

STRUCTURAL DESIGN

ENCLOSED BUILDING EXPOSURE B

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

29 July 2021 Revision 6 M&A Project No. 16022S/17300S/20352S

Prepared for:

Tubular Building Systems, LLC 631 SE Industrial Circle Lake City, Florida 32025

Prepared by:

Moore and Associates Engineering and Consulting, Inc. 1009 East Avenue North Augusta, SC 29841

> 401 S. Main Street, Suite 200 Mount Airy, NC 27030

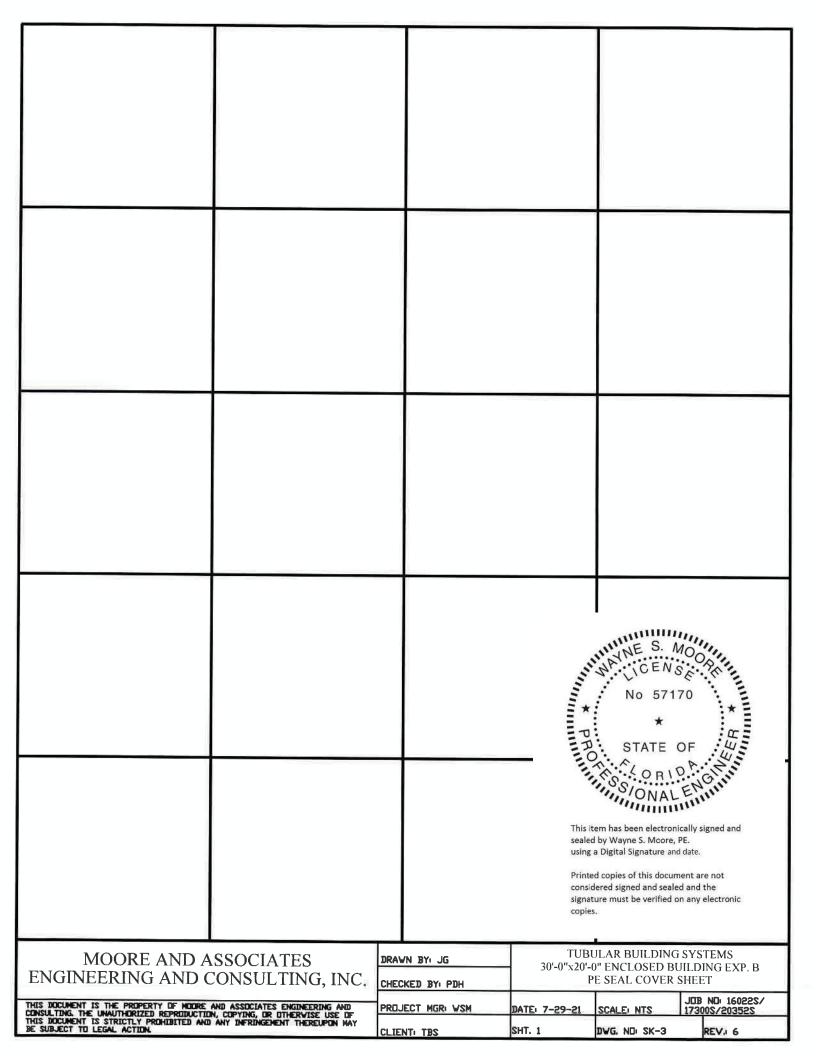
Wayne Digitally signed by Wayne S Moore Date: 2022.09.12







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                                                                NAME S. MOO
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SHEET 20

SHEET 21

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CT TO	FGAL	ACTION						

VERTICAL SLIDING WINDOW DETAIL

STRIP FOOTING OPTION

DRAWN BY: JG		ULAR BUILDIN I SE INDUSTRI	
CHECKED BY: PDH		KE CITY, FLOI -0" ENCLOSED	
PROJECT MGR: VSM	DATE: 7-29-21	SCALE: NTS	ND: 16022S/ 00S/20352S
CLIENT: TBS	SHT. 2	DWG. NO: SK-3	REV.1 6

INSTALLATION NOTES AND SPECIFICATIONS

- 1 DESIGN IS FOR A MAXIMUM 30'-0" WIDE \times 20'-0" EAVE HEIGHT ENCLOSED STRUCTURES
- 2 DESIGN WAS DONE IN ACCORDANCE WITH THE 2020 FLORIDA BUILDING CODE (FBC) 7TH EDITION 2012 INTERNATIONAL BUILDING CODE (IBC) 2015 IBC. AND 2018 IBC
- 3 DESIGN LOADS ARE AS FOLLOWS:
 A) DEAD LOAD = 15 PSF
 B) LIVE LOAD = 12 PSF
 C) GROUND SNOW LOAD = 10 PSF
- 4 LOW ULTIMATE WIND SPEED 105 TO 140 MPH (NOMINAL WIND SPEED 81 TO 108 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 50 FEET
- 5 HIGH ULTIMATE WIND SPEED 141 TO 170 MPH (NOMINAL WIND SPEED 109 TO 132 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 4.0 FEET
- 6 END WALL COLUMNS (POSTS) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND SPACING (UNLESS NOTED OTHERWISE)
- 7 RISK CATEGORY I
- 8 WIND EXPOSURE CATEGORY B
- 9 SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2" x 2 1/2" x 1/2" 14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS FOR VERTICAL PANELS, 29 GAUGE METAL PANELS SHALL BE FASTENED TO 18 GAUGE HAT CHANNELS (UNLESS OTHERWISE NOTED)
- 10 AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS AND POSTS INTERIOR = 9° OR END = 6° (MAX)
- 11 FASTENERS CONSIST OF #12-14×3/4" 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 ROOF SLOPES LESS THAN 3:12 REQUIRE USE OF JOINT SEALANT
- 12 STANDARD ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 5' OF EACH COLUMN
- 13 STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/WELDED NUT x 30" LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (< 138 MPH NOMINAL) WIND SPEEDS ONLY OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED COORDINATE WITH LOCAL CODES/ORDINANCES REGARDING MINIMUM LENGTH FOR FROST DEPTH PROTECTION
- 14 WIND FURGES GOVERN OVER SEISMIC FORCES SEISMIC PARAMETERS ANALYZED ARE:

SDIL SITE CLASS = D RISK CATEGORY I R= 325 I_E = 10

 $S_{DS} = 1522 g$ $V = C_S W$

c 658 C = Id S



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DRAWN BY: JG

7_29_21	SCALE: NTS	JDB ND: 160225/				
	" ENCLOSED BU					
LAKE CITY, FLORIDA 32025						
631 SE INDUSTRIAL CIRCLE						
TUBULAR BUILDING SYSTEMS						

 PROJECT MGR: WSM
 DATE: 7-29-21
 SCALE: NTS
 17300S/2035

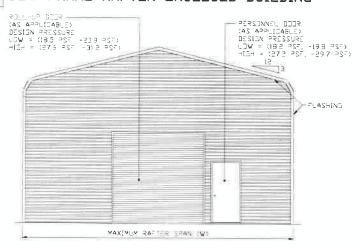
 CLIENT: TBS
 SHT. 3
 DWG, ND: SK-3
 REV.: 6

RDLL-UP DOOR (AS APPLICABLE) DESIGN PRESSURE LDW = (105 PSF, -209 PSF) HIGH = (276 PSF -312 PSF) TYP) WAXIMUM RAFTER SPAN (W)

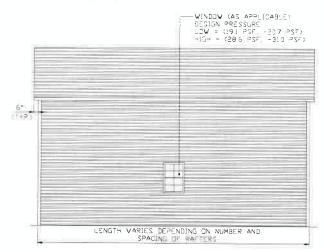
TYPICAL END ELEVATION

SCALE VIS

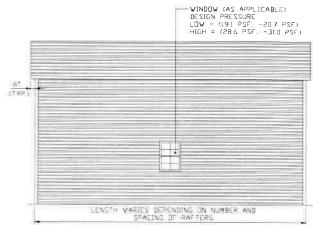
BOW FRAME RAFTER ENCLOSED BUILDING



TYPICAL END ELEVATION



TYPICAL SIDE ELEVATION



TYPICAL SIDE ELEVATION

NO 57170

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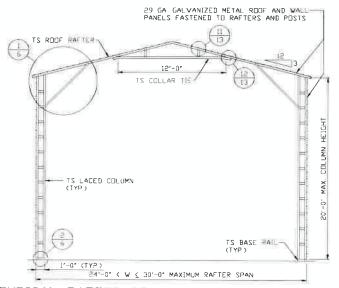
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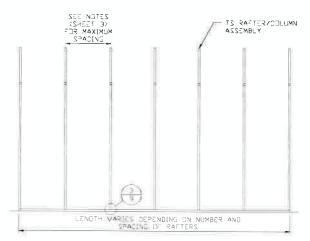
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CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS		ND: 16022S/ 005/20352S	
CLIENT: TBS	SHT. 4	DWG. ND: SK-3		REV. 6	



TYPICAL RAFTER/COLUMN END FRAME SECTION

29 GA GALVANIZED METAL ROOF AND WALL PANELS FASTENED TO RAFTERS AND POSTS TS ROOF RAFTER -24" 18 GA U-CHANNEL BRACE FASTENED TO RAFTER WITH (4) #12-14×3/4" SDF'S AT EACH END (8 PER BRACE) TS LACED COLUMN 20. TS BASE RAIL

TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

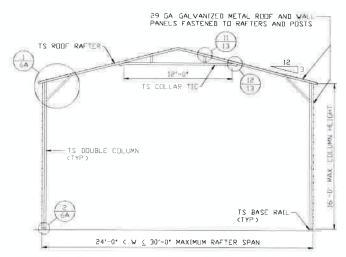


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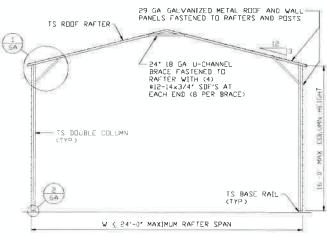
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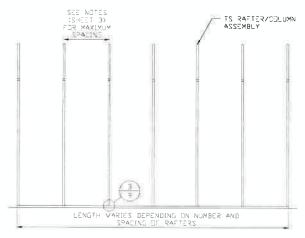
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ì	DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				
		LAKE CITY, FLORIDA 32025				
	CHECKED BY: PDH	30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
	PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS	JDB ND: 16022S/ 17300S/20352S		
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TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

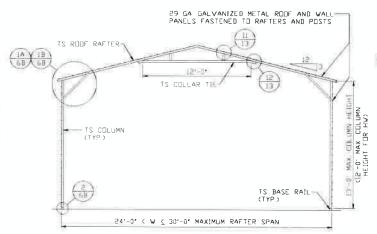


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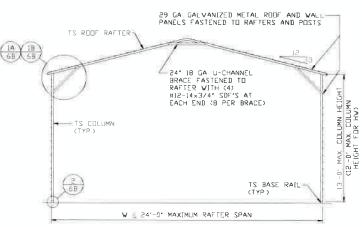
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PR	ROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS	JOB NO: 160225/ 173005/203525
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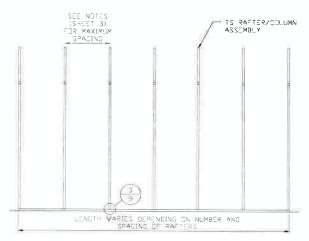


TYPICAL RAFTER/COLUMN END FRAME SECTION

2CALF NIZ



TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE NIS



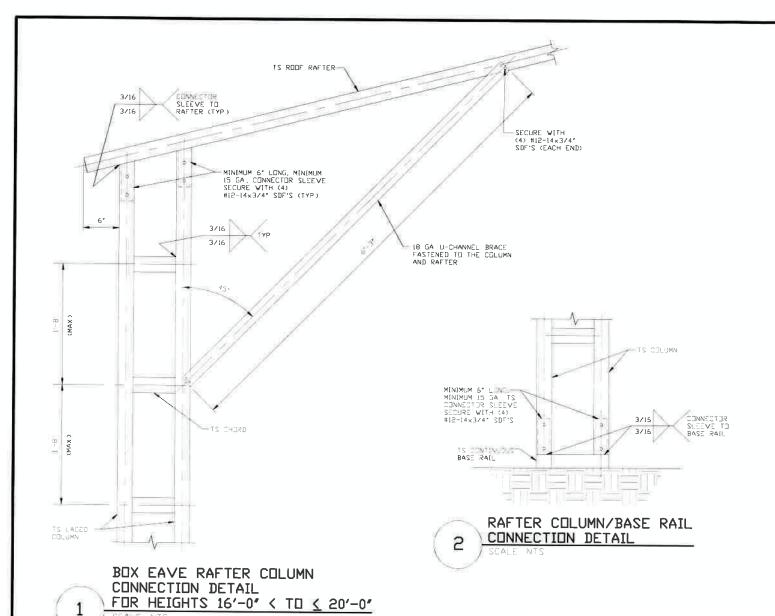
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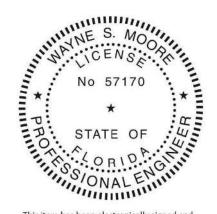
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PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS		NO: 16022S/ 00S/20352S
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B			
DRAWN BYI JG	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE LAKE CITY ELORIDA 32025			



-18 GA U-CHANNEL BRACE
FASTENED TO THE COLUMN
AND RODE RAFTER, WITH (4)
BIZ-14x3/4' SDF'S AT EACH
END (8 PER BRACE)

BRACE SECTION
SCALE: NTS



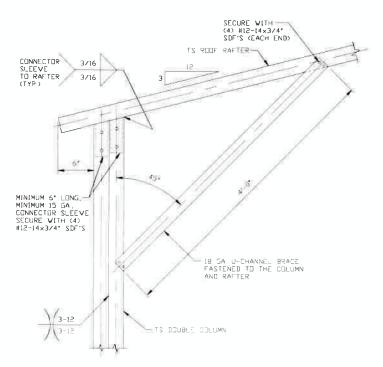
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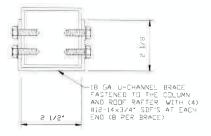
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			IDE	3 ND: 16022S/
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	LA	AKE CITY, FLOI	RIDA 3	2025
DRAWN BY: JG	63	1 SE INDUSTRI.	AL CIR	RCLE
	TUE	BULAR BUILDIN	IG SYS	STEMS



BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 13'-0" < TO < 16'-0"

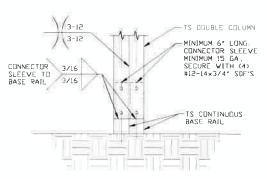
NOTE: COLUMN HEIGHTS 12'-0" < TO < 16'-0" FOR HIGH WIND



BRACE SECTION

SCALE NTS

1



2 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL



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DWG. NO: SK-3

REV. 6

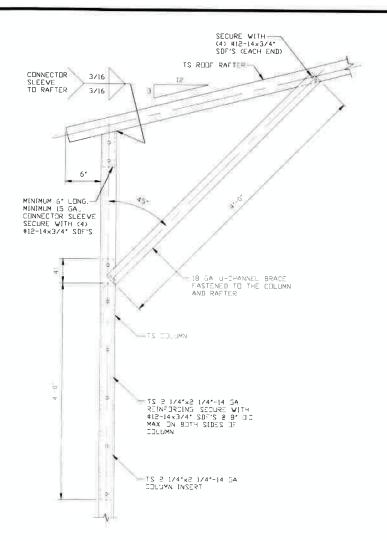
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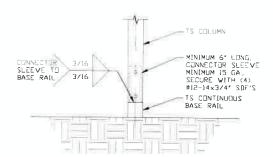
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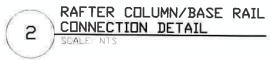


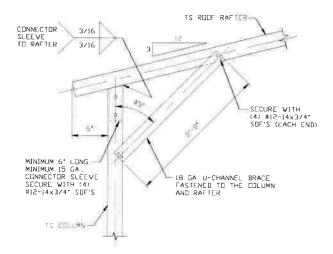
BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 10'-0' < TO € 13'-0'

SCALE NTS NOTE: MAXIMUM COLUMN HEIGHT IS 12'-0' FOR HIGH WIND

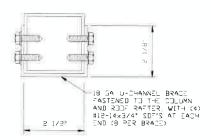


1A





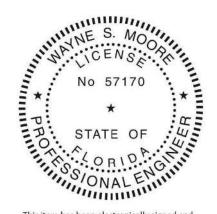
BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS < 10'-0"



BRACE SECTION

SCALE NTS

1B

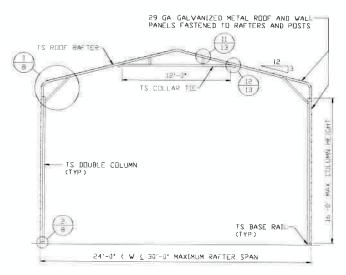


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PROJECT MGR: VSM	DATE: 7-29-21	SCALE: NTS		ND: 160225/ 005/203525		
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP					
DRAWN BY: JG	63	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE				



TYPICAL RAFTER/COLUMN END FRAME SECTION

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS

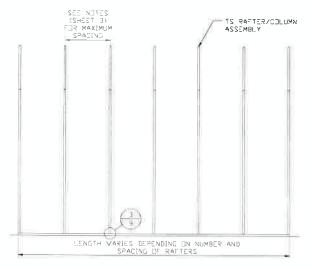
12

24' 18 GA U-CHANNEL
BRACE FASTENED TO
RAFTER WITH (4)
#12-14x3/4' SDF'S AT
EACH END (8 PER BRACE)

15 BASE RAIL
(1YP)

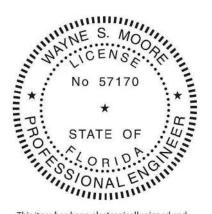
W < 24'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

STALE NIZ



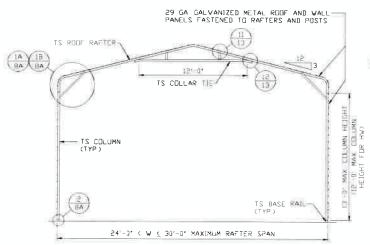
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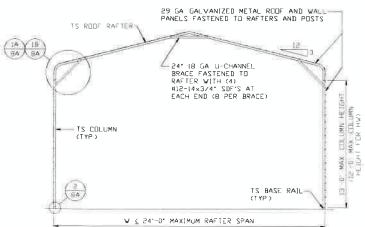
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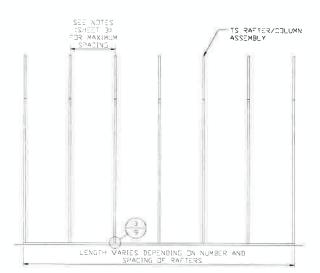
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CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B			
DRAWN BY: JG	631	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE		





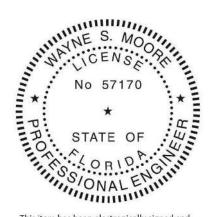
TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE NTS

TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE NTS

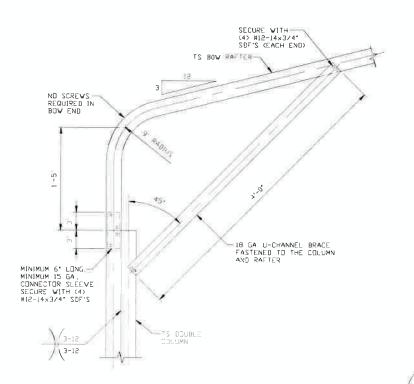


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CLIENT: TBS	SHT. 7A	DWG. ND: SK-3		REV. 6	
PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS		ND: 160225/ 005/203525	
CHECKED BY: PDH		KE CITY, FLORIU O" ENCLOSED BU			
DRAWN BY: JG	631	SE INDUSTRIAL	CIR	CLE	



TS DOUBLE COLUMN MINIMUM 6" LONG, CONNECTOR SLEEVE MINIMUM 15 GA, SECURE WITH (4) #12-14×3/4" SDF'S CONNECTOR SLEEVE TO BASE RAIL 3/16 TS CONTINUOUS BASE RAIL

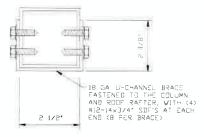
RAFTER COLUMN/BASE RAIL

CONNECTION DETAIL

BOX EAVE RAFTER COLUMN

CONNECTION DETAIL FOR HEIGHTS 13'-0" < TO < 16'-0"

NOTE COLUMN HEIGHTS 12'-0" < TO & 15'-0" FOR HIGH WIND



BRACE SECTION

1

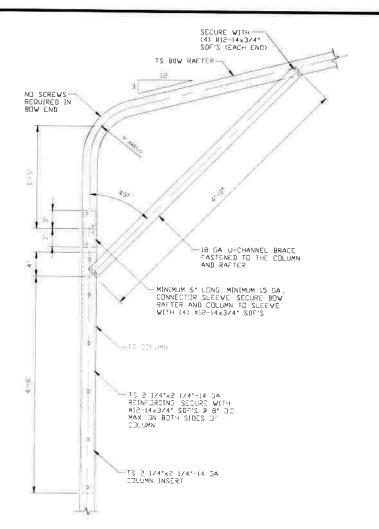
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	TUBU	JLAR BUILDING	SYS	TEMS
DRAWN BY: JG	631	SE INDUSTRIAL	CIR	CLE
	LAKE CITY, FLORIDA 32025			
CHECKED BY: PDH	30'-0"x20'-0	30'-0"x20'-0" ENCLOSED BUILDING EXP. B		
PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS		ND: 16022S/ 00S/20352S
CLIENT: TBS	SHT. 8	DWG. ND: SK-3		REV.i 6

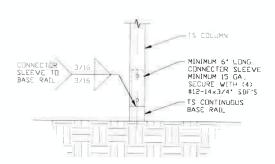


BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 10'-0' < TO ≤ 13'-0'

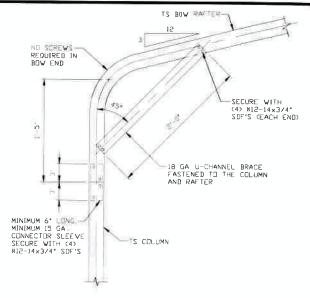
SCAL NTS

1A

NOTE MAXIMUM COLUMN HEIGHT IS 12'-0" FOR HIGH WIND

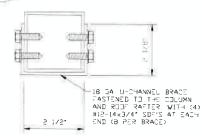






BOX EAVE RAFTER COLUMN CONNECTION DETAIL

1B FOR HEIGHTS & 10'-0"



BRACE SECTION

SCALE NT



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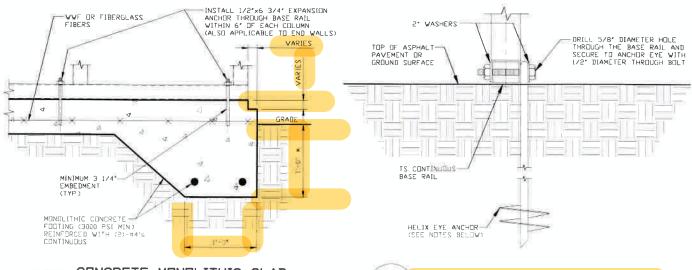
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CLIENT: TBS	SHT. 8A	DWG. NO SK-3		REV.1 6
PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS		ND: 160225/
CHECKED BY: PDH		AKE CITY, FLOI -0" ENCLOSED		
DRAWN BY: JG	63	BULAR BUILDIN 1 SE INDUSTRI	AL CIR	RCLE

BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED



3A

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

MINIMUM ANCHOR EDGE DISTANCE IS 4" * COORDINATE WITH LOCAL CODES/ORD REGARDING MINIMUM FROST DEPTH REQ

GROUND BASE HELIX ANCHORAGE ЗΒ

SCALE NTS (CAN BE USED FOR ASPHALT) * COORDINATE WITH LOCAL CODES/ORD REGARDING MINIMUM FROST DEPTH REQ

GENERAL NOTES

NOTE: CONCRETE MONOLITHIC SLAB DESIGN ON MINIMUM SOIL BEARING CAPACITY OF 1500 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 AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2 INCHES 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 MAY BE BENT IN THE SHOP OR THE FIELD PROVIDED:

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

HELIX ANCHOR NOTES

- 1 FOR VERY DENSE AND/OR CEMENTED SANDS COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT
- 2 FOR CORAL USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT
- FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT
- 4 FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL USE MINIMUM (2) 6" HELICES WITH MINIMUM 50 INCH EMBEDMENT
- 5 FOR VERY LOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL USE MINIMUM (2) 8° HELICES WITH MINIMUM 60 INCH EMBEDMENT



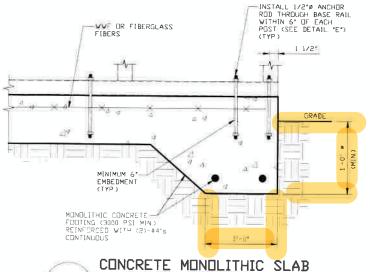
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		SCALE: NTS	JDB	ND: 16022S/ 0S/20352S
CLIENT: TBS	SHT. 9	DVG, ND: SK-3		REV. 6

OPTIONAL FOUNDATION ANCHORAGE FOR LOW AND HIGH WIND SPEED



BASE RAIL ANCHORAGE 30

MINIMUM ANCHER EDGE DISTANCE IS 1 1/2 * COORDINATE WITH LOCAL CODES/ORD REGARDING MINIMUM FROST DEPTH REQ

GENERAL NOTES

NOTE CONCRETE MONOLITHIC SLAB DESIGN ON MINIMUM SOIL BEARING CAPACITY OF 1,500 PSF

CONCRETE:

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

COVER OVER REINFORCING STEEL:

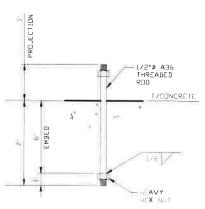
FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318
3 INCHES IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2 INCHES ELSEWHERE

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

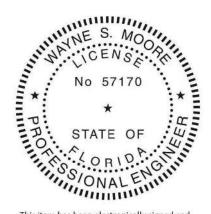
REINFORCEMENT MAY BE BENT IN THE SHOP OR THE FIELD PROVIDED

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



ANCHOR ROD THROUGH BASE RAIL DETAIL

3D



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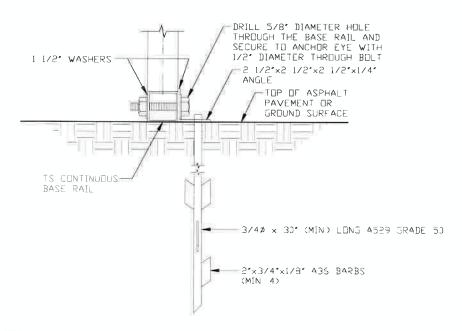
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		DWG. ND: SK-3		REV.: 6	
PROJECT MGR: WSM	DATE: 7-29-21	SCALE NTS	JOB NO: 160225/ 173005/203525		
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
DRAWN BY: JG	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE				

BASE RAIL ANCHORAGE OPTION



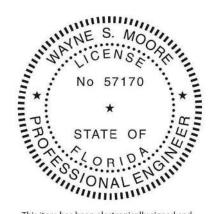
ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR)

SCALE NIS

(CAN BE USED FOR ASPHALT)

* COORD(NATE WITH LOCAL CODES/ORD

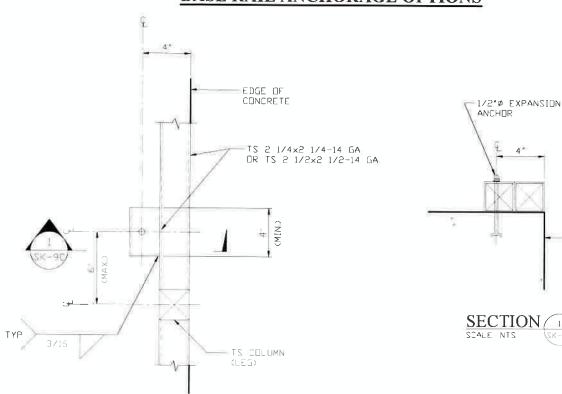
REGARDING MINIMUM FROST DEPTH REQ



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	LAKE CITY, FLORIDA 320 CHECKED BY: PDH 30'-0"x20'-0" ENCLOSED BUILDIN					
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BASE RAIL ANCHORAGE OPTIONS



TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

STALE NIS



EDGE OF CONCRETE

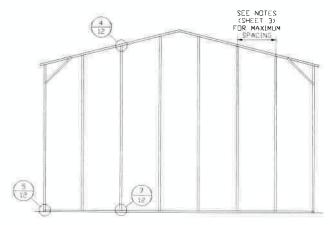
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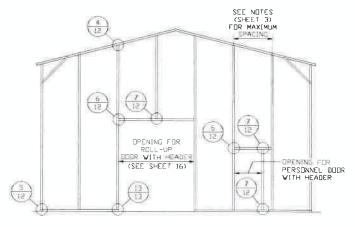
CLIENT, TRO	SHT. 9C	DAC NO SK-3	PEV. 6		
PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS	JDB ND: 16022S/ 17300S/20352S		
CHECKED BY: PDH		DA 32025 UILDING EXP. B			
DRAWN BY: JG	631	SE INDUSTRIA	DUSTRIAL CIRCLE		

BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



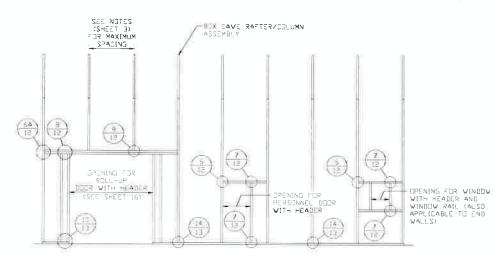
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



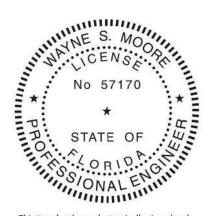
TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE NTS



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE NTS



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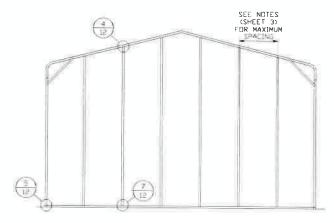
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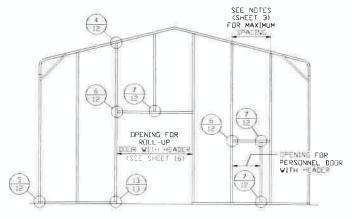
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	TUB	TUBULAR BUILDING SYSTEMS			
DRAWN BY: JG	631	631 SE INDUSTRIAL CIRCLE			
	LA	LAKE CITY, FLORIDA 32025			
CHECKED BY: PDH	30'-0"x20'-	30'-0"x20'-0" ENCLOSED BUILDING EXP. B			
PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS	JOB ND: 16022S/ 17300S/20352S		
CLIENT: TBS	SHT. 10	DWG. NO: SK-3	REV. 6		

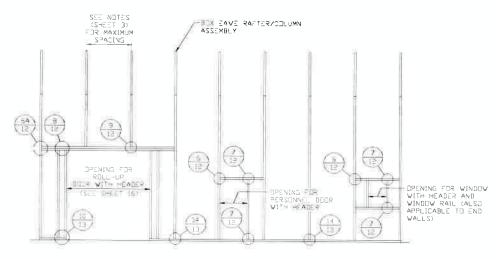
BOW RAFTER END WALL AND SIDE WALL OPENINGS



TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION



TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE NTS



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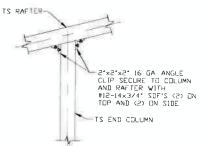
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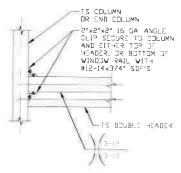
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CHECKED BY: PDH	30'-0"x20'-0	30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS		ND: 16022S/ 00S/20352S		
CLIENT: TBS	SHT. 11	DWG. ND: SK-3		REV.1 6		

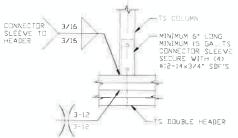
CONNECTION DETAILS



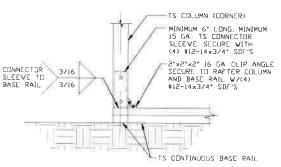




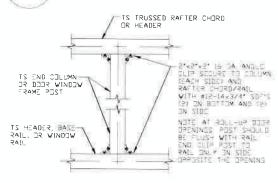
DOUBLE HEADER TO COLUMN CONNECTION DETAIL 6A



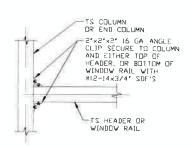
COLUMN/DOUBLE HEADER CONNECTION DETAIL 9



END COLUMN/BASE RAIL CONNECTION DETAIL

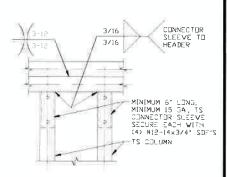


COLUMN TO HEADER, BASE RAIL, DR WINDOW RAIL CONNECTION DETAIL SCALE NTS



HEADER OR WINDOW RAIL TO COLUMN CONNECTION DETAIL

6



DOUBLE HEADER/COLUMN CONNECTION DETAIL 8



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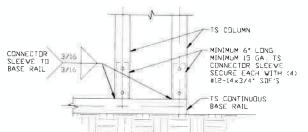
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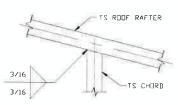
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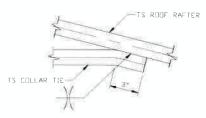
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CHECKED BY: PDH	30'-0"x20'-0" ENCLOSED BUILDING EXP. B			
PROJECT MGR: VSM	DATE: 7-29-21	SCALE: NTS		ND: 16022S/ 00S/20352S
CLIENT: TBS	SHT. 12	DWG. ND: SK-3		REV. 6

CONNECTION DETAILS





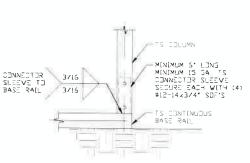


10 COLUMN/BASE RAIL CONNECTION DETAIL SCALE: NTS

RAFTER TO CHORD CONNECTION DETAIL

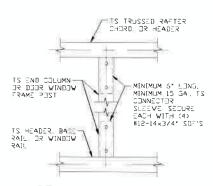
SCALE NTS

12 COLLAR TIE CONNECTION DETAIL



COLUMN/BASE RAIL CONNECTION DETAIL SCALE NTS

13



COLUMN TO HEADER, BASE RAIL CONNECTION DETAIL

14



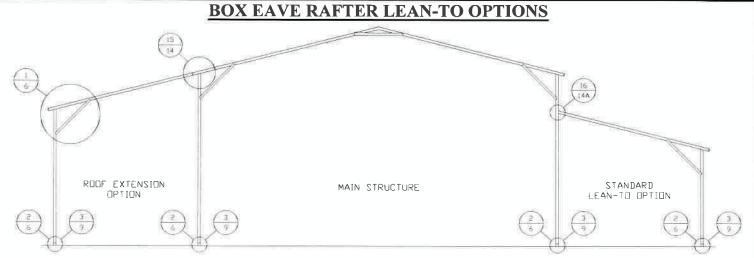
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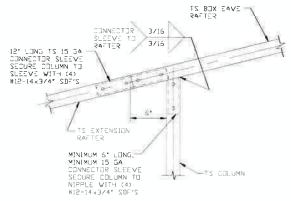
CLIENT, TRO	SHT. 13	DAG NU 2K-3	17300S/20352S			
PROJECT MGR: VSM	DATE: 7-29-21	SCALE: NTS	JDB ND: 160225/			
CHECKED BY: PDH		LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
DRAWN BY: JG		TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE				



TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

SCALE: NTS MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE LACED COLUMNS FOR

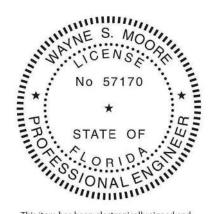
KNEE BRACES MUST BE 4'-0" (5'-0" FOR HIGH WIND) WHEN LEAN-TO'S ARE ADDED



SIDE EXTENSION RAFTER/COLUMN DETAIL FOR RAFTER SPANS & 15'-0"

TS BEX EAVE CONNECTOR SLEEVE TO RAFTER 3/16 12" LONG TS 15 GA CONNECTOR SLEEVE SLEEVE WITH (4) #12-14x3/4" SDF'S MINIMUM 6' LONG, MINIMUM 15 GA, CONNECTOR SLEEVE SECURE COLUMN TO NIPPLE WITH (4) #12-14×3/4' SDF'S TS DOUBLE EXTENSION RAFTER 2"x2"x2" 14 GA ANGLE CLIP SECURE TO COLUMN AND RAFTER CHORD/RAIL WITH (4) #12-14x3/4" SDF'S TS CELUMN

SIDE EXTENSION RAFTER/COLUMN DETAIL FOR RAFTER SPANS 15'-0" < TO < 24'-0" SCALE NIS



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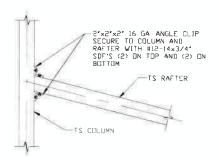
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OI TENT. TRO	CHT 14	DAG NUI SK-3	DEV/ 6
PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS	JOB NO: 16022S/ 17300S/20352S
CHECKED BY: PDH		0" ENCLOSED BU	
DRAWN BY: JG	63	ULAR BUILDING I SE INDUSTRIAL KE CITY, FLORII	CIRCLE

BOX EAVE RAFTER LEAN-TO OPTIONS

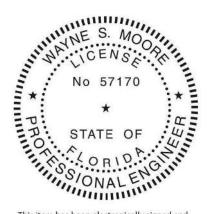


LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS & 15'-0'

TS COLUMN

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 15'-0" < TO ≤ 24'-0"

16A) SCALE:



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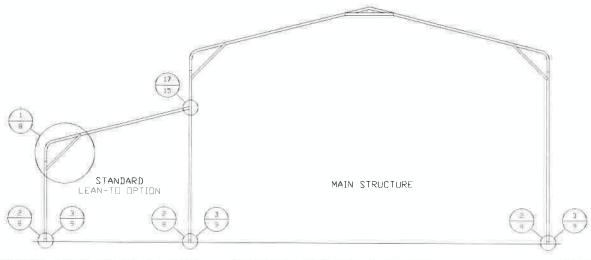
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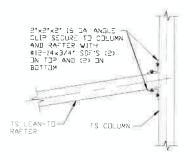
PRDJECT MGR: VSM	DATE: 7-29-21 SHT. 14A	SCALE: NTS	JUB NU 16022S/ 17300S/20352S			
PROJECT MGR: VSM	DATE: 7-29-21	SCALE: NTS	JOB NO 16022S/ 17300S/20352S			
CHECKED BY: PDH	30'-0"x20'-	30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
		LAKE CITY, FLORIDA 32025				
DRAWN BY: JG	63	631 SE INDUSTRIAL CIRCLE				
DOALAL DV. 15	TUBULAR BUILDING SYSTEMS					

BOW RAFTER LEAN-TO OPTIONS



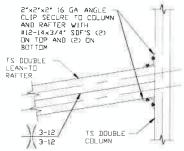
BOW RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN) TYPICAL

MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS 13'-0' (12'-0' FOR HIGH WIND) < TO < 15'-0' MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS 10'-0' < TO < 13'-0' (12'-0' FOR HIGH WIND) (WITH 4'-4' INSERT) MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS & 10'-0' KNEE BRACES MUST BE 4'-0" (5'-0" FOR HIGH WIND) WHEN LEAN-TO'S ARE ADDED



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS ≤ 15'-0"

17



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 15'-0" < T□ < 24'-0"

17A



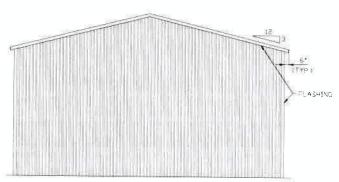
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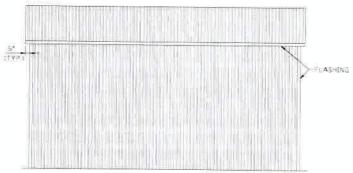
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	CLIENT: TBS	SHT. 15	DWG, ND: SK-3		REV. 6	
Î	PROJECT MGR: VSM	DATE: 7-29-21	SCALE: NTS		ND: 16022\$/ 0\$/20352\$	
	CHECKED BY: PDH	1	KE CITY, FLORIE " ENCLOSED BU			
	DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				

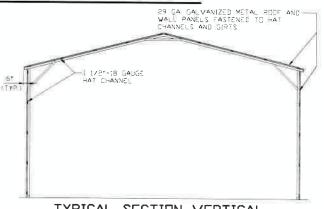
BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



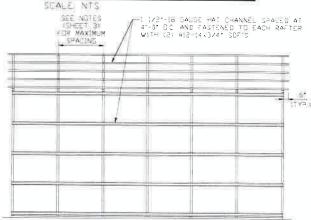
TYPICAL END ELEVATION VERTICAL ROOF/SIDING OPTION
SCALE (NTS)



TYPICAL SIDE ELEVATION VERTICAL ROOF/SIDING OPTION

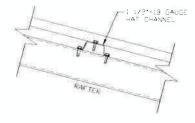


TYPICAL SECTION VERTICAL ROOF/SIDING OPTION



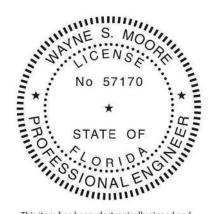
TYPICAL FRAMING SECTION VERTICAL ROOF/SIDING OPTION

SCALE NTS NOTE TS WALL GIRTS CAN BE USED AS AN OPTION IN PLACE OF HAT CHANNELS TS CIRTS MUST BE SPACE AT 42-0*



ROOF PANEL ATTACHMENT

(ALTERNATE FOR VERTICAL ROOF PANELS) SCALE NTS



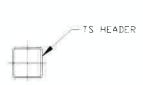
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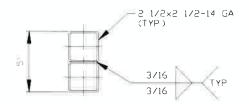
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CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B			
PROJECT MGR: VSM	DATE: 7-29-21	SCALE: NTS		ND: 16022S/ 00S/20352S
CLIENT: TBS	SHT. 16	DWG. NO SK-3		REV. 6

SIDE WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR OPENINGS ≤ 10'-0"

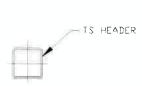
SCALE: NTS



HEADER DETAIL FOR DOOR OPENINGS 10'-0" < LENGTH ≤ 15'-0"

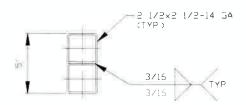
SCALELINES

END WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR OPENINGS ≤ 12'-0"

SCALE: NTS



HEADER DETAIL FOR DOOR OPENINGS 12'-0" < LENGTH ≤ 15'-0"

SCALE NTS



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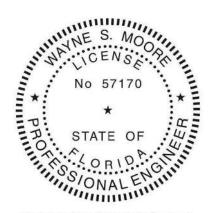
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PROJECT MGR: WSM	DATE: 7-29-21	SCALE: NTS	JOB NO: 16022S/ 17300S/20352S
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FLOOD VENT DETAIL FRAME OPENING FOR FLOOD VENT WITH TS 2 1/2"x2 1/2" MEMBERS (MATCH ADJACENT RAFTER PUSTS AND BASERAIL) 1/2"-18S OR F EXPANDED METAL ATTACH W/ McNICHOLS SQUARE FASTENERS OR APPROVED EQUAL AT 6" D.C. ATTACH W/ METAL TEK SCREWS TS POST MIN GRAD TS BASE RAIL GRADE GRADE

TYPICAL FLOOD VENT DETAIL

- 1 MINIMUM VENT SPACE REQUIRED = 1 SQ INCH OF OPEN VENT AREA PER SQ FOOT OF BUILDING AREA
- 2 THERE SHALL BE A MINIMUM OF TWO OPENINGS ON DIFFERENT SIDES FOR EACH ENCLOSED BUILDING
- 3 APPLY 13 FACTOR WHEN CALCULATING TOTAL OPEN AREA WHEN USING $1/2^*-18GA$ S OR F EXPANDED METAL.
- 4 TOTAL OPEN AREA OF VENT = LxH(MIN 12")
- 5 FLOOD VENT DETAIL COMPLIES WITH FEMA/NFIP
- 6 PREFABRICATED FLOOD VENTS MEETING THE REQUIREMENTS OF FEMA/NIFIP MAY BE USED



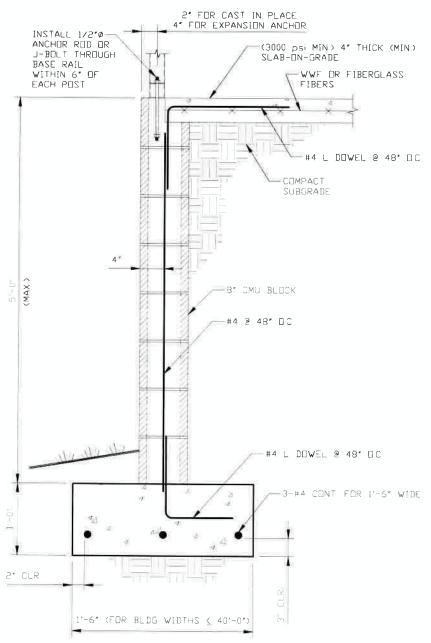
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PROJECT MGR: WSM	DATE: 7-29-21	SCALE) NTS	JOB NO: 16022S/ 17300S/20352S
CLIENT: TBS	SHT. 19	DWG. ND: SK-3	REV.i 6

STAND -ALONE STEM WALL DETAIL



STAND-ALONE CONCRETE MASONRY UNIT (CMU) FOUNDATION STEM WALL DETAIL

SCALE: NTS

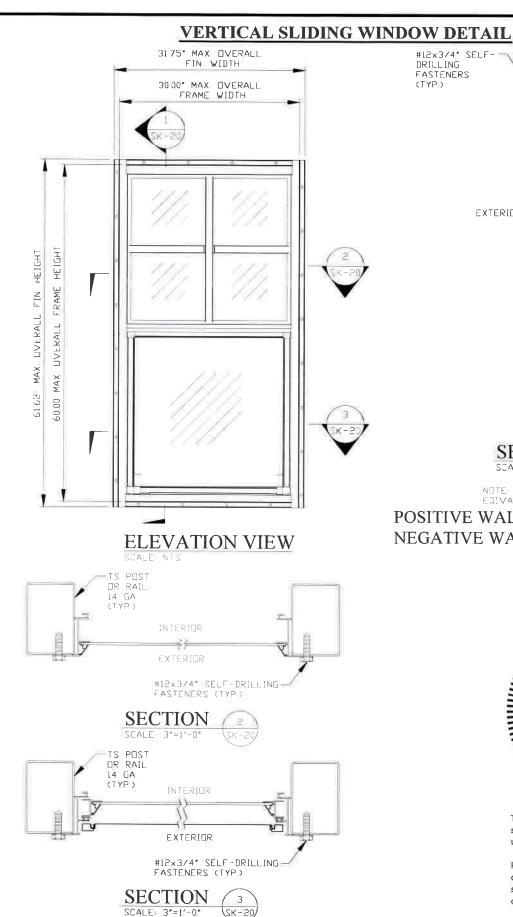


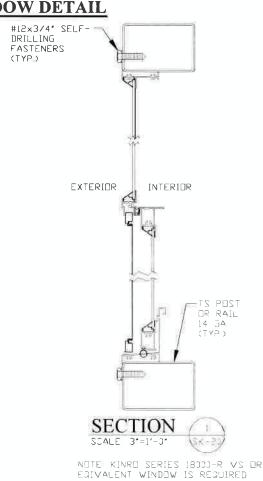
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	CLIENT: TBS	SHT. 19	DVG. NO: SK-3	REV.i 6





POSITIVE WALL PRESSURE: +40.0 PSF NEGATIVE WALL PRESSURE: -40.0 PSF



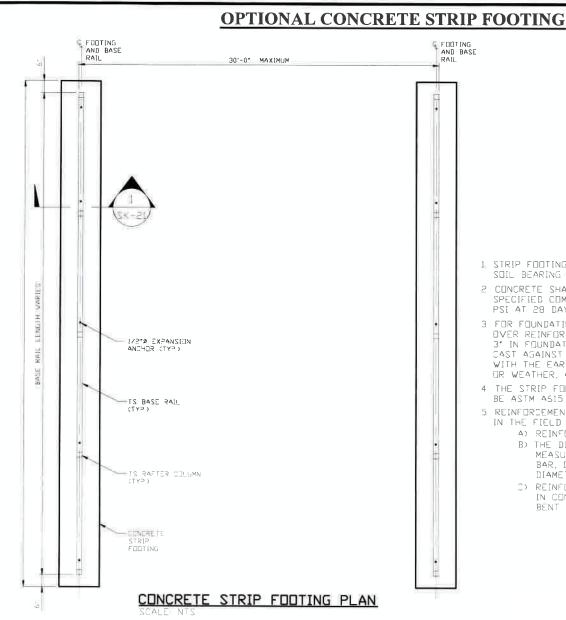
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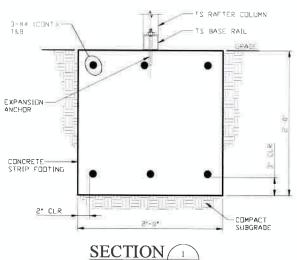
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_	PROJECT MGR: VSM	DATE: 7-29-21	SCALE: NTS	JUB ND: 16022S/ 17300S/20352S
	CLIENT: TBS	SHT. 20	DWG. ND: SK-3	REV.i 6



- 1 STRIP FOOTING DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 1,500 PSF
- 2 CONCRETE SHALL HAVE 4 MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS
- 3 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 OR WEATHER, AND I 1/2' ELSEWHERE
- 4 THE STRIP FOOTING REINFORCING STEEL SHALL BE ASTM A615 GRADE 60
- 5 REINFORCEMENT MAY BE BENT IN THE SHOP OR IN THE FIELD PROVIDED
 - A) REINFORCEMENT IS BENT COLD
 - B) THE DIAMETER OF THE BEND,
 MEASURED ON THE INSIDE OF THE
 BAR, IS NOT LESS THAN SIX-BAR
 DIAMETERS
 - C) REINFORZEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT



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