

**ENCLOSED GABLE END BUILDING**  
**MAXIMUM 30'-0" WIDE X 16'-0" EAVE HEIGHT WITH BOX FRAME / (UP TO) 155 MPH WIND ZONE - 30 PSF SNOW LOAD**

**FOR:**

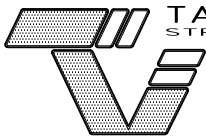
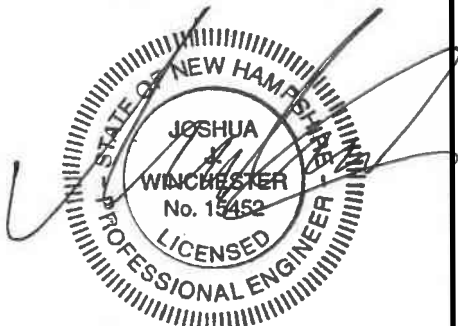
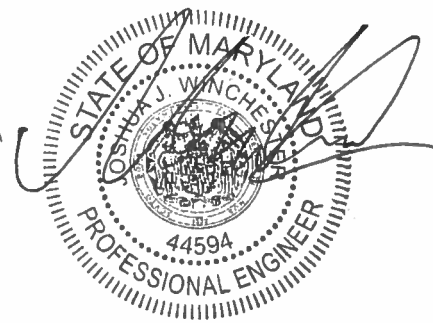
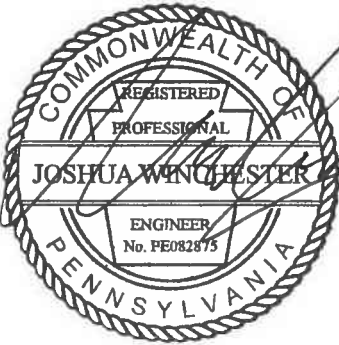
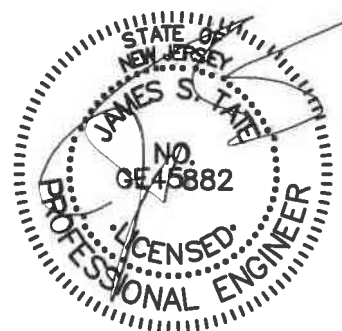
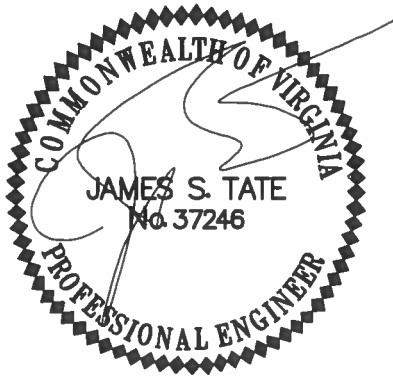
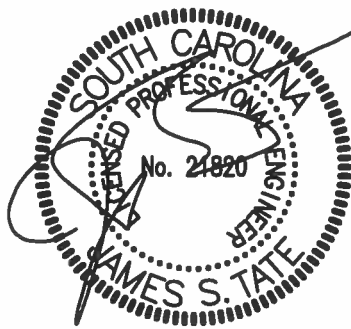
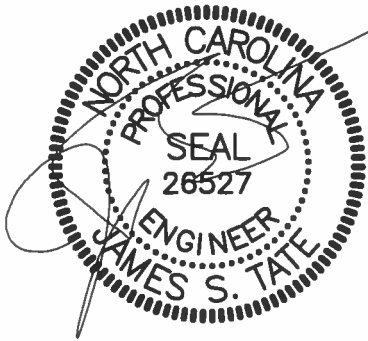
**CUSTOM BUILT STRUCTURES, INC.**  
**MT. AIRY, NORTH CAROLINA**

ISSUE DATE: JUNE 26, 2022



**JCMT Associates, LLC**

211 Stone Drive, Pilot Mountain, NC 27041  
336-399-6277



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

P.O.B. 2616 HICKORY NORTH CAROLINA  
TELE: 828-328-6331 FAX: 828-322-1801  
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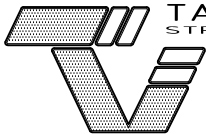
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S1

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**S2**

DESIGN LOADS:

IMPORTANCE FACTORS      WIND                      (1w) 1.00  
   SNOW                      (1s) 1.00  
   SEISMIC                    (1e) 1.00

DEAD LOADS                ROOF                      13      PSF  
   ROOF COLLATERAL      0      PSF

LIVE LOADS                ROOF                      20      PSF

GROUND SNOW LOAD:                                      30      PSF

GROUND LOAD:              BASIC WIND SPEED      V 155 mph (ASCE 7-10)      \*DRIFT LOAD HAS NOT  
   EXPOSURE CATAGORY      B                                      BEEN CALCULATED

SEISMIC DESIGN CATAGORY A

COMPLIANCE WITH SECTION 1616.4?                       NO       YES

PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:

OCCUPANCY CATEGORY      I

SPECTRAL RESPONSE ACCELERATION      Ss 20.5 %g      S1 8.8 %g

SITE CLASSIFICATION      D       FIELD TEST       PRESUMPTIVE       HISTORICAL DATA

BASIC STRUCTURAL SYSTEM (CHECK ONE)

BEARING WALL                       DUAL W/ SPECTRAL MOMENT FRAME  
 BUILDING FRAME                       DUAL W/ INTERMEDIATE R/C OR SPECIAL STEEL  
 MOMENT FRAME                       INVERTED PENDULUM

ANALYSIS PROCEDURE       SIMPLIFIED       EQUIVALANT LATERAL FORCE       MODAL

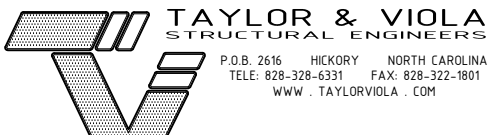
LATERAL DESIGN CONTROL?       EARTHQUAKE       WIND

SOIL BEARING CAPACITIES:

PRESUMPTIVE BEARING CAPACITIES:                      2,000 PSF

GENERAL NOTES:

1. MAX FRAME SPACING SHALL BE 60"oc UNLESS NOTED OTHERWISE.
2. MAX. END-WALL COLUMN SPACING SHALL BE 60"oc UNLESS NOTED OTHERWISE.
3. TUBE MATERIAL SHALL BE 2-1/2" x 2-1/2" x 14 GA. 50 KSI MIN. UNLESS NOTED OTHERWISE.
4. ALL FASTENERS SHALL BE #12 SELF TAPPING AT 9"o.c. UNLESS NOTED OTHERWISE.
5. 2,000 PSF ASSUMED BEARING CAPACITY UNLESS NOTED OTHERWISE.



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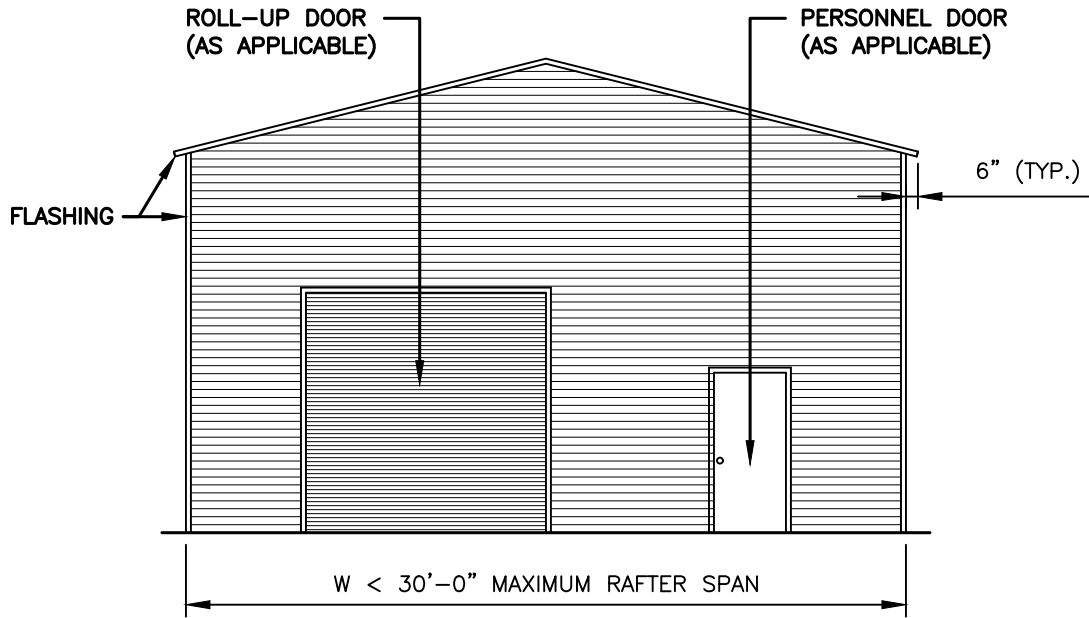
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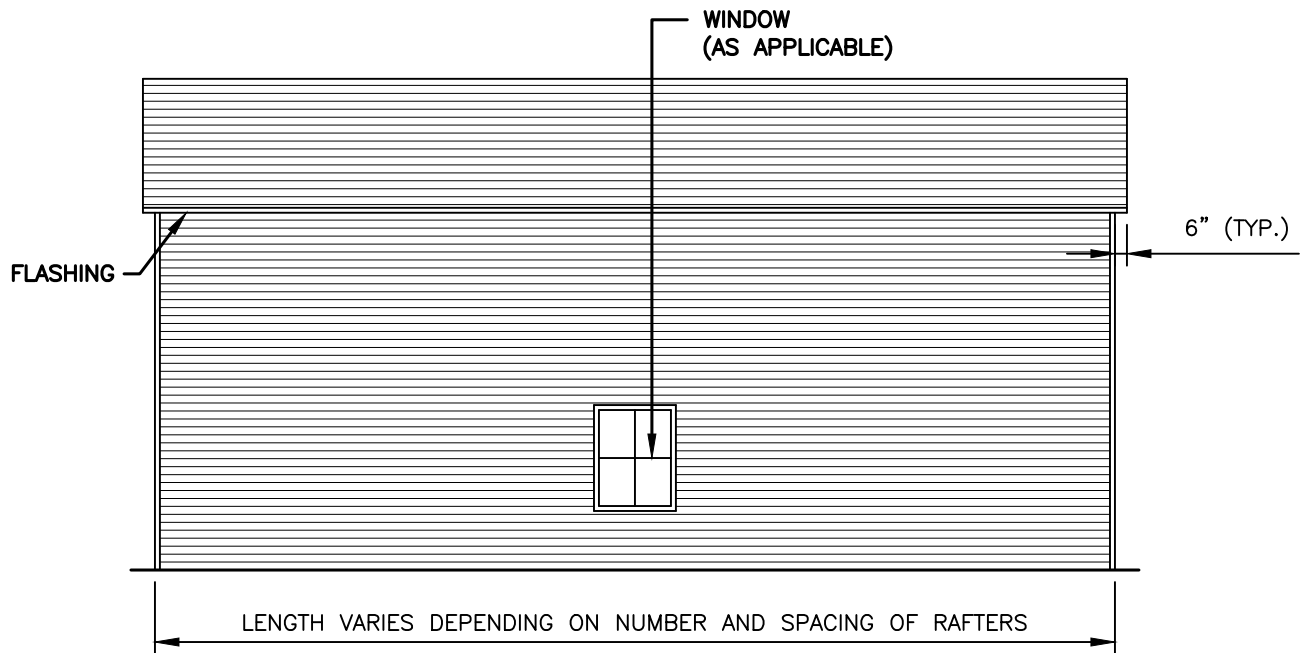
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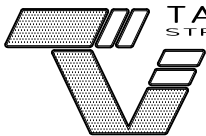
## BOX EVE FRAME RAFTER STRUCTURE



TYPICAL END ELEVATION



TYPICAL SIDE ELEVATION



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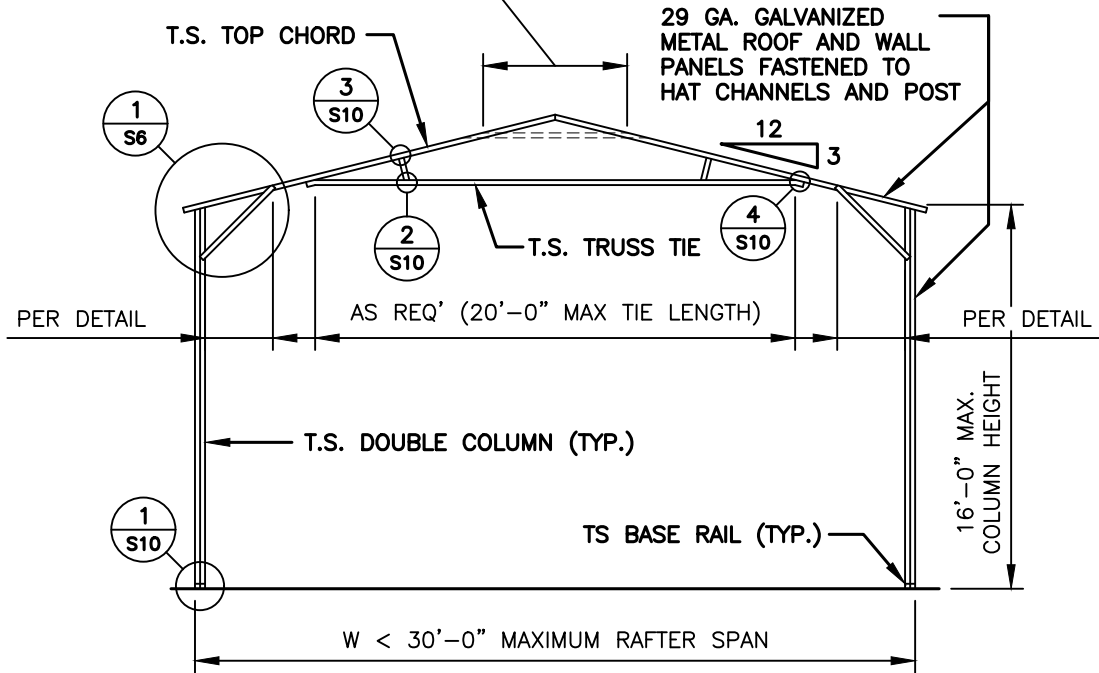
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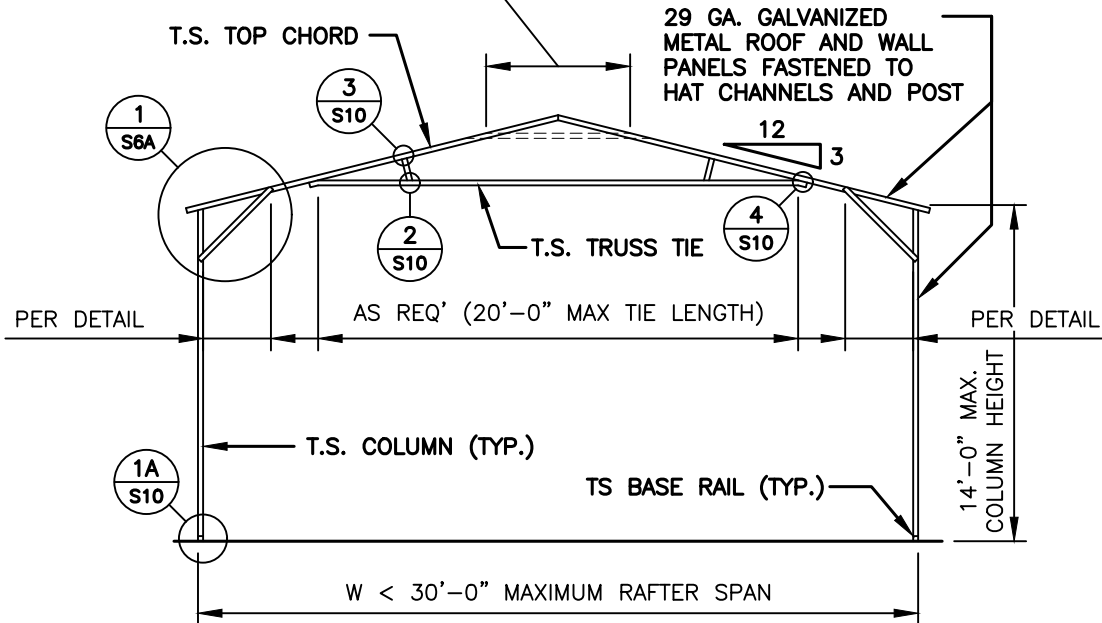
'U' BRACE TRUSS TIE - NOTE:  
 6'-0" BRACE FOR 21'-24' BUILDING WIDTH  
 20' TUBE TRUSS TIE (AS SHOWN) FOR 25'-30'



**TYPICAL RAFTER / COLUMN FRAME SECTION**

'U' BRACE TRUSS TIE - NOTE:  
 6'-0" BRACE FOR 21'-24' BUILDING WIDTH  
 20' TUBE TRUSS TIE (AS SHOWN) FOR 25'-30'

NOTE:  
 H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x14ga.  
 MATERIAL MAY BE USED FOR TRUSS METAL.



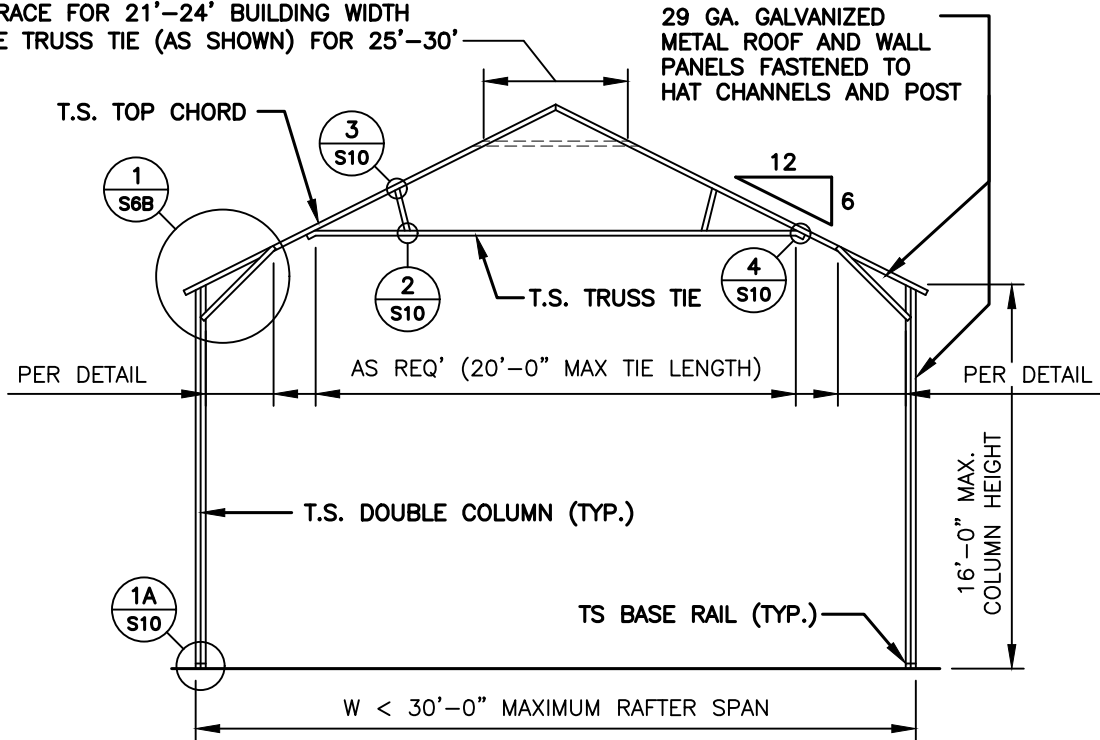
**TYPICAL RAFTER / COLUMN FRAME SECTION**



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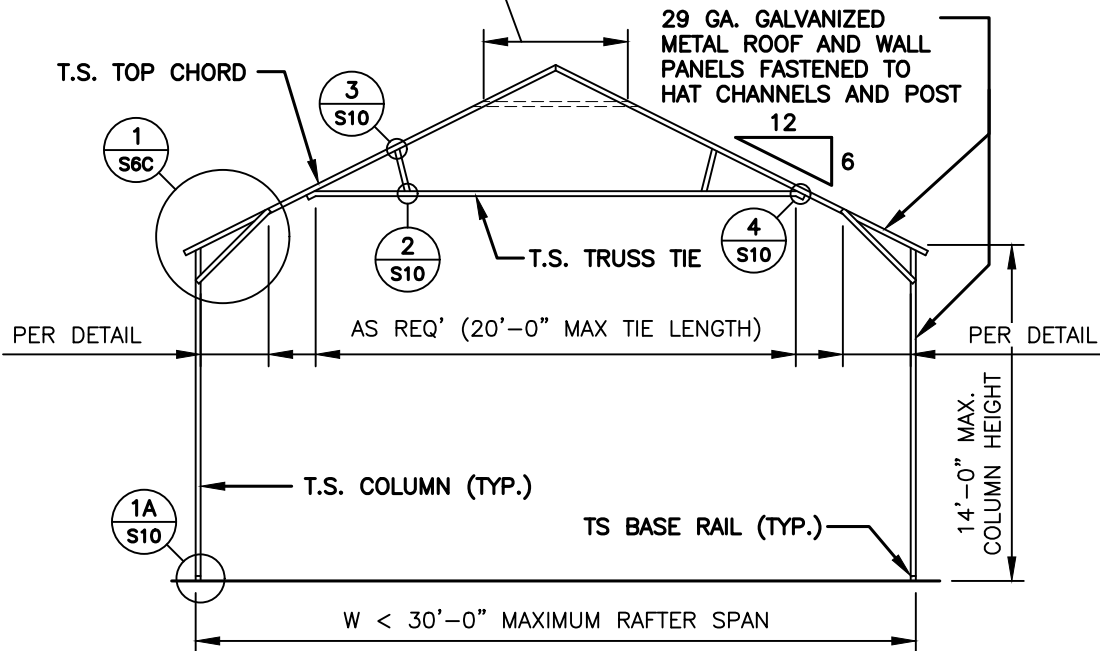
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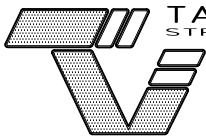
**TYPICAL RAFTER / COLUMN FRAME SECTION**

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 20' TUBE TRUSS TIE (AS SHOWN) FOR 25'-30'

NOTE:  
 H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x14ga.  
 MATERIAL MAY BE USED FOR TRUSS METAL.



**TYPICAL RAFTER / COLUMN FRAME SECTION**



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 P.O.B. 2616 HICKORY NORTH CAROLINA  
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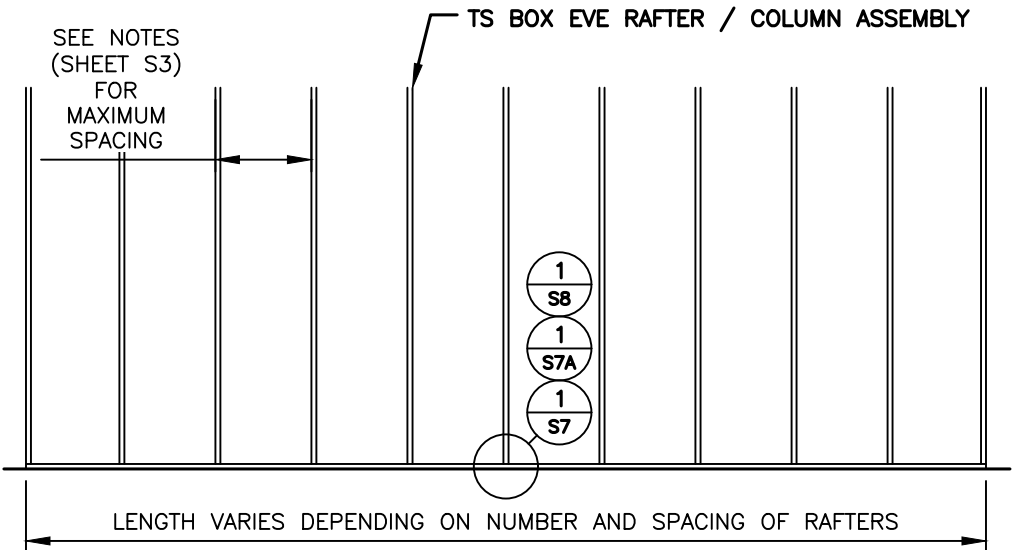
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 S5A



**NOTE:**  
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 2-1/4"x2-1/4"x14ga. MATERIAL  
 MAY BE USED FOR TRUSS METAL.



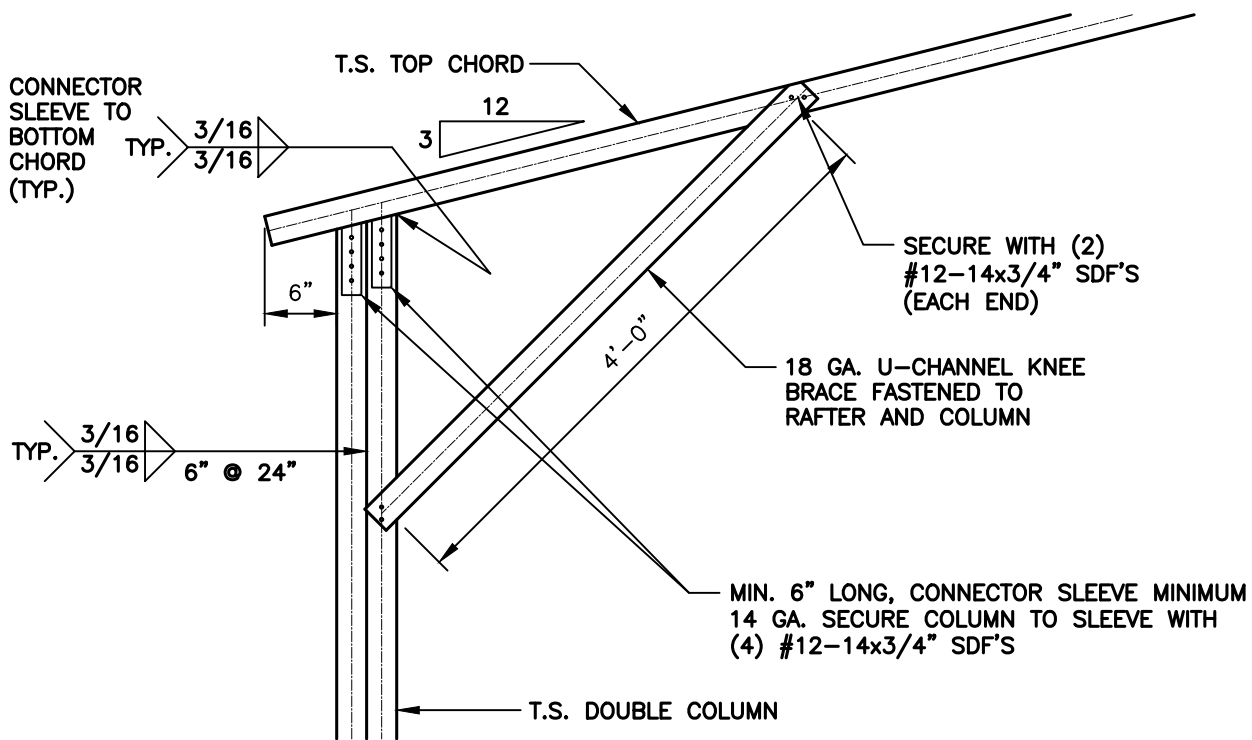
**TYPICAL RAFTER / COLUMN SIDE FRAME SECTION**



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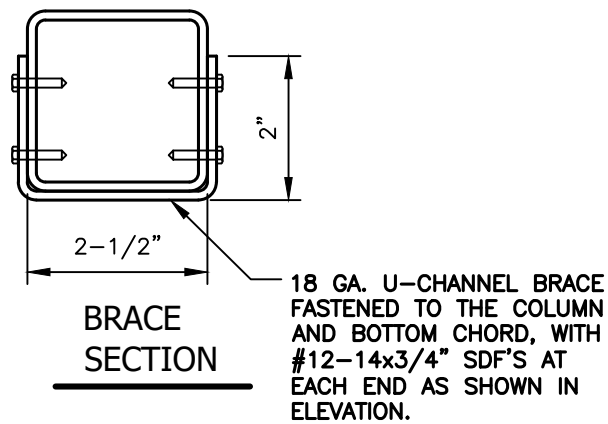
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1 BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS 14'-1" < TO <16'-0"

S6 SCALE: 3/4" = 1'-0"



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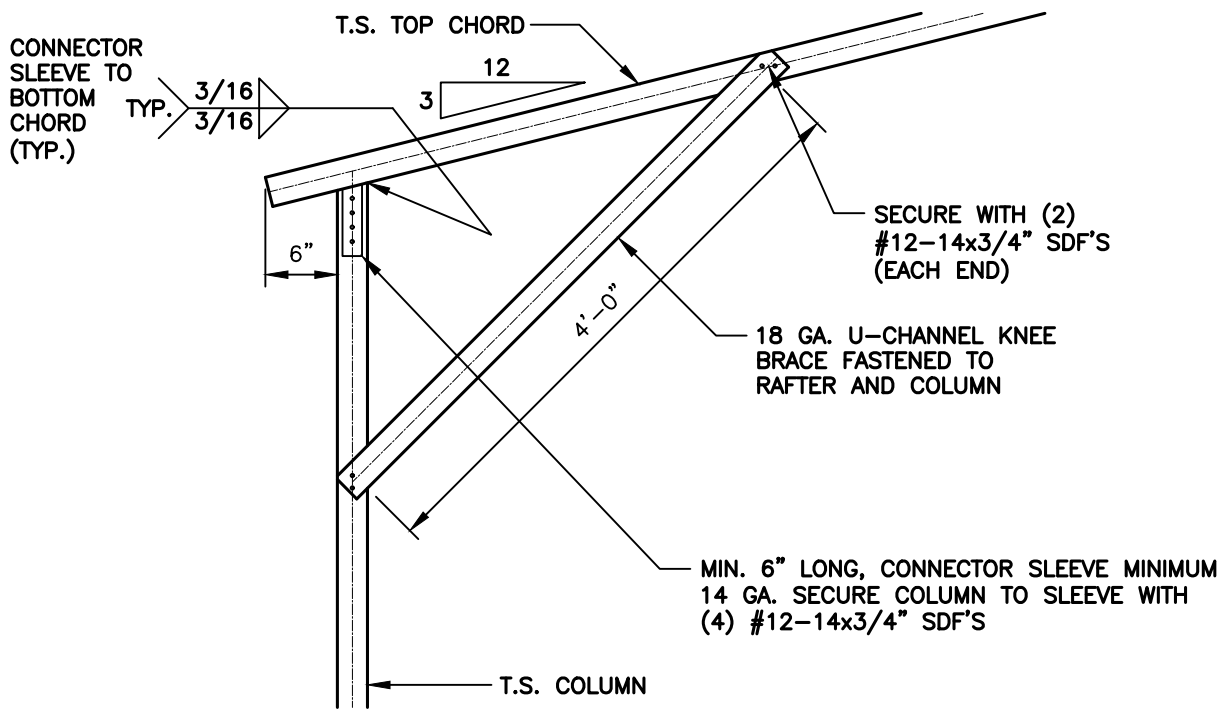
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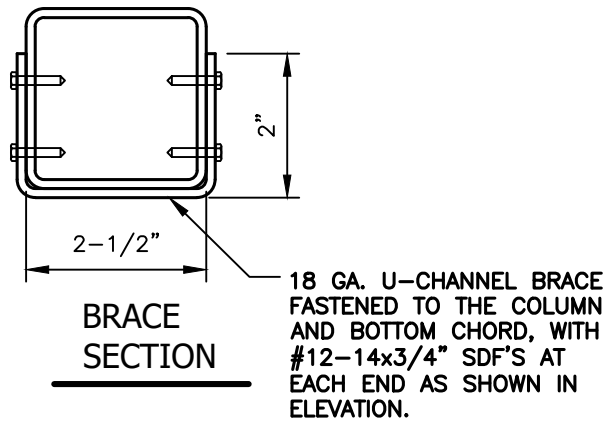
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S6



**1** BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS < 14'-0"

**S6A** SCALE: 3/4" = 1'-0"



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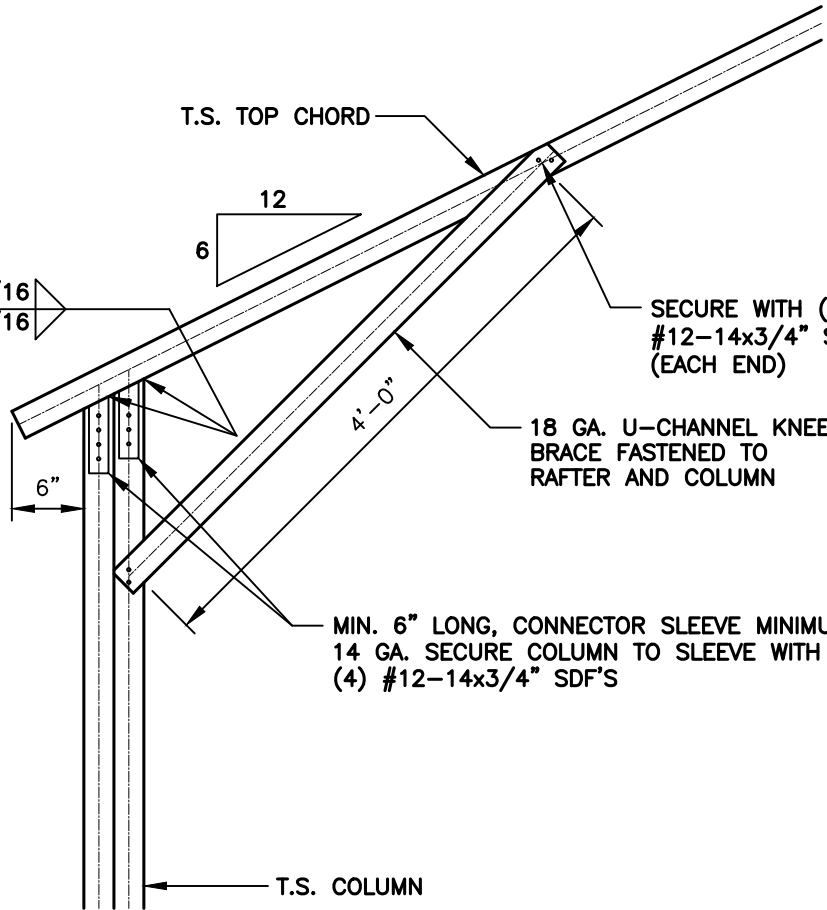
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**S6A**

CONNECTOR SLEEVE TO BOTTOM CHORD (TYP.)

TYP.  $\frac{3}{16}$  /  $\frac{3}{16}$



SECURE WITH (2) #12-14x3/4" SDF'S (EACH END)

18 GA. U-CHANNEL KNEE BRACE FASTENED TO RAFTER AND COLUMN

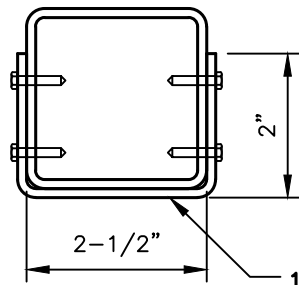
MIN. 6" LONG, CONNECTOR SLEEVE MINIMUM 14 GA. SECURE COLUMN TO SLEEVE WITH (4) #12-14x3/4" SDF'S

T.S. COLUMN

1  
S6C

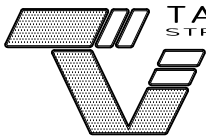
**BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS 14'-1" < TO <16'-0"**

SCALE: 3/4" = 1'-0"



**BRACE SECTION**

18 GA. U-CHANNEL BRACE FASTENED TO THE COLUMN AND BOTTOM CHORD, WITH #12-14x3/4" SDF'S AT EACH END AS SHOWN IN ELEVATION.



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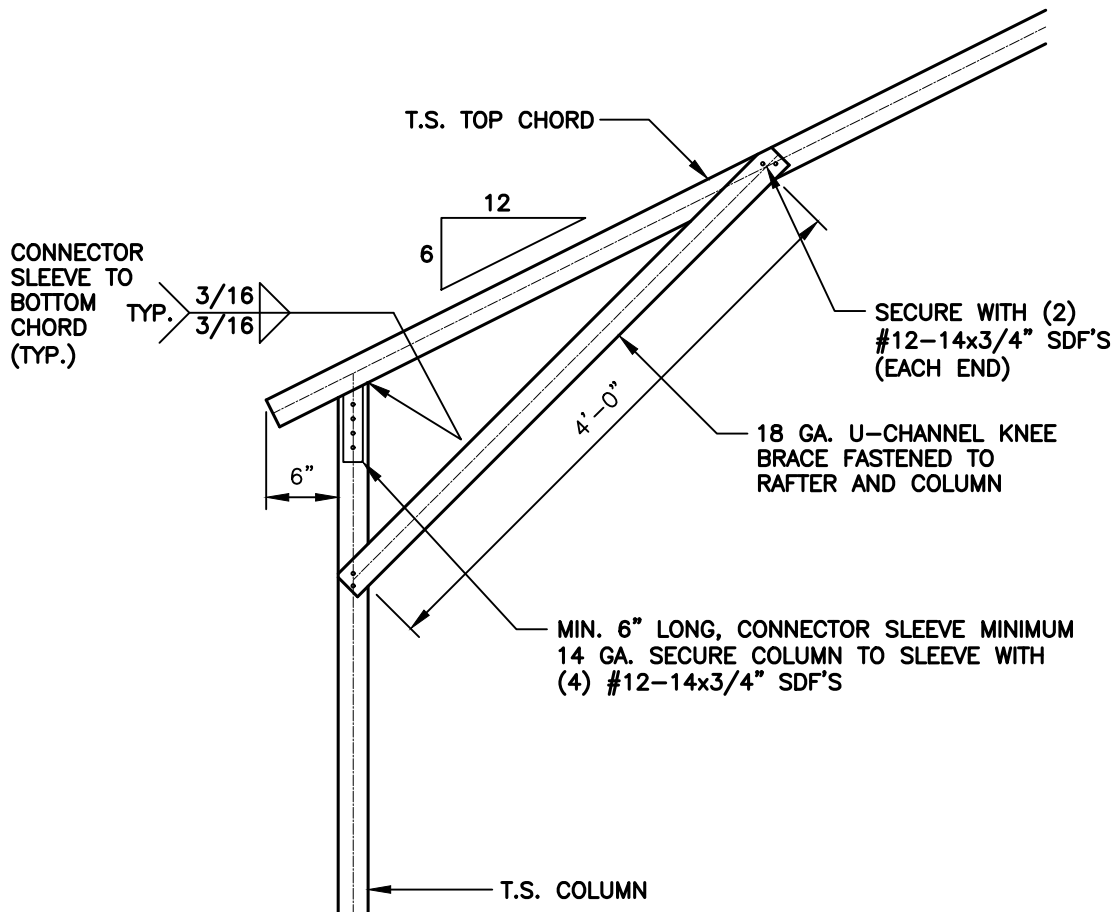
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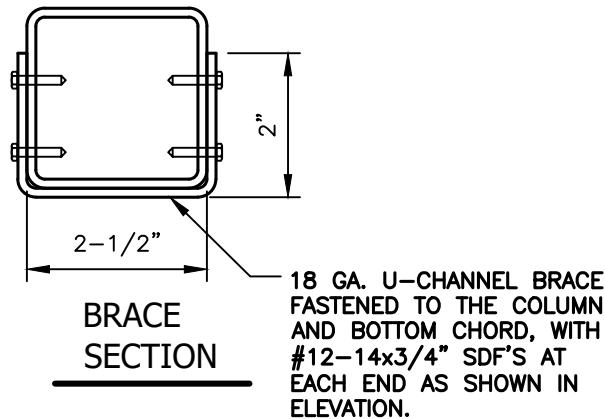
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**S6B**



**1** BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS < 14'-0"

S6C SCALE: 3/4" = 1'-0"



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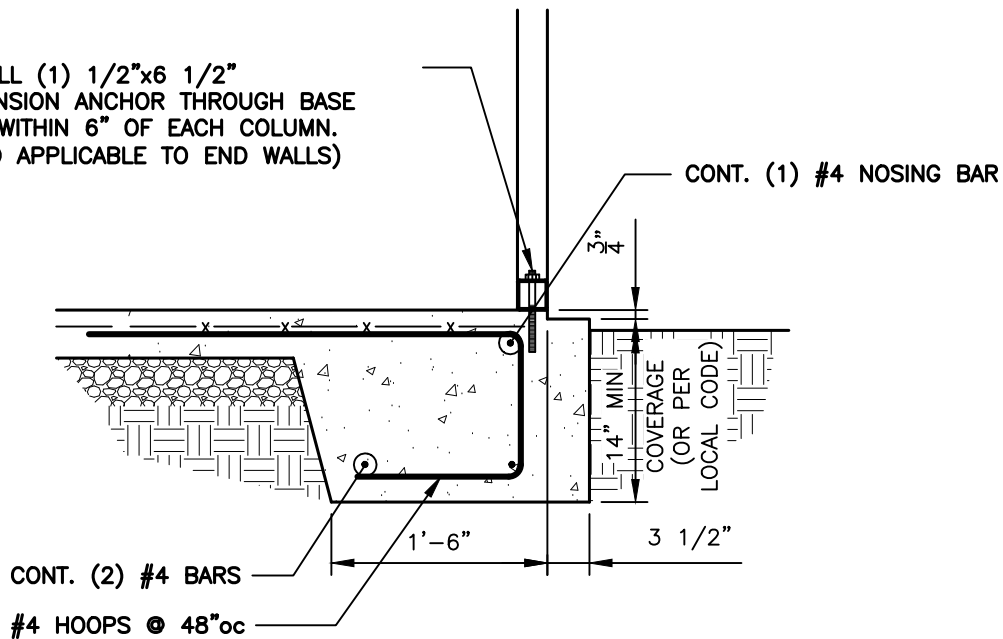
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**S6C**

## CONCRETE BASE RAIL ANCHORAGE

INSTALL (1) 1/2"x6 1/2"  
EXPANSION ANCHOR THROUGH BASE  
RAIL WITHIN 6" OF EACH COLUMN.  
(ALSO APPLICABLE TO END WALLS)



1
BASE RAIL ANCHORAGE DETAIL  
S7
SCALE: 3/4" = 1'-0"

**GENERAL NOTES:**

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 PSF

**CONCRETE:**

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS

**COVER OVER REINFORCING STEEL:**

FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318:

3" IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH AND WEATHER AND 1-1/2" ELSEWHERE.

**REINFORCING STEEL:**

THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

**REINFORCEMENT MAT BE BENT IN THE SHOP OF THE FIELD PROVIDED:**

1. REINFORCEMENT IS BENT COLD.
2. THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
3. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.



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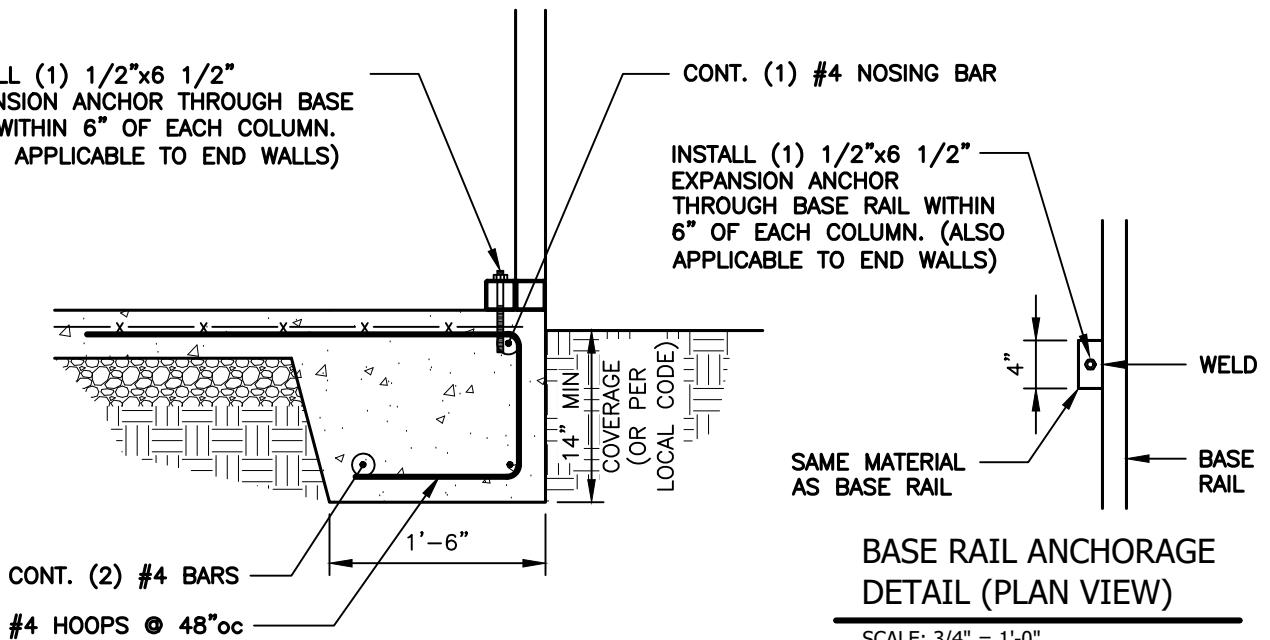
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**S7**

## CONCRETE BASE RAIL ANCHORAGE

INSTALL (1) 1/2"x6 1/2"  
EXPANSION ANCHOR THROUGH BASE  
RAIL WITHIN 6" OF EACH COLUMN.  
(ALSO APPLICABLE TO END WALLS)

CONT. (1) #4 NOSING BAR

INSTALL (1) 1/2"x6 1/2"  
EXPANSION ANCHOR  
THROUGH BASE RAIL WITHIN  
6" OF EACH COLUMN. (ALSO  
APPLICABLE TO END WALLS)



**BASE RAIL ANCHORAGE  
DETAIL (PLAN VIEW)**

SCALE: 3/4" = 1'-0"



### 1 BASE RAIL ANCHORAGE DETAIL

SCALE: 3/4" = 1'-0"

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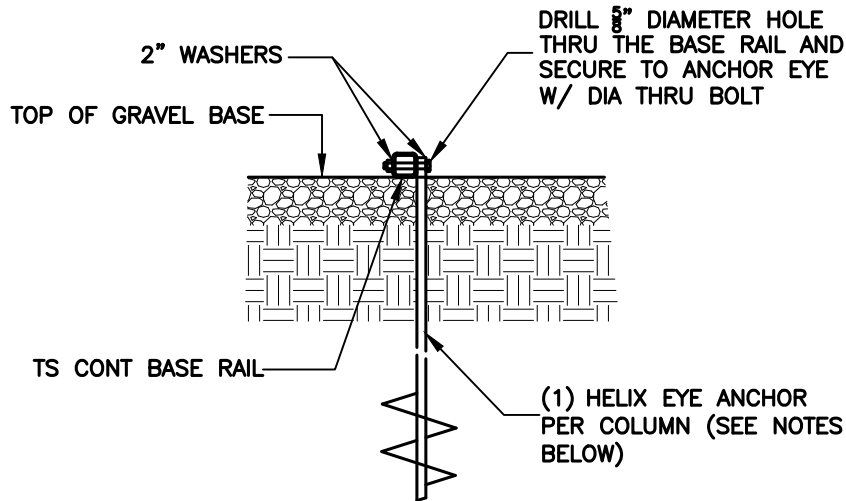
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**S7A**

## SOIL NAIL BASE RAIL ANCHORAGE



**1** BASE RAIL ANCHORAGE DETAIL  
**S8** SCALE: 3/4" = 1'-0"

**HELIX EMBEDMENT INFORMATION:**  
 FOR VERY DENSE OR CEMENTED SANDS, COARSE GRAVEL, COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT  
 FOR CORAL, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT  
 FOR MED DENSE COARSE SANDS, SANDY GRAVEL, VERY STIFF SILTS, AND CLAYS, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT  
 FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, USE MIN (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT  
 FOR VERY LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS AND ALLUVIAL FILL, USE MIN (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT



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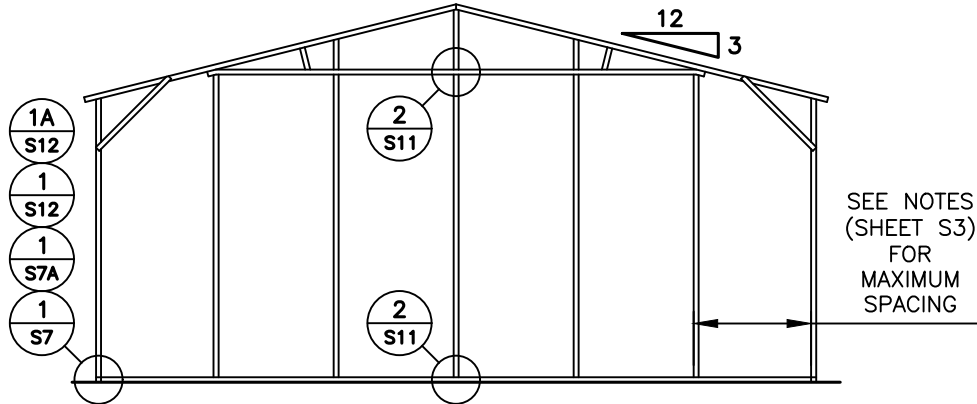
**PROJECT NO:**  
 MISC

**DATE:**  
 2022.06.26

**SHEET NO:**  
**S8**

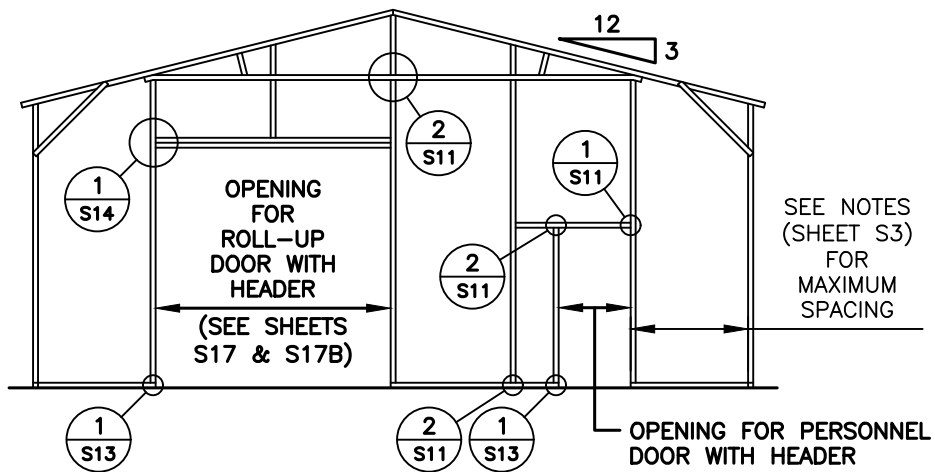


**BOX EVE RAFTER END WALL OPENINGS**

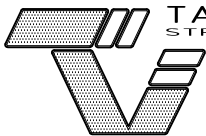


**TYPICAL BOX EVE RAFTER / END WALL COLUMN FRAME SECTION**

**NOTE:**  
 ROLL UP DOORS SHALL  
 HAVE ONE JAMB EACH  
 SIDE + ONE FRAME  
 COLUMN BETWEEN OR SITE  
 SPECIFIC SHALL BE REQ'D.



**TYPICAL BOX EVE RAFTER END WALL OPENINGS FRAMING SECTION**



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 STRUCTURAL ENGINEERS

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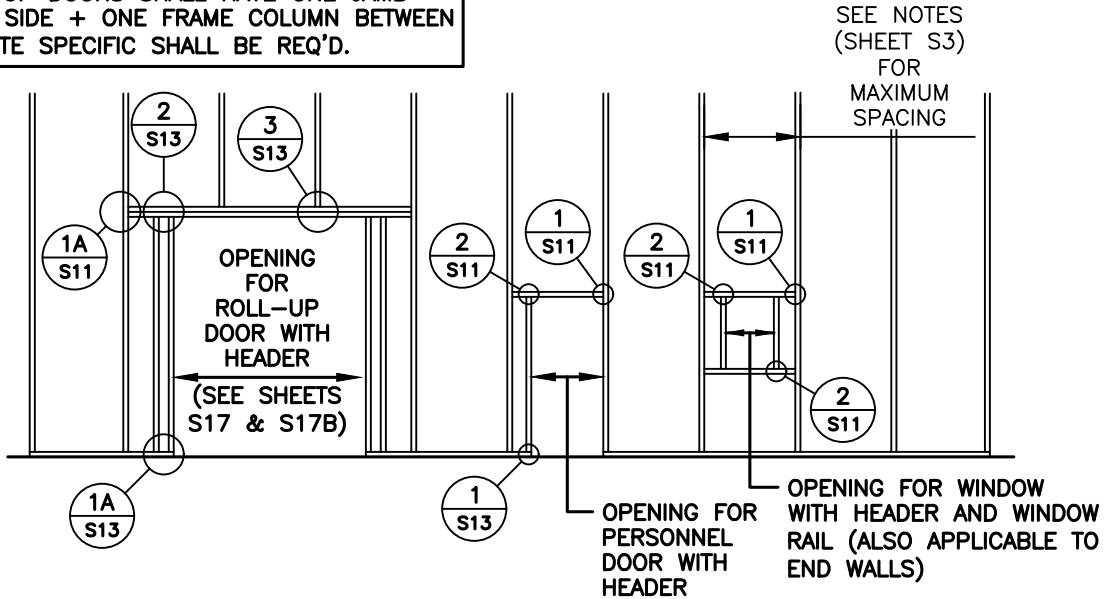
**PROJECT NO:**  
 MISC

**DATE:**  
 2022.06.26

**SHEET NO:**  
**S9**

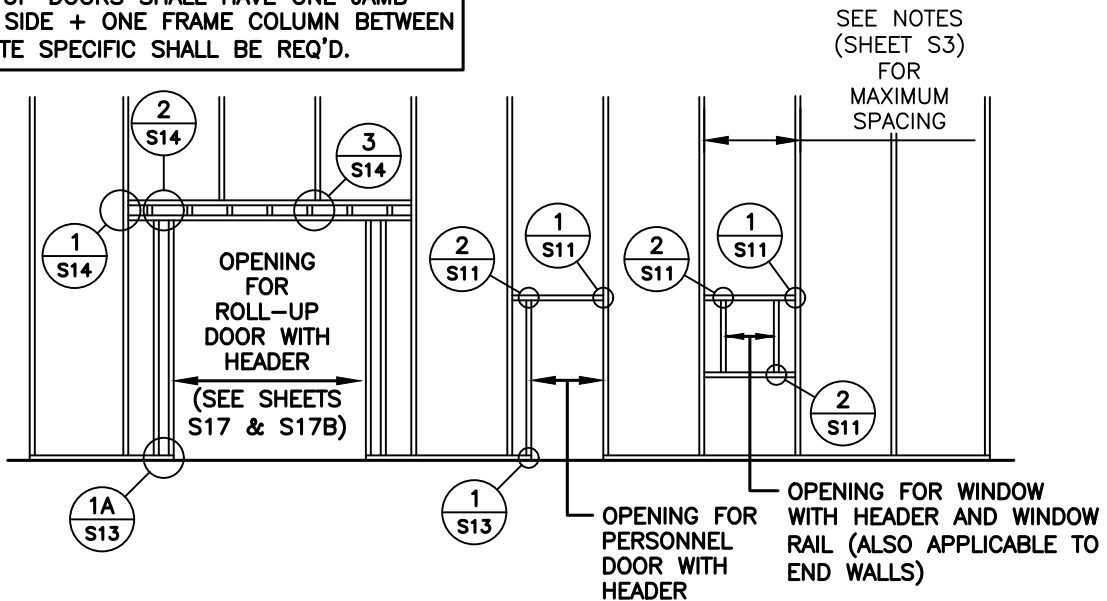
## BOX EVE RAFTER END WALL AND SIDE WALL OPENINGS

**NOTE:**  
 ROLL UP DOORS SHALL HAVE ONE JAMB  
 EACH SIDE + ONE FRAME COLUMN BETWEEN  
 OR SITE SPECIFIC SHALL BE REQ'D.



### TYPICAL END WALL OPENING FRAMING SECTION

**NOTE:**  
 ROLL UP DOORS SHALL HAVE ONE JAMB  
 EACH SIDE + ONE FRAME COLUMN BETWEEN  
 OR SITE SPECIFIC SHALL BE REQ'D.



### TYPICAL SIDE WALL OPENING FRAMING SECTION



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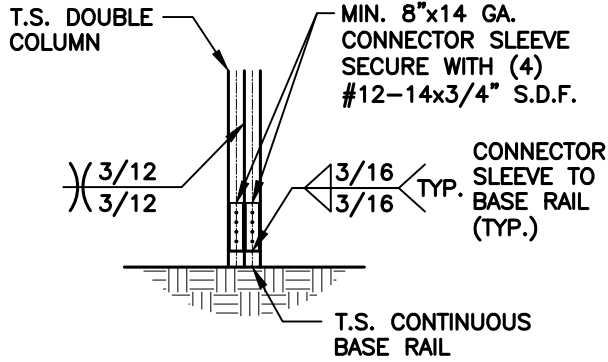
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**PROJECT NO:**  
 MISC

**DATE:**  
 2022.06.26

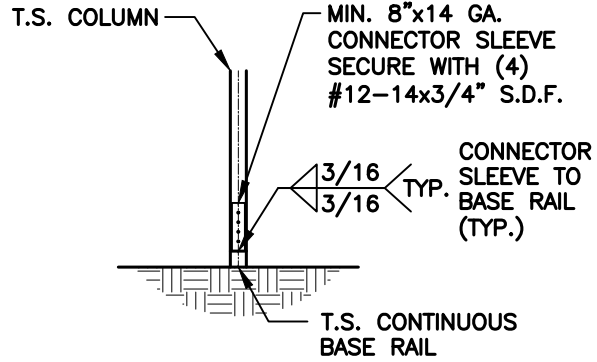
**SHEET NO:**  
**S9A**

## CONNECTION DETAILS



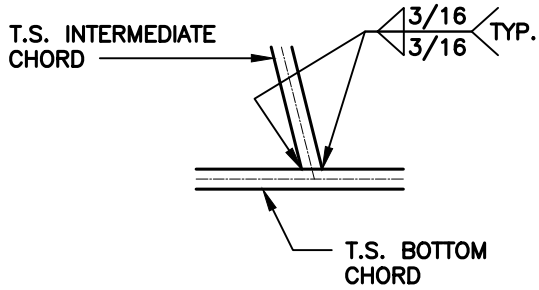
**1**  
POST / BASE RAIL  
CONNECTION DETAIL

**S10** SCALE: 1/2" = 1'-0"



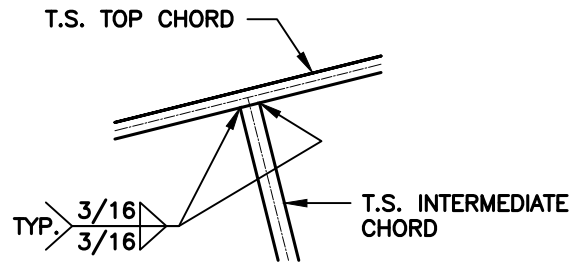
**1A**  
POST / BASE RAIL  
CONNECTION DETAIL

**S10** SCALE: 1/2" = 1'-0"



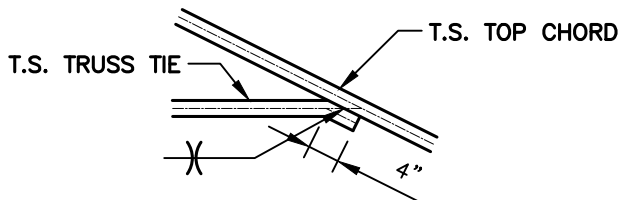
**2**  
INTERMEDIATE CHORD  
TO BOTTOM CHORD  
CONNECTION DETAIL

**S10** SCALE: 1/2" = 1'-0"



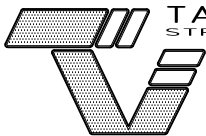
**3**  
INTERMEDIATE CHORD TO TOP  
CHORD CONNECTION DETAIL

**S10** SCALE: 1/2" = 1'-0"



**4**  
TRUSS TIE  
CONNECTION DETAIL

**S10** SCALE: 1/2" = 1'-0"



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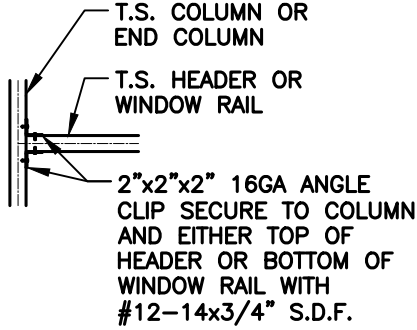
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MISC

**DATE:**  
2022.06.26

**SHEET NO:**  
**S10**

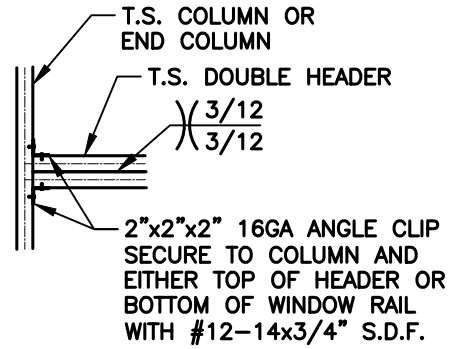
## CONNECTION DETAILS



COLUMN OR WINDOW  
RAIL / WALL GIRT TO POST  
CONNECTION DETAIL

1  
S11

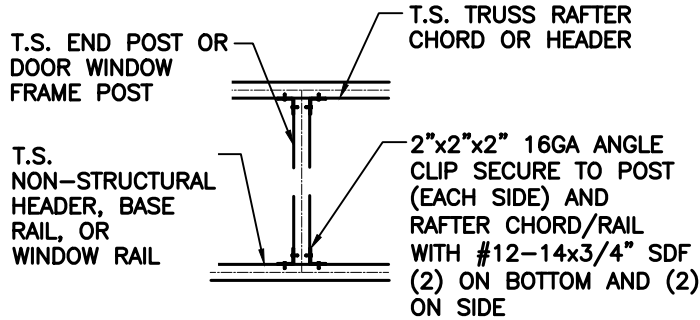
SCALE: 1/2" = 1'-0"



COLUMN / DOUBLE HEADER  
CONNECTION DETAIL

1A  
S11

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



DOOR OR WINDOW HEADER  
RAIL TO POST CONNECTION  
DETAIL

2  
S11

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



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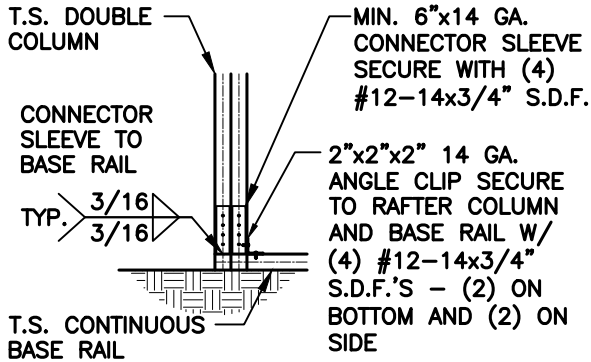
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PROJECT NO:  
MISC

DATE:  
2022.06.26

SHEET NO:  
**S11**

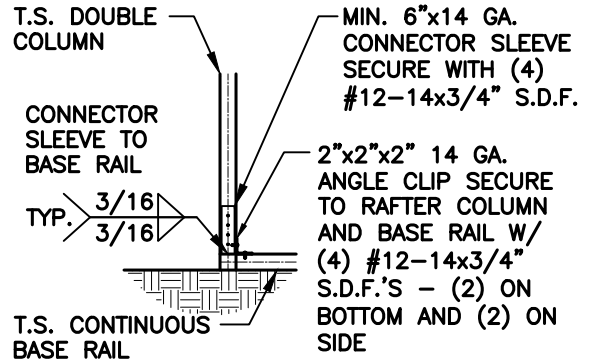
## CONNECTION DETAILS



END COLUMN / BASE RAIL  
CONNECTION DETAIL

1  
S12

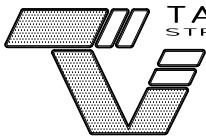
SCALE: 1/2" = 1'-0"



END COLUMN / BASE RAIL  
CONNECTION DETAIL

1A  
S12

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



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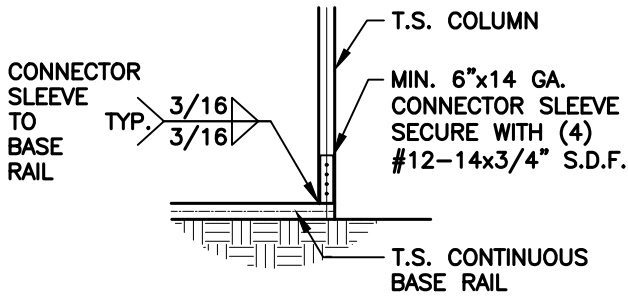
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**PROJECT NO:**  
MISC

**DATE:**  
2022.06.26

**SHEET NO:**  
**S12**

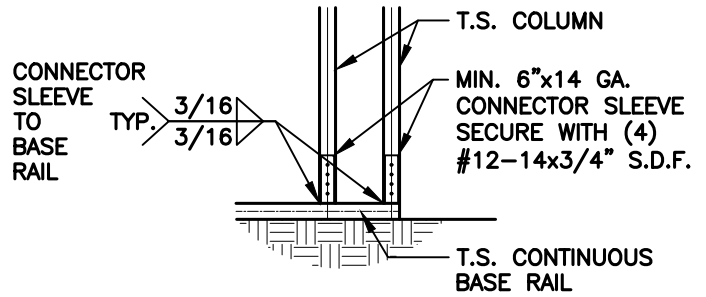
## CONNECTION DETAILS



**1**  
**COLUMN / BASE RAIL CONNECTION DETAIL**

**S13**

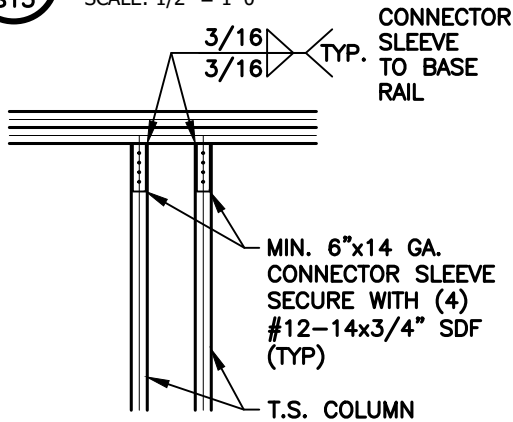
SCALE: 1/2" = 1'-0"



**1A**  
**COLUMN / BASE RAIL CONNECTION DETAIL**

**S13**

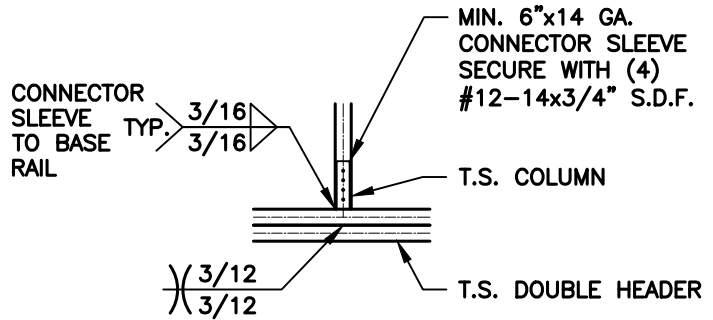
SCALE: 1/2" = 1'-0"



**2**  
**DOUBLE HEADER / COLUMN CONNECTION DETAIL**

**S13**

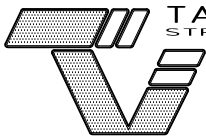
SCALE: 1/2" = 1'-0"



**3**  
**COLUMN / DOUBLE HEADER CONNECTION DETAIL**

**S13**

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



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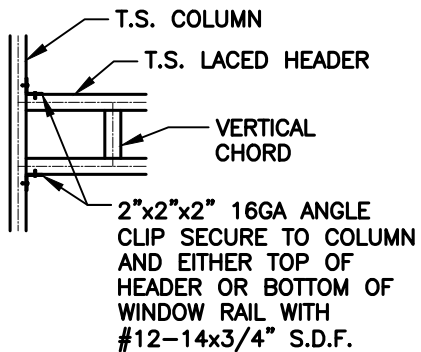
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PROJECT NO:  
MISC

DATE:  
2022.06.26

SHEET NO:  
**S13**

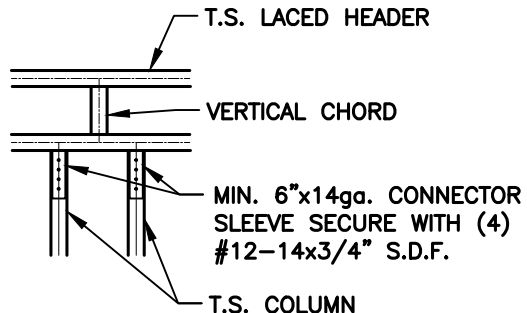
## CONNECTION DETAILS



COLUMN / LACED HEADER  
CONNECTION DETAIL

1  
S14

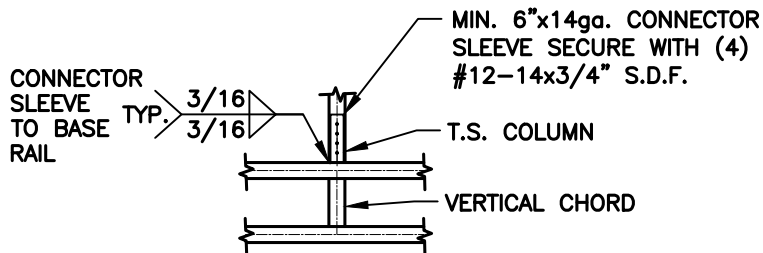
SCALE: 1/2" = 1'-0"



LACED HEADER / COLUMN  
CONNECTION DETAIL

2  
S14

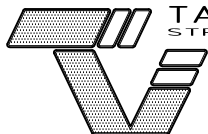
SCALE: 1/2" = 1'-0"



COLUMN / LACED HEADER  
CONNECTION DETAIL

3  
S14

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



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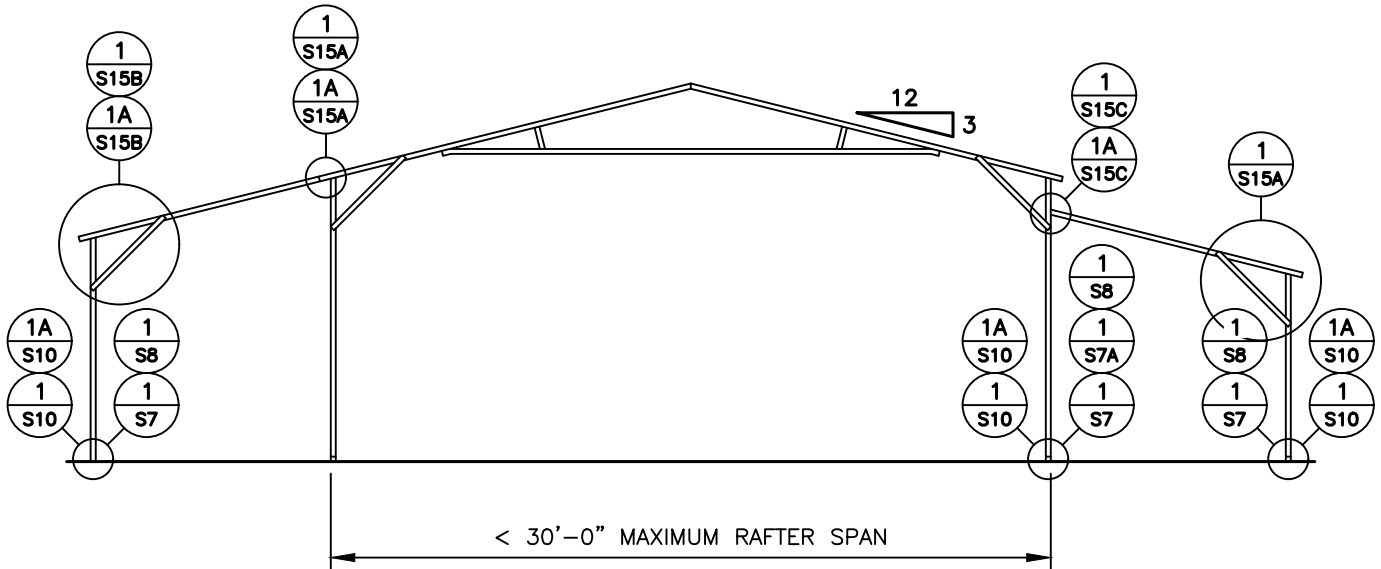
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PROJECT NO:  
MISC

DATE:  
2022.06.26

SHEET NO:  
**S14**

## BOX EVE RAFTER LEAN-TO OPTIONS

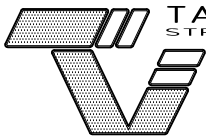


### TYPICAL LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

MAXIMUM WIDTH OF SINGLE MEMBER ROOF EXTENSION AND LEAN-TO OPTION IS 12'-0"

MAXIMUM WIDTH OF DOUBLE MEMBER ROOF EXTENSION AND LEAN-TO IS 15'-0"

12'-0" MAX. LEAN-TO HEIGHT WITH SINGLE COLUMN



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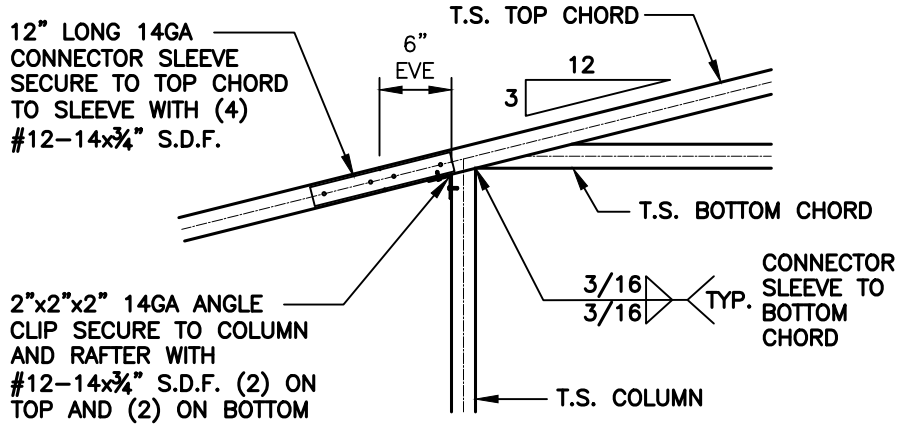
**PROJECT NO:**  
MISC

**DATE:**  
2022.06.26

**SHEET NO:**  
**S15**



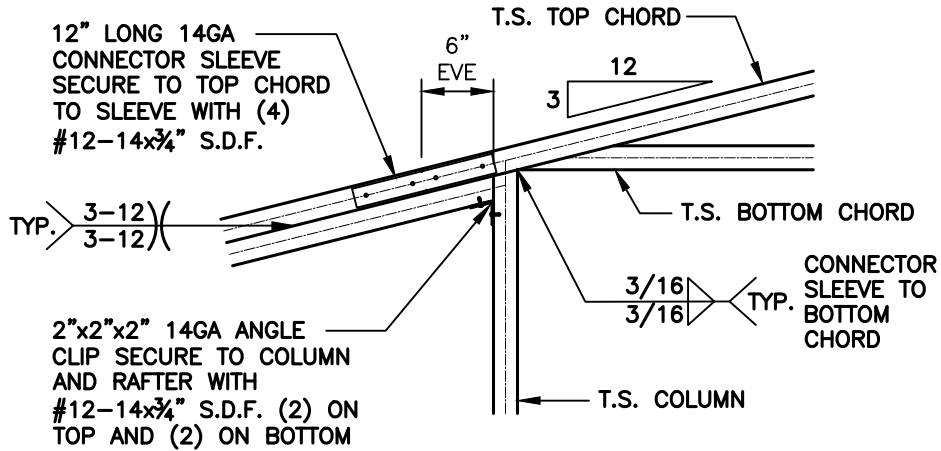
LEAN-TO CONNECTION DETAILS



ROOF EXTENSION RAFTER / CORNER POST  
DETAIL FOR WIDTHS < 12'-0"

1  
S15A

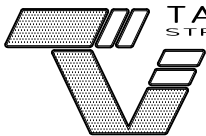
SCALE: 3/4" = 1'-0"



ROOF EXTENSION RAFTER / CORNER POST  
DETAIL FOR WIDTHS < 15'-0"

1A  
S15A

SCALE: 3/4" = 1'-0"



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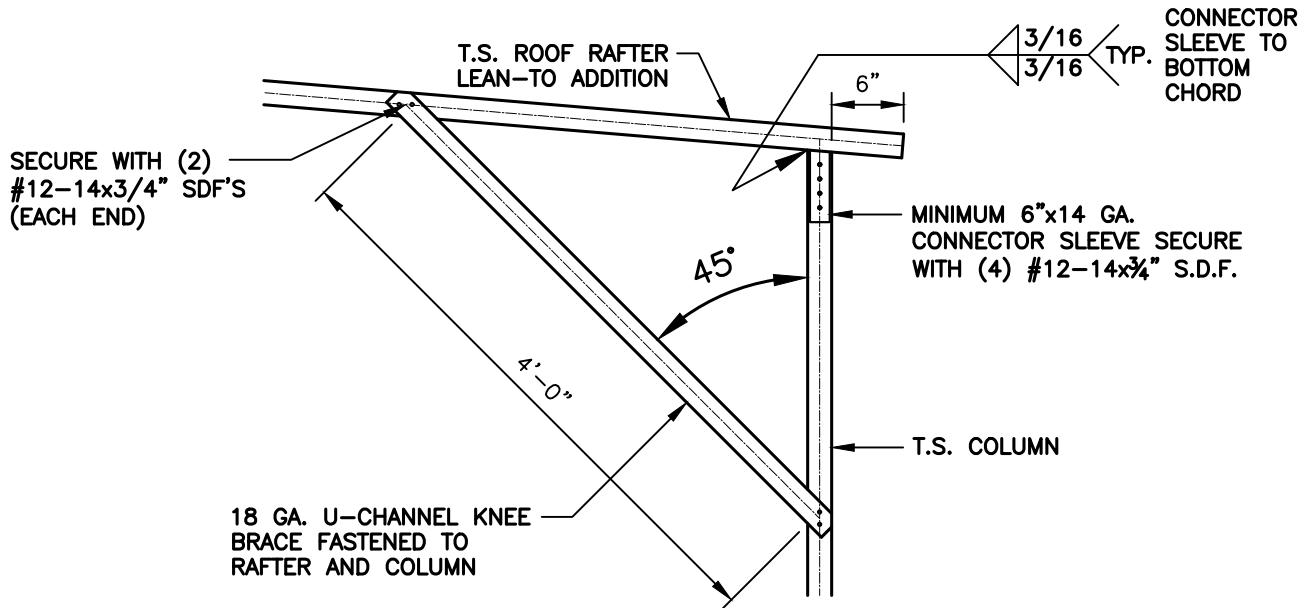
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PROJECT NO:  
MISC

DATE:  
2022.06.26

SHEET NO:  
**S15A**

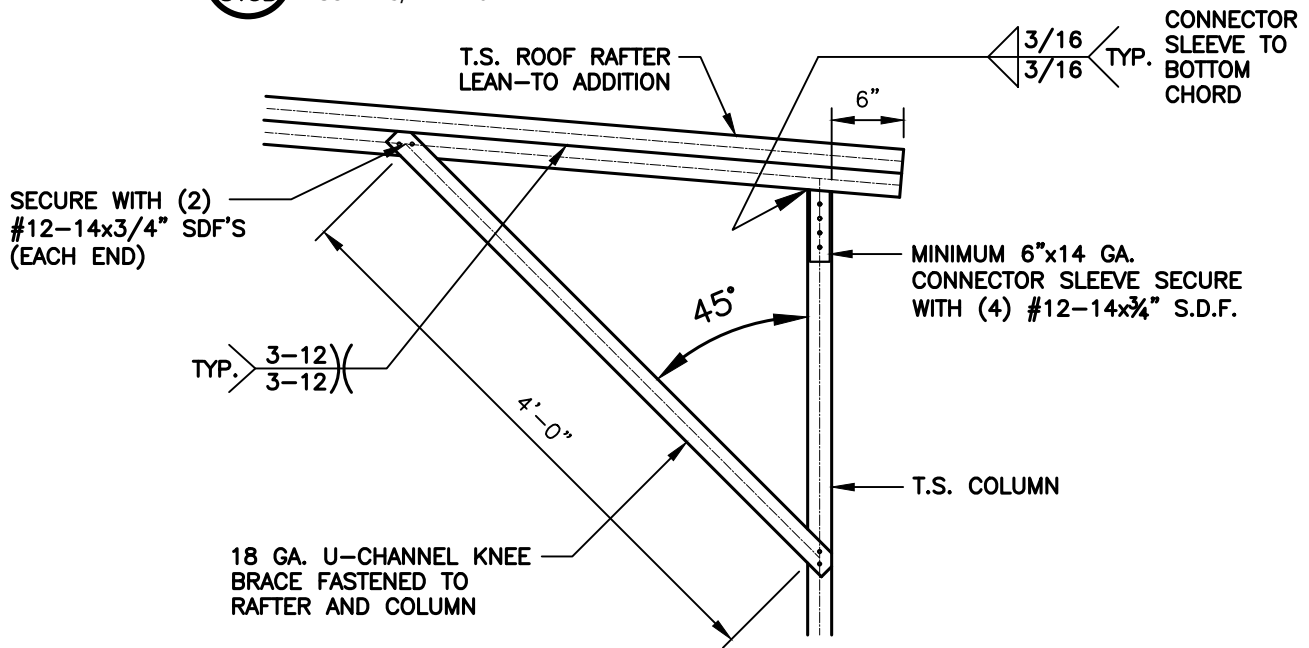
## LEAN-TO CONNECTION DETAILS



### BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR LEAN-TO RAFTER SPAN <12'-0"

1  
S15B

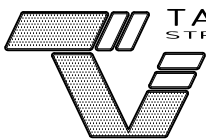
SCALE: 3/4" = 1'-0"



### BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR LEAN-TO RAFTER SPAN <15'-0"

1A  
S15B

SCALE: 3/4" = 1'-0"



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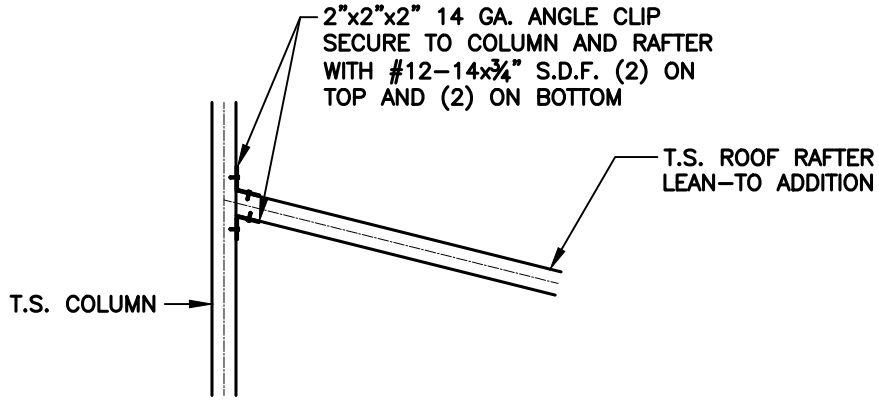
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PROJECT NO:  
MISC

DATE:  
2022.06.26

SHEET NO:  
**S15B**

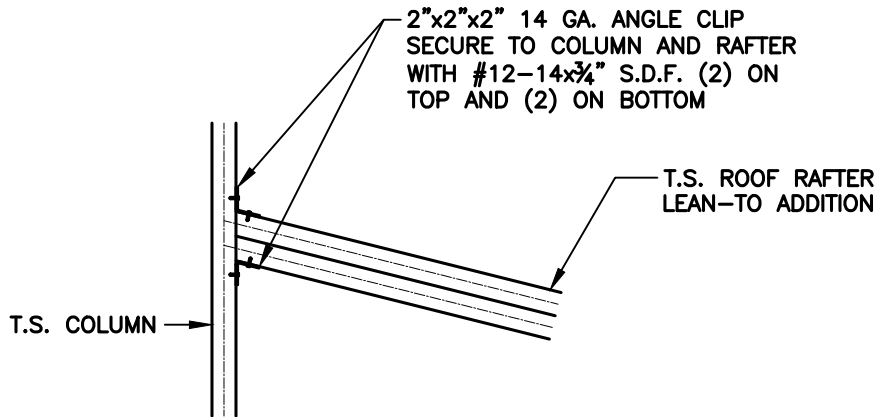
LEAN-TO CONNECTION DETAILS



LEAN-TO RAFTER TO RAFTER POST  
CONNECTION DETAIL FOR WIDTHS < 12'-0"

1  
S15C

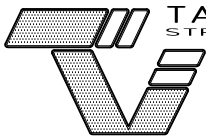
SCALE: 3/4" = 1'-0"



LEAN-TO RAFTER TO RAFTER POST  
CONNECTION DETAIL FOR WIDTHS < 15'-0"

1A  
S15C

SCALE: 3/4" = 1'-0"



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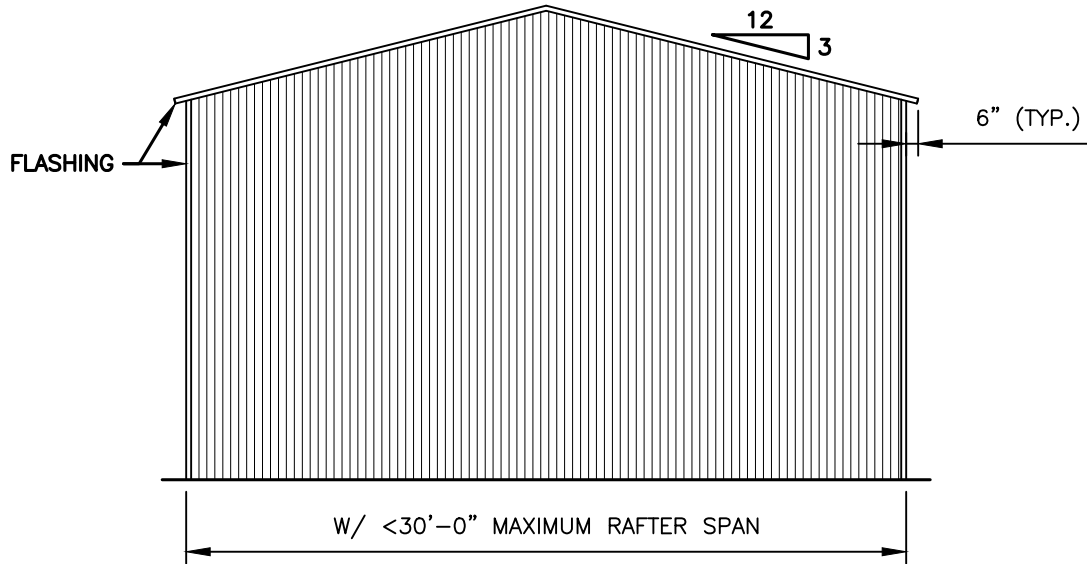
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PROJECT NO:  
MISC

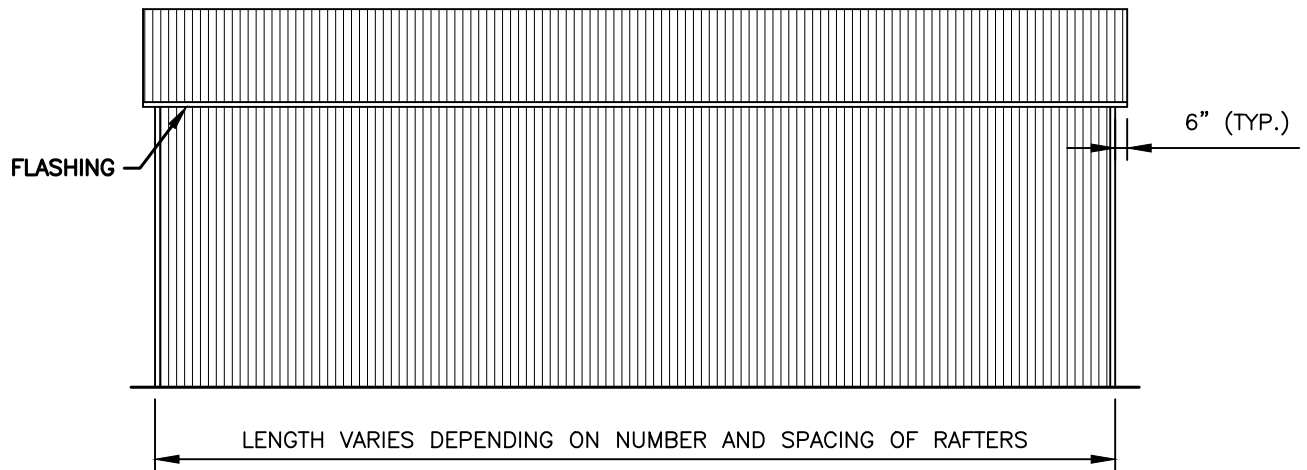
DATE:  
2022.06.26

SHEET NO:  
**S15C**

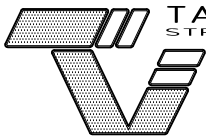
VERTICAL ROOF / SIDING OPTION



TYPICAL END ELEVATION - VERTICAL ROOF / SIDING



TYPICAL SIDE ELEVATION - VERTICAL ROOF / SIDING



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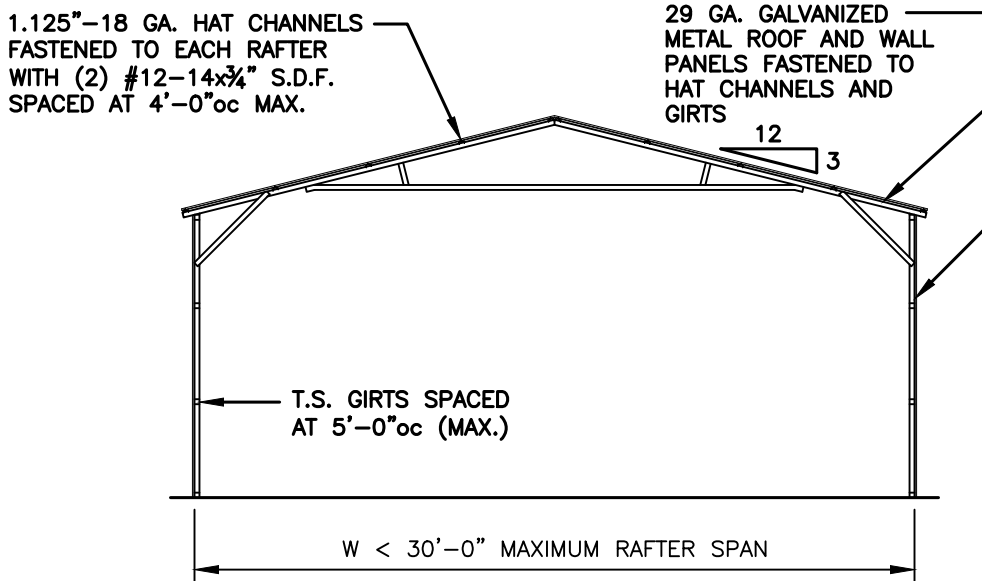
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PROJECT NO:  
MISC

DATE:  
2022.06.26

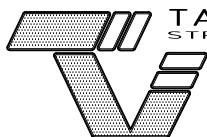
SHEET NO:  
**S16**

VERTICAL ROOF / SIDING OPTION



TYPICAL SECTION VERTICAL ROOF / SIDING OPTION

**NOTE:**  
 H.S.S. 2-1/2"x2-1/2"x14ga. OR  
 2-1/4"x2-1/4"x14ga. MATERIAL  
 MAY BE USED FOR TRUSS METAL.



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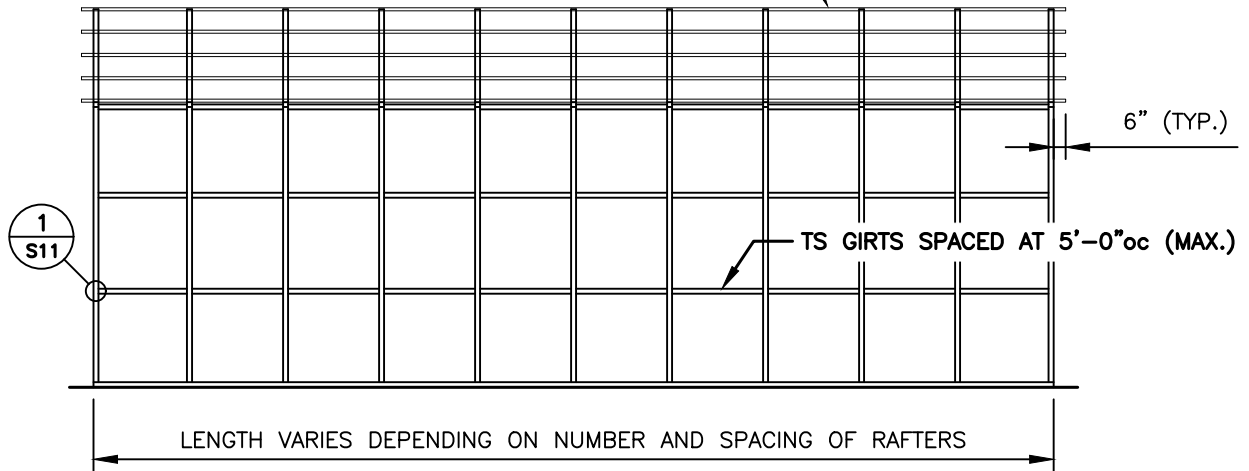
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**SHEET NO:**  
**S16A**

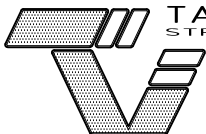
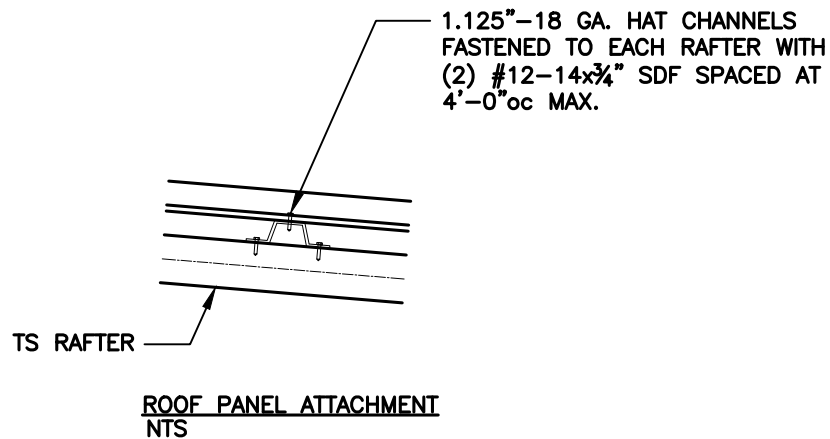
VERTICAL ROOF / SIDING OPTION

SEE NOTES  
(SHEET S3)  
FOR MAXIMUM  
SPACING

1.125"-18 GA. HAT CHANNELS  
FASTENED TO EACH RAFTER  
WITH (2) #12-14x3/4" S.D.F.  
SPACED AT 4'-0"oc MAX.



TYPICAL SIDE FRAMING SECTION VERTICAL ROOF / SIDING OPTION



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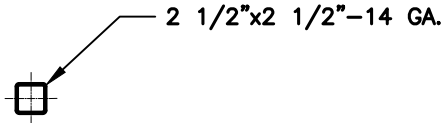
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MISC

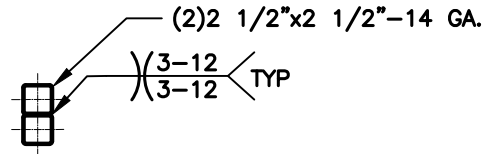
DATE:  
2022.06.26

SHEET NO:  
**S16B**

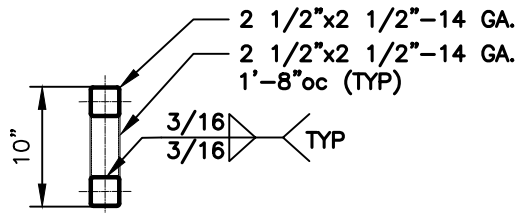
## SIDE WALL HEADER OPTIONS



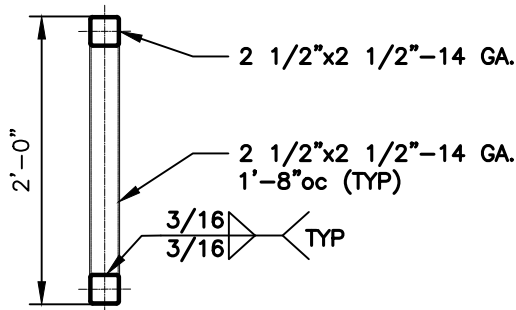
HEADER DETAIL FOR DOOR  
OPENINGS < 4'-0"  
 NTS



HEADER DETAIL FOR DOOR  
OPENINGS 4'-1" < TO < 12'-0"  
 NTS



LACED HEADER DETAIL FOR DOOR  
OPENINGS 12'-1" < TO < 15'-0"  
 NTS



LACED HEADER DETAIL FOR DOOR  
OPENINGS 15'-1" < TO < 20'-0"



**TAYLOR & VIOLA**  
 STRUCTURAL ENGINEERS

P.O.B. 2616 HICKORY NORTH CAROLINA  
 TELE: 828-328-6331 FAX: 828-322-1801  
 WWW.TAYLORVIOLA.COM

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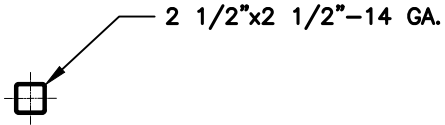
**DRAWN BY:**  
 BKS

**PROJECT NO:**  
 MISC

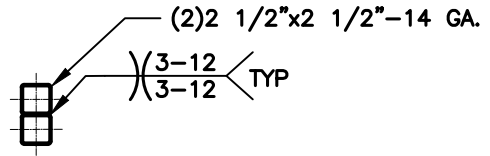
**DATE:**  
 2022.06.26

**SHEET NO:**  
**S17**

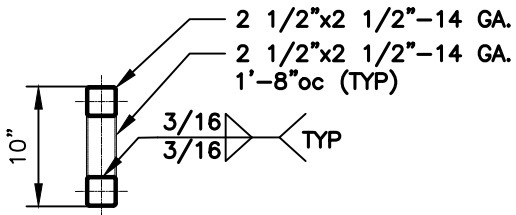
## END WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR  
OPENINGS < 7'-0"  
 NTS



HEADER DETAIL FOR DOOR  
OPENINGS 7'-1" < TO < 16'-0"  
 NTS



LACED HEADER DETAIL FOR DOOR  
OPENINGS 16'-1" < TO < 20'-0"  
 NTS



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**DATE:**  
 2022.06.26

**SHEET NO:**  
**S17A**