

STRUCTURAL DESIGN

ENCLOSED BUILDING EXPOSURE B

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

8 January 2021 Revision 5 M&A Project No. 16022S/17300S/20352S

Prepared for:

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



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

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

Digitally signed by Wayne S Moore Date: 2021.01.12

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INSTALLATION NOTES AND SPECIFICATIONS

- 1. DESIGN IS FOR A MAXIMUM 30'-0" WIDE x 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 = 1.5 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 = 5.0 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 DTHERWISE).
- 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" 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.
- IZ. STANDARD ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6' OF EACH COLUMN.
- 13. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/WELDED NUT × 30' LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (≤ 108 MPH NUMINAL) WIND SPEEDS ONLY. □PTIONAL 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 FORCES GOVERN OVER SEISMIC FORCES, SEISMIC PARAMETERS ANALYZED ARE:

SDIL SITE CLASS = D RISK CATEGORY I

R= 3.25 $I_E= 1.0$ $V= C_S V$

g 658'0 =¹⁰S



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TUBU	ILAR BUILDING SYSTEMS
631	SE INDUSTRIAL CIRCLE
LAŁ	KE CITY, FLORIDA 32025
30'-0"x20'-0	" ENCLOSED BUILDING EXP. B
	JOB NO 16022S/

_	PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	JOB NO 16022S 17300S/20352S
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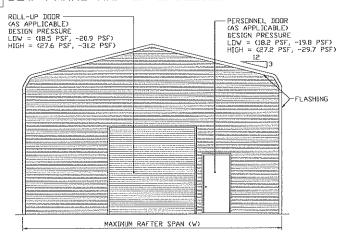
BOX EAVE FRAME RAFTER ENCLOSED BUILDING ROLL-UP BOOR (AS APPLICABLE) DESIGN PRESSURE LOW = (185 PSF, -20.9 PSF) HIGH = (27.6 PSF, -312 PSF) 12 3 FLASHING

TYPICAL END ELEVATION

SCALE: NTS

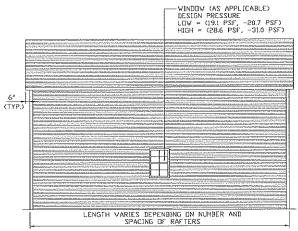
BOW FRAME RAFTER ENCLOSED BUILDING

(W) MAYZ RAFTER SPAN (W)



TYPICAL END ELEVATION

SCALE: NTS



TYPICAL SIDE ELEVATION

WINDDW (AS APPLICABLE)
DESIGN PRESSURE
LDW = (191, PSF, -20.7 PSF)
HIGH = (28.6 PSF, -31.0 PSF)

(TYP.)

LENGTH VARIES DEPENDING ON NUMBER AND
SPACING OF RAFTERS

TYPICAL SIDE ELEVATION

SCALE: NTS



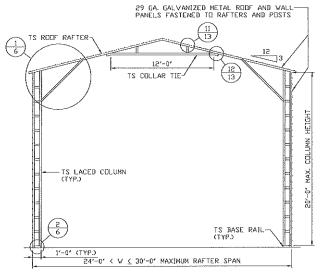
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DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				



TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS

TS ROUF RAFTER
PANELS FASTENED TO RAFTERS AND POSTS

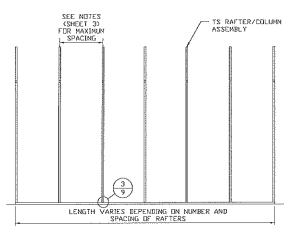
24' IB GA. U-CHANNEL
BRACE FASTENED TO
RAFTER WITH (4)
#12-14x3/4' SDF'S AT
EACH END (8 PER BRACE)

TS LACED COLUMN
(TYP.)

TS BASE RAIL
(TYP.)

V (24'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION

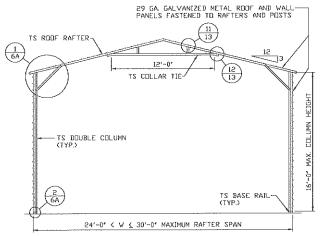


TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



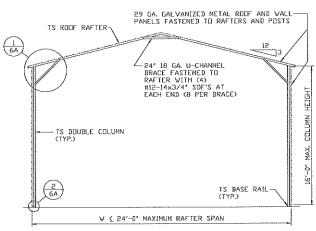
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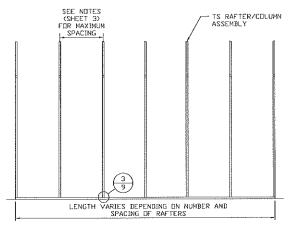


TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS



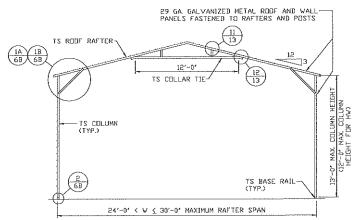
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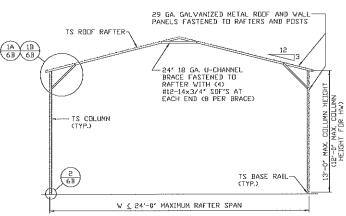
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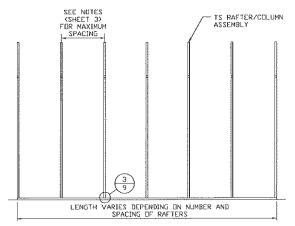
		IFAK BOILDING		
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE			
	LAKE CITY, FLORIDA 32025			
CHECKED BY: PDH	30'-0"x20'-0)" ENCLOSED BU	ILD	ING EXP, B
			JOB	ND: 160225/
PROJECT MGR: VSM	DATE: 1-8-21	SCALE: NTS	1730	22005/200
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TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



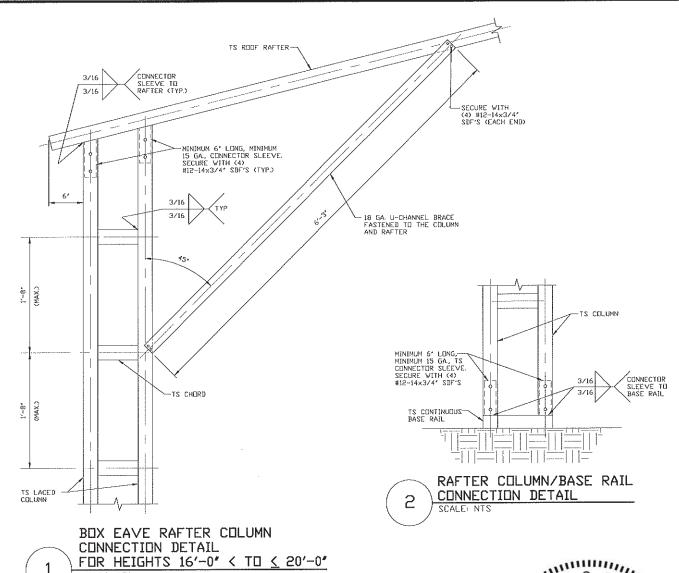
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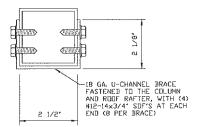
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	LAKE CITY, FLORIDA 32025				
CHECKED BY: PDH	30'-0"x20'-0" ENCLOSED BUILDING E				
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CLIENT: TBS	SHT. 5B	DWG, NO: SK-3		REV₁ 5	



1 SCALE: NTS

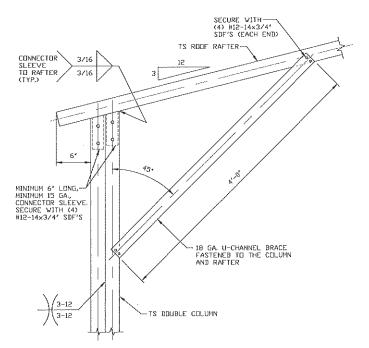


BRACE SECTION SCALE: NTS



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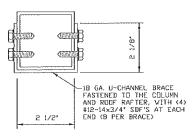
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MOODE AND AGGOODATED	DRAWN BY: JG		JLAR BUILDING : SE INDUSTRIAL	



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

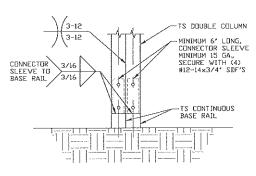
1 SCALE: NTS

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



BRACE SECTION

SCALE: NTS



RAFTER COLUMN/BASE RAIL CONNECTION DETAIL

SCALE: NTS



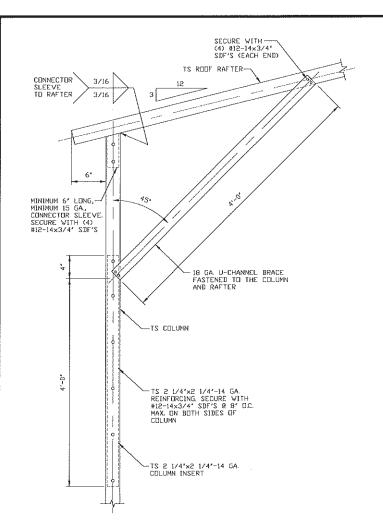
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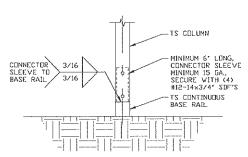
PROJECT MGR: WSM CLIENT: TBS		DWG. NO: SK-3	17300S/20352S REV.: 5		
			JOB NO 16022S/		
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				



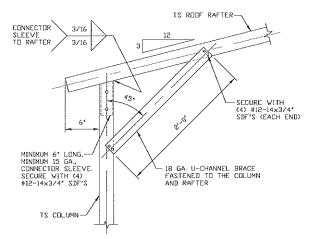
BOX EAVE RAFTER COLUMN CONNECTION DETAIL

FOR HEIGHTS 10'-0' < TO < 13'-0'

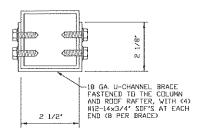
/ SCALE: NTS NOTE: MAXIMUM COLUMN HEIGHT IS 12'-0" FOR HIGH WIND.



2 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL SCALE NTS



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



BRACE SECTION



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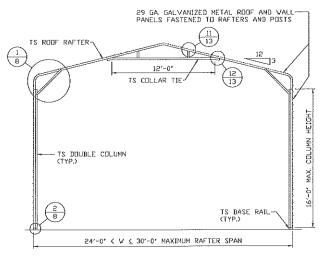
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TUBULAR BUILDING SYSTEMS
631 SE INDUSTRIAL CIRCLE
LAKE CITY, FLORIDA 32025
CHECKED BY PDH 30'-0"x20'-0" ENCLOSED BUILDING EXP. B
PROJECT MGR WSM DATE: 1-8-21 SCALE: NTS 17300S/20352S

CLIENT: TBS SHT. 6B DWG. ND: SK-3 REV. 5



TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS

29 GA. GALVANIZED METAL ROOF AND VALL
PANELS FASTENED TO RAFTERS AND POSTS

12
3

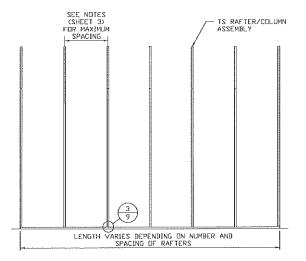
24' 18 GA. U-CHANNEL
BRACE FASTENED TO
RAFTER WITH (4)
H12-14×3/4' SDF'S AT
EACH END (8 PER BRACE)

15 DOUBLE COLUMN
(TYP.)

15 BASE RAIL
(TYP.)

V & 24'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



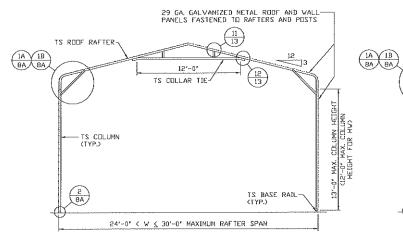
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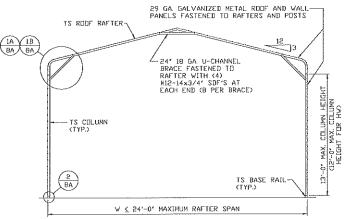
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CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B					
DRAWN BY: JG	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE					

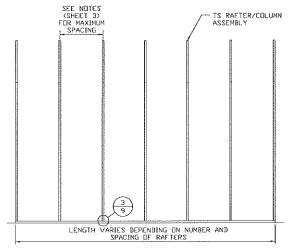




TYPICAL RAFTER/COLUMN END FRAME SECTION

TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

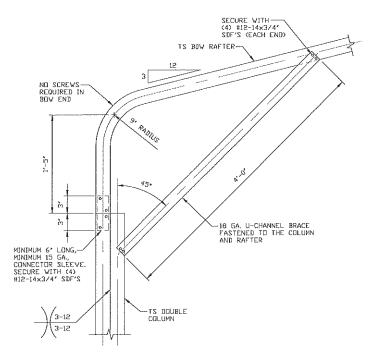


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BE SUBJECT TO LE	CAL ACTIONS		
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DRAWN BY: JG	631	SE INDUSTRIAL	CIRCLE		
	LAKE CITY, FLORIDA 32025				
CHECKED BY: PDH	30'-0"x20'-0" ENCLOSED BUILDING EXP.				
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CLIENT: TRS	SHT, 7A	DWG. NO: SK-3	RE√.: 5		



3-12

TS DOUBLE COLUMN

MINIMUM 6' LDING,
CONNECTOR SLEEVE
MINIMUM 15 GA.,
SECURE VITH (4)
H12-14x3/4' SDF'S

TS CONTINUOUS
BASE RAIL

TS DOUBLE COLUMN

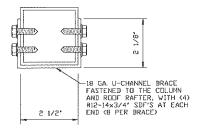
MINIMUM 6' LDING,
CONNECTOR SLEEVE
MINIMUM 15 GA.,
SECURE VITH (4)
H12-14x3/4' SDF'S

2 RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS

BOX EAVE RAFTER COLUMN CONNECTION DETAIL

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

SCALE: NTS NDTE: COLUMN HEIGHTS 12'-0' < TO ≤ 16'-0' FOR HIGH WIND.



BRACE SECTION

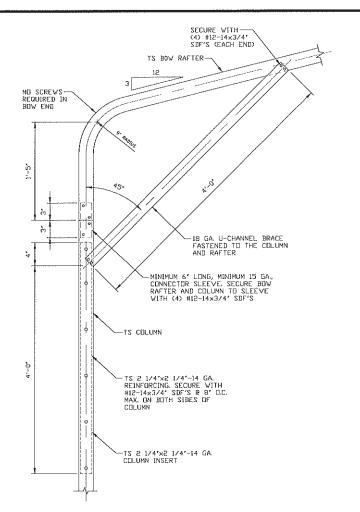
SCALE: NTS

1



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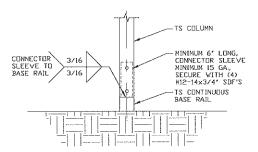


BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 10'-0" < TO <u><</u> 13'-0"

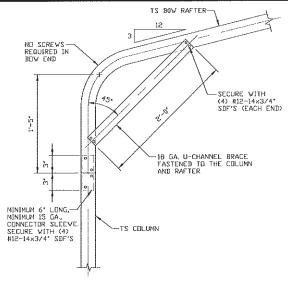
SCALE: NTS

1A

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



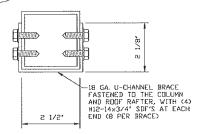
2 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



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

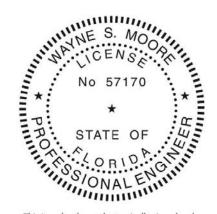
SCALE: NTS

1B



BRACE SECTION

SCALE: NTS



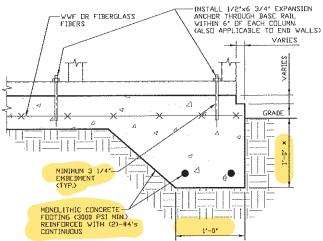
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PDALOI DV. IC	631 SE INDUSTRIAL CIRCLE				
DRAWN BY: JG					
	LAKE CITY, FLORIDA 32025				
CHECKED BY: PDH	30'-0"x20'-0" ENCLÓSED BUILDING EX				
PROJECT MGR: VSM	DATE: 1-8-21	SCALE: NTS		ND: 16022S/ 00S/20352S	
THEORET THEM WELL	2,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
CLIENT: TBS	SHT, BA	DWG. NO: SK-3		REV.: 5	

BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED



CONCRETE MONOLITHIC SLAB BASE RAIL ANCHURAGE SCALE: NTS

MINIMUM ANCHOR EDGE DISTANCE IS 4" * 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 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:

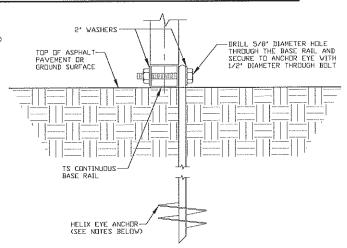
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 DR FIBERGLASS FIBER REINFORCEMENT.

REINFORCEMENT MAY 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.

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.
- 3. FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4' HELICES WITH MINIMUM 30 INCH EMBEDMENT.
- 4. FOR LODSE 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.



GROUND BASE HELIX ANCHORAGE ЗB SCALE: NTS

(CAN BE USED FOR ASPHALT) * COURDINATE WITH LOCAL CODES/ORD. REGARDING MINIMUM FROST DEPTH REQ.



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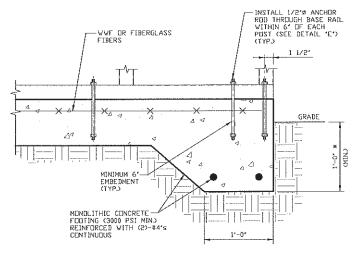
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CHECKED BY: PDH JOB NO 16022S/ SCALE: NTS 17300S/20352S DJECT MGR: VSM DATE: 1-8-21 SHT. 9 DWG. NO SK-3 REV. 5 IENT: TBS

OPTIONAL FOUNDATION ANCHORAGE FOR LOW AND HIGH WIND SPEED





CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS

MINIMUM ANCHOR EDGE DISTANCE IS 1 1/2" * COORDINATE WITH LOCAL CODES/DRD. 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

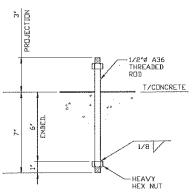
3 INCHES IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2 INCHES ELSEWHERE.

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:

- 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.



ANCHOR ROD THROUGH BASE RAIL DETAIL 3D

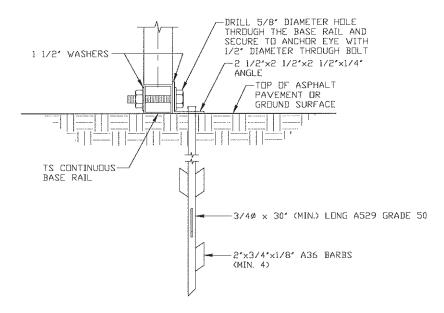


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BASE RAIL ANCHORAGE OPTION



ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR)

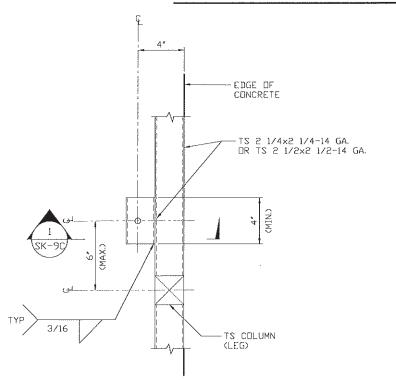
SCALE: NTS
(CAN BE USED FOR ASPHALT)
* COORDINATE WITH LOCAL CODES/ORD.
REGARDING MINIMUM FROST DEPTH REQ.

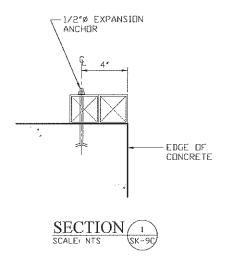


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ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH		" ENCLÓSED BU	ILDING EXP. B
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BASE RAIL ANCHORAGE OPTIONS





TYPICAL ANCHUR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

SCALE: NTS



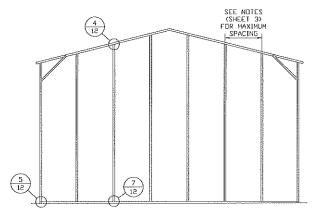
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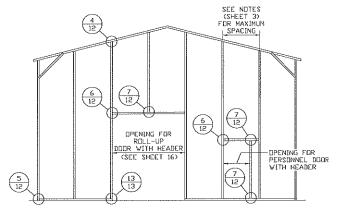
	TUBU	JLAR BUILDING	SYSTEMS
DRAWN BY: JG	631	SE INDUSTRIAL	CIRCLE
	LAI	KE CITY, FLORIE	OA 32025
CHECKED BY: PDH	30'-0"x20'-0	" ENCLOSED BU	JILDING EXP. B
			JDB NO: 160225/
PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	17300S/20352S
CLIENT: TBS	SHT, 9C	DMC NO SK-3	REV.i 5

BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



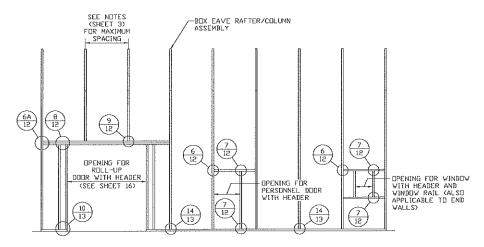
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

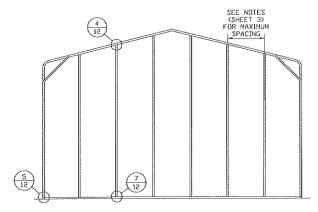
SCALE: NTS



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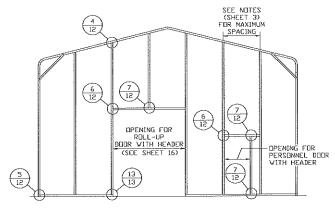
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ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EX		
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BOW RAFTER END WALL AND SIDE WALL OPENINGS



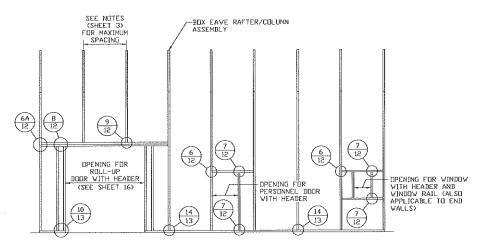
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

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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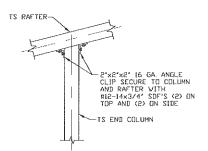
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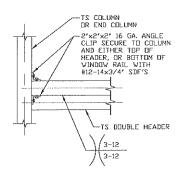
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	LAI	KE CITY, FLORIC)A 320	25
CHECKED BY: PDH	30'-0"x20'-0	" ENCLOSED BU	ILDIN	G EXP. B
			JOB N	ID: 16022S/
PROJECT MGR: VSM	DATE: 1-8-21	SCALE: NTS	173008	\$/20352\$
CLIENT: TBS	SHT. 11	DWG. NO SK-3	RE	EV.: 5

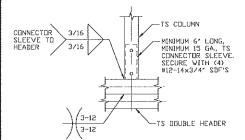
CONNECTION DETAILS



END COLUMN/RAFTER CONNECTION DETAIL 4 SCALE: NTS

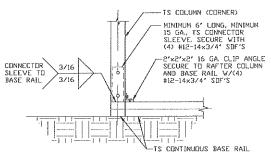


DOUBLE HEADER TO COLUMN CONNECTION DETAIL 6A SCALE: NTS

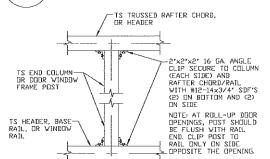


COLUMN/DOUBLE HEADER CONNECTION DETAIL SCALE: NTS

9



END COLUMN/BASE RAIL CONNECTION DETAIL 5 SCALE: NTS



COLUMN TO HEADER, BASE RAIL, OR WINDOW RAIL CONNECTION DETAIL 7 SCALE: NTS

-TS COLUMN
DR END COLUMN
-2'x2'x2' 15 GA. ANGLE
CLIP SECURE TO COLUMN
AND EITHER TOP OF
HEABER, OR BOTTOM DF
WINDOW RAIL WITH
#12-14x3/4' SDF'S TS HEADER OR WINDOW RAIL

HEADER OR WINDOW RAIL TO COLUMN CONNECTION DETAIL SCALE: NTS

6

CONNECTOR SLEEVE TO HEADER 3/16 / 3–12 3/16 3~12 -MINIMUM 6' LONG, MINIMUM 15 GA., TS CONNECTOR SLEEVE. SECURE EACH WITH (4) #12-14x3/4' SDF'S TS COLUMN

DOUBLE HEADER/COLUMN CONNECTION DETAIL 8 SCALE: NTS



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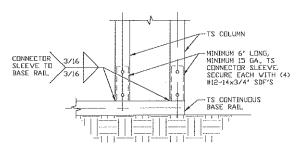
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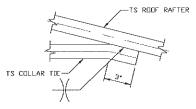
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		KE CITY, FLORIE			
CHECKED BY: PDH	30'-0"x20'-0	" ENCLOSED BU	JILDING EXP. B		
 PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	JOB NO 160225/ 173005/203525		
CLIENT: TBS	SHT, 12	DWG, NO: SK-3	REV.: 5		

CONNECTION DETAILS



TS ROOF RAFTER TS CHURD 3/16

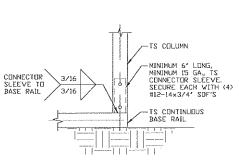


COLUMN/BASE RAIL 10

RAFTER TO CHORD CONNECTION DETAIL 11 SCALE: NTS

COLLAR TIE CONNECTION DETAIL 12 SCALE: NTS

CONNECTION DETAIL SCALE: NTS



TS TRUSSED RAFTER CHORD, OR HEADER TS END COLUMN-OR DOOR WINDOW FRAME POST MINIMUM 6' LONG, MINIMUM 15 GA., TS CONNECTOR SLEEVE, SECURE EACH WITH (4) #12-14×3/4' SDF'S TS HEADER, BASE RAIL, OR WINDOW RAIL COLUMN TO HEADER,

COLUMN/BASE RAIL CONNECTION DETAIL 13 SCALE: NTS

14

BASE RAIL CONNECTION DETAIL

SCALE: NTS

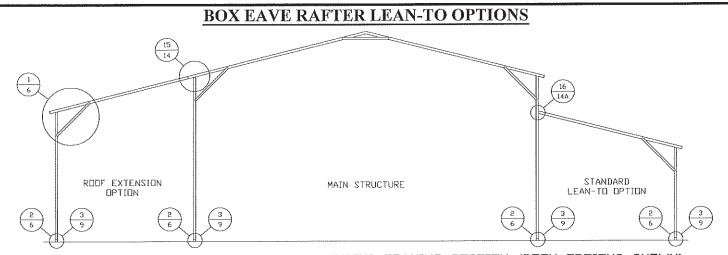
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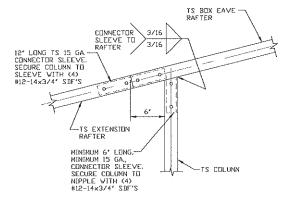


BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN) TYPICAL

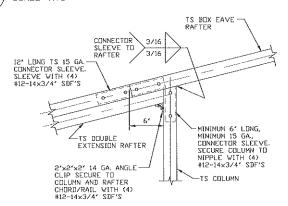
SCALE: NTS MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE LACED COLUMNS FOR MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE LACED COLUMNS FOR EAVE HEIGHTS 16'-0' < TO < 20'-0'.

MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS 13'-0' (12'-0' FOR HIGH WIND) < TO < 16'-0'.

MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS 10'-0' < TO < 13'-0' (12'-0' FOR HIGH WIND) < WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS 10'-0' < TO < 13'-0' (12'-0' FOR HIGH WIND) < WITH A'-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.



SIDE EXTENSION RAFTER/COLUMN DETAIL FOR RAFTER SPANS < 15'-0" SCALE: NTS



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

15A



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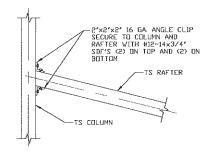
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BE SUBJECT TO LEGAL ACTION	CLIENT: TBS	SHT. 14	DWG, NO: SK-3	REV.⊧

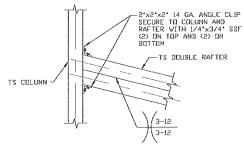
ENCLOSED BUILDING EXP. B JOB NO 16022S/ CALE: NTS 17300\$/20352\$ SHT. 14 DWG. NO: SK-3 REV. 5 CLIENT: TBS

BOX EAVE RAFTER LEAN-TO OPTIONS



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS ≤ 15'-0" 16

SCALE: NTS



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

SCALE: NTS

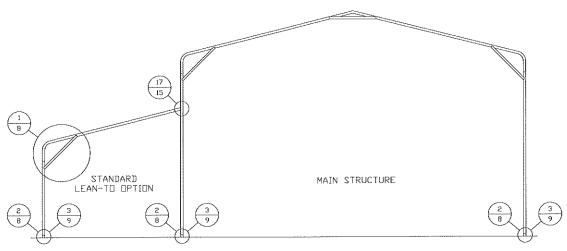
16A



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, , , , , , , , , , , , , , , , , , ,	CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B JUB NU: 16022S/		
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BOW RAFTER LEAN-TO OPTIONS



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

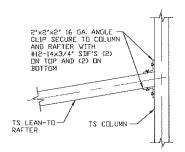
SCALE: NTS

MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR 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 ≤ 16'-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'.

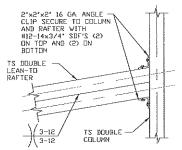
KNEE BRACES MUST BE 4'-0' (5'-0' FOR HIGH WIND) WHEN LEAN-TO'S ARE ADDED.



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FUR RAFTER SPANS < 15'-0"

SCALE: NTS

17



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

17A

SCALE: NTS



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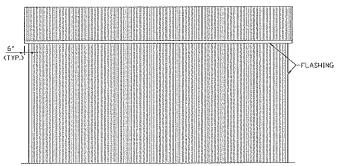
		TUBULAR BUILDING SYSTEMS						
	DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE						
ı		l LAI	Œ CITY, FLORIE	A 32025				
	CHECKED BY: PDH	30'-0"x20'-0	" ENCLOSED BU	ILDING EXP. B				
				JOB NO: 16022S/				
	PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	17300S/20352S				
	CLIENT: TBS	SHT. 15	DVG. ND: SK-3	5 ناREV				

FLASHING

BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION

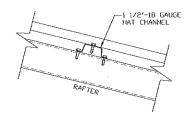
TYPICAL END ELEVATION VERTICAL ROOF/SIDING OPTION

SCALE: NTS



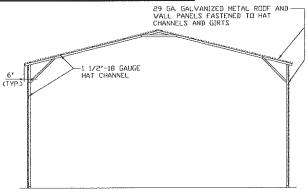
TYPICAL SIDE ELEVATION VERTICAL ROOF/SIDING OPTION

SCALE: NTS



ROOF PANEL ATTACHMENT

(ALTERNATE FOR VERTICAL ROOF PANELS) SCALE: NTS



TYPICAL SECTION VERTICAL ROOF/SIDING OPTION

SCALE: NTS

SEE NOTES

(SHEET 3)
FOR MAXIMUM
SPACING

WITH (2) #12-14x3/4' SDF'S

(TYP)

TYPICAL FRAMING SECTION VERTICAL ROOF/SIDING OPTION

SCALE: NTS

OF HAT CHANNELS. TS GIRTS MUST BE SPACD AT 4'-0' (MAX.) D.C.



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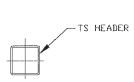
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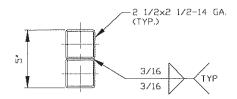
		ILAR BUILDING	
DRAWN BY: JG	631	SE INDUSTRIAL	CIRCLE
	LAI	Œ CITY, FLORIE	DA 32025
CHECKED BY: PDH	30'-0"x20'-0	" ENCLOSED BU	ILDING EXP. B
 PREIJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	JOB NO 16022S/ 17300S/20352S
CLIENT: TBS	SHT. 16	DWG. NO: SK-3	REV.₁ 5

SIDE WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR OPENINGS ≤ 10'-0"

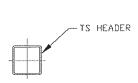
SCALE: NTS



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

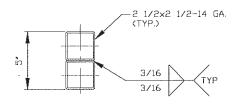
SCALE: NTS

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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RF 2	UBJECT T	שו עב	.GAL.	ACTION							

	TUBULAR BUILDING SYSTEMS					
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE					
	LAKE CITY, FLORIDA 32025					
CHECKED BY: PDH	30'-0"x20'-0	" ENCLOSED BU	ILDING EXP. B			
			JOB NO 16022S/			
PROJECT MGR: VSM	DATE: 1-8-21	SCALE: NTS	173005/203525			
 CLIENT: TBS	SHT. 17	DVG. NO: SK-3	REV.i 5			

FLOOD VENT DETAIL FRAME OPENING FOR FLOOD VENT WITH TS 2 1/2"x2 1/2" MEMBERS (MATCH ADJACENT RAFTER POSTS 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. I MAX. GRADE TS BASE RAIL 1'-0" GRADE GRADE ⋖

TYPICAL FLOOD VENT DETAIL

1. MINIMUM VENT SPACE REQUIRED = 1 SQ. INCH OF OPEN VENT AREA PER SQ. FOOT OF BUILDING AREA.

SCALE: NTS

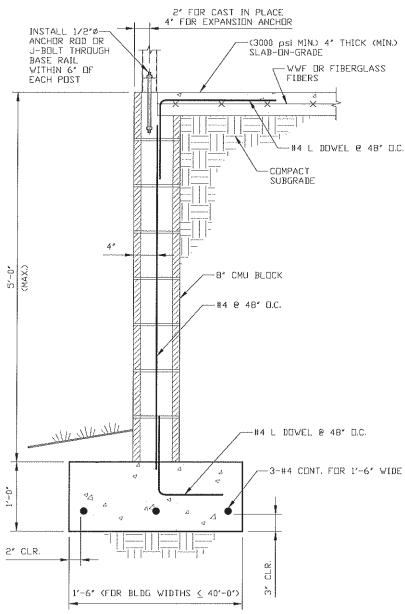
- 2. THERE SHALL BE A MINIMUM OF TWO OPENINGS ON DIFFERENT SIDES FOR EACH ENCLOSED BUILDING.
- 3. APPLY 1.3 FACTOR WHEN CALCULATING TOTAL OPEN AREA WHEN USING 1/2"-18GA S OR F EXPANDED METAL.
- 4. TOTAL OPEN AREA OF VENT = LxH(MIN. 12").
- 5. FLOOD VENT DETAIL COMPLIES WITH FEMA/NFIP.
- 6. PREFABRICATED FLOOD VENTS MEETING THE REQUIREMENTS OF FEMA/NIFIP MAY BE USED.



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MOORE AND ASSOCIATES	DRAWN BY: JG	631	JLAR BUILDING SE INDUSTRIAL	CIRCLE
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STAND -ALONE STEM WALL DETAIL



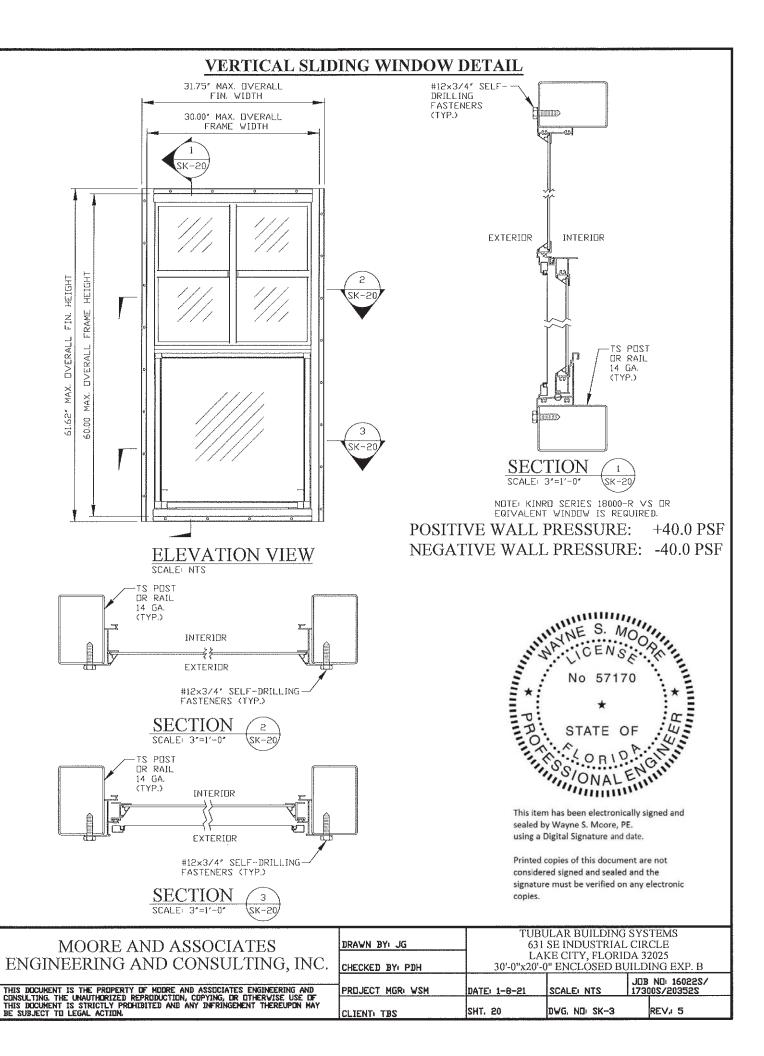
STAND-ALONE CONCRETE MASONRY UNIT (CMU) FOUNDATION STEM WALL DETAIL

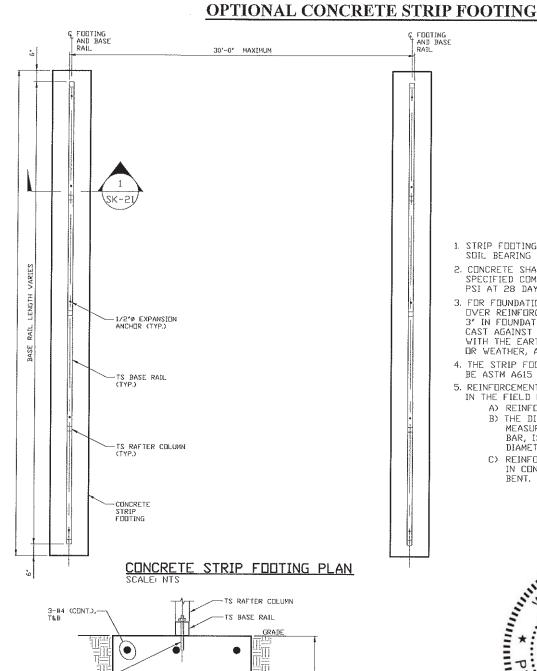
SCALE: NTS



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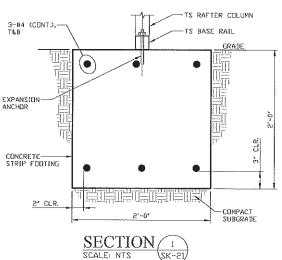
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JG CHECKED BY: PDH	631 LA	JLAR BUILDING SE INDUSTRIAL KE CITY, FLORII J" ENCLOSED BU	. CIRCLE
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- 2. CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
- 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 1 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) REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.



* COORDINATE WITH LOCAL CODES/ORD.

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BE SUBJECT TO LEGAL ACTION.	

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CHECKED BY PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS		ND: 160225/ 005/203525	
CLIENT: TBS	SHT. 21	DWG, NO: SK-3		REV.: 5	