

1. DESIGN IS FOR MAXIMUM 30'-0" WIDE X 20'-0" EAVE HEIGHT FULLY ENCLOSED STRUCTURES.
2. APPLICABLE CODES, REGULATIONS, & STANDARDS:
 - A. 2023 FLORIDA BUILDING CODE (8TH EDITION)
 - B. 2024 INTERNATIONAL BUILDING CODE
 - C. ASCE 7-22: MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
 - D. ACI 308-14: CONCRETE STRUCTURES FOR DURABLE PERFORMANCE
 - E. ACI 318-19: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
 - F. TMS 402-16: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
 - G. AWS D1.1: STRUCTURAL WELDING
3. RISK CATEGORY: I
4. EXPOSURE CATEGORY: C
5. WIND SPEED: 150 MPH (NOMINAL WIND SPEED 81 TO 116 MPH); MAXIMUM RATES/POST AND END POST SPACING = 5.0 FEET
6. HATCH/CLIMATE WIND SPEED 151 TO 180 MPH (NOMINAL WIND SPEED 117 TO 139 MPH); MAXIMUM RATES/POST AND END POST SPACING = 4.0 FEET.
7. DEAD LOAD = 10 PSF
8. LIVE LOAD = 10 PSF
9. SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2-1/2" x 2-1/2" x 1/4" GAUGE LIME STEEL (S1) FRAMING MEMBERS FOR VERTICAL PANELS. 29 GAUGE METAL PANELS SHALL BE FASTENED TO 18 GAUGE HAT CHANNELS (UNLESS OTHERWISE NOTED).
10. OPTIONAL BASE RAIL ANCHORAGE MAY BE USED FOR LOW AND MUST BE USED FOR HIGH WIND SPEEDS.
11. FASTENERS CONSIST OF #12-1/4" x 3/4" SELF-DRILLING FASTENER (SDF). USE CONTROL SEAL WASHERS TO PREVENT CORROSION. SEALS SHALL BE USED FOR ALL FASTENERS THROUGH ROOF SHEET METAL, FLASHINGS, AND/OR SLOPES MAY VARY.
12. AVERAGE FASTENER SPACING ON CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9" OR END = 6" (MAX.).
13. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:
RISK CATEGORY (II/III)
R = 3.25
S_{DS} = 0.087 g V = C_{SW}
S_{DI} = 0.084 g
14. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN SIDING SIDES.
15. GROUND ANCHORS (SOIL NAILS) CONSIST OF #5 REBAR W/ WELDED NUT X 30" LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (≤ 108 MPH NOMINAL) WIND SPEEDS ONLY. OPTIMAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED.
16. MIN. LAP REQUIREMENT FOR REBAR IN FOOTER IS 25".
17. SOIL TO BE COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY, AT OPTIMUM MOISTURE CONTENT, IN ACCORDANCE WITH ASTM D1557-93
18. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN COMPLIANCE WITH THE FBC.

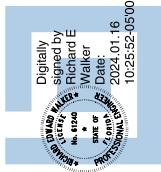
PAGE NO.	DESCRIPTION
1	NOTES AND SPECIFICATIONS
2	BOX EAVE FRAME RAFTER ENCLOSED BUILDING
3	BOW EAVE FRAME RAFTER ENCLOSED BUILDING/WIND PRESSURES
4	BASE RAIL AND FOUNDATION ANCHORAGE
5	BOX/BOW EAVE VERTICAL ROOF/SIDING OPTION
6	BOX/BOW EAVE RAFTER LEAN-TO OPTIONS
7	BOX EAVE RAFTER END WALL, SIDE WALL AND OPENING FRAMING
8	VENT AND CHIMNEY STEM WALL DETAIL
9	OPTIONAL CONCRETE STRIP FOOTING

PRODUCT CATEGORY	SUB CATEGORY	MANUFACTURER	APPROVAL No. & DATE
STRUCTURAL COMPONENTS	ROOF DECK	CAPITAL METAL SUPPLY, INC. 29 GA. CAPITAL RIB ROOF PANEL	FL20147.2-R3 12/13/2023
STRUCTURAL COMPONENTS	STRUCTURAL WALL	CAPITAL METAL SUPPLY, INC. 29 GA. CAPITAL RIB WALL PANEL	FL20148.2-R3 12/13/2023
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC SERIES 3652	FL14425.1-R6 1/7/15/21
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC SERIES 750	FL21450.10-R11 10/17/23
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC SERIES 3100	FL12765.4-R6 10/12/20
EXTERIOR DOORS	SWINGING	ELVIR DOOR AND METAL COMPANY SERIES 407	FL17996.5-R3 12/26/23
WINDOWS	SINGLE HUNG	KINIRO, INC 9750 SH	FL993.5-R19 11/01/23
WINDOWS	VERTICAL SLIDING	KINIRO, INC 18000-R V5	FL993.8-R19 11/01/23

TRACTOR:	PROJECT DESCRIPTION:
TUBULAR BUILDING SYSTEM 631 SE INDUSTRIAL CIRCLE LAKE CITY, FL 32025	30' WIDE X 20' HIGH ENCLOSED STRUCTURE

DESIGN DATE:	12/14/2023	PAGE :	1
REVISION 1:	DATE		
REVISION 2:	DATE		
SCALE:	NTS		

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4161 TAMAMI TRAIL, UNIT 101
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Orders@FLEng.com
222771-30-E
VC CERT #30782



PROJECT NO. 2322771-30-E

Orders@FLEng.com

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4161 TAMAMI TRAIL, UNIT 101

CA CERT. #30782

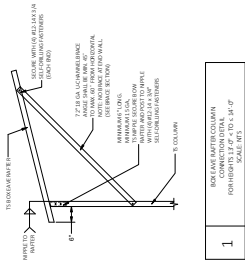
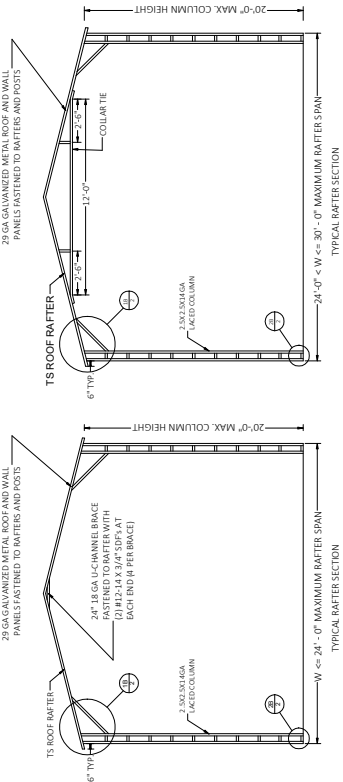
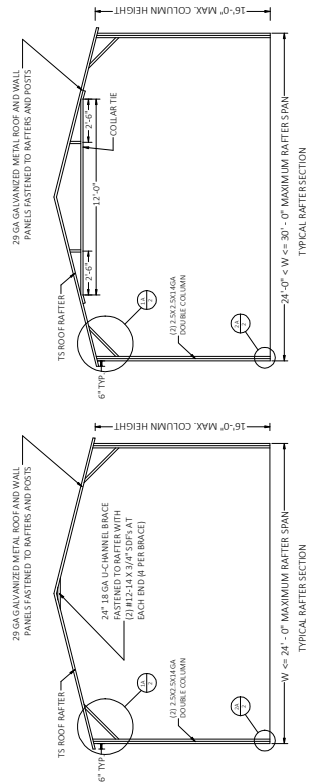
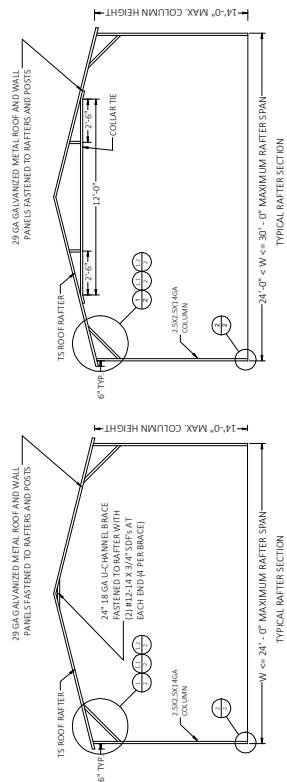
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STATE OF FLORIDA
Professional Engineer
No. 8104
Richard E. Walker
Digitally signed by Richard E. Walker
DN: cn=Richard E. Walker, o=Professional Engineer, ou=State of Florida, email=Richard.E.Walker@floridapower.com, c=US

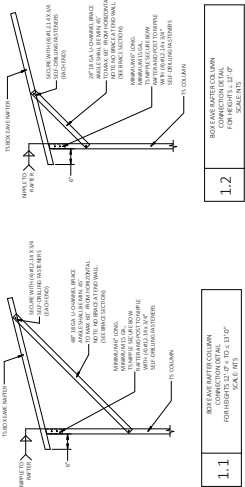
FLORIDA ENGINEERING LLC
4161 TAMAMI TRAIL, UNIT 101
PORT CHARLOTTE, FLORIDA 33952
(941) 391-5980
FLeng.com
Orders@FLeng.com
CA CERT. #30782
PROJECT NO. 2322771-30-E

CONTRACTOR:
TUBULAR BUILDING SYSTEMS
631 SE INDUSTRIAL CIRCLE,
LAKE CITY, FL 32025
PROJECT DESCRIPTION:
30" WIDE X 20" HIGH
ENCLOSED STRUCTURE

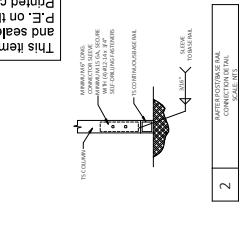
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REVISION 1: DATE
REVISION 2: DATE
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PAGE: 2



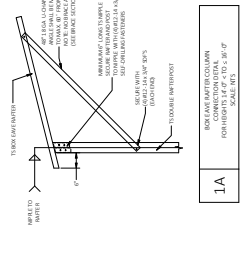
1 BOX END RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < H < 14'-0" SCALE: NTS



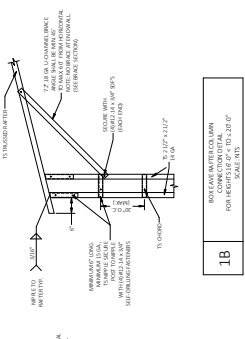
1.1 BOX END RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < H < 14'-0" SCALE: NTS



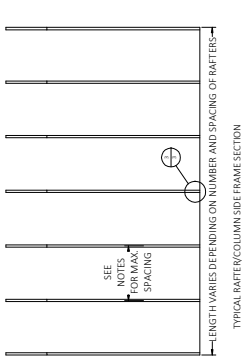
1.2 BOX END RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < H < 14'-0" SCALE: NTS



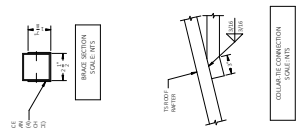
1A BOX END RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < H < 14'-0" SCALE: NTS



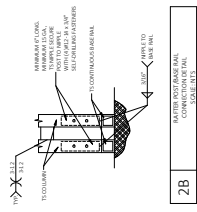
1B BOX END RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < H < 14'-0" SCALE: NTS



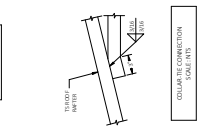
TYPICAL RAFTERSIDE FRAME SECTION LENGTH VARIES DEPENDING ON NUMBER AND SPACING OF RAFTERS



2 BOX END RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < H < 14'-0" SCALE: NTS



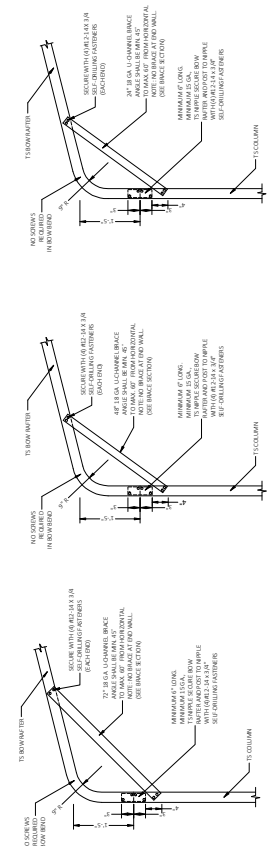
2A BOX END RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < H < 14'-0" SCALE: NTS



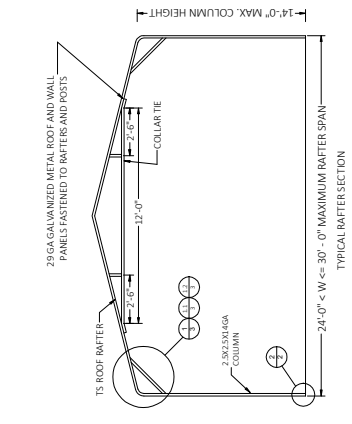
2B BOX END RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < H < 14'-0" SCALE: NTS

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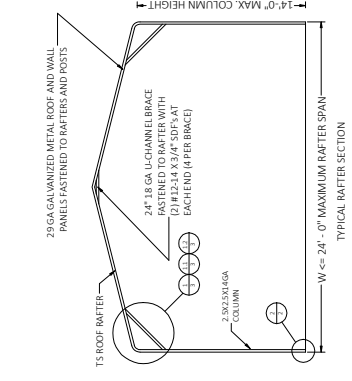
Digitally signed by Richard E. Walker
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Date: 2023.01.16 10:25:55-0500



1 BOW EAVE AFTER COLUMN
FOR HEIGHTS 21'-0" TO 24'-0"
SCALE: NTS



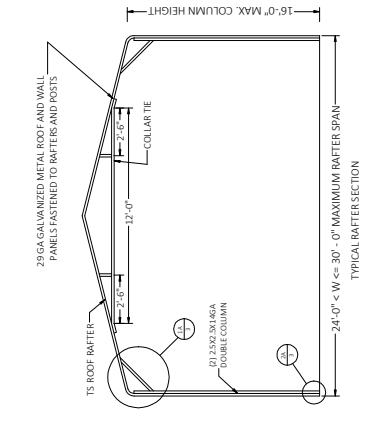
1A BOW EAVE AFTER COLUMN
FOR HEIGHTS 24'-0" TO 30'-0"
SCALE: NTS



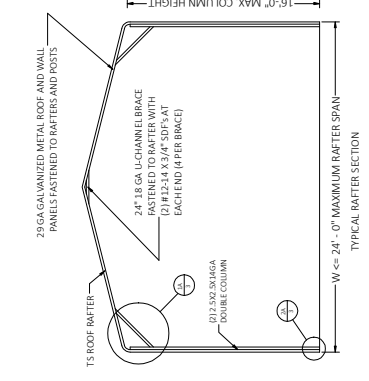
1B BOW EAVE AFTER COLUMN
FOR HEIGHTS 30'-0" TO 35'-0"
SCALE: NTS



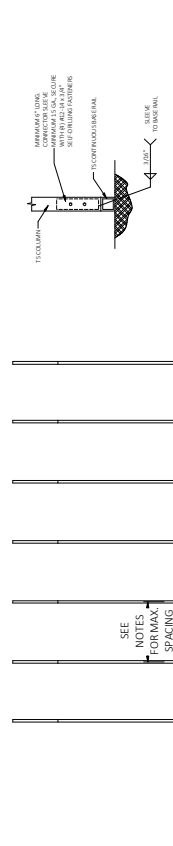
2 BOW EAVE AFTER COLUMN
FOR HEIGHTS 35'-0" TO 40'-0"
SCALE: NTS



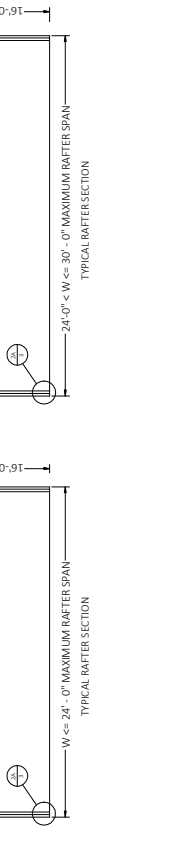
2A BOW EAVE AFTER COLUMN
FOR HEIGHTS 40'-0" TO 45'-0"
SCALE: NTS



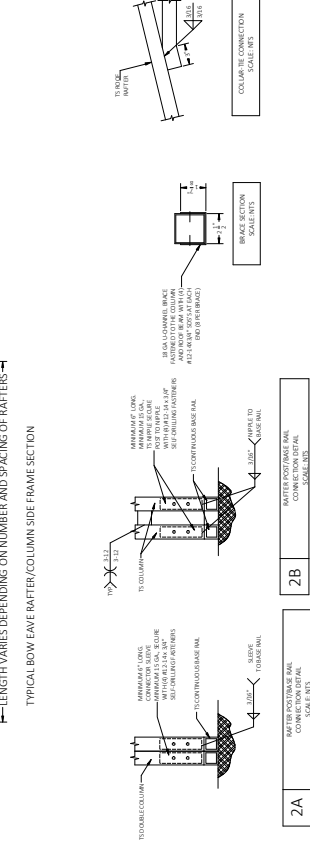
2B BOW EAVE AFTER COLUMN
FOR HEIGHTS 45'-0" TO 50'-0"
SCALE: NTS



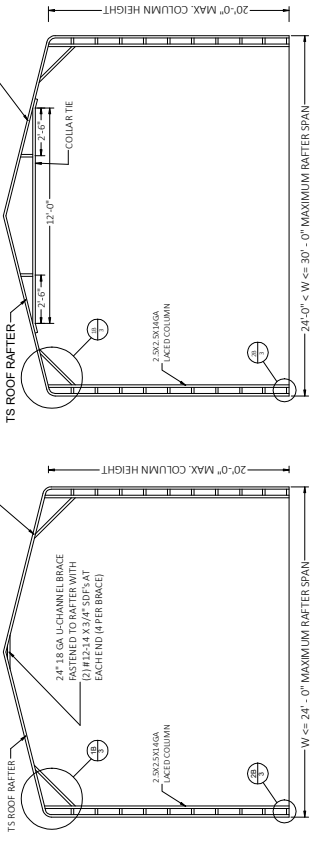
2C BOW EAVE AFTER COLUMN
FOR HEIGHTS 50'-0" TO 55'-0"
SCALE: NTS



2D BOW EAVE AFTER COLUMN
FOR HEIGHTS 55'-0" TO 60'-0"
SCALE: NTS

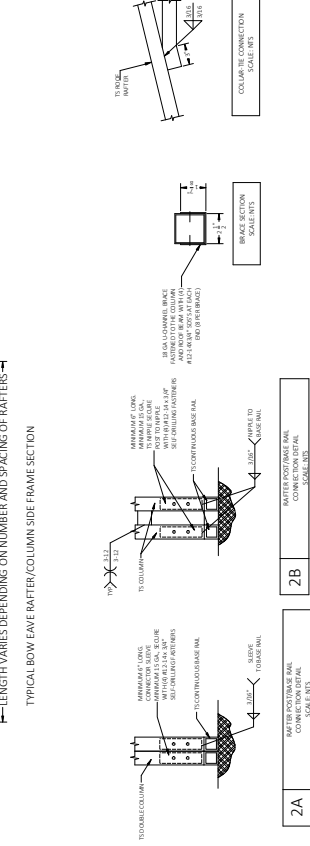


2E BOW EAVE AFTER COLUMN
FOR HEIGHTS 60'-0" TO 65'-0"
SCALE: NTS

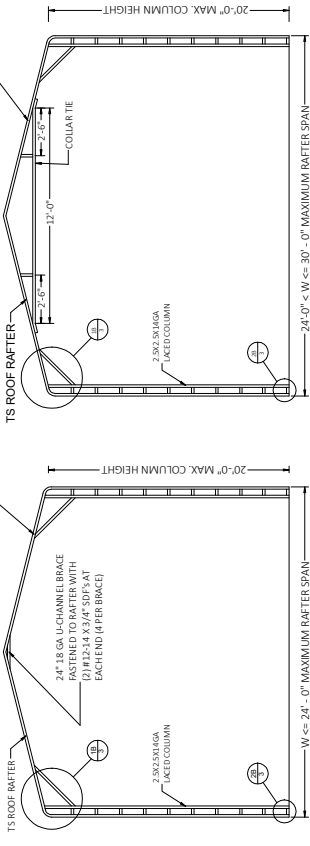


2F BOW EAVE AFTER COLUMN
FOR HEIGHTS 65'-0" TO 70'-0"
SCALE: NTS

LENGTH VARIES DEPENDING ON NUMBER AND SPACING OF RAFTERS
TYPICAL BOW EAVE RAFTER/COLUMN SIDE FRAME SECTION
SEE NOTES FOR MAX. SPACING

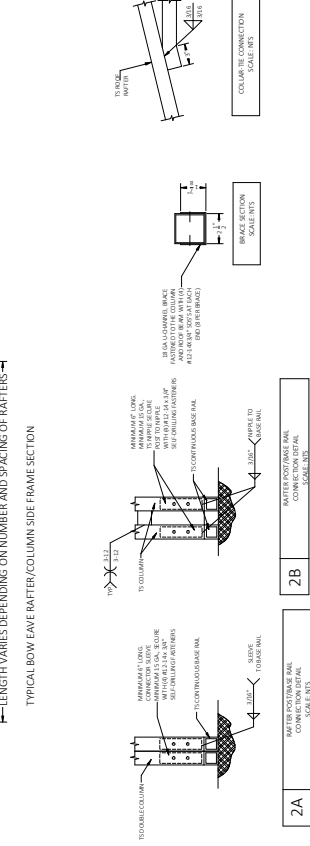


2G BOW EAVE AFTER COLUMN
FOR HEIGHTS 70'-0" TO 75'-0"
SCALE: NTS

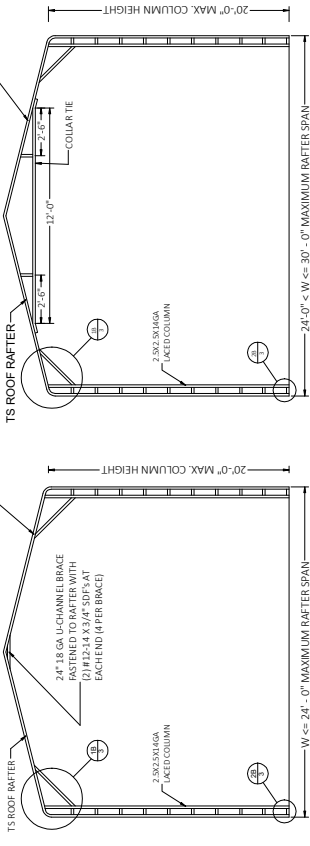


2H BOW EAVE AFTER COLUMN
FOR HEIGHTS 75'-0" TO 80'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
14'-0" MAX. COLUMN HEIGHT

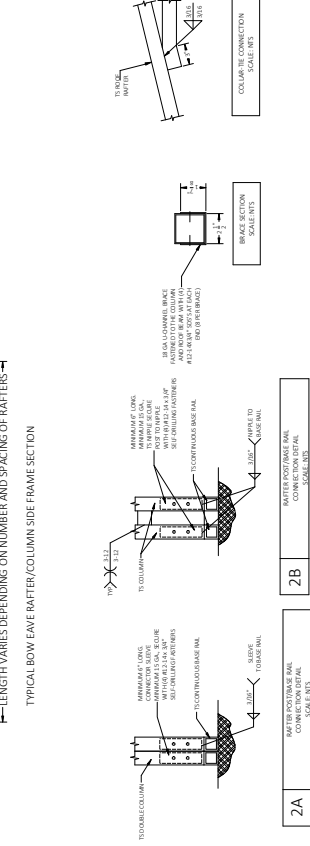


2I BOW EAVE AFTER COLUMN
FOR HEIGHTS 80'-0" TO 85'-0"
SCALE: NTS

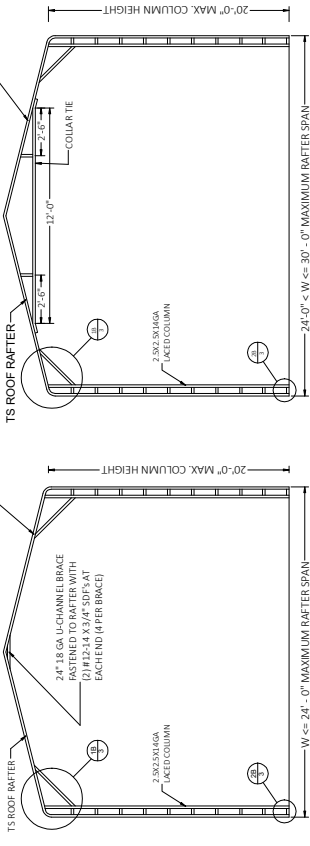


2J BOW EAVE AFTER COLUMN
FOR HEIGHTS 85'-0" TO 90'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
16'-0" MAX. COLUMN HEIGHT

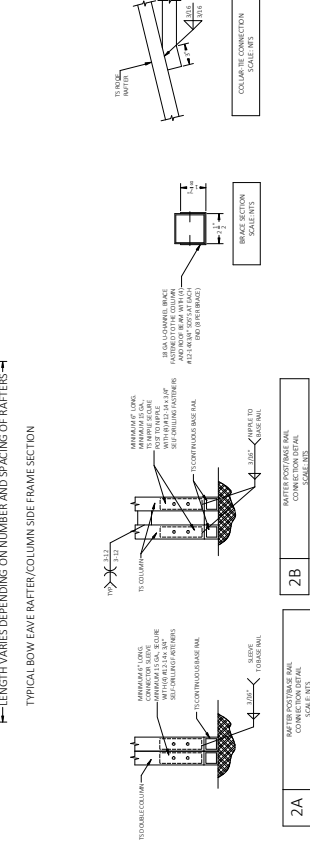


2K BOW EAVE AFTER COLUMN
FOR HEIGHTS 90'-0" TO 95'-0"
SCALE: NTS

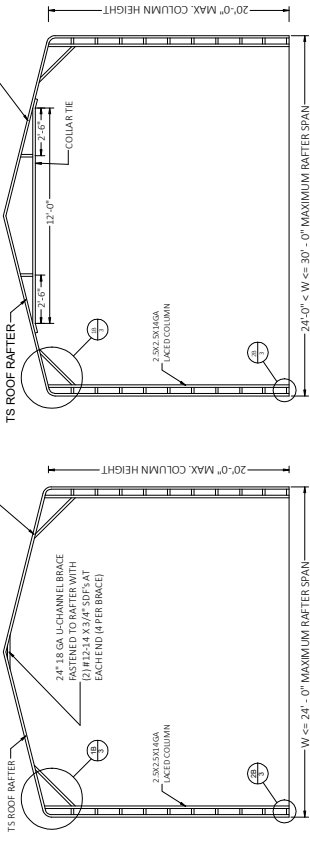


2L BOW EAVE AFTER COLUMN
FOR HEIGHTS 95'-0" TO 100'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

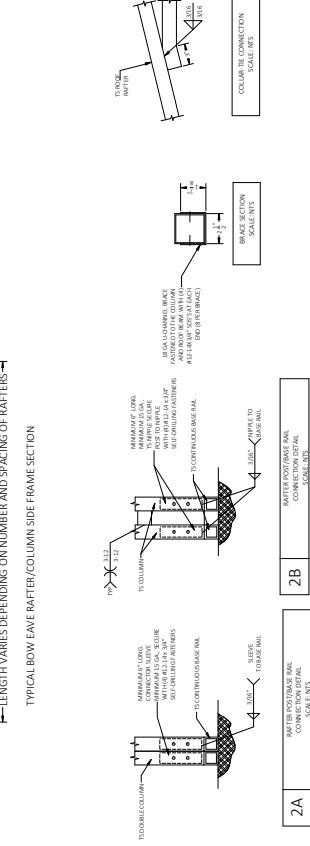


2M BOW EAVE AFTER COLUMN
FOR HEIGHTS 100'-0" TO 105'-0"
SCALE: NTS

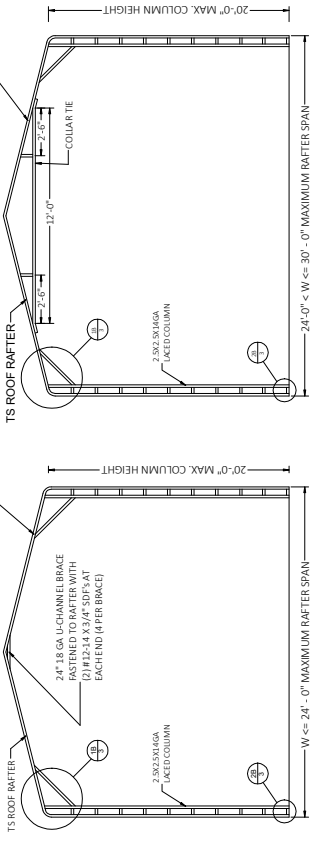


2N BOW EAVE AFTER COLUMN
FOR HEIGHTS 105'-0" TO 110'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

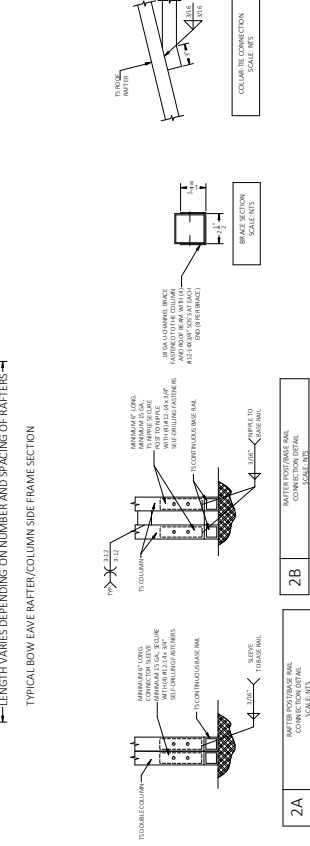


2O BOW EAVE AFTER COLUMN
FOR HEIGHTS 110'-0" TO 115'-0"
SCALE: NTS

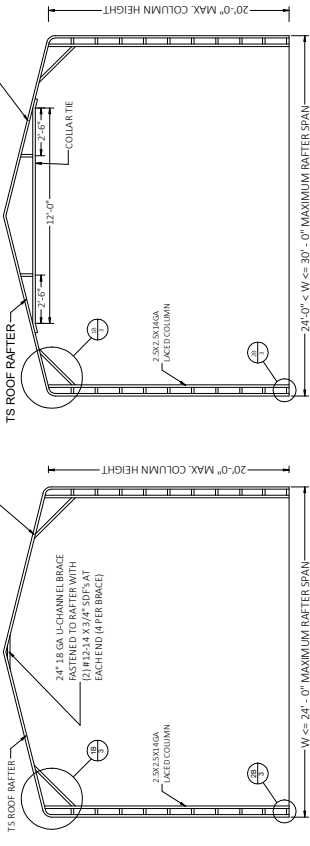


2P BOW EAVE AFTER COLUMN
FOR HEIGHTS 115'-0" TO 120'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

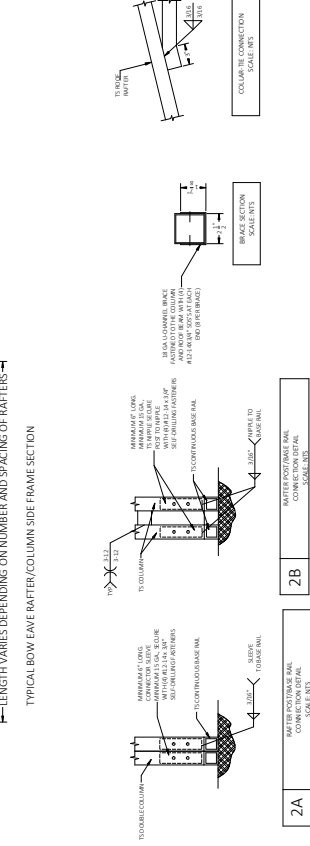


2Q BOW EAVE AFTER COLUMN
FOR HEIGHTS 120'-0" TO 125'-0"
SCALE: NTS

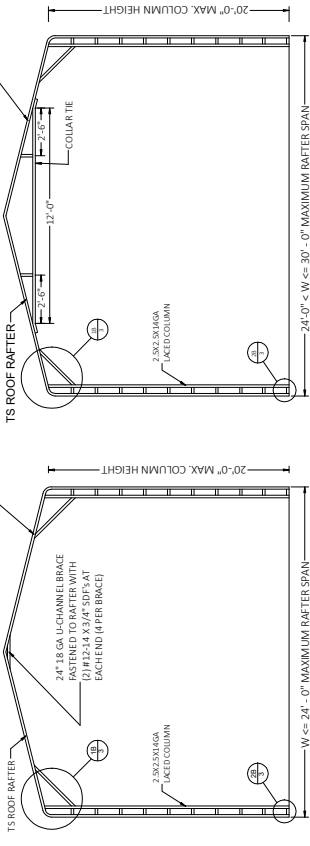


2R BOW EAVE AFTER COLUMN
FOR HEIGHTS 125'-0" TO 130'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

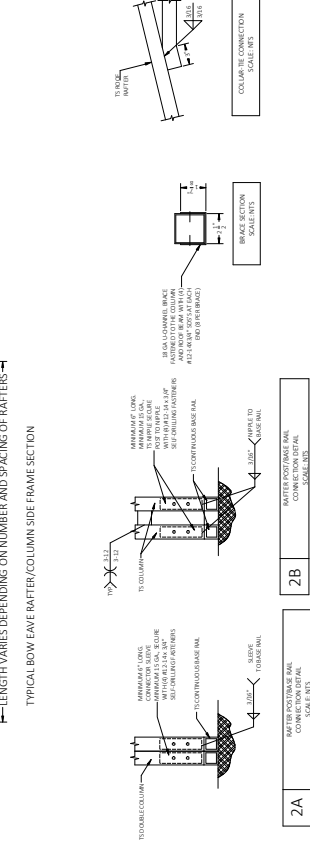


2S BOW EAVE AFTER COLUMN
FOR HEIGHTS 130'-0" TO 135'-0"
SCALE: NTS

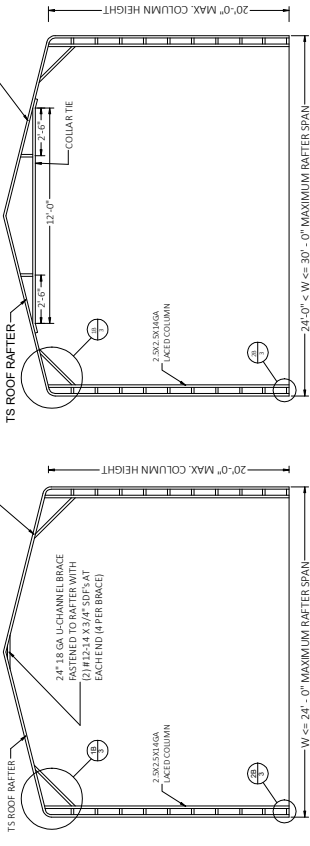


2T BOW EAVE AFTER COLUMN
FOR HEIGHTS 135'-0" TO 140'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

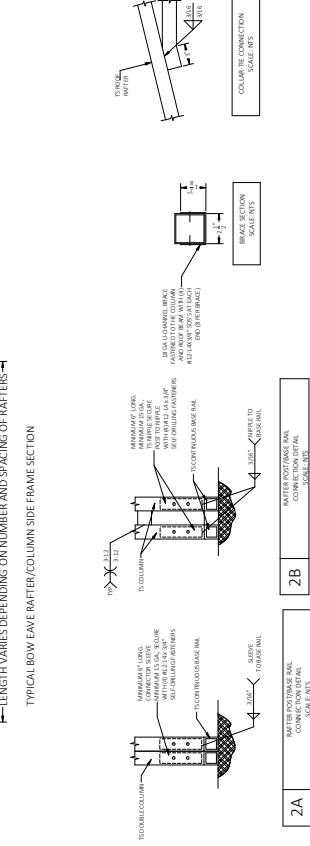


2U BOW EAVE AFTER COLUMN
FOR HEIGHTS 140'-0" TO 145'-0"
SCALE: NTS

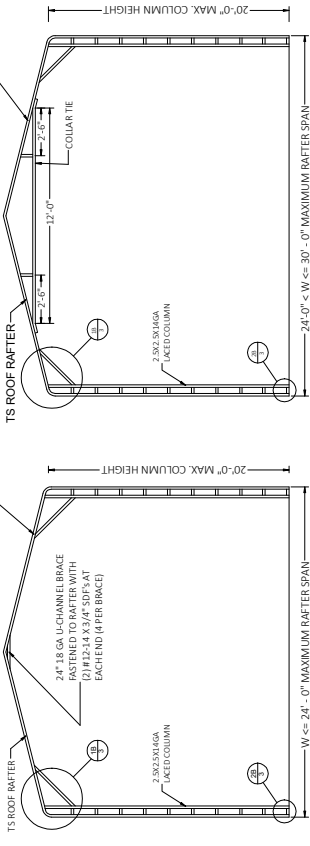


2V BOW EAVE AFTER COLUMN
FOR HEIGHTS 145'-0" TO 150'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

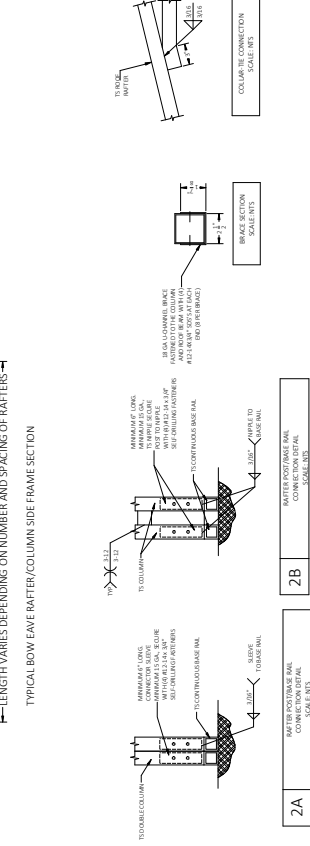


2W BOW EAVE AFTER COLUMN
FOR HEIGHTS 150'-0" TO 155'-0"
SCALE: NTS

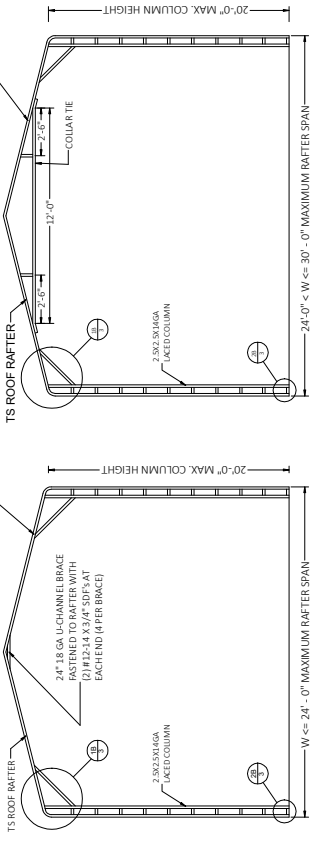


2X BOW EAVE AFTER COLUMN
FOR HEIGHTS 155'-0" TO 160'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

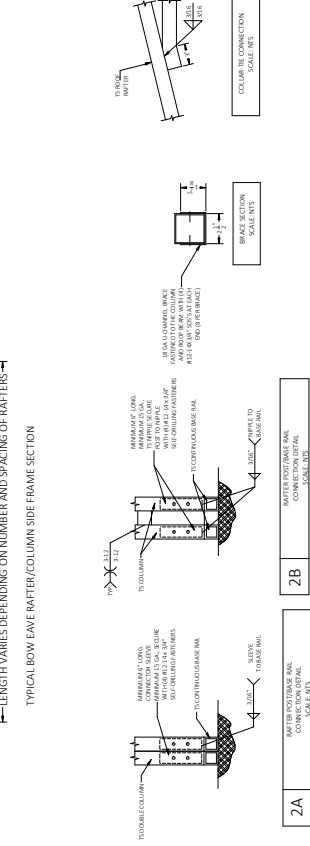


2Y BOW EAVE AFTER COLUMN
FOR HEIGHTS 160'-0" TO 165'-0"
SCALE: NTS

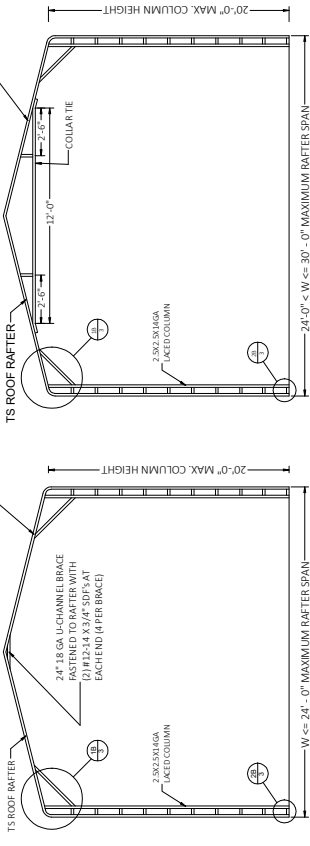


2Z BOW EAVE AFTER COLUMN
FOR HEIGHTS 165'-0" TO 170'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

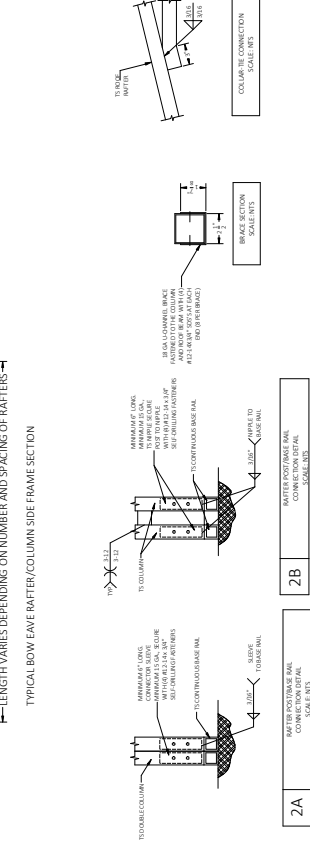


2AA BOW EAVE AFTER COLUMN
FOR HEIGHTS 170'-0" TO 175'-0"
SCALE: NTS

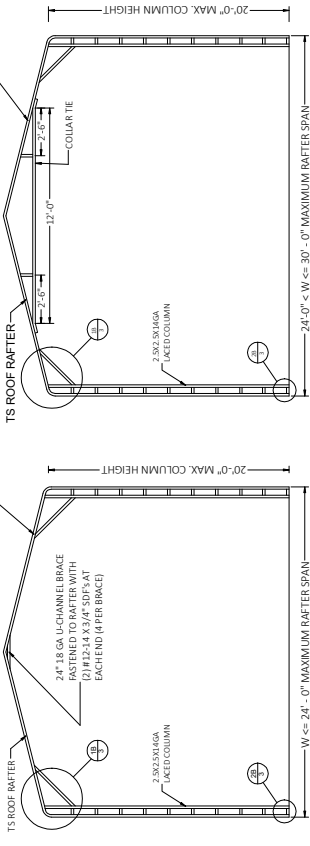


2AB BOW EAVE AFTER COLUMN
FOR HEIGHTS 175'-0" TO 180'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

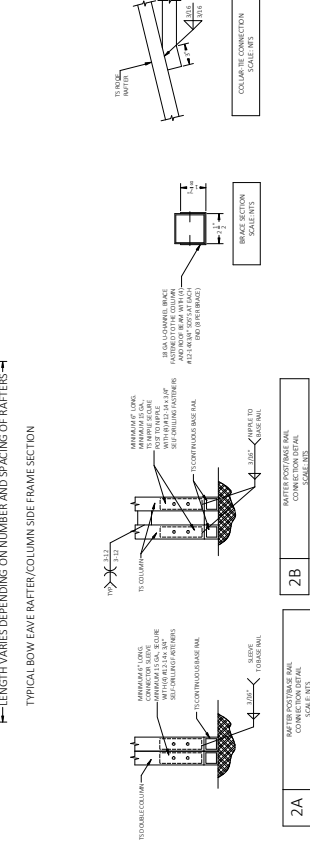


2AC BOW EAVE AFTER COLUMN
FOR HEIGHTS 180'-0" TO 185'-0"
SCALE: NTS

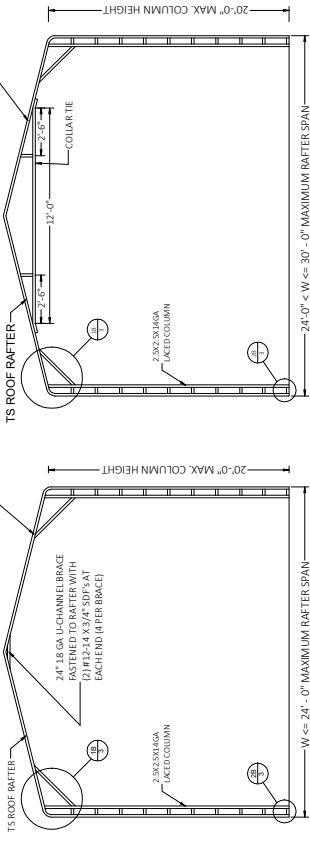


2AD BOW EAVE AFTER COLUMN
FOR HEIGHTS 185'-0" TO 190'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

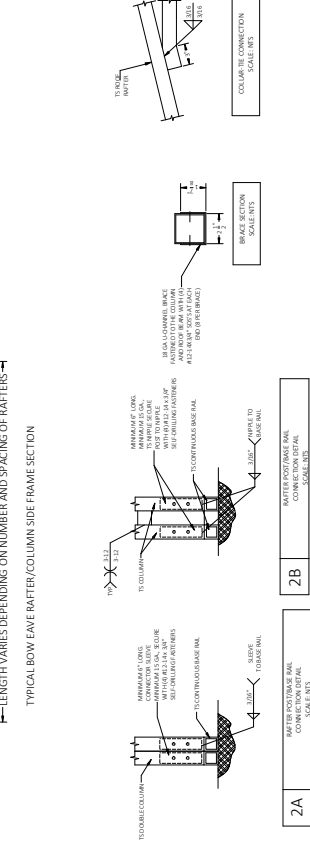


2AE BOW EAVE AFTER COLUMN
FOR HEIGHTS 190'-0" TO 195'-0"
SCALE: NTS

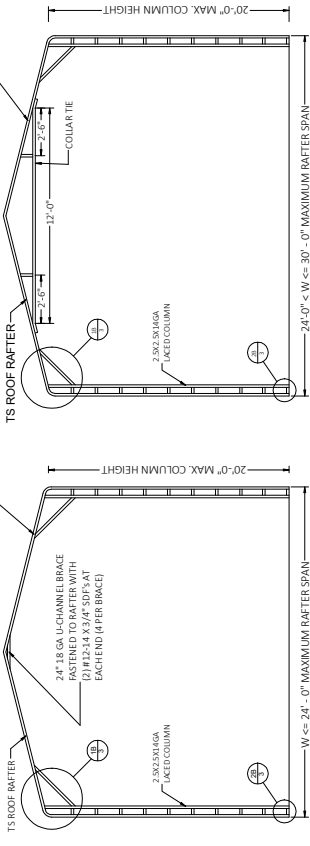


2AF BOW EAVE AFTER COLUMN
FOR HEIGHTS 195'-0" TO 200'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

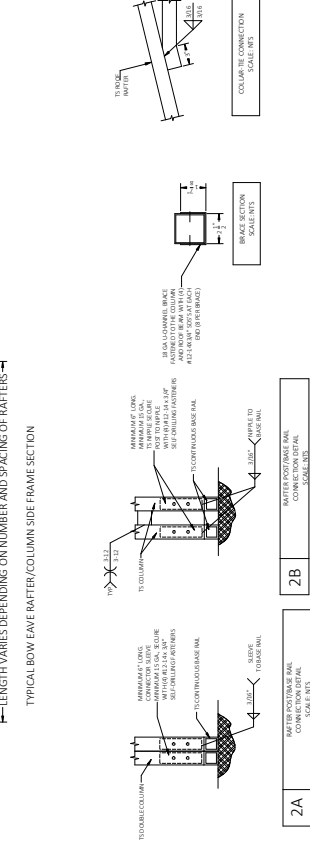


2AG BOW EAVE AFTER COLUMN
FOR HEIGHTS 200'-0" TO 205'-0"
SCALE: NTS

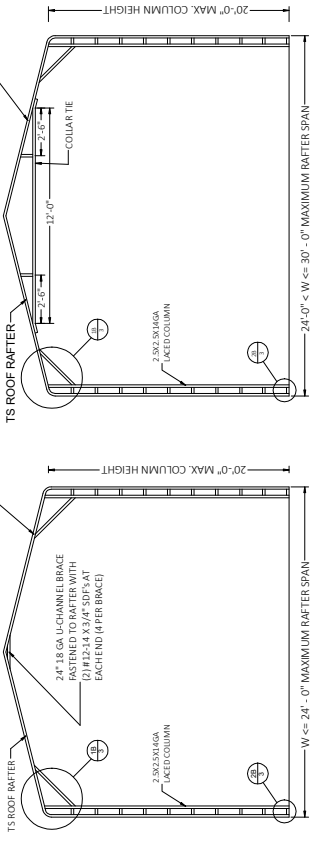


2AH BOW EAVE AFTER COLUMN
FOR HEIGHTS 205'-0" TO 210'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

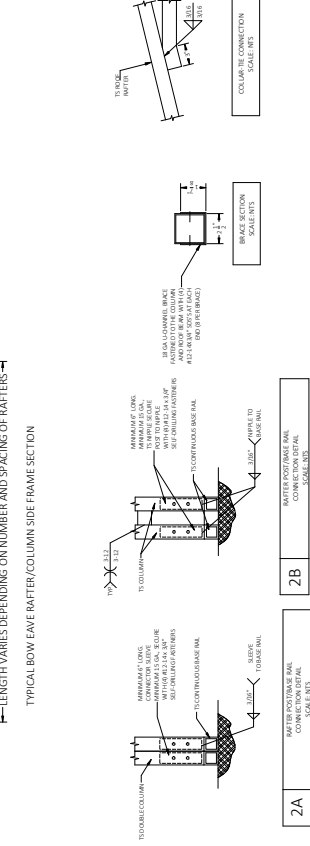


2AI BOW EAVE AFTER COLUMN
FOR HEIGHTS 210'-0" TO 215'-0"
SCALE: NTS

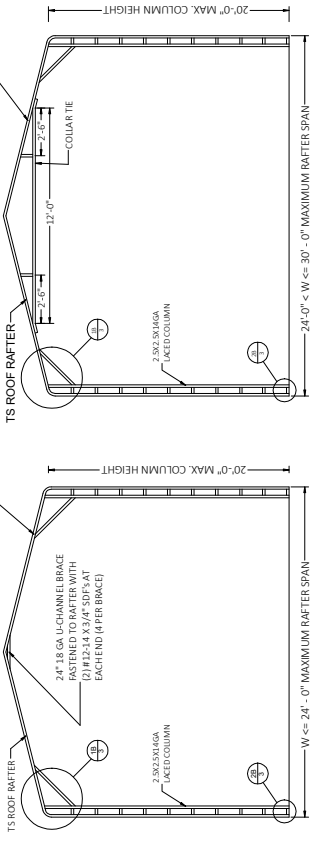


2AJ BOW EAVE AFTER COLUMN
FOR HEIGHTS 215'-0" TO 220'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

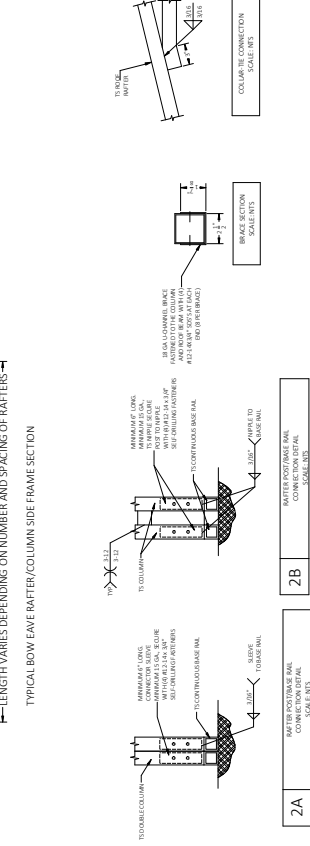


2AK BOW EAVE AFTER COLUMN
FOR HEIGHTS 220'-0" TO 225'-0"
SCALE: NTS

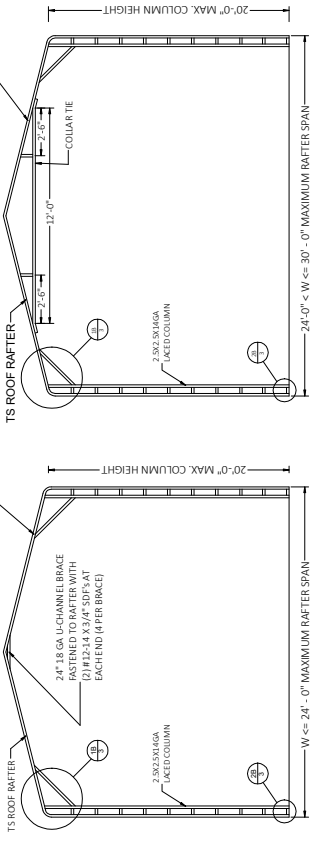


2AL BOW EAVE AFTER COLUMN
FOR HEIGHTS 225'-0" TO 230'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

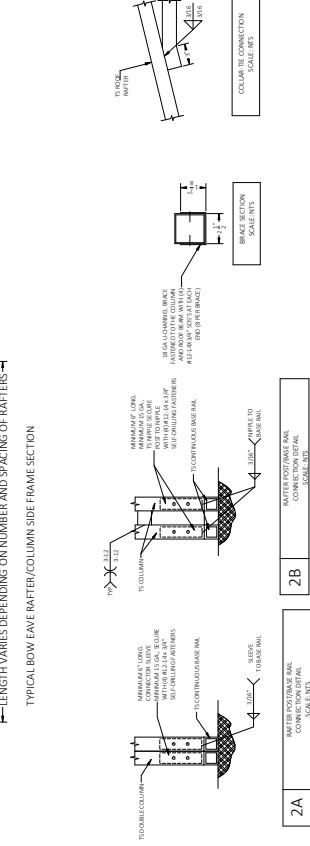


2AM BOW EAVE AFTER COLUMN
FOR HEIGHTS 230'-0" TO 235'-0"
SCALE: NTS

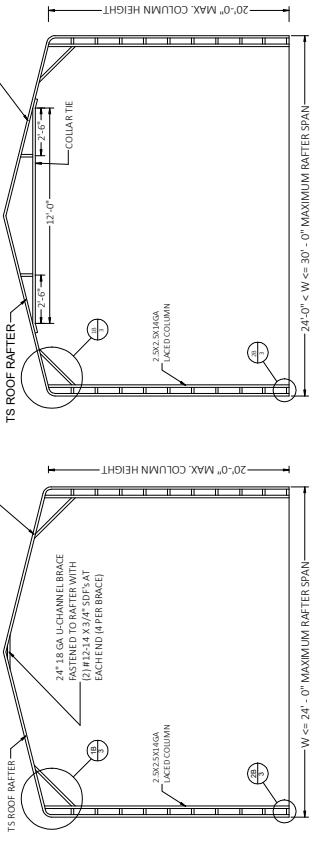


2AN BOW EAVE AFTER COLUMN
FOR HEIGHTS 235'-0" TO 240'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT

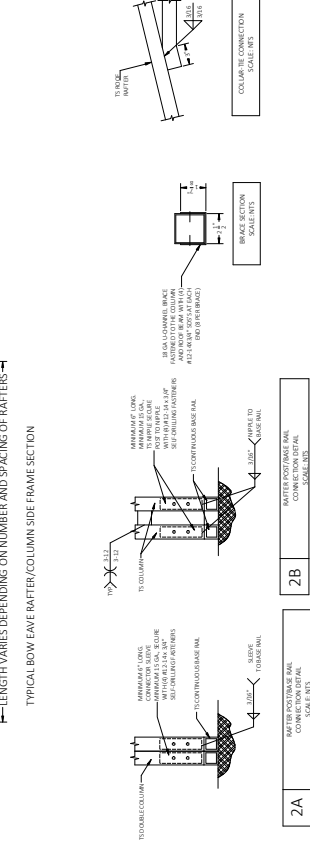


2AO BOW EAVE AFTER COLUMN
FOR HEIGHTS 240'-0" TO 245'-0"
SCALE: NTS



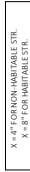
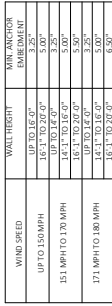
2AP BOW EAVE AFTER COLUMN
FOR HEIGHTS 245'-0" TO 250'-0"
SCALE: NTS

29 GA GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS
TYPICAL RAFTER SECTION
W <= 24' - 0" MAXIMUM RAFTER SPAN
20'-0" MAX. COLUMN HEIGHT



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Date: 2024.01.16 10:25:56-0500

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WIND SPEED	WALL HEIGHT	MIN. ANCHOR EMBEDMENT
UP TO 150 MPH	UP TO 16' 0"	3-2"
	16'-1" TO 24' 0"	5-0"
	UP TO 16' 0"	3-2"
151 MPH TO 170 MPH	UP TO 16' 0"	5-0"
	16'-1" TO 24' 0"	5-0"
	UP TO 16' 0"	3-2"
171 MPH TO 180 MPH	UP TO 16' 0"	5-0"
	16'-1" TO 24' 0"	6-50"

3C	ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR) SCALE: NTS
----	---

3A2
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE
SCALE: NTS

3D	TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE SCALE: NTS
----	--

3B	GROUND BASE HELIX ANCHORAGE SCALE: NTS
----	---

GENERAL NOTES

CONCRETE:

1. CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
2. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN COMPLIANCE WITH THE FBC.
3. MINIMUM SOIL BEARING CAPACITY OF COMPACTED GRADE= 2000 PSF

COVER AGE OF THE REINFORCED STEEL:

FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318: 3 INCHES WHERE THE CONCRETE IS POURED AGAINST AND TEMPORARY CONTACT WITH THE EARTH OR UNPROTECTED FROM THE EARTH OR WEATHER, OTHERWISE 1-1/2 INCHES.

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 FIELD OR SHOP AS LONG AS:

1. IT IS BENT COLD;
2. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT;
3. THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
4. MINIMUM REQUIRED LAP LENGTH SHALL NOT BE LESS THAN 57-BAR DIAMETERS.

HELIX ANCHOR NOTES

1. FOR VERY FINE OR FINE CEMENTED SANDS, COARSE GRAVEL, AND COBBLES/CLASH, PRELOADED SANDS AND CLAYS USE MINIMUM (2) 4" HEICES WITH MINIMUM 30 INCH EMBEDMENT.
2. FOR CORAL USE MINIMUM (2) 4" HEICES WITH MINIMUM 30 INCH EMBEDMENT.
3. FOR MEDIUM COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4" HEICES WITH MINIMUM 30 INCH EMBEDMENT.
4. FOR SILTS TO MEDIUM COARSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLOWED TO FELL USE MINIMUM (2) 6" HEICES WITH MINIMUM 50 INCH EMBEDMENT.
5. FOR VERY FIRM TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLOWED TO FELL USE MINIMUM (2) 8" HEICES WITH MINIMUM 60 INCH EMBEDMENT.

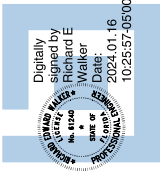
FLORIDA ENGINEERING LLC
4161 TAMAMI TRAIL, UNIT 101
PORT CHARLOTTE, FLORIDA 33952
(941) 391-5980
FLeng.com
Orders@FLeng.com
PROJECT NO. 2322771-30-E
CA CERT. #30782

TUBULAR BUILDING SYSTEMS
631 SE INDUSTRIAL CIRCLE,
LAKE CITY, FL 32025

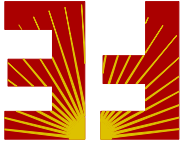
PROJECT DESCRIPTION:

DESIGN DATE:	12/14/2023	PAGE:	4
REVISION 1:	DATE		
REVISION 2:	DATE		
SCALE:	NTS		

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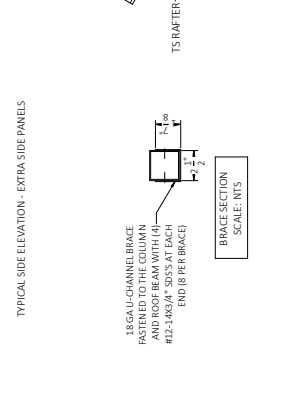
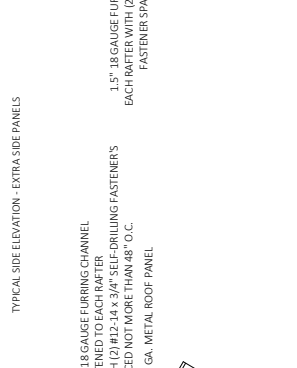
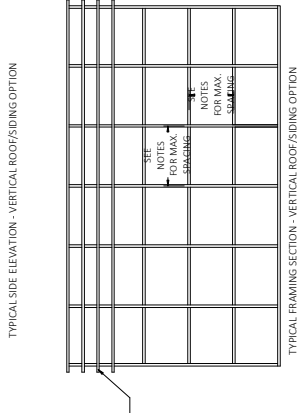
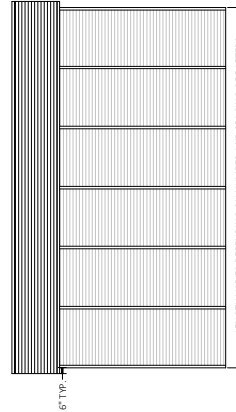
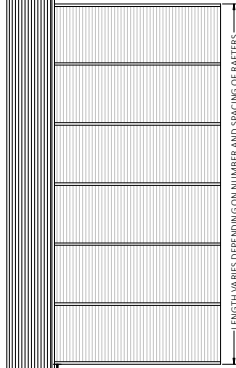
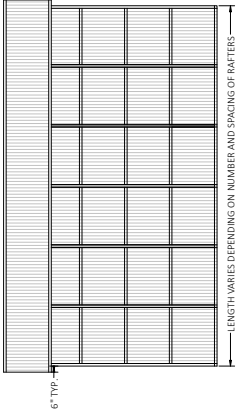
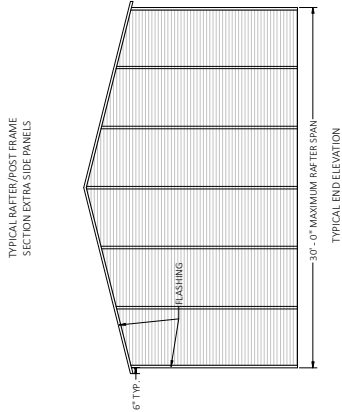
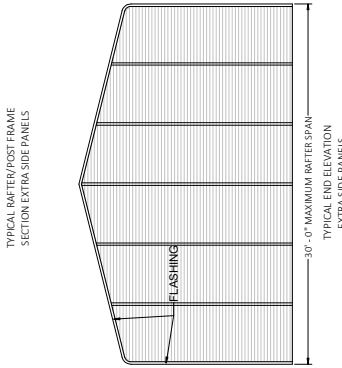
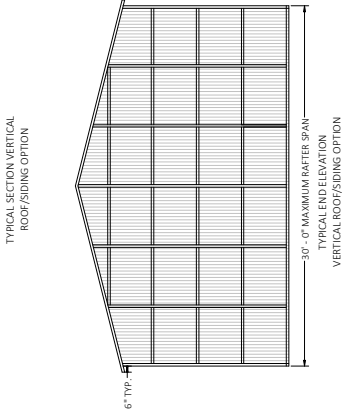
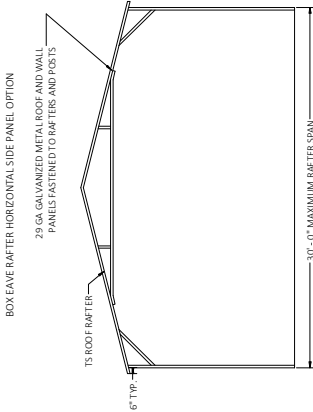
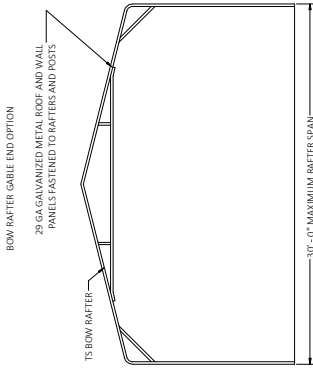
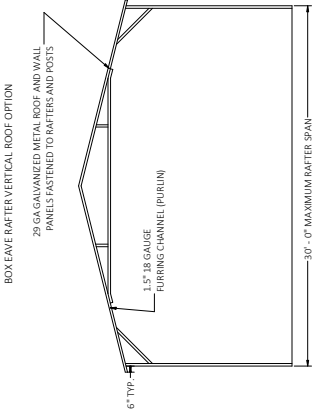
TUBULAR BUILDING SYSTEMS
631 SE INDUSTRIAL CIRCLE,
LAKE CITY, FL 32025

30' WIDE X 20' HIGH
ENCLOSED STRUCTURE

PROJECT DESCRIPTION:

DESIGN DATE:	12/14/2023
REVISION 1:	DATE
REVISION 2:	DATE
SCALE:	NTS

5



1.5\"/>

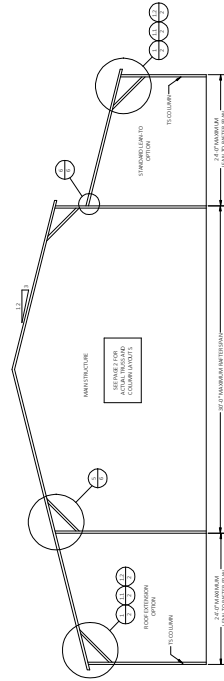
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18 GA U-CHANNEL BRACE FASTENED TO THE COLUMN AND ROOF BEAM WITH (4) #12-1/4\"/>

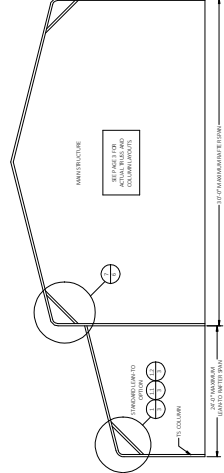
BRACE SECTION
SCALE: NTS

ROOF PANEL ATTACHMENT
SCALE: NTS

BOX LEAVE RAFTER LEAN-TO OPTIONS



BOW RAFTER LEAN-TO OPTIONS



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

TYPICAL LOW RAFTER LEAN-TO OPTIONS FRAMING SECTION

5A

SIZE: EXTENSION MAY BE COLUMN DETAIL.
FOR EXTENSION MATES SPANS 15'-0" OR LESS, USE DETAIL 1.1.2.
FOR EXTENSION MATES SPANS 15'-0" OR MORE, USE DETAIL 1.1.2 OR 1.1.3.
FOR EXTENSION MATES SPANS 15'-0" OR MORE, USE DETAIL 1.1.2 OR 1.1.3.
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5B

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FOR EXTENSION MATES SPANS 15'-0" OR LESS, USE DETAIL 1.1.2.
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7A

SIZE: EXTENSION MAY BE COLUMN DETAIL.
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7C

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6A

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7B

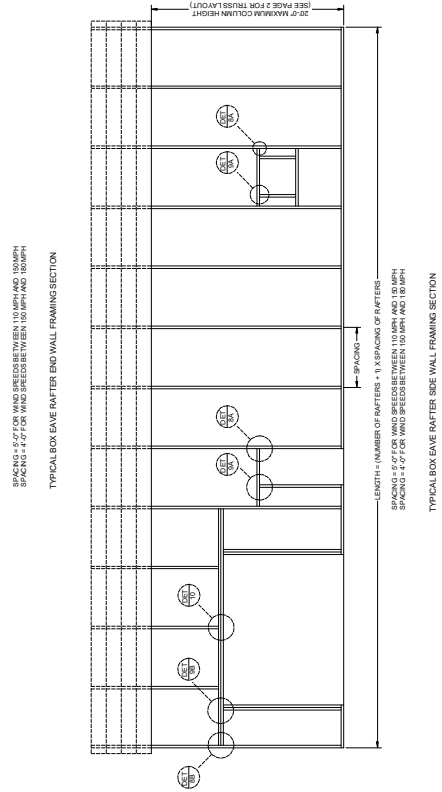
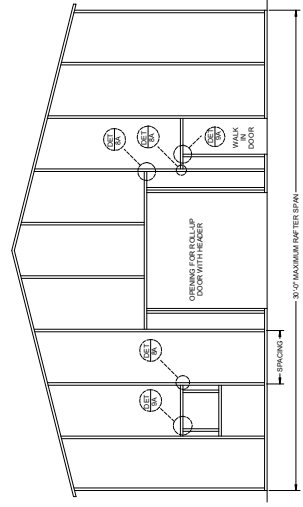
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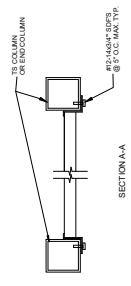
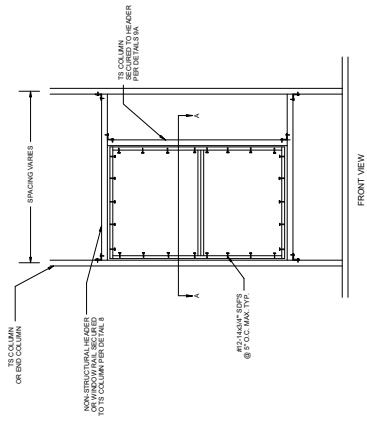
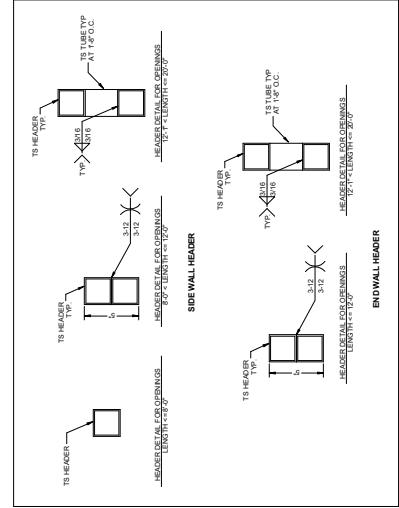
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Date: 2023.01.16 10:25:58-0500



TYPICAL BOX EAVE RAFTER SIDE WALL FRAMING SECTION



11 WINDOW INSTALLATION DETAILS
SCALE: NTS

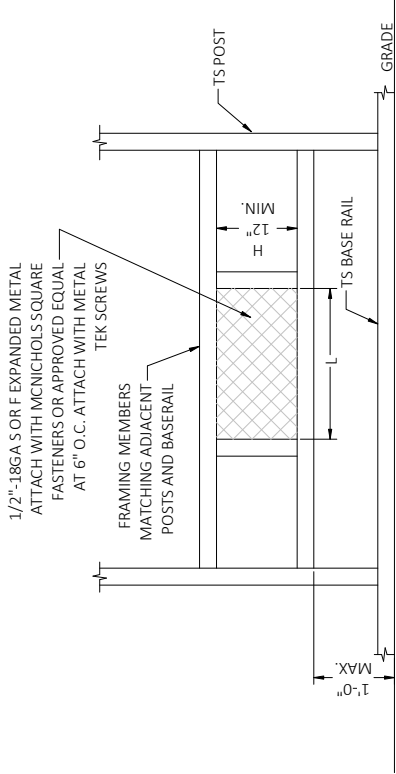
CONTRACTOR: TUBULAR BUILDING SYSTEMS
631 SE INDUSTRIAL CIRCLE,
LAKE CITY, FL 32025
PROJECT DESCRIPTION:
30' WIDE X 20' HIGH
ENCLOSED STRUCTURE

DESIGN DATE:	12/14/2023
REVISION 1:	DATE
REVISION 2:	DATE
SCALE:	NTS

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CA CERT. #30782
PROJECT NO. 2322771-30-E

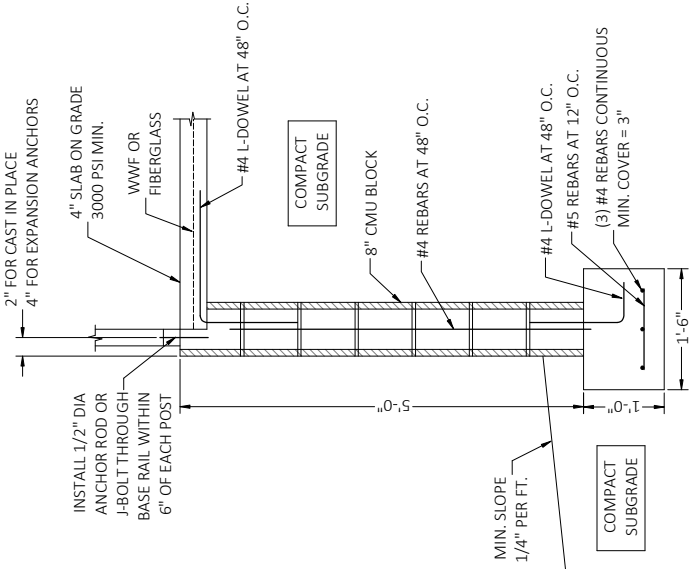


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2023.01.16 10:25:59-0500



TYPICAL FLOOD VENT DETAIL

- NOTES:
1. MINIMUM VENT SPACE REQUIRED = 1 SQ. IN. OF OPEN VENT AREA PER SQ. FT. OF BUILDING AREA.
 2. PROVIDE A MINIMUM OF TWO OPENINGS ON DIFFERENT SIDES OF EACH ENCLOSED BUILDING.
 3. APPLY A 1.3 FACTOR WHEN CALCULATING TOTAL OPEN AREA WHEN USING 1/2"-18GA S OR F EXPANDED METAL.
 4. TOTAL OPEN AREA OF VENT = L X H (MIN. 12").
 5. FLOOD VENT DETAIL COMPLIES WITH FEMA/NFIP.
 6. PREFABRICATED FLOOD VENTS MEETING THE REQUIREMENTS OF FEMA/NFIP MAY BE USED.



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

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FLeng.com

Orders@FLeng.com

CA CERT. #30782

PROJECT NO. 2322771-30-E

2024.01.16

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CONTRACTOR:		TUBULAR BUILDING SYSTEMS		631 SE INDUSTRIAL CIRCLE,		LAKE CITY, FL 32025	
PROJECT DESCRIPTION:		30' WIDE X 20' HIGH		ENCLOSED STRUCTURE			
DESIGN DATE:	12/14/2023	REVISION 1:	DATE	REVISION 2:	DATE	PAGE:	8
SCALE:	NTS						

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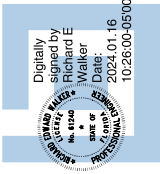
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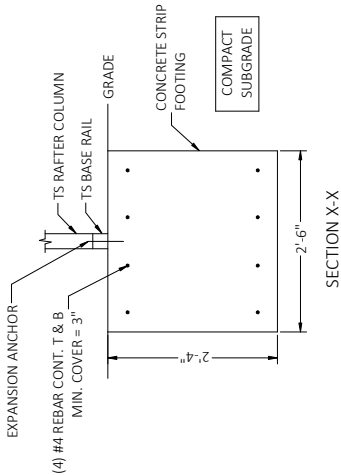
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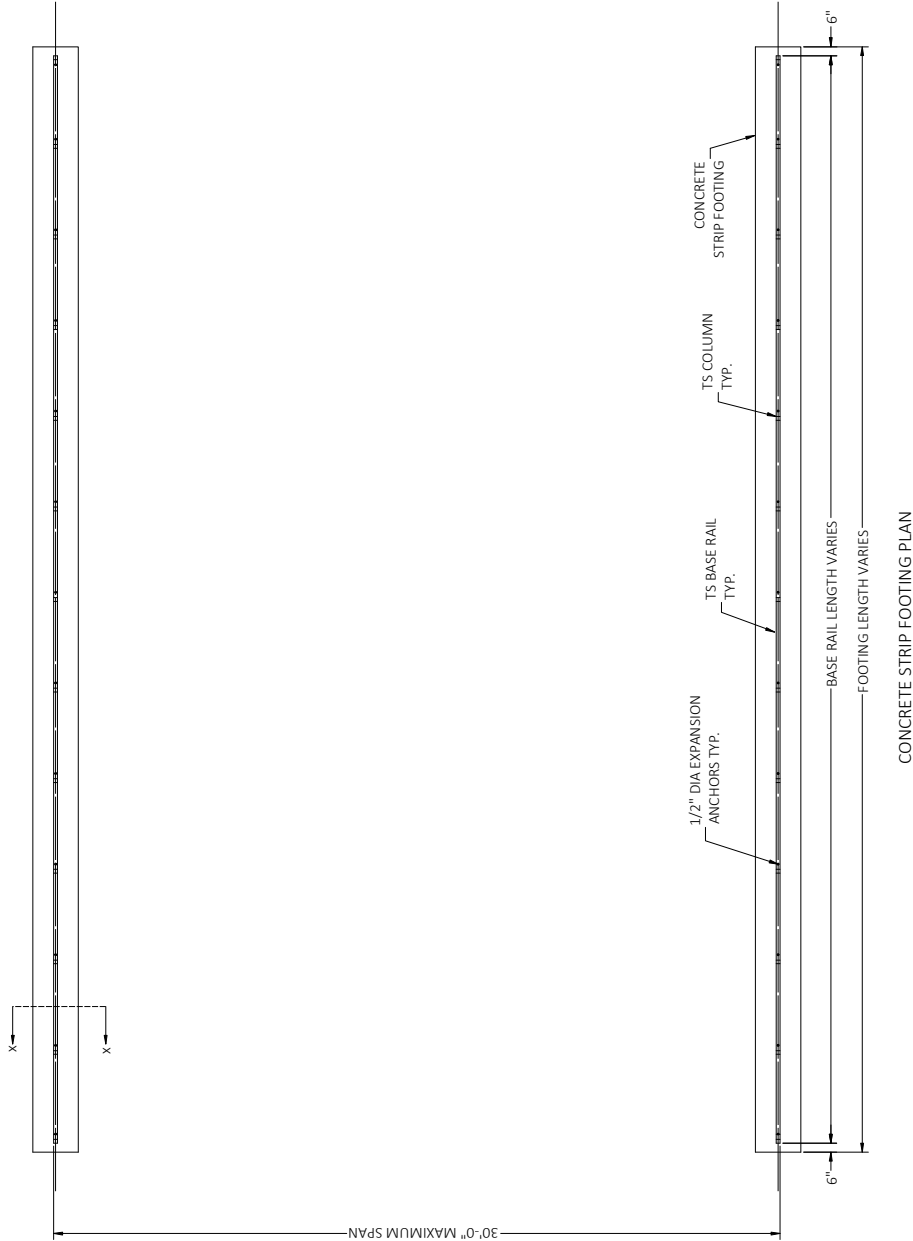


GENERAL NOTES:
CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1500 PSF.

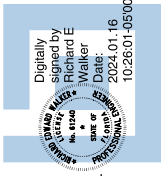
- CONCRETE:
MINIMUM 28-DAY SPECIFIED COMPRESSIVE STRENGTH = 3000 PSI
- REINFORCING STEEL:
1. TURNDOWN REINFORCING STEEL = ASTM A615 GRADE 60
2. SLAB REINFORCEMENT = WELDED WIRE FABRIC PER ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT
3. REINFORCING STEEL COVER = 3" WHERE CASE AGAINST AND PERMANENTLY EXPOSED TO SOIL OR WATER, 1.5" EVERYWHERE ELSE.
4. REINFORCEMENT IS BENT COLD.
5. MINIMUM INSIDE DIAMETER OF BEND = (6) BAR DIAMETERS
6. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.



OPTIONAL CONCRETE STRIP FOOTING



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TUBULAR BUILDING SYSTEMS

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LAKE CITY, FL 32025

CONTRACTOR:

PROJECT DESCRIPTION:

30" WIDE X 20" HIGH

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