

## ENCLOSED GABLE END BUILDING

MAXIMUM 30'-0" WIDE X 16'-0" EAVE HEIGHT WITH BOX FRAME / (UP TO) 145 M.P.H. WIND ZONE

FOR:

TWIN CARPORTS  
PILOT MOUNTAIN, NORTH CAROLINA

ISSUE DATE: MARCH 03, 2023

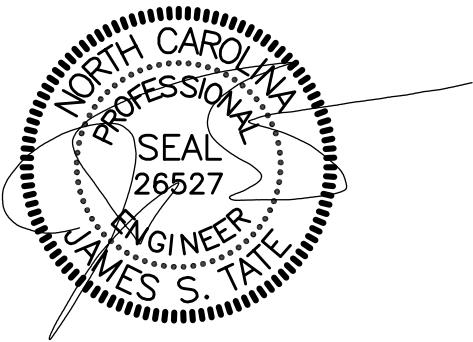


P.O.B. 2616 HICKORY NORTH CAROLINA

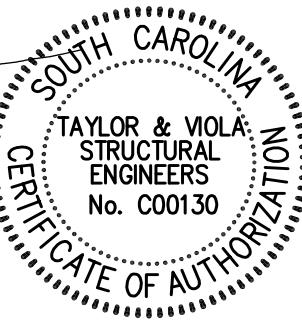
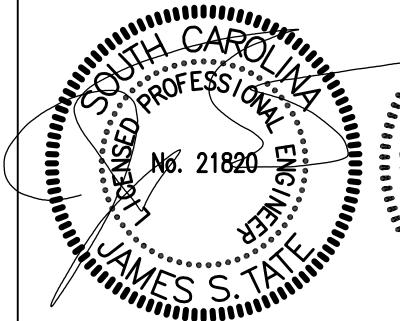
TELE: 828-328-6331 FAX: 828-322-1801

WWW.TAYLORVIOLA.COM

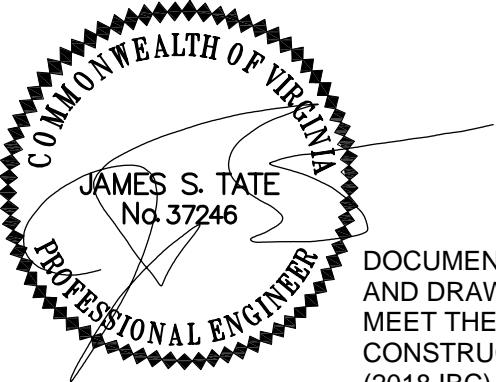




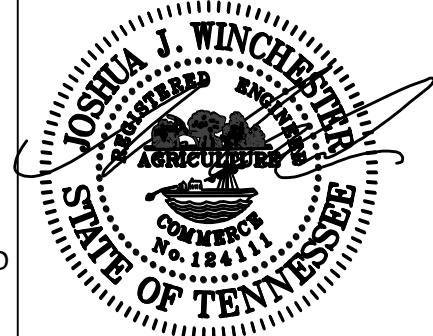
DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 NC BUILDING CODE (2015 IBC)



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2021 SC BUILDING CODE (2021 IBC)



DOCUMENTS DESIGNED  
AND DRAWN TO  
MEET THE 2018 VA  
CONSTRUCTION CODE  
(2018 IBC)



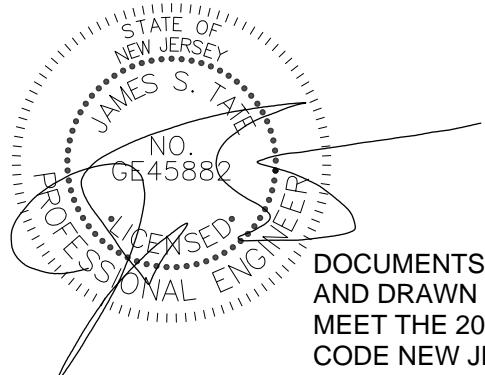
DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2012 IBC



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 IBC



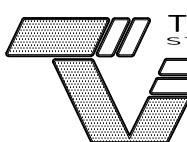
DOCUMENTS DESIGNED  
AND DRAWN TO  
MEET THE 2020 BUILDING  
CODE OF NEW YORK STATE  
(2018 IBC)



DOCUMENTS DESIGNED  
AND DRAWN TO  
MEET THE 2021 BUILDING  
CODE NEW JERSEY EDITION  
(2021 IBC)



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 IBC



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S1



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 IBC



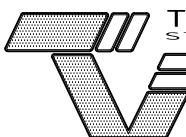
DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2021 BUILDING CODE OF  
ALABAMA (2021 IBC)



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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

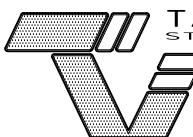
PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S1

# SHEET INDEX

SHEET NUMBER	SHEET TITLE
S0	SEALED COVER SHEET
S1	P.E. SEALS SHEET
S1A	P.E. SEALS SHEET
S2	DRAWING INDEX
S3	GENERAL NOTES AND SPECIFICATIONS
S4	SIDE AND END ELEVATIONS
S5	TYPICAL RAFTER / COLUMN FRAME SECTIONS
S5A	TYPICAL RAFTER / COLUMN FRAME AND SIDE FRAMING SECTION
S6	COLUMN CONNECTION DETAILS (LACED COLUMN)
S6A	COLUMN CONNECTION DETAILS (DOUBLE AND SINGLE COLUMN)
S7	BASE RAIL ANCHORAGE
S7A	BASE RAIL ANCHORAGE
S8	BASE RAIL ANCHORAGE
S9	TYPICAL END WALL OPENINGS FRAMING SECTIONS
S9A	TYPICAL SIDE WALL OPENINGS FRAMING SECTIONS
S10	CONNECTION DETAILS
S11	CONNECTION DETAILS
S12	CONNECTION DETAILS
S13	CONNECTION DETAILS
S14	CONNECTION DETAILS
S15	LEAN-TO OPTIONS
S15A	LEAN-TO CONNECTION DETAILS
S15B	LEAN-TO CONNECTION DETAILS
S15C	LEAN-TO CONNECTION DETAILS
S16	VERTICAL ROOF / SIDING OPTION END AND SIDE ELEVATION
S16A	VERTICAL ROOF / SIDING OPTION END SECTION
S16B	VERTICAL ROOF / SIDING OPTION SIDE SECTION
S17	SIDE WALL HEADER OPTIONS
S17A	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

TWIN  
CARPORTS  
PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
**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:		*	PSF	VARIABLES - SEE NOTES 30 P.S.F. MIN.
GROUND LOAD:	BASIC WIND SPEED	V 145	mph (ASCE 7-16)	* DRIFT LOAD HAS NOT
	EXPOSURE CAGATORY	B		BEEN CALCULATED

SEISMIC DESIGN CAGATORY 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)

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

ANALYSIS PROCEDURE    SIMPLIFIED    X EQUIVANT LATERAL FORCE    MODAL

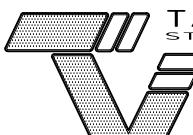
LATERAL DESIGN CONTROL?    EARTHQUAKE    X WND

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 P.S.F. ASSUMED BEARING CAPACITY UNLESS NOTED OTHERWISE.
6. IF 12ga. MATERIAL x 50 KSI MINIMUM MATERIAL IS USED THRU-OUT, 45 P.S.F. SNOW LOAD IS ACCEPTABLE.
7. IF WELDED TUBE TRUSS USED IN LIEU OF 18ga. U-CHANNEL, 35 P.S.F. SNOW LOAD IS ACCEPTABLE.



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

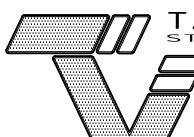
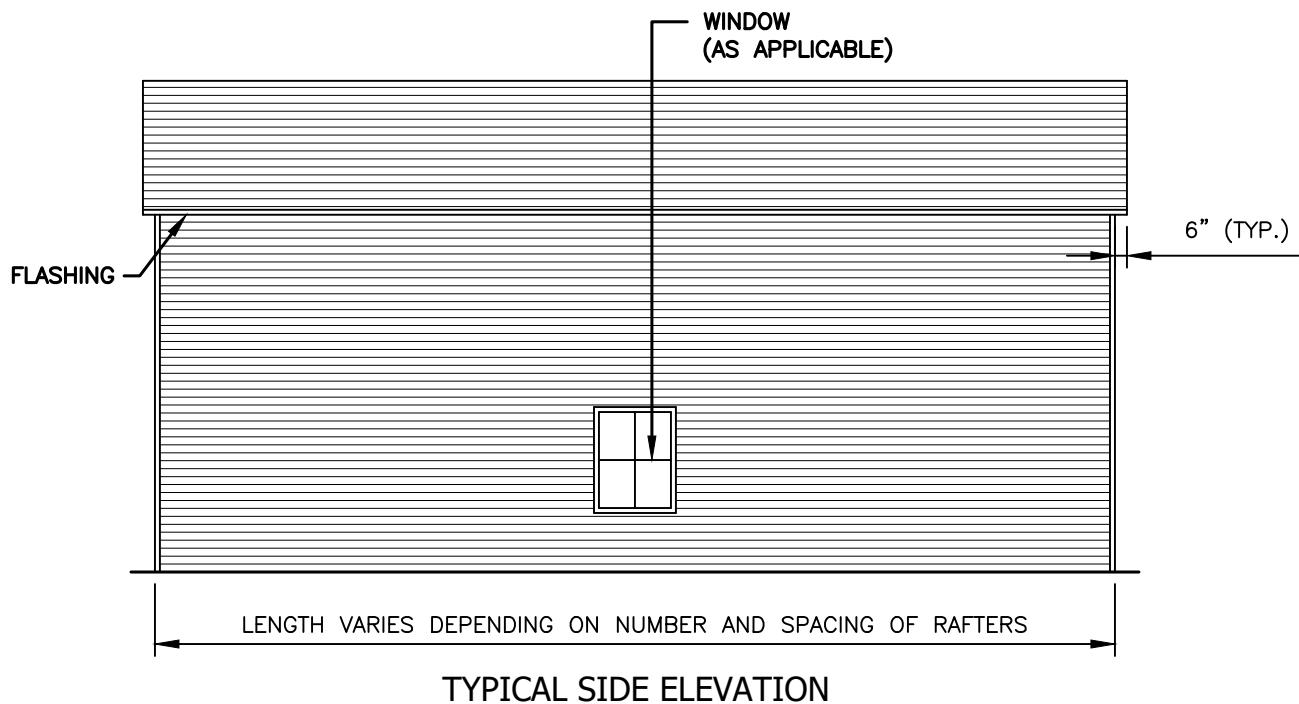
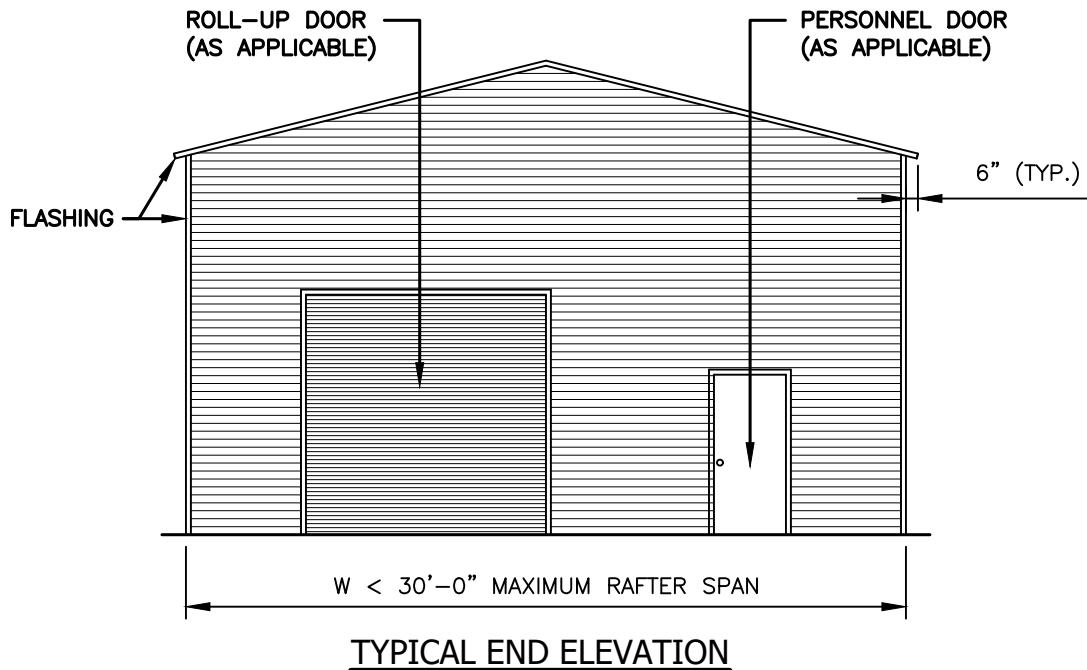
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S3

## BOX EVE FRAME RAFTER STURCTURE



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS

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

**TWIN**  
**CARPORTS**

PILOT MOUNTAIN, NORTH CAROLINA

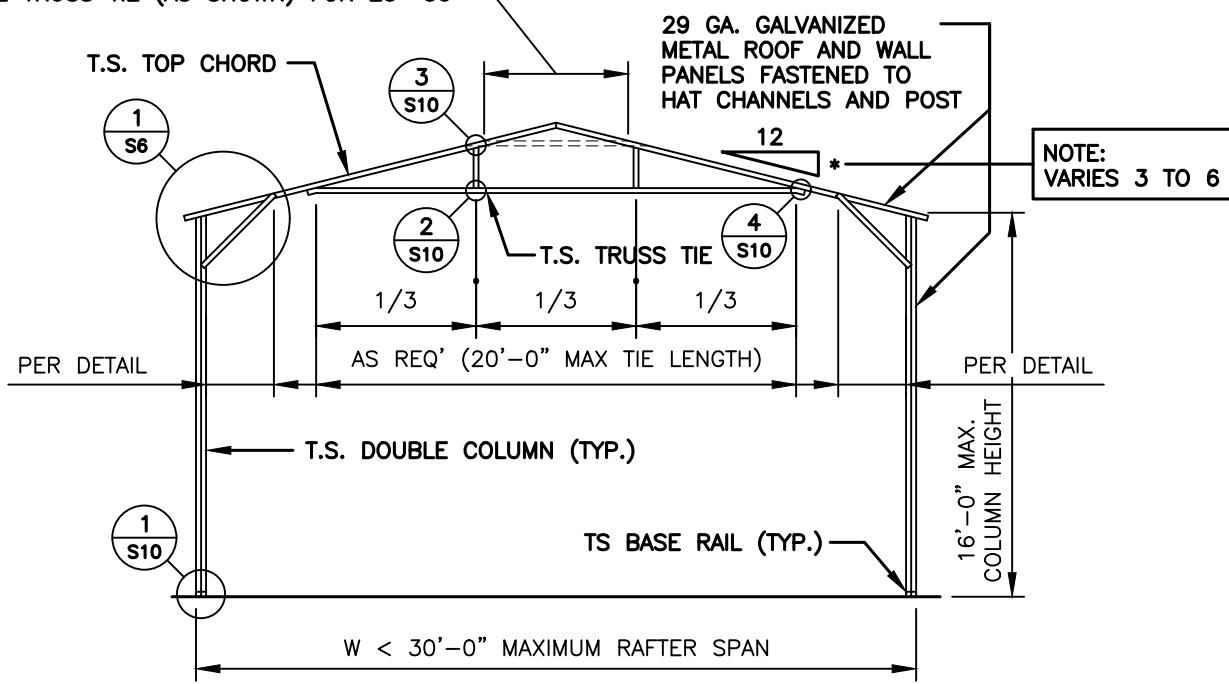
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
**S4**

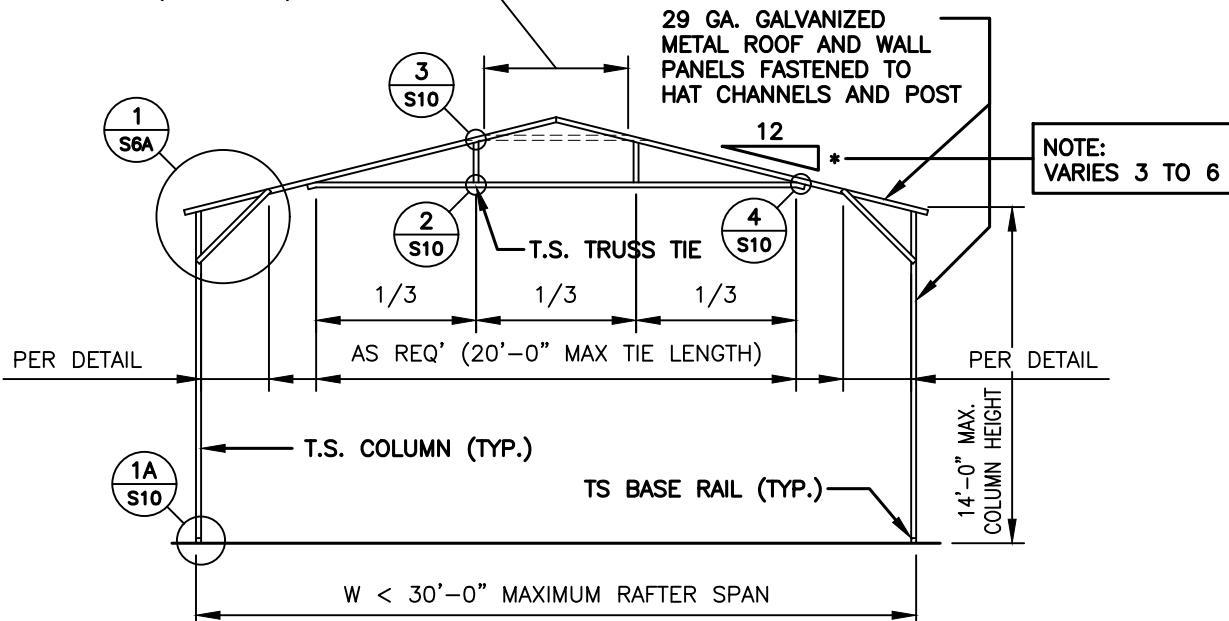
'U' BRACE TRUSS TIE - NOTE:  
6'-0" BRACE FOR 21'-24' BUILDING WIDTH  
20' TUBE TRUSS TIE (AS SHOWN) FOR 25'-30'



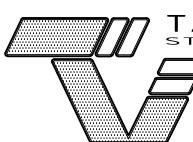
TYPICAL RAFTER / COLUMN FRAME SECTION

'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" x 2-1/2" x 14ga. OR 2-1/4" x 2-1/4" x 14ga.  
MATERIAL MAY BE USED FOR TRUSS METAL.



TYPICAL RAFTER / COLUMN FRAME SECTION



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

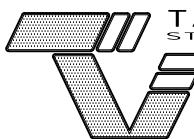
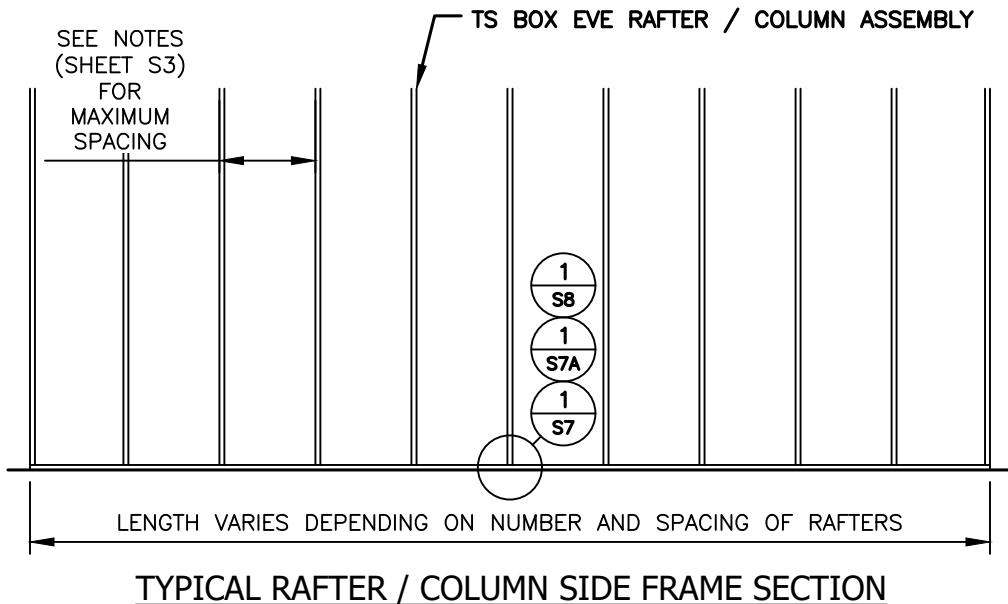
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S5

**NOTE:**  
H.S.S. 2-1/2" x 2-1/2" x 14ga. OR  
2-1/4" x 2-1/4" x 14ga. MATERIAL  
MAY BE USED FOR TRUSS METAL.



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS

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

**TWIN  
CARPORTS**

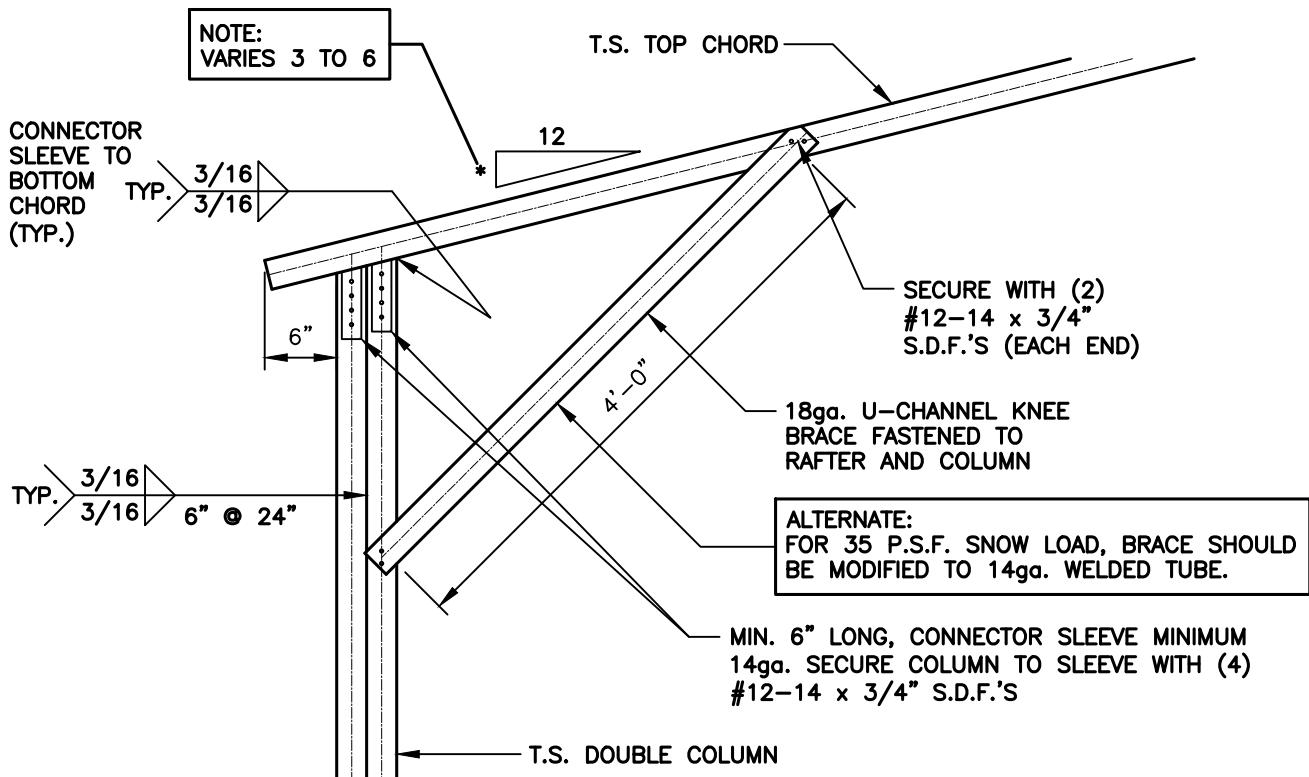
PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
**S5A**

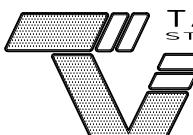
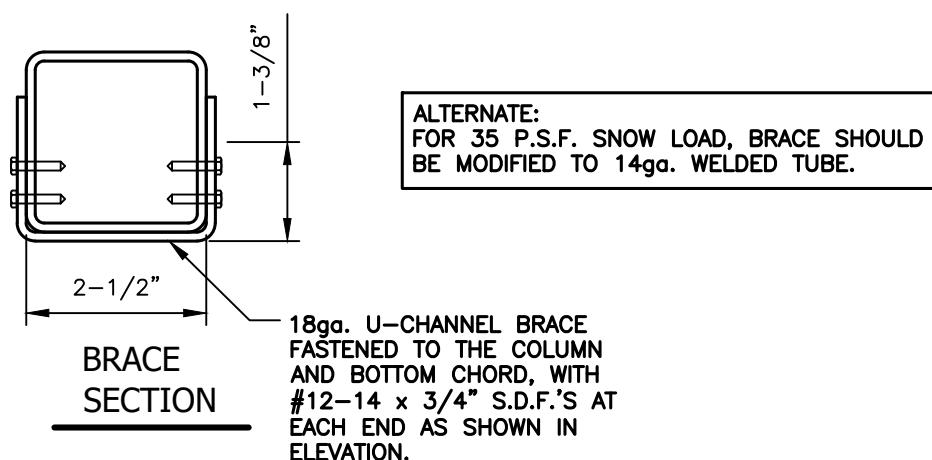


1

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

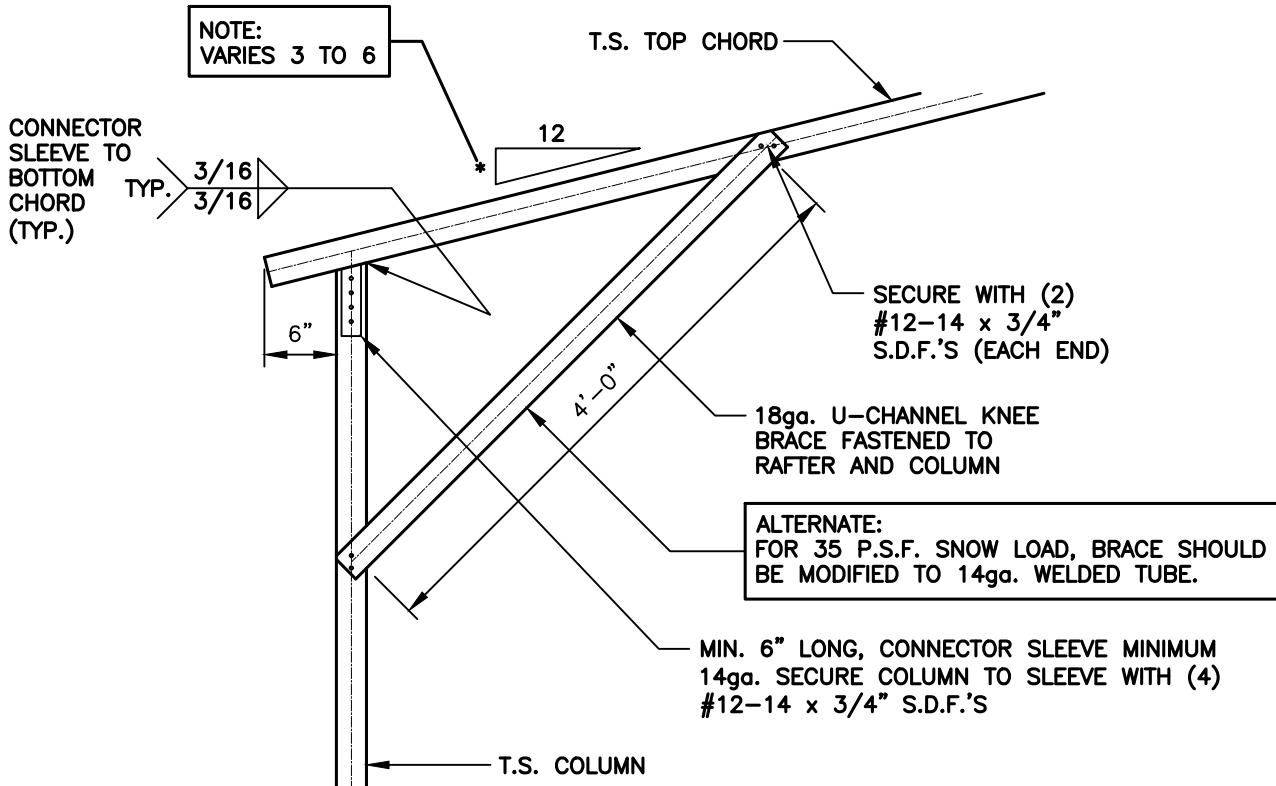
S6

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

TAYLOR & VIOLA  
STRUCTURAL ENGINEERSP.O.B. 2616 HICKORY NORTH CAROLINA  
TELE: 828-328-6331 FAX: 828-322-1801  
WWW.TAYLORVIOLA.COMTWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

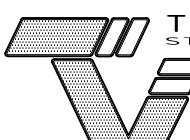
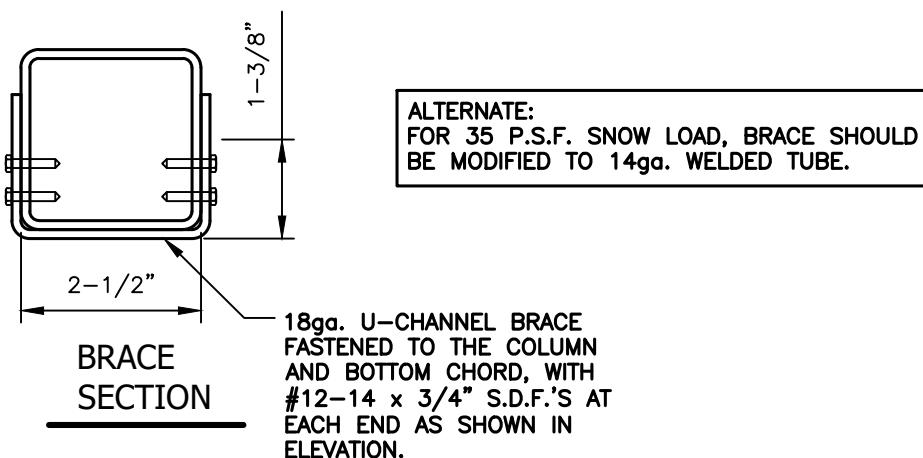
DRAWN BY:  
BKSPROJECT NO:  
22-512DATE:  
2023.03.03SHEET NO:  
S6



1  
S6A

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

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



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

TWIN  
CARPORTS  
PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

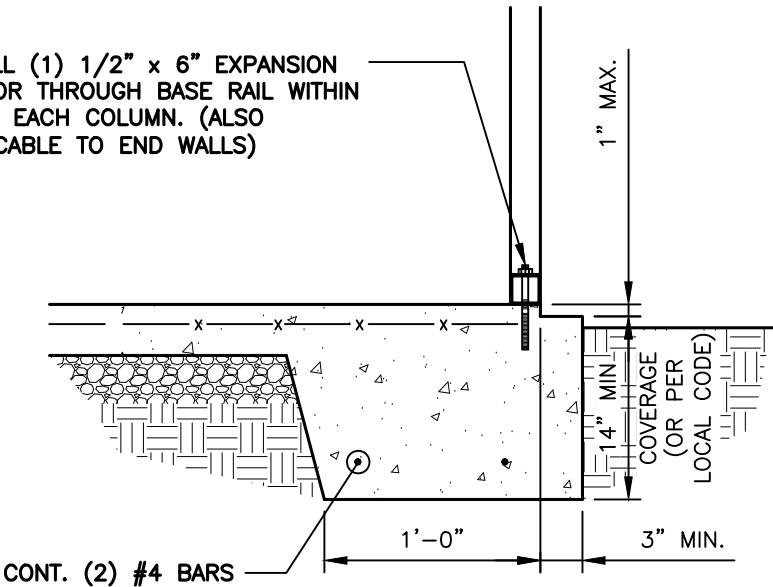
PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S6A

## CONCRETE BASE RAIL ANCHORAGE

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



1  
S7

### 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 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:

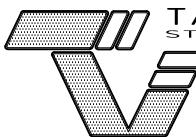
3" IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH AND WEATHER AND 1-1/2" ELSEWHERE.

#### 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 OR 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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S7

## CONCRETE BASE RAIL ANCHORAGE

INSTALL (1) 1/2" x 6" EXPANSION ANCHOR THROUGH ANGLE CLIP WITHIN 6" OF EACH COLUMN. (ALSO APPLICABLE TO END WALLS)

INSTALL (1) 1/2" x 6" EXPANSION ANCHOR THROUGH ANGLE CLIP WITHIN 6" OF EACH COLUMN. (ALSO APPLICABLE TO END WALLS)

2" x 2" x 4" 16ga. CLIP ANGLE. ATTACH TO SIDE OF BASE RAIL W/ (6) #12 x 3/4" S.D.F.

CONT. (2) #4 BARS

1'-0"

COVERAGE  
MIN  
OR PER  
LOCAL CODE

SAME MATERIAL  
AS BASE RAIL

BASE  
RAIL

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

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



**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 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:

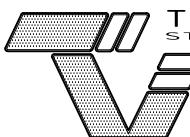
3" IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH AND WEATHER AND 1-1/2" ELSEWHERE.

**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 OR 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

**TWIN  
CARPORTS**

PILOT MOUNTAIN, NORTH CAROLINA

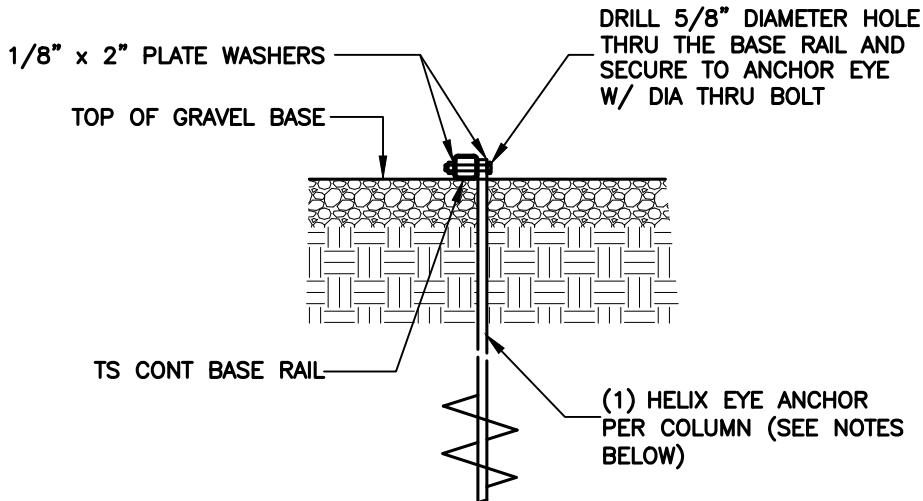
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S7A

## SOIL NAIL BASE RAIL ANCHORAGE



1  
S8

### BASE RAIL ANCHORAGE DETAIL

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

#### HELIX EMBEDMENT INFORMATION:

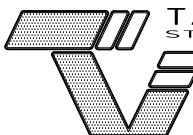
FOR VERY DENSE OR CEMETED SANDS, COARSE GRAVEL, COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT (1 EACH END AND AT 24'-0" BETWEEN).

FOR CORAL, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT (1 EACH END AND AT 24'-0" BETWEEN).

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 (1 EACH END AND AT 24'-0" BETWEEN).

FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, USE MIN (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT (1 EACH END AND AT 24'-0" BETWEEN).

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 (1 EACH END AND AT 24'-0" BETWEEN).



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

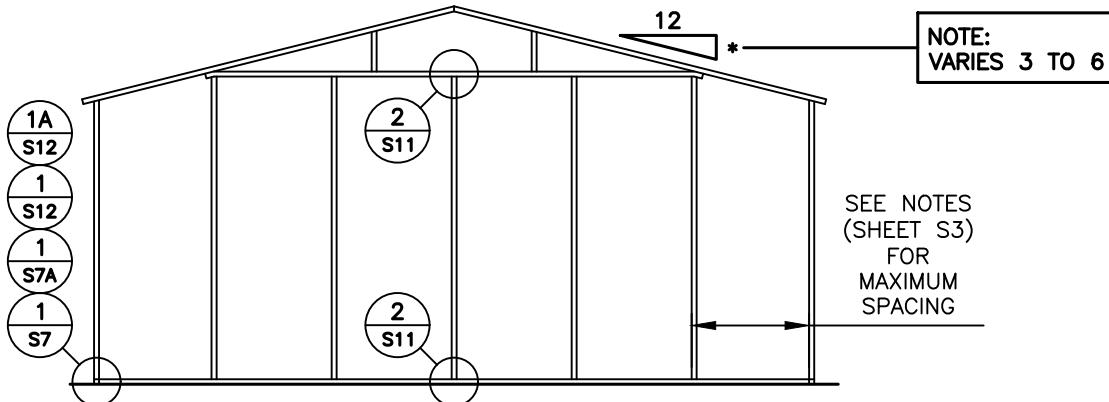
DRAWN BY:  
BKS

PROJECT NO:  
22-512

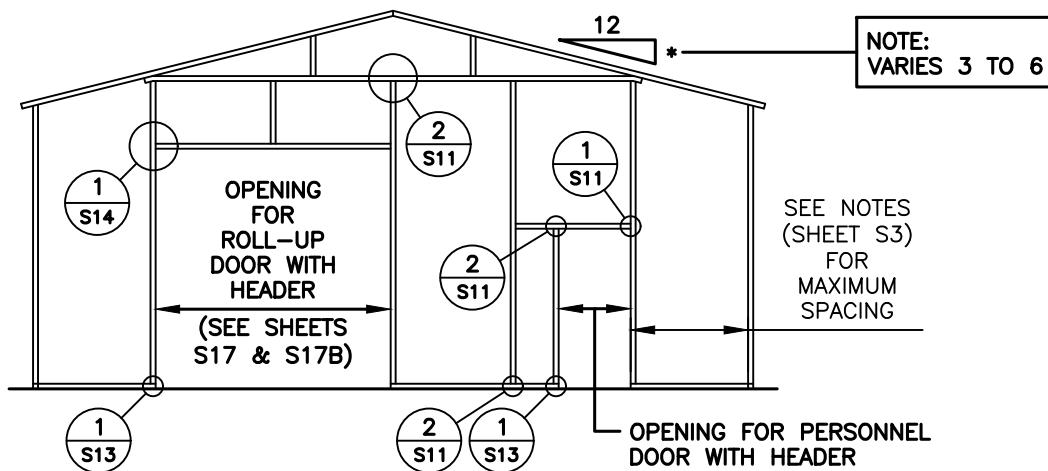
DATE:  
2023.03.03

SHEET NO:  
S8

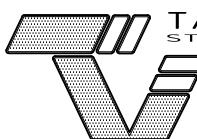
## BOX EVE RAFTER END WALL OPENINGS



TYPICAL BOX EVE RAFTER / END WALL COLUMN FRAME SECTION



TYPICAL BOX EVE RAFTER END WALL OPENINGS FRAMING SECTION



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S9

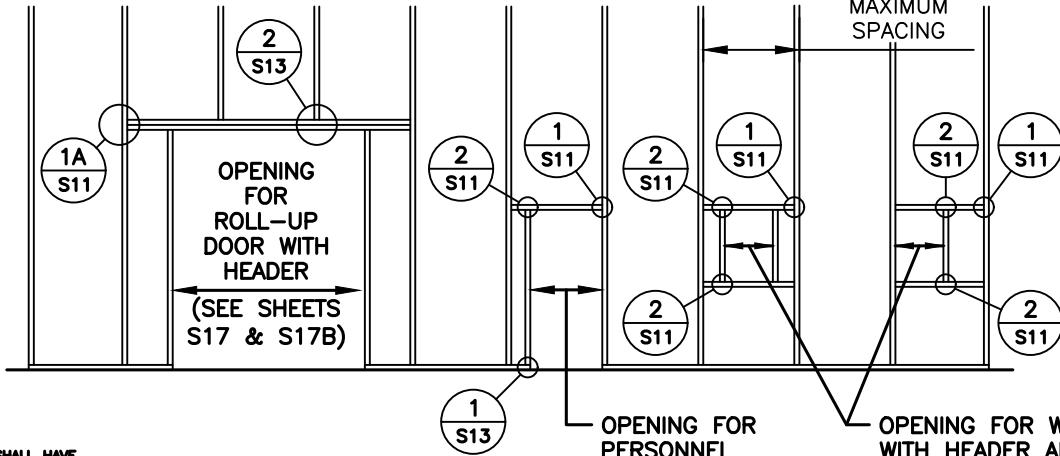
## BOX EVE RAFTER END WALL AND SIDE WALL OPENINGS

**NOTE:**

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

SEE NOTES (SHEET S3) FOR

MAXIMUM SPACING

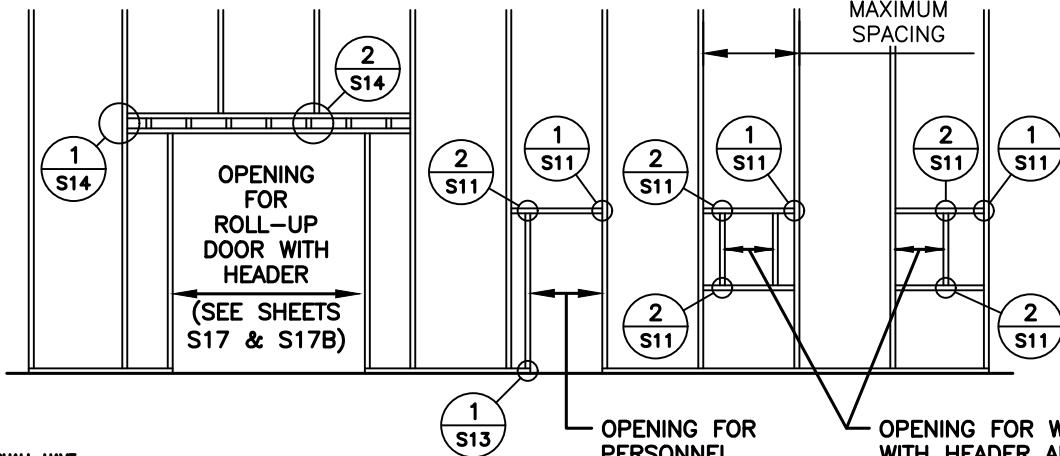


**NOTE:**  
ROLL UP DOORS SHALL HAVE ONE JAMB EACH SIDE + ONE FRAME COLUMN BETWEEN OR SITE SPECIFIC SHALL BE REQ'D.

### TYPICAL END WALL OPENING FRAMING SECTION

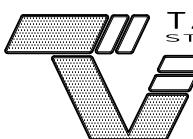
SEE NOTES (SHEET S3) FOR

MAXIMUM SPACING



**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



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS

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

**TWIN**  
**CARPORTS**

PILOT MOUNTAIN, NORTH CAROLINA

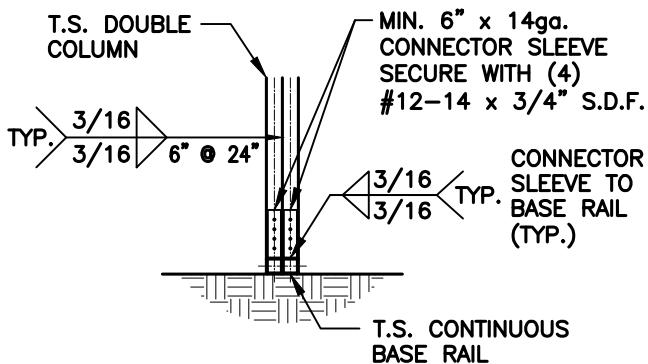
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
**S9A**

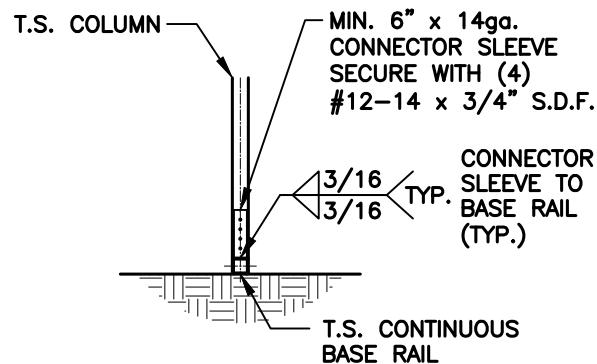
## CONNECTION DETAILS



**POST / BASE RAIL  
CONNECTION DETAIL**

1  
S10

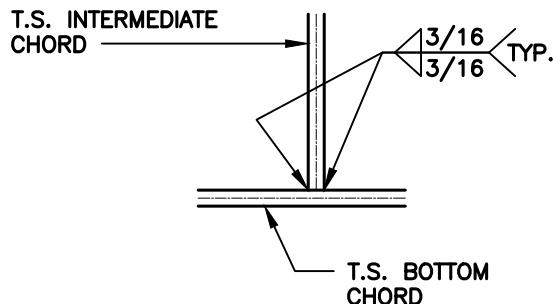
SCALE: 1/2" = 1'-0"



**POST / BASE RAIL  
CONNECTION DETAIL**

1A  
S10

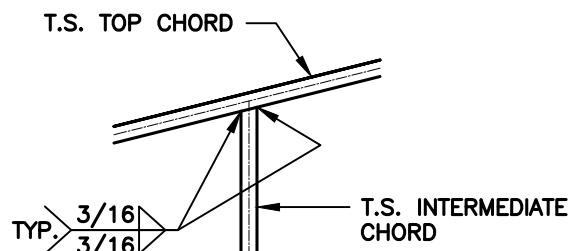
SCALE: 1/2" = 1'-0"



**INTERMEDIATE CHORD  
TO BOTTOM CHORD  
CONNECTION DETAIL**

2  
S10

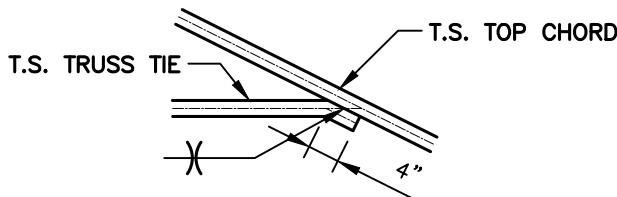
SCALE: 1/2" = 1'-0"



**INTERMEDIATE CHORD TO TOP  
CHORD CONNECTION DETAIL**

3  
S10

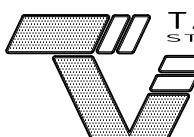
SCALE: 1/2" = 1'-0"



**TRUSS TIE  
CONNECTION DETAIL**

4  
S10

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



**TAYLOR & VIOLA  
STRUCTURAL ENGINEERS**

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

**TWIN  
CARPORTS**

PILOT MOUNTAIN, NORTH CAROLINA

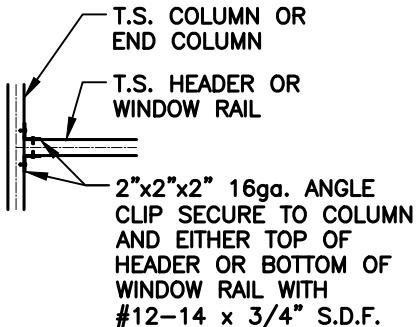
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
**S10**

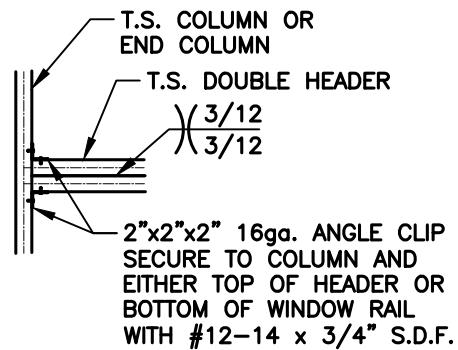
## CONNECTION DETAILS



COLUMN OR WINDOW  
RAIL / WALL GIRT TO POST  
CONNECTION DETAIL

1  
S11

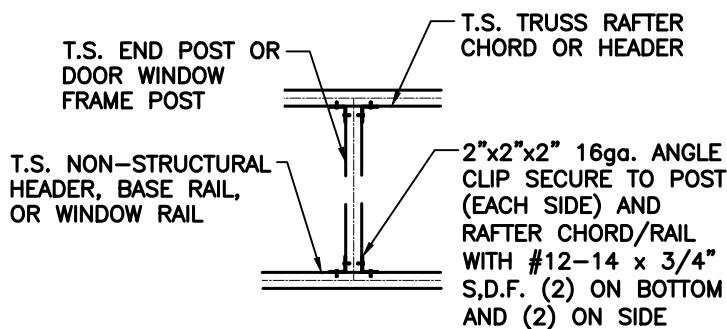
SCALE: 1/2" = 1'-0"



COLUMN / DOUBLE HEADER  
CONNECTION DETAIL

1A  
S11

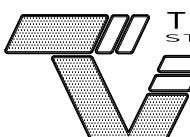
SCALE: 1/2" = 1'-0"



DOOR OR WINDOW HEADER  
RAIL TO POST CONNECTION  
DETAIL

2  
S11

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



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

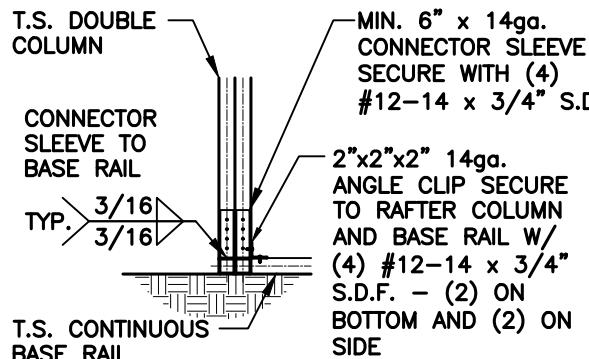
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S11

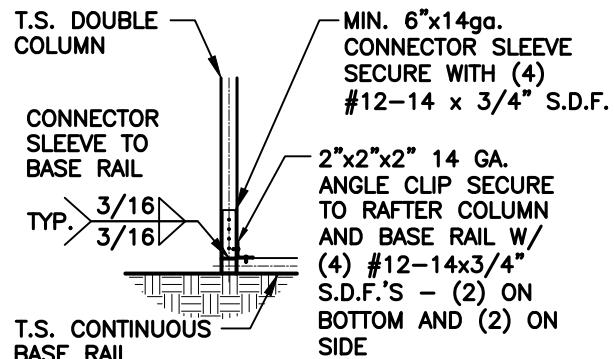
## CONNECTION DETAILS



END COLUMN / BASE RAIL  
CONNECTION DETAIL

1  
S12

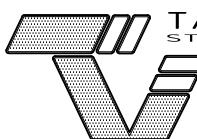
SCALE: 1/2" = 1'-0"



END COLUMN / BASE RAIL  
CONNECTION DETAIL

1A  
S12

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



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

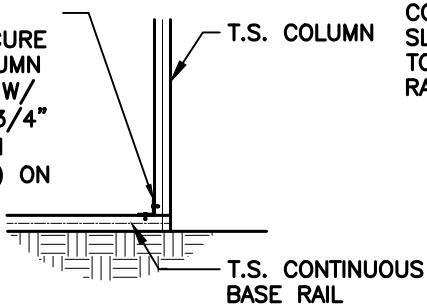
PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S12

## CONNECTION DETAILS

2" x 2" x 2" 14ga.  
ANGLE CLIP SECURE  
TO RAFTER COLUMN  
AND BASE RAIL W/  
(4) #12-14 x 3/4"  
S.D.F. - (2) ON  
BOTTOM AND (2) ON  
SIDE

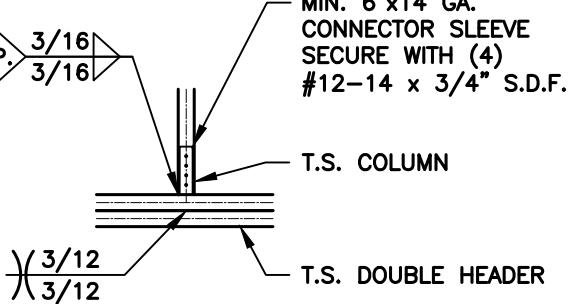


**COLUMN / BASE RAIL  
CONNECTION DETAIL**

1  
S13

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

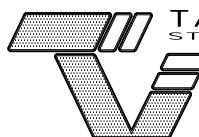
CONNECTOR  
SLEEVE  
TO BASE  
RAIL



**COLUMN / DOUBLE HEADER  
CONNECTION DETAIL**

2  
S13

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



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS

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

**TWIN  
CARPORTS**

PILOT MOUNTAIN, NORTH CAROLINA

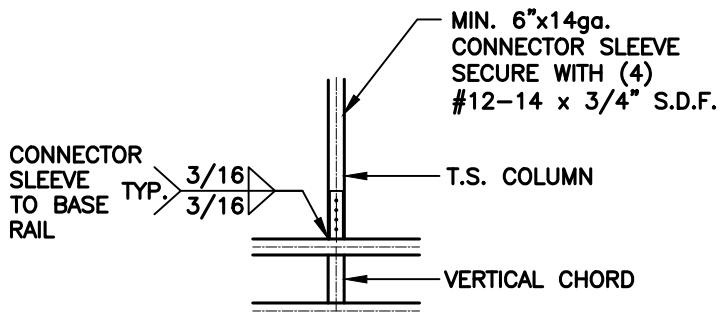
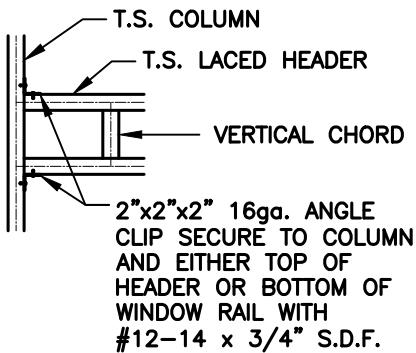
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
**S13**

## CONNECTION DETAILS



COLUMN / LACED HEADER CONNECTION DETAIL

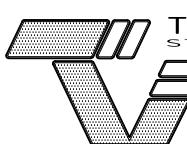
1  
S14

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

COLUMN / LACED HEADER CONNECTION DETAIL

3  
S14

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



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

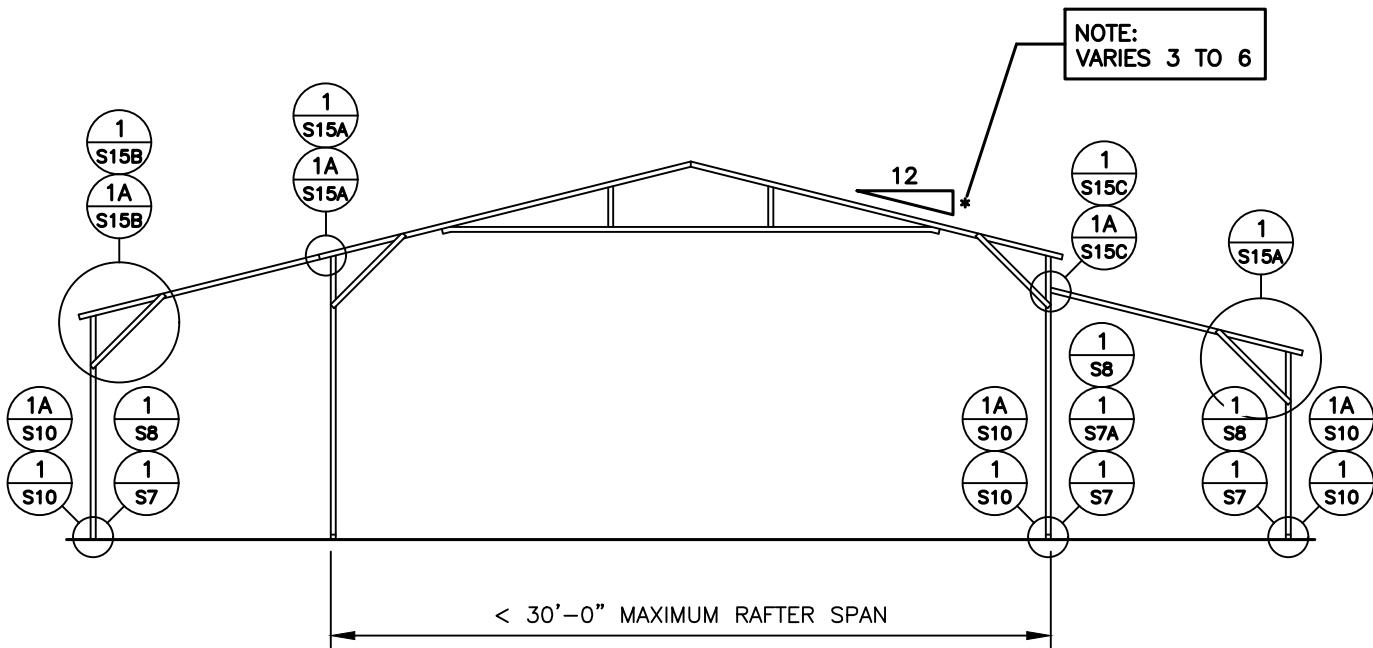
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S14

## BOX EVE RAFTER LEAN-TO OPTIONS

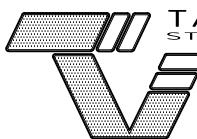


**TYPICAL LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)**

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



**TAYLOR & VIOLA**  
STRUCTURAL ENGINEERS

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

**TWIN**  
**CARPORTS**

PILOT MOUNTAIN, NORTH CAROLINA

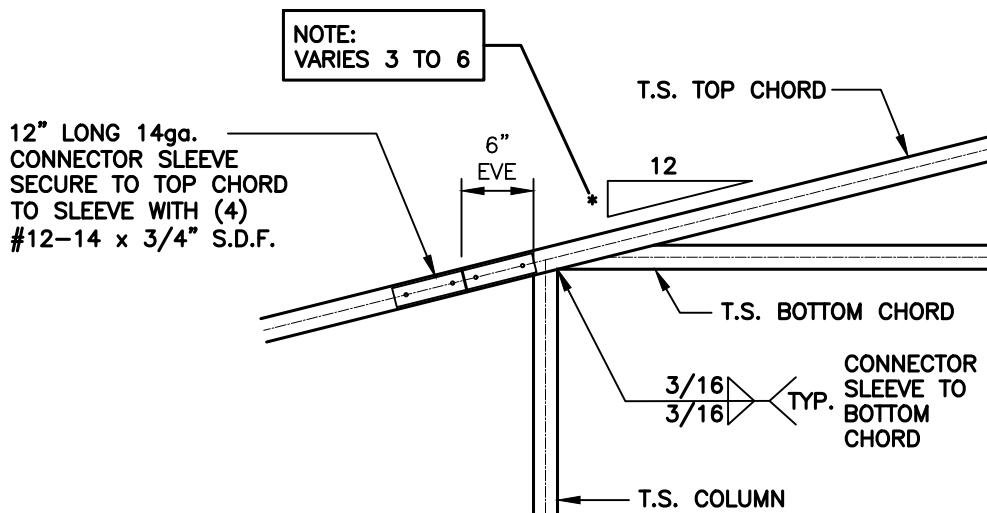
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
**S15**

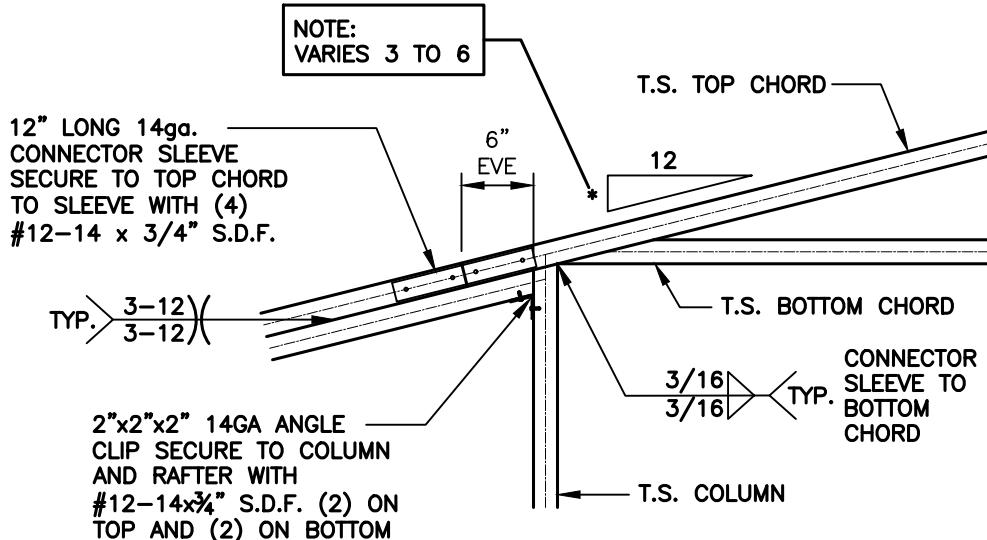
## LEAN-TO CONNECTION DETAILS



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

1  
S15A

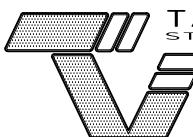
SCALE: 3/4" = 1'-0"



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

1A  
S15A

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



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

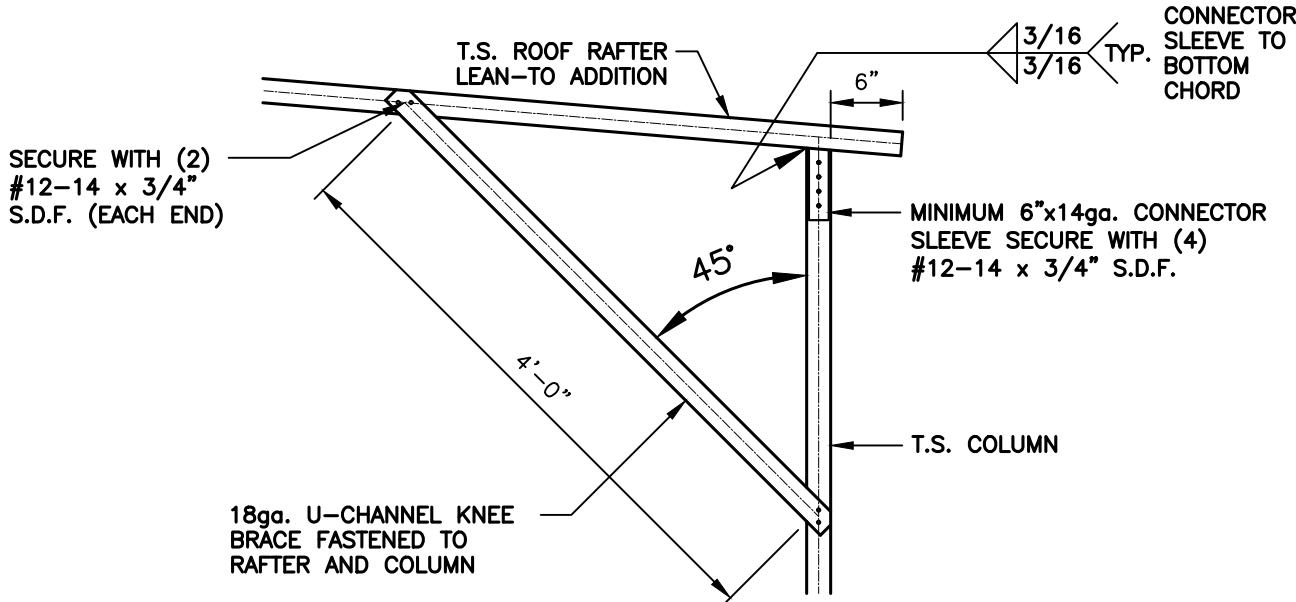
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S15A

## LEAN-TO CONNECTION DETAILS



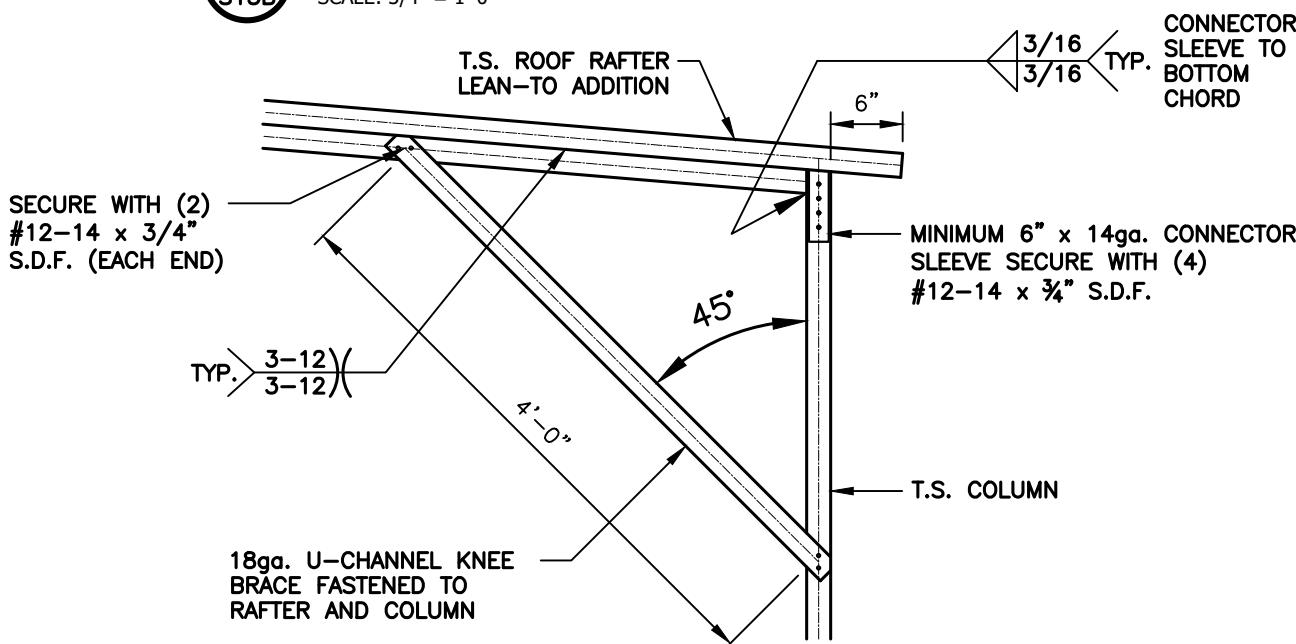
### BOX EAVE RAFTER COLUMN CONNECTION

#### DETAIL FOR LEAN-TO RAFTER SPAN <12'-0"

1

S15B

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



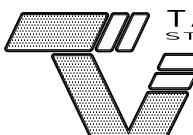
### BOX EAVE RAFTER COLUMN CONNECTION

#### DETAIL FOR LEAN-TO RAFTER SPAN <15'-0"

1A

S15B

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



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

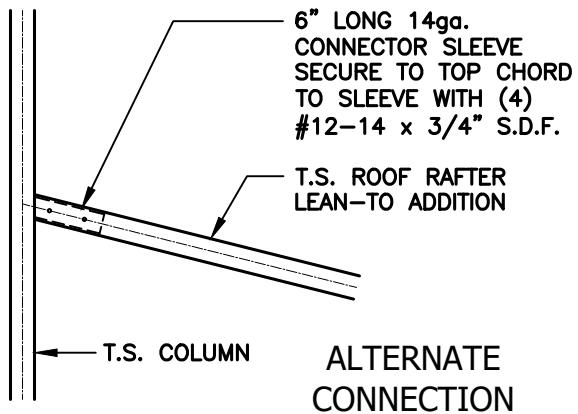
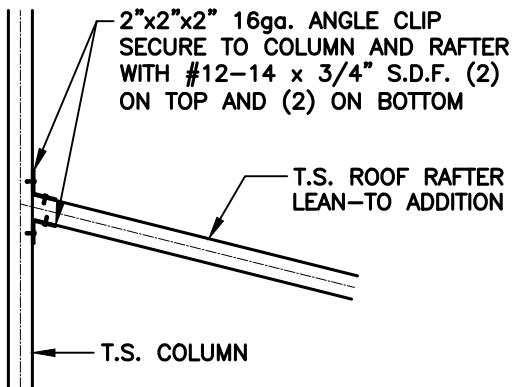
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S15B

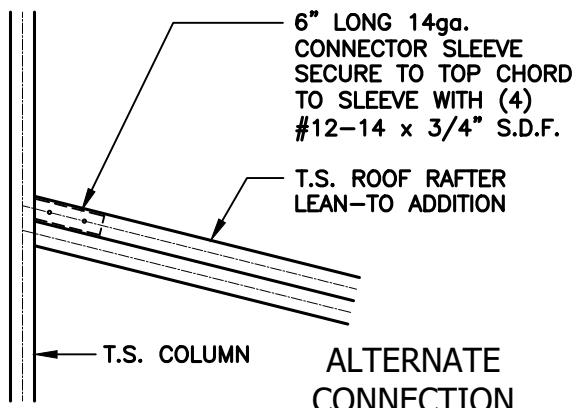
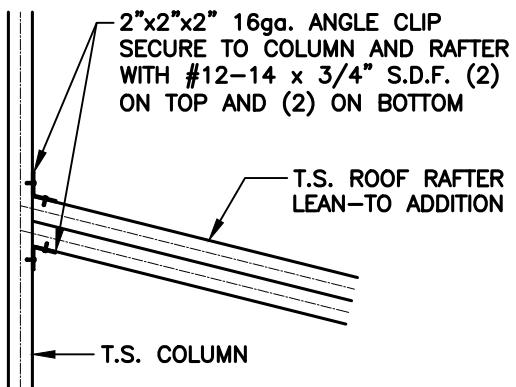
## LEAN-TO CONNECTION DETAILS



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

1  
S15C

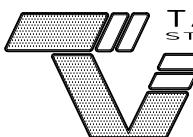
SCALE: 3/4" = 1'-0"



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

1A  
S15C

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



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

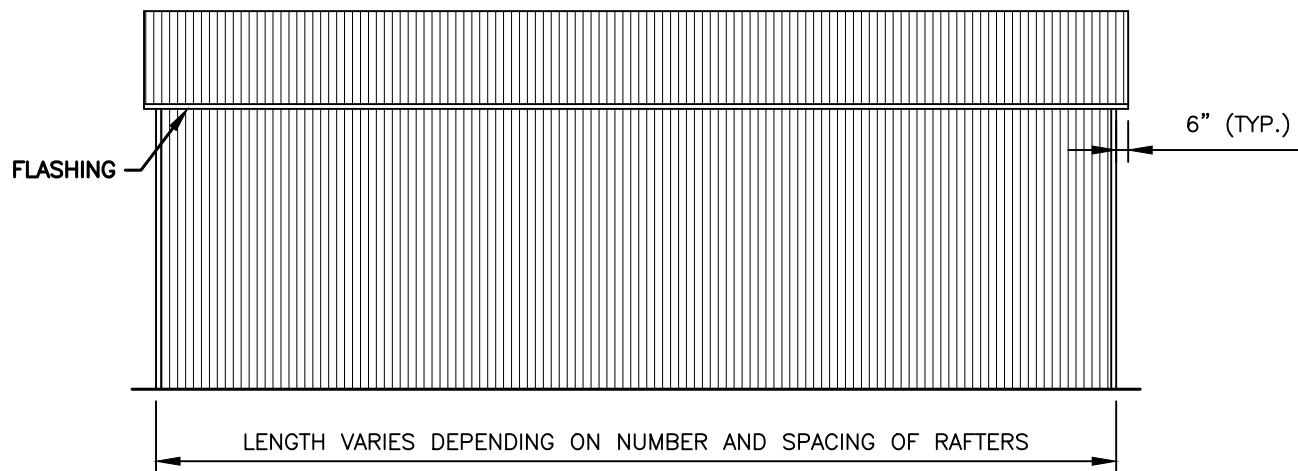
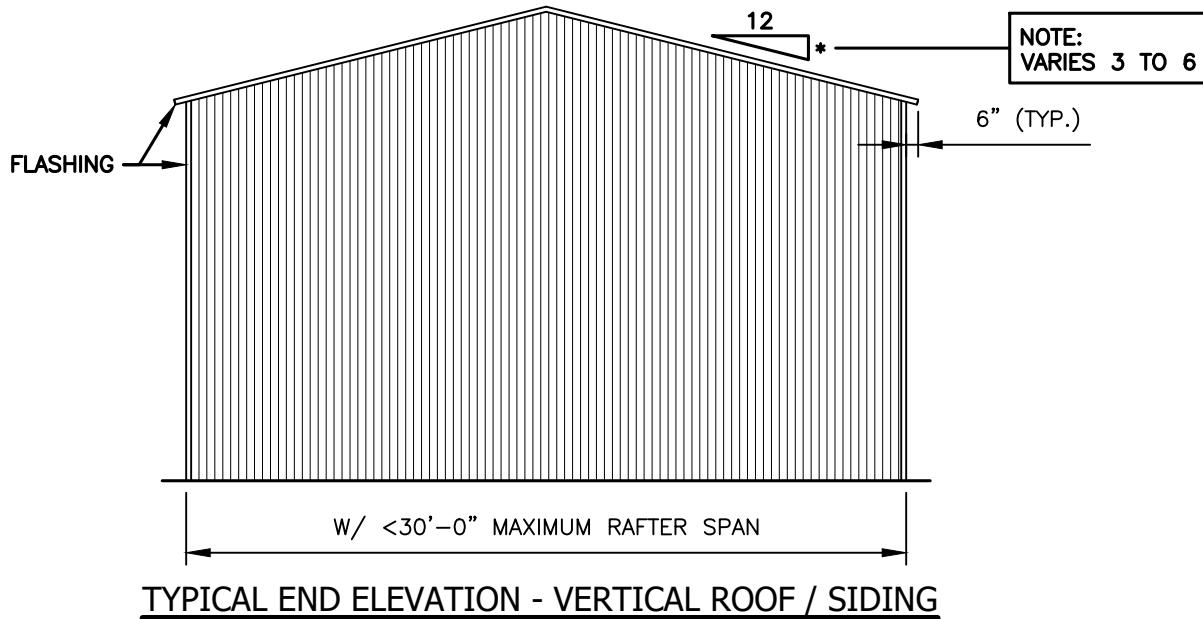
DRAWN BY:  
BKS

PROJECT NO:  
22-512

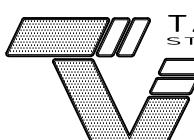
DATE:  
2023.03.03

SHEET NO:  
S15C

## VERTICAL ROOF / SIDING OPTION



## TYPICAL SIDE ELEVATION - VERTICAL ROOF / SIDING



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

**TWIN  
CARPORTS**

PILOT MOUNTAIN, NORTH CAROLINA

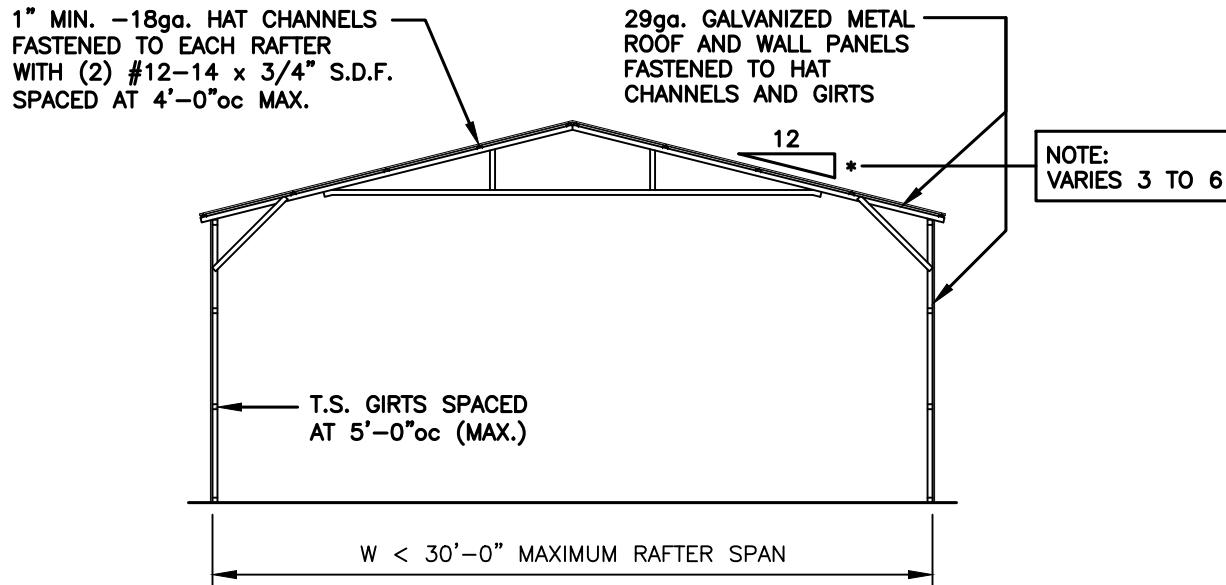
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

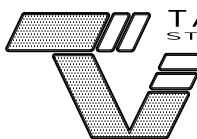
SHEET NO:  
**S16**

## 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.



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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

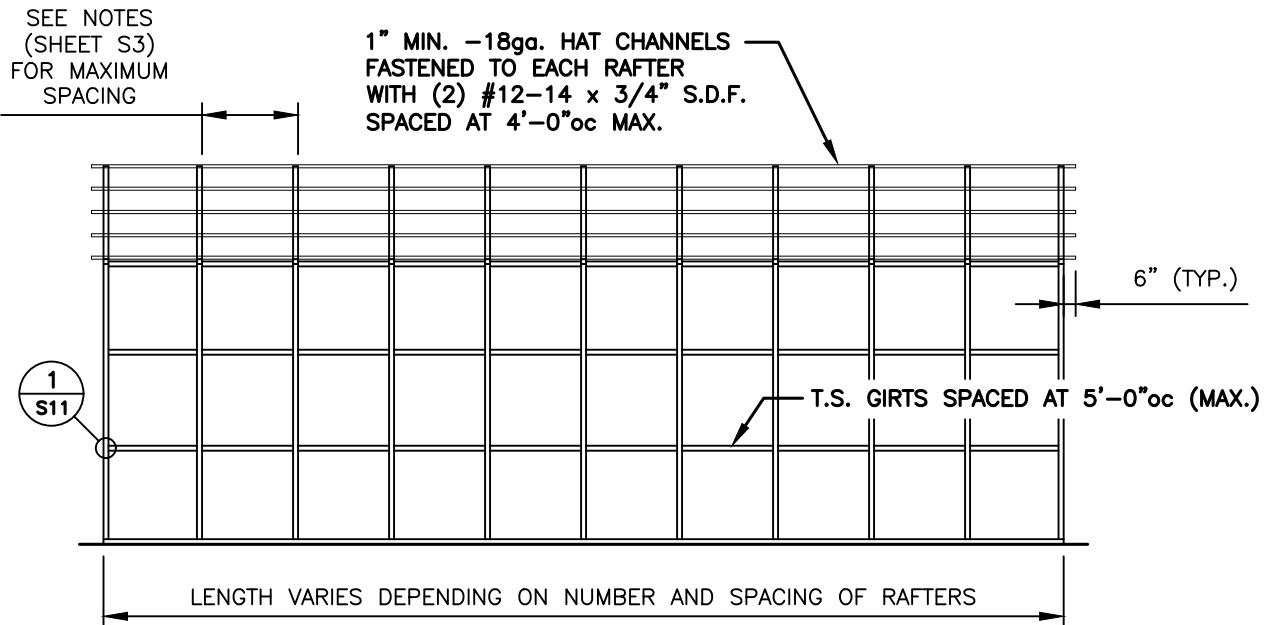
DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
S16A

## VERTICAL ROOF / SIDING OPTION

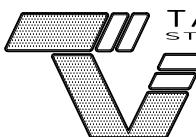


## TYPICAL SIDE FRAMING SECTION VERTICAL ROOF / SIDING OPTION

1" MIN. - 18ga. HAT CHANNELS FASTENED TO EACH RAFTER WITH (2) #12-14 x 3/4" S.D.F. SPACED AT 4'-0"oc MAX.



## ROOF PANEL ATTACHMENT



TAYLOR & VIOLA  
STRUCTURAL ENGINEERS

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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

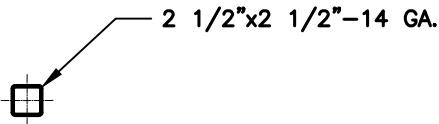
DRAWN BY:  
BKS

PROJECT NO:  
22-512

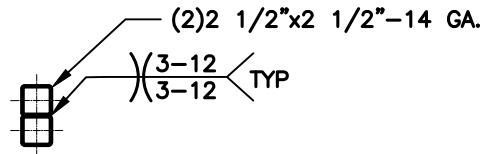
DATE:  
2023.03.03

SHEET NO:  
**S16B**

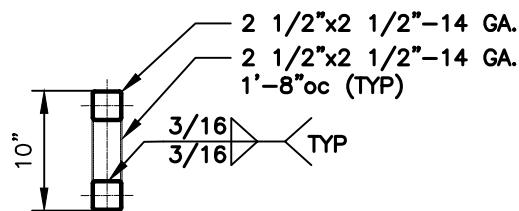
## SIDE WALL HEADER OPTIONS



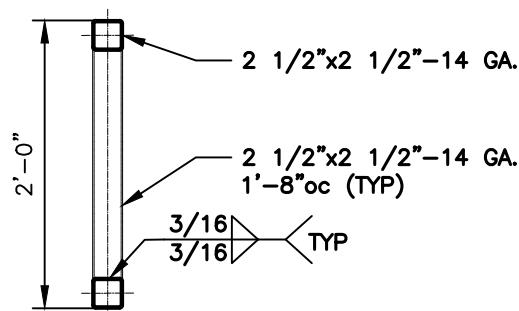
HEADER DETAIL FOR DOOR  
OPENINGS < 4'-0"  
NTS



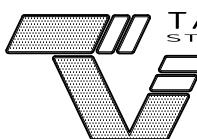
HEADER DETAIL FOR DOOR  
OPENINGS 4'-1" < TO < 12'-0"  
NTS



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

**TWIN  
CARPORTS**

PILOT MOUNTAIN, NORTH CAROLINA

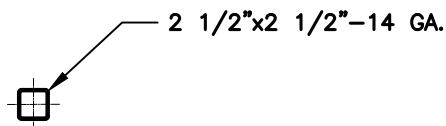
DRAWN BY:  
BKS

PROJECT NO:  
22-512

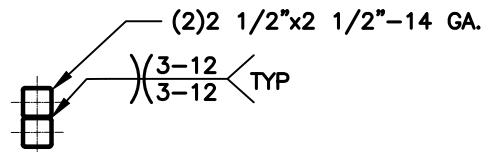
DATE:  
2023.03.03

SHEET NO:  
**S17**

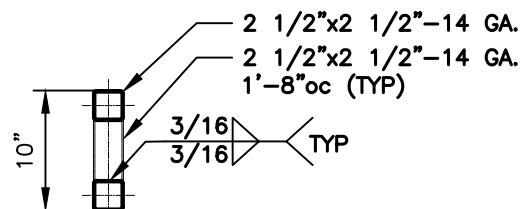
## END WALL HEADER OPTIONS



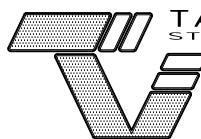
HEADER DETAIL FOR DOOR  
OPENINGS <12'-0"  
NTS



HEADER DETAIL FOR DOOR  
OPENINGS >12'-1" TO <16'-0"  
NTS



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



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

TWIN  
CARPORTS

PILOT MOUNTAIN, NORTH CAROLINA

DRAWN BY:  
BKS

PROJECT NO:  
22-512

DATE:  
2023.03.03

SHEET NO:  
**S17A**