



### ENCLOSED GABLE END BUILDING

0'-30' (MAX.) WIDE X 16'-0" EAVE HEIGHT WITH BOX FRAME / (UP TO) 145 M.P.H. WIND ZONE - 35 P.S.F. SNOW LOAD

FOR:

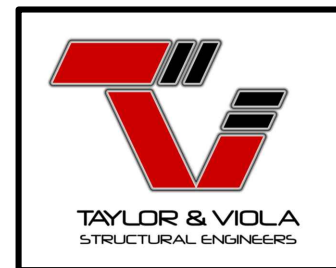
N.C. STEEL BUILDINGS, INC.

P.O. BOX 6604

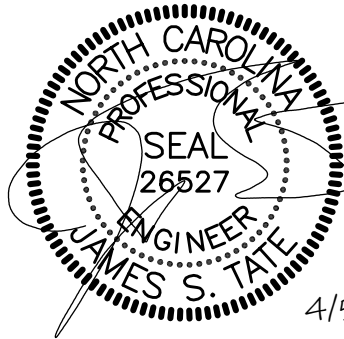
MT. AIRY, NORTH CAROLINA

TELE: 336-310-1515

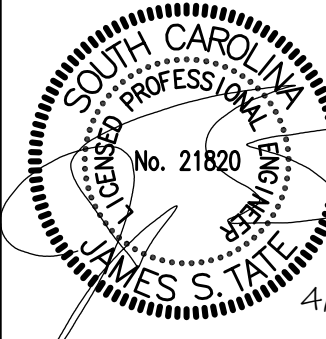
ISSUE DATE: APRIL 05, 2024



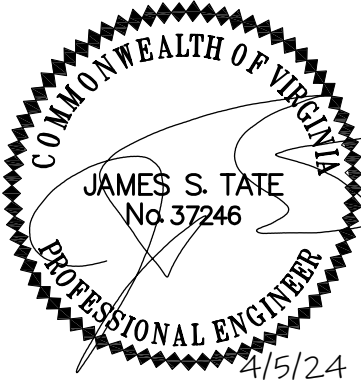
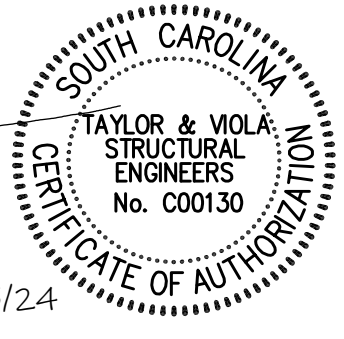
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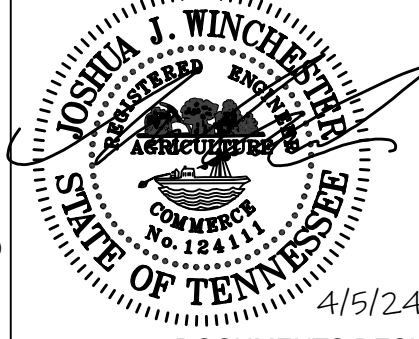
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MEET THE 2018 NC BUILDING CODE (2015 IBC)



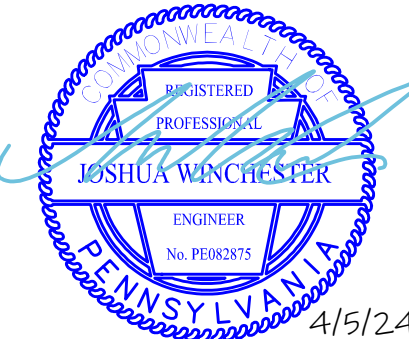
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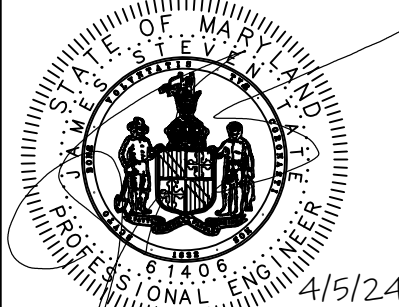
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CONSTRUCTION CODE  
(2018 IBC)



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2012 IBC



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 IBC



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY  
THAT THESE DOCUMENTS WERE PREPARED OR  
APPROVED BY ME AND THAT I AM A DULY LICENSED  
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE  
STATE OF MARYLAND, LICENSE NO. 61406,

DOCUMENTS DESIGNED  
AND DRAWN TO  
MEET THE 2018 IBC



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 KENTUCKY BUILDING CODE  
(2015 IBC)



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
TELE: 828-328-6331 FAX: 828-322-1801  
WWW.TAYLORVIOLA.COM

JCMT Associates, PLLC  
211 Stone Drive, Pilot Mountain, NC 27041  
Telephone: (336) 399-6277

**N.C. STEEL**  
**BUILDINGS, INC.**  
P.O. BOX 6604  
MOUNT AIRY, NORTH CAROLINA 27030  
TELE: 336-310-1515

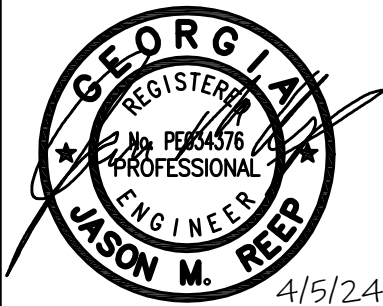
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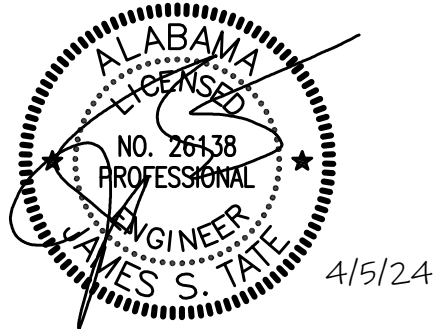
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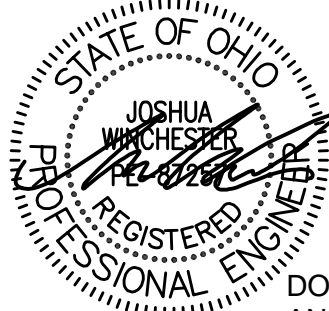
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MEET THE 2018 IBC



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MEET THE 2021 BUILDING CODE OF  
ALABAMA (2021 IBC)



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 IBC



DOCUMENTS DESIGNED  
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2024 OHIO BUILDING CODE  
WITH AMENDMENTS



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
TELE: 828-328-6331 FAX: 828-322-1801  
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MOUNT AIRY, NORTH CAROLINA 27030  
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**S1A**

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**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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211 Stone Drive, Pilot Mountain, NC 27041  
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**N.C. STEEL  
BUILDINGS, INC.**  
P.O. BOX 6604  
MOUNT AIRY, NORTH CAROLINA 27030  
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**S2**

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

DESIGN LOADS:

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

DEAD LOADS                      ROOF                      13      P.S.F.  
    ROOF COLLATERAL                      0      P.S.F.

LIVE LOADS                      ROOF                      20      P.S.F.

GROUND SNOW LOAD:                      35      P.S.F. \* DRIFT LOAD HAS NOT BEEN CALCULATED

WIND LOAD:                      BASIC WIND SPEED      V 145      M.P.H. (ASCE 7-16)  
    EXPOSURE CATAGORY      A/B/C

SEISMIC DESIGN CATAGORY                      ☒ A      ☒ B      ☒ C      ☐ D

PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:

OCCUPANCY CATEGORY      I/II

SPECTRAL RESPONSE ACCELERATION      S<sub>s</sub> VARIES BASED ON SITE %g      S<sub>1</sub> VARIES BASED ON SITE %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:      1,500      P.S.F.

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 (2) #12 SELF TAPPING AT 9"o.c. UNLESS NOTED OTHERWISE.
5. 1,500 PSF ASSUMED BEARING CAPACITY UNLESS NOTED OTHERWISE.
6. THESE DRAWINGS ARE NOT APPLICABLE TO OPEN / PARTIALLY OPEN BUILDINGS.
7. THESE DRAWINGS ARE NOT DESIGNED FOR SLEEPING QUARTERS.
8. IF FRAME SPACING IS AT 48"oc (SIDE & END WALLS) - GROUND SNOW LOAD CAN INCREASE TO 43.5 P.S.F. (EXCLUDING DRIFT).



**TAYLOR & VIOLA**  
 STRUCTURAL ENGINEERS  
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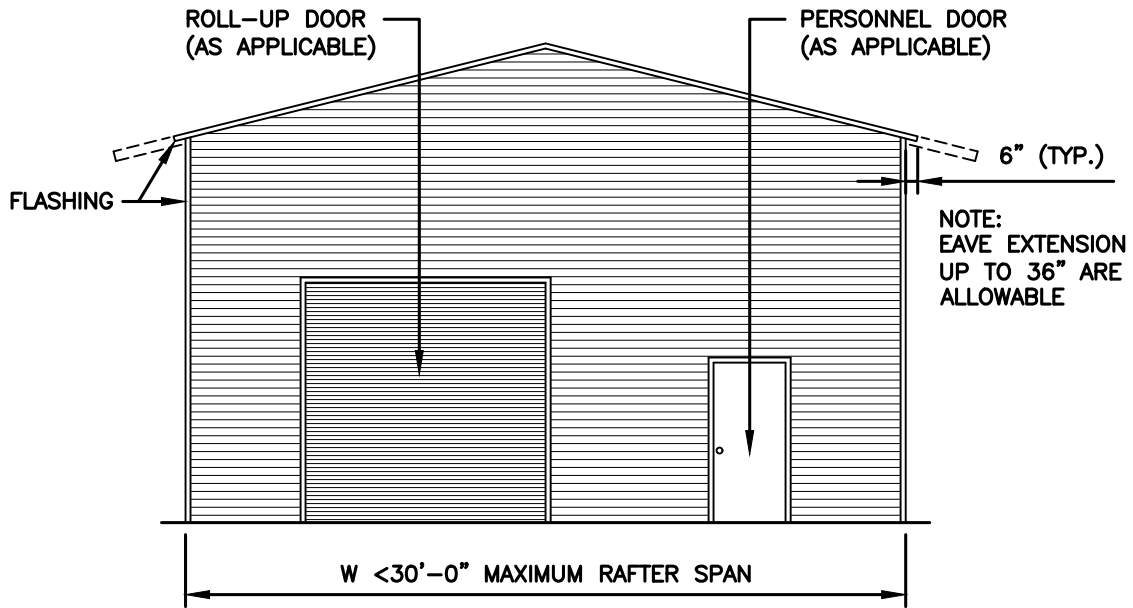
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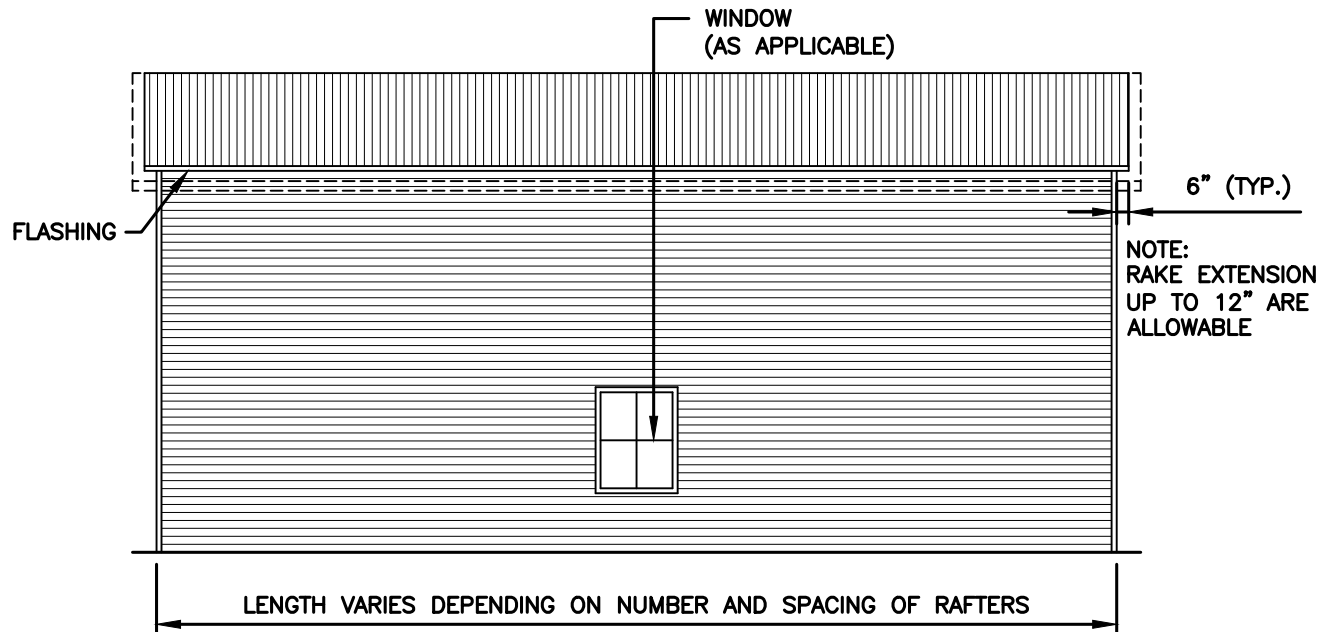
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**S3**

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## BOX EVE FRAME RAFTER STURCTURE



TYPICAL END ELEVATION



TYPICAL SIDE ELEVATION



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STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
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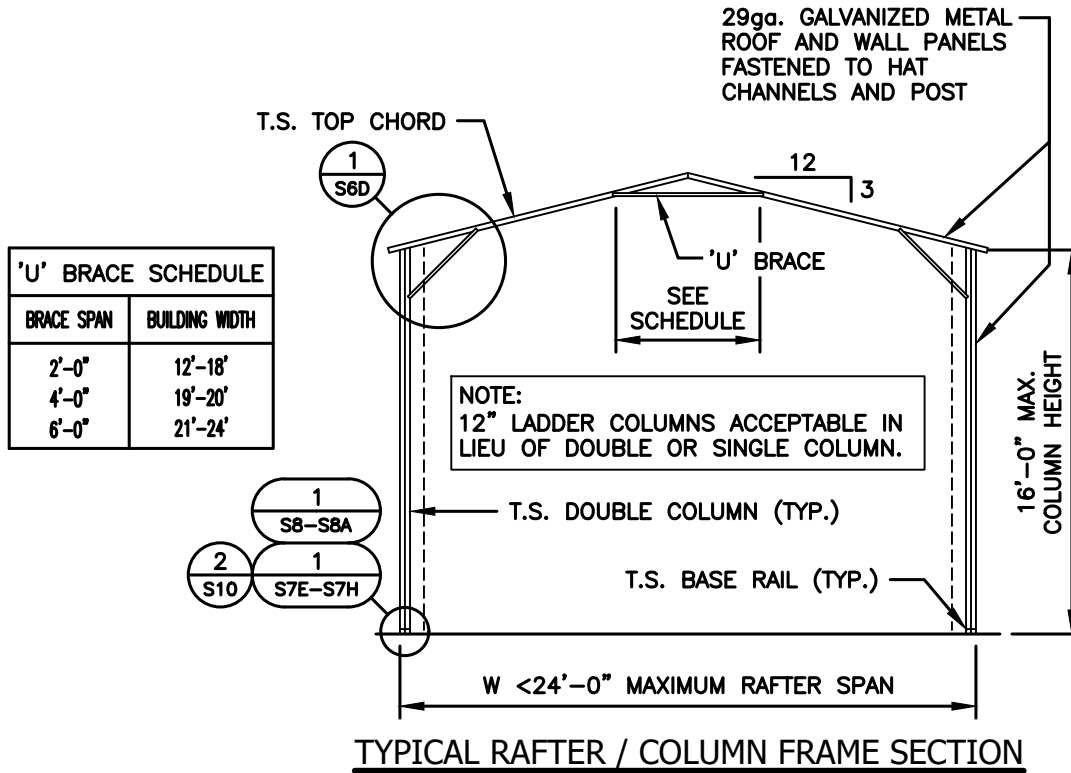
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**S4**

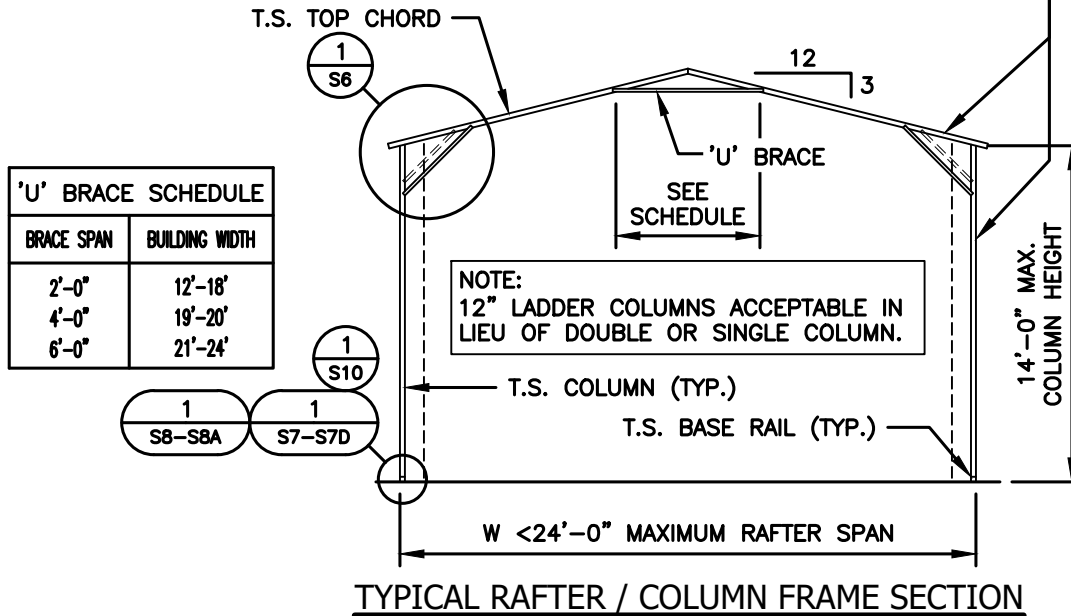
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# (<24' WIDE / <16' HIGH) BOX EVE RAFTER END WALL SECTIONS



**NOTE:**  
H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x12ga. MATERIAL MAY BE USED FOR TRUSS METAL.

29ga. GALVANIZED METAL ROOF AND WALL PANELS FASTENED TO HAT CHANNELS AND POST



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STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
TELE: 828-328-6331 FAX: 828-322-1801  
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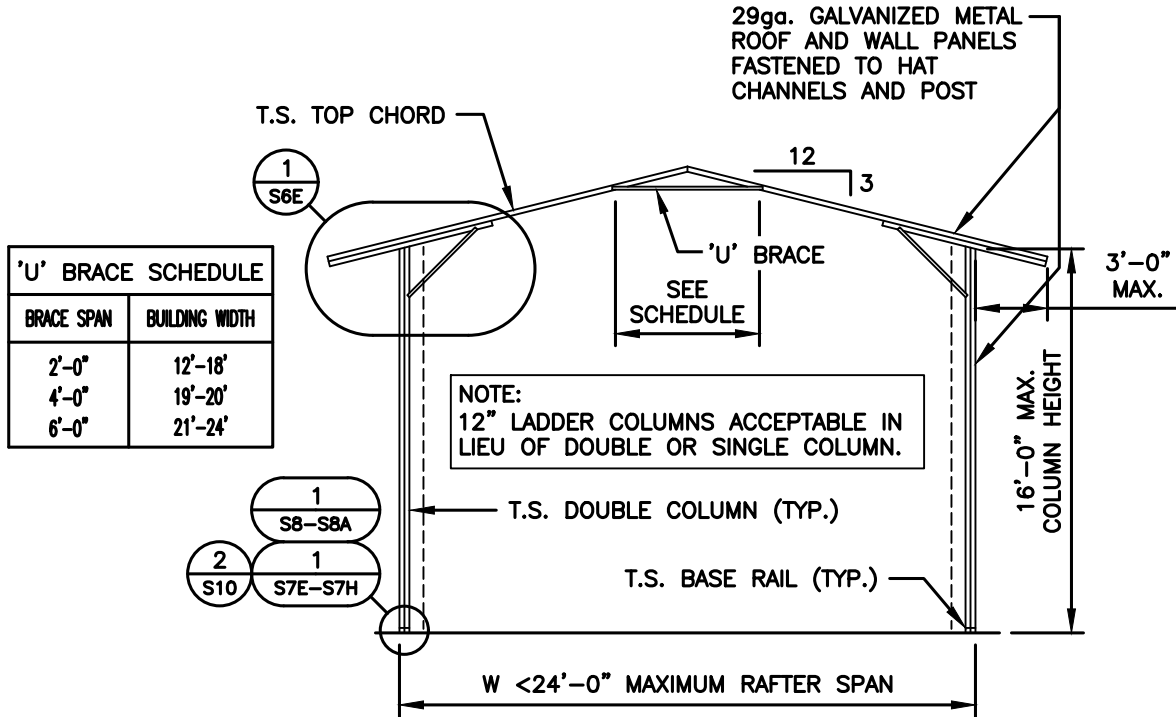
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**S5**

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(<24' WIDE / <16' HIGH) BOX EVE RAFTER END WALL SECTIONS (3' SOFFIT)

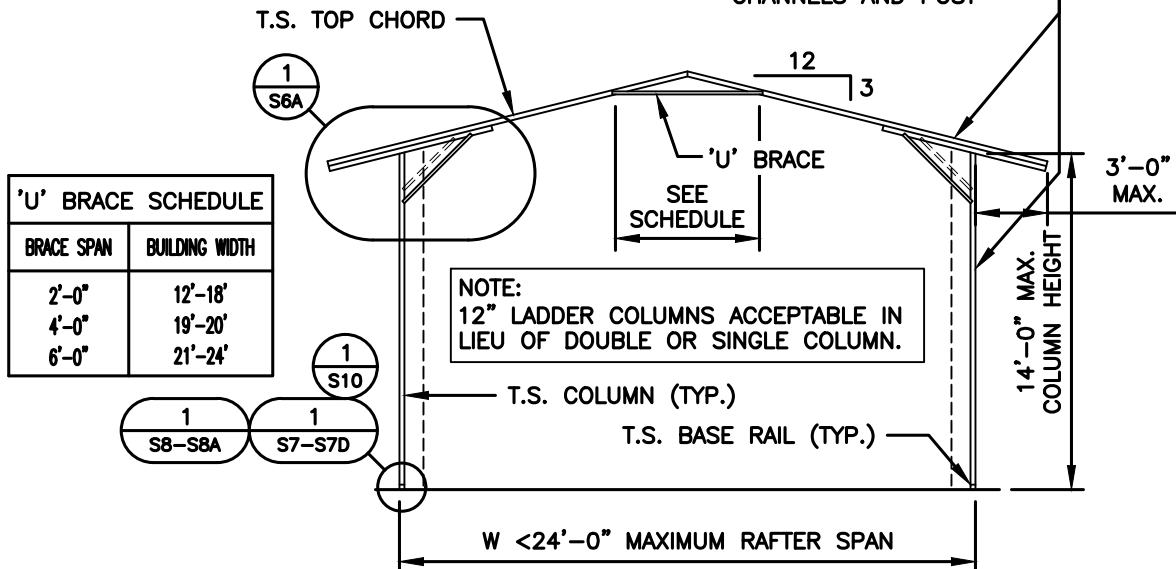


TYPICAL RAFTER / COLUMN FRAME SECTION (3' SOFFIT)

**NOTE:**

H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x12ga. MATERIAL MAY BE USED FOR TRUSS METAL.

29ga. GALVANIZED METAL ROOF AND WALL PANELS FASTENED TO HAT CHANNELS AND POST



TYPICAL RAFTER / COLUMN FRAME SECTION (3' SOFFIT)



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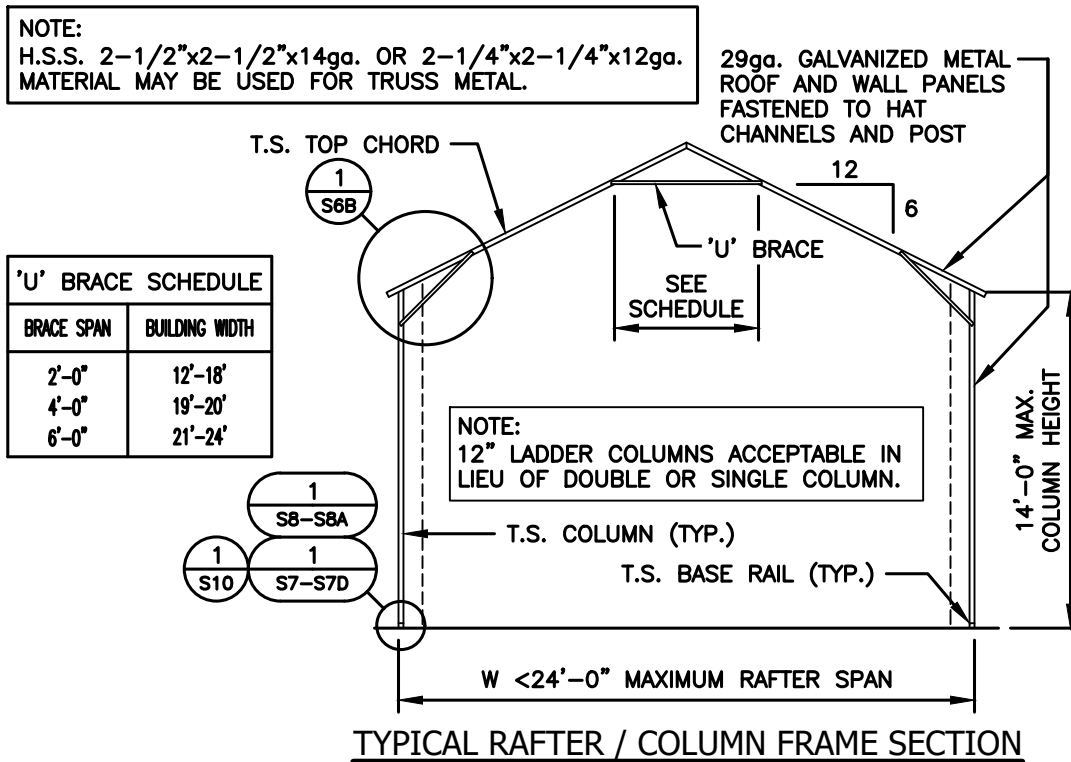
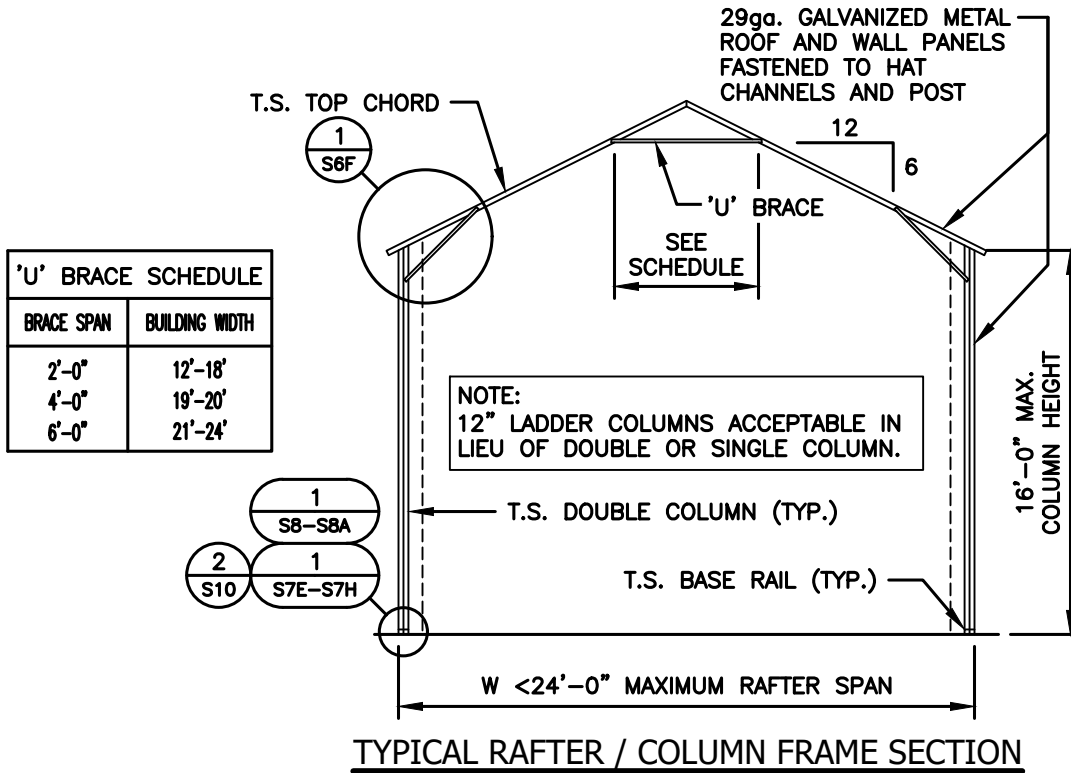
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**(<24' WIDE / <16' HIGH) BOX EVE RAFTER END WALL SECTIONS (6:12 PITCH)**



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STRUCTURAL ENGINEERS  
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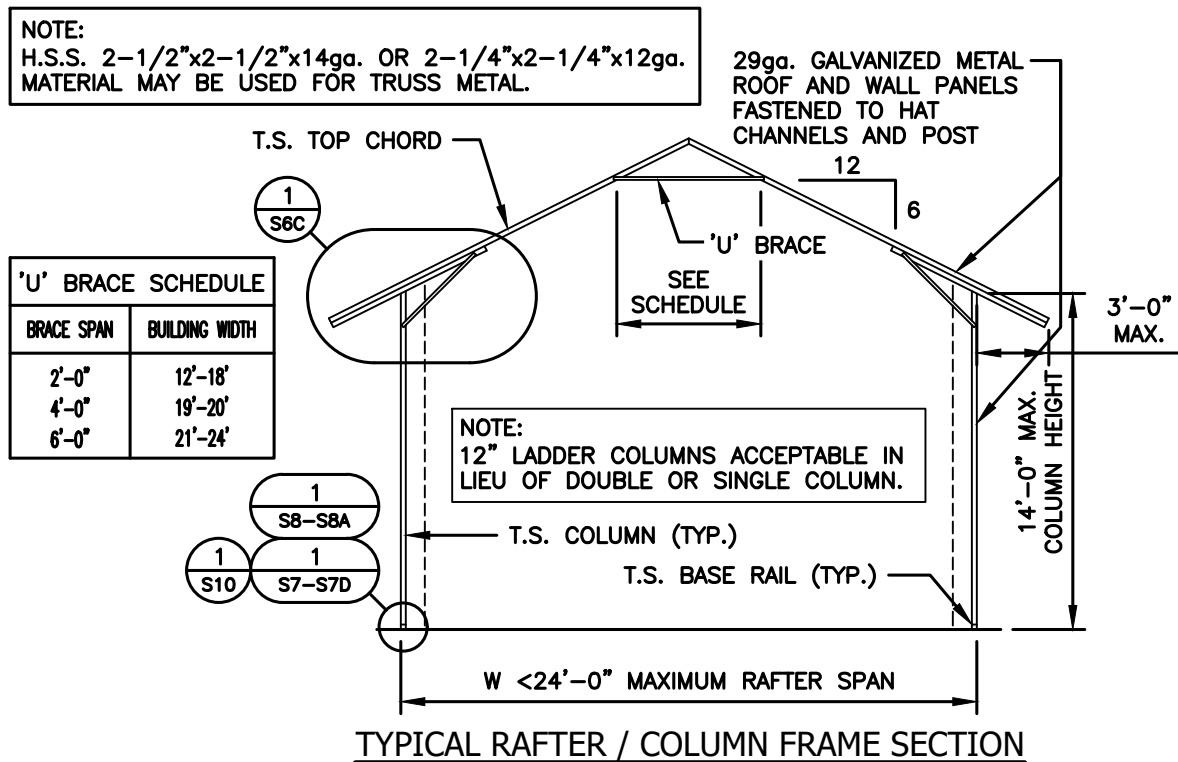
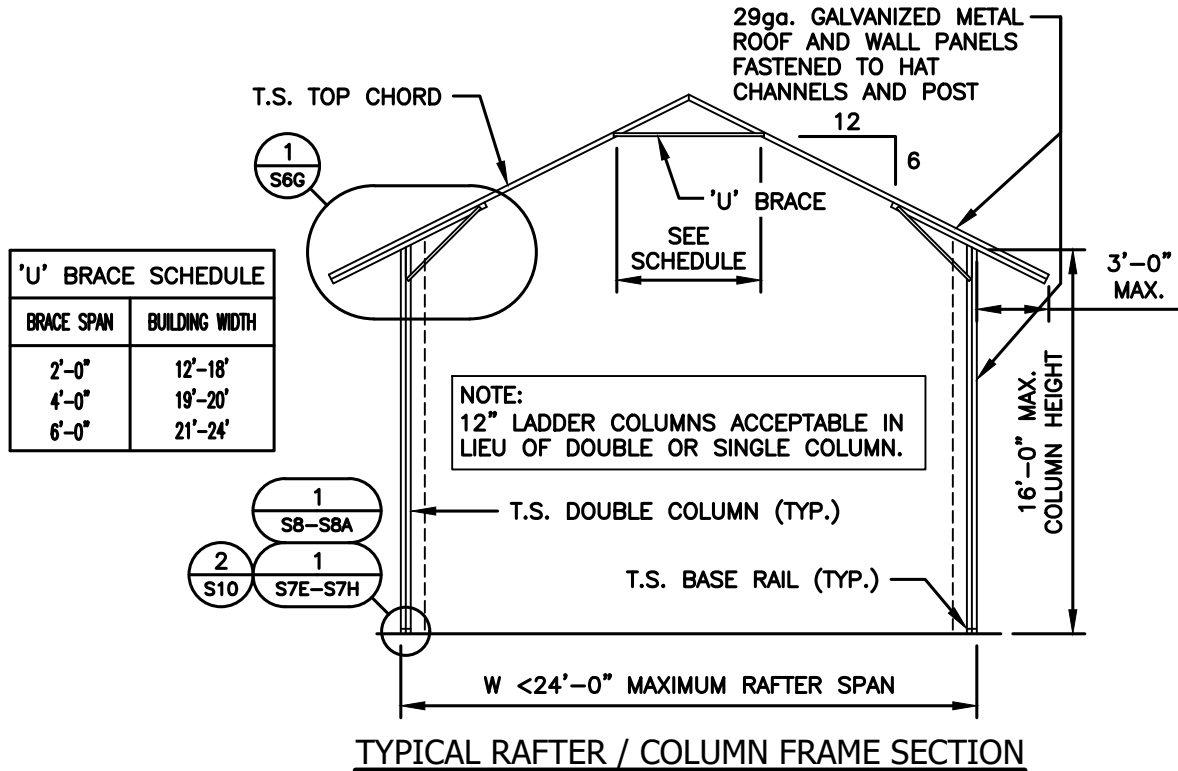
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**(<24' WIDE / <16' HIGH) BOX EVE RAFTER END WALL SECTIONS (6:12 PITCH / 3' SOFFIT)**



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
TELE: 828-328-6331 FAX: 828-322-1801  
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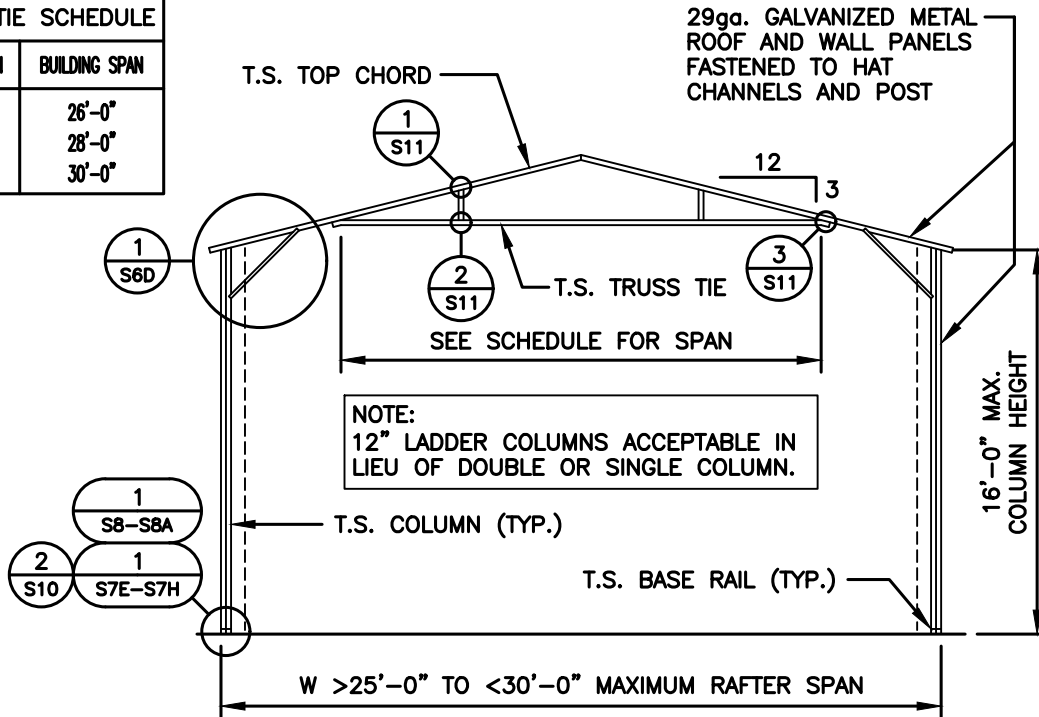
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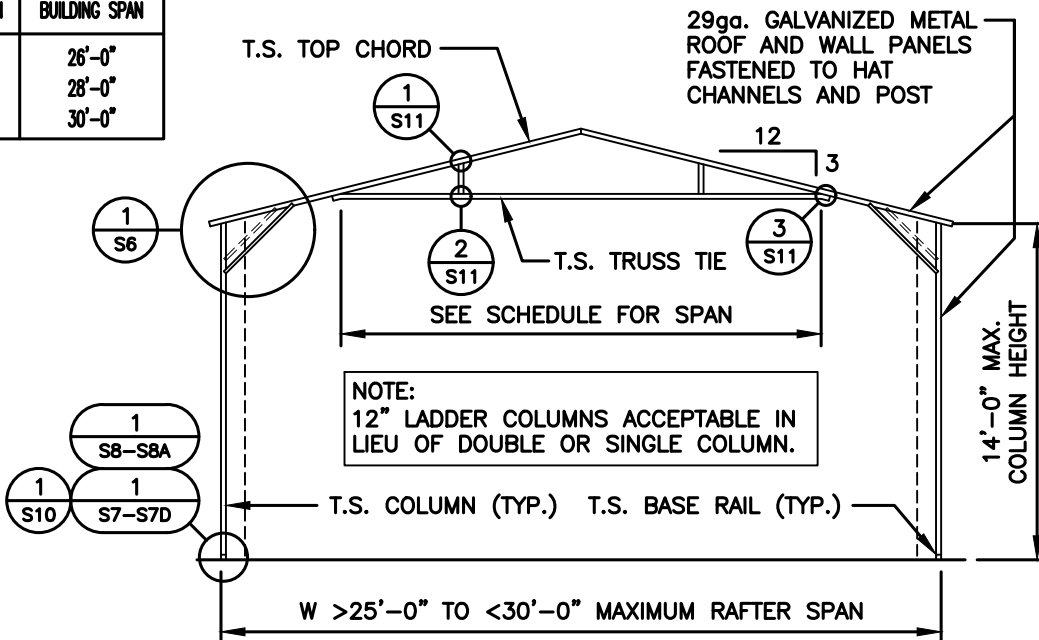
**(>25' - <30' WIDE / <16' HIGH) BOX EVE RAFTER END WALL SECTIONS**

TRUSS TIE SCHEDULE	
BRACE SPAN	BUILDING SPAN
16'-0"	26'-0"
18'-0"	28'-0"
20'-0"	30'-0"



**TYPICAL RAFTER / COLUMN FRAME SECTION**

TRUSS TIE SCHEDULE	
BRACE SPAN	BUILDING SPAN
16'-0"	26'-0"
18'-0"	28'-0"
20'-0"	30'-0"



**TYPICAL RAFTER / COLUMN FRAME SECTION**



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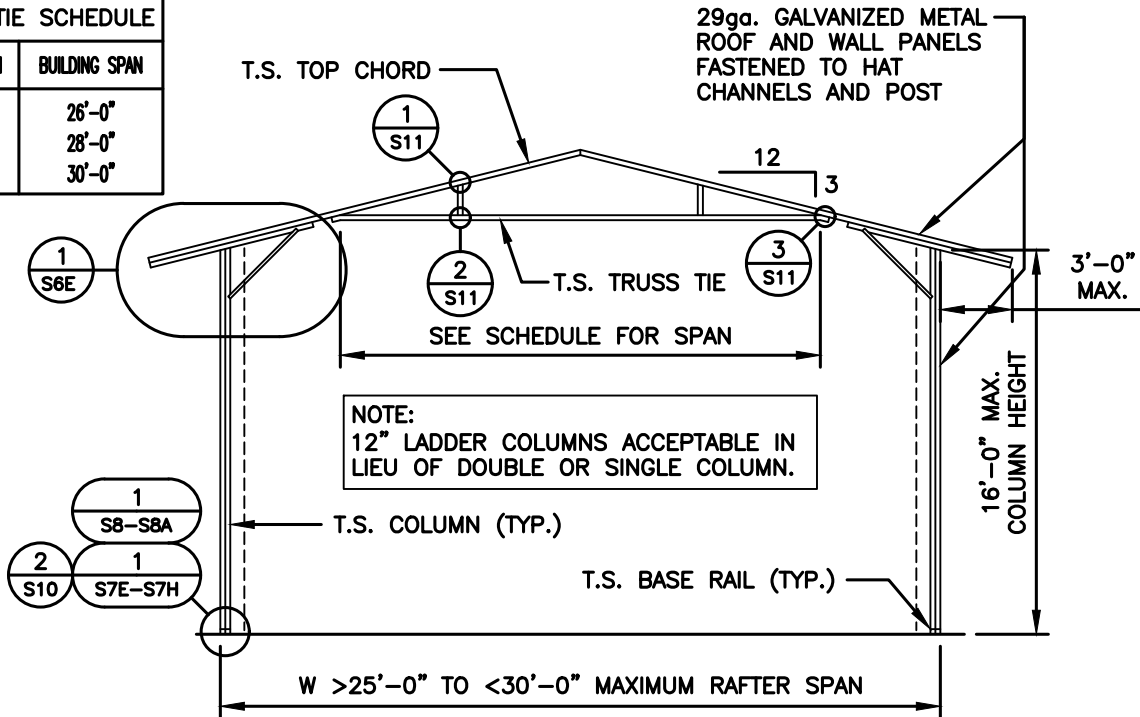
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**S5D**

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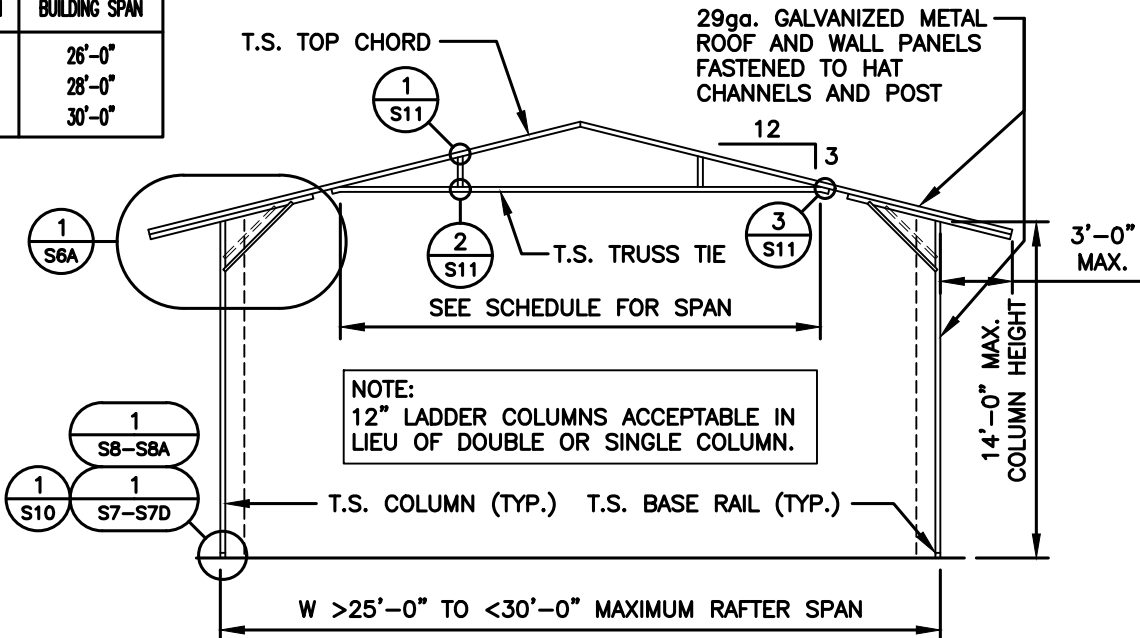
**(>25' - <30' WIDE / <16' HIGH) BOX EVE RAFTER END WALL SECTIONS (3' SOFFIT)**

TRUSS TIE SCHEDULE	
BRACE SPAN	BUILDING SPAN
16'-0"	26'-0"
18'-0"	28'-0"
20'-0"	30'-0"



**TYPICAL RAFTER / COLUMN FRAME SECTION**

TRUSS TIE SCHEDULE	
BRACE SPAN	BUILDING SPAN
16'-0"	26'-0"
18'-0"	28'-0"
20'-0"	30'-0"



**TYPICAL RAFTER / COLUMN FRAME SECTION**



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TELE: 336-310-1515

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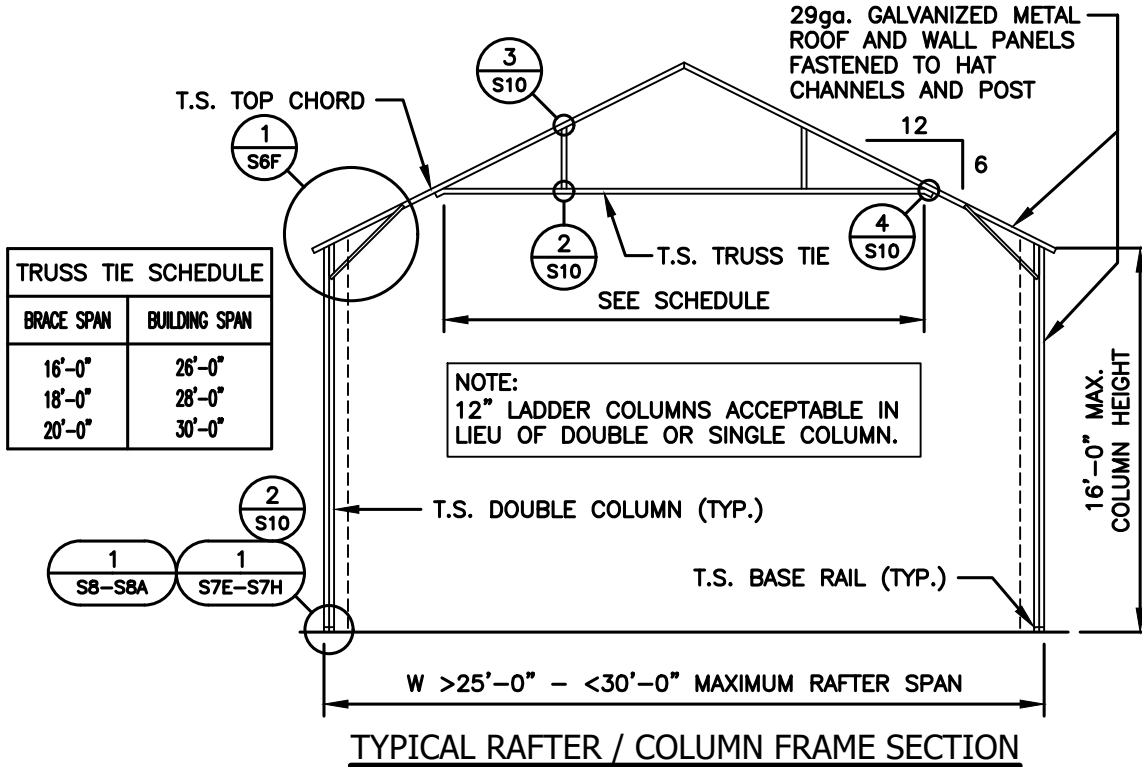
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**DATE:**  
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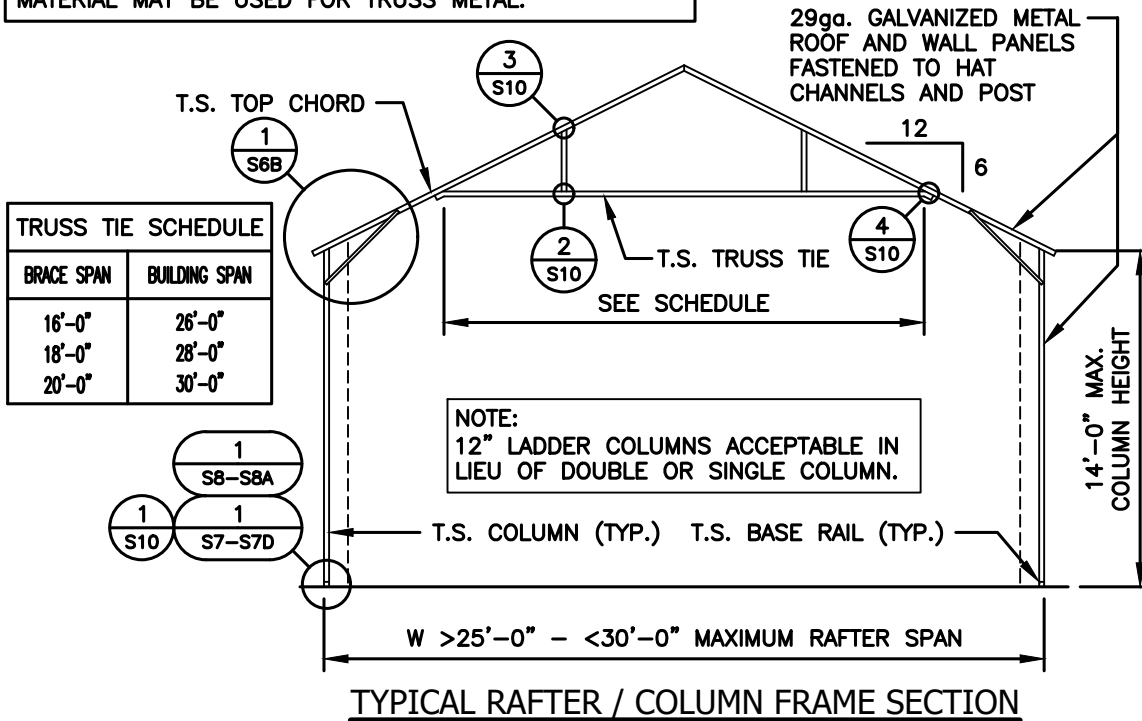
**SHEET NO:**  
**S5E**

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

( >25' - <30' WIDE / <16' HIGH ) BOX EVE RAFTER END WALL SECTIONS (6:12 PITCH)



NOTE:  
H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x12ga.  
MATERIAL MAY BE USED FOR TRUSS METAL.



JCMT Associates, PLLC  
211 Stone Drive, Pilot Mountain, NC 27041  
Telephone: (336) 399-6277

**N.C. STEEL**  
**BUILDINGS, INC.**  
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TELE: 336-310-1515

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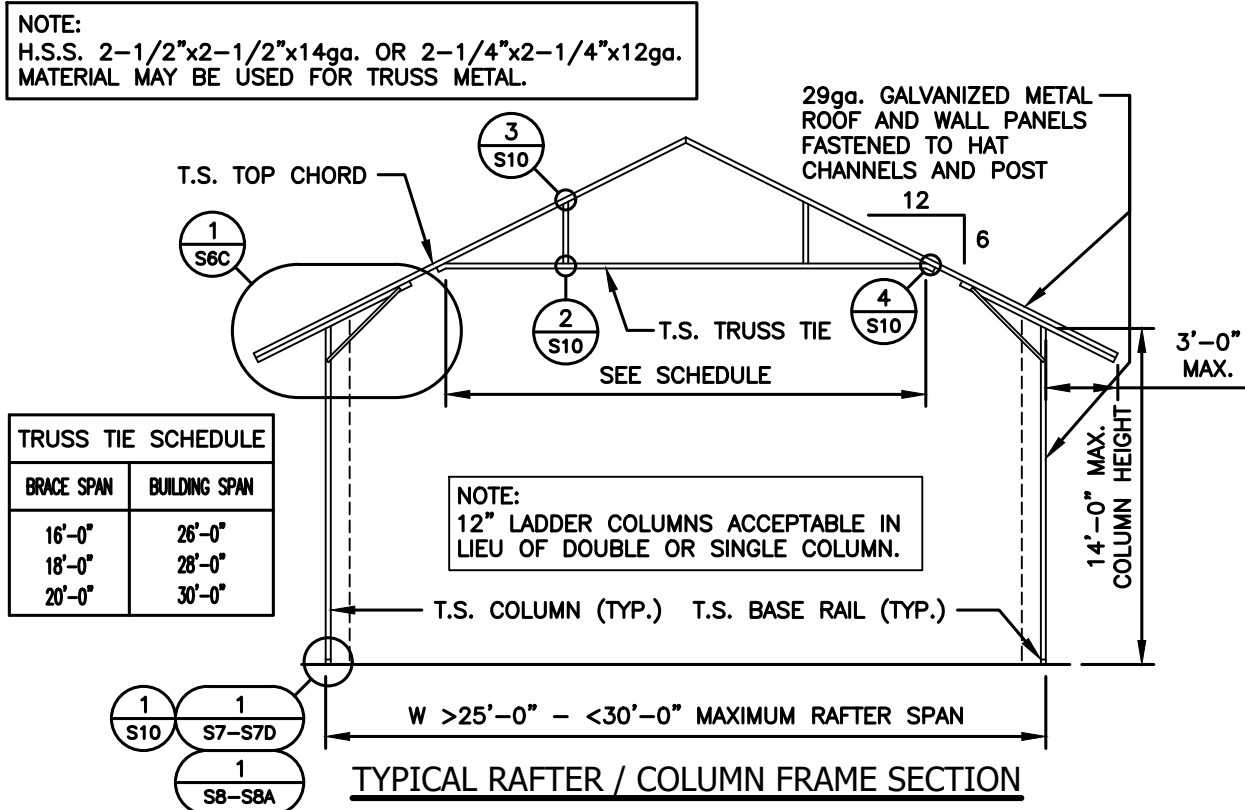
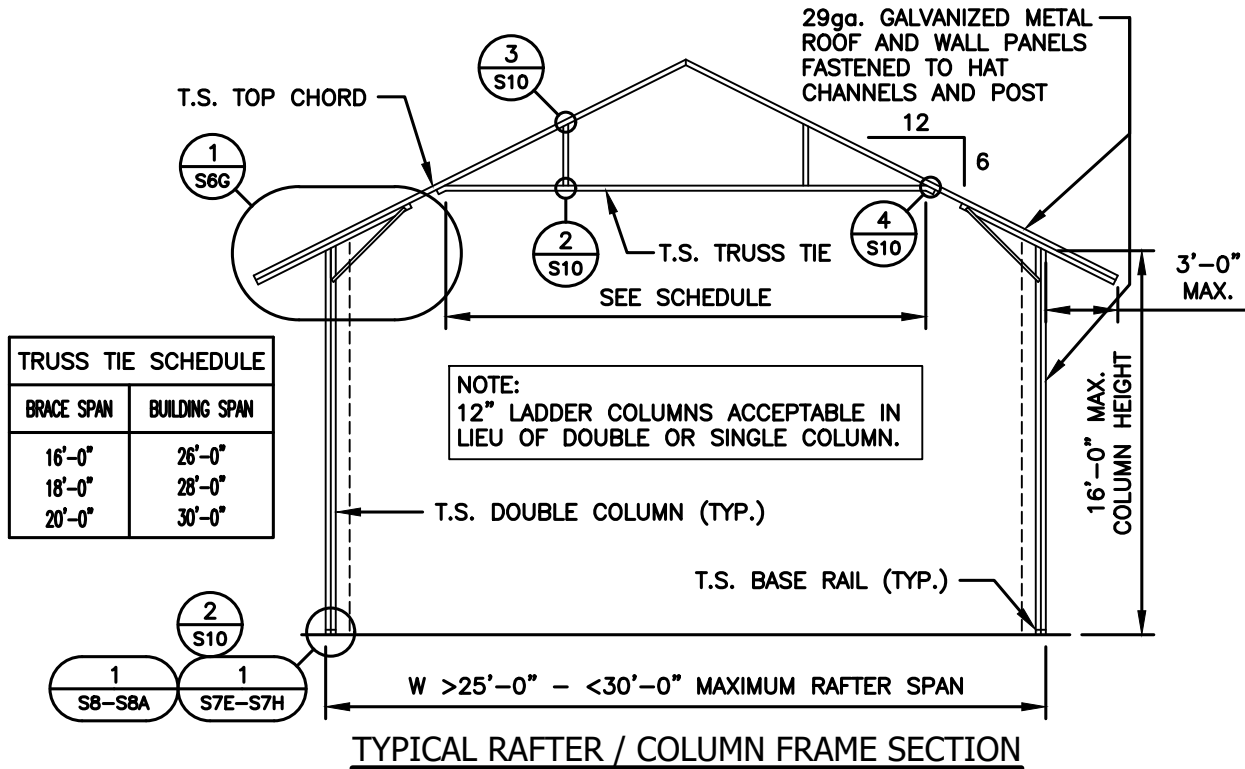
PROJECT NO:  
24-506

DATE:  
2024.04.05

SHEET NO:  
**S5F**

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

( >25' - <30' WIDE / <16' HIGH ) BOX EVE RAFTER END WALL SECTIONS ( 6:12 PITCH / 3' SOFFIT )



**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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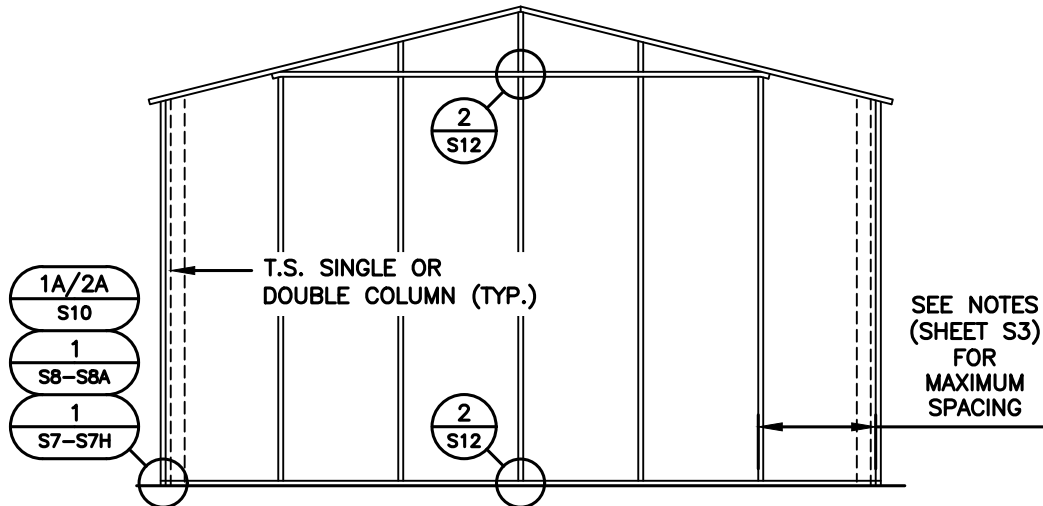
**SHEET NO:**  
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**NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.**

## (TYPICAL) FRAME SECTIONS

**NOTE:**

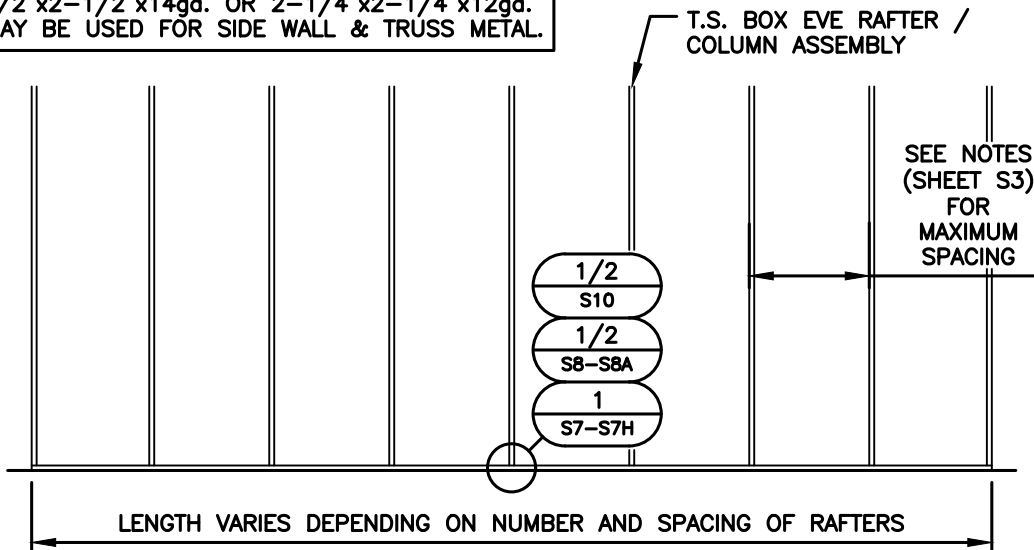
H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x14ga.  
MATERIAL MAY BE USED FOR END WALL COLUMN METAL.



TYPICAL BOX EVE RAFTER / END WALL COLUMN FRAME SECTION

**NOTE:**

H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x12ga.  
MATERIAL MAY BE USED FOR SIDE WALL & TRUSS METAL.



TYPICAL RAFTER / COLUMN SIDE FRAME SECTION



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

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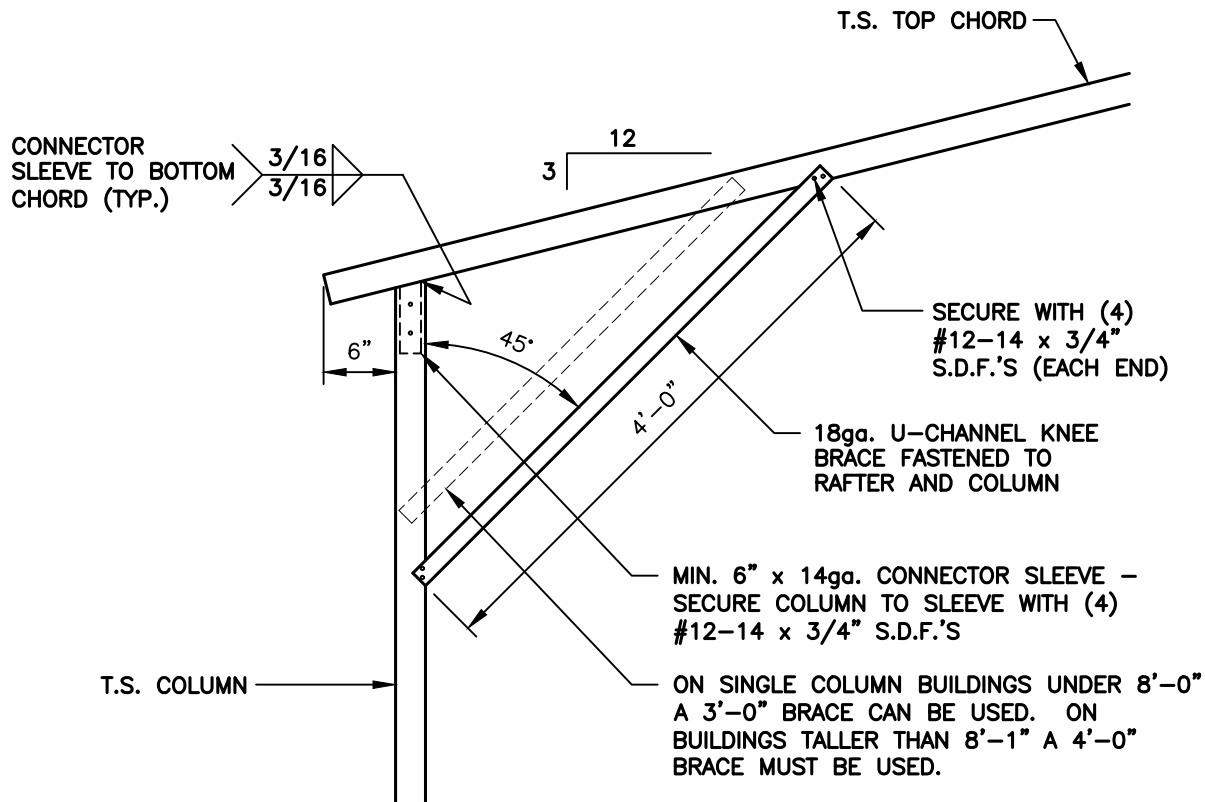
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**2024.04.05**

**SHEET NO:**  
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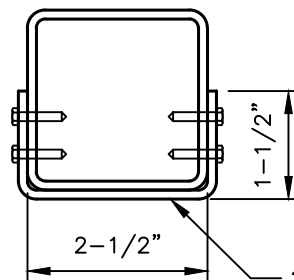
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# BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS <14'-0"

1  
S6

SCALE:  $\frac{3}{4}$ " = 1'-0"



## BRACE SECTION

18ga. U-CHANNEL BRACE FASTENED TO THE COLUMN AND BOTTOM CHORD, WITH #12-14 x  $\frac{3}{4}$ " S.D.F.'S AT EACH END AS SHOWN IN ELEVATION.



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STRUCTURAL ENGINEERS  
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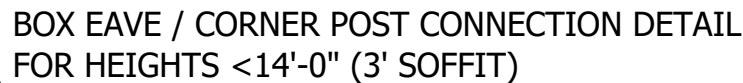
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**DATE:**  
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**SHEET NO:**  
**S6**

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**S6A**

18ga. U—CHANNEL BRACE FASTENED TO THE COLUMN AND BOTTOM CHORD, WITH #12—14 x 3/4" S.D.F.'S AT EACH END AS SHOWN IN ELEVATION.



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STRUCTURAL ENGINEERS  
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WWW.TAYLORVIOLA.COM

JCMT Associates, PLLC  
211 Stone Drive, Pilot Mountain, NC 27041  
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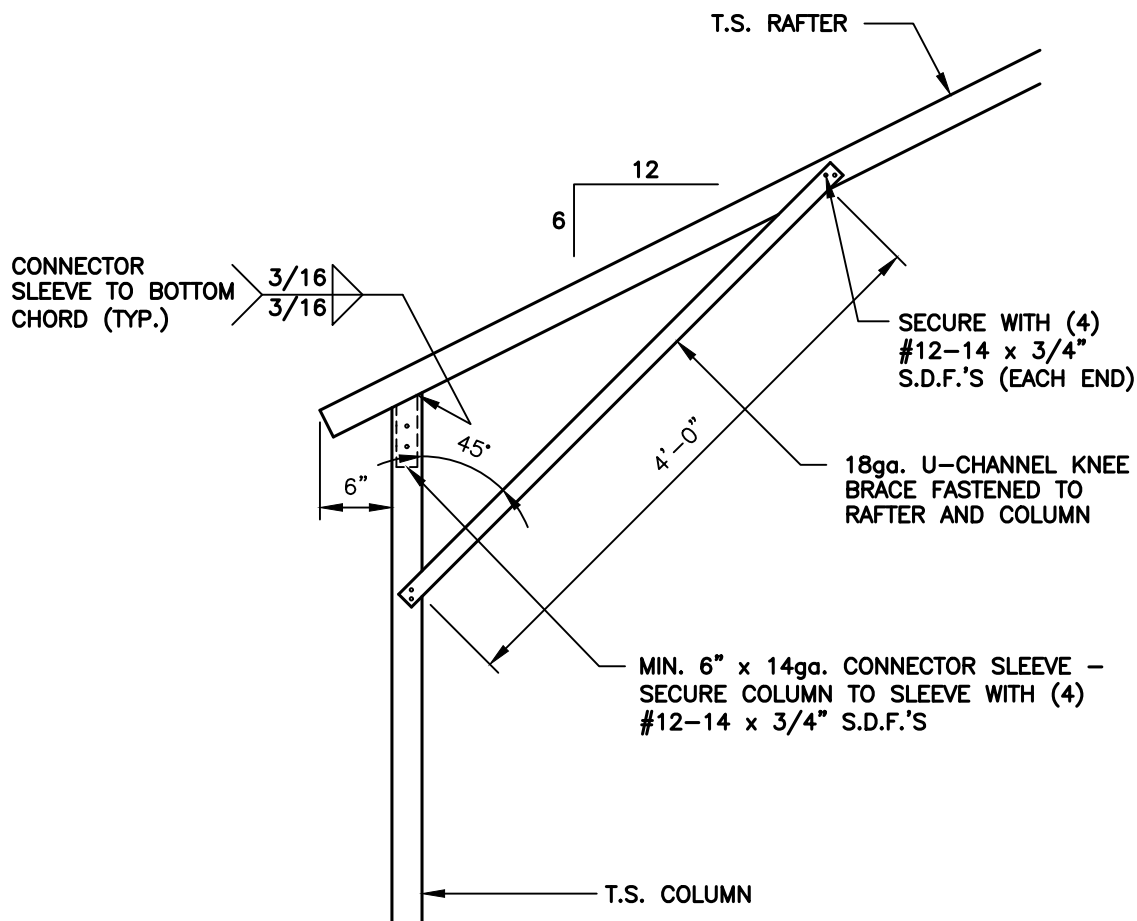
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PROJECT NO:  
24-506

DATE:  
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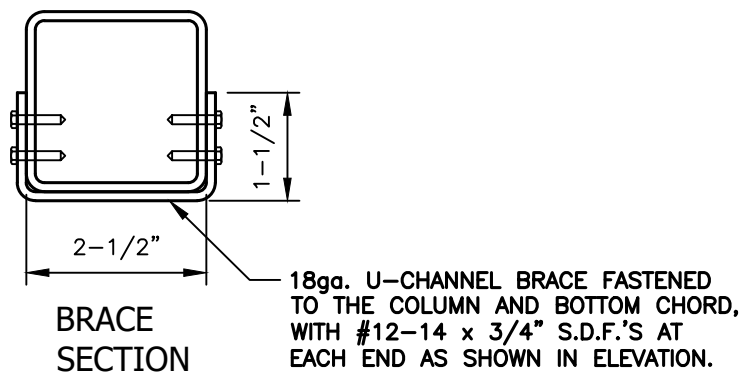
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**BOX EAVE / CORNER POST CONNECTION DETAIL  
FOR HEIGHTS <14'-0" (6:12 PITCH)**

**1**  
**S6B**

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



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STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
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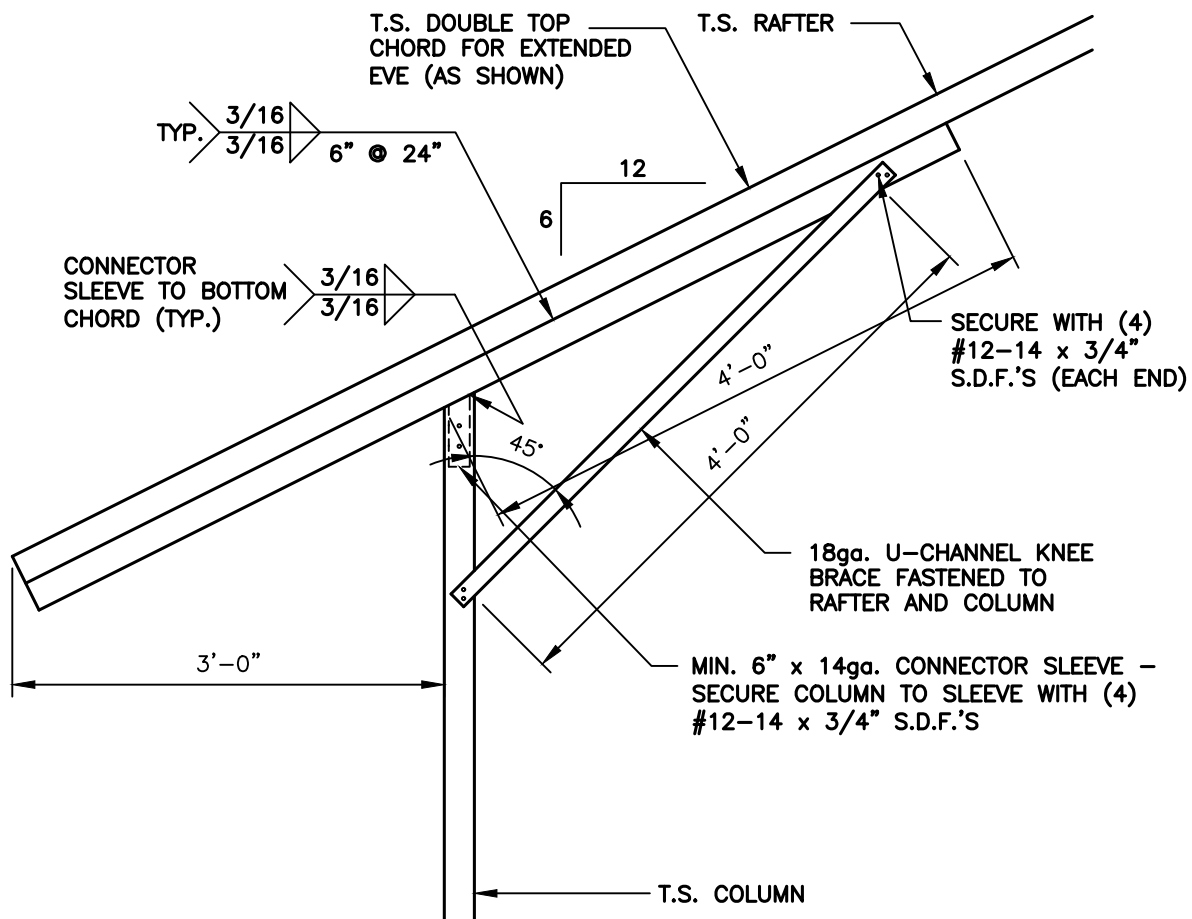
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**DATE:**  
**2024.04.05**

**SHEET NO:**  
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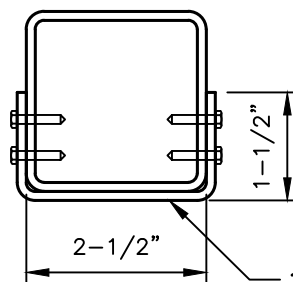
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**BOX EAVE / CORNER POST CONNECTION DETAIL  
FOR HEIGHTS <14'-0" (6:12 PITCH / 3' SOFFIT)**



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



**BRACE  
SECTION**

18ga. U-CHANNEL BRACE FASTENED TO THE COLUMN AND BOTTOM CHORD, WITH #12-14 x 3/4" S.D.F.'S AT EACH END AS SHOWN IN ELEVATION.



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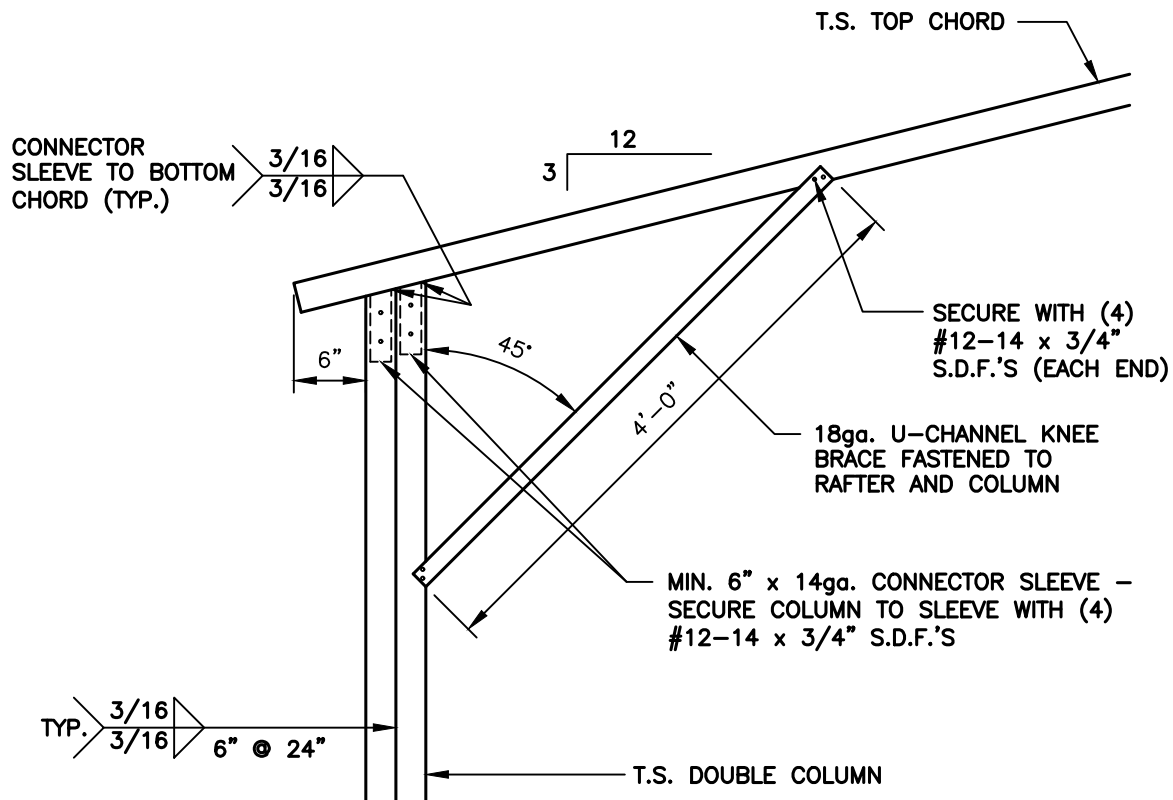
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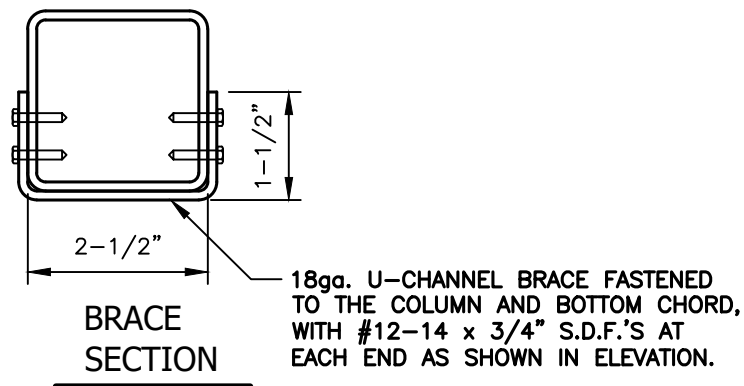
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# BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS >14'-1" TO <16'-0"

1  
S6D

SCALE:  $\frac{3}{4}$ " = 1'-0"



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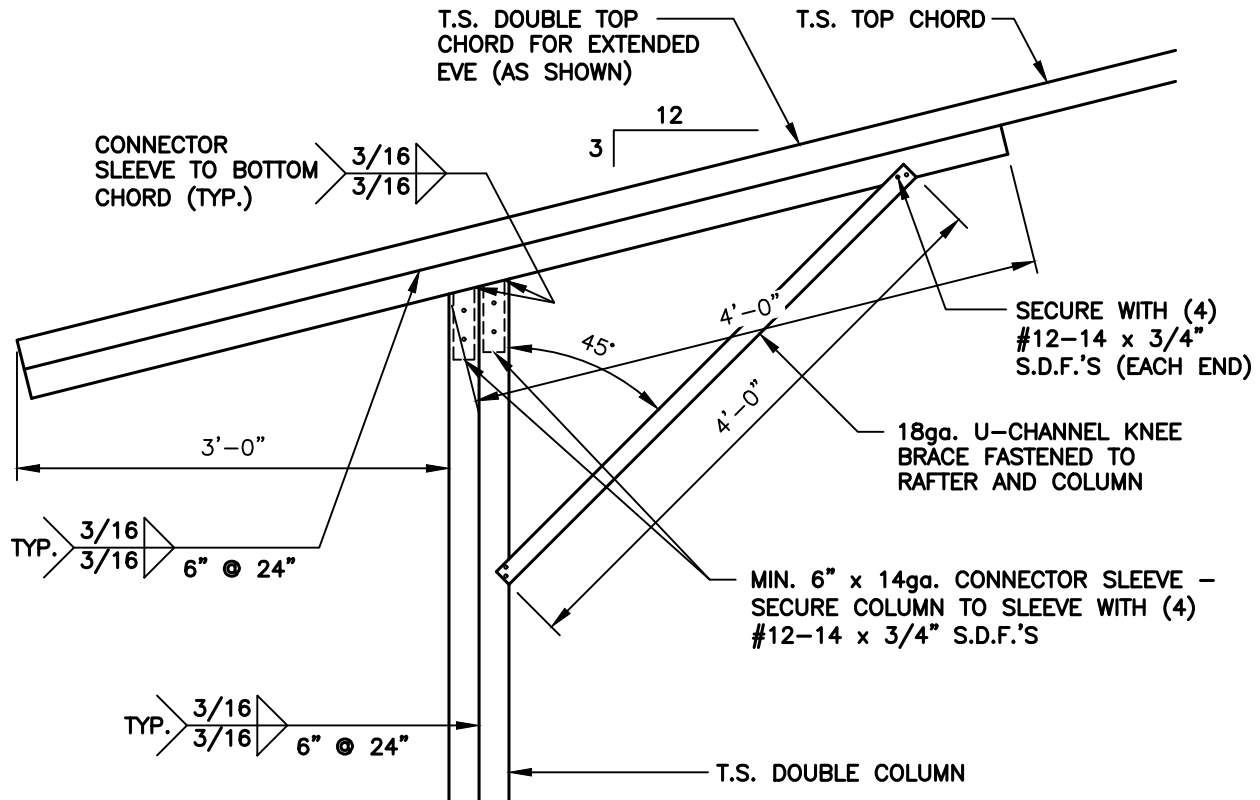
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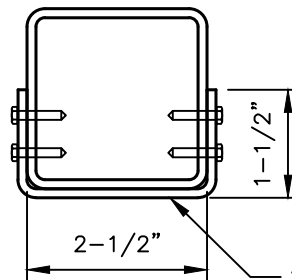
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**BOX EAVE / CORNER POST CONNECTION DETAIL  
FOR HEIGHTS >14'-1" TO <16'-0" (3' SOFFIT)**

1  
S6E

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



**BRACE  
SECTION**

18ga. U-CHANNEL BRACE FASTENED TO THE COLUMN AND BOTTOM CHORD, WITH #12-14 x 3/4" S.D.F.'S AT EACH END AS SHOWN IN ELEVATION.



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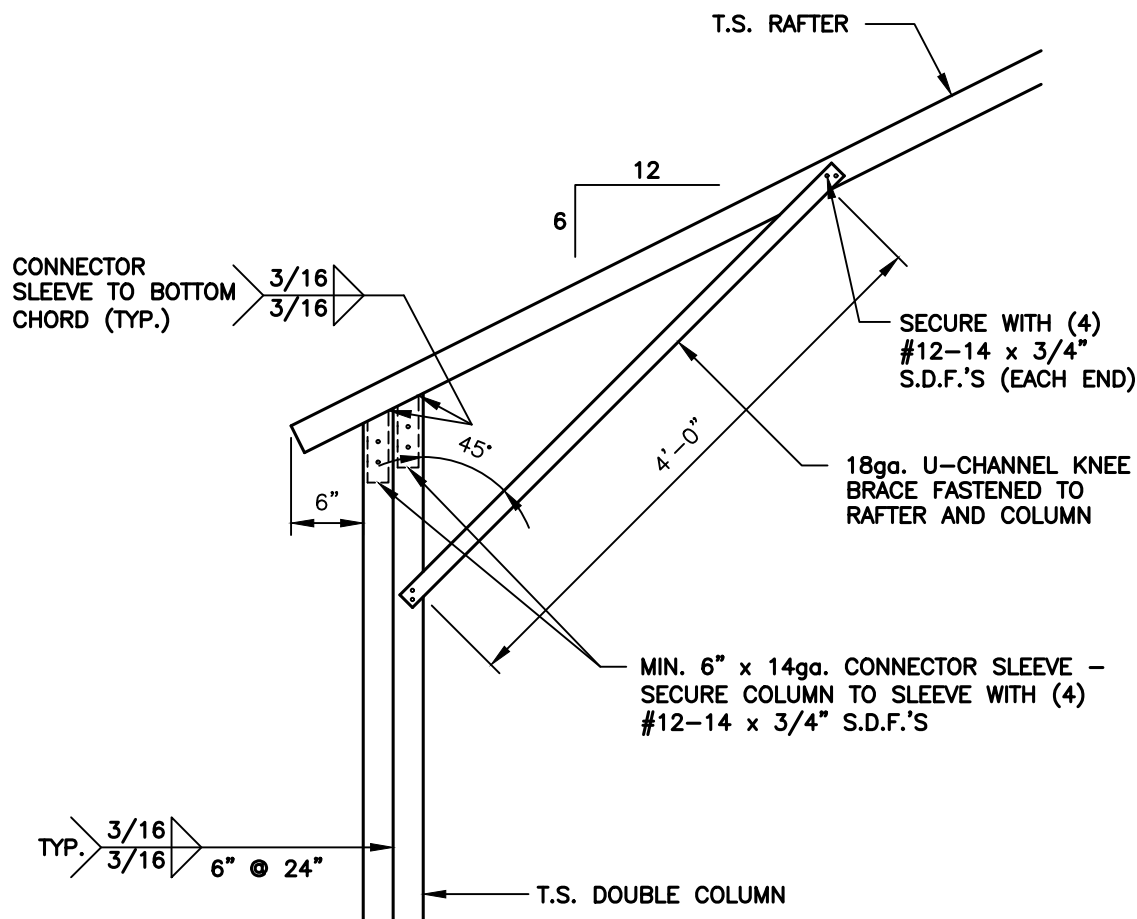
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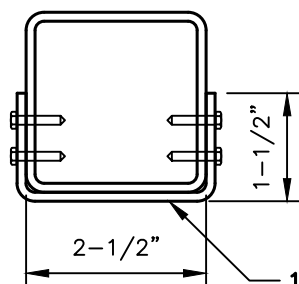
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**BOX EAVE / CORNER POST CONNECTION DETAIL  
FOR HEIGHTS >14'-1" TO <16'-0" (6:12 PITCH)**

1  
S6F

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



**BRACE  
SECTION**

18ga. U-CHANNEL BRACE FASTENED TO THE COLUMN AND BOTTOM CHORD, WITH #12-14 x 3/4" S.D.F.'S AT EACH END AS SHOWN IN ELEVATION.



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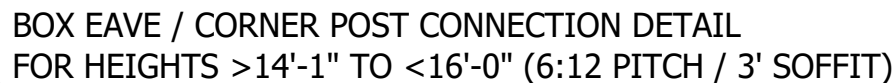
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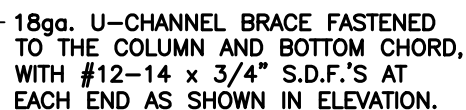
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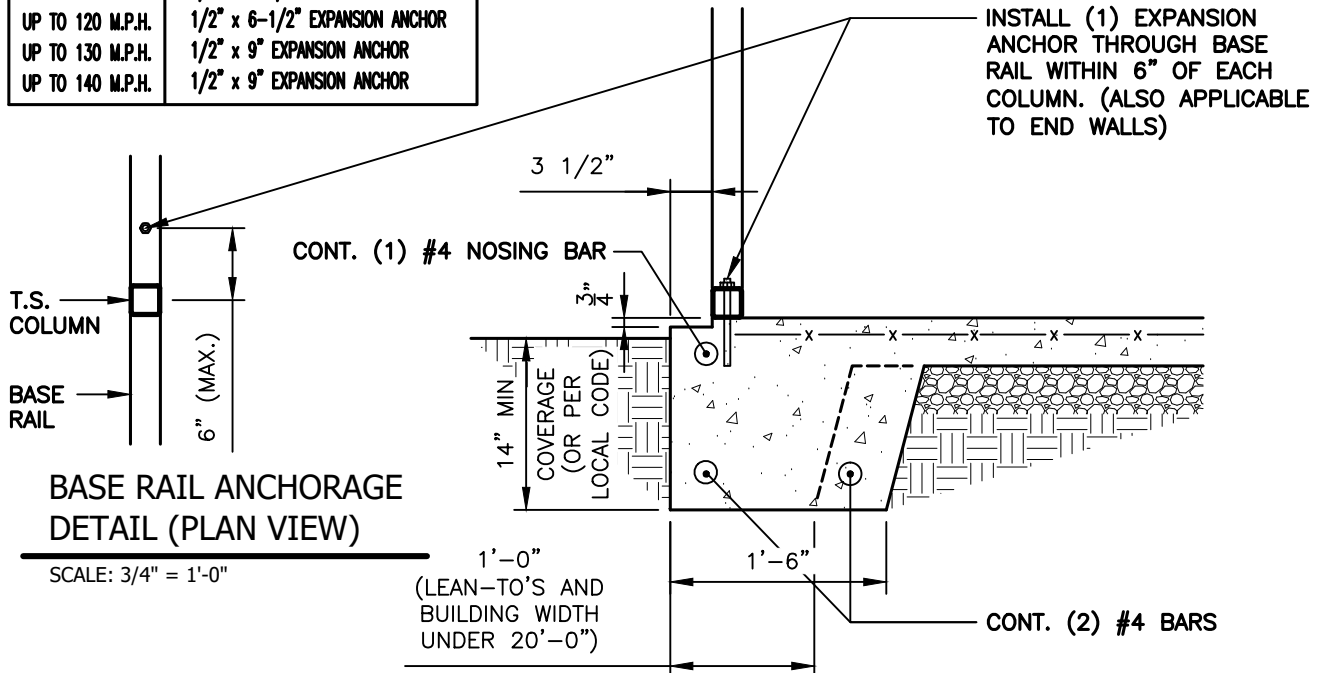
SCALE: 3/4" = 1'-0"



**SHEET NO:**  
**S6G**

## CONCRETE BASE RAIL ANCHORAGE

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



### BASE RAIL ANCHORAGE DETAIL

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

#### GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

#### CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. 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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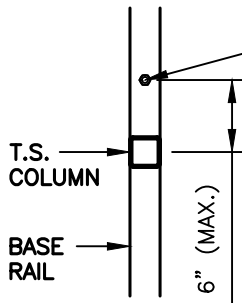
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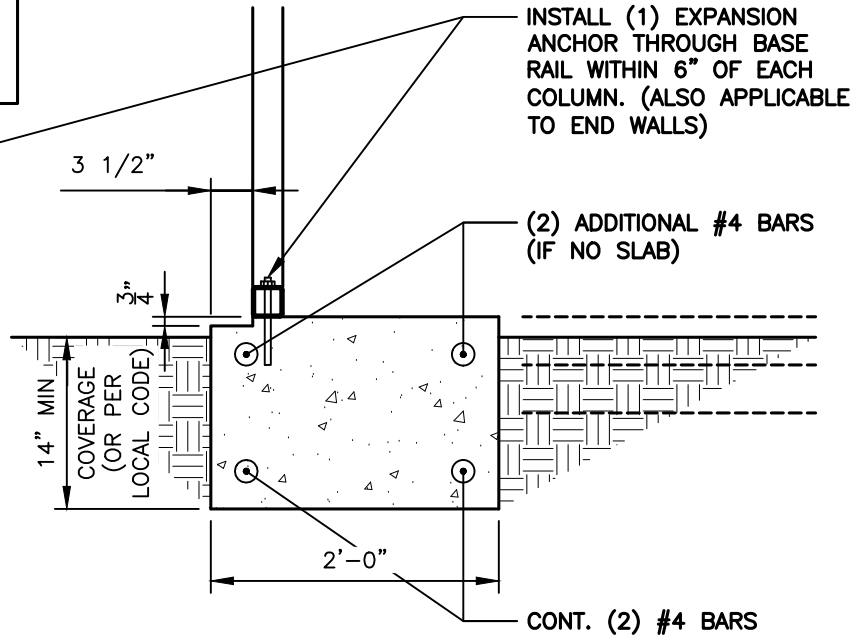
## CONCRETE BASE RAIL ANCHORAGE (NO SLAB)

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



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

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



**1 BASE RAIL ANCHORAGE DETAIL (NO SLAB)**

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

### GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

#### CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. 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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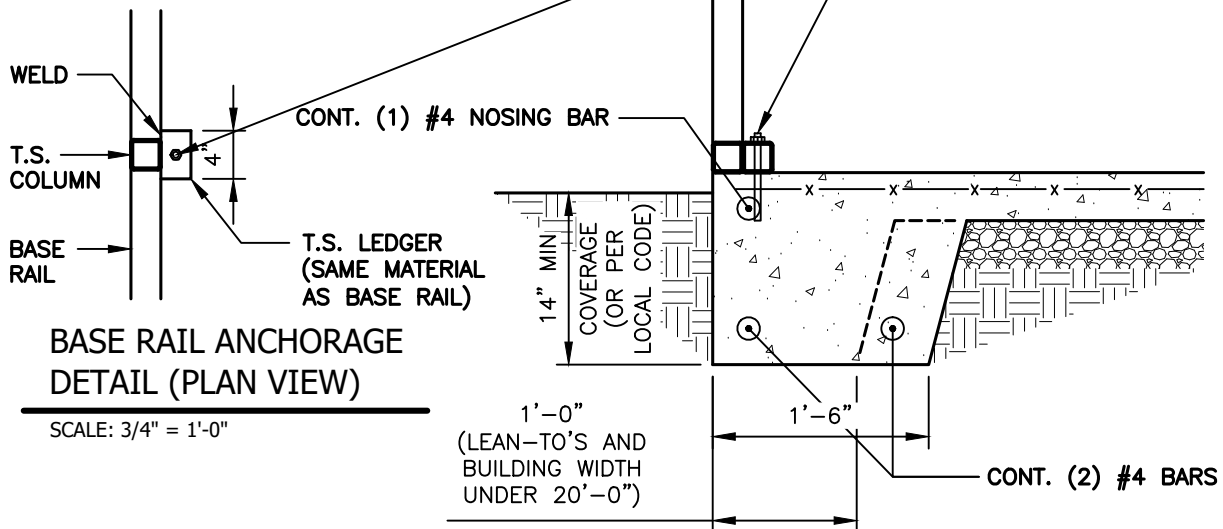
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NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

## CONCRETE BASE RAIL ANCHORAGE (NO LEDGE)

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



### **BASE RAIL ANCHORAGE DETAIL**

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

#### GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

#### CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. 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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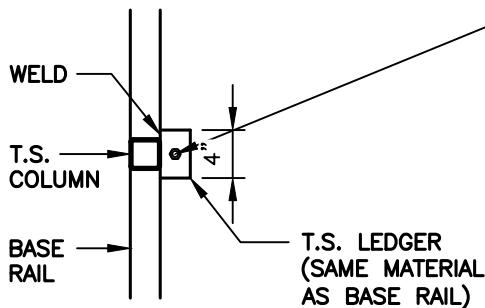
**DATE:**  
**2024.04.05**

**SHEET NO:**  
**S7B**

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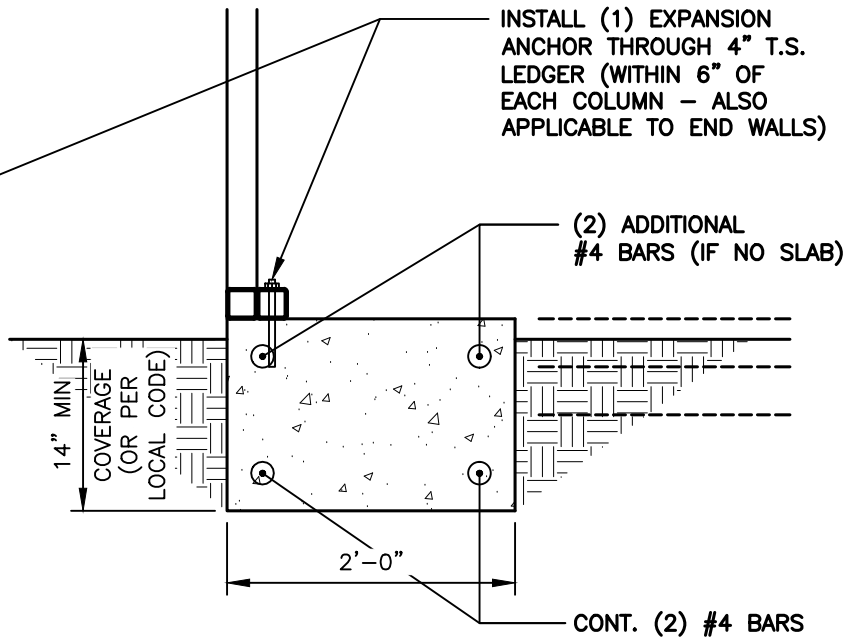
## CONCRETE BASE RAIL ANCHORAGE (NO LEDGE / NO SLAB)

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



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

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



**BASE RAIL ANCHORAGE DETAIL (NO SLAB)**

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

### GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

#### CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. 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.



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
TELE: 828-328-6331 FAX: 828-322-1801  
WWW.TAYLORVIOLA.COM

**JCMT Associates, PLLC**  
211 Stone Drive, Pilot Mountain, NC 27041  
Telephone: (336) 399-6277

**N.C. STEEL  
BUILDINGS, INC.**

P.O. BOX 6604  
MOUNT AIRY, NORTH CAROLINA 27030  
TELE: 336-310-1515

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**PROJECT NO:**  
24-506

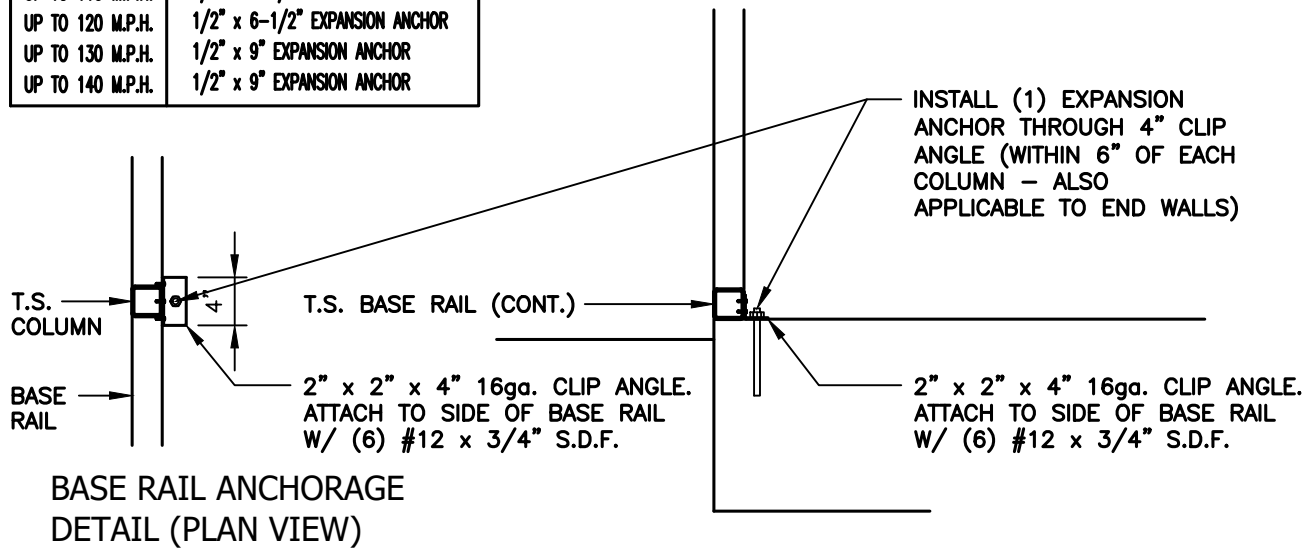
**DATE:**  
2024.04.05

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**S7C**

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

## CONCRETE BASE RAIL ANCHORAGE (CLIP ANGLE ATTACHMENT OPTION)

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



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

## BASE RAIL ANCHORAGE DETAIL (CLIP ANGLE ATTACHMENT OPTION)



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



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS  
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**BKS**

**PROJECT NO:**  
**24-506**

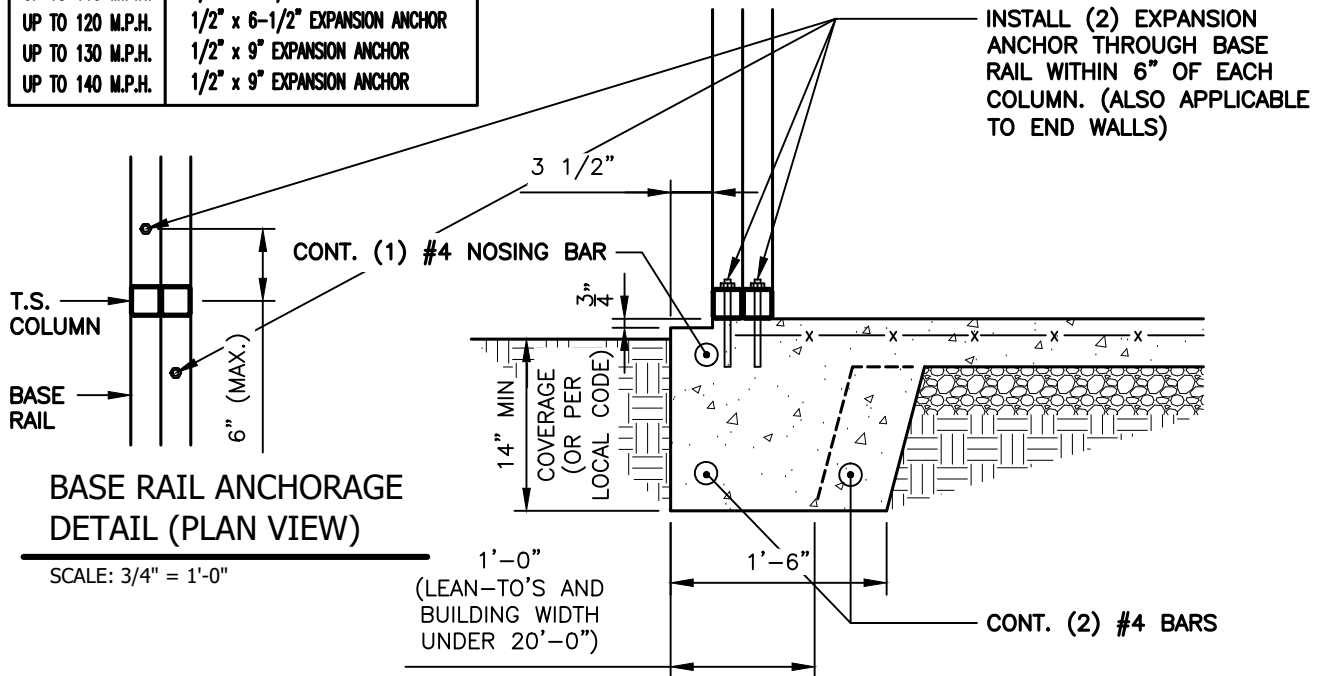
**DATE:**  
**2024.04.05**

**SHEET NO:**  
**S7D**

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

## CONCRETE BASE RAIL ANCHORAGE

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



### BASE RAIL ANCHORAGE DETAIL

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

#### GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

#### CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. 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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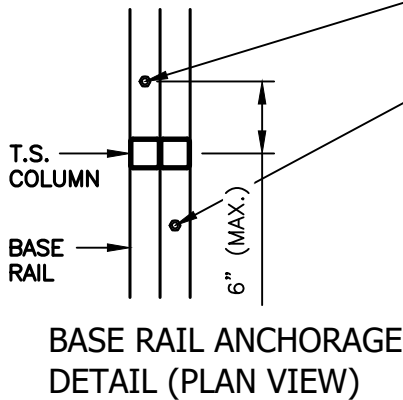
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**SHEET NO:**  
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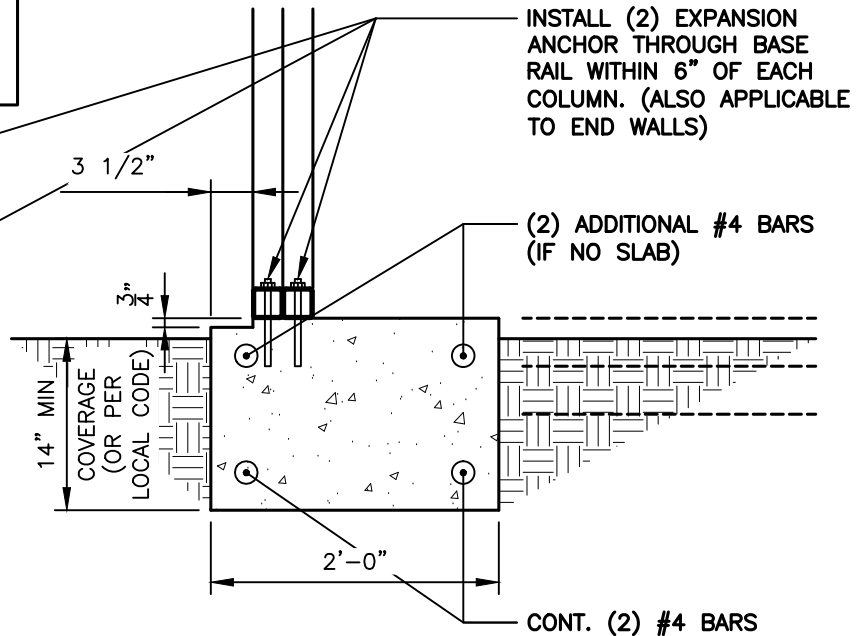
## CONCRETE BASE RAIL ANCHORAGE (NO SLAB)

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



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

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



## BASE RAIL ANCHORAGE DETAIL (NO SLAB)

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

### GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

### CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS.

### COVER OVER REINFORCING STEEL:

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### 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.
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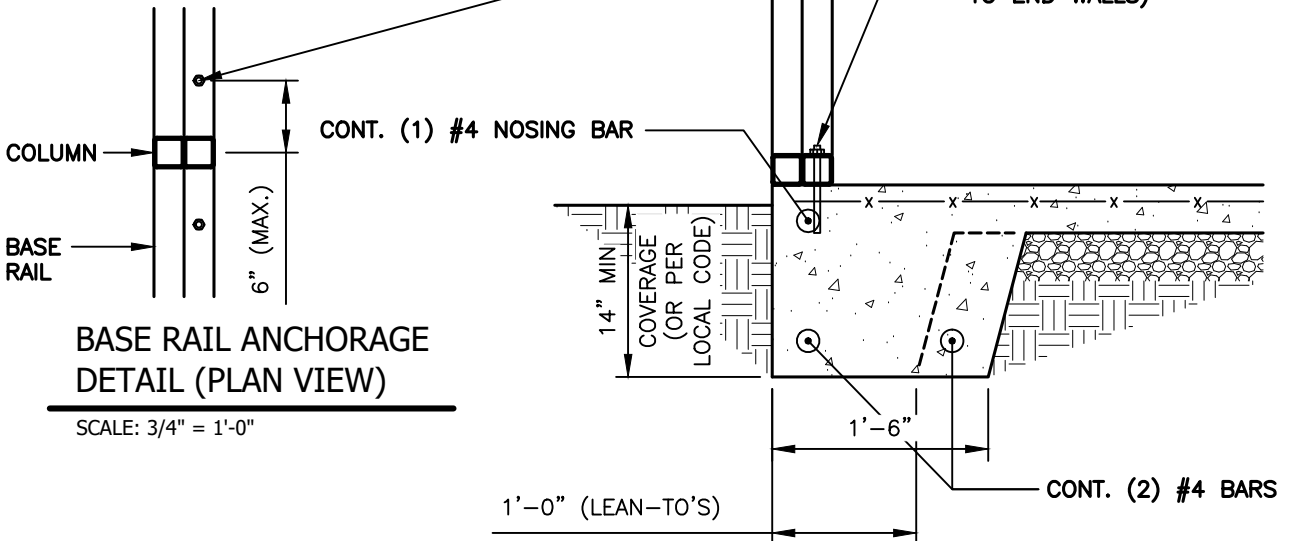
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**S7F**

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### CONCRETE BASE RAIL ANCHORAGE (NO LEDGE)

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



# 1 BASE RAIL ANCHORAGE DETAIL

**GENERAL NOTES:**

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**CONCRETE:**

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS.

**COVER OVER REINFORCING STEEL:**

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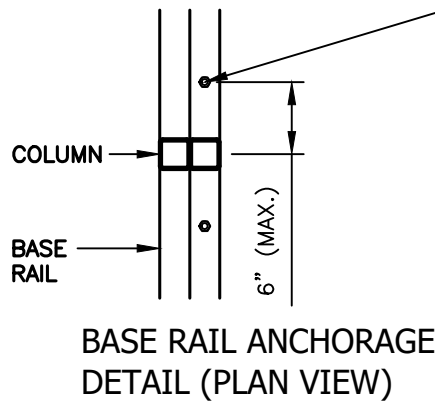
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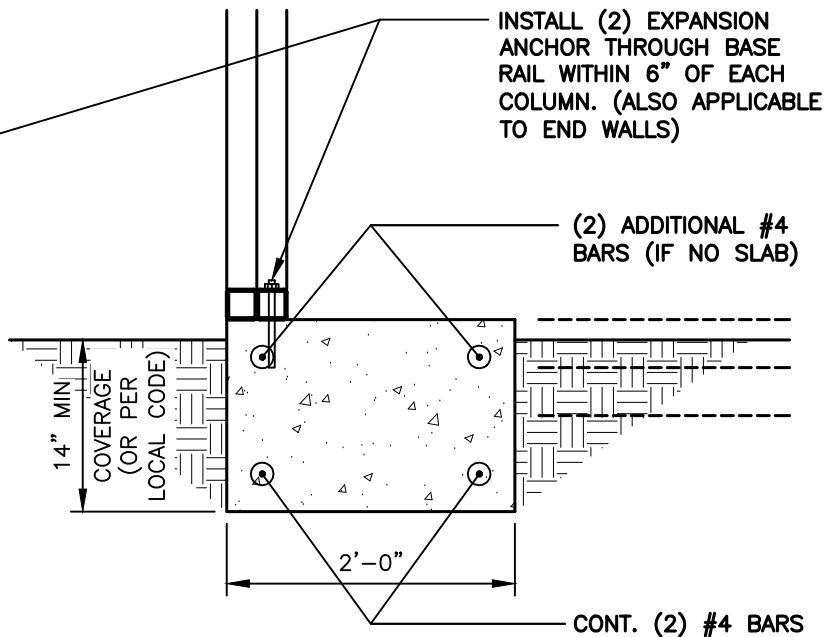
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## CONCRETE BASE RAIL ANCHORAGE (NO LEDGE / NO SLAB)

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 110 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 120 M.P.H.	1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 130 M.P.H.	1/2" x 9" EXPANSION ANCHOR
UP TO 140 M.P.H.	1/2" x 9" EXPANSION ANCHOR



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



### 1 BASE RAIL ANCHORAGE DETAIL (NO SLAB)

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

#### GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

#### CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. 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:

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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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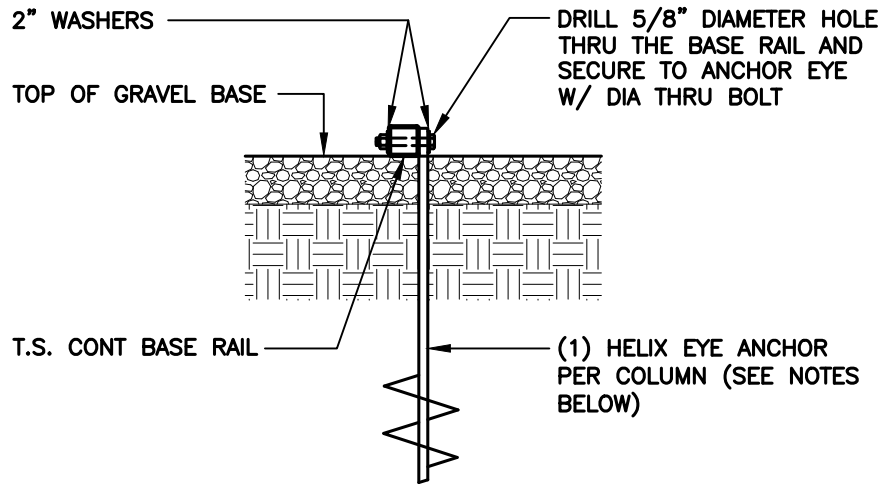
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**S7H**

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## SOIL NAIL BASE RAIL ANCHORAGE



### BASE RAIL ANCHORAGE DETAIL

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

#### HELIX EMBEDMENT INFORMATION:

FOR VERY DENSE OR CEMENTED SANDS, COARSE GRAVEL, COBBLES, CALICHE, PRELOADED SILT.S. AND CLAYS, USE MIN. (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR CORAL, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR MED DENSE COARSE SANDS, SANDY GRAVEL, VERY STIFF SILT.S., AND CLAYS, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILT.S., USE MIN (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR VERY LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILT.S. AND ALLUVIAL FILL, USE MIN (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

#### NOTE:

IN ALL CASES, IF FROST DEPTH EXCEEDS STATED DEPTH, ANCHOR SHOULD EXTEND A MIN. OF 12" BELOW FROST LINE.



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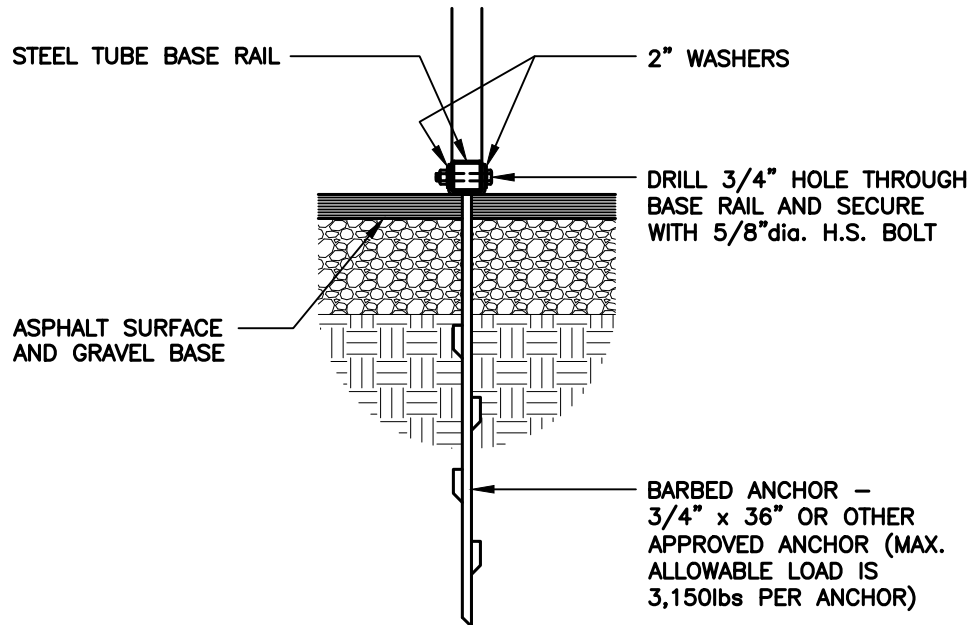
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PROJECT NO:  
24-506

DATE:  
2024.04.05

SHEET NO:  
**S8**

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.



#### ASPHALT / BASE RAIL ANCHORAGE DETAIL

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

**NOTE:**  
IN ALL CASES, IF FROST DEPTH EXCEEDS STATED DEPTH,  
ANCHOR SHOULD EXTEND A MIN. OF 12" BELOW FROST LINE.



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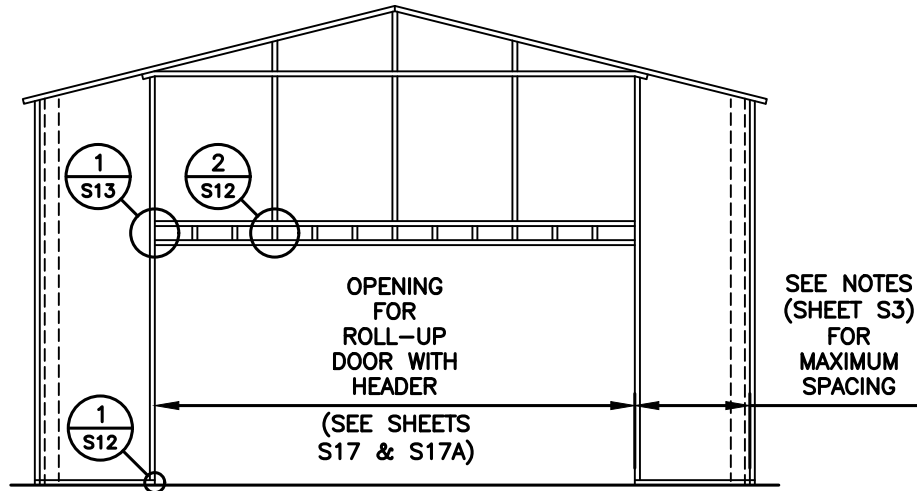
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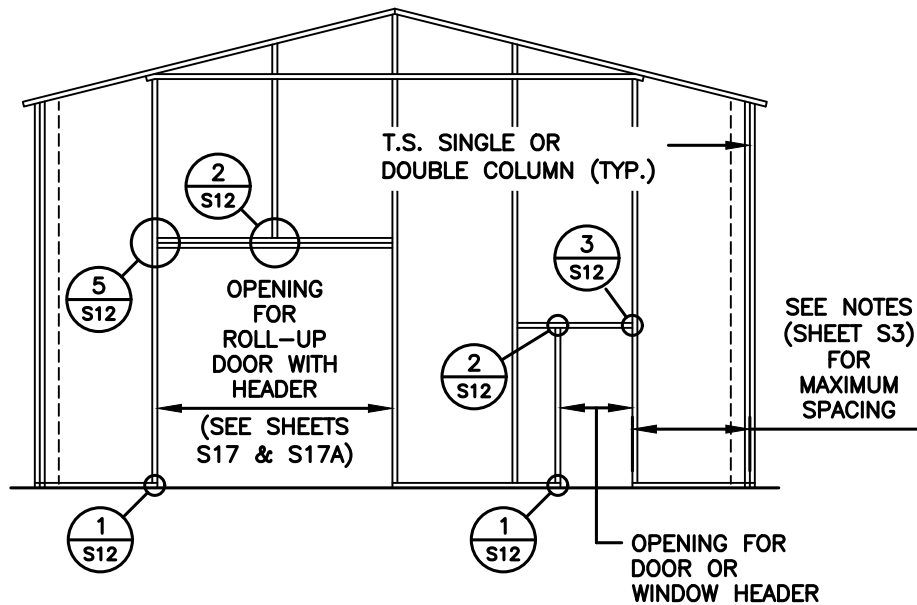
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**S8A**

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## BOX EVE RAFTER / END WALL FRAMING AND OPENINGS



TYPICAL BOX EVE RAFTER END WALL OPENINGS FRAMING SECTION



TYPICAL BOX EVE RAFTER END WALL OPENINGS FRAMING SECTION



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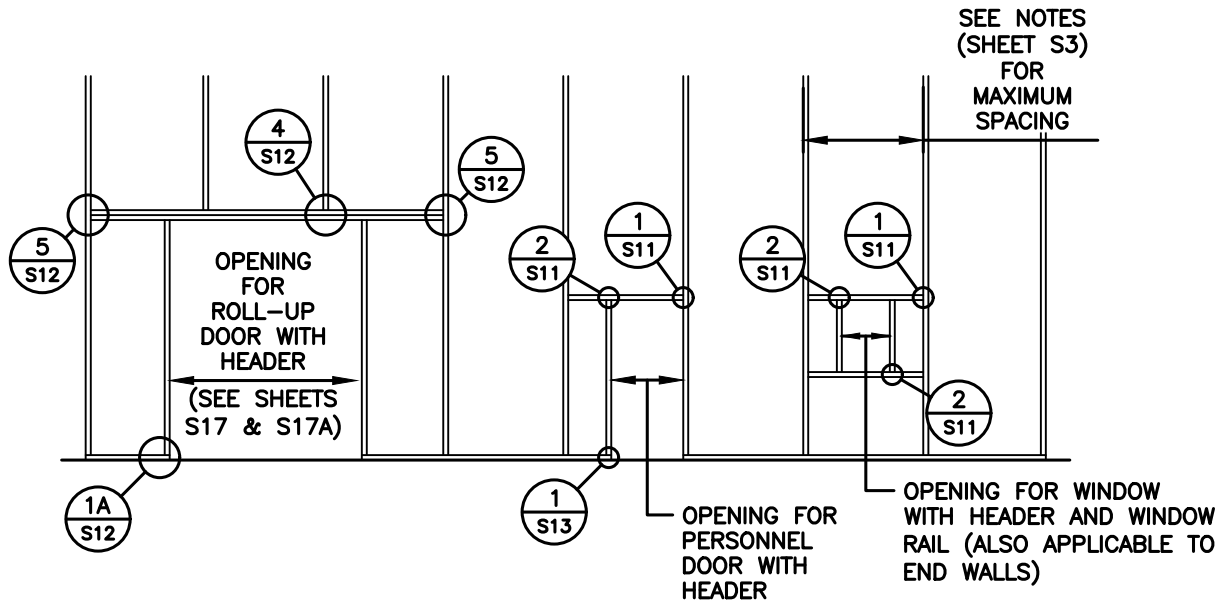
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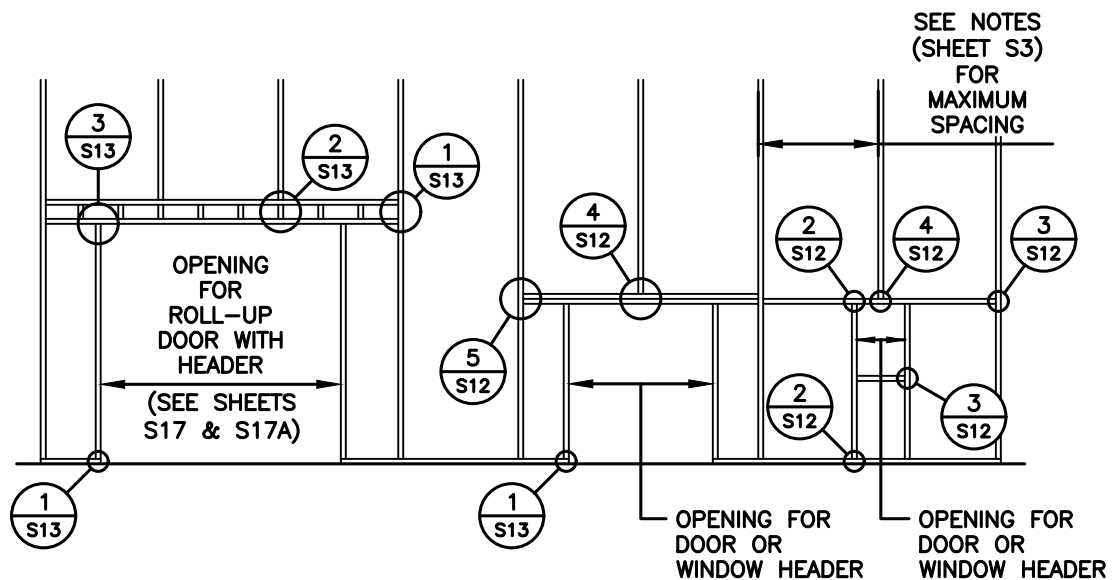
**SHEET NO:**  
**S9**

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

## BOX EAVE RAFTER / SIDE WALL OPENINGS FRAMING



TYPICAL SIDE WALL OPENING FRAMING SECTION



TYPICAL SIDE WALL OPENING FRAMING SECTION



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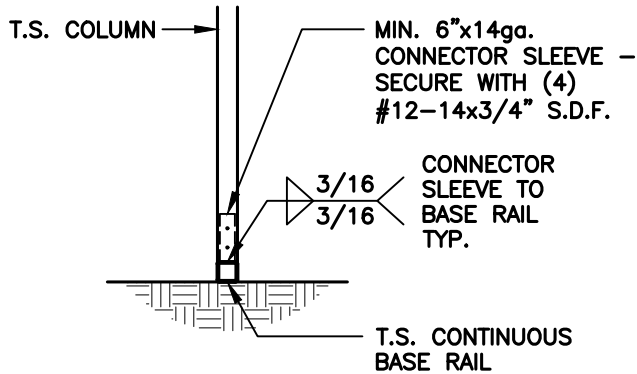
**PROJECT NO:**  
24-506

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2024.04.05

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**S9A**

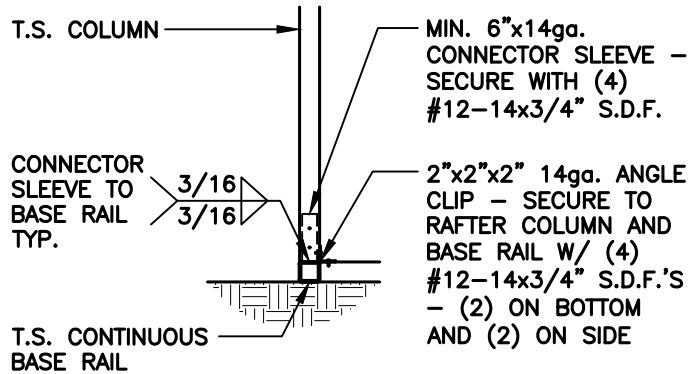
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## BASE RAIL CONNECTION DETAILS



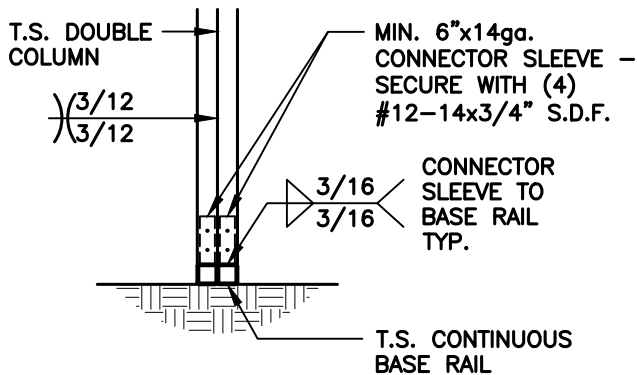
**1**  
**COLUMN / BASE RAIL  
CONNECTION DETAIL**

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



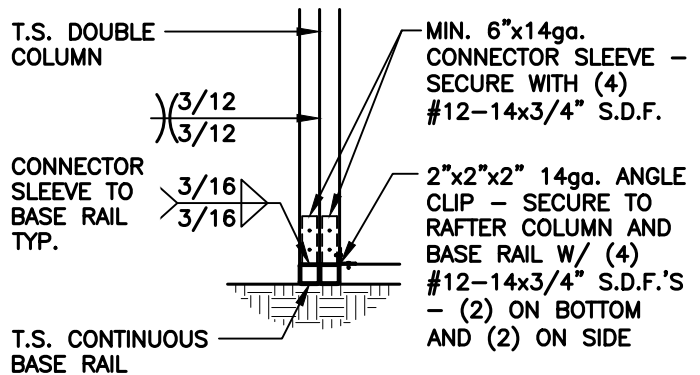
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**END COLUMN / BASE RAIL  
CONNECTION DETAIL**

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



**2**  
**COLUMN / BASE RAIL  
CONNECTION DETAIL**

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



**2A**  
**END COLUMN / BASE RAIL  
CONNECTION DETAIL**

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



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

**JCMT Associates, PLLC**  
211 Stone Drive, Pilot Mountain, NC 27041  
Telephone: (336) 399-6277

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MOUNT AIRY, NORTH CAROLINA 27030  
TELE: 336-310-1515

**DRAWN BY:**  
**BKS**

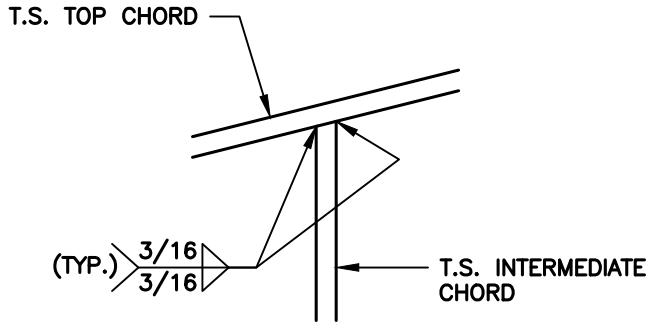
**PROJECT NO:**  
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**2024.04.05**

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

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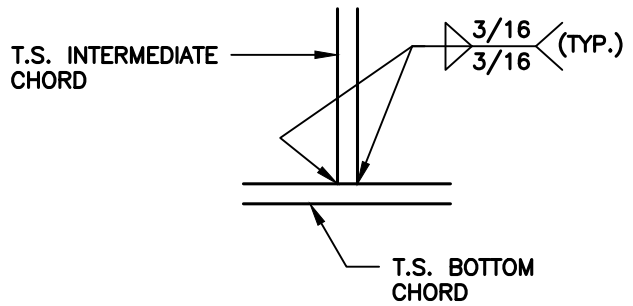
## TRUSS CONNECTION DETAILS



**INTERMEDIATE CHORD / TOP  
CHORD CONNECTION DETAIL**

**1**  
**S11**

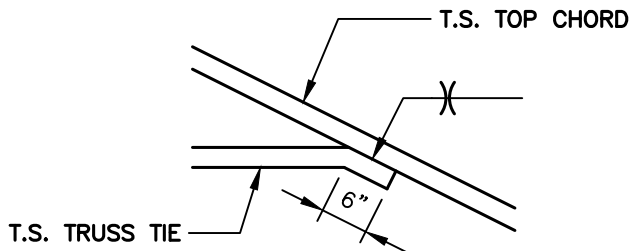
SCALE: 1/2" = 1'-0"



**INTERMEDIATE CHORD / BOTTOM  
CHORD CONNECTION DETAIL**

**2**  
**S11**

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



**TRUSS TIE / TOP CHORD  
CONNECTION DETAIL**

**3**  
**S11**

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



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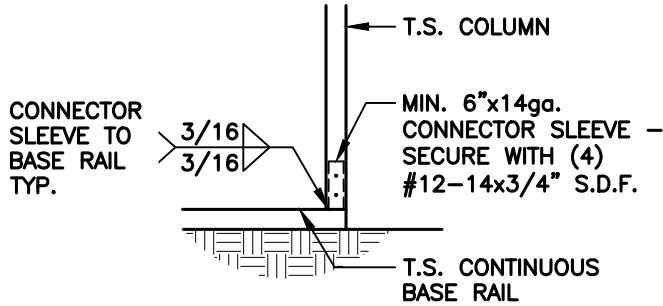
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**2024.04.05**

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**S11**

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

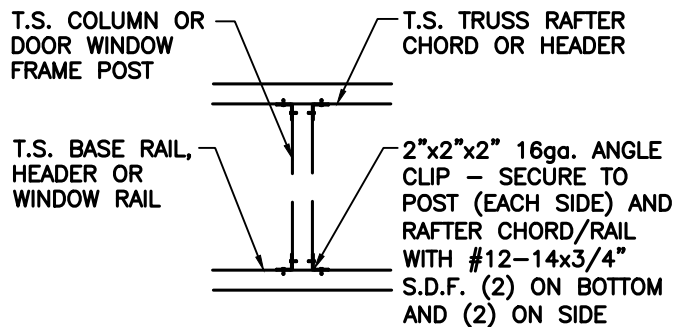
## T.S. OPENING CONNECTION DETAILS



**COLUMN / BASE RAIL  
CONNECTION DETAIL**

**1**  
**S12**

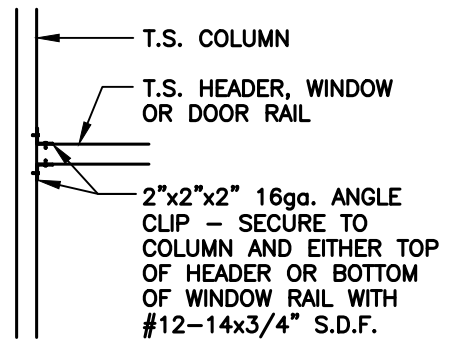
SCALE: 1/2" = 1'-0"



**TRUSS / HEADER TO POST  
CONNECTION DETAIL**

**2**  
**S12**

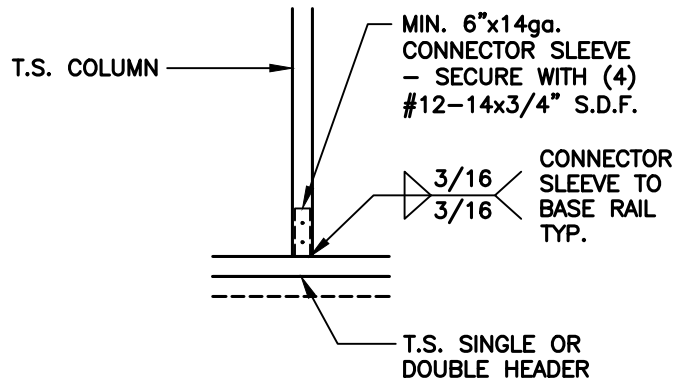
SCALE: 1/2" = 1'-0"



**HEADER / WINDOW OR DOOR RAIL  
TO POST CONNECTION DETAIL**

**3**  
**S12**

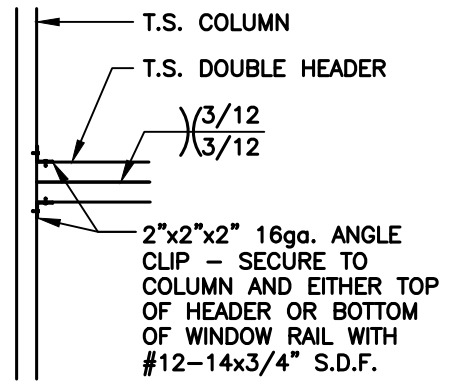
SCALE: 1/2" = 1'-0"



**COLUMN / DOUBLE HEADER  
CONNECTION DETAIL**

**4**  
**S12**

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



**DOUBLE HEADER / COLUMN  
CONNECTION DETAIL**

**5**  
**S12**

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

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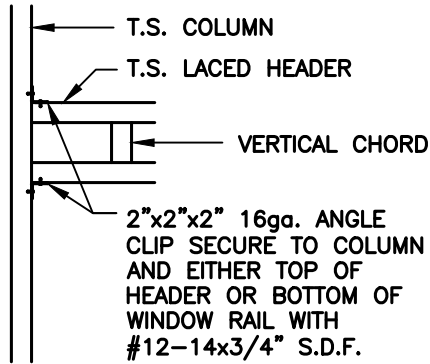
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**S12**

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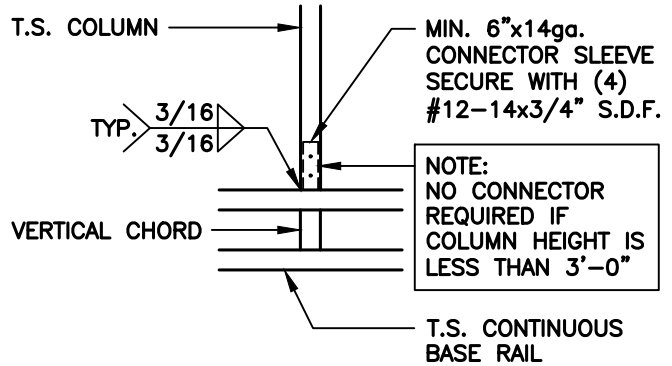
## T.S. OPENING CONNECTION DETAILS



**1**  
**COLUMN / LACED HEADER**  
**CONNECTION DETAIL**

**S13**

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



**2**  
**LACED HEADER / COLUMN**  
**CONNECTION DETAIL**

**S13**

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



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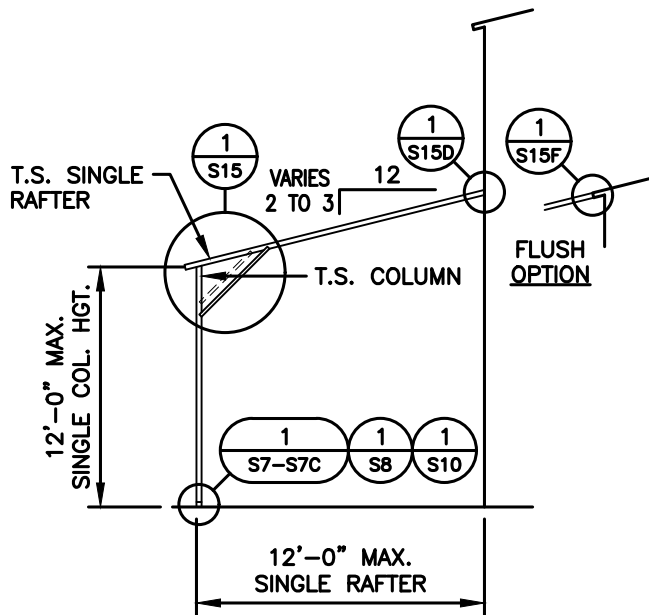
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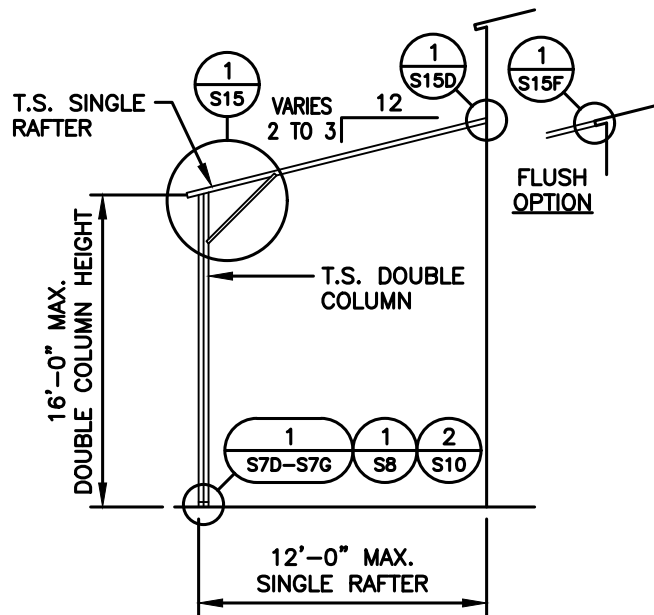
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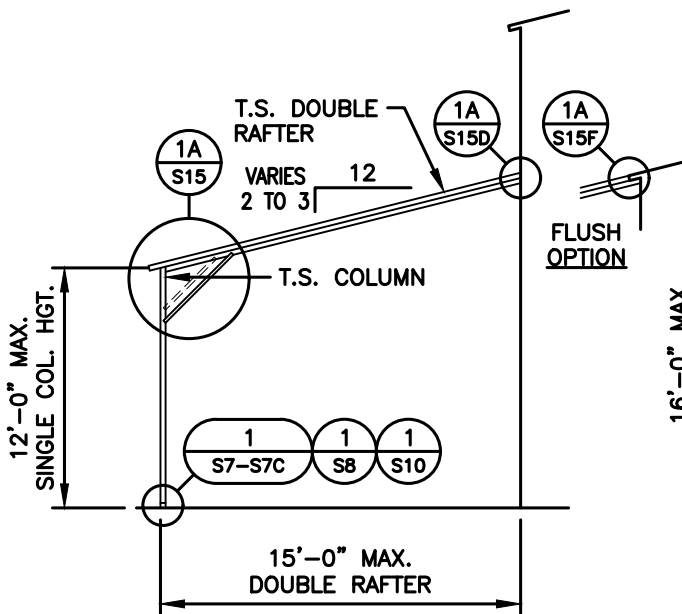
# BOX EVE RAFTER / SINGLE & DOUBLE RAFTER - LEAN-TO OPTIONS



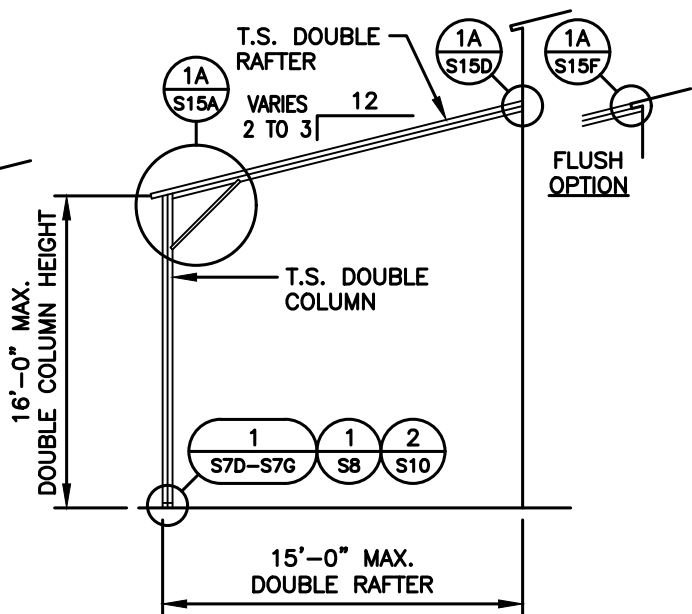
SINGLE RAFTER / SINGLE COLUMN  
LEAN-TO FRAMING SECTION



SINGLE RAFTER / DOUBLE COLUMN  
LEAN-TO FRAMING SECTION



DOUBLE RAFTER / SINGLE COLUMN  
LEAN-TO FRAMING SECTION



DOUBLE RAFTER / DOUBLE COLUMN  
LEAN-TO FRAMING SECTION



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STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
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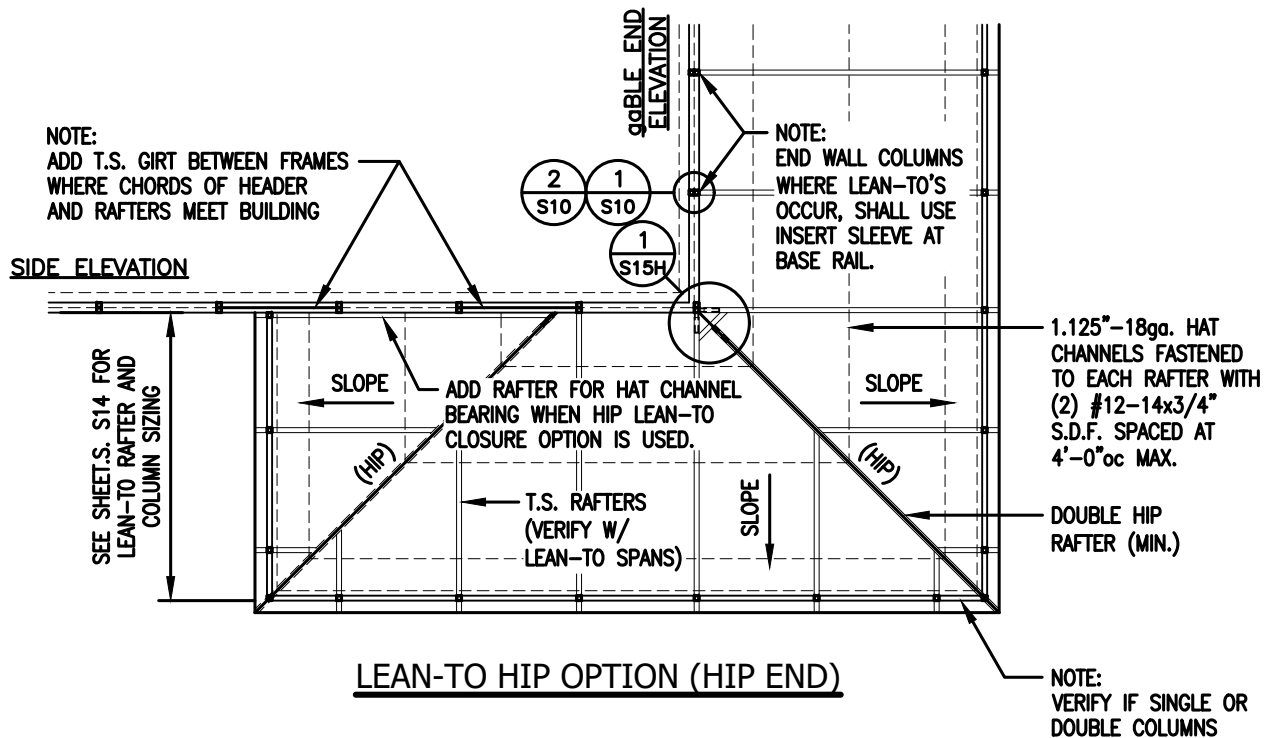
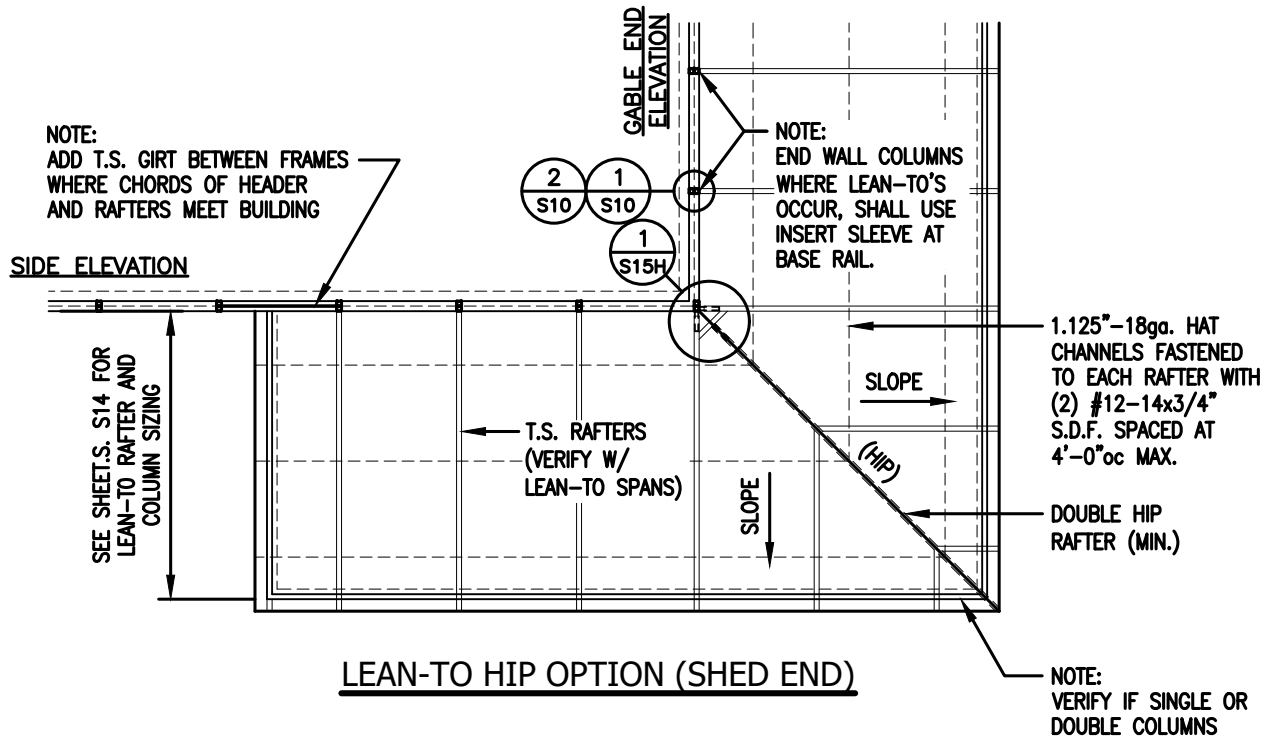
**PROJECT NO:**  
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2024.04.05

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**S14**

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## LEAN-TO 'HIP' OPTIONS



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TELE: 828-328-6331 FAX: 828-322-1801  
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211 Stone Drive, Pilot Mountain, NC 27041  
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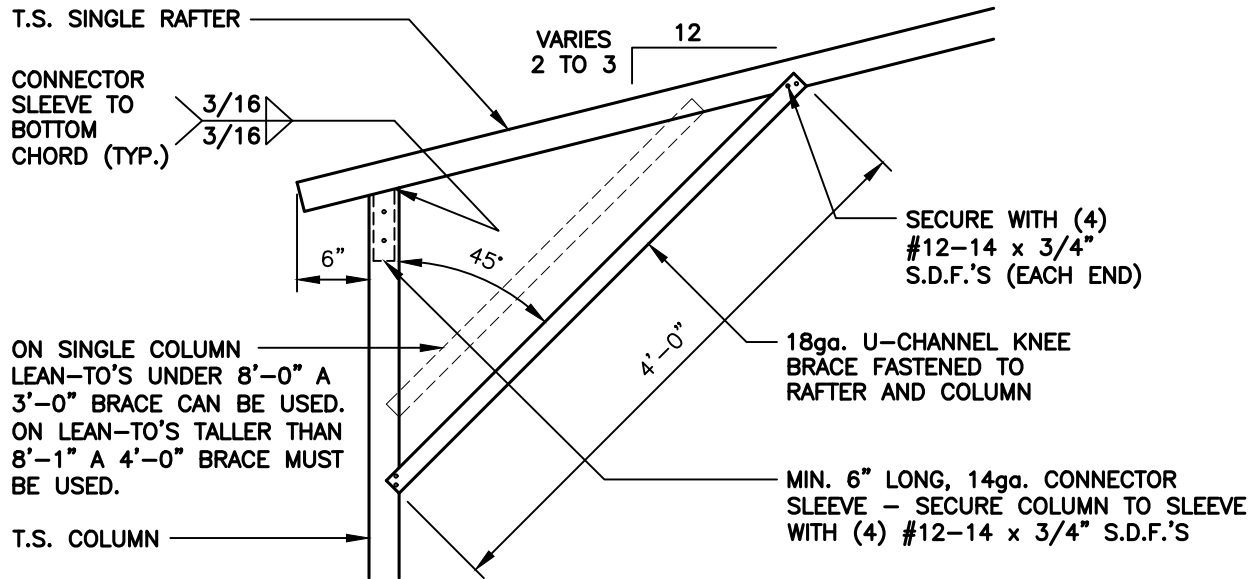
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**S14B**

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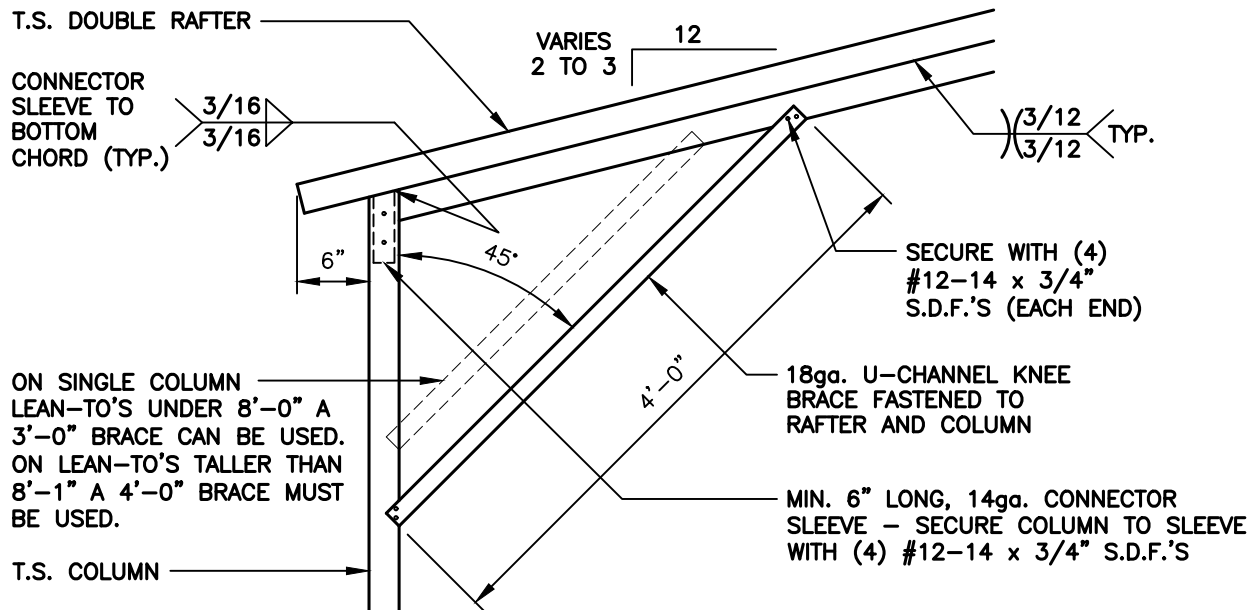
## LEAN-TO CONNECTION DETAILS - SINGLE COLUMN



### LEAN-TO SINGLE RAFTER / SINGLE COLUMN CONNECTION DETAIL

1  
S15

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



### LEAN-TO DOUBLE RAFTER / SINGLE COLUMN CONNECTION DETAIL

1A  
S15

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



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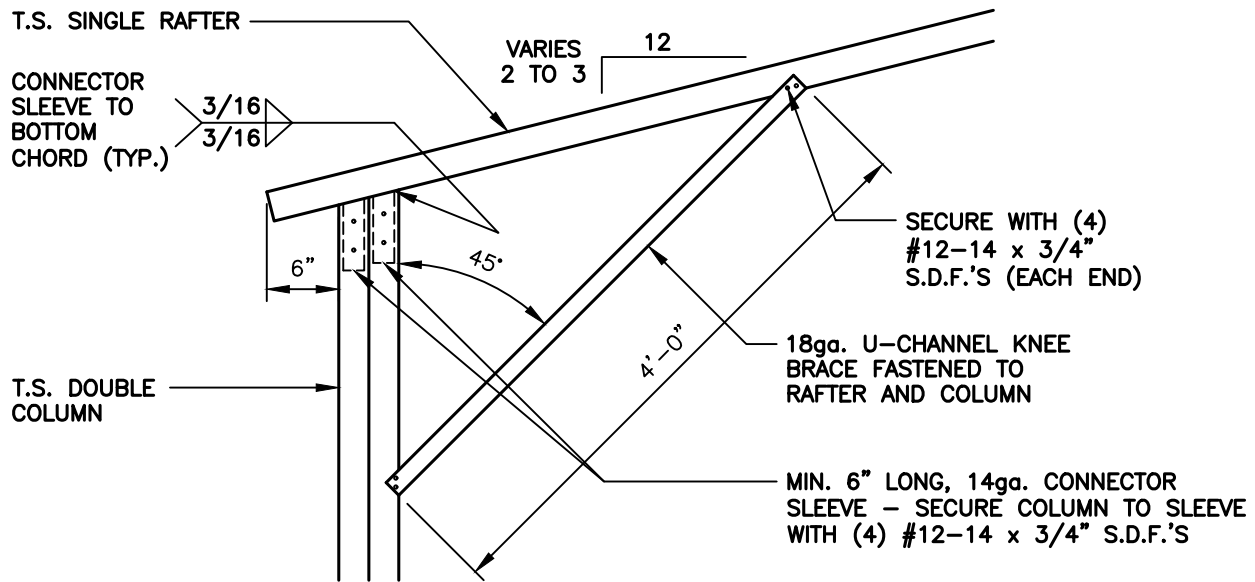
**PROJECT NO:**  
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**SHEET NO:**  
**S15**

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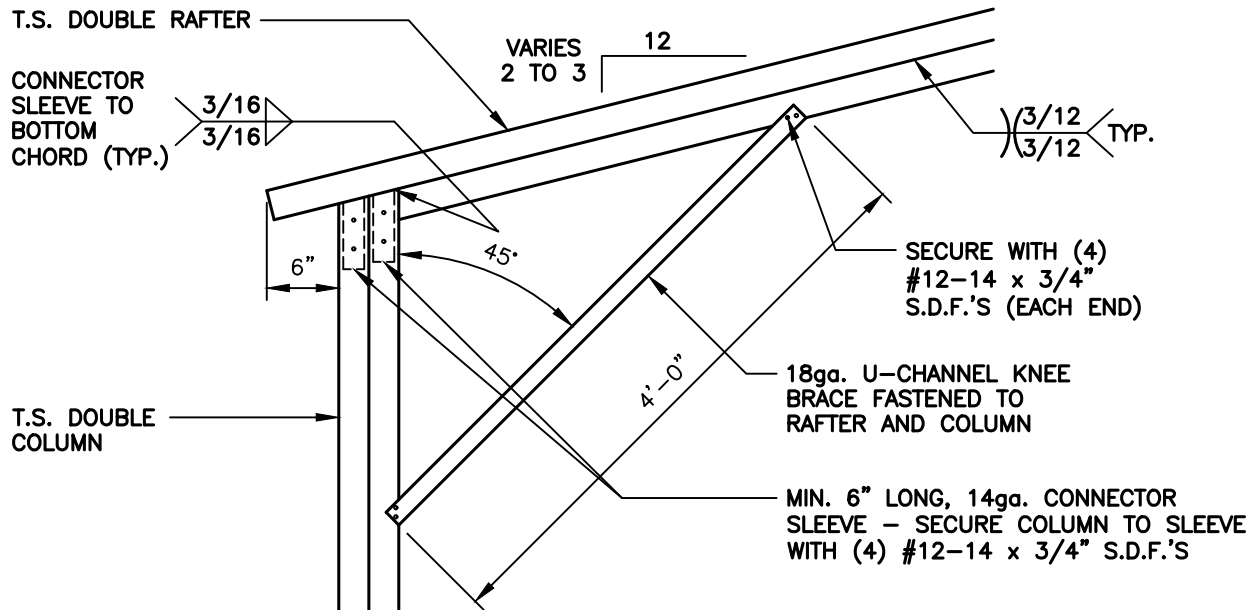
## LEAN-TO CONNECTION DETAILS - DOUBLE COLUMN



### LEAN-TO SINGLE RAFTER / DOUBLE COLUMN CONNECTION DETAIL

1  
S15A

SCALE:  $\frac{3}{4}$ " = 1'-0"



### LEAN-TO DOUBLE RAFTER / DOUBLE COLUMN CONNECTION DETAIL

1A  
S15A

SCALE:  $\frac{3}{4}$ " = 1'-0"



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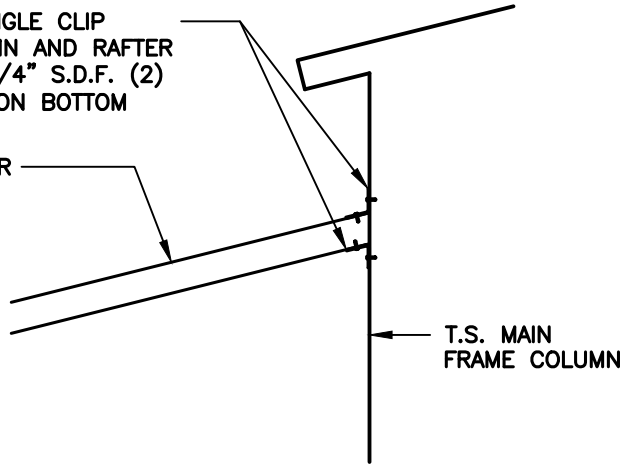
SHEET NO:  
**S15A**

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## LEAN-TO / MAIN FRAME CONNECTION DETAILS

2"x2"x2" 14ga. ANGLE CLIP  
SECURE TO COLUMN AND RAFTER  
WITH #12-14 x 3/4" S.D.F. (2)  
ON TOP AND (2) ON BOTTOM

T.S. SINGLE RAFTER



### LEAN-TO SINGLE RAFTER / BUILDING FRAME CONNECTION DETAIL

1  
S15D

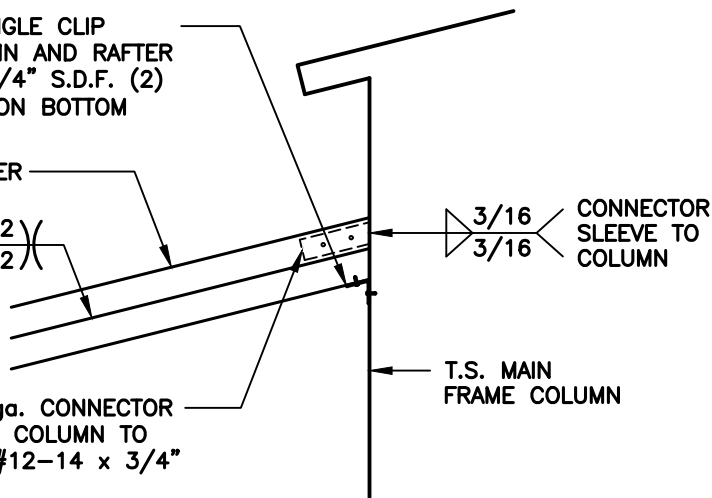
SCALE: 3/4" = 1'-0"

2"x2"x2" 14ga. ANGLE CLIP  
SECURE TO COLUMN AND RAFTER  
WITH #12-14 x 3/4" S.D.F. (2)  
ON TOP AND (2) ON BOTTOM

T.S. DOUBLE RAFTER

TYP.  $\frac{3}{12}$  /  $\frac{3}{12}$

MIN. 6" LONG, 14ga. CONNECTOR  
SLEEVE - SECURE COLUMN TO  
SLEEVE WITH (4) #12-14 x 3/4"  
S.D.F.'S



### LEAN-TO DOUBLE RAFTER / BUILDING FRAME CONNECTION DETAIL

1A  
S15D

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



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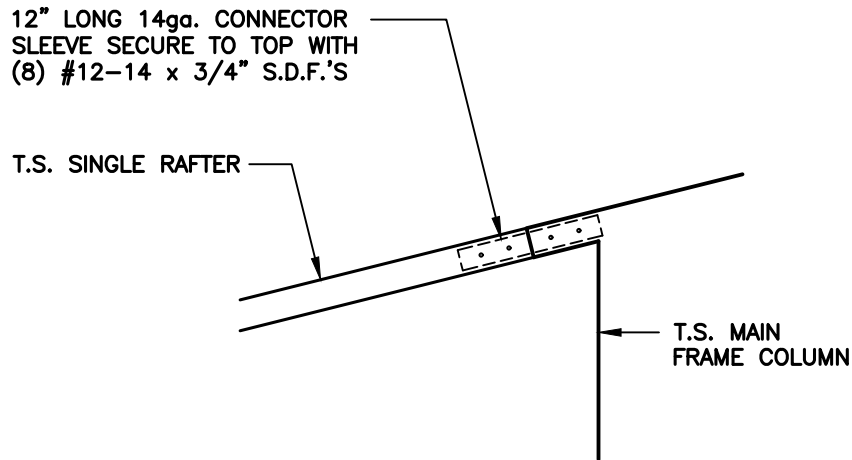
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**SHEET NO:**  
**S15D**

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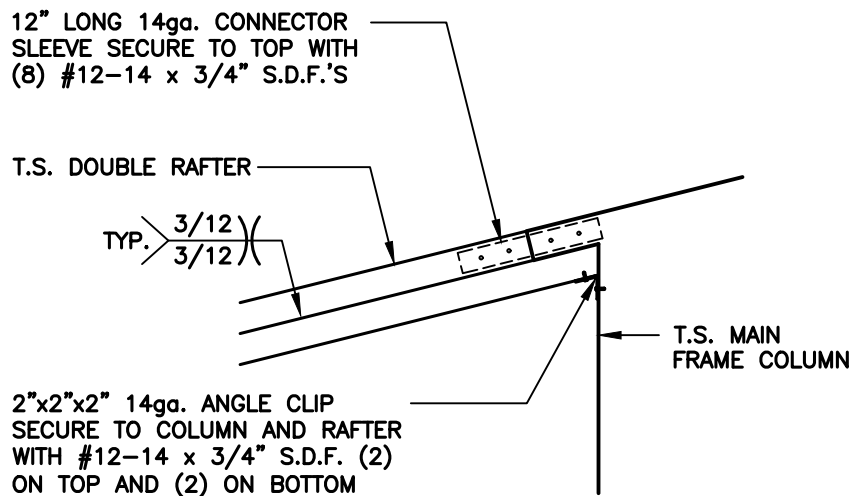
## LEAN-TO / MAIN FRAME CONNECTION DETAILS



### LEAN-TO SINGLE RAFTER / BUILDING FRAME (FLUSH) CONNECTION DETAIL

1  
S15F

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



### LEAN-TO DOUBLE RAFTER / BUILDING FRAME (FLUSH) CONNECTION DETAIL

1A  
S15F

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



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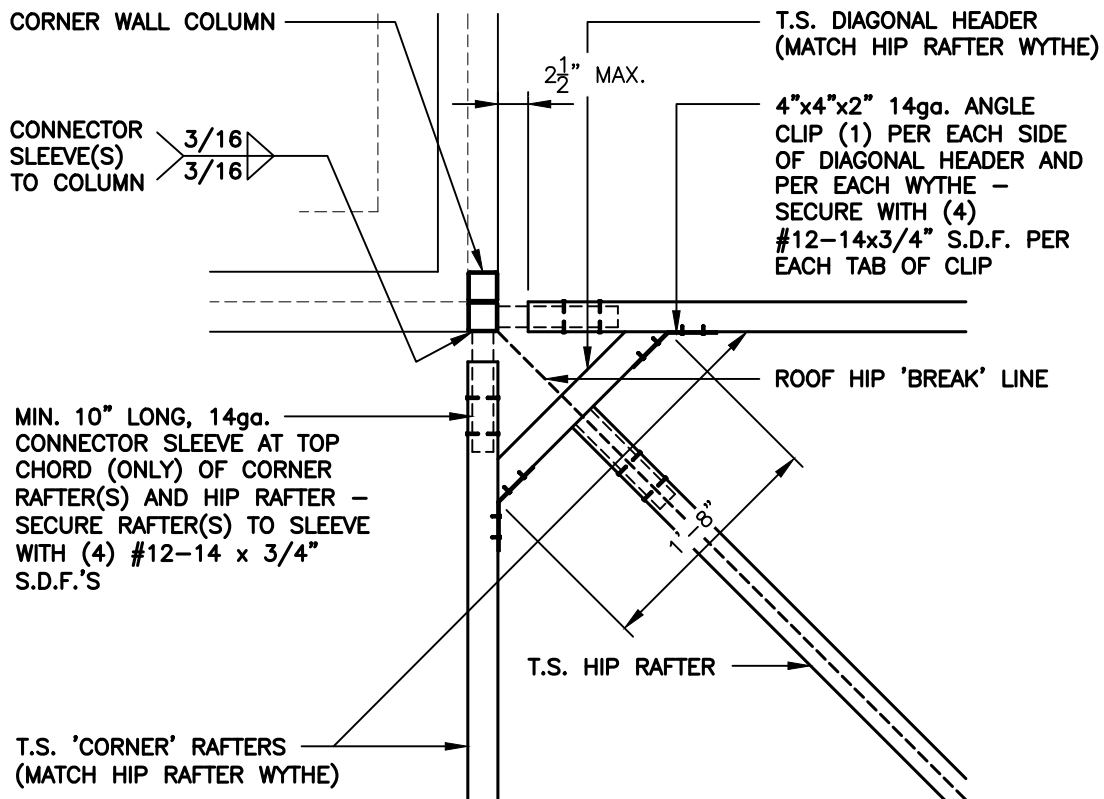
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## END WALL COLUMN / HIP RAFTER CONNECTION DETAIL



## END WALL COLUMN / HIP RAFTER CONNECTION DETAIL



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



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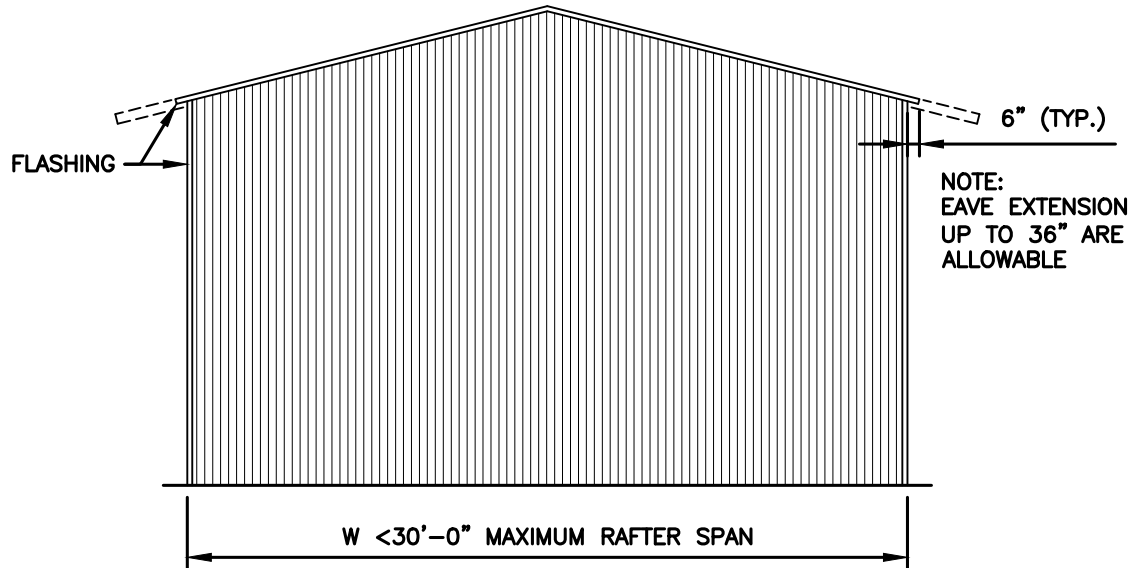
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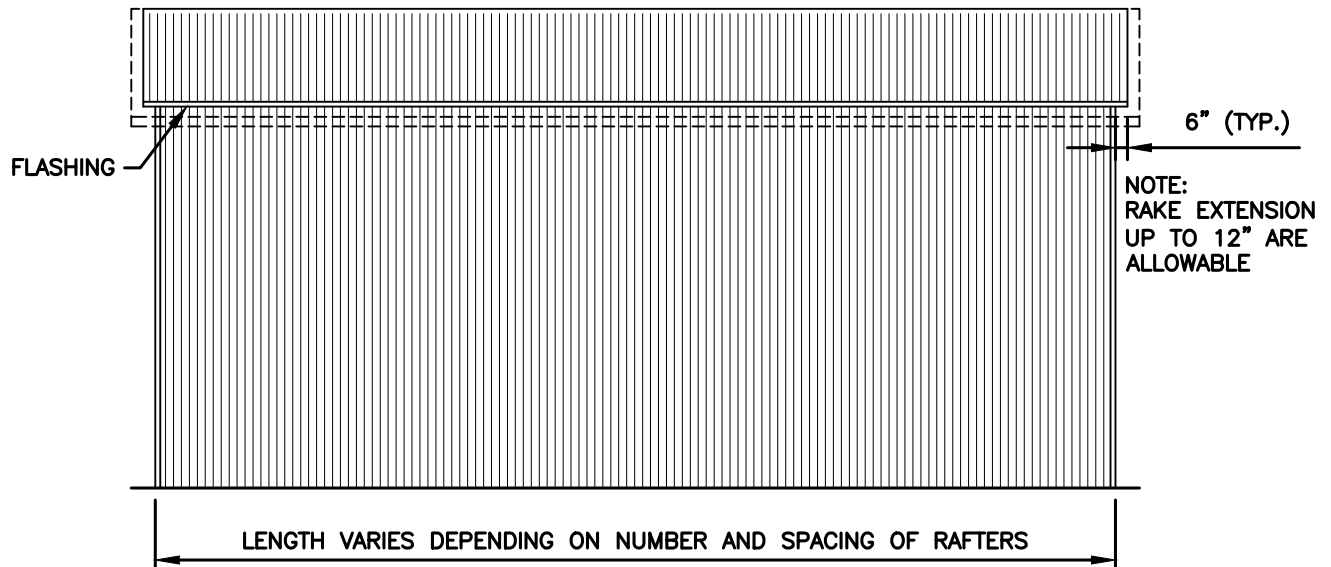
**SHEET NO:**  
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## VERTICAL ROOF / SIDING OPTION



TYPICAL END ELEVATION - VERTICAL ROOF / SIDING



TYPICAL SIDE ELEVATION - VERTICAL ROOF / SIDING



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## VERTICAL ROOF / SIDING OPTION

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

29ga. GALVANIZED  
METAL ROOF AND  
WALL PANELS  
FASTENED TO HAT  
CHANNELS AND  
GIRT.S.

NOTE:  
H.S.S. 2-1/2"x2-1/2"x14ga. OR  
2-1/4"x2-1/4"x12ga. MATERIAL  
MAY BE USED FOR TRUSS METAL.

T.S. SINGLE OR  
DOUBLE COLUMN

T.S. GIRT.S.  
SPACED AT  
5'-0"oc (MAX.)

W/ <30'-0" MAXIMUM RAFTER SPAN

## TYPICAL SECTION VERTICAL ROOF / SIDING OPTION



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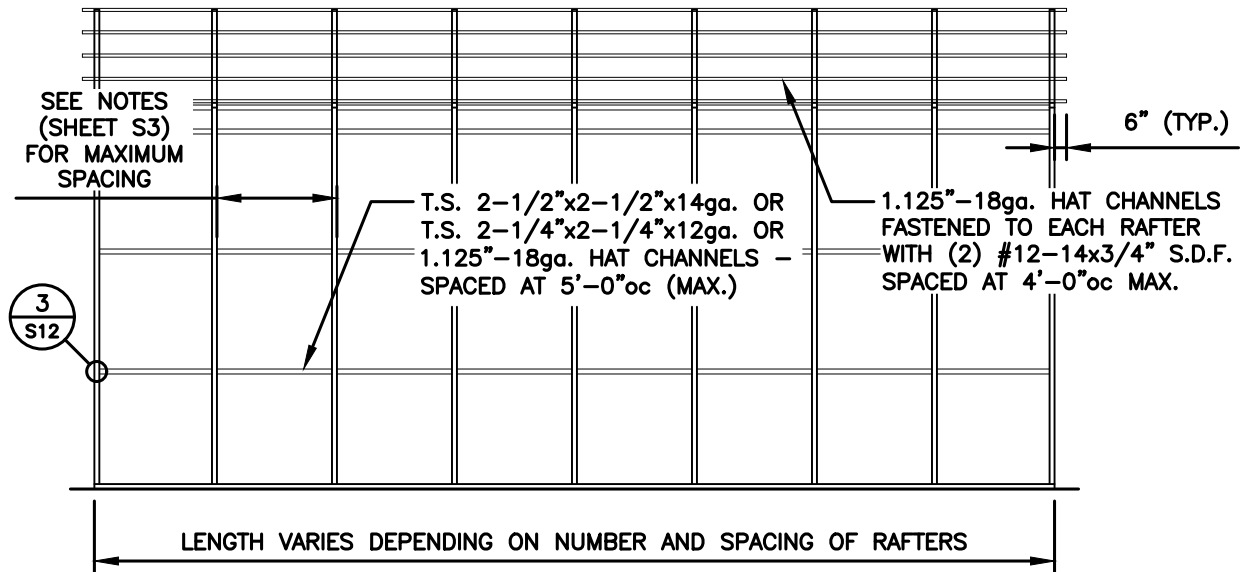
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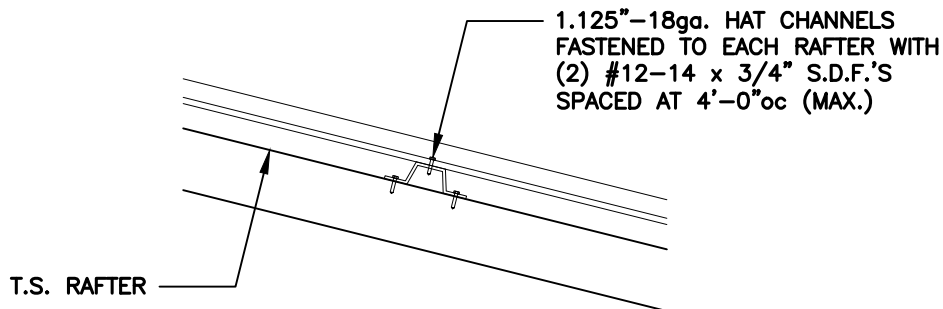
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## VERTICAL ROOF / SIDING OPTION



TYPICAL SIDE FRAMING SECTION VERTICAL ROOF / SIDING OPTION



(TYPICAL) ROOF PANEL ATTACHMENT



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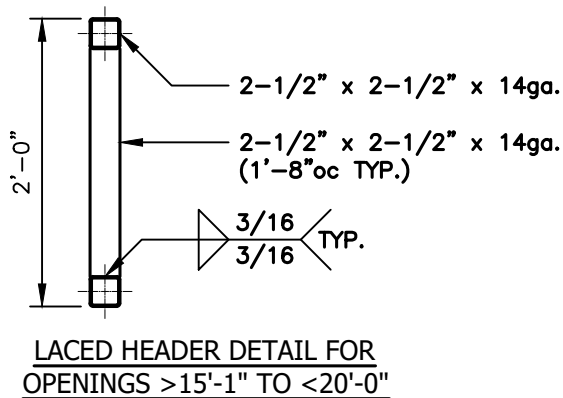
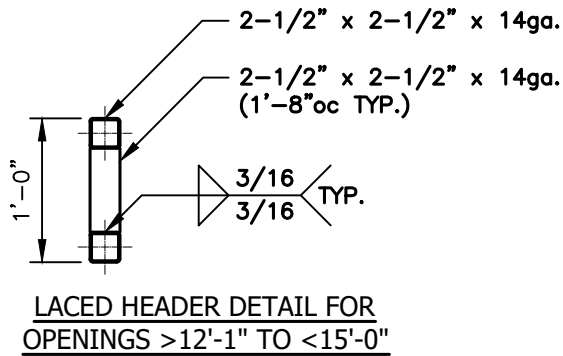
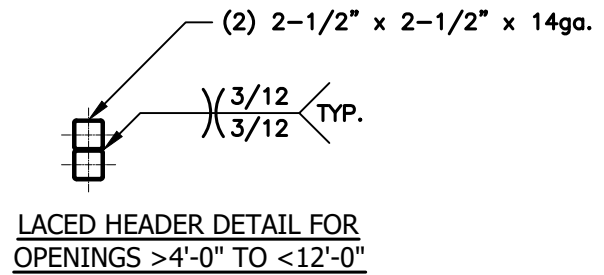
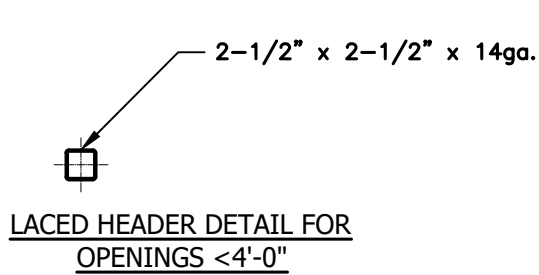
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## SIDE WALL HEADER OPTIONS



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WWW.TAYLORVIOLA.COM

**JCMT Associates, PLLC**  
211 Stone Drive, Pilot Mountain, NC 27041  
Telephone: (336) 399-6277

**N.C. STEEL  
BUILDINGS, INC.**  
P.O. BOX 6604  
MOUNT AIRY, NORTH CAROLINA 27030  
TELE: 336-310-1515

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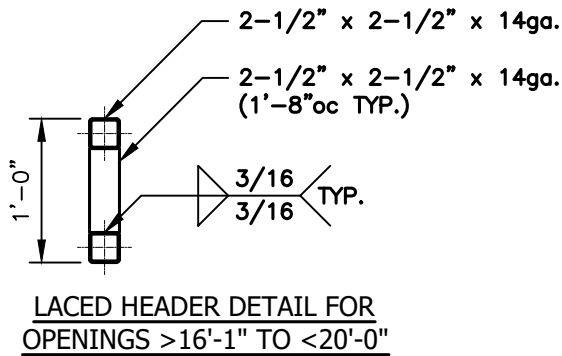
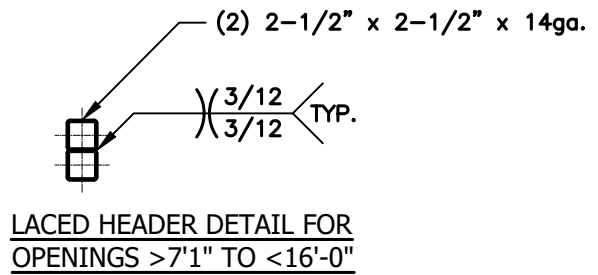
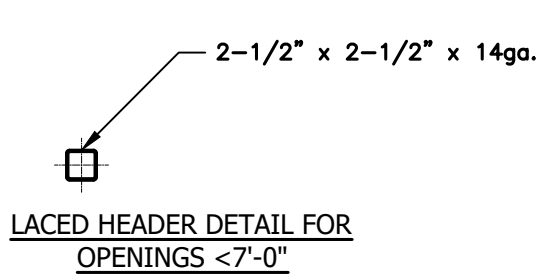
**PROJECT NO:**  
**24-506**

**DATE:**  
**2024.04.05**

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

NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDER YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

## END WALL HEADER OPTIONS



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS  
P.O.B. 2616 HICKORY NORTH CAROLINA  
TELE: 828-328-6331 FAX: 828-322-1801  
WWW.TAYLORVIOLA.COM

**JCMT Associates, PLLC**  
211 Stone Drive, Pilot Mountain, NC 27041  
Telephone: (336) 399-6277

**N.C. STEEL  
BUILDINGS, INC.**

P.O. BOX 6604  
MOUNT AIRY, NORTH CAROLINA 27030  
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