### **GENERAL NOTES**

- 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. AISC STEEL CONSTRUCTION MANUAL (15TH EDITION)
- 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
- 2. RISK CATEGORY: I
- 3. FXPOSURE CATEGORY: C.

LOW ULTIMATE WIND SPEED 105 TO 150 MPH (NOMINAL WIND SPEED 81 TO 116 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 5.0 FFFT. HIGH ULTIMATE WIND SPEED 151 TO 180 MPH (NOMINAL WIND SPEED 117 TO 139 MPH): MAXIMUM

- RAFTER/POST AND END POST SPACING = 4.0 FEET.
- 4. DEAD LOAD = 10 PSF
- 5 LIVE LOAD = 10 PSE
- 6. 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).
- 7. OPTIONAL BASE RAIL ANCHORAGE MAY BE USED FOR LOW AND MUST BE USED FOR HIGH WIND SPEEDS.
- 8. FASTENERS CONSIST OF #12-14 x 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.
- 9. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9"
- 10. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:

SOIL SITE CLASS = D RISK CATEGORY I/II/III

R = 3.25

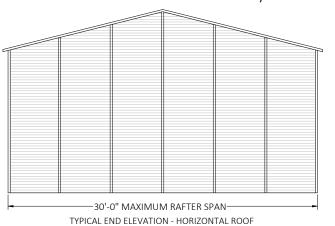
Sds = 0.087 g V = CsW

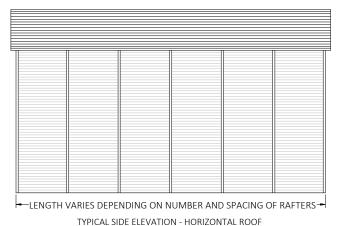
- 11. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN
- 12. GROUND ANCHOR (SOIL NAILS) CONSIST OF #5 REBAR W/ WELDED NUT X 30" LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (≤ 108 MPH NOMINAL) WIND SPEEDS ONLY. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USE IN UNSUITABLE SOILS AS NOTED.
- 13. MIN. LAP REQUIREMENT FOR REBAR IN FOOTER IS 25".
- 14. SOIL TO BE COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY, AT OPTIMUM MOISTURE CONTENT. IN ACCORDANCE WITH ASTM D1557-93
- 15. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN COMPLIANCE WITH THE EBC.
- 16. A LANDING OF MIN. 36" WIDTH IN THE DIRECTION OF TRAVEL SHALL BE PROVIDED AT THE EXTERIOR DOORS. SLOPE OF LANDING NOT TO EXCEED 1/4"-1'. LANDING LEVEL NOT TO BE LOWER THAN 1-1/2" (FOR EGRESS DOORS) & 7-3/4" (FOR OTHER EXTERIOR DOORS) BELOW THE TOP OF THRESHOLD.

# DRAWING INDEX

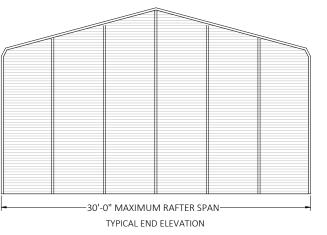
PAGE NO.	DESCRIPTION		
1	NOTES AND SPECIFICATIONS		
2	BOX EAVE FRAME RAFTER ENCLOSED BUILDING		
3	BOW EAVE FRAME RAFTER ENCLOSED BUILDING/WIND PRESSURES		
4	BASE RAIL AND FOUNDATION ANCHORAGE		
5	BOX/BOW EAVE VERTICAL ROOF/SIDING OPTION		
6	BOX/BOW EAVE RAFTER LEAN-TO OPTIONS		
7	BOX EAVE RAFTER END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

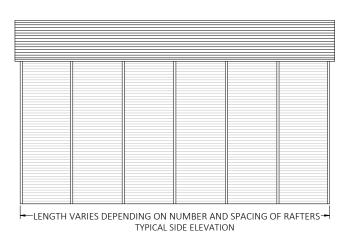
# **ENCLOSED METAL BUILDING DESIGN** MAXIMUM 30'-0" WIDE X 20'-0" EAVE HEIGHT BOX/BOW EAVE FRAME





BOX EAVE FRAME RAFTER ENCLOSED BUILDING





# BOW FRAME RAFTER ENCLOSEDBUILDING

PRODUCT CATEGORY	SUB CATEGORY	MANUFACTURER	APPROVAL No. & DATE
STRUCTURAL COMPONENTS	ROOF DECK	CAPITAL METAL SUPPLY, INC. 29 GA. CAPITAL RIB ROOF PANEL	FL20147.2-R2 10/13/2020
STRUCTURAL COMPONENTS	STRUCTURAL WALL	CAPITAL METAL SUPPLY, INC. 29 GA. CAPITAL RIB WALL PANEL	FL20148.2-R2 10/13/2020
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC. SERIES 3652	FL14425.1-R6 12/15/21
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC. SERIES 750	FL21450.10-R8 12/13/22
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC. SERIES 3100	FL12765.4-R6 10/12/20
EXTERIOR DOORS	SWINGING	ELIXIR DOOR AND METAL COMPANY SERIES 407	FL17996.5-R2 02/28/21
WINDOWS	SINGLE HUNG	KINRO, INC 9750 SH	FL993.5-R18 05/20/19
WINDOWS	VERTICAL SLIDING	KINRO, INC 18000-R VS	FL993.8-R18 08/11/20

DIGITAL CERTIFICATION NOTES: 1. THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SHALL REMAIN IN DIGITAL FORMAT, SHALL BE VERIFIED BY ELECTRONIC MEANS & PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. 2 THIS DOCUMENT HAS BEEN CREATED BY FLORIDA ENGINEERING LLC FOR TUBULAR BUILDING SYSTEMS ONLY. IT SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT THE WRITTEN CONSENT OF FLORIDA ENGINEERING LLC AND TUBULAR BUILDING SYSTEMS. 3. ALTERATIONS, ADDITIONS OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE FLORIDA ENGINEERING LLC'S CERTIFICATION. 4. THESE PLANS ARE GENERIC AND DO NOT PROVIDE INFORMATION FOR A SITE-SPECIFIC PROJECT WHERE THE SITE CONDITIONS DEVIATE FROM WHAT HAS BEEN CALLED OUT ON THESE PLANS. 5. CONTRACTOR MUST NOT DEVIATE FROM THE CONDITIONS DETAILED ON THESE PLANS. 6. CONSTRUCTION SAFETY AT THE SITE IS THE CONTRACTOR'S RESPONSIBILITY

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CHARLOTTE, FLORIDA (941) 391-5980 FLEng.com FLEng.com Orders@FLEng.com TAMIAMI TRAIL,

CA CERT. #30782

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**PORT** 



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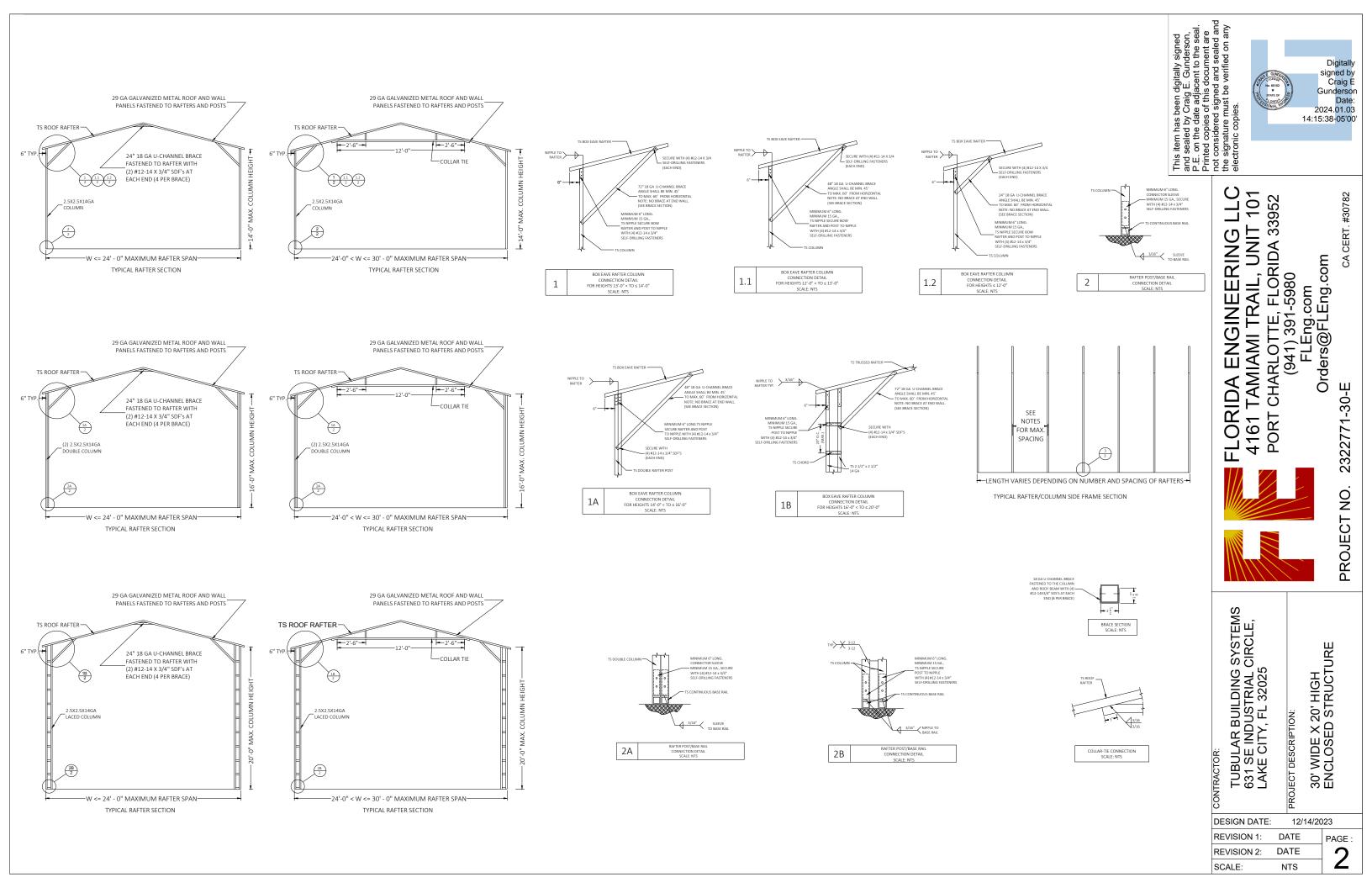
30' WIDE X 20' HIGH ENCLOSED STRUCTURE

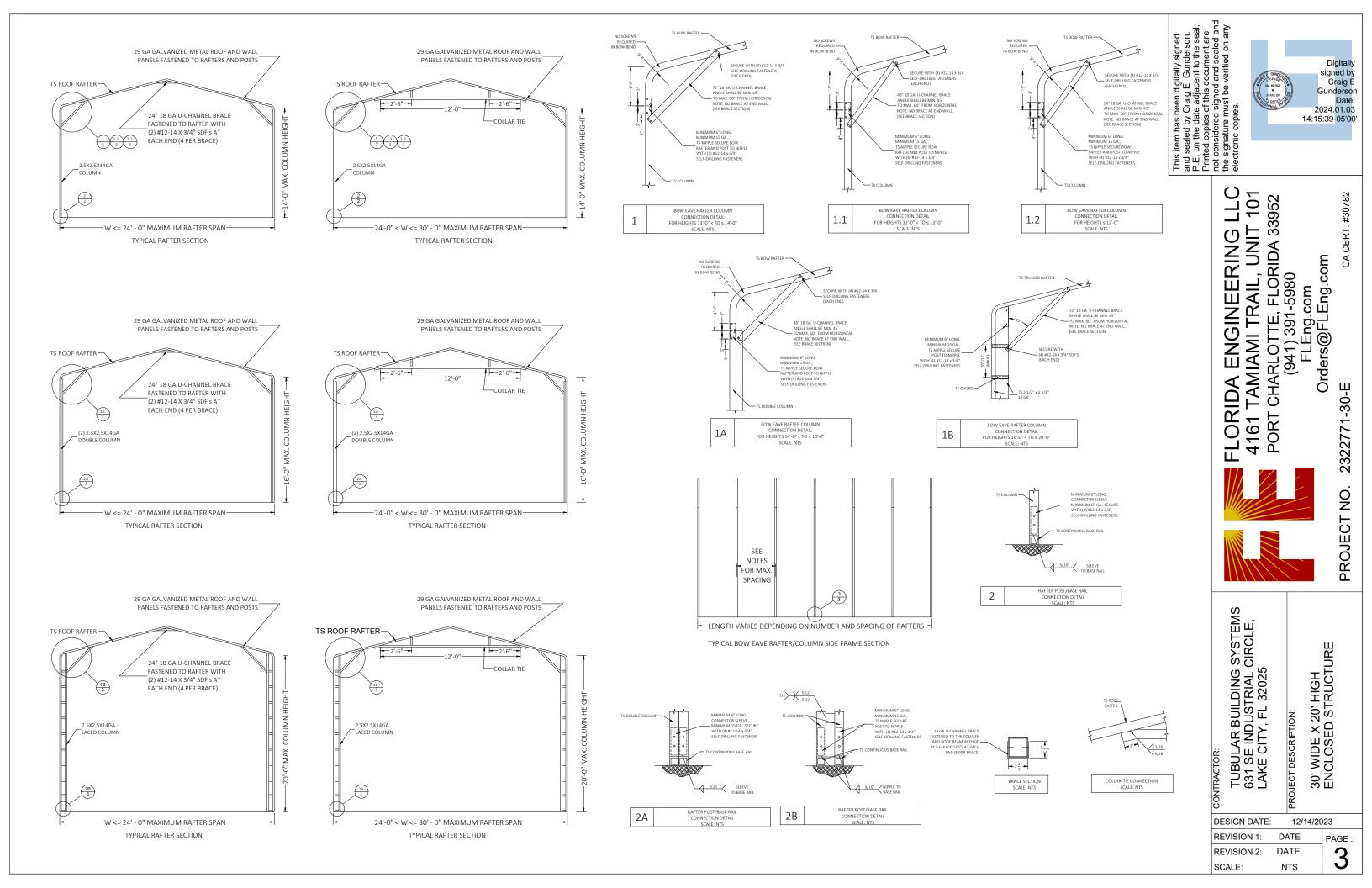
TUBULAR BUILDING SYSTEM! 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025 PROJECT DESCRIPTION

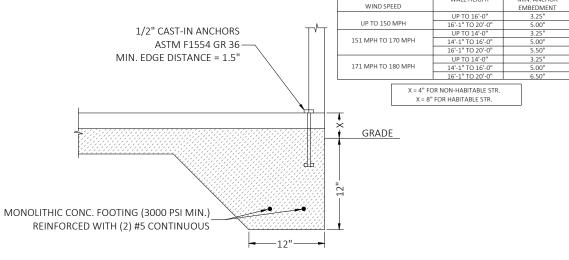
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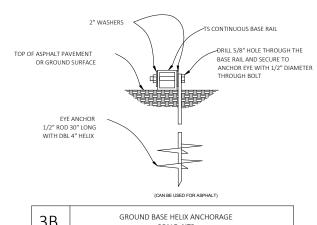
CONTRACTOR













DRILL 5/8" DIAMETER

3/4" DIA X 30" MIN

2" X 3/4" X 1/8" A36 BARBS

, A529 GRADE 50

ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR)

SCALE: NTS

EDGE OF

SECTION

3D

3/16"

TYPICAL ANCHOR DETAIL WHEN BASE

RAIL IS NEAR EDGE OF CONCRETE

SCALE: NTS

TOP VIEW

TOP OF ASPHALT

GROUND SURFACE

3C

PAVEMENT OR -

TS CONTINUOUS

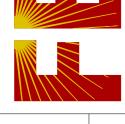
BASE RAIL

COMPACT

SUBGRADE







TS 2.5"X2.5"X14GA

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

PROJECT DESCRIPTION

DESIGN DATE:

**REVISION 1:** DATE **REVISION 2:** DATE SCALE: NTS

CA CERT. #30782 TAMIAMI TRAIL, UNIT T CHARLOTTE, FLORIDA 3 (941) 391-5980 FLEng.com Orders@FLEng.com 2322771-30-E PROJECT NO.

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FLORIDA

30' WIDE X 20' HIGH ENCLOSED STRUCTURE

PAGE

12/14/2023

WIND SPEED

3B

# HELIX ANCHOR NOTES

GENERAL NOTES

COMPLIANCE WITH THE FBC.

COVERAGE OF THE REINFORCED STEEL:

CONCRETE:

1-1/2 INCHES.

REINFORCING STEEL

FIBER REINFORCEMENT

1. IT IS BENT COLD:

- 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.

1. CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT

2. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN

FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318: 3 INCHES WHERE THE CONCRETE IS POURED AGAINST AND TEMPORARY IN

CONTACT WITH THE EARTH OR UNPROTECTED FROM THE EARTH OR WEATHER, OTHERWISE

THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB

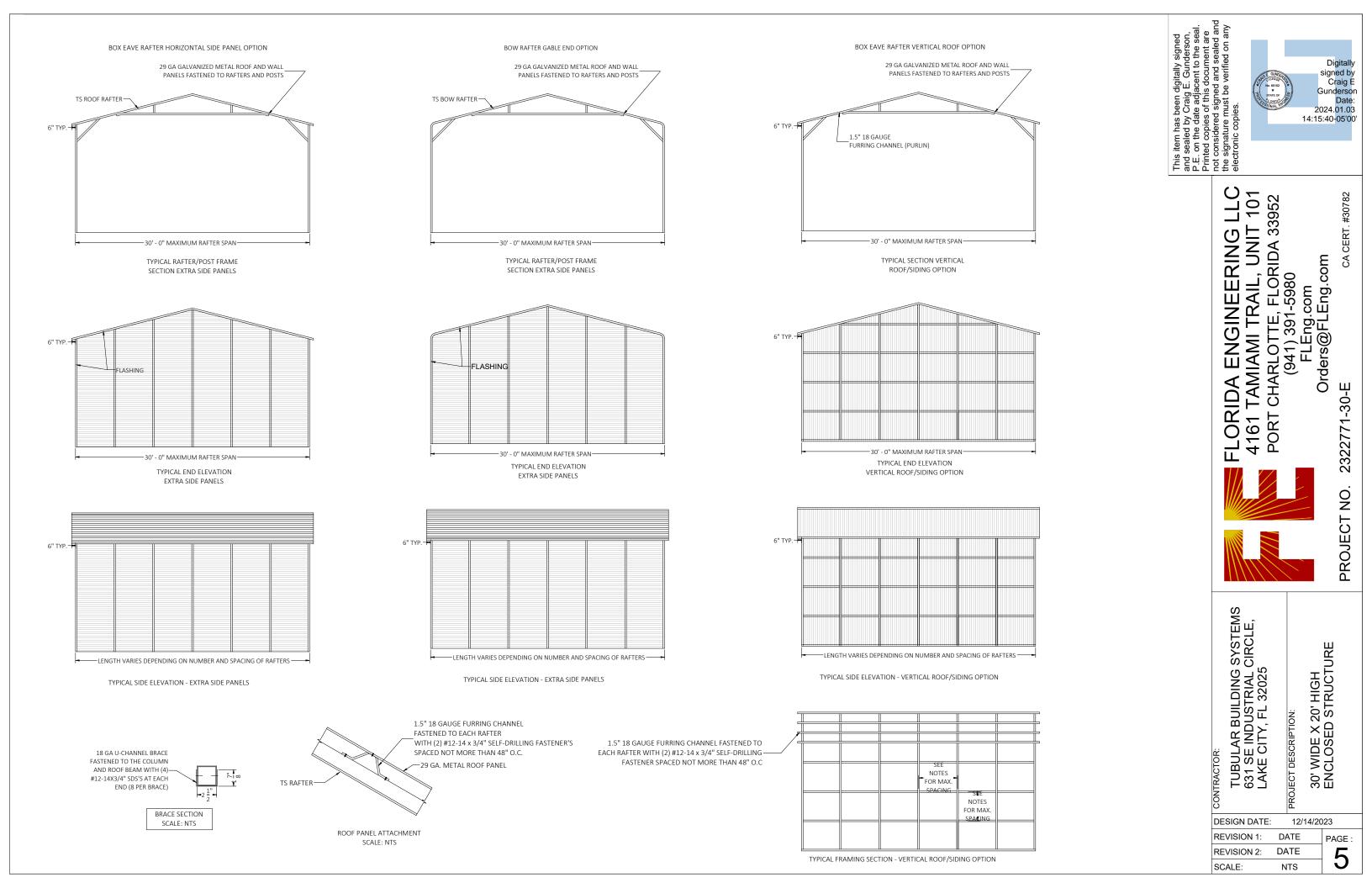
REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS

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 4. MINIMUM REQUIRED LAP LENGTH SHALL NOT BE LESS THAN 57-BAR DIAMETERS

3. MINIMUM SOIL BEARING CAPACITY OF COMPACTED GRADE= 2000 PSF

REINFORCEMENT MAY BE BENT IN THE FIELD OR SHOP AS LONG AS:

- 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 LOOSE TO MEDIUM DENSE COARSE 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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PORT CHARLOTTE, FLORIDA 33952
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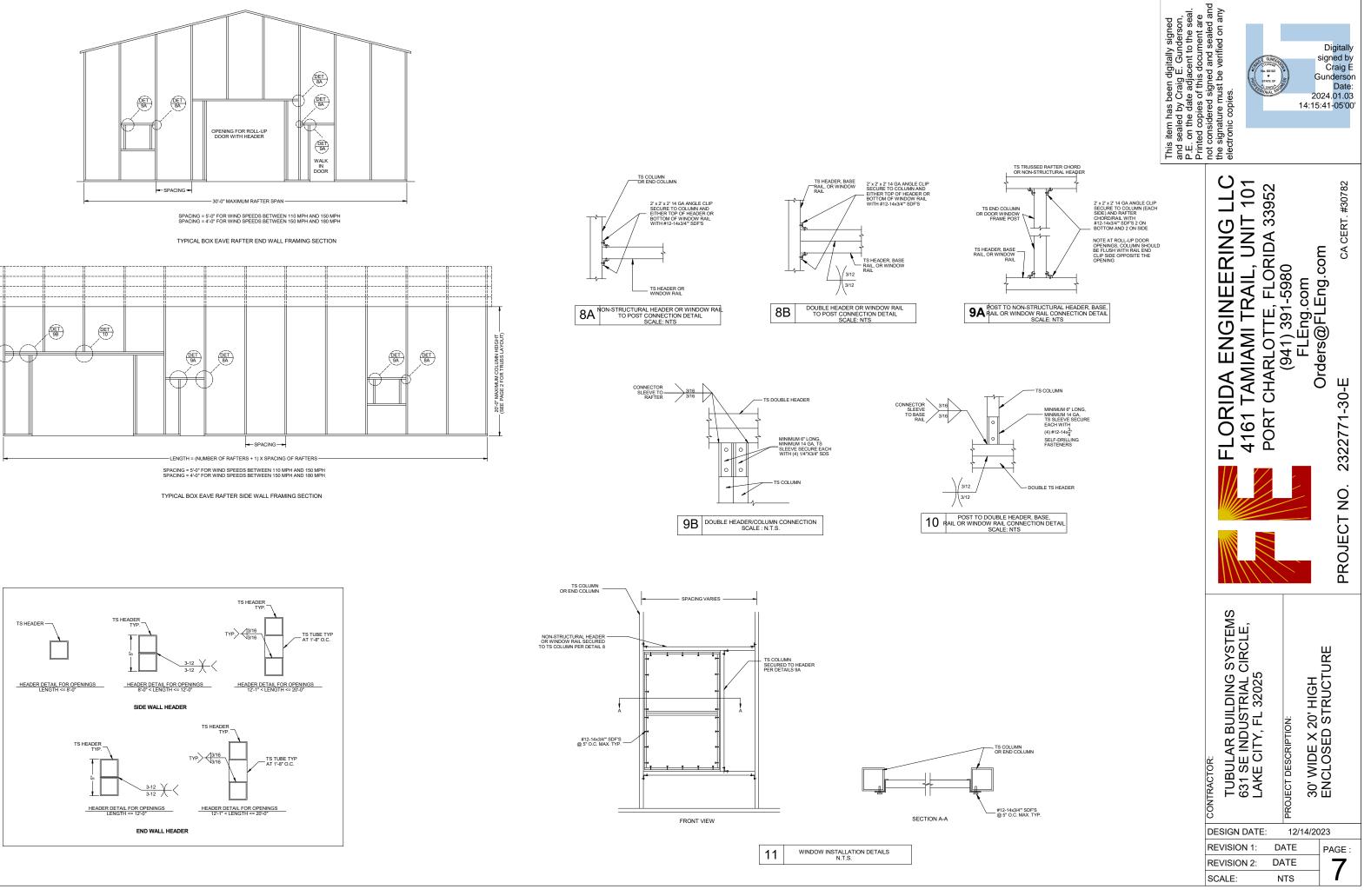
30' WIDE X 20' HIGH ENCLOSED STRUCTURE PROJECT DESCRIPTION: 12/14/2023 PAGE 6

DATE DATE

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

CONTRACTOR



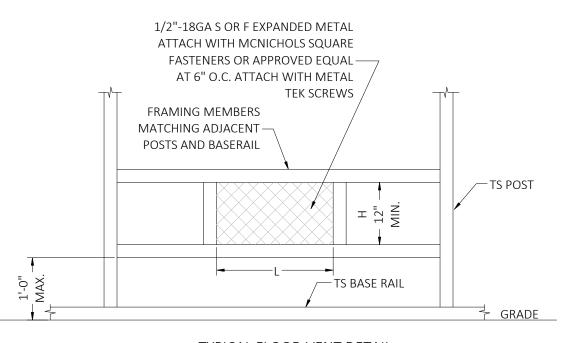


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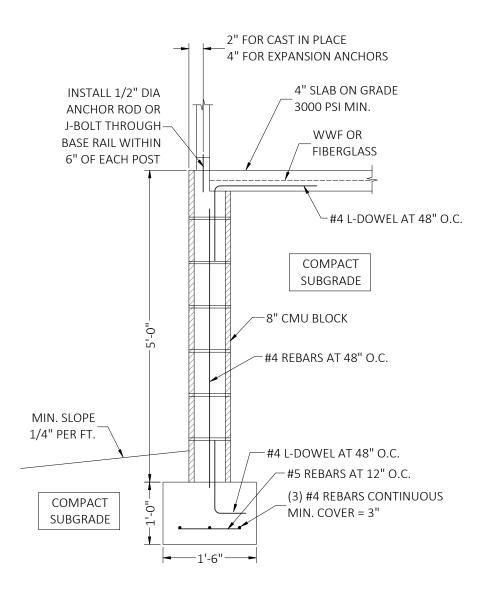
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# TYPICAL FLOOD VENT DETAIL

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

30' WIDE X 20' HIGH ENCLOSED STRUCTURE PROJECT DESCRIPTION

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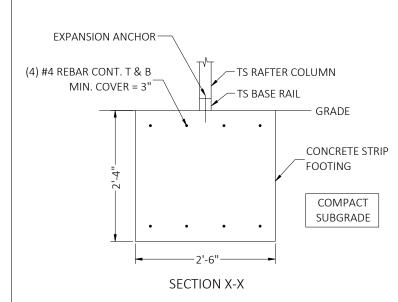
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### CONCRETE

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 PERMENENTLY 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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2024.01.03

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**PORT** 

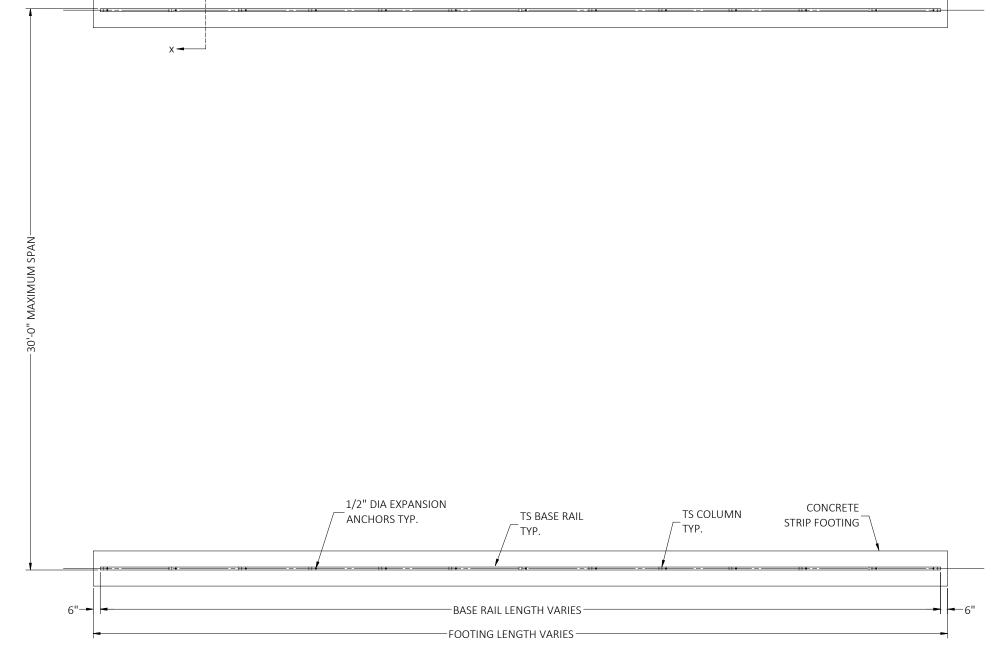




TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025 30' WIDE X 20' HIGH ENCLOSED STRUCTURE PROJECT DESCRIPTION:

DESIGN DATE:

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



CONCRETE STRIP FOOTING PLAN