

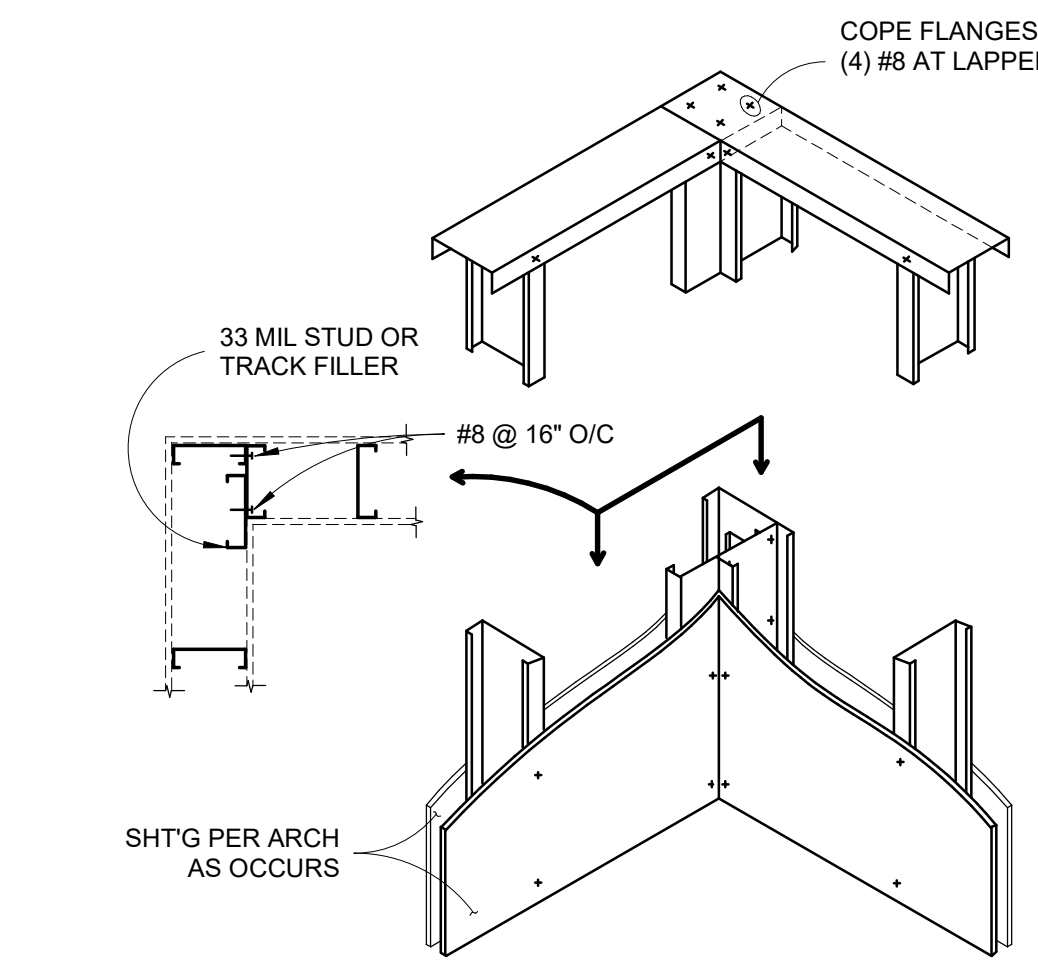
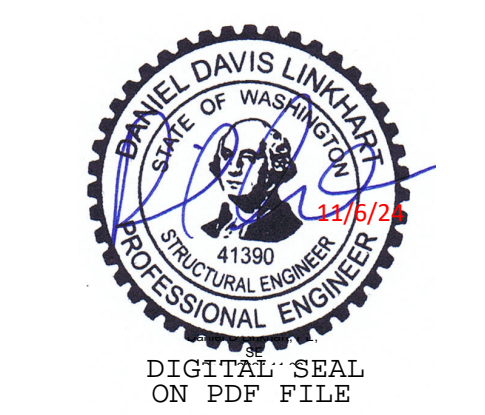
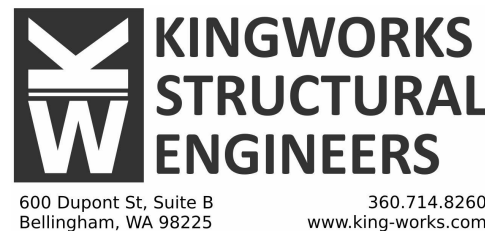
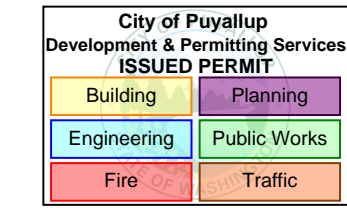
COLD-FORMED STEEL FRAMING -- GENERAL NOTES

- 1 SCOPE OF DESIGN: Interior cold-formed steel non-bearing walls, ceilings and soffits as indicated in the drawings herein. All other structure by others.
2 DESIGN BASIS: Designed in accordance with the 2018 International Building Code (IBC).
3 RISK CATEGORY: II
4 DESIGN CRITERIA: - Wind (ASD): 5 psf
- Vertical Deflection Gap: 1 inch
- Horizontal Deflection Limit: L/240 (typ interior)
- Seismic 0.7E (ASD) = 4.5 psf (does not govern)
- Seismic Drift Accommodation: Not required for interior
5 QUALITY: Contractor shall ensure high standards of workmanship throughout, with strict adherence to the contract documents and all governing codes and standards.
6 DISCREPANCIES: Notify KW immediately of any discrepancies between these notes, the contract drawings, the specification, or the governing code. KW shall reply in writing. Any related work performed by the Contractor prior to receiving a reply from KW is at the Contractor's sole risk.
7 VERIFICATIONS: Verify all existing conditions; verify all dimensions in the field; verify structural, architectural, mechanical and electrical openings for size, location and number; notify KW of any discrepancies, substandard existing conditions, or conditions not included in or contrary to the Contract Documents prior to construction.
8 DRAWING COORDINATION: Coordinate these component drawings with the contract drawings and relevant submittals from all other disciplines (including but not limited to Structural, Architectural, Civil, Mechanical, and Electrical).
9 COMPLETED FORM: The structure shown in these drawings is designed to be stable and to resist the loads above only in a fully completed form. Contractor shall ensure that the structure is adequately braced and shored during construction for all temporary loads until all elements are in place, and shall ensure that temporary loadings do not exceed the allowable capacity of any structural elements both before and after these elements are in place.
10 MEANS AND METHODS: Contractor is solely responsible for site safety, coordination, procedures, construction methodology, shoring, bracing, sequencing, and all other "means and methods" of construction except where specifically shown in the Contract Documents.
11 PROTECTION AND BRACING: Contractor is solely responsible for the protection of existing buildings, utilities, streets, equipment, etc. during construction. Provide temporary bracing and protection as required.
12 SCALING: Do not scale drawings. See architectural drawings for dimensions, and notify KW of any discrepancies.
13 ALTERATIONS: Any holes or other alterations to the structure which are not specifically detailed on these component drawings shall be submitted to KW for approval.
14 LOAD COORDINATION: Contractor shall coordinate and notify KW of any equipment or other concentrated loads to be supported by the cold-formed steel shown herein. Unless the loads are explicitly shown in these drawings, they have not been considered in the component designs.
15 DELIVERY, STORAGE AND HANDLING: All products shall be delivered, stored, and handled according to the Manufacturer's recommendations and installation instructions. Protect all items from damage, moisture, corrosion, or other deterioration before, during and after installation.
16 COPYRIGHT: These drawings, and all designs shown within these drawings, are copyrighted by Kingworks Structural Engineers. Duplication is not permitted without written permission. The designs shown herein are intended for this project only and may not be used on any other project or for any other purpose.

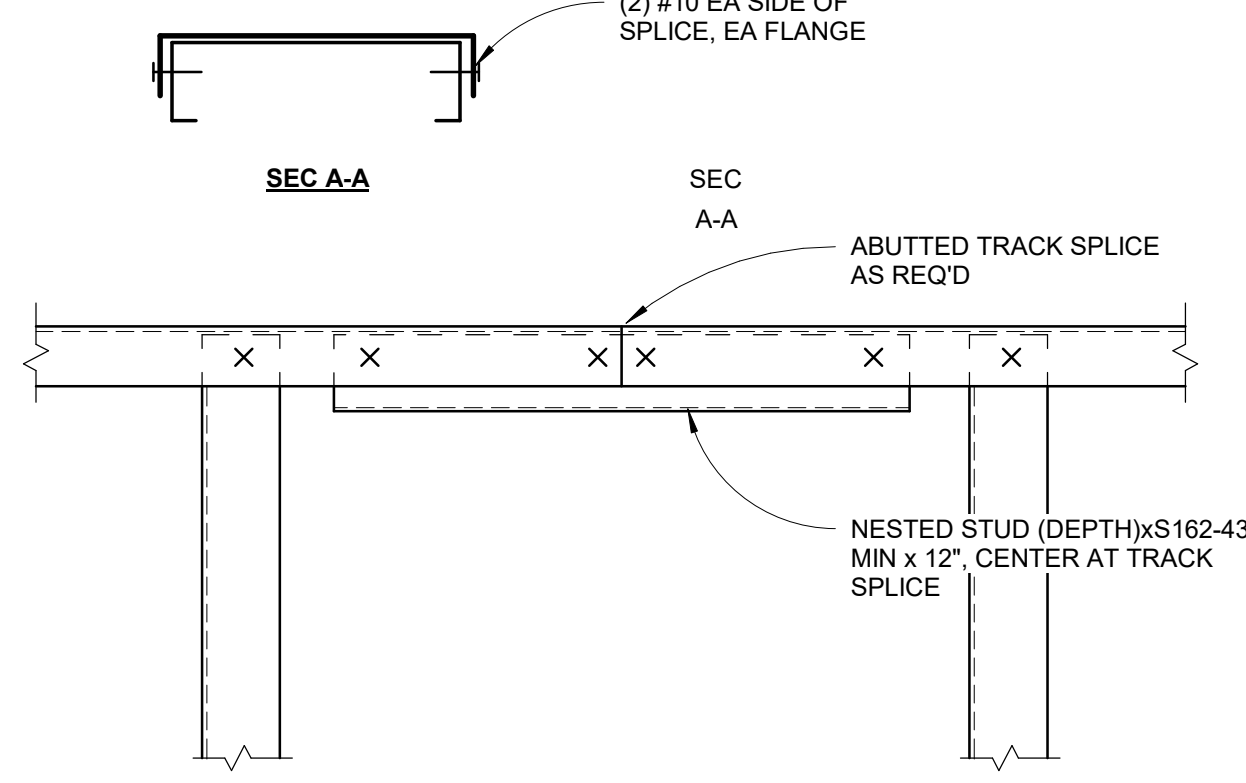
COLD-FORMED STEEL FRAMING - TECHNICAL NOTES

- 1 MATERIALS: All cold-formed steel members and accessories shall be galvanized, and shall be from same manufacturer as required by compatibility. All materials shall conform to the latest edition of the AISI "Specification for the Design of Cold-Formed Steel Structural Members".
2 YIELD STRENGTH: Minimum yield strength shall be as follows:
- 16 gauge (54 mil) and heavier: fy=50 ksi
- 18 gauge (43 mil) and lighter: fy=33 ksi
3 STUD INSTALLATION: Plumb, align and securely attach studs to the flange or web of both upper and lower tracks. Bear studs firmly against inside track web before stud and track attachment. Provide top and bottom tracks of the same gauge or heavier than studs unless otherwise indicated.
4 SLOPING WALLS: Sloping stud ends shall be miter-cut ends with uniform bearing across width of track, top & bottom. Top tracks on sloping stud ends shall be custom bent to provide plumb fit of legs over stud flanges.
5 NON-BEARING WALLS: Non-bearing cold-formed steel framing and associated deflection gaps shall be installed after all dead loads are in place. Do not over tighten screws.
6 CONNECTORS: Connector types shall be as indicated in the drawings; submit alternates of equal strength for review. Cold-formed steel connectors shall be installed in accordance with manufacturer's guidelines.
7 JOINING: Multiple studs shall be joined by welds or screws as shown in the drawings.
8 SPLICES: Splices in stud, jambs, sills, and/or headers are not permitted. Top and bottom track splices permitted as required, align 4-inches clear to any fastened stud.
9 MINIMUM CONNECTION: Minimum connection of piece-to-piece in all cold-formed steel, where no other connection is shown, is (2) #10 screws or (2) 1" fillet welds; place connections symmetrically.
10 STUD BRACING: Each face of studs shall be braced against rotation and weak axis buckling by one of the following methods:
- OPTION A (BRIDGING): Approved manufactured bridging system utilizing stud punching and special hardware. Submit desired system for KW's approval. Vertical spacing between bridging rows shall be 4'-0" o/c maximum.
- OPTION B (SHEATHING): Minimum 5/8" GWB permanent sheathing with #8 screws at not more than 12" o/c, plus blocking and strap bracing as above on any face not sheathed.
11 WELDING: Cold-formed steel welding requirements are as follows:
- Conform to the requirements of AWS D1.3-2018, "Structural Welding Code - Sheet Steel".
- All welds shall be flux-cored arc welding process, unless otherwise approved by the Architect.
- Use only pre-qualified weld procedures.
- Welding shall be carefully controlled to eliminate burn-through. Burn-through will be cause for rejection of weld. Repair or replace all burn-through damaged pieces as approved by the Architect.
- Bring pieces into firm contact before welding.
12 SCREWS: All steel-to-steel screws shall be self-tapping and self-drilling in compliance with ASTM C1513, SAEJ78, and ICC-ES AC118.
- Screws shall have a Type II coating in accordance with ASTM B633 and have tested resistance to hydrogen embrittlement.
- Preapproved screws: HILTI KWIK-FLEX or ELCO DRIL-FLEX, submit alternates for review.
- Steel-to-steel screws shall have a minimum projection of 3 threads through the last joined ply of material. No gap shall be permitted between joined plies.
- Screws shall have a minimum center to center spacing and edge distance of three times the screw diameter unless noted otherwise on the drawings.
- Tighten screws per manufacturer recommendations. Stripped screws or holes are to be considered ineffective and shall be replaced with screws of the next larger diameter.
13 PAF's: Powder actuated fasteners shall be 0.157"Ø (HILTI X-U or approved equal). At concrete substrate provide 1 1/4" minimum embedment unless noted otherwise. At structural steel substrate, fastener length shall be per manufacturer recommendation and shall provide 15/32" minimum point penetration through steel thickness (exception: where steel thickness is 3/4 inches or greater, minimum point penetration shall be 1/2").
14 LOAD AND DEFLECTION ACCOMMODATION: All walls and other cold-formed steel framing shown herein are non-bearing and designed for live or snow load deflection as indicated in the general notes criteria. SEOR to ensure all supporting structure has adequate strength and stability to resist all loads caused by the cold-formed steel framing. Architect to provide finish isolation/separation between spandrel-type walls (rigidly fixed to structure above) and full-height walls (with deflection connection at structure above) and to ensure finishes (or attachments thereof) do not inhibit the full range of anticipated movement in the cold-formed steel deflection connections. Curtainwalls, storefronts, and other glazing shall be designed with integral deflection accommodation when the CFS framing above is rigidly connected to the structure.

KINGWORKS STRUCTURAL ENGINEERS REVIEWED REJECTED
NO EXCEPTIONS TAKEN
NOTE MARKINGS & REVISE
NOTE MARKINGS, REVISE & RESUBMIT
Delegated Design / Deferred Submittal review by KW is limited to the component's conformance with design criteria, concept, and loads imposed on the primary structure.
Date 11/8/24 By DL

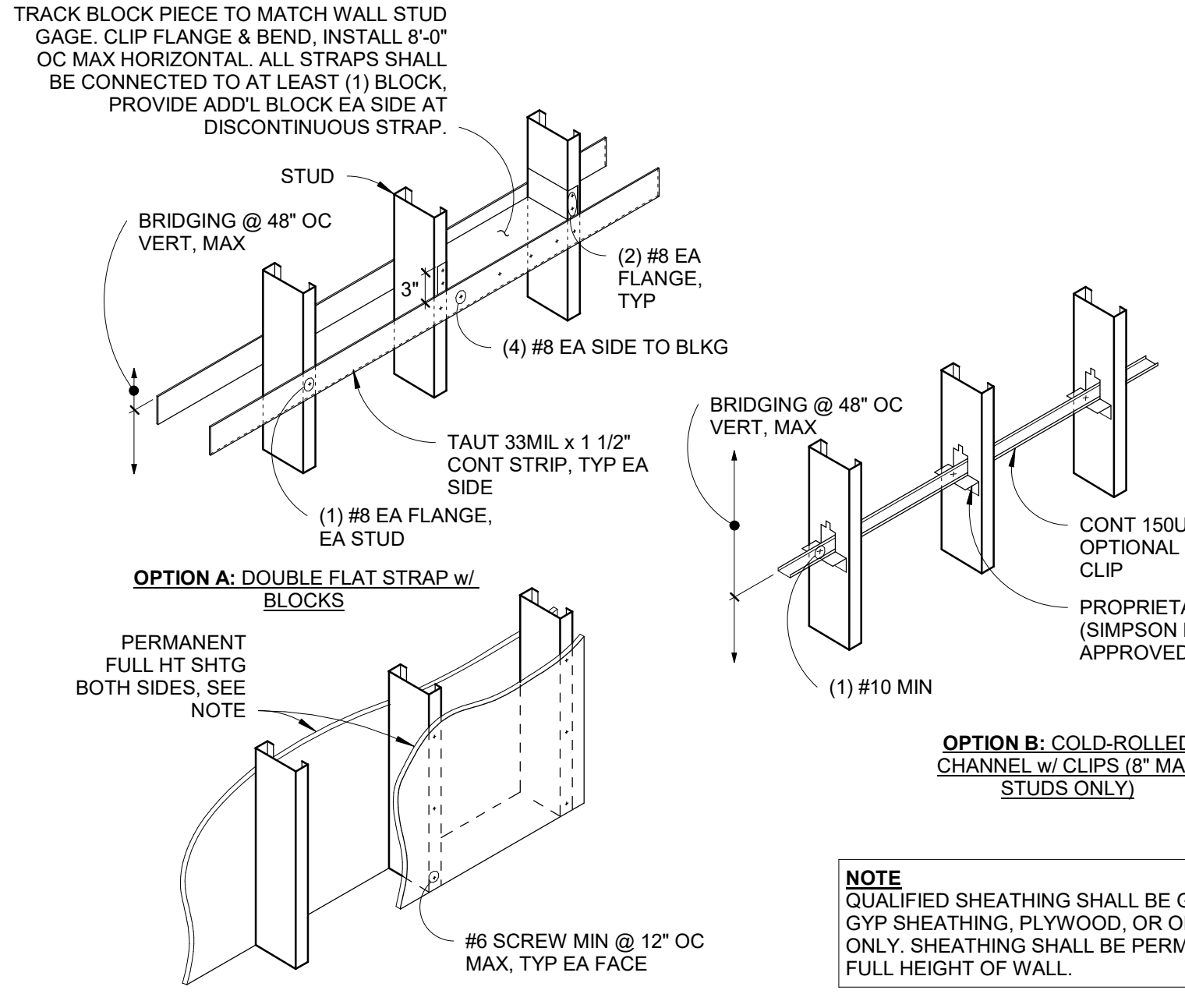


1 TYP WALL CORNER 3/4" = 1'-0"



NOTE
1. NESTED TRACK SPLICES ARE ONLY REQUIRED AT TRACKS NOT OTHERWISE CONTINUOUSLY ATTACHED TO STRUCTURE.
2. NO SPlice PERMITTED IN STUDS, SILLS, HEADERS OR JAMBS, WHICH SHALL BE CONTINUOUS 1-PIECE FULL LENGTH BETWEEN SUPPORTS.
3. AT DEFLECTION TRACKS AND BOTTOM TRACKS CONTINUOUSLY ATTACHED TO STRUCTURE, NO NESTED SPlice REQUIRED. HOWEVER ENSURE ABUTTED SPLICES OCCUR 4" MIN CLEAR ANY CONNECTED STUD.

2 TYP TRACK SPlice 3" = 1'-0"



3 TYP BRIDGING AT NON-BEARING CFS WALL 1 1/2" = 1'-0"

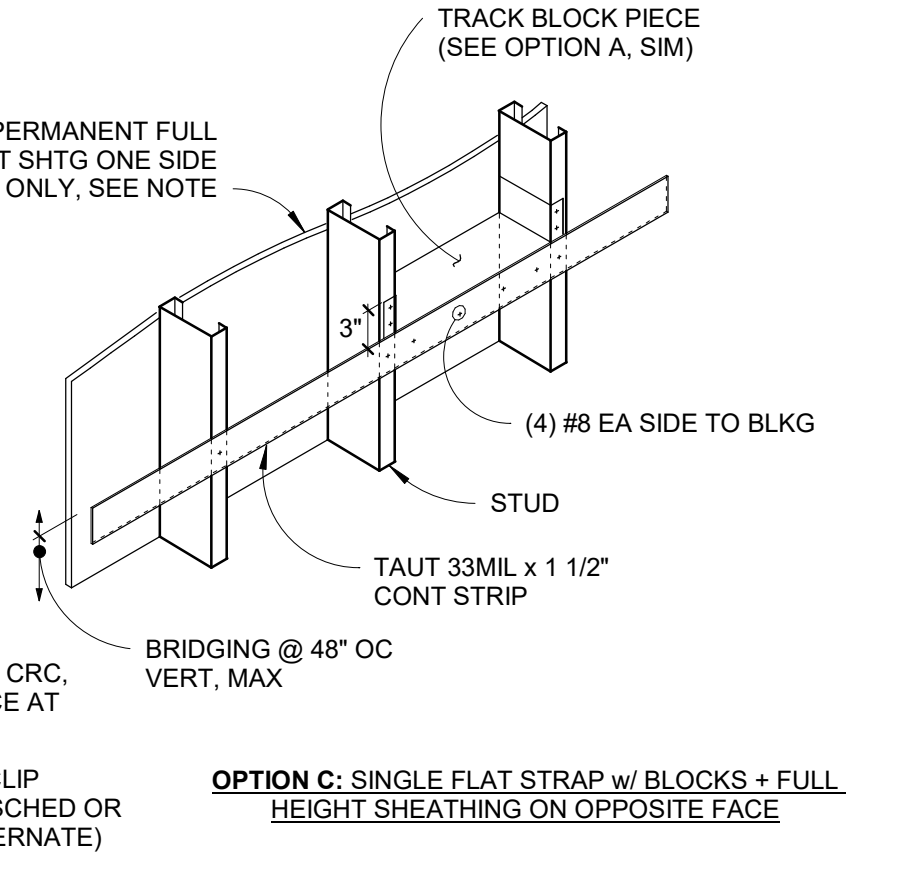


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NOTE
QUALIFIED SHEATHING SHALL BE GYPSUM WALL BOARD, GYP SHEATHING, PLYWOOD, OR ORIENTED STRAND BOARD ONLY. SHEATHING SHALL BE PERMANENT AND EXTEND FULL HEIGHT OF WALL.

The approved construction plans, documents, and all engineering must be posted on the job at all inspections in a visible and readily accessible location.

Full sized legible color plans are required to be provided by the permittee on site for inspection.

Approval of submitted plans is not an approval of omissions or oversights by this office or non-compliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable codes and regulations of the local government.

City of Puyallup Building REVIEWED FOR COMPLIANCE B.Snowden 12/04/2024 7:45:49 AM

Table with 3 columns: REV, Description, Date. Row: Revision Schedule

As Indicated
GKK PSE - OPERATIONAL TRAINING CENTER - INTERIOR CFS

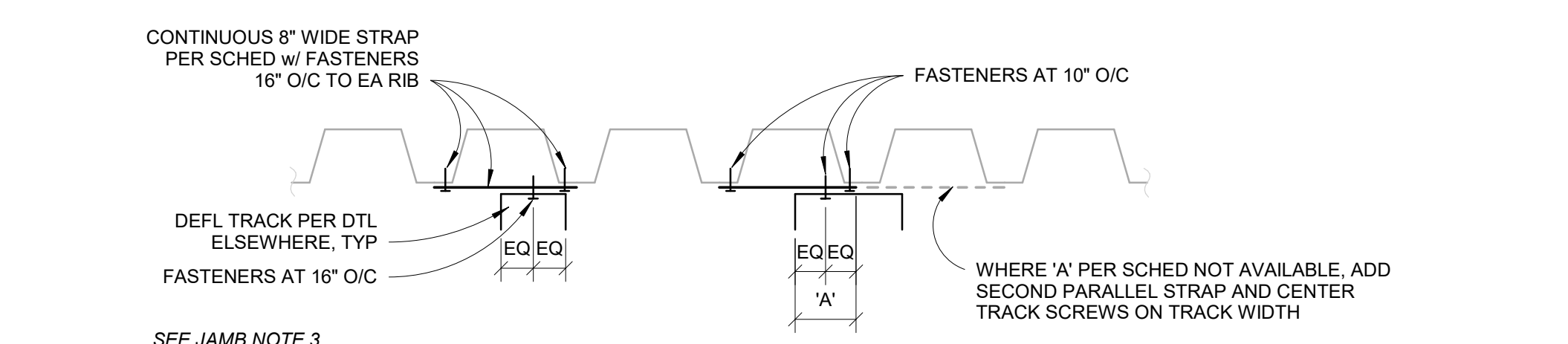
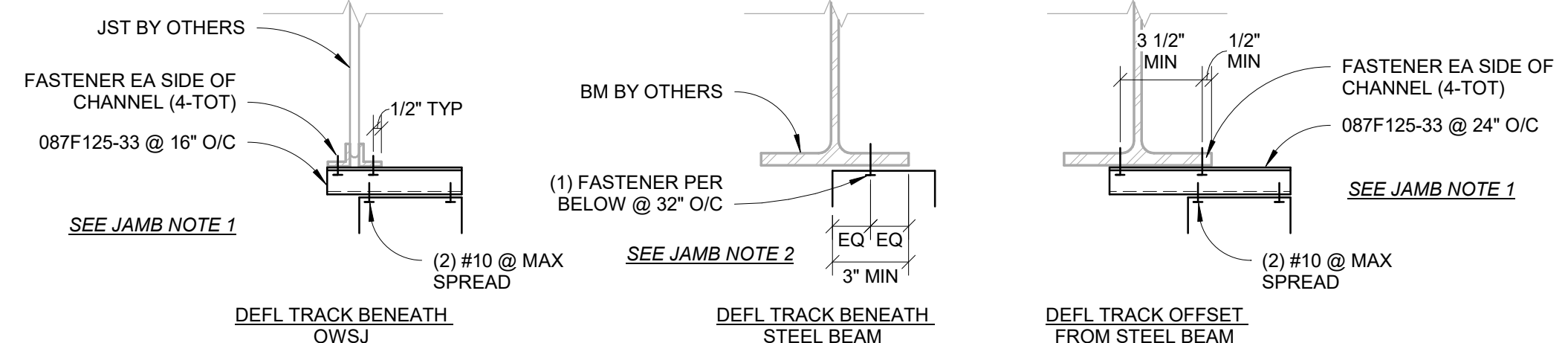
GKK
STRUCTURAL NOTES AND MISC DETAILS

Table with 2 columns: PROJECT, DRAWN, CHECK, DATE. Values: 24159, GKK, DL, 11/4/24

City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic



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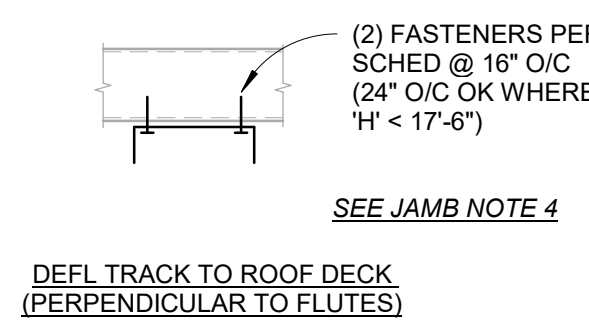


DEFLECT TRACK TO ROOF DECK SCHEDULE

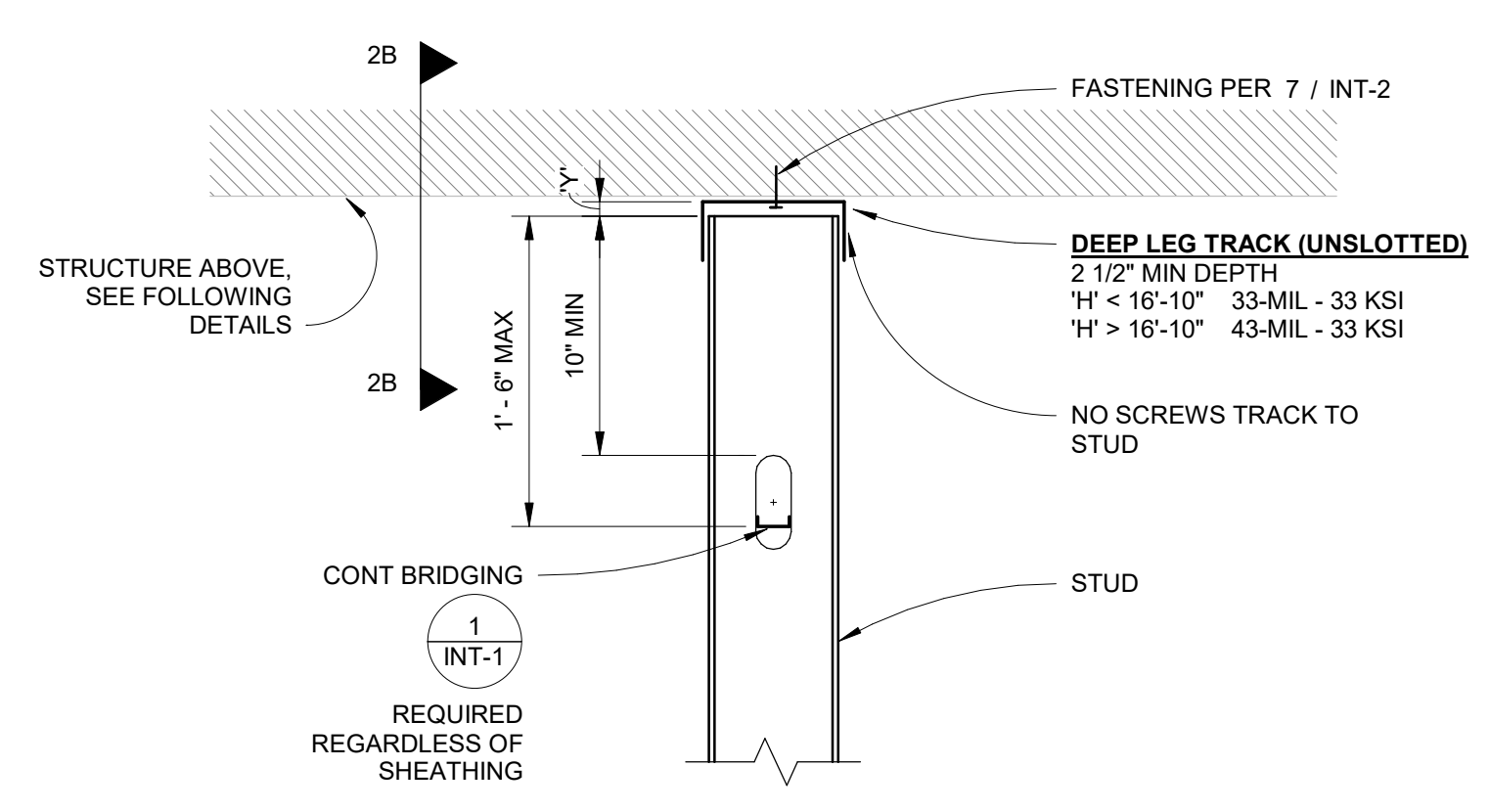
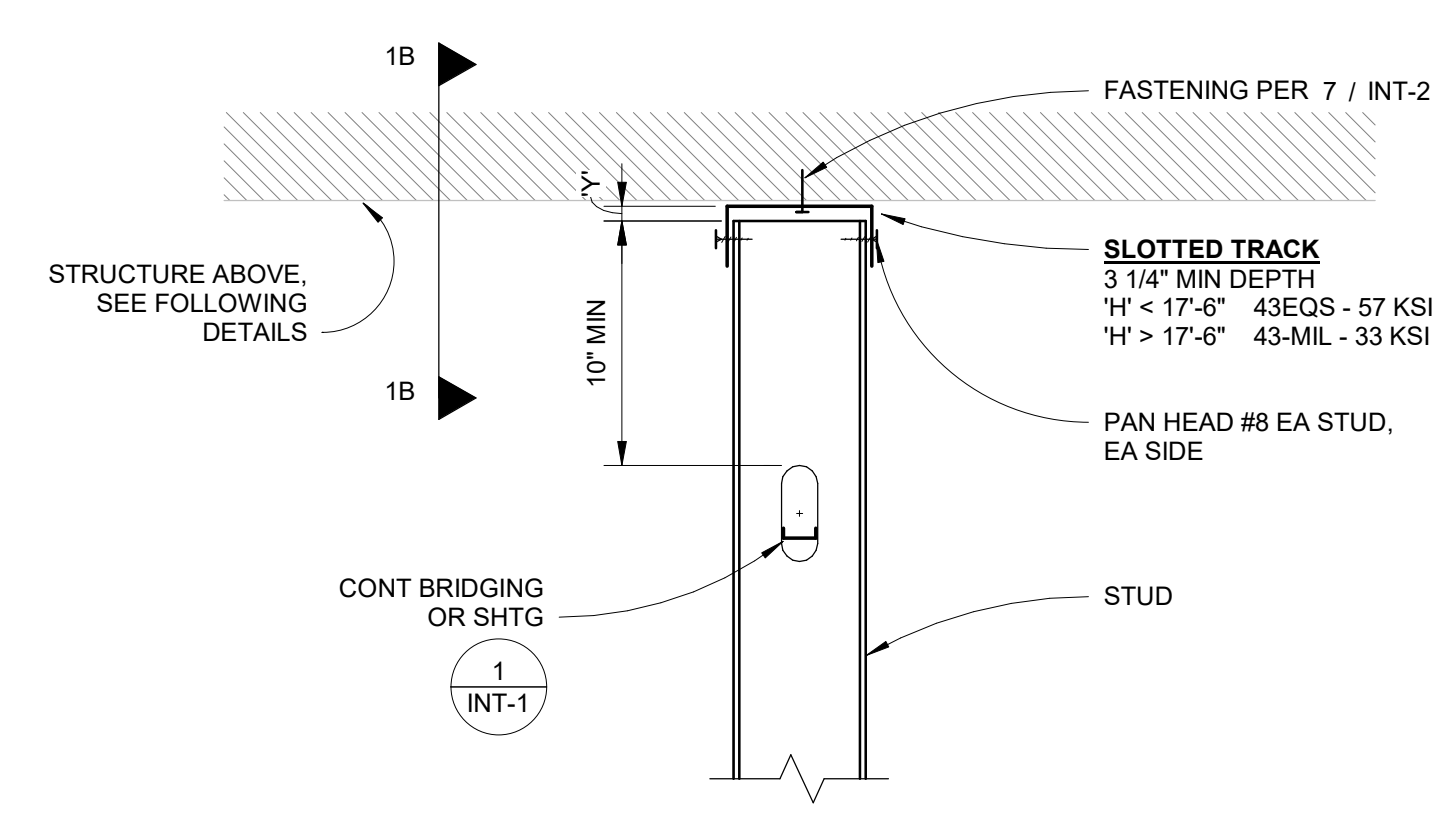
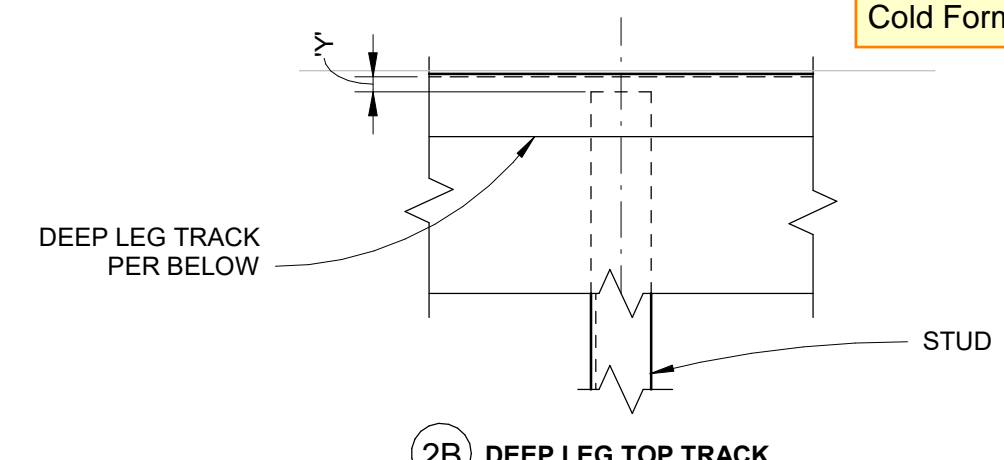
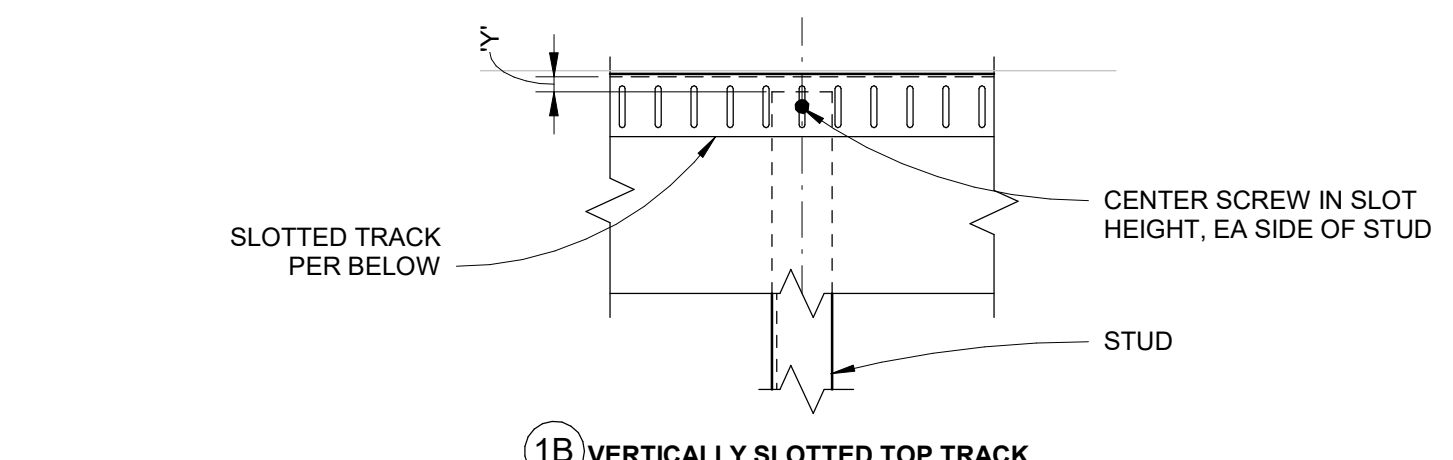
STUD DEPTH	WALL HT 'H'	STRAP AT BOT OF DECK	'A' MIN OVERLAP
3 5/8"	<17'-6"	33-MIL CONT	2"
6"	<24'-6"	43-MIL CONT	3 1/2"

DEFLECT TRACK TO ROOF DECK (PARALLEL TO FLUTES)

SUBSTRATE ATTACHING TO	TRACK FASTENERS
STEEL FRAMING ≥ 3/16" THICK	0.157"Ø PAF
STEEL FRAMING < 3/16" THICK	#12 TEK
ROOF DECK (20-GA MIN)	#10 SCREW
STRAP OR FURRING CHANNEL	#10 SCREW

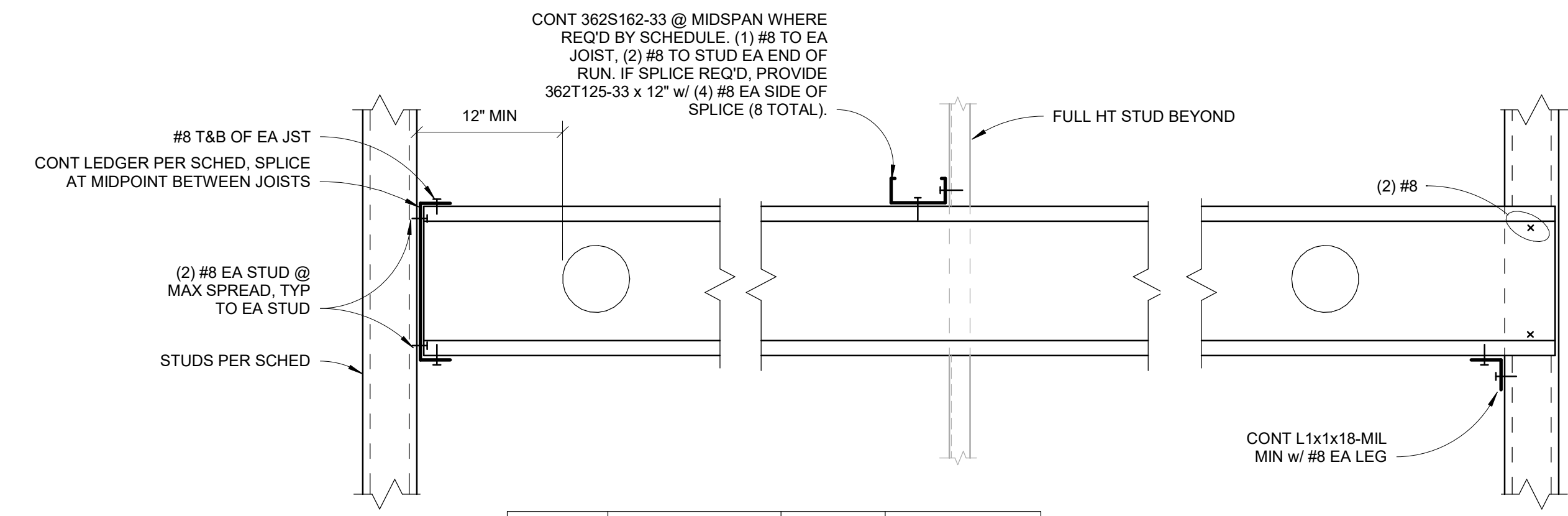


7 INTERIOR - TYP DEFLECTION TRACK FASTENING TO STRUCTURE ABOVE
1 1/2" = 1'-0"



- NOTES**
- DO NOT CONNECT WALL FINISHES / SHTG TO DEFLECTION TRACK. ALLOW GAP AT TOP OF FINISHES/SHTG TO PERMIT DOWNWARD STRUCTURE DEFLECTION OF 'Y'.
 - GAP 'Y' = 1" TYP.
 - ARCHITECT TO VERIFY 'UL' RATING FOR ALL HEAD OF WALL ASSEMBLIES.
 - THIS DETAIL ASSUMES 5 PSF PARTITION WALL LOADING, w/ FRAMING @ 16" O/C MAX.
 - TIGHTEN SCREWS PER MANUFACTURER RECOMMENDATION TO ENSURE SLIP CAPACITY.
 - WHERE SLOTTED TRACK IS USED AT SLOPING STRUCTURE WITH SLOPE PARALLEL TO WALL, SLOTS SHALL BE MANUFACTURED TO REMAIN PLUMB.
 - WHERE EITHER TRACK IS USED AT SLOPING STRUCTURE WITH SLOPE PERPENDICULAR TO WALL, PROVIDE CUSTOM BENT TRACK FLANGES THAT REMAIN PLUMB WHILE WEB SLOPES TO MATCH.

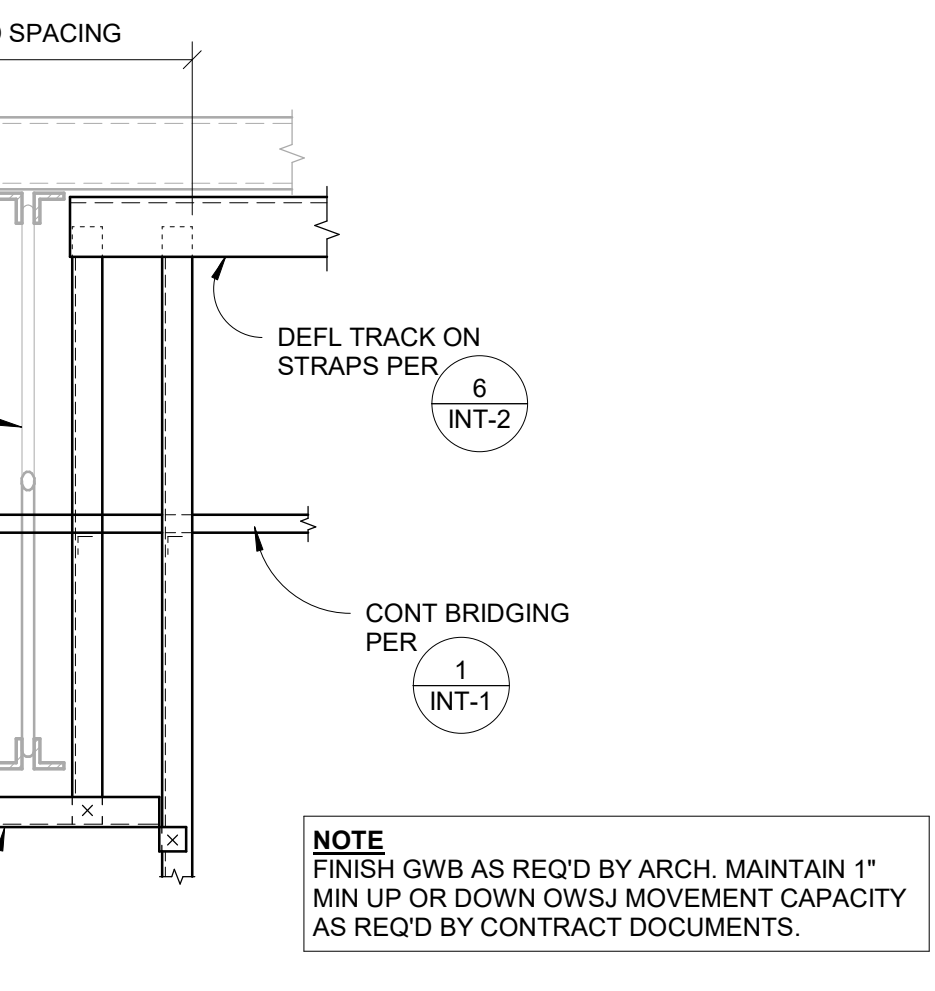
6 INTERIOR - TYP NON-BRG WALL DEFLECTION TRACK
1 1/2" = 1'-0"



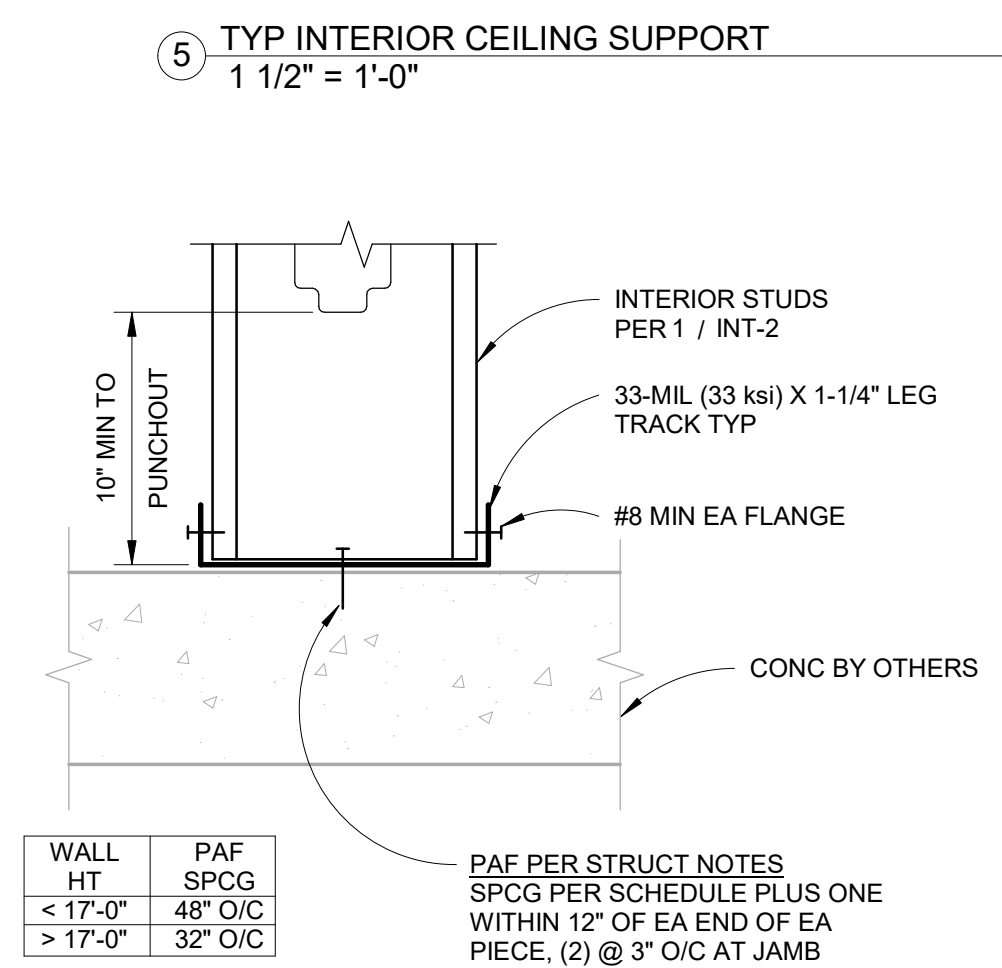
MAX CLR SPAN	JOISTS	MIDSPAN BRIDGING	LEDGER
< 7' - 10"	362SFS-D20 @ 24"	NOT REQ'D	362SFT125-D20
< 8' - 11"	400SFS-30EQD @ 24"	NOT REQ'D	400SFT125-D20
< 12' - 5"	400SFS-30EQD @ 24"	REQ'D	400SFT125-D20
< 14' - 5"	600SFS-30EQD @ 24"	REQ'D	600SFT125-30EQD

- NOTES**
- THIS CEILING DETAIL IS INTENDED FOR 8 PSF MAX VERT LOAD (EXCL SELF WEIGHT OF JOISTS) WITH NO SUSPENDED ITEMS ATTACHED.

SISTERED OPTION (WHERE CLG JOIST SPCG EQ TO WALL STUD SPCG)



4 INTERIOR - TYP STUDWALL AT PERPENDICULAR OWSJ
1 1/2" = 1'-0"



3 TYP INT BOTTOM TRACK TO FLOOR STRUCTURE
3" = 1'-0"

NON-BEARING STUDS (COMPOSITE, 5 PSF, L/240, 16" ON-CENTER)

STUD	MAX HEIGHT 'H'
362VXS144-22	17'-1"
362SFS-30EQD	16'-11"
362S125-33	17'-5"
600S125-30	24'-7"

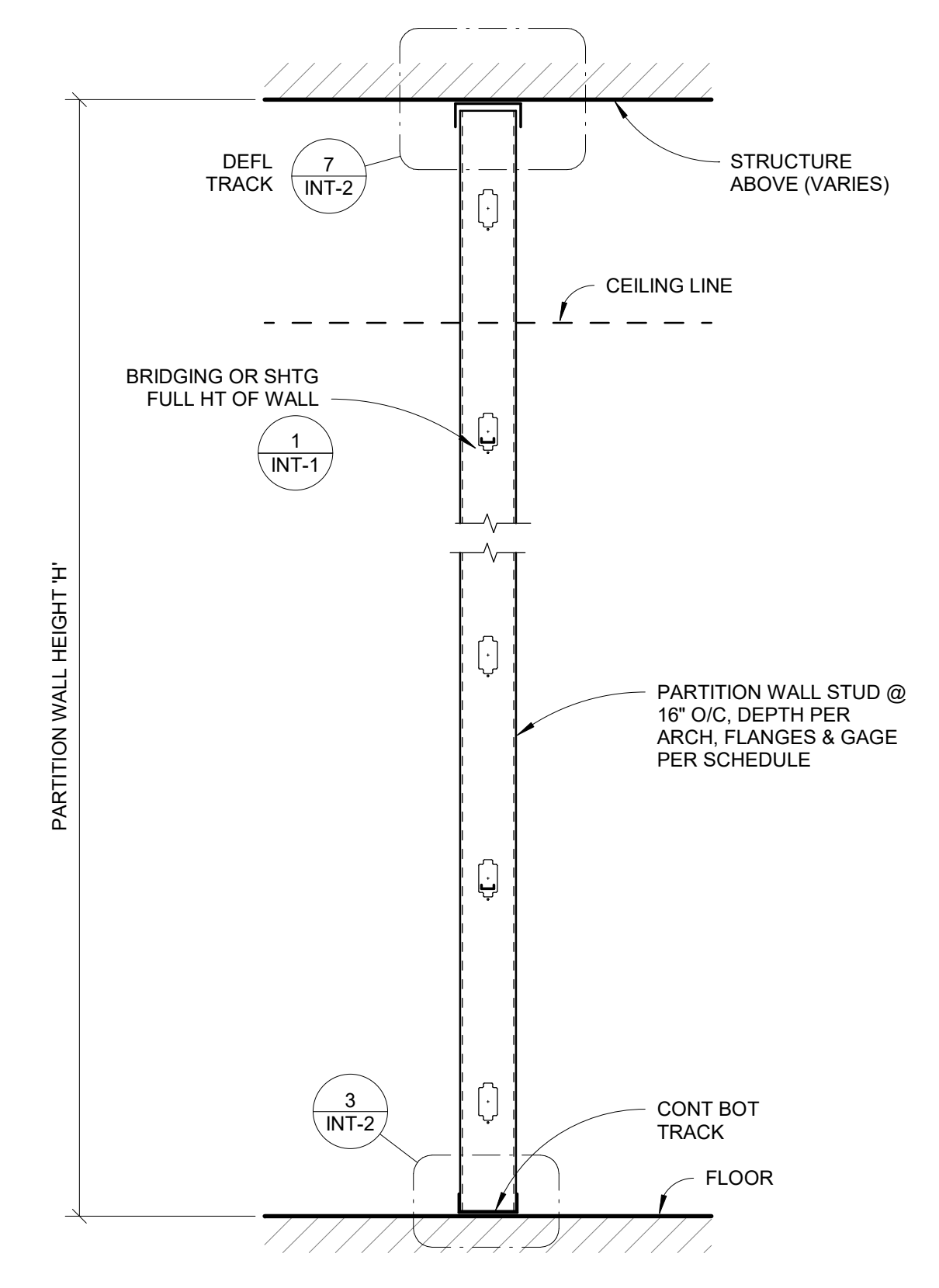
- NOTES**
- MAX 5 PSF (ASD) WIND PRESSURE.
 - MAX LATERAL DEFLECTION = SPAN / 240.
 - USE OF 'COMPOSITE' SCHEDULES ABOVE REQUIRES GYP BD FULL HEIGHT, BOTH SIDES OF WALL, PER SPEC BUT NOT LESS THAN 5/8" TYPE X w/ #6 TYPE 'S' @ 12" O/C.

NON-BEARING STUDS (NON-COMPOSITE, 5 PSF, L/240, 16" ON-CENTER)

STUD	MAX HEIGHT 'H'
362VXS144-22	15'-0"
362SFS-30EQD	14'-9"
362S125-33	16'-1"
362S125-43	17'-5"
362S125-54	18'-8"
600S125-30	23'-0"
600S125-43	26'-2"

- NOTES**
- MAX 5 PSF (ASD) WIND PRESSURE.
 - MAX LATERAL DEFLECTION = SPAN / 240.
 - USE OF 'NON-COMPOSITE' SCHEDULES ABOVE REQUIRES BRACING SPACED AT 48" MAX (VERTICAL) O/C OR GYP BD FULL HEIGHT, BOTH SIDES OF WALL, PER SPEC BUT NOT LESS THAN 5/8" TYPE X w/ #6 TYPE 'S' @ 12" O/C.

2 TYP INT NON-BEARING WALL SCHEDULE - L/240
12" = 1'-0"



1 TYP INTERIOR NON-BEARING WALL
3/4" = 1'-0"

REV	Description	Date
Revision Schedule		

NORTH PLAN
SCALE:
As Indicated
GKK PSE - OPERATIONAL TRAINING CENTER - INTERIOR CFS

GKK
INTERIOR NON-BEARING WALL DETAILS

PROJECT:	24159
DRAWN:	GK CHECK: DL
ISSUED:	11/14/24

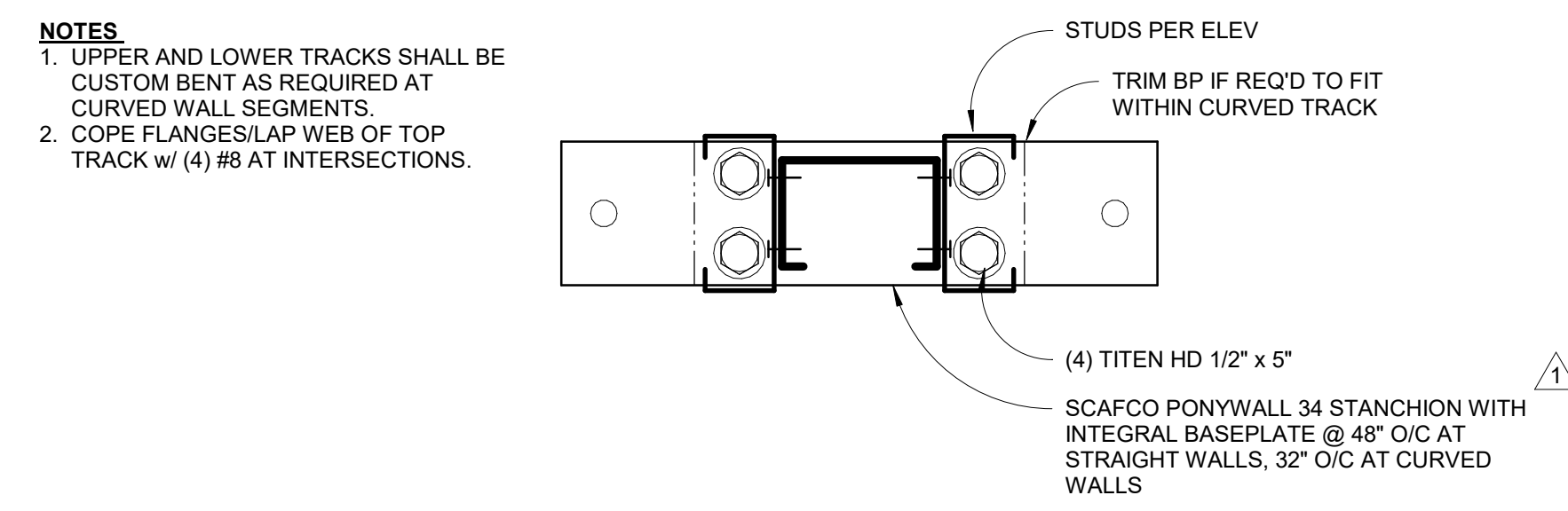
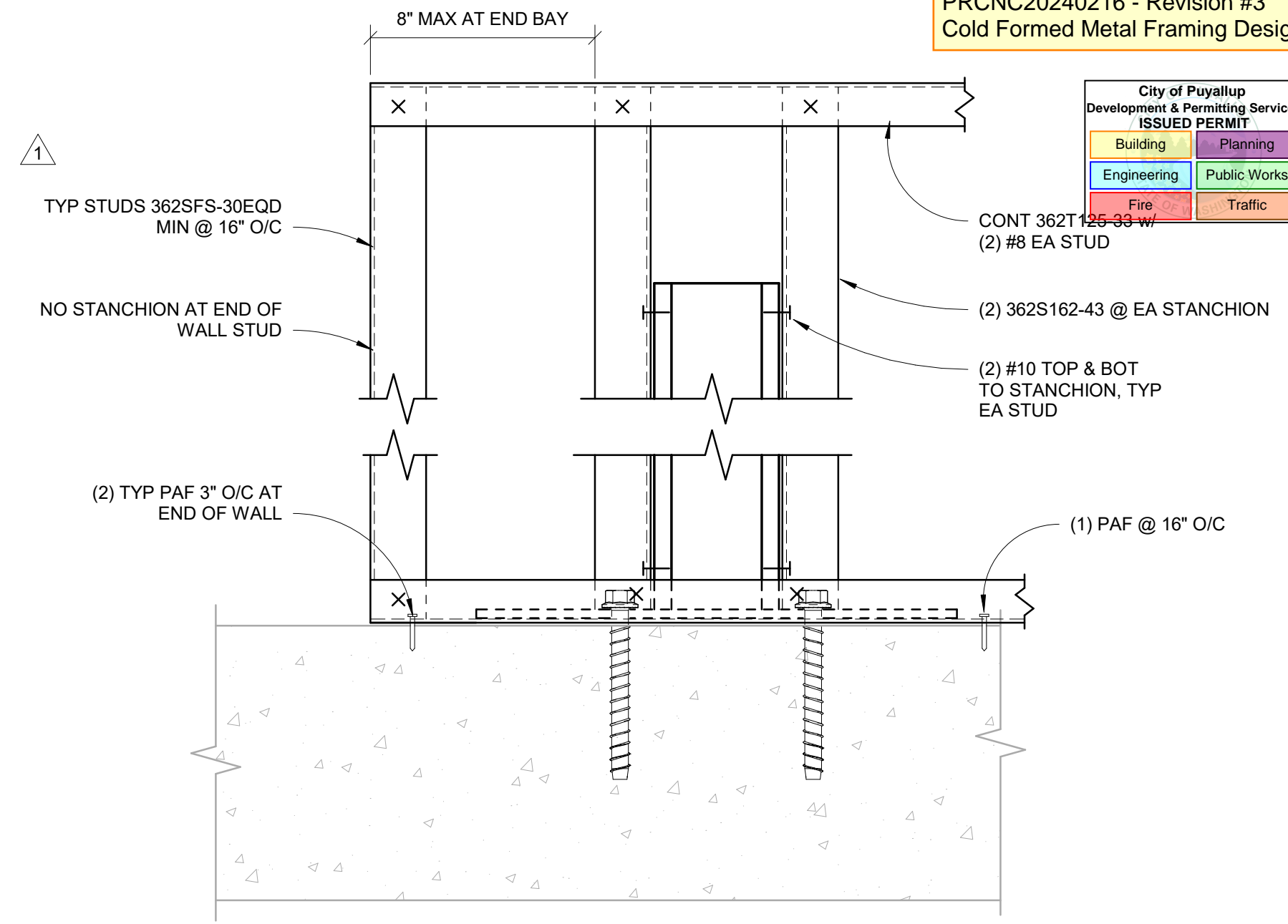
INT-2



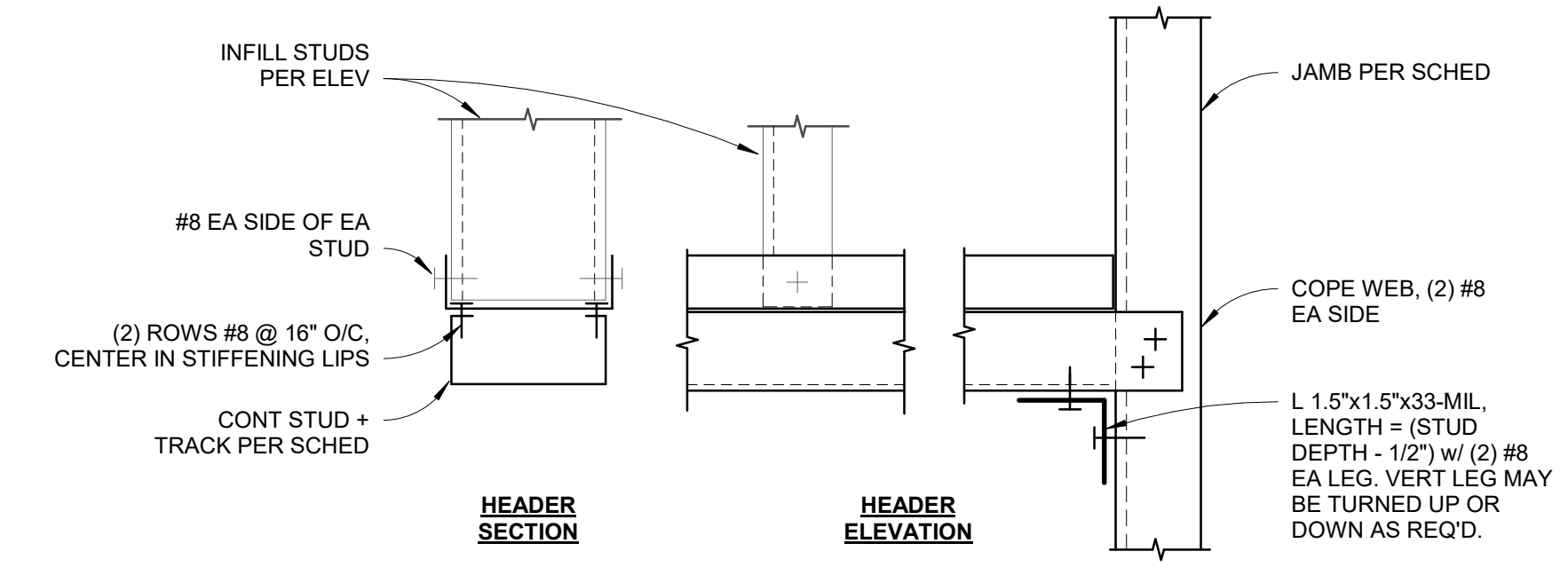
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PRCNC20240216 - Revision #3
 Cold Formed Metal Framing Design

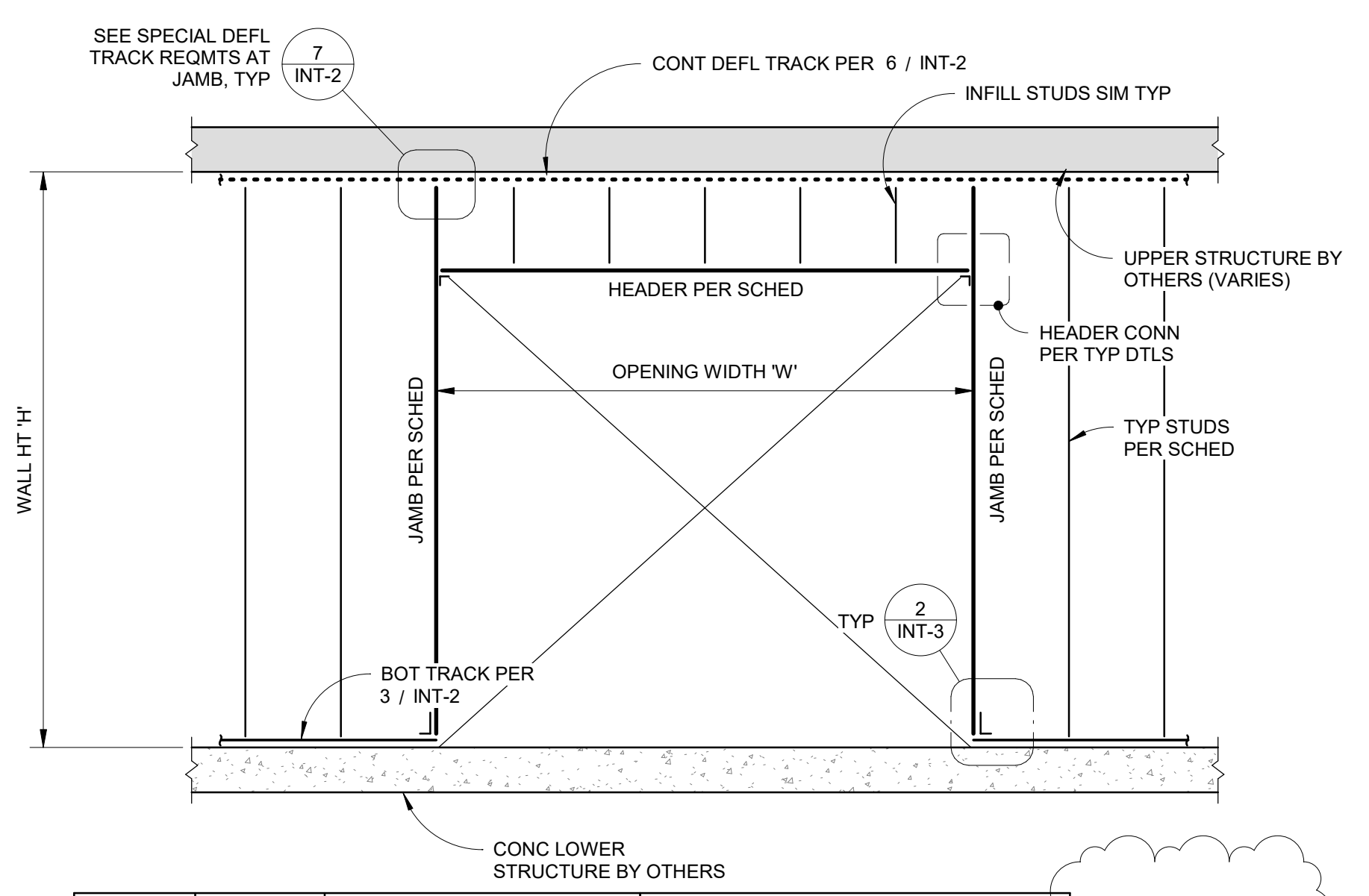
City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic



5 TYP PONYWALL SUPPORT
 3" = 1'-0"

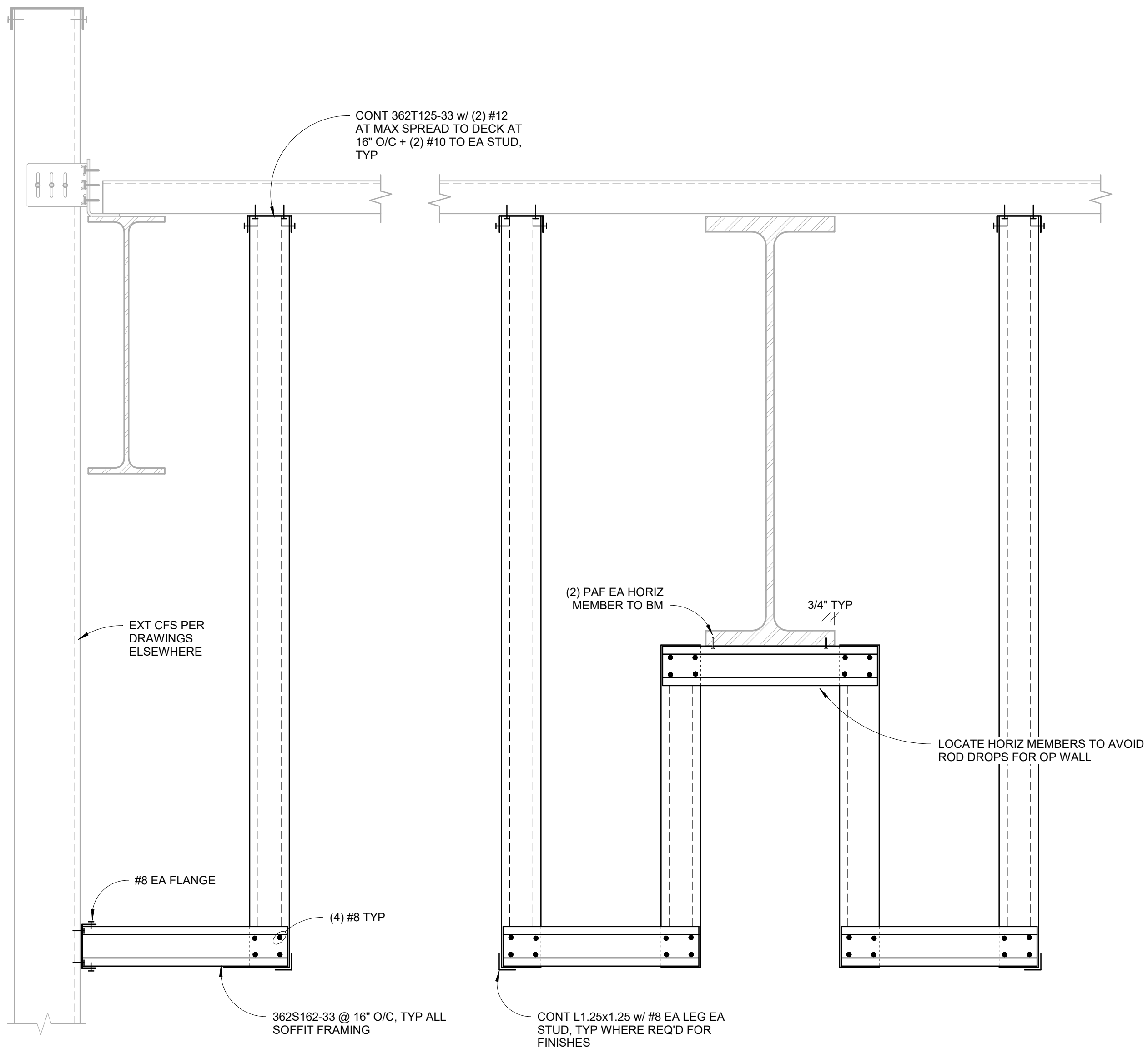


4 INTERIOR - TYP 2-PIECE HEADER
 3" = 1'-0"



MAX WALL HEIGHT 'H'	RO CLEAR WIDTH 'W'	HEADER FRAMING			
		JAMB	6"	3 5/8"	6"
17'-6"	≤3'-6"	362S250-43	600S162-33	362T300-54	600T150-68
	≤6'-6"	N/A	600S200-33	N/A	600S250-54 + 600T125-33
24'-6"	≤3'-6"	N/A	600S162-43	N/A	600T300-88
	≤6'-6"	N/A	600S200-54	N/A	600S300-68 + 600T125-33

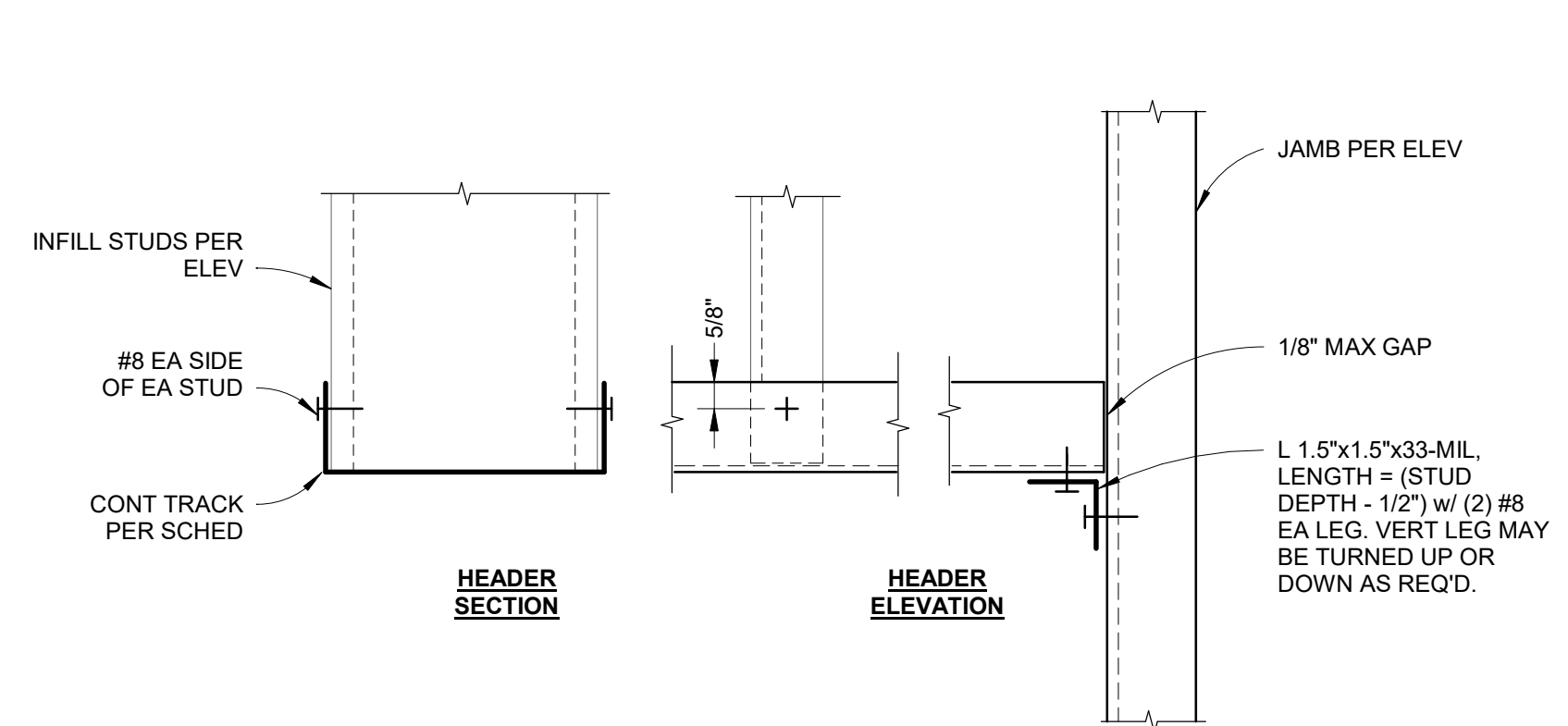
1 TYP INTERIOR ROUGH OPENING FRAMING
 1/2" = 1'-0"



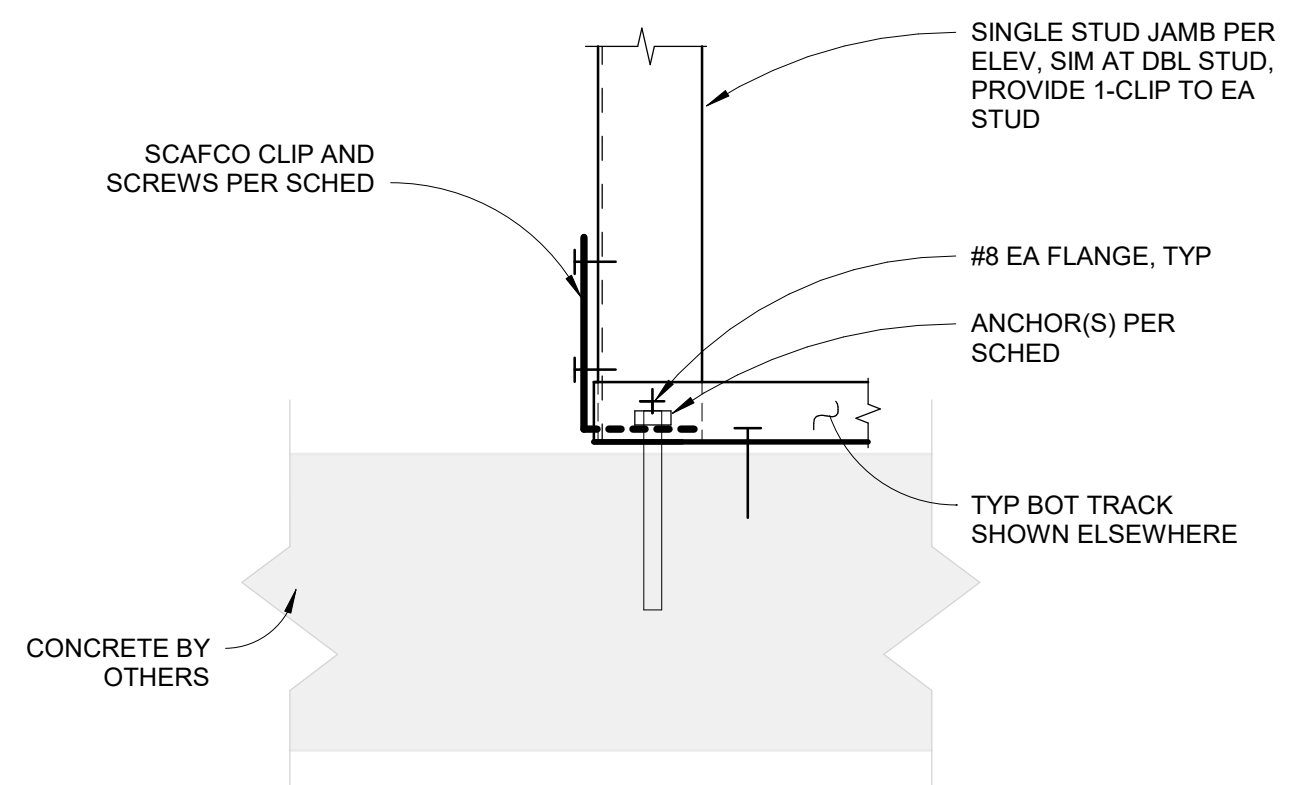
6 TYP INT SOFFIT AT CLASSROOMS (REF - 2/A4.00)
 1 1/2" = 1'-0"

SCHEDULE

W'	H'	BASE CLIPS	SCREWS EA CLIP TO STUD	ANCHORS EA CLIP
3'-6"	17'-6"	NONE	NONE	NONE
6'-6"	24'-6"	FA550-68	(5) #12	(2) TITEN TURBO 1/4x2.25



3 INTERIOR - TYP SINGLE TRACK HEADER
 3" = 1'-0"



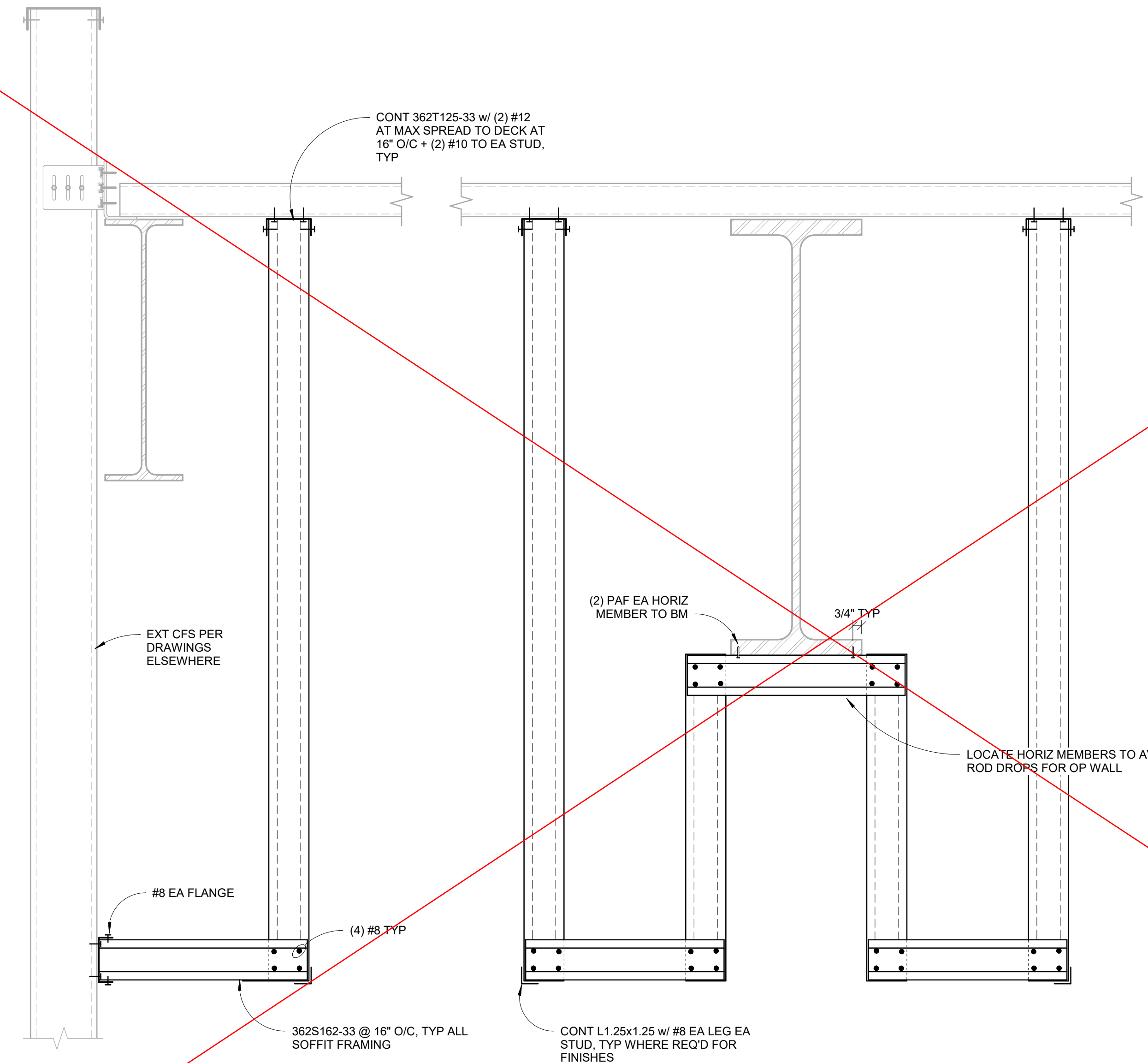
2 TYP JAMB BASE
 3" = 1'-0"

REV	Description	Date
2	CA Revisions	11/18/24
1	CA Revisions	11/15/24

Revision Schedule	
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NORTH PLAN
 SCALE:
 As Indicated
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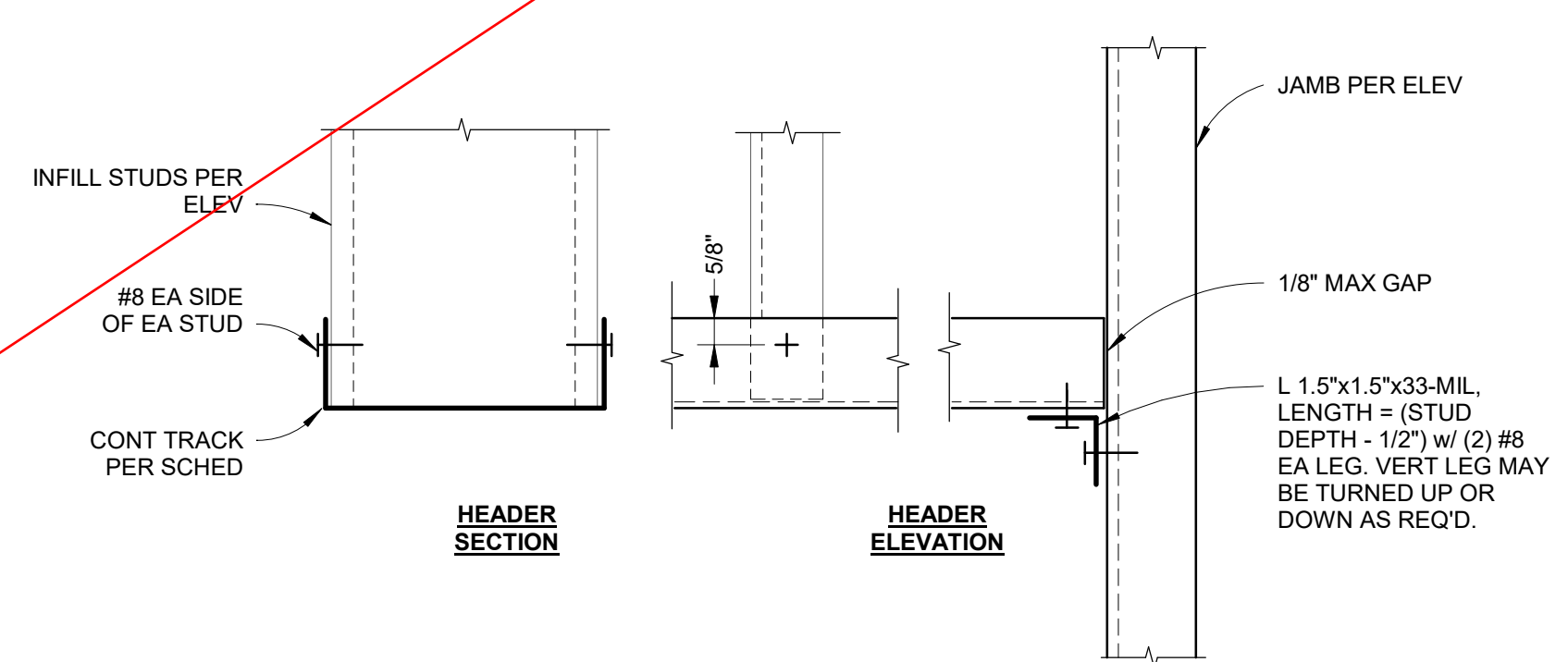
GKK
 INTERIOR NON-BEARING WALL DETAILS
 PROJECT: 24159
 DRAWN: GK | CHECK: DL
 ISSUED: 11/14/24
INT-3
 PRINT: 11/18/2024 10:08:09 AM KWW 2024



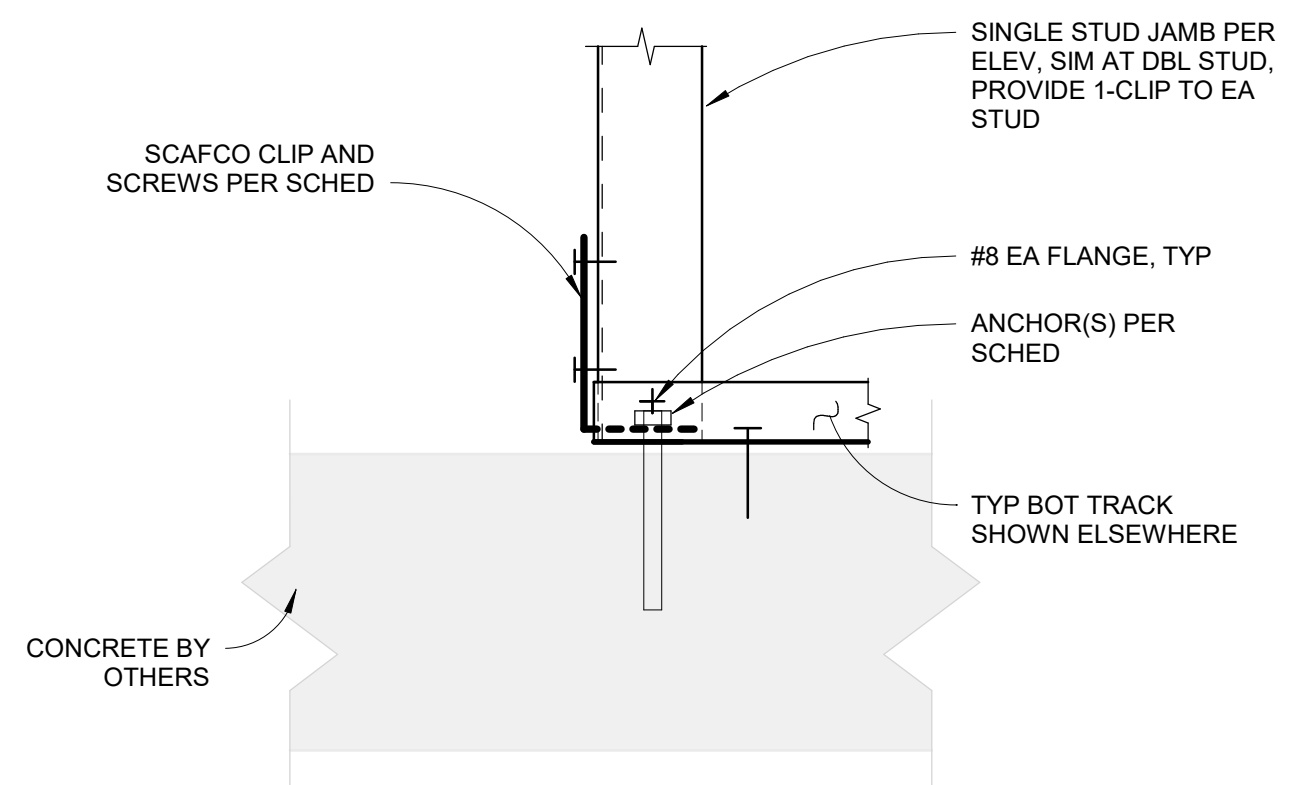
6 TYP INT SOFFIT AT CLASSROOMS (REF - 2/A4.00)
 1 1/2" = 1'-0"

SCHEDULE

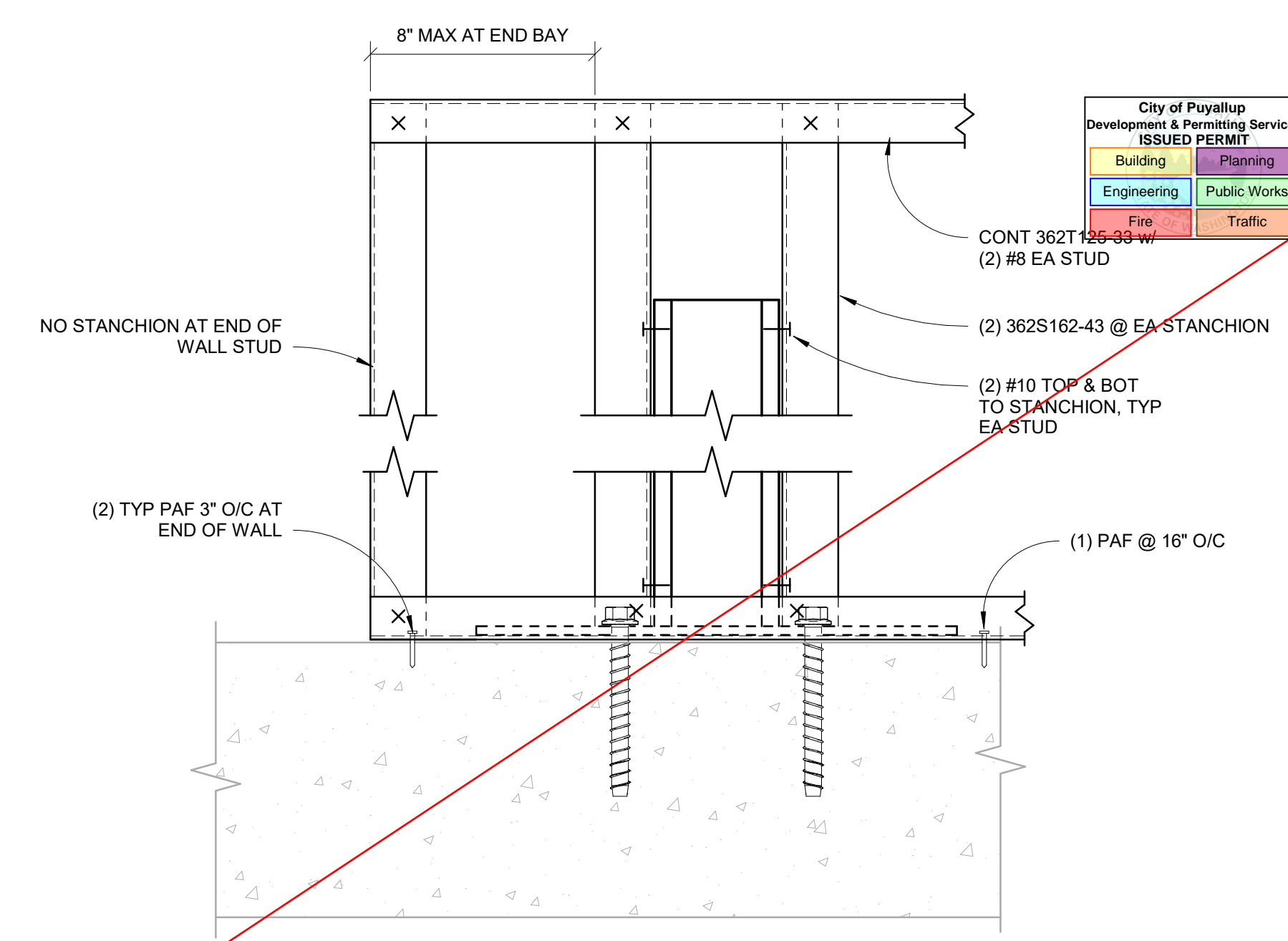
W'	H'	BASE CLIPS	SCREWS EA CLIP TO STUD	ANCHORS EA CLIP
3'-6"	17'-6"	NONE	NONE	NONE
6'-6"	24'-6"	FA550-68	(5) #12	(2) TITEN TURBO 1/4x2.25



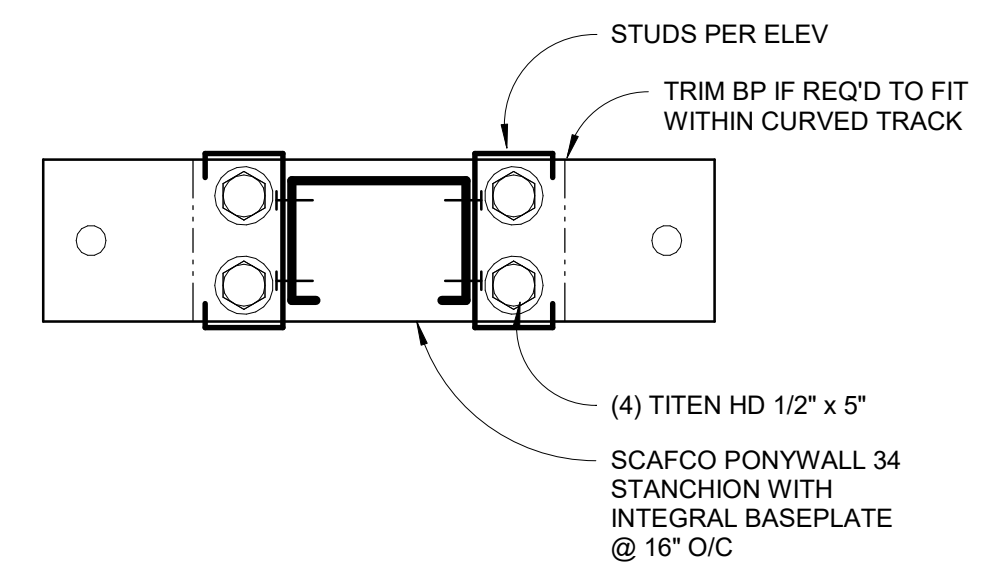
3 INTERIOR - TYP SINGLE TRACK HEADER
 3" = 1'-0"



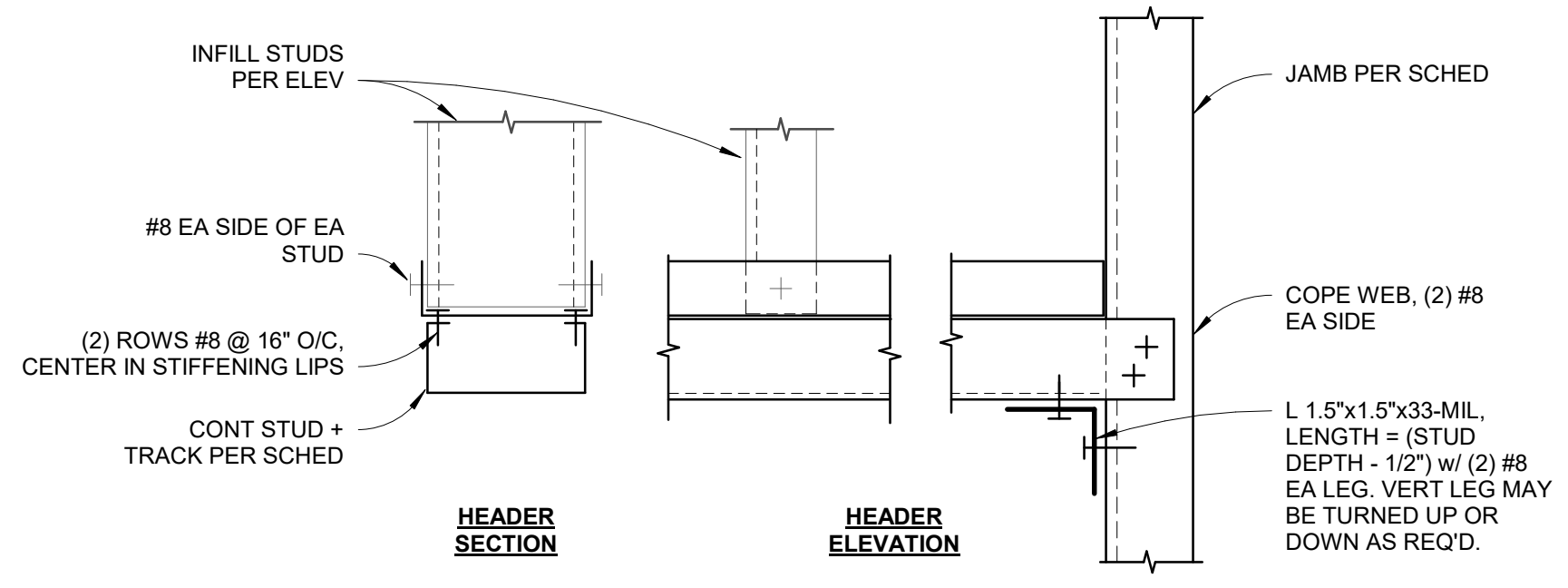
2 TYP JAMB BASE
 3" = 1'-0"



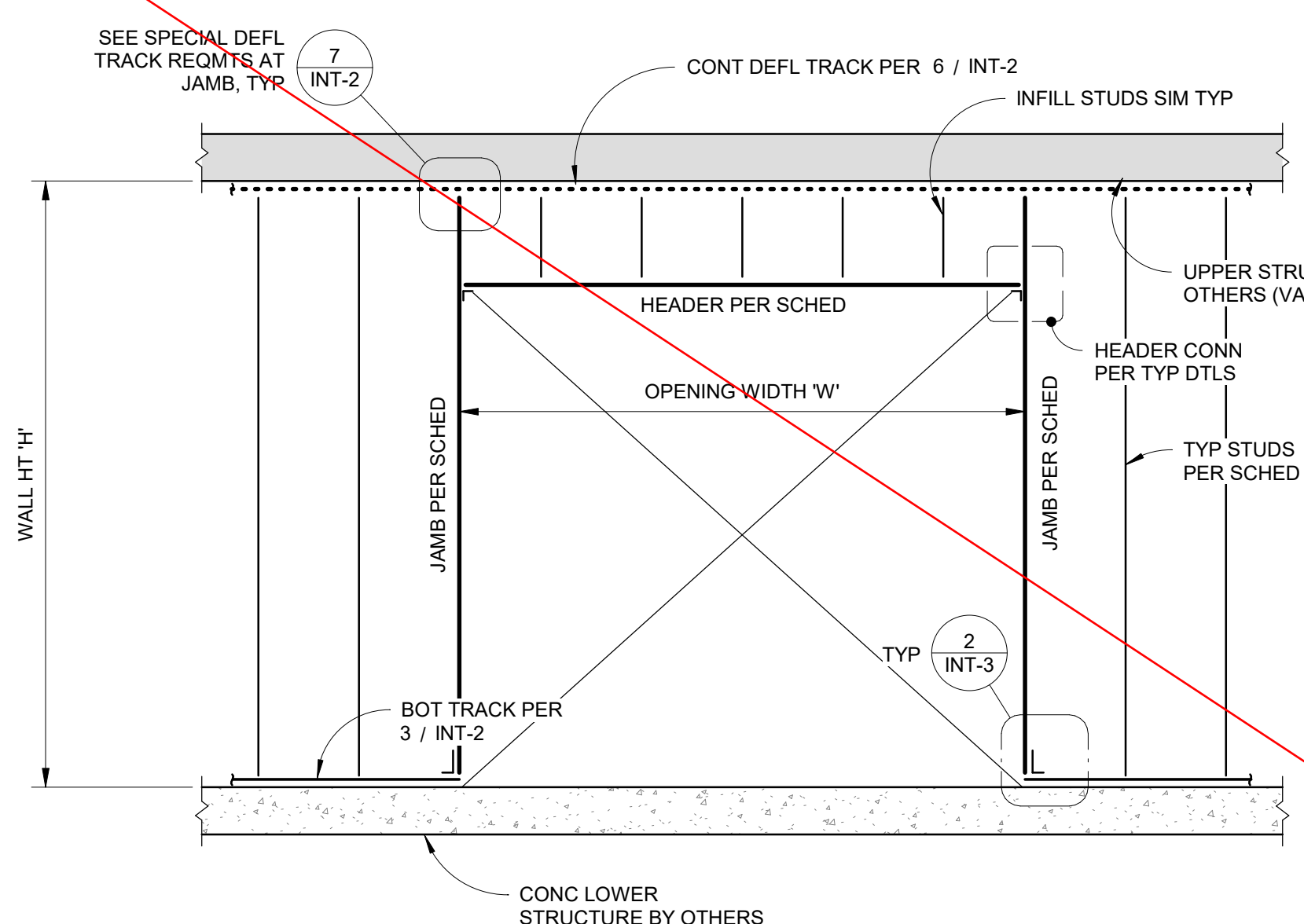
- NOTES**
- UPPER AND LOWER TRACKS SHALL BE CUSTOM BENT AS REQUIRED AT CURVED WALL SEGMENTS.
 - COPE FLANGES/LAP WEB OF TOP TRACK w/ (4) #8 AT INTERSECTIONS.



5 TYP PONYWALL SUPPORT
 3" = 1'-0"



4 INTERIOR - TYP 2-PIECE HEADER
 3" = 1'-0"



MAX WALL HEIGHT 'H'	RO CLEAR WIDTH 'W'	JAMB				HEADER FRAMING		TRACK SEGMENT AT JAMB BASE
		3 5/8"	6"	3 5/8"	6"			
17'-6"	≤3'-6"	362S250-43	600S162-33	362T300-54	600T150-68	43-MIL x 1'-0" MIN		
	≤6'-6"	N/A	600S200-33	N/A	600S250-54 + 600T125-33	43-MIL x 1'-0" MIN		
24'-6"	≤3'-6"	N/A	600S162-43	N/A	600T300-68	43-MIL x 1'-0" MIN		
	≤6'-6"	N/A	600S200-54	N/A	600S300-68 + 600T125-33	54-MIL x 1'-0" MIN		

1 TYP INTERIOR ROUGH OPENING FRAMING
 1/2" = 1'-0"

REV	Description	Date
Revision Schedule		

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NORTH	PLAN
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As Indicated
 GKK PSE - OPERATIONAL TRAINING CENTER - INTERIOR CFS

GKK
 INTERIOR NON-BEARING WALL DETAILS

PROJECT:	24159
DRAWN:	GK CHECK: DL
ISSUED:	11/4/24



kingworks

STRUCTURAL ENGINEERS
600 DUPONT ST STE B
BELLINGHAM, WA 98225
360-714-8260 / www.king-works.com

JOB TITLE GKK - PSE OTC - INT CFS

JOB NO. 24159 SHEET NO. 1
CALCULATED BY DL DATE 11/6/24

PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design

LIGHT-GAGE STEEL CALCULATIONS

FOR

GKK - PSE OTC - INT CFS

Client: G K Knutson

Code:	2018 IBC
OOP Loads:	Per design conditions page
Max OOP Defl:	L/240 typ
Roof Vert Defl:	1" max
Floor Vert Defl:	n/a
Max Stud Spcg:	16"
Min Framing Gage:	N/A
Seismic Drift Slots:	not at interior
Roof Structure:	20-GA 3" N-DECK
Floor Structure:	N/A
Hardware Mfr:	Simpson/Scafco
Defl Track:	Varies
Special Considerations:	



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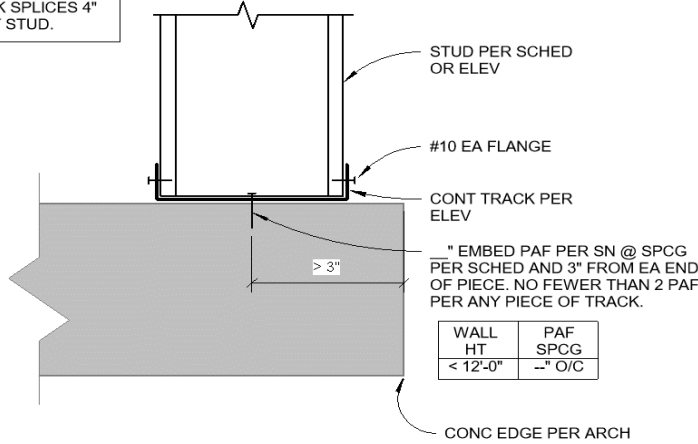
Scope of work

Design of interior non-bearing cold-formed steel (CFS) walls, ceilings & soffits indicated.

EXTERIOR WALLS - FASTENING OF CFS BOT TRACK TO CONCRETE

PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design

NOTE
LOCATE TRACK SPLICES 4"
MIN FROM ANY STUD.



WALL HT	PAF SPCG
< 12'-0"	-" O/C

5 TYP BOT TRACK ON CONCRETE
3" = 1'-0"

DIAMETER	0.157	IN	ASD LOAD	
TYPE	0.157"x1"-2.25" ED-4ksi		TYP INTERIOR	5.0 PSF
SEISMIC PAF LIMIT?	NO		0	0.0 PSF
ALLOW SHR	225	#/FT	0	0.0 PSF
TRACK THICKNESS	D20	MIL	0	0.0 PSF
TRACK Fy	57	KSI	0	0.0 PSF
TRACK Fu	65	KSI	0	0.0 PSF
BRG CAPACITY	173	#, based on max of AISI E4.3.1-2 or published values		
GOV CAPACITY	173	#		

WALL HT	FASTENER SPCG					
	TYP INTERIOR R	0.00	0.00	0.00		
8	103.6	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
9	92.1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
10	82.9	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
11	75.3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
12	69.1	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
13	63.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
14	59.2	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
15	55.3	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
16	51.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
17	48.8	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
18	46.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
19	43.6	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
20	41.4	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
21	39.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
22	37.7	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
23	36.0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	
24	34.5	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	



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JOB TITLE **GKK - PSE OTC - INT CFS**

JOB NO. 24159 SHEET NO. _____
CALCULATED BY DL DATE 11/6/24

Slip Track Calculation per 2007 AISI Standard for Wall Stud Design B2.3 Deflection Track

$$P = (Wdt \times t \times F_y) / (4 \times e \times \Omega)$$

Omega 2.8
Wdt = .11X(e0.5/t1.5)+5.5 <= S
t track thickness
e slip gap

Determine allowable height for multiple gaps, track thicknesses, and stud spacings

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Thickness - Steel Components

Minimum Thickness ¹ (mils)	Design Thickness (in)	Reference On Gauge No.
18	0.0188	25
27	0.0283	22
33	0.0346	20
43	0.0451	18
54	0.0566	16
68	0.0713	14
97	0.1017	12

¹ Minimum Thickness represents 95% of the design thickness and is the minimum acceptable thickness delivered to the job site based on Section A3.4 of the 1996 AISI Specification.

6'-6" RO = 47" trib
3'-6" RO = 29" trib

Scafc published values for slotted

600SDLT325-33EQS	35
600SDLT325-33	47
600SDLT325-43EQS	71
600SDLT325-43	92
600SDLT325-54	179
600SDLT325-68	299
600SDLT325-97	707

P_24.5' = 82#
P_17.5' = 59#
CFS SOFTWARE RXNS
P_6.5X24.5 = 98# - 43 MIL
P_6.5X17.5 = 86# - 43 MIL
P_3.5X24.5 = 72# - 33 MIL

Stud Width 1.370 in
Wind Load 5.0 psf
Gap 1.00 in

ROOF

	Fy	t	Wdt	P_allow	spacing	max ht
T250-33	33	0.0346 in	16.0 in	0.06 kip	16.0 in	16.9 ft
			22.6 in	0.08 kip		#DIV/0!
			22.6 in	0.08 kip	29.0 in	13.2 ft
T250-43	33	0.0451 in	16.0 in	0.10 kip	16.0 in	28.8 ft
			17.0 in	0.10 kip	29.0 in	16.8 ft
			17.0 in	0.10 kip	47.0 in	10.4 ft

Stud Width 1.370 in
Wind Load 5.0 psf
Gap 1.00 in

ROOF

	Fy	t	Wdt	P_allow	spacing	max ht
T250-54	50	0.0713 in	11.3 in	0.26 kip	29.0 in	42.4 ft
			11.3 in	0.26 kip	47.0 in	26.1 ft
			11.3 in	0.26 kip		#DIV/0!
T250-68	50	0.0713 in	11.3 in	0.26 kip	16.0 in	76.8 ft
			11.3 in	0.26 kip	24.0 in	51.2 ft
			11.3 in	0.26 kip	29.0 in	42.4 ft

Stud Width 1.370 in
Wind Load 5.0 psf
Gap 1.00 in

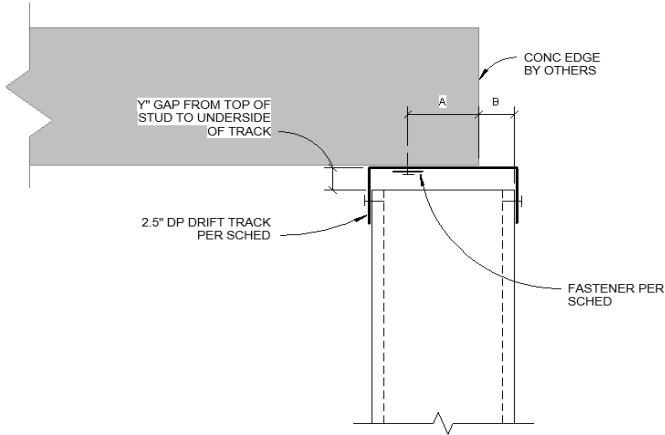
	Fy	t	Wdt	P_allow	spacing	max ht
			#DIV/0!	#DIV/0!	16.0 in	#DIV/0!
			#DIV/0!	#DIV/0!	24.0 in	#DIV/0!
			#DIV/0!	#DIV/0!	33.0 in	#DIV/0!
			#DIV/0!	#DIV/0!	16.0 in	#DIV/0!
			#DIV/0!	#DIV/0!	24.0 in	#DIV/0!
			#DIV/0!	#DIV/0!	33.0 in	#DIV/0!

Stud Width
Wind Load
Gap

	Fy	t	Wdt	P_allow	spacing	max ht
D68	50	0.0713 in	5.5 in	#DIV/0!	16.0 in	#DIV/0!
			5.5 in	#DIV/0!	24.0 in	#DIV/0!
			5.5 in	#DIV/0!	33.0 in	#DIV/0!
D97	50	0.1017 in	5.5 in	#DIV/0!	16.0 in	#DIV/0!
			5.5 in	#DIV/0!	24.0 in	#DIV/0!
			5.5 in	#DIV/0!	33.0 in	#DIV/0!



EXTERIOR WALLS - FASTENING OF DEFL TRACK TO CONCRETE OR STEEL

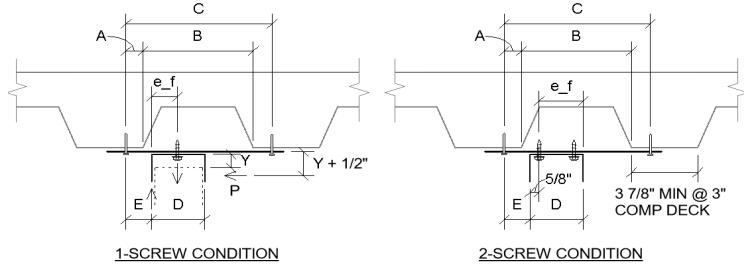


ASD LOAD	
TYP INTERIOR	5.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF

	OVHG 3.625	OVHG 6.00	
STUD WIDTH	3.625	6	IN
A	0.90625	1.5	IN
B	1.8125	3	IN
GAP 'Y'	1	1	IN
WALL HT	17.5	24.5	FT
TYPE	TYP INTERIOR	TYP INTERIOR	
p_ASD	5.0	5.0	0.0 PSF
V_ASD	44	61	0 #/FT
M_ASD	66	92	0 #-IN/FT
T_ASD	72	61	#DIV/0! #/FT
TYPE	#10 Screw - 20ga roof deck	#10 Screw - 20ga roof deck	0.157"-A36-3/4"plus
SEISMIC PAF LIMIT?	NO	NO	YES
ALLOW SHR	177	177	250
ALLOW TENSION	84	84	350
MAX SPCG	11	11	#DIV/0! IN O/C

SPREADER PLATE DESIGN AT BOT OF FLOOR OR ROOF DECK

PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design



ASD LOAD	
TYP INTERIOR	5.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF

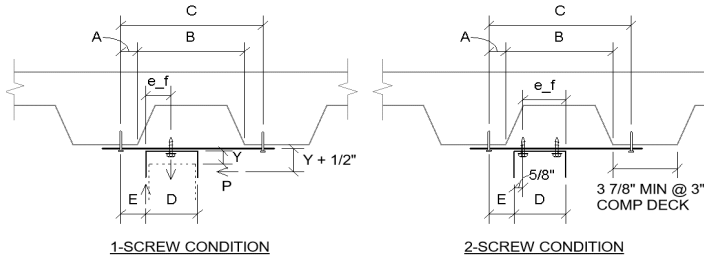
NAME	3.625 H17.5 WALL	6.00 H24.5 WALL	
FLOOR/ROOF	METAL DECK	METAL DECK	METAL DECK
DECK TYPE	ROOF 3" N	ROOF 3" N	ROOF 3" N
PL SPCG	24	16	16
PL WIDTH	6	6	6
PL MIL	54	54	54
PL Fy	50	50	50
A	0.9375	0.9375	1.0625
B	5.875	5.875	5.875
C	7.75	7.75	8
D	3.625	6	6
E	VARIES	VARIES	VARIES
e_f	3	3	3
GAP 'Y'	1	1	1
Y_eff	1.5	1.5	1.5
WALL HT	17.5	24.5	8
TYPE	TYP INTERIOR	TYP INTERIOR	CORNER - TYP
p_ASD	5.0	5.0	#N/A
P_ASD	88	82	#N/A
Mappl_ASD	131	123	#N/A
T/C_trk	44	41	#N/A
Rv_pl	17	16	#N/A
Vpl_max	44	41	#N/A
Mpl_max	80	75	#N/A
PL THICKNESS	0.0566	0.0566	0.0566
Spl	0.00320	0.00320	0.00320
fb=Mpl/Spl	25	23	#N/A
Fa	30	30	30
PL D/C RATIO	0.84	0.78	#N/A
TYPE	#10 Screw - 20ga roof deck	#10 Screw - 20ga roof deck	#10 Screw - 20ga roof deck
SEISMIC PAF LIMIT?	no	no	no
ALLOW SHR	177	177	177
ALLOW TENSION	84	84	84
# PAF EA END	0.77	0.72	#N/A

(Hat) Fur			
Section	Fy (ksi)	Design Thickness (in)	M _r (in-k)
087F125-18	33	0.0188	0.317
087F125-27	33	0.0283	0.537
087F125-30	33	0.0312	0.606
087F125-33	33	0.0346	0.665
087F125-43	33	0.0451	0.830
150F125-18	33	0.0188	0.679
150F125-27	33	0.0283	1.125
150F125-30	33	0.0312	1.263
150F125-33	33	0.0346	1.391
150F125-43	33	0.0451	1.755



SPREADER PLATE DESIGN AT BOT OF FLOOR OR ROOF DECK

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ASD LOAD		
TYP INTERIOR	5.0	PSF
0	0.0	PSF
0	0.0	PSF
0	0.0	PSF
0	0.0	PSF
0	0.0	PSF

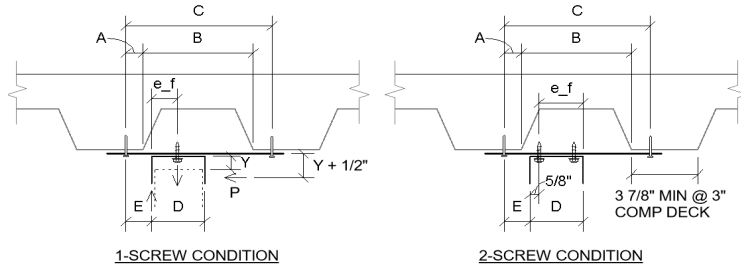
NAME	CONT PL 3.625 H17.5 WALL	CONT PL 6.00 H24.5 WALL	JAMB 98 LB RXN	
FLOOR/ROOF	METAL DECK	METAL DECK	METAL DECK	
DECK TYPE	ROOF 3" N	ROOF 3" N	ROOF 3" N	
PL SPCG	12	12	20	IN O/C
PL WIDTH	12	12	12	IN
PL MIL	33	43	43	MIL
PL Fy	33	33	33	KSI
A	0.5	0.5	0.5	IN
B	5.875	5.875	5.875	IN
C	6.875	6.875	6.875	IN
D	3.625	6	6	IN
E	VARIES	VARIES	VARIES	IN
e_f	3	3	3	IN
GAP 'Y'	1	1	1	IN
Y_eff	1.5	1.5	1.5	IN
WALL HT	17.5	24.5	24.5	FT
TYPE	TYP INTERIOR	TYP INTERIOR	TYP INTERIOR	
p_ASD	5.0	5.0	5.0	PSF
P_ASD	44	61	102	LBS/PL
Mappl_ASD	66	92	153	LB-IN
T/C_trk	22	31	51	LBS
Rv_pl	10	13	22	LBS
Vpl_max	22	31	51	LBS
Mpl_max	37	52	86	LB-IN
PL THICKNESS	0.0346	0.0451	0.0451	IN
Spl	0.00239	0.00407	0.00407	IN^3
fb=Mpl/Spl	15	13	21	KSI
Fa	20	20	20	KSI
PL D/C RATIO	0.78	0.64	1.07	
TYPE	#10 Screw - 20ga roof deck	#10 Screw - 20ga roof deck	#10 Screw - 20ga roof deck	
SEISMIC PAF LIMIT?	no	no	no	
ALLOW SHR	177	177	177	LBS
ALLOW TENSION	84	84	84	LBS
# PAF EA END	0.38	0.54	0.90	

(Hat) Fur			
Section	Fy (ksi)	Design Thickness (in)	M _t (in-k)
087F125-18	33	0.0188	0.317
087F125-27	33	0.0283	0.537
087F125-30	33	0.0312	0.606
087F125-33	33	0.0346	0.665
087F125-43	33	0.0451	0.830
150F125-18	33	0.0188	0.679
150F125-27	33	0.0283	1.125
150F125-30	33	0.0312	1.263
150F125-33	33	0.0346	1.391
150F125-43	33	0.0451	1.755



SPREADER PLATE DESIGN AT BOT OF FLOOR OR ROOF DECK

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Cold Formed Metal Framing Design



ASD LOAD	
TYP INTERIOR	5.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF
0	0.0 PSF

NAME	RO 6.5W x 24.5H JAMB		
FLOOR/ROOF	METAL DECK		
DECK TYPE	ROOF 3" N		
PL SPCG	47		
PL WIDTH	6		
PL MIL	54		
PL Fy	#N/A	50	#N/A
A	0.9375	0.9375	1.0625
B	#N/A	5.875	#N/A
C	#N/A	7.75	#N/A
D	3.625	6	6
E	VARIES	VARIES	VARIES
e_f	3	5.25	3
GAP 'Y'	1	1	1
Y_eff	1.5	1.5	1.5
WALL HT	17.5	24.5	8
TYPE	TYP INTERIOR	TYP INTERIOR	CORNER - TYP
p_ASD	5.0	5.0	#N/A
P_ASD	0	98	#N/A
Mappl_ASD	0	147	#N/A
T/C_trk	0	28	#N/A
Rv_pl	#N/A	19	#N/A
Vpl_max	0	28	#N/A
Mpl_max	#N/A	47	#N/A
PL THICKNESS	#N/A	0.0566	#N/A
Spl	#N/A	0.00320	#N/A
fb=Mpl/Spl	#N/A	15	#N/A
Fa	#N/A	30	#N/A
PL D/C RATIO	#N/A	0.49	#N/A
TYPE	#10 Screw - 20ga roof deck	#10 Screw - 20ga roof deck	#10 Screw - 20ga roof deck
SEISMIC PAF LIMIT?	no	no	no
ALLOW SHR	177	177	177
ALLOW TENSION	84	84	84
# PAF EA END	0.00	0.61	#N/A

(Hat) Fur			
Section	Fy (ksi)	Design Thickness (in)	M _r (in-k)
087F125-18	33	0.0188	0.317
087F125-27	33	0.0283	0.537
087F125-30	33	0.0312	0.606
087F125-33	33	0.0346	0.665
087F125-43	33	0.0451	0.830
150F125-18	33	0.0188	0.679
150F125-27	33	0.0283	1.125
150F125-30	33	0.0312	1.263
150F125-33	33	0.0346	1.391
150F125-43	33	0.0451	1.755



ROUGH OPENING CONNECTIONS

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Cold Formed Metal Framing Design

TYPE		RO6.00 6.5X24.5			
JAMB Q	1				
JAMB	600S200-54				
R_TOP	98				
CLIP	NONE	1	0	#DIV/0!	#DIV/0!
ANCH	NONE		0	#DIV/0!	#DIV/0!
R_BOT	240				
CLIP	SCAFCO FA550-68 TO 54-MIL	1	1860	0.13	OK
ANCH	(2) TURBO1/4x2.25_WIND		500	0.48	OK
HEADER TYPE	SINGLE TRACK				
HDR BOT TRACK	600S300-68				
R_LAT	143				
CLIP	(2) #10 - 43MIL	1	526	0.27	OK
HDR TOP TRACK					
R_LAT					
CLIP		1	#N/A	#N/A	#N/A
BOX HDR SIDES	600S300-68				
R_VERT(TOT)	512				
CLIP	(2)#10 - 54MIL	2	2136	0.24	OK
SILL					
R_LAT					
CLIP			#N/A	#N/A	#N/A

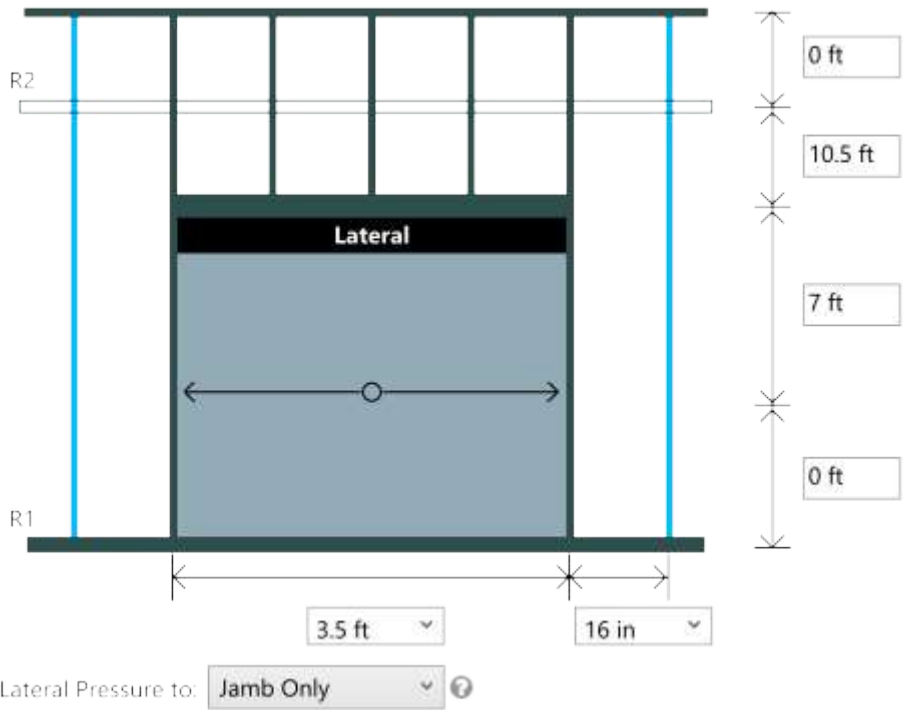
TYPE		RO3.63 3.5X17.5			
JAMB Q	1				
JAMB	362S250-43				
R_TOP	60				
CLIP	NONE	1	0	#DIV/0!	#DIV/0!
ANCH	NONE		0	#DIV/0!	#DIV/0!
R_BOT	106				
CLIP	NONE	1	0	#DIV/0!	#DIV/0!
ANCH			#N/A	#N/A	#N/A
HEADER TYPE	SINGLE TRACK				
HDR BOT TRACK	362T200-54				
R_LAT	46				
CLIP	(2) #10 - 43MIL	1	526	0.09	OK
HDR TOP TRACK					
R_LAT					
CLIP		1	#N/A	#N/A	#N/A
BOX HDR SIDES					
R_VERT(TOT)	166				
CLIP	(2) #10 - 43MIL	2	1052	0.16	OK
SILL					
R_LAT					
CLIP		1	#N/A	#N/A	#N/A



PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 3.625 X 3.5FT X 17.5FT
Code: 2012 NASPEC [AISI S100-2012]

Simpson Strong-Tie® CFS Designer™ 5.2.7.0



Design Loads

Wall Lateral Pressure :	5 psf
Parapet Lateral Pressure :	
RO Lateral Pressure :	Jamb Only
Lateral element force multiplier	
Strength :	1.0
Deflection :	1
Header:	Single Member
Gravity Load at Header:	9 psf

Brace Settings

Component(s)	Members(s)	Flexural Bracing	Axial KyLy	Axial KtLt	Distortional K-Phi(lb-in/in)	Distortional Lm	Interconnection Spacing
Jamb Studs	362S250-43(33), Single	Full	48 in	48 in	0	None	N/A
Vertical Header	362T300-54(50), Y-Y Axis	Full	N/A	N/A	0	None	N/A
Lateral Header	362T300-54(50), Single	Full	N/A	N/A	0	None	N/A

Analysis Results

Component(s)	Members(s)	Axial Load (lb)	Max KL/r	Max. Moment (ft-lb)	Max. Shear (lb)	Bottom Reaction (lb)	Top or End Reaction (lb)
Jamb Studs	362S250-43(33), Single	165.4	139	444.1	105.7	105.7	59.8
Vertical Header	362T300-54(50), Y-Y Axis	N/A	N/A	144.7	165.4	N/A	165.4
Lateral Header	362T300-54(50), Single	N/A	N/A	40.2	45.9	N/A	45.9

Design Results

Component(s)	Members(s)	Deflection		A + M Interaction	V + M Interaction	Web Stiffeners	Design OK
		Span	Parapet				
Jamb Studs	362S250-43(33), Single	L/278	L/0	0.676	0.60	No	Yes
Vertical Header	362T300-54(50), Y-Y Axis	L/493	NA	0.88	0.88	No	Yes
Lateral Header	362T300-54(50), Single	L/13764	NA	0.04	0.04	No	Yes
Combined Header				0.92	0		

Simpson Strong-Tie® Connectors @ Jamb

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	59.79	0.00	362T250-33 (33) & (1) #10 screw to CFS (20ga 33ksi)	79.46 %	69.37 %
R1	105.73	312.38	362T125-33 (33) & (1) .157", 1" embed SST PDPA/PDPAT to 4000 nw concrete	48.47 %	48.02 %



Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 3.625 X 3.5FT X 17.5FT
Code: 2012 NASPEC [AISI S100-2012]

Simpson Strong-Tie® CFS Designer™ 5.2.7.0

* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jamb

Span/Parapet	Bracing Length(in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Span	Varies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

- 1) Values in parentheses are stress ratios.
- 2) Bridging connectors are not designed for back-back, box, or built-up sections.
- 3) Reference www.strongtie.com for latest load data, important information, and general notes.
- 4) CFS Designer will not select bridging connectors unless all flexural and axial bracing settings are the same.
- 5) If the bracing length is larger than the span length, bridging connectors are not designed.

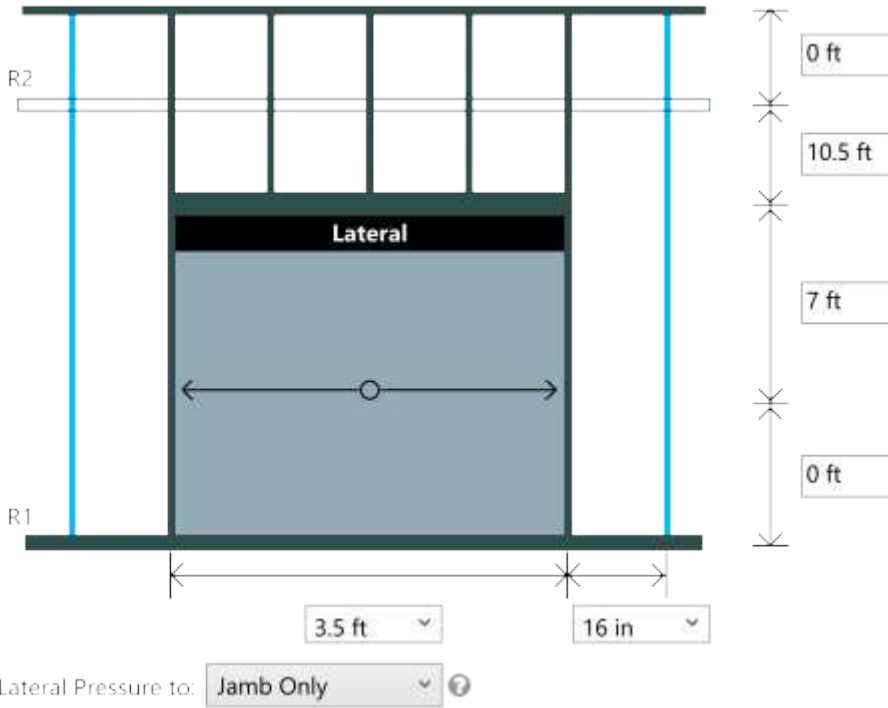


PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 6.00 X 3.5FT X 17.5FT
Code: 2012 NASPEC [AISI S100-2012]

Page 1 of 2
Date: 11/06/2024

Simpson Strong-Tie® CFS Designer™ 5.2.7.0



Design Loads

Wall Lateral Pressure :	5 psf
Parapet Lateral Pressure :	
RO Lateral Pressure :	Jamb Only
Lateral element force multiplier	
Strength :	1.0
Deflection :	1
Header:	Single Member
Gravity Load at Header:	9 psf

Lateral Pressure to: **Jamb Only**

Brace Settings

Component(s)	Members(s)	Flexural Bracing	Axial KyLy	Axial KtLt	Distortional K-Phi(lb-in/in)	Distortional Lm	Interconnection Spacing
Jamb Studs	600S162-33(33), Single	Full	48 in	48 in	0	None	N/A
Vertical Header	600T150-68(50), Y-Y Axis	Full	N/A	N/A	0	None	N/A
Lateral Header	600T150-68(50), Single	Full	N/A	N/A	0	None	N/A

Analysis Results

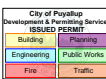
Component(s)	Members(s)	Axial Load (lb)	Max KL/r	Max. Moment (ft-lb)	Max. Shear (lb)	Bottom Reaction (lb)	Top or End Reaction (lb)
Jamb Studs	600S162-33(33), Single	165.4	92	444.1	105.7	105.7	59.8
Vertical Header	600T150-68(50), Y-Y Axis	N/A	N/A	144.7	165.4	N/A	165.4
Lateral Header	600T150-68(50), Single	N/A	N/A	40.2	45.9	N/A	45.9

Design Results

Component(s)	Members(s)	Deflection		A + M Interaction	V + M Interaction	Web Stiffeners	Design OK
		Span	Parapet				
Jamb Studs	600S162-33(33), Single	L/509	L/0	0.638	0.47	Yes	Yes
Vertical Header	600T150-68(50), Y-Y Axis	L/375	NA	0.93	0.93	No	Yes
Lateral Header	600T150-68(50), Single	L/44198	NA	0.02	0.02	No	Yes
Combined Header				0.95	0		

Simpson Strong-Tie® Connectors @ Jamb

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	59.79	0.00	600T250-33 (33) & (1) #10 screw to CFS (20ga 33ksi)	79.46 %	69.37 %
R1	105.73	312.38	600T125-33 (33) & (1) .157", 1" embed SST PDPA/PDPAT to 4000 nw concrete	87.03 %	48.02 %



**PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design**

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 6.00 X 3.5FT X 17.5FT
Code: 2012 NASPEC [AISI S100-2012]

Page 2 of 2
Date: 11/06/2024

Simpson Strong-Tie® CFS Designer™ 5.2.7.0

* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jambs

Span/Parapet	Bracing Length(in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Span	Varies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

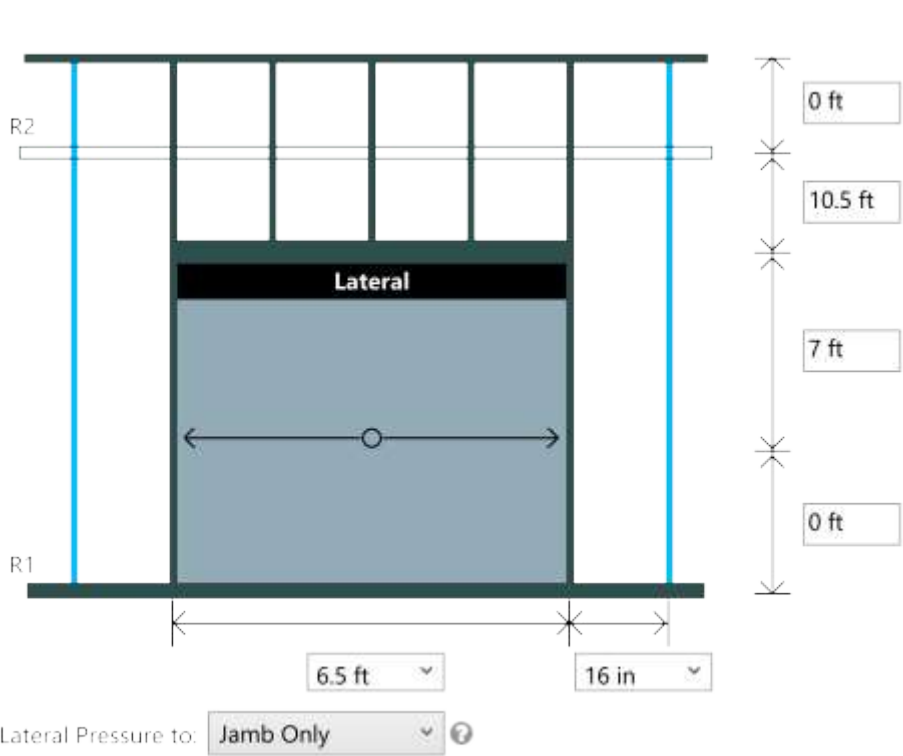
- 1) Values in parentheses are stress ratios.
- 2) Bridging connectors are not designed for back-back, box, or built-up sections.
- 3) Reference www.strongtie.com for latest load data, important information, and general notes.
- 4) CFS Designer will not select bridging connectors unless all flexural and axial bracing settings are the same.
- 5) If the bracing length is larger than the span length, bridging connectors are not designed.

PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 6.00 X 6.5FT X 17.5FT
Code: 2012 NASPEC [AISI S100-2012]

Page 1 of 2
Date: 11/06/2024

Simpson Strong-Tie® CFS Designer™ 5.2.7.0



Design Loads

Wall Lateral Pressure :	5 psf
Parapet Lateral Pressure :	
RO Lateral Pressure :	Jamb Only
Lateral element force multiplier	
Strength :	1.0
Deflection :	1
Header:	Single Member
Gravity Load at Header:	9 psf

Brace Settings

Component(s)	Members(s)	Flexural Bracing	Axial KyLy	Axial KtLt	Distortional K-Phi(lb-in/in)	Distortional Lm	Interconnection Spacing
Jamb Studs	600S200-33(33), Single	Full	48 in	48 in	0	None	N/A
Vertical Header	600S250-54(50), Y-Y Axis	Full	N/A	N/A	0	None	N/A
Lateral Header	600S250-54(50), Single	Full	N/A	N/A	0	None	N/A

Analysis Results

Component(s)	Members(s)	Axial Load (lb)	Max KL/r	Max. Moment (ft-lb)	Max. Shear (lb)	Bottom Reaction (lb)	Top or End Reaction (lb)
Jamb Studs	600S200-33(33), Single	307.1	90	719.7	171.4	171.4	86.0
Vertical Header	600S250-54(50), Y-Y Axis	N/A	N/A	499.1	307.1	N/A	307.1
Lateral Header	600S250-54(50), Single	N/A	N/A	138.6	85.3	N/A	85.3

Design Results

Component(s)	Members(s)	Deflection		A + M Interaction	V + M Interaction	Web Stiffeners	Design OK
		Span	Parapet				
Jamb Studs	600S200-33(33), Single	L/369	L/0	0.922	0.71	Yes	Yes
Vertical Header	600S250-54(50), Y-Y Axis	L/250	NA	0.72	0.72	No	Yes
Lateral Header	600S250-54(50), Single	L/8219	NA	0.06	0.05	No	Yes
Combined Header				0.78	0		

Simpson Strong-Tie® Connectors @ Jamb

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	86.04	0.00	600T250-43 (33) & (2) #10 screw to CFS (20ga 33ksi)	69.71 %	49.91 %
R1	171.35	454.13	FCB43.5 Min(4#12-14) & (2) 1/4" x 1-3/4" Titen Turbo to 2500 concrete (Base Clip)	22.70 %	41.29 %



**PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design**

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 6.00 X 6.5FT X 17.5FT
Code: 2012 NASPEC [AISI S100-2012]

Page 2 of 2
Date: 11/06/2024

Simpson Strong-Tie® CFS Designer™ 5.2.7.0

* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jamb

Span/Parapet	Bracing Length(in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Span	Varies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

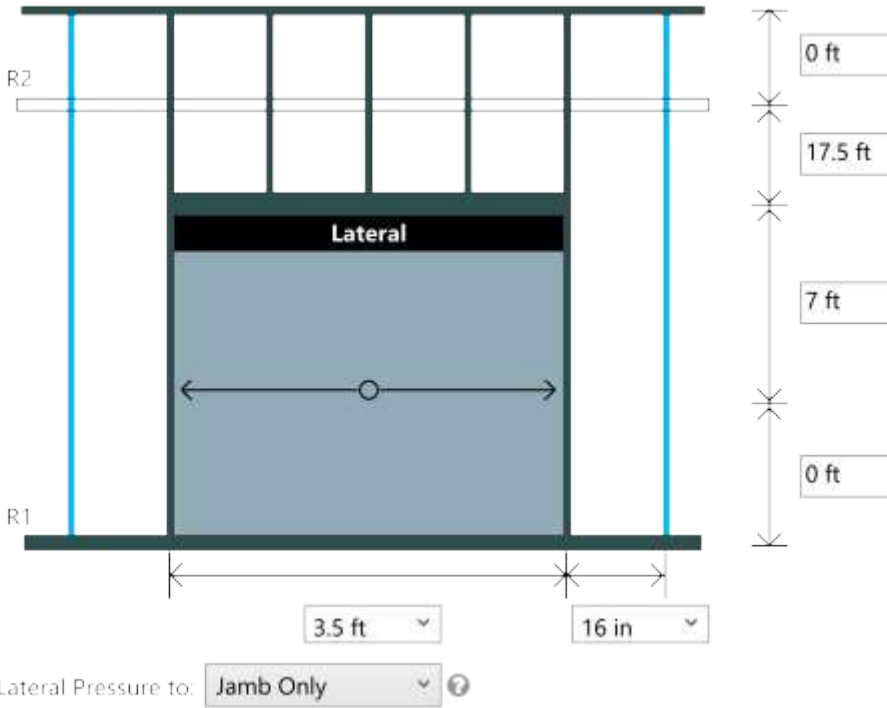
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- 2) Bridging connectors are not designed for back-back, box, or built-up sections.
- 3) Reference www.strongtie.com for latest load data, important information, and general notes.
- 4) CFS Designer will not select bridging connectors unless all flexural and axial bracing settings are the same.
- 5) If the bracing length is larger than the span length, bridging connectors are not designed.

PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 6.00 X 3.5FT X 24.5FT
Code: 2012 NASPEC [AISI S100-2012]

Page 1 of 2
Date: 11/06/2024

Simpson Strong-Tie® CFS Designer™ 5.2.7.0



Design Loads

Wall Lateral Pressure :	5 psf
Parapet Lateral Pressure :	
RO Lateral Pressure :	Jamb Only
Lateral element force multiplier	
Strength :	1.0
Deflection :	1
Header:	Single Member
Gravity Load at Header:	9 psf

Brace Settings

Component(s)	Members(s)	Flexural Bracing	Axial KyLy	Axial KtLt	Distortional K-Phi(lb-in/in)	Distortional Lm	Interconnection Spacing
Jamb Studs	600S162-43(33), Single	Full	48 in	48 in	0	None	N/A
Vertical Header	600T300-68(50), Y-Y Axis	Full	N/A	N/A	0	None	N/A
Lateral Header	600T300-68(50), Single	Full	N/A	N/A	0	None	N/A

Analysis Results

Component(s)	Members(s)	Axial Load (lb)	Max KL/r	Max. Moment (ft-lb)	Max. Shear (lb)	Bottom Reaction (lb)	Top or End Reaction (lb)
Jamb Studs	600S162-43(33), Single	275.6	129	740.1	148.0	148.0	71.5
Vertical Header	600T300-68(50), Y-Y Axis	N/A	N/A	241.2	275.6	N/A	275.6
Lateral Header	600T300-68(50), Single	N/A	N/A	67.0	76.6	N/A	76.6

Design Results

Component(s)	Members(s)	Deflection		A + M Interaction	V + M Interaction	Web Stiffeners	Design OK
		Span	Parapet				
Jamb Studs	600S162-43(33), Single	L/281	L/0	0.738	0.53	No	Yes
Vertical Header	600T300-68(50), Y-Y Axis	L/557	NA	0.91	0.91	No	Yes
Lateral Header	600T300-68(50), Single	L/34924	NA	0.03	0.03	No	Yes
Combined Header				0.93	0		

Simpson Strong-Tie® Connectors @ Jamb

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	71.46	0.00	600T250-33 (33) & (1) #10 screw to CFS (20ga 33ksi)	94.96 %	82.91 %
R1	148.02	464.63	600T125-33 (33) & (1) .157", 1" embed SST PDPA/PDPAT to 4000 nw concrete	72.20 %	67.22 %



**PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design**

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 6.00 X 3.5FT X 24.5FT
Code: 2012 NASPEC [AISI S100-2012]

Page 2 of 2
Date: 11/06/2024

Simpson Strong-Tie® CFS Designer™ 5.2.7.0

* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jambs

Span/Parapet	Bracing Length(in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Span	Varies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

- 1) Values in parentheses are stress ratios.
- 2) Bridging connectors are not designed for back-back, box, or built-up sections.
- 3) Reference www.strongtie.com for latest load data, important information, and general notes.
- 4) CFS Designer will not select bridging connectors unless all flexural and axial bracing settings are the same.
- 5) If the bracing length is larger than the span length, bridging connectors are not designed.

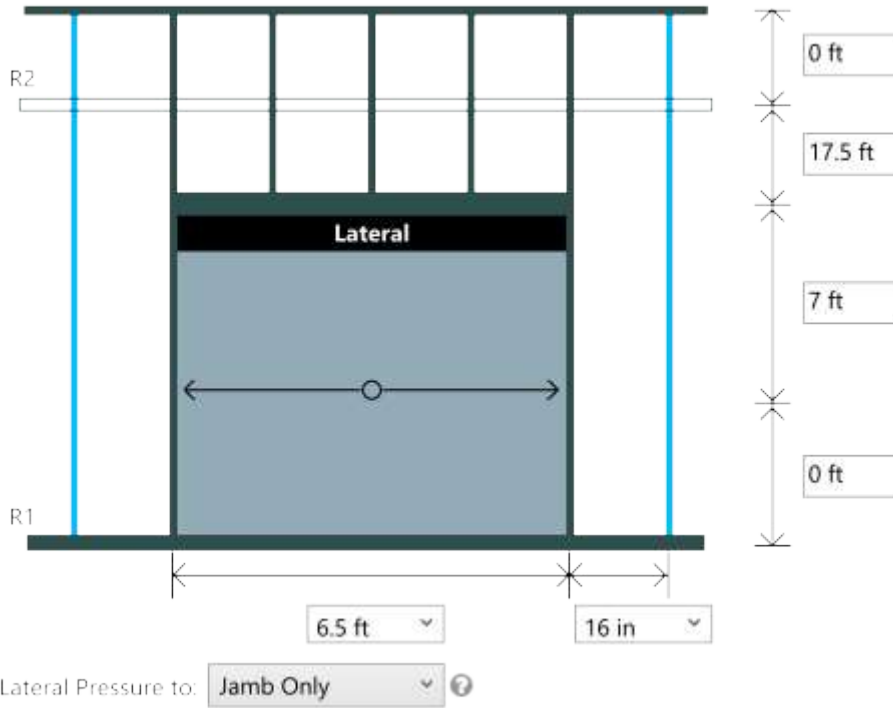


**PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design**

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 6.00 X 6.5FT X 24.5FT
Code: 2012 NASPEC [AISI S100-2012]

Page 1 of 2
Date: 11/06/2024

Simpson Strong-Tie® CFS Designer™ 5.2.7.0



Design Loads

Wall Lateral Pressure :	5 psf
Parapet Lateral Pressure :	
RO Lateral Pressure :	Jamb Only
Lateral element force multiplier	
Strength :	1.0
Deflection :	1
Header:	Single Member
Gravity Load at Header:	9 psf

Lateral Pressure to: **Jamb Only**

Brace Settings

Component(s)	Members(s)	Flexural Bracing	Axial KyLy	Axial KtLt	Distortional K-Phi(lb-in/in)	Distortional Lm	Interconnection Spacing
Jamb Studs	600S200-54(50), Single	Full	48 in	48 in	0	None	N/A
Vertical Header	600S300-68(50), Y-Y Axis	Full	N/A	N/A	0	None	N/A
Lateral Header	600S300-68(50), Single	Full	N/A	N/A	0	None	N/A

Analysis Results

Component(s)	Members(s)	Axial Load (lb)	Max KL/r	Max. Moment (ft-lb)	Max. Shear (lb)	Bottom Reaction (lb)	Top or End Reaction (lb)
Jamb Studs	600S200-54(50), Single	511.9	126	1199.5	239.9	239.9	97.7
Vertical Header	600S300-68(50), Y-Y Axis	N/A	N/A	831.8	511.9	N/A	511.9
Lateral Header	600S300-68(50), Single	N/A	N/A	231.1	142.2	N/A	142.2

Design Results

Component(s)	Members(s)	Deflection		A + M Interaction	V + M Interaction	Web Stiffeners	Design OK
		Span	Parapet				
Jamb Studs	600S200-54(50), Single	L/262	L/0	0.668	0.48	No	Yes
Vertical Header	600S300-68(50), Y-Y Axis	L/310	NA	0.72	0.72	No	Yes
Lateral Header	600S300-68(50), Single	L/6836	NA	0.07	0.06	No	Yes
Combined Header				0.79	0		

Simpson Strong-Tie® Connectors @ Jamb

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	97.71	0.00	600T250-43 (33) & (2) #10 screw to CFS (20ga 33ksi)	79.16 %	56.68 %
R1	239.90	700.88	600T125-33 (33) & (2) .157", 1" embed SST PDPA/PDPAT to 4000 nw concrete	69.74 %	54.47 %



**PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design**

Project Name: GK PSE - INTERIOR DESIGN
Model: RO-INT 6.00 X 6.5FT X 24.5FT
Code: 2012 NASPEC [AISI S100-2012]

Page 2 of 2
Date: 11/06/2024

Simpson Strong-Tie® CFS Designer™ 5.2.7.0

* Reference catalog for connector and anchor requirement notes as well as screw placements requirement

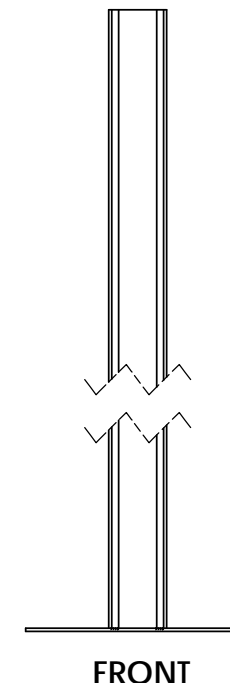
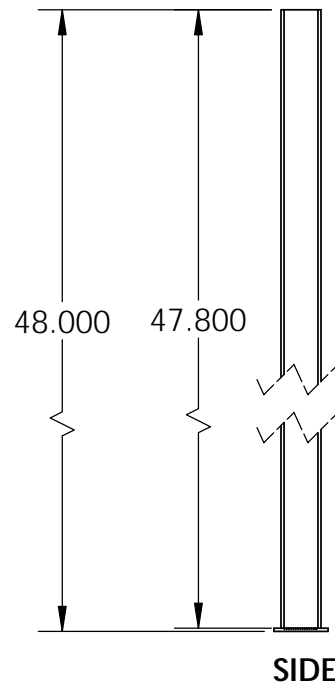
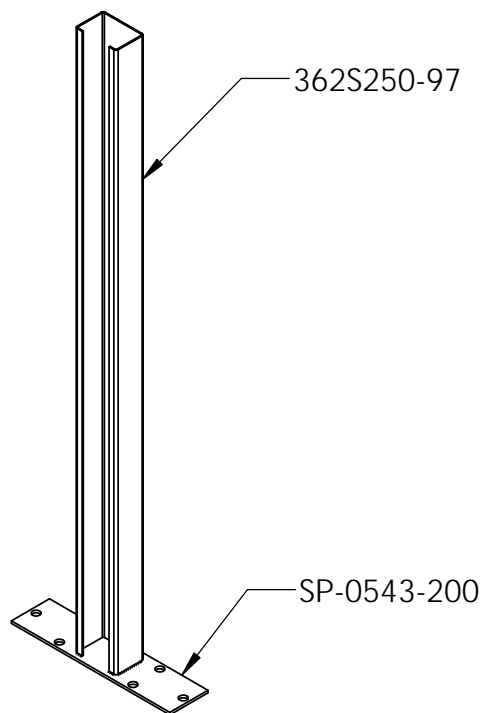
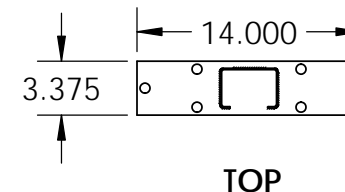
Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jamb


Span/Parapet	Bracing Length(in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min) ¹	LSUBH (Max) ¹	SUBH (Min) ¹	SUBH (Max) ¹	MSUBH (Min) ¹	MSUBH (Max) ¹
Span	Varies	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

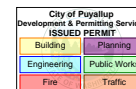
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PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design



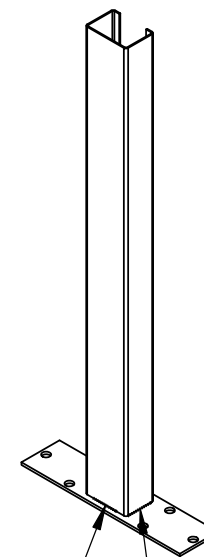
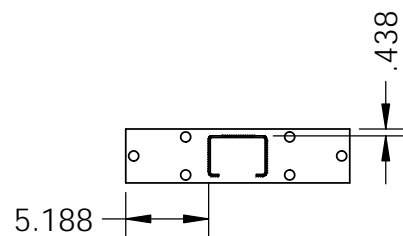
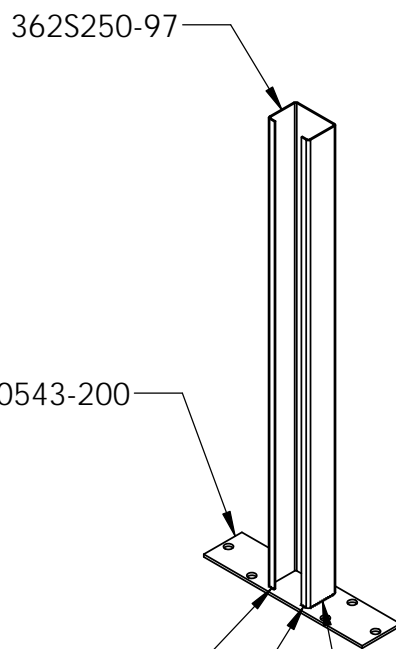
CUSTOMER APPROVAL REQUIRED ON CUSTOM ORDERS		COMMENTS ALL DIMENSIONS TYPICAL	MATERIAL	MAT'L WT 14.75 LBS	 SCAFCO Steel Stud Mfg. Company 2800 E. Main Avenue PO Box 11215 Spokane, WA 99220-3949, USA Phone: 509-343-9000 * Fax: 509-343-9060 * www.SCAFCO.com		
PROJECT	CONTRACTOR	D			NAME	DATE	
		C			DRAWN	BLS 03APR24	
		B			CHECKED	-	
		A			APPROVED	-	
<input type="checkbox"/> APPROVED <input type="checkbox"/> APPROVED W/ REVISIONS <input type="checkbox"/> REVISE AND SUBMIT	SIGNATURE	REV	BY	DATE	DESCRIPTION OF CHANGE		
		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF SCAFCO. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF SCAFCO IS PROHIBITED.				DIMENSIONS ARE IN INCHES TOLERANCES (UNLESS OTHERWISE NOTED) FRACTIONAL: ± 1/16 ANGULAR BEND: ± 2 Deg DECIMAL: ± .063	
						PART NO.	REV.
						48" PONY WALL WITH SINGLE 3.625" STUD	
						PONYWALL48	
						SHEET SIZE: A	SCALE: 1:12
						SHEET: 1 OF 1	

PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design



WELD	LENGTH
WEB	2"
FLANGE	2"
FLANGE	2"
RETURN	0.4375"
RETURN	0.4375"

***COAT WELD BEADS WITH GALVANIZED PAINT**



CUSTOMER APPROVAL REQUIRED ON CUSTOM ORDERS		COMMENTS ALL DIMENSIONS TYPICAL	MATERIAL	MAT'L WT	<p>SCAFCO Steel Stud Mfg. Company 2800 E. Main Avenue PO Box 11215 Spokane, WA 99220-3949, USA Phone: 509-343-9000 * Fax: 509-343-9060 * www.SCAFECO.com</p>																			
PROJECT	CONTRACTOR	<table border="1"> <tr><td>D</td><td></td><td></td><td></td></tr> <tr><td>C</td><td></td><td></td><td></td></tr> <tr><td>B</td><td></td><td></td><td></td></tr> <tr><td>A</td><td></td><td></td><td></td></tr> </table>	D					C				B				A				<table border="1"> <tr><td>NAME</td><td>DATE</td></tr> <tr><td>BLS</td><td>03APR24</td></tr> </table>	NAME	DATE	BLS	03APR24
D																								
C																								
B																								
A																								
NAME	DATE																							
BLS	03APR24																							
<input type="checkbox"/> APPROVED <input type="checkbox"/> APPROVED W/ REVISIONS <input type="checkbox"/> REVISE AND SUBMIT	SIGNATURE	REV BY DATE DESCRIPTION OF CHANGE _____ _____ _____	DIMENSIONS ARE IN INCHES TOLERANCES (UNLESS OTHERWISE NOTED) FRACTIONAL: ± 1/16 ANGULAR BEND: ± 2 Deg DECIMAL: ± .063		PART NO. PONYWALL-SINGLE-WELD SPEC REV: -																			
DATE		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF SCAFECO. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF SCAFECO IS PROHIBITED.		SHEET SIZE: A SCALE: 1:12 SHEET: 1 OF 1																				

Ponywall48

Product Information

SCAFCO's Ponywall Supports are manufactured from prime mill certified steel and assembled with certified welds, providing superior strength and durability.

Steel Material Properties

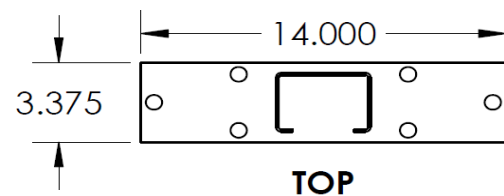
97 Mil	Labeled Thickness
0.1017"	Design Thickness
0.0966"	Minimum Thickness
50 ksi	Yield Strength (Fy)
65 ksi	Tensile Strength (Fu)
G90	Galvanize Coating Thickness
Red	Color Code (Painted Ends)

Geometric Properties

3-5/8"	Web
2-1/2"	Flange
5/8"	Return
48"	Height

Base Plate Properties

200 Mil	Thickness
3-3/8"	Width
14"	Length
5/8"	Hole Diameter



LEED - Possible Points for Certification

SCAFCO materials have a high inherent recycled content and can be used in achieving LEED Certification. SCAFCO's HPD & EPD are available upon request.

- LEED v4 Credit MR: Building Product Disclosure and Optimization - EPD (2 Possible Points)
- LEED v4 Credit MR: Building Product Disclosure and Optimization - Sourcing of Raw Materials (1 Possible Points)
- LEED v4 Credit MR: Building Product Disclosure and Optimization - Material Ingredients (1 Possible Points)

Recycled Content of Steel

- 14.4% Pre-Consumer Scrap Recycled Content
- 19.8% Post-Consumer Scrap Recycled Content
- 34.2% Total Recycled Content

ASTM and AISI Code Standards

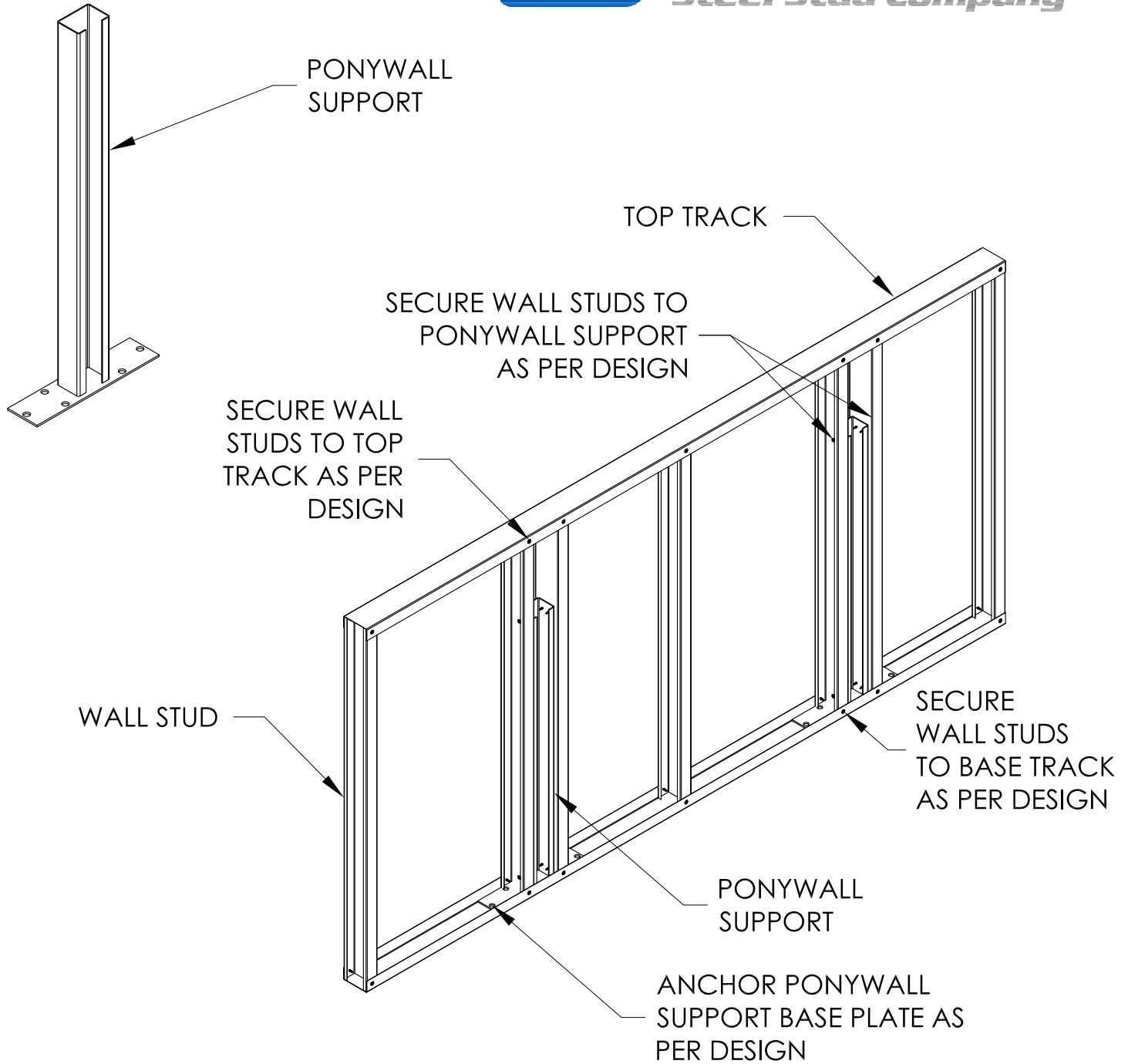
- ASTM A653/A653M, A924/A924M, A1003, C645, C754, C955, C1007
- AISI S100-12 and AISI S240-15
- IBC 2015 and IBC 2018, as well as CBC 2016 and CBC 2019

SCAFCO Technical Services

For additional information, visit www.SCAFCO.com or contact technical services at 509-343-9000 or technical@SCAFCO.com.

City of Puyallup Development & Permitting Services ISSUED PERMIT	
Building	Planning
Engineering	Public Works
Fire	Traffic

PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design



PONY-2
XX

Ponywall Support Installation

NTS

Engineering Calculations

Pony Wall Support Capacity

PRCNC20240216 - Revision #3
Cold Formed Metal Framing Design

$t := 0.200 \text{ in}$ *Thickness of Base Plate*
 $F_u := 65 \text{ ksi}$ *Ultimate Tensile Strength*
 $d_b := 0.625 \text{ in}$ *Diameter of Bolt Hole*
 $l_c := .1875 \cdot \text{in}$ *Clear Distance from Edge of Hole*
 $h := 48 \text{ in}$ *Height of ponywall*
 $d_f := 2.44 \text{ in}$ *Distance to fastener*

Bearing Strength Bolt Hole

$R_n := \min (1.2 (l_c \cdot 2) \cdot t \cdot F_u, (2.4 \cdot d_b \cdot t \cdot F_u) \cdot 2)$ *Nominal bearing strength based on Eqn. J3-6A - AISC Chapter J*

$R_n = 5850 \text{ lbf}$ $\Omega := 2.0$ *Safety Factor*

$R_{al} := \frac{R_n}{\Omega} = 2.925 \text{ kip}$ *Available bearing strength per bolt*

Allowable Loads

$M_{base} := 2 \cdot d_f \cdot R_{al} = 1190 \text{ ft} \cdot \text{lbf}$ *Allowable moment at base plate connection*

$M_{member} := 1130 \text{ ft} \cdot \text{lbf}$ *Allowable moment of ponywall member*

$M_{al} := \min (M_{base}, M_{member}) = 1130 \text{ ft} \cdot \text{lbf}$

$w := \frac{2 \cdot M_{al}}{h^2} = 141 \frac{\text{lbf}}{\text{ft}}$ *Allowable Distributed Load*

$P := \frac{M_{al}}{h} = 283 \text{ lbf}$ *Allowable Point Load at top of pony wall support*

Allowable point load is in compliance with IBC 1607.8.1.1