

**STRUCTURAL DESIGN
STANDARD PACKAGE
ENCLOSED BUILDING**

**MAXIMUM 30'- 0" WIDE X 20'- 0" HEIGHT-
BOX EAVE FRAME AND BOW FRAME**

**23 June 2020
Revision 0
M&A Project No. 20126S**

Prepared by:

**Moore and Associates Engineering
and Consulting, Inc.**

**1009 East Avenue
North Augusta, SC 29841**

**401 South Main Street, Suite 200
Mount Airy, NC 27030**



**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING**

		<p>I HAVE RESEARCHED THIS CHAPTER AND THE LOUISIANA STATE UNIFORM CONSTRUCTION CODE AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, THESE DRAWINGS ARE IN COMPLIANCE THEREWITH. I TAKE FULL RESPONSIBILITY FOR THE CONTENTS OF THESE PLANS.</p>	
			<p>Professional Certification. I hereby certify that these documents were prepared and approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 49744, Expiration Date. 6/6/20</p>

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.		DRAWN BY: AT		
		CHECKED BY: PDH		
<small>THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.</small>	PROJECT MGR: WSM	DATE: 6-23-20	SCALE: NTS	JOB NO: 201265
	CLIENT:	SHT. 1	DWG. NO. SK-3	REV: 0

	<p>WAYNE SHERIDAN MOORE</p>		

<p>MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.</p>	<p>DRAWN BY: AT</p>			
	<p>CHECKED BY: PDH</p>			
<p><small>THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.</small></p>	<p>PROJECT MGR: WSH</p>	<p>DATE: 6-23-20</p>	<p>SCALE: NTS</p>	<p>JOB NO: 201265</p>
	<p>CLIENT:</p>	<p>SHT. 1A</p>	<p>DWG. NO: SK-3</p>	<p>REV: 0</p>

DRAWING INDEX

SHEET 1	PE SEAL COVER SHEET (1 OF 2)
SHEET 1A	PE SEAL COVER SHEET (2 OF 2)
SHEET 2	DRAWING INDEX
SHEET 3	INSTALLATION NOTES AND SPECIFICATIONS
SHEET 4	TYPICAL SIDE AND END ELEVATIONS
SHEET 5	TYPICAL RAFTER/COLUMN END FRAMING SECTION (BOX EAVE RAFTER)
SHEET 5A	TYPICAL RAFTER/COLUMN END AND SIDE FRAMING SECTION (BOX EAVE RAFTER)
SHEET 6	COLUMN CONNECTION DETAILS (BOX EAVE STRUCTURE)
SHEET 6A	COLUMN CONNECTION DETAILS (BOX EAVE STRUCTURE)
SHEET 7	TYPICAL RAFTER/COLUMN END FRAMING SECTION (BOW RAFTER)
SHEET 7A	TYPICAL RAFTER/COLUMN END AND SIDE FRAMING SECTION (BOW RAFTER)
SHEET 8	COLUMN CONNECTION DETAILS (BOW RAFTER STRUCTURE)
SHEET 8A	COLUMN CONNECTION DETAILS (BOW RAFTER STRUCTURE)
SHEET 9	BASE RAIL ANCHORAGE OPTIONS
SHEET 10	TYPICAL END WALL AND SIDE WALL FRAMING SECTIONS (BOX EAVE)
SHEET 11	TYPICAL END WALL AND SIDE WALL FRAMING SECTIONS (BOW RAFTER)
SHEET 12	CONNECTION DETAILS
SHEET 13	CONNECTION DETAILS
SHEET 14	CONNECTION DETAILS
SHEET 15	CONNECTION DETAILS
SHEET 16	LEAN-TO OPTIONS (BOX EAVE RAFTER)
SHEET 17	LEAN-TO OPTIONS (BOX EAVE RAFTER)
SHEET 17A	LEAN-TO OPTIONS (BOX EAVE RAFTER)
SHEET 17B	LEAN-TO OPTIONS (BOX EAVE RAFTER)
SHEET 17C	LEAN-TO OPTIONS (BOX EAVE RAFTER)
SHEET 18	LEAN-TO OPTIONS (BOW RAFTER)
SHEET 18A	LEAN-TO OPTIONS (BOW RAFTER)
SHEET 18B	LEAN-TO OPTIONS (BOW RAFTER)
SHEET 18C	LEAN-TO OPTIONS (BOW RAFTER)
SHEET 18D	LEAN-TO OPTIONS (BOW RAFTER)
SHEET 19	VERTICAL ROOF/SIDING OPTION END AND SIDE ELEVATION AND SECTION
SHEET 20	HEADER OPTIONS

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT

CHECKED BY: PDH

PROJECT MGR: WSH

CLIENT:

DATE: 6-29-20

SCALE: NTS

JOB NO: 201265

SHT. 2

DWG. NO: SK-3

REV: 0

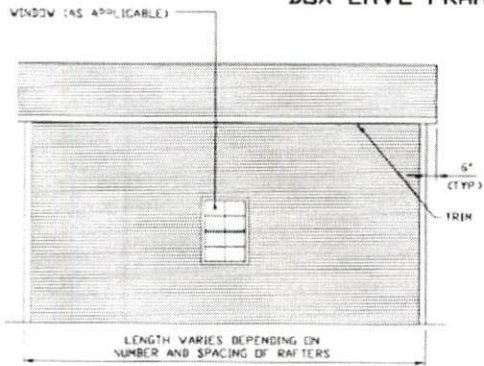
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

INSTALLATION NOTES AND SPECIFICATIONS

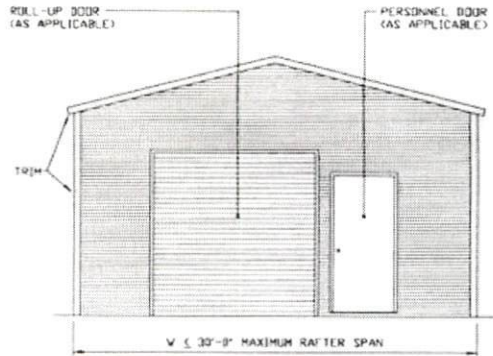
- 1 DESIGN IS FOR MAXIMUM 30'-0" WIDE x 20'-0" EAVE HEIGHT ENCLOSED STRUCTURES.
- 2 DESIGN WAS DONE IN ACCORDANCE WITH THE 2018 NORTH CAROLINA BUILDING CODE (NCBC), 2018 IBC, 2015 IBC, 2012 IBC, 2009 IBC, AND 2006 IBC.
- 3 DESIGN LOADS ARE AS FOLLOWS:
 - A) DEAD LOAD = 15 PSF
 - B) LIVE LOAD = 12 PSF
 - C) GROUND SNOW LOAD = 35 PSF (UNBALANCED SNOW LOAD DUE TO DRIFTING HAS NOT BEEN EVALUATED).
- 4 ULTIMATE WIND SPEED 105 TO 145 MPH (NOMINAL WIND SPEED B1 TO 112 MPH) MAXIMUM RAFTER/POST AND END COLUMN SPACING = 50 FEET.
- 5 END WALL COLUMNS (POST) ARE EQUIVALENT IN SIZE AND SPACING TO SIDE WALL POSTS (UNLESS NOTED OTHERWISE).
- 6 RISK CATEGORY I
- 7 WIND EXPOSURE CATEGORY B.
- 8 SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2"x2 1/2"-14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS (UNLESS NOTED OTHERWISE) WHERE TS 2 1/2" x 2 1/2" - 14 GAUGE IS SPECIFIED, TS 2 1/4" x 2 1/4" - 12 GAUGE MAY BE USED AS AN OPTION.
- 9 AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR HAT CHANNELS, AND COLUMNS (INTERIOR OR END) = 10" O.C. (MAX)
- 10 FASTENERS CONSIST OF #12-14x3/4" SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS. SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 20 FEET OR LESS, AND ROOF SLOPES OF 14" (3:12 PITCH) OR LESS. SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY. ROOFING WITH SLOPES LESS THAN 3:12 MUST BE LAP SEALANT.
- 11 ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES.
- 12 GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 36" LONG AND MAY ONLY BE USED IN SUITABLE SOILS. HELIX ANCHORS, SEE DETAIL 2B, MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED.
- 13 WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:
 - SOIL SITE CLASS = D
 - RISK CATEGORY I
 - R = 3.25 I_e = 1.0
 - S_{DS} = 2.039 V = C_sW
 - S_{DI} = 1.258

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: AT			
	CHECKED BY: PDH			
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	PROJECT MGR: WSM	DATE: 6-23-20	SCALE: NTS	JOB NO: P01265
	CLIENT:	SHT. 3	DWG. NO: SK-3	REV: 0

BOX EAVE RAFTER STRUCTURE

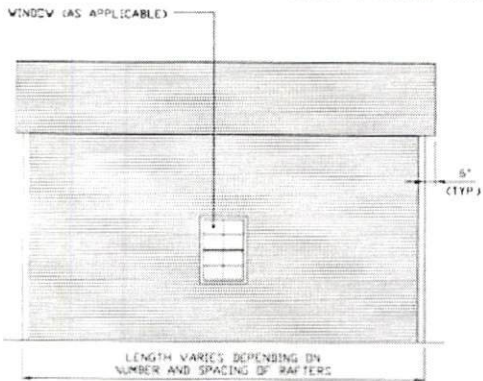


TYPICAL SIDE ELEVATION
SCALE: NTS

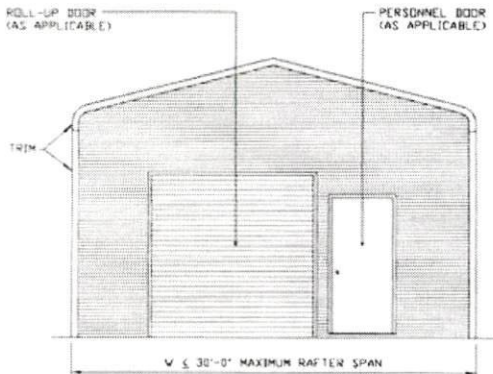


TYPICAL END ELEVATION
SCALE: NTS

BOW FRAME RAFTER STRUCTURE



TYPICAL SIDE ELEVATION
SCALE: NTS



TYPICAL END ELEVATION
SCALE: NTS

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT:

DATE: 6-23-20

SHT. 4

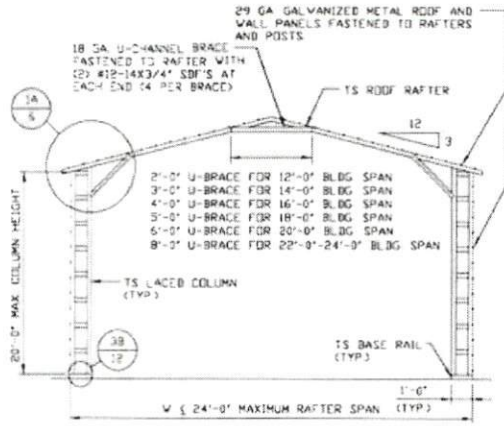
SCALE: NTS

DWG. NO: SK-3

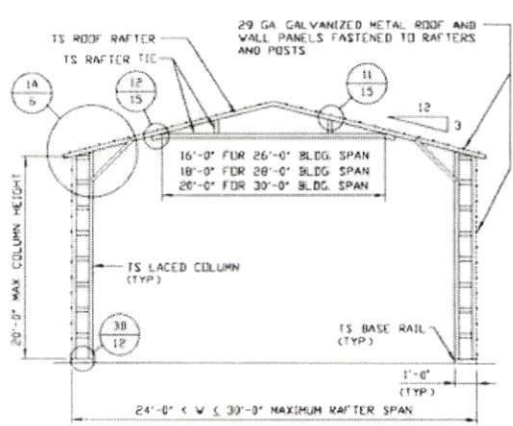
JOB NO: 20126S

REV: 0

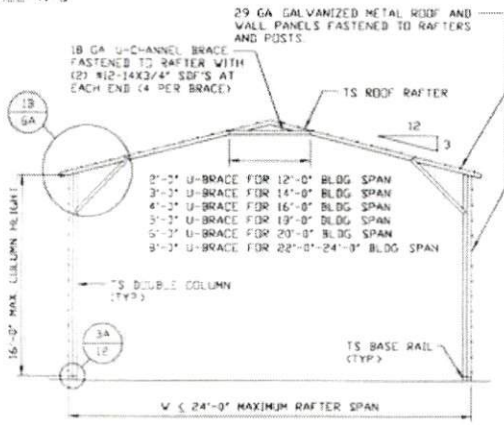
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



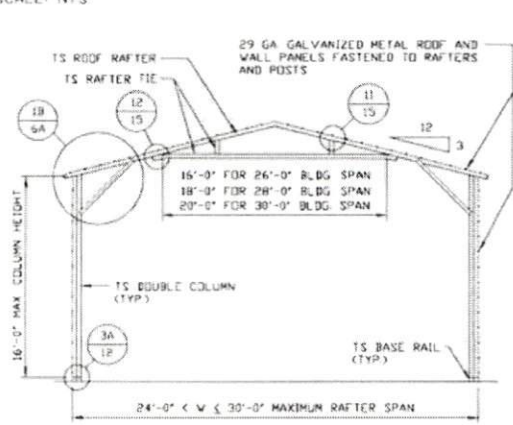
TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

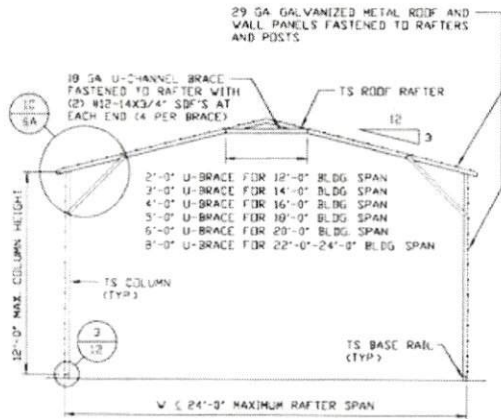


TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

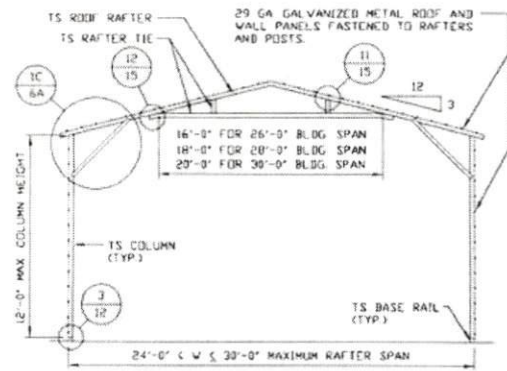


TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

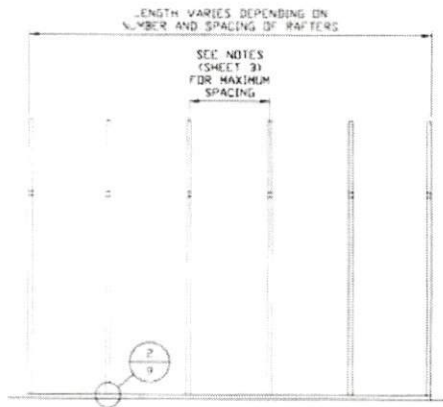
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: AT			
	CHECKED BY: PDH			
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	PROJECT MGR: WSH	DATE: 6-23-20	SCALE: NTS	JOB NO: 201265
	CLIENT:	SHT.	DWG. NO SK-3	REV: 0



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

DRAWN BY: AT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT:

DATE: 6-23-20

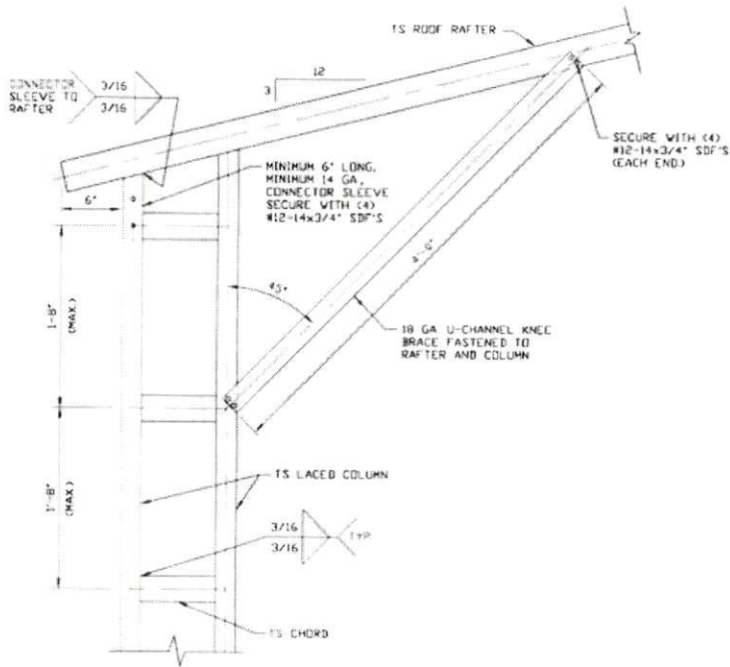
SCALE: NTS

DWG. NO: SK-3

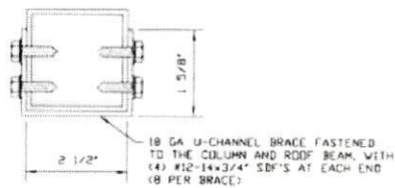
JOB NO: 201265

REV: 0

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



1A BOX EAVE RAFTER COLUMN CONNECTION
 DETAIL FOR HEIGHTS 16'-0" < TO ≤ 20'-0"
 SCALE: NTS

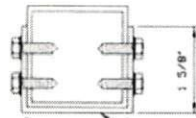
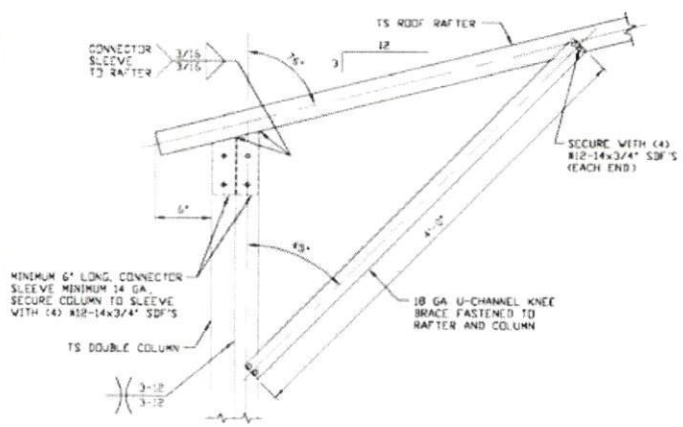


BRACE SECTION
 SCALE: NTS

MOORE AND ASSOCIATES
 ENGINEERING AND CONSULTING, INC.

DRAWN BY: AT			
CHECKED BY: PDH			
PROJECT MGR: WSM	DATE: 6-23-20	SCALE: NTS	JOB NO: 201265
CLIENT:	SHT. 6	DWG. NO: SK-3	REV: 0

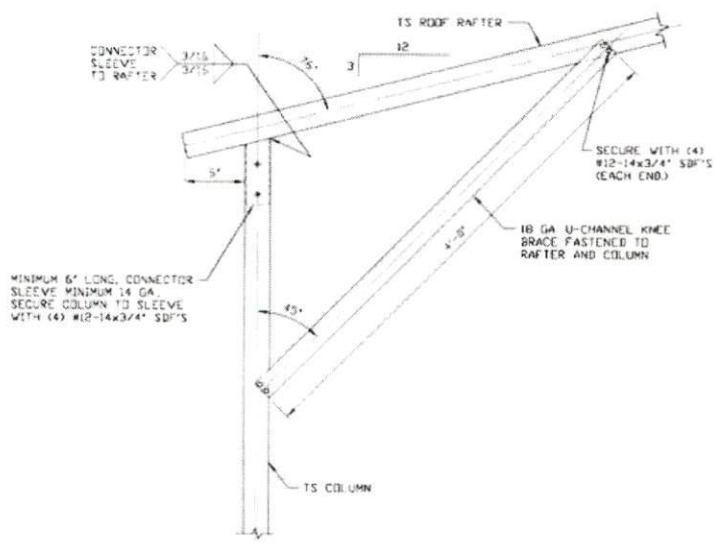
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



18 GA U-CHANNEL BRACE FASTENED TO THE COLUMN AND ROOF BEAM, WITH (4) #12-14x3/4" SB'S AT EACH END (8 PER BRACE)

BRACE SECTION
SCALE: NTS

1B
BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < TO <= 16'-0"
SCALE: NTS

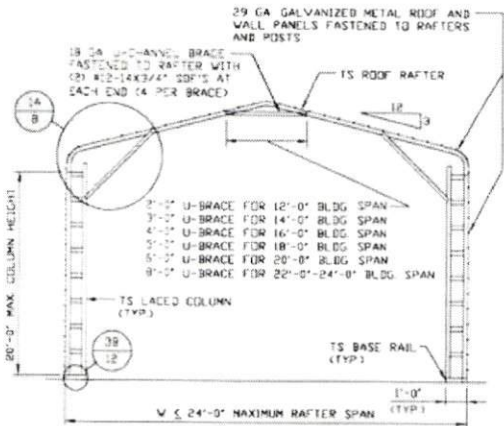


1C
BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS <= 12'-0"
SCALE: NTS
NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS < 24'-0".

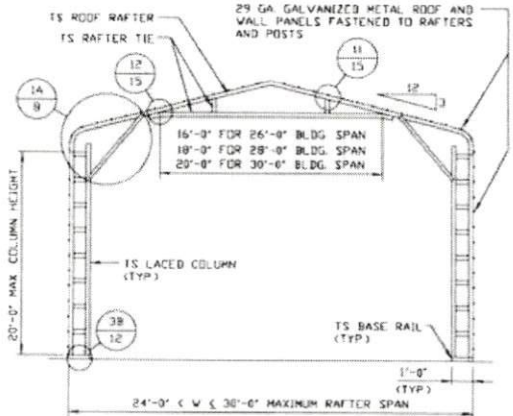
MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

DRAWN BY: AT			
CHECKED BY: PDH			
PROJECT MGR: WSH	DATE: 6-23-20	SCALE: NTS	JOB NO: 201265
CLIENT:	SHT. 6A	DWG. NO: SK-3	REV: 0

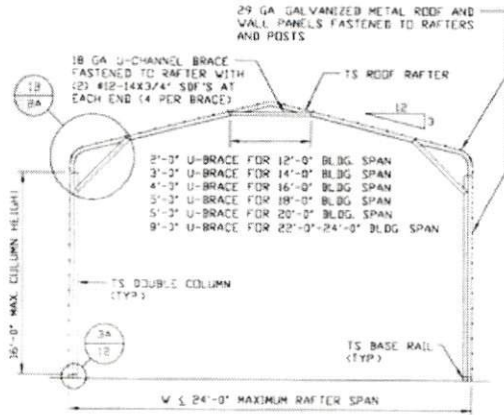
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



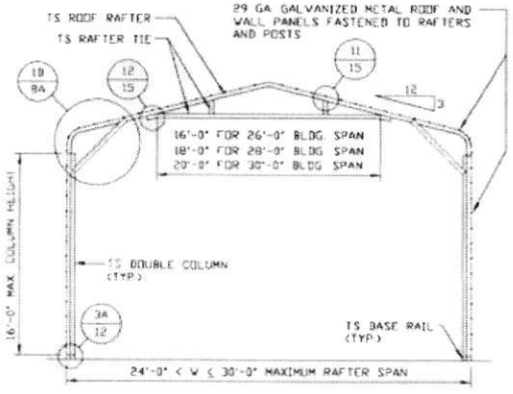
TYPICAL RAFTER/COLUMN END FRAME SECTION
 SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
 SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
 SCALE: NTS

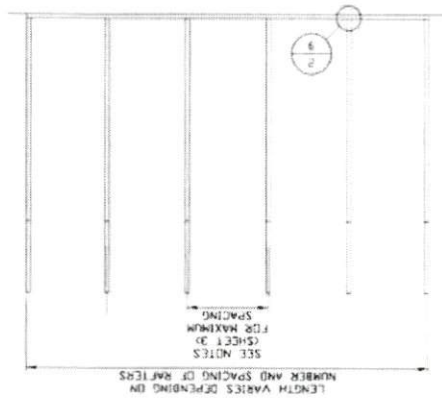


TYPICAL RAFTER/COLUMN END FRAME SECTION
 SCALE: NTS

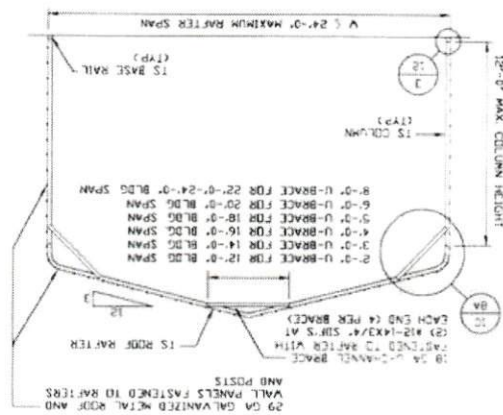
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.				DRAWN BY: AT	
				CHECKED BY: PDH	
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFREEDOMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.		PROJECT MGR: WSM	DATE: 6-23-20	SCALE: NTS	JOB NO: 20126S
		CLIENT:	SHT. 7	DWG. NO: SK-3	REV: 0

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC. IT IS NOT TO BE REPRODUCED, COPIED, OR OTHERWISE USED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.		CLIENT:	SHEET: 7A	DATE: 6-23-80	SCALE: NTS	DWG. NO. SK-3	REV. 0
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.		PROJECT: MGR. VSM	CHECKED BY: PJM	DRAWN BY: AT	MOE NO. 201265	MOE NO. 201265	MOE NO. 201265

TYPICAL RAFTER/COLUMN FRAMING SIDE SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

