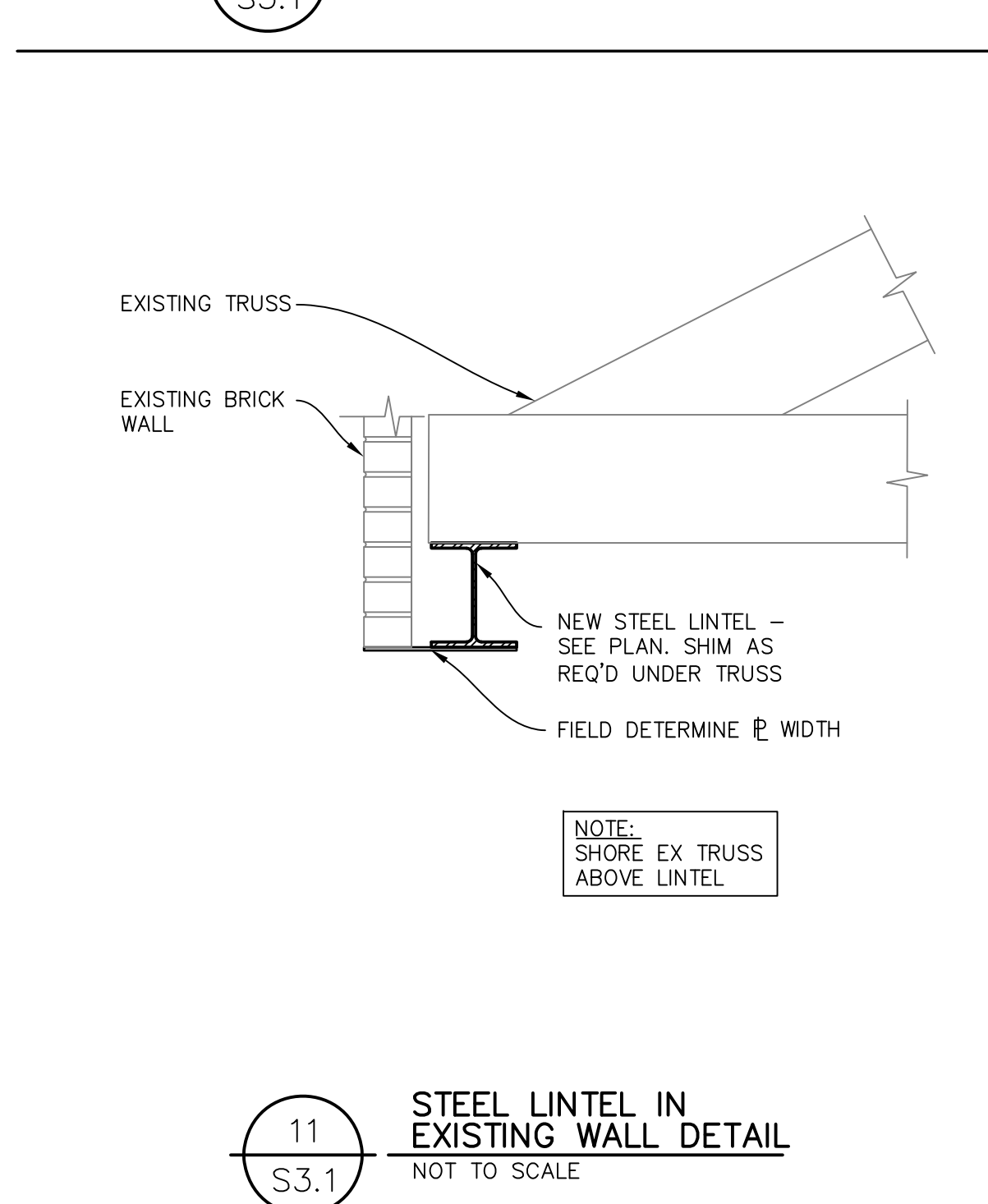
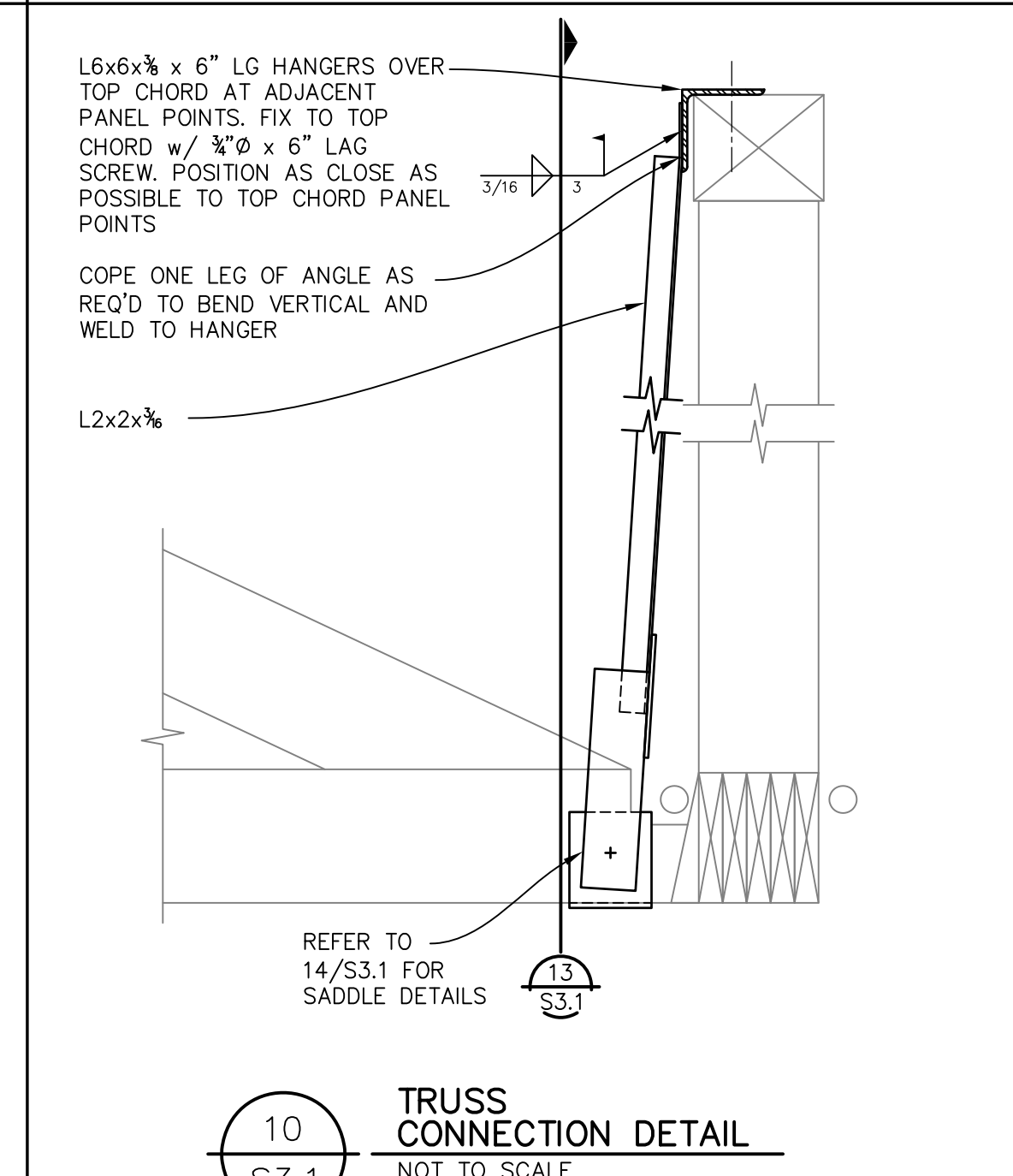
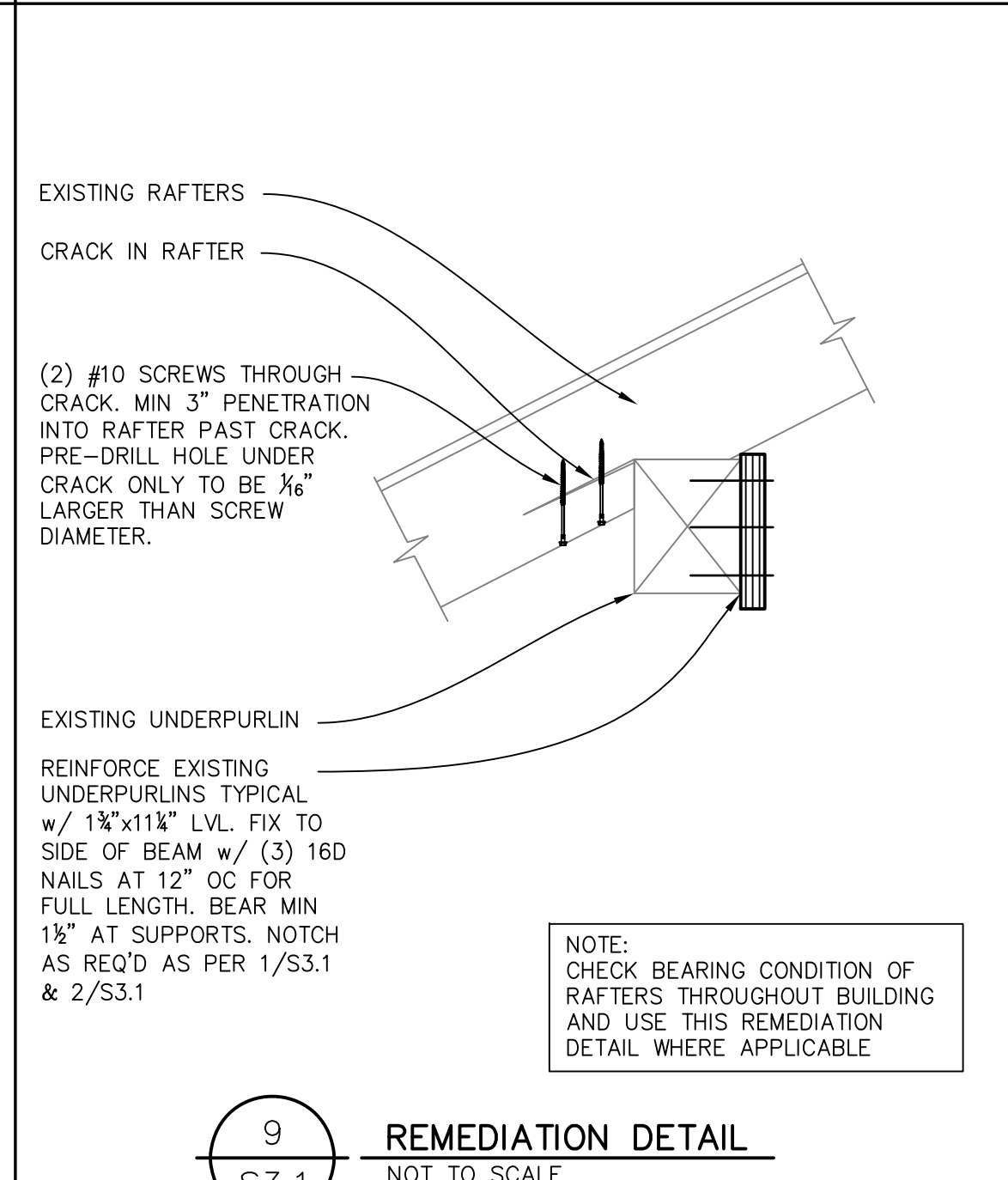
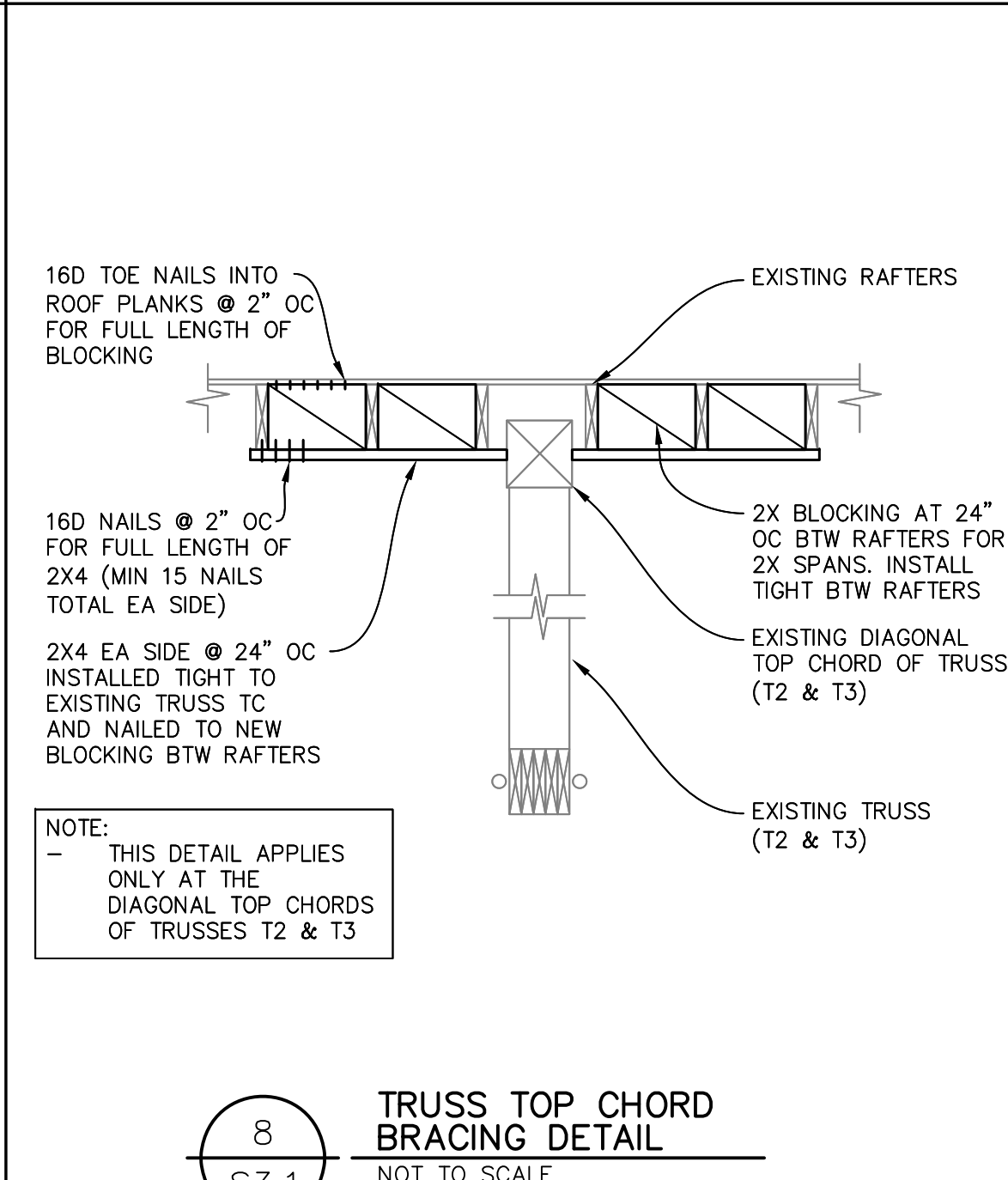
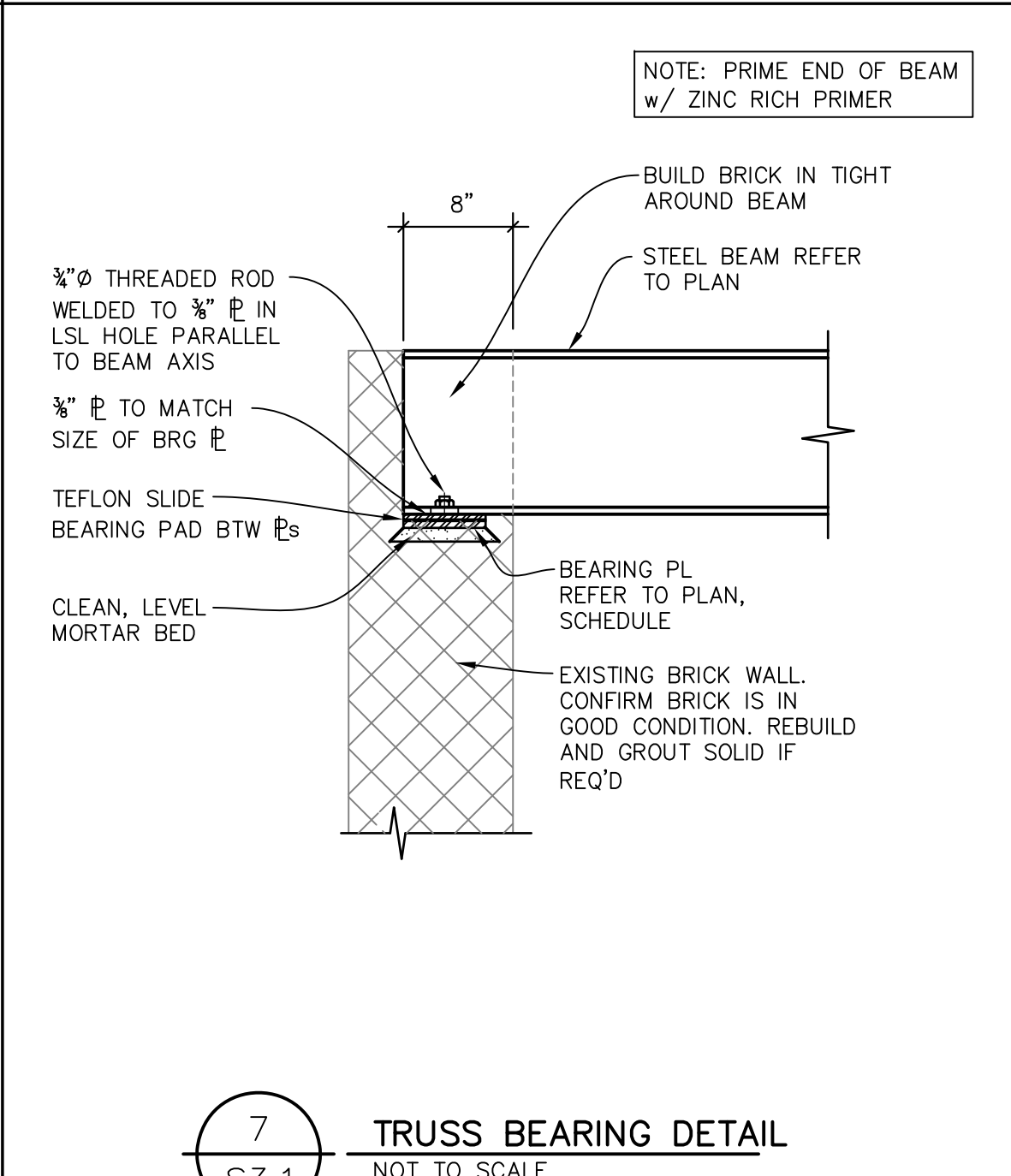
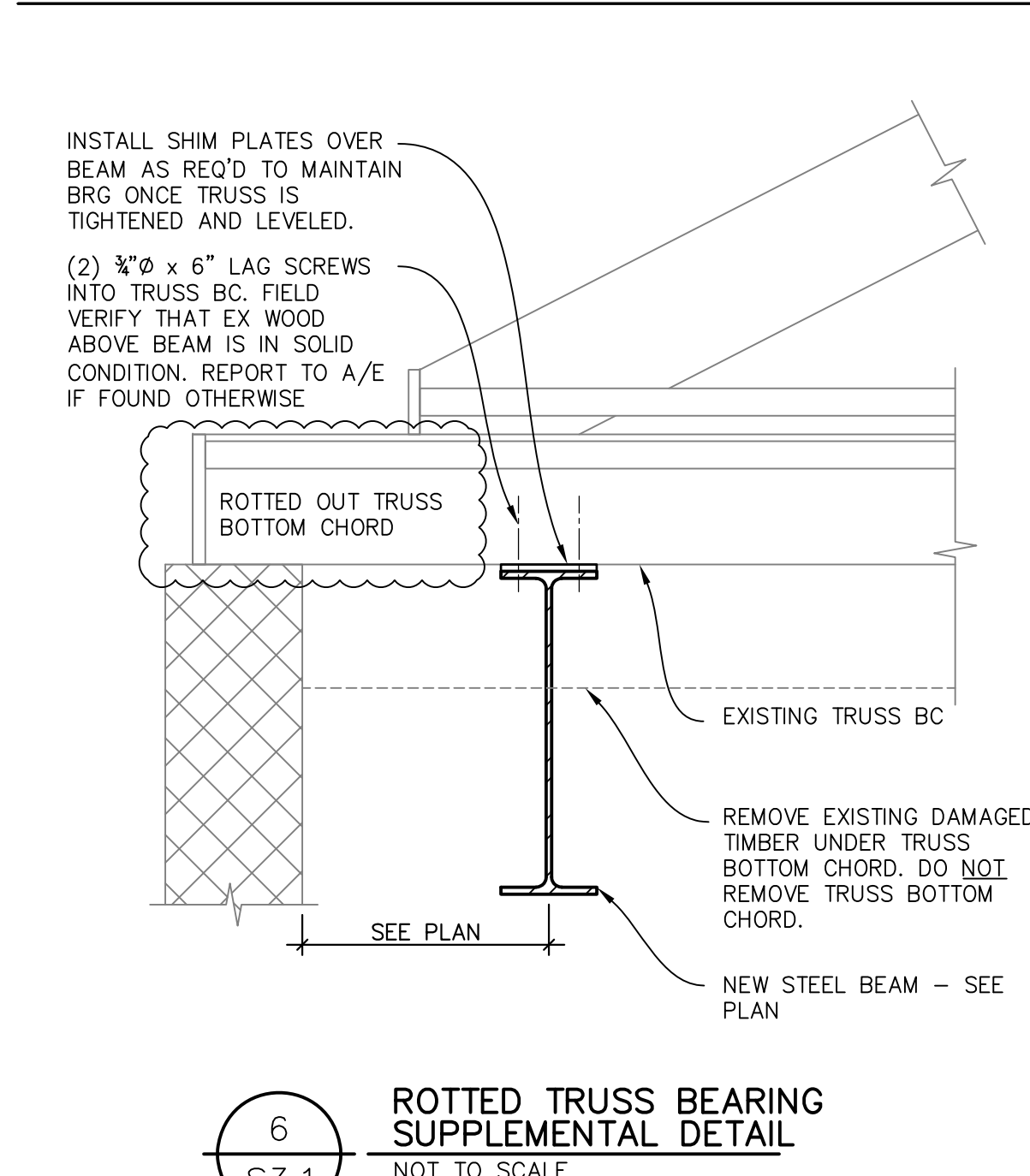
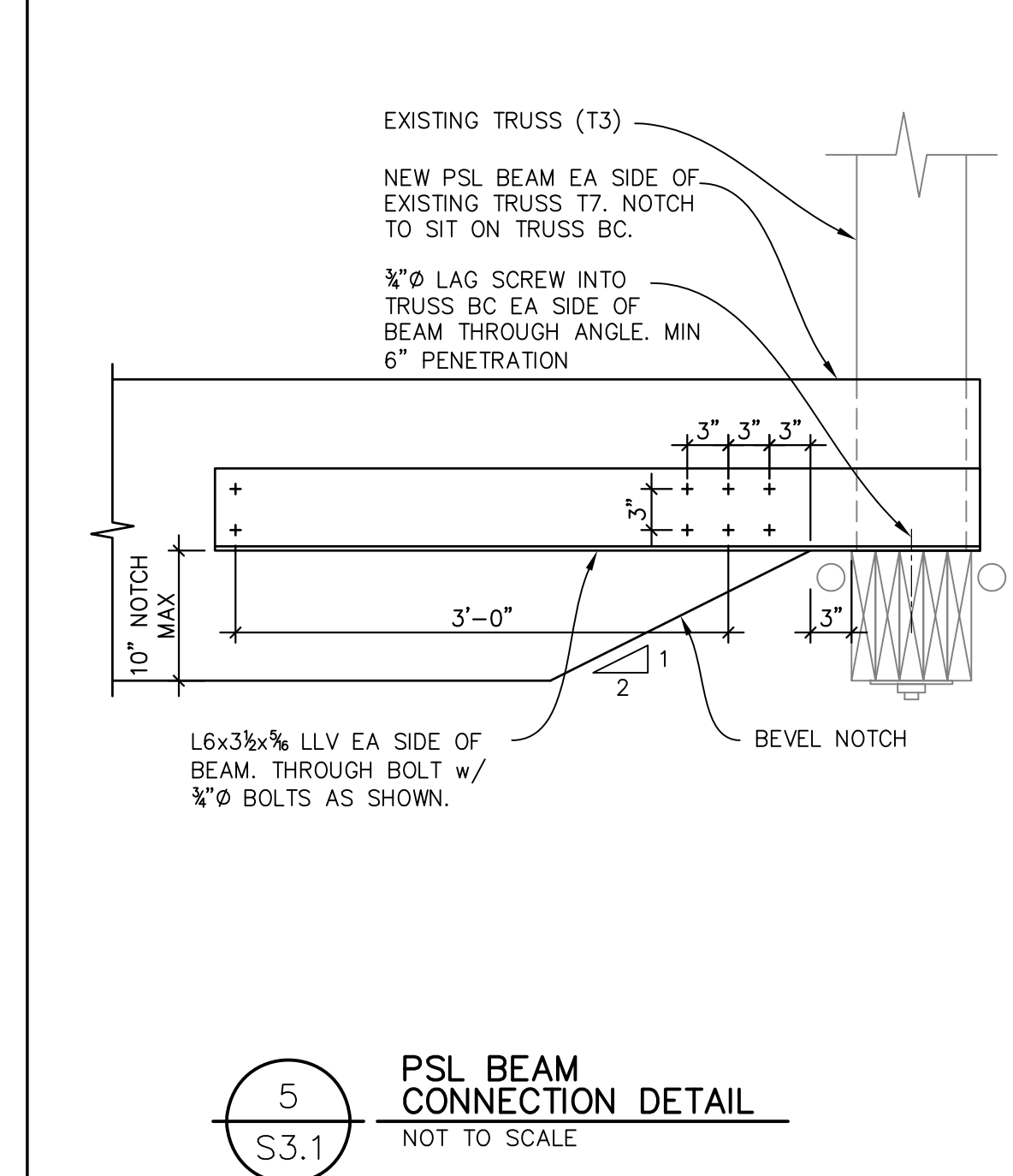
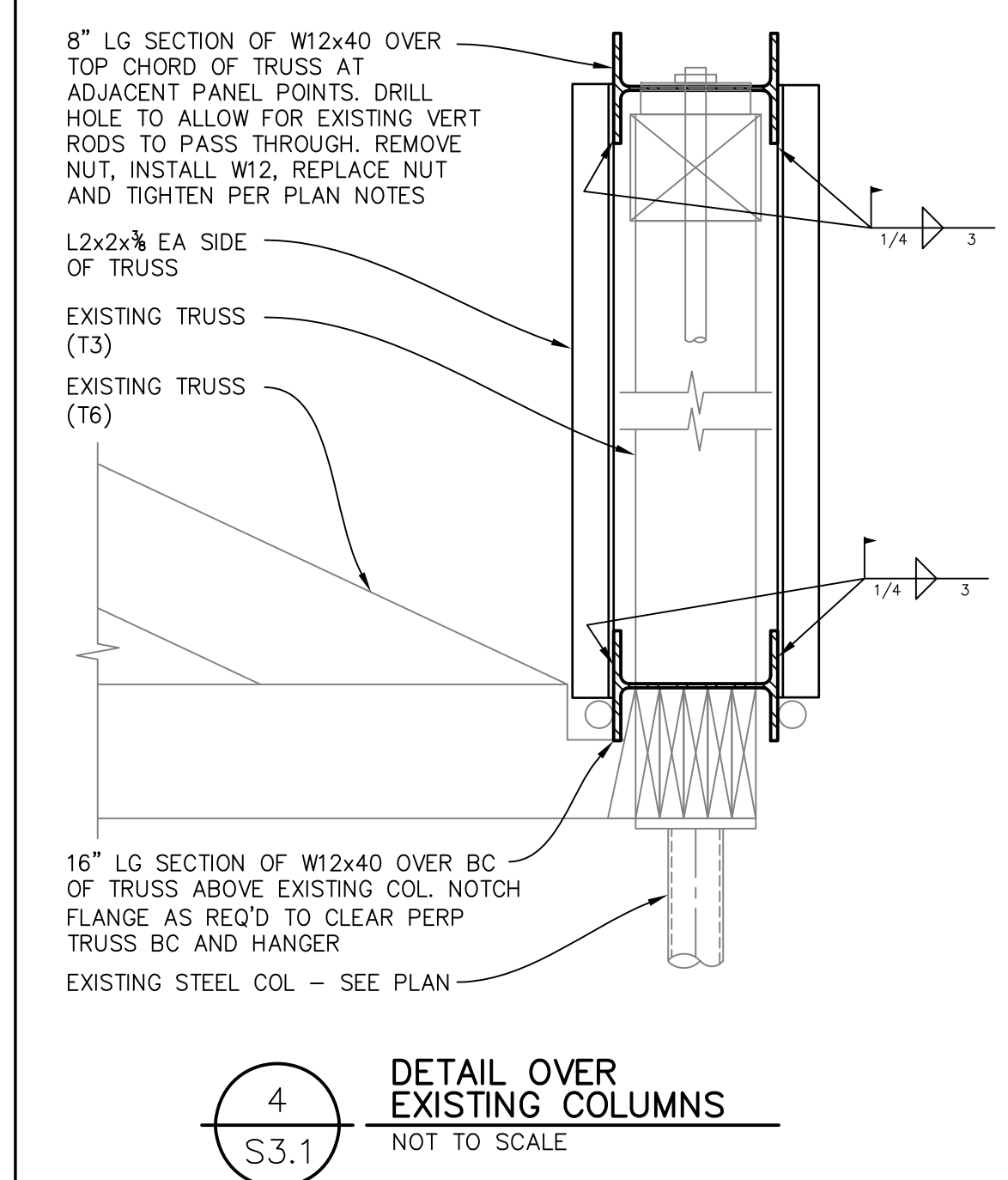
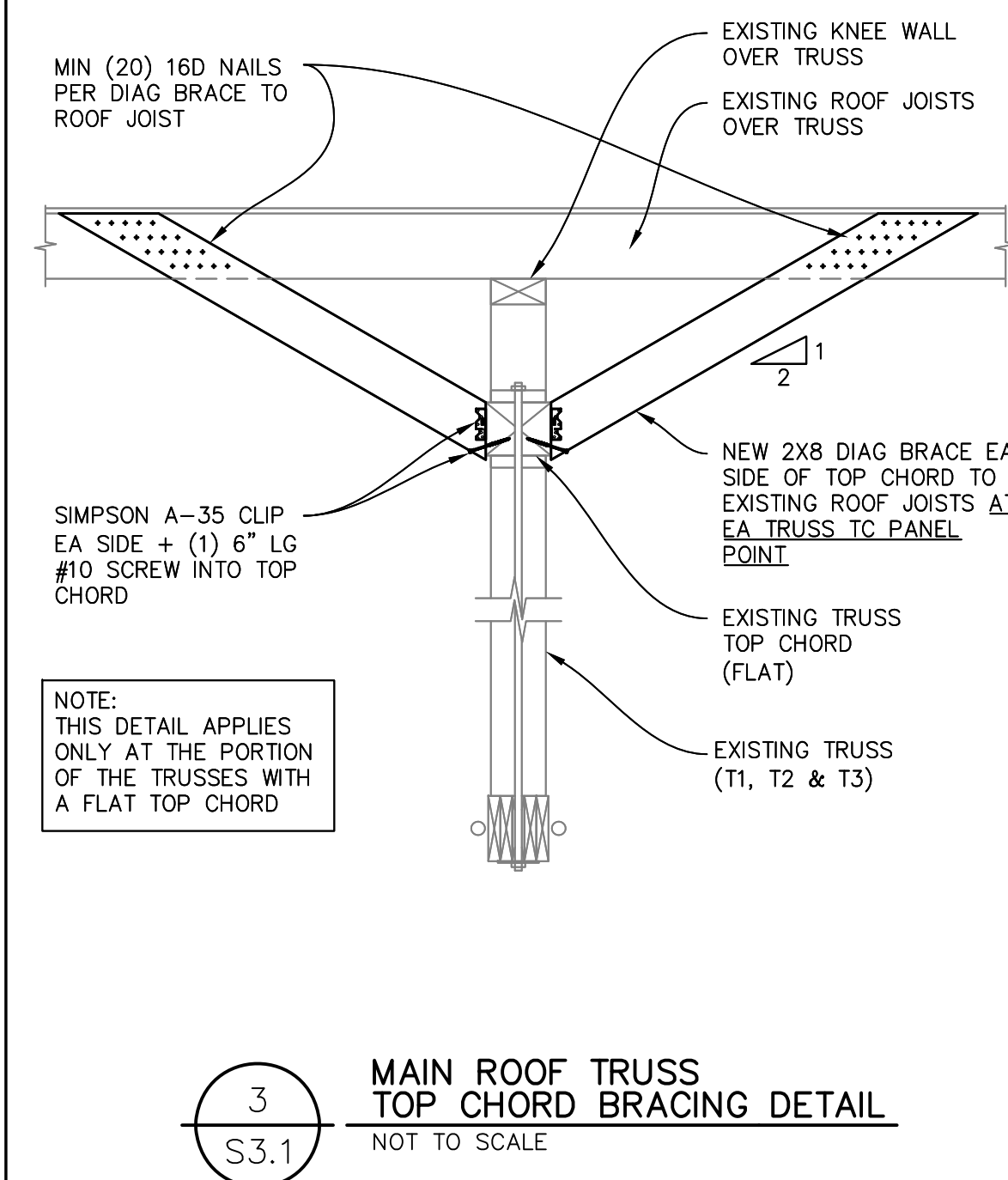
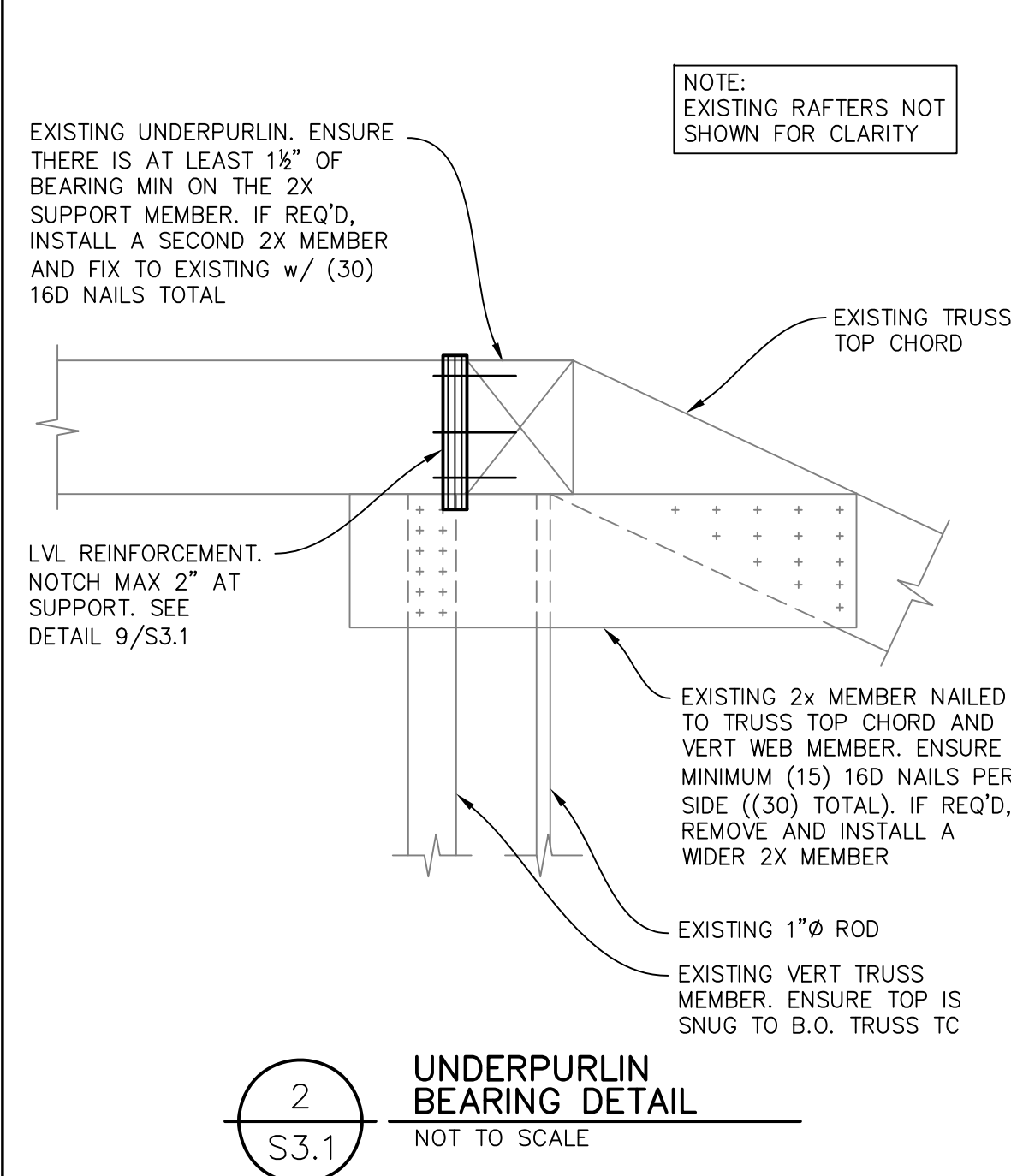
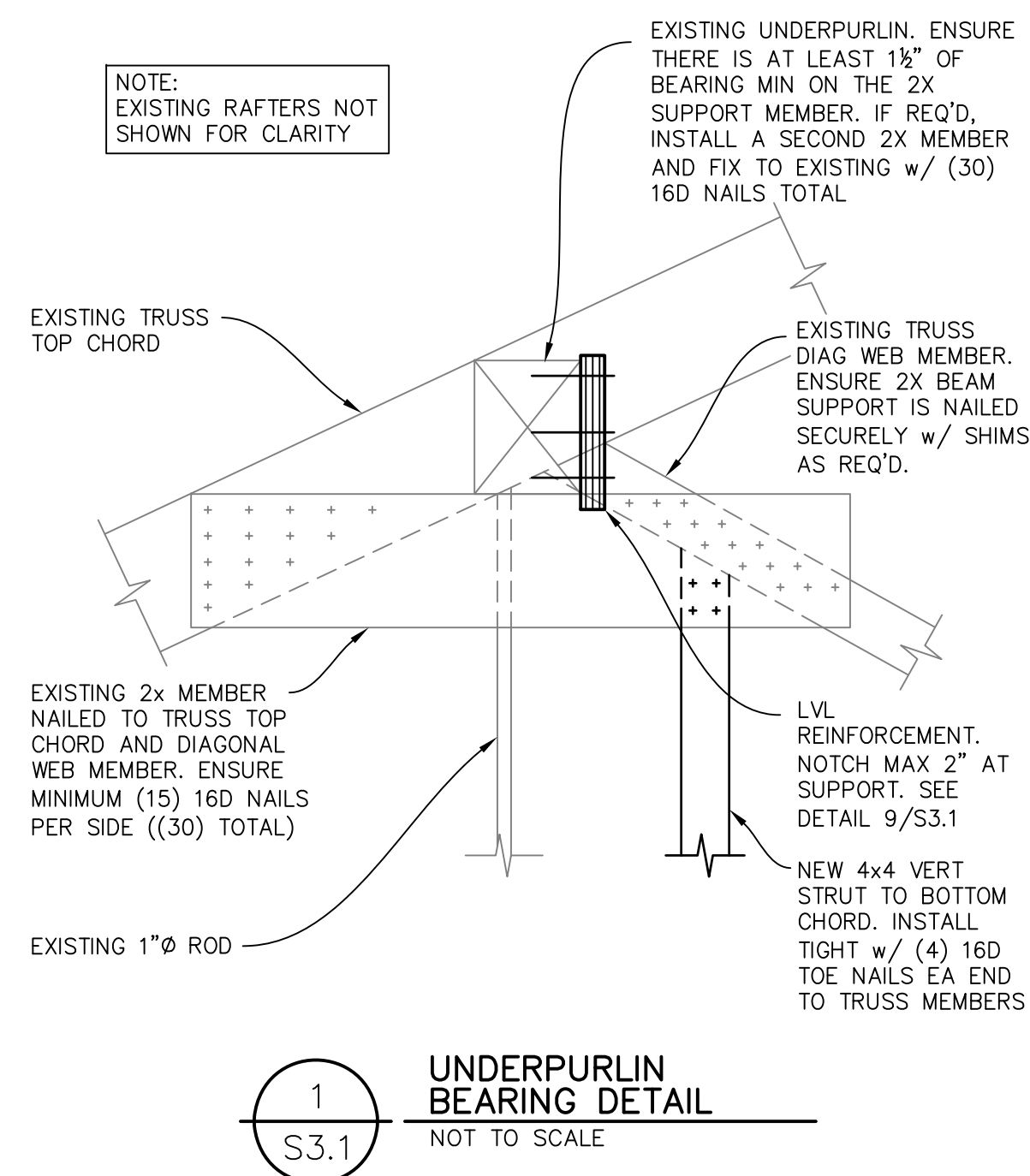


TRUSS T6



TRUSS T7

NOTE:
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