- 1. ASCE 7-22: MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
- 2 AISC STEEL CONSTRUCTION MANUAL (17TH EDITION)
- 3. ACI 318-19: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- 4. TMS 402-16: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- 5. AWS D1.1: STRUCTURAL WELDING

- 1. DEAD LOAD = 1.5 PSF
- 3. WIND LOAD
- A. RISK CATEGORY = II

- 2. ROOF LIVE LOAD = 12 PSF
- B. WIND EXPOSURE CATEGORY = C
- C. ULTIMATE WIND SPEED = 130 MPH NOMINAL WIND SPEED = 102 MPH

### DRAWING INDEX

PAGE NO.	DESCRIPTION		
1	TITLE PAGE WITH INDEX		
2	TRUSS DESIGN FOR RAFTER SPAN		
3	CONNECTION DETAILS (1-3)		
4	BASE RAIL AND FOUNDATION ANCHORAGE		
5	RAFTER END WALL, SIDE WALL AND OPENING FRAMING		
6	CONNECTION DETAILS (5-17)		
7	BOX EAVE RAFTER LEAN-TO OPTIONS		
8	CONNECTION DETAILS (19-21)		
9	BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION		
10	OPTIONAL HELICAL ANCHORING ON GRADE DETAIL		
-			

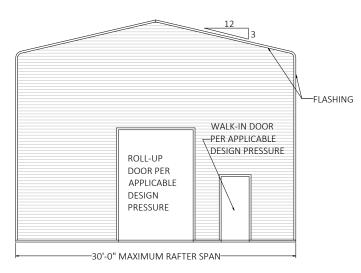
- THESE PLANS BELONG EXCLUSIVELY TO THE STRUCTURE, INCLUDING MAIN WIND FORCE RESISTING SYSTEM (MWFRS), COMPONENTS AND CLADDING (C&C), AND BASE RAIL ANCHORAGE. OTHER DESIGN ISSUES, INCLUDING BUT NOT LIMITED TO PROPERTY SET-BACKS, FLECTRICAL, PLUMBING, INGRESS/EGRESS, FINISH FLOOR SLOPES AND FLEVATIONS, OR OTHER LOCAL ZONING REQUIREMENTS ARE THE LIABILITY OF OTHERS
- 2. THESE STRUCTURES ARE ENGINEERED AS CAPABLE OF SUPPORTING DEAD LOAD OF THE STRUCTURE AND LIVE AND WIND LOADS. UPGRADES NOT SPECIFICALLY ADDRESSED HEREIN, CAUSE ADDITIONAL LOADS ON THE STRUCTURE SHALL BE AT THE OWNER'S RISK. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR FAILURE OR STRUCTURAL DAMAGE DUE TO THE EXTRA LOAD.
- 54 KSI. ALL FASTENERS SHALL BE ZINC COATED HARDWARE
- 4. END WALL COLUMNS (POST) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND
- 5. SPECIFICATIONS APPLICABLE TO 29 GA METAL PANELS FASTENED DIRECTLY TO 2.5"X2.5"X14 GA/2.5"X2.5"X12GA TUBE STEEL (TS) FRAMING MEMBERS FOR VERTICAL PANELS. 29 GA METAL PANELS SHALL BE FASTENED DIRECTLY TO 18 GA HAT CHANNELS U.N.O.
- 6. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS
- 7. FASTENERS CONSIST OF #12-14X3/4" SELF-DRILLING SCREWS (SDS), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS. SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 20'-0" OR LESS, AND ROOF SLOPES OF 14° (3:12 PITCH) OR LESS. SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY.
- 8. ANCHORS SHALL BE INSTALLED THROUGH THE BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES AND ENDS
- 9. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBARS WITH WELDED NUT X 36" LONG AND MAY BE USED IN SUITABLE SOILS. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED. SOIL NAILS MAY BE USED FOR WIND SPEEDS LESS THAN OR EQUAL TO 145 MPH.
- 10. RAFTER SPACING IS 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH AND 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 170 MPH.
- 11. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:

SOIL SITE CLASS = D RISK CATEGORY II

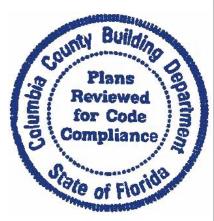
Ie = 1.0 Sds = 0.075 g V = CsW Sd1 = 0.051 g

## FI ASHING WALK-IN DOOR -PER APPLICABLE DESIGN PRESSURE ROLL-UP DOOR PER APPLICABLE DESIGN PRESSURE -30'-0" MAXIMUM RAFTER SPAN-

TYPICAL END ELEVATION - BOX EAVE



TYPICAL END ELEVATION - BOW EAVE



PORT CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com FLORIDA ENGINEER 4161 TAMIAMI TRAIL,

FLEng.com Orders@FLEng.com

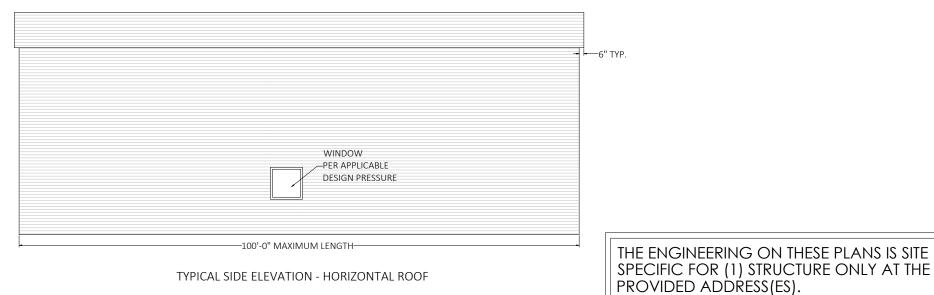
PROJECT NO.

BEST METAL BUILDINGS LLC 484 NW TURNER AVE LAKE CITY FL 32055

BARNETT 331 SW. NANTUCKET PL FORT WHITE, FL. 32038

07/11/2024 07/15/2024 REVISION 1: REVISION 2: DATE SHEET: DRAWN BY: SCALE:

## ENCLOSED METAL BUILDING DESIGN MAXIMUM 30'-0" WIDE X 100'-0" LONG X 20'-0" HIGH (EAVE) BOX EAVE FRAME / BOW EAVE FRAME



TYPICAL SIDE ELEVATION - HORIZONTAL ROOF

MEMBER LEGEND:

DET 1A

- 1. TS COLUMN = 2.5X2.5X14 GA U.N.O.
- 2. TRUSS MEMBERS = 2.5X2.5X14 GA U.N.O.
- 3. KNEE-BRACE = 2.5"X2"X18GA CHANNEL
- 4. PURLIN = 1.125"X18GA HAT CHANNEL
- 5. TS BRACE = 2.5"X2.5"X14GA TUBE
- 6. U-BRACE = 2.5"X2"X18GA CHANNEL

DET 2A

TS DOUBLE COLUMN

DET 2B

DET 2C

7. END WALL COLUMN = (2)2.5X2.5X14GA U.N.O.

U-BRACE-

## TRUSS LAYOUT- BOX EAVE

TS BASE RAIL

TS BASE RAII

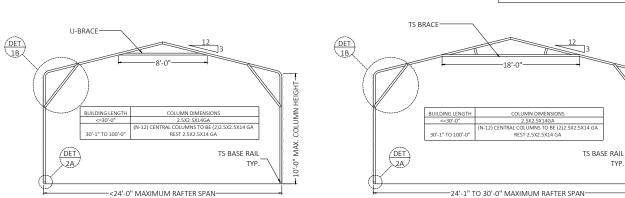
<24'-0" MAXIMUM RAFTER SPAN

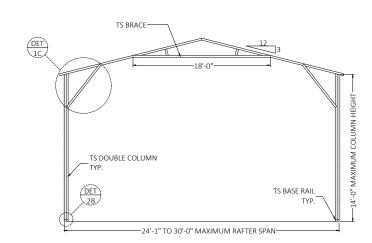
-<24'-0" MAXIMUM RAFTER SPAN-

-<24'-0" MAXIMUM RAFTER SPAN-

DET 1A

## TRUSS LAYOUT- BOW EAVE



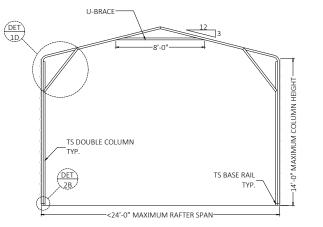


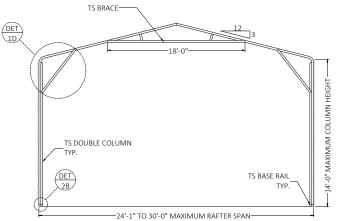
-24'-1" TO 30'-0" MAXIMUM RAFTER SPAN

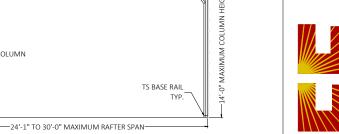
TS BASE RAIL

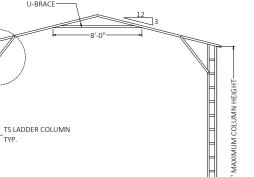
TS BRACE-

DET 2A

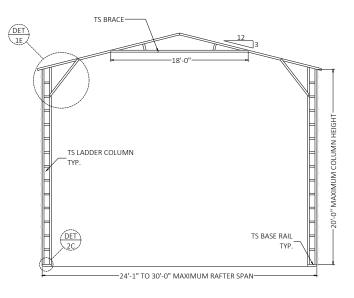


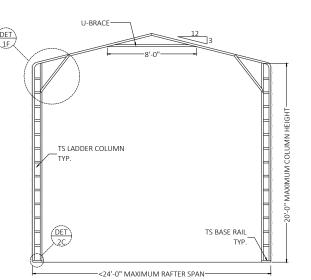


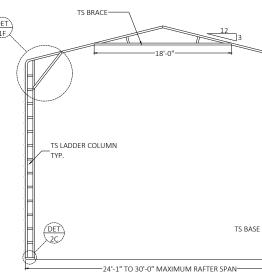


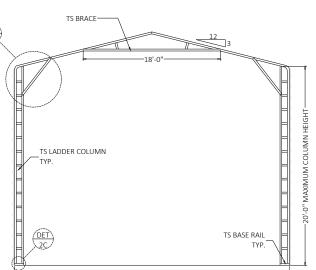


TS BASE RAII









DRAWN BY:

SCALE:

Q

8	PA	PA	
DESIGN DATE:	07/11/	2024	
REVISION 1:	07/15/	07/15/2024	
REVISION 2:	DATE	SHEE	

JS

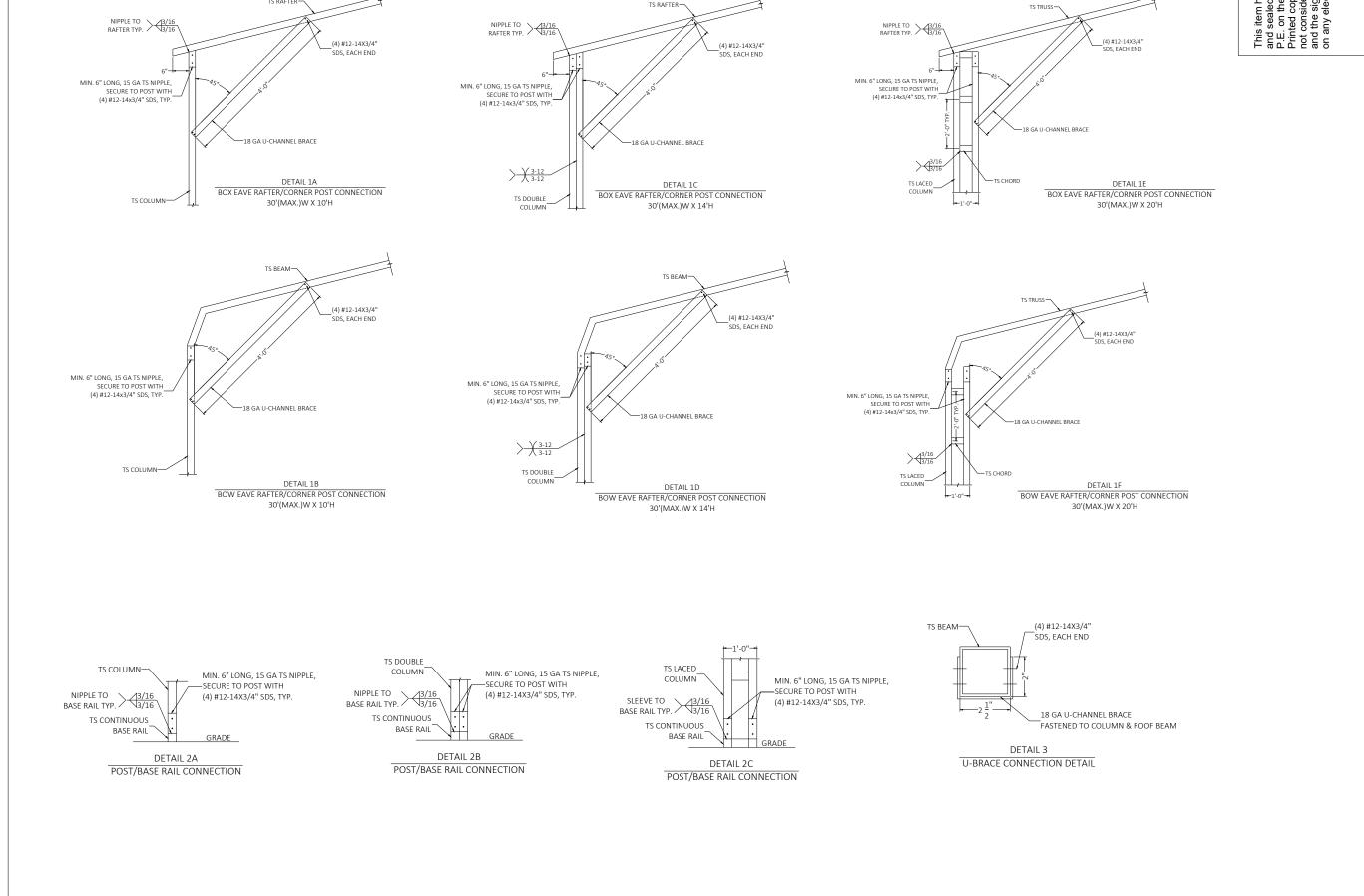
NTS

BARNETT 331 SW. NANTUCKET PL. FORT WHITE, FL. 32038 OJECT ADDRESS: ET:

FLORIDA ENGINEERING LLC 4161 TAMIAMI TRAIL, UNIT 101 PORT CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com Orders@FLEng.com

2419130-2 PROJECT NO.

LICENSE #30782



FLORIDA ENGINEERING LLC 4161 TAMIAMI TRAIL, UNIT 101

PORT CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com Orders@FLEng.com

2419130-2

LICENSE #30782

PROJECT NO.

BARNETT 331 SW. NANTUCKET PL FORT WHITE, FL. 32038 PROJECT ADDRESS: 07/11/2024

DESIGN DATE: DATE

BEST METAL BUILDINGS LLC 484 NW TURNER AVE LAKE CITY FL 32055

07/15/2024 REVISION 1: REVISION 2: SHEET: DRAWN BY: JS 3 OF 10 SCALE: NTS

CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2500 PSF

MINIMUM 28-DAY SPECIFIED COMPRESSIVE STRENGTH = 3000 PSI

- 1. TURNDOWN REINFORCING STEEL = ASTM A615 GRADE 60
- 2. SLAB REINFORCEMENT = WELDED WIRE FABRIC PER ASTM A185 OR FIBERGLASS
- 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

### HELIX ANCHOR NOTES

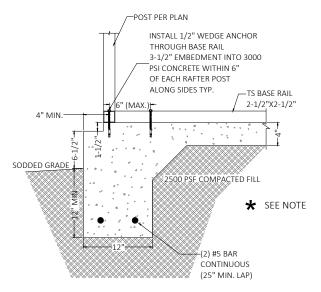
- 1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, CORALS, MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS AND CLAYS, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT EVERY 10'.
- 2. FOR MEDIUM TO VERY LOOSE DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT EVERY 5' OR EVERY POST (LEG).
- 3. THE UPLIFT/BEARING CAPACITY OF EACH ANCHOR MUST BE EQUAL TO OR GREATER THAN 8.5 KIPS.

### HP 9 BARBED DRIVE ANCHOR NOTES

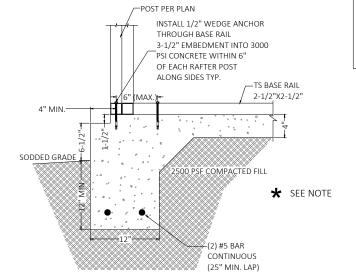
- 1. ANCHOR TO BE 3/4" DIA (A529 GRADE 50) WITH 30" MIN. EMBEDMENT & (4) MIN. BARBS AS SHOWN IN DETAIL 3C.
- 2. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, CORALS, MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS AND CLAYS, MAXIMUM SPACING TO BE 10'.
- 2. FOR MEDIUM TO VERY LOOSE DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, MAX. SPACING TO BE 5' OR EVERY POST (LEG).
- 3. THE UPLIFT/BEARING CAPACITY OF EACH ANCHOR MUST BE EQUAL TO OR GREATER THAN 8.5 KIPS.

1/2" DIA EXPANSION

SECTION



DETAIL 4A-I CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE



DETAIL 4A-II CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

POST PER PLAN OPTIONAL 1/2" WEDGE ANCHOR INSTALL 1/2" WEDGE ANCHOR THROUGH BASE RAIL THROUGH BASE RAIL 3-1/2" EMBEDMENT INTO 3000 3-1/2" EMBEDMENT INTO 3000 PSI CONCRETE WITHIN 6" PSI CONCRETE WITHIN 6" OF EACH RAFTER POST OF EACH RAFTER POST ALONG SIDES TYP. ALONG SIDES TYP. 2.25"X2.25"X15GA 4" (MIN.) SODDED GRAI 500 PSF COMPAÇTED FILL \* SEE NOTE CONTINUOUS 

DETAIL 4A-III

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

EDGE OF CONCRETE

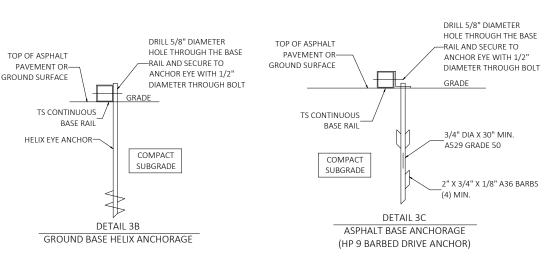
TS COLUMN

TOP VIEW

TS 2.5"X2.5"X14GA

BASE RAIL ANCHORAGE OPTION

★ = COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING DEPTH BASED ON FROST LINE DEPTH.



## T CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com Orders@FLEng.com **UNIT 101** ENGINEERING TAMIAMI TRAIL, ORIDA **PORT** 4161

**PROJECT** BEST METAL BUILDINGS 484 NW TURNER AVE LAKE CITY FL 32055 BARNETT 331 SW. NANTUCKET PI FORT WHITE, FL. 32038 JECT ADDRESS

JS

NTS

DESIGN DATE:

REVISION 1:

REVISION 2:

DRAWN BY:

SCALE:

07/11/2024 07/15/2024 DATE

SHEET:

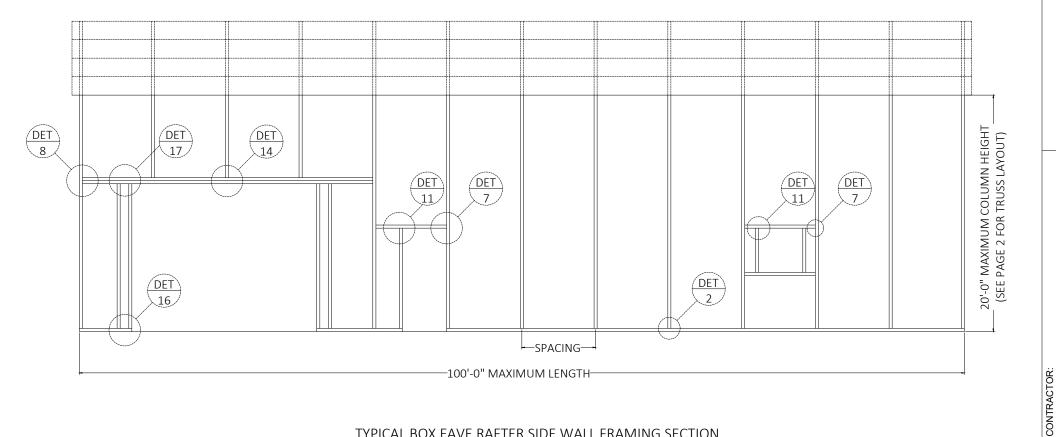
2419130

<u>8</u>

TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SPACING = 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 150 MPH SPACING = 4'-0" FOR WIND SPEEDS BETWEEN 151 MPH AND 170 MPH

(SEE PG-09 FOR HEADER DETAILS)



## TYPICAL BOX EAVE RAFTER SIDE WALL FRAMING SECTION

SPACING = 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 150 MPH SPACING = 4'-0" FOR WIND SPEEDS BETWEEN 151 MPH AND 170 MPH FLORIDA ENGINEERING LLC 4161 TAMIAMI TRAIL, UNIT 101 PORT CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com Orders@FLEng.com

LICENSE #30782

2419130-2

PROJECT NO.

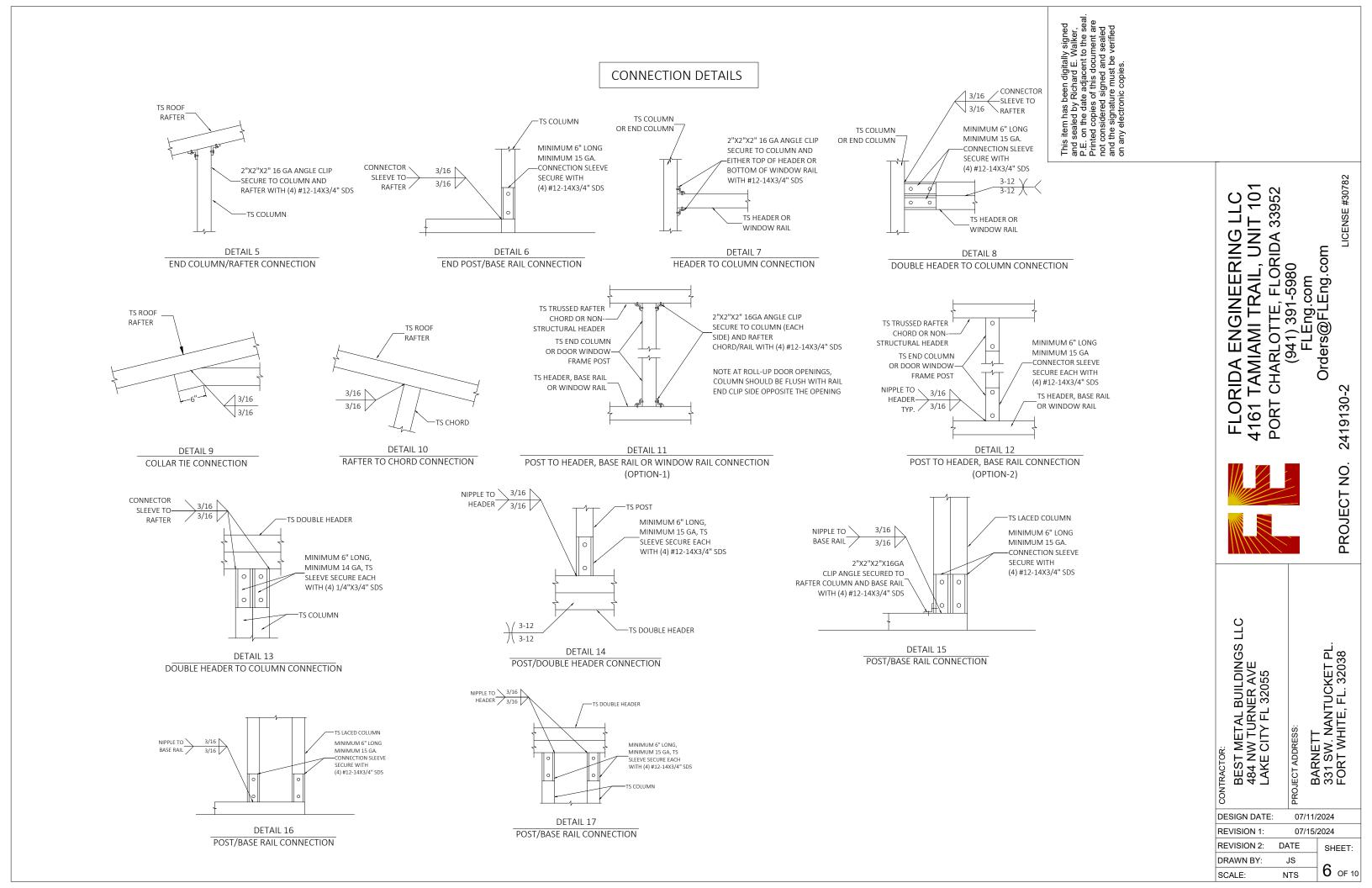
BEST METAL BUILDINGS LLC 484 NW TURNER AVE LAKE CITY FL 32055 BARNETT 331 SW. NANTUCKET PL FORT WHITE, FL. 32038

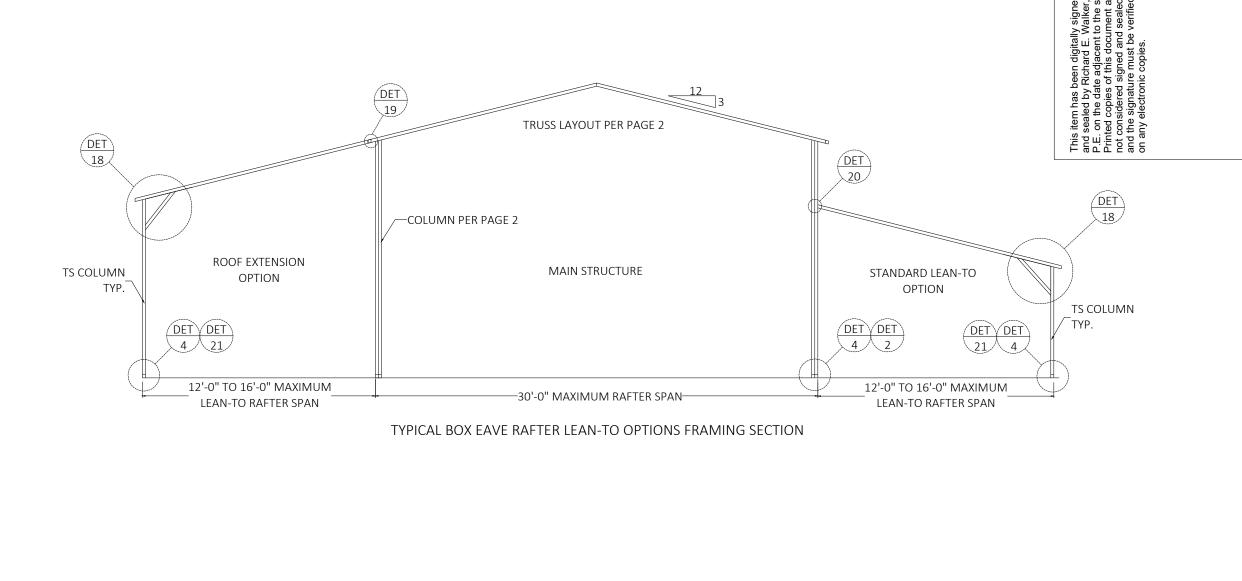
PROJECT ADDRESS: 07/11/2024 07/15/2024

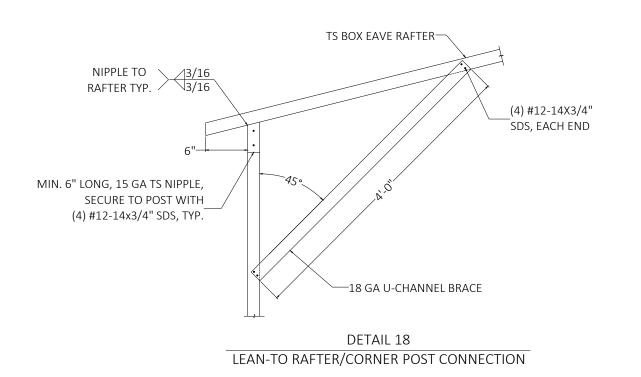
DESIGN DATE: REVISION 1: REVISION 2: DATE SHEET: DRAWN BY: JS **5** OF 10

NTS

SCALE:







FLORIDA ENGINEERING LLC 4161 TAMIAMI TRAIL, UNIT 101 PORT CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com Orders@FLEng.com

LICENSE #30782

2419130-2

PROJECT NO.

BEST METAL BUILDINGS LLC 484 NW TURNER AVE LAKE CITY FL 32055 BARNETT 331 SW. NANTUCKET PL. FORT WHITE, FL. 32038 PROJECT ADDRESS:

DESIGN DATE: 07/11/2024 07/15/2024 REVISION 1: REVISION 2: DATE SHEET: DRAWN BY: JS

NTS

**7** OF 10

DETAIL 19B

SIDE EXTENSION RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS BETWEEN 12'-0" AND 16'-0"

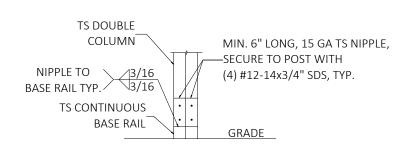
2"X2"X2" 16GA ANGLE CLIP
SECURE TO POST AND RAFTER
WITH #12-14X3/4" SDS
(2) ON TOP AND (2) ON BOTTOM

TS DOUBLE RAFTER

TS COLUMN

DETAIL 20B

LEAN TO RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS BETWEEN 12'-0" AND 16'-0"



DETAIL 21B
LEAN-TO DOUBLE POST CONNECTION

12" LONG TS 15 GA NIPPLE
SECURE TO POST WITH

(4) #12-14X3/4" SDS

TS EXTENSION

RAFTER

TS COLUMN

NIPPLE TO
RAFTER TYP.

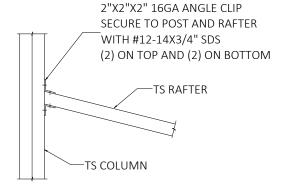
3/16

3-12

3-12

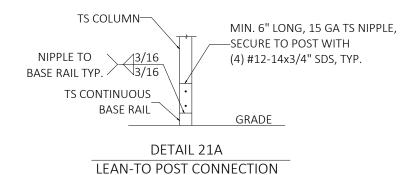
DETAIL 19A

SIDE EXTENSION RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS LESS THAN 12'-0"



DETAIL 20A

LEAN TO RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS LESS THAN 12'-0"



# FLORIDA ENGINEERING LLC 4161 TAMIAMI TRAIL, UNIT 101 PORT CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com Orders@FLEng.com

2419130

PROJECT NO.

BEST METAL BUILDINGS LLC
484 NW TURNER AVE
LAKE CITY FL 32055
PROJECT ADDRESS:
BARNETT
331 SW. NANTUCKET PL.
FORT WHITE, FL. 32038

 DESIGN DATE:
 07/11/2024

 REVISION 1:
 07/15/2024

 REVISION 2:
 DATE

 DRAWN BY:
 JS

8 OF 10

BEST METAL BUILDINGS LLC 484 NW TURNER AVE LAKE CITY FL 32055

FLORIDA ENGINEERING LLC 4161 TAMIAMI TRAIL, UNIT 101 PORT CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com Orders@FLEng.com

2419130-2 PROJECT NO.

BARNETT 331 SW. NANTUCKET PL. FORT WHITE, FL. 32038

PROJECT ADDRESS:

DATE

JS

NTS

07/11/2024 07/15/2024

SHEET:

9 OF 10

DESIGN DATE:

REVISION 1: REVISION 2:

DRAWN BY:

SCALE:

LICENSE #30782

SPACING = 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 150 MPH SPACING = 4'-0" FOR WIND SPEEDS BETWEEN 151 MPH AND 170 MPH

WALK-IN DOOR PER APPLICABLE
DESIGN PRESSURE ROLL-UP DOOR DESIGN PRESSURE -30'-0" MAXIMUM RAFTER SPAN TYPICAL END ELEVATION - VERICAL ROOF/SIDING

1-1/8" 18 GA FURRING CHANNEL FASTENED TO EACH RAFTER
WITH (2) #12-14X3/4" SDS SPACED AT 48" O.C. MAX

PANEL ATTACHMENT

(ALTERNATE FOR VERTICAL ROOF PANELS)

BOX EAVE FRAME RAFTER ENCLOSED BUILDING

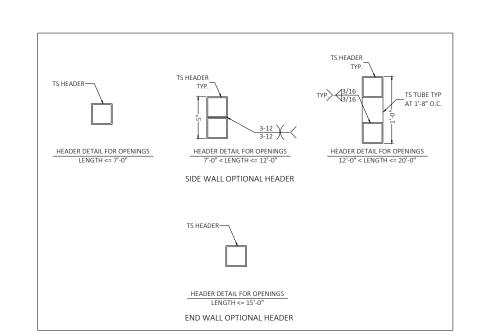
# 1-1/8" 18 GA —FURRING CHANNEL @ 4'-0" O.C. MAX. \_18GA TS -100'-0" MAXIMUM LENGTH

TYPICAL RAFTER/POST SIDE FRAME SECTION

WINDOW

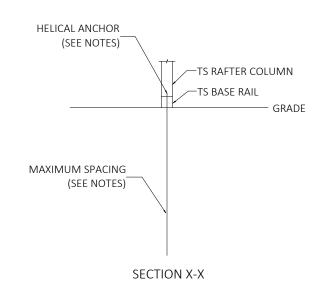
TYPICAL SIDE ELEVATION - VERTICAL ROOF/SIDING

--PER APPLICABLE
DESIGN PRESSURE



## **HELIX ANCHOR NOTES**

- 1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, CORALS, MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS AND CLAYS, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT
- 2. FOR MEDIUM TO VERY LOOSE DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT EVERY 5' OR EVERY POST (LEG).
- 3. THE UPLIFT/BEARING CAPACITY OF EACH ANCHOR MUST BE EQUAL TO OR GREATER THAN 8.5 KIPS.



## OPTIONAL HELICAL ANCHORING ON GRADE DETAIL

2419130

PROJECT NO.

PROJECT ADDRESS:

DATE

JS

NTS

07/11/2024

07/15/2024

SHEET:

10 OF 10

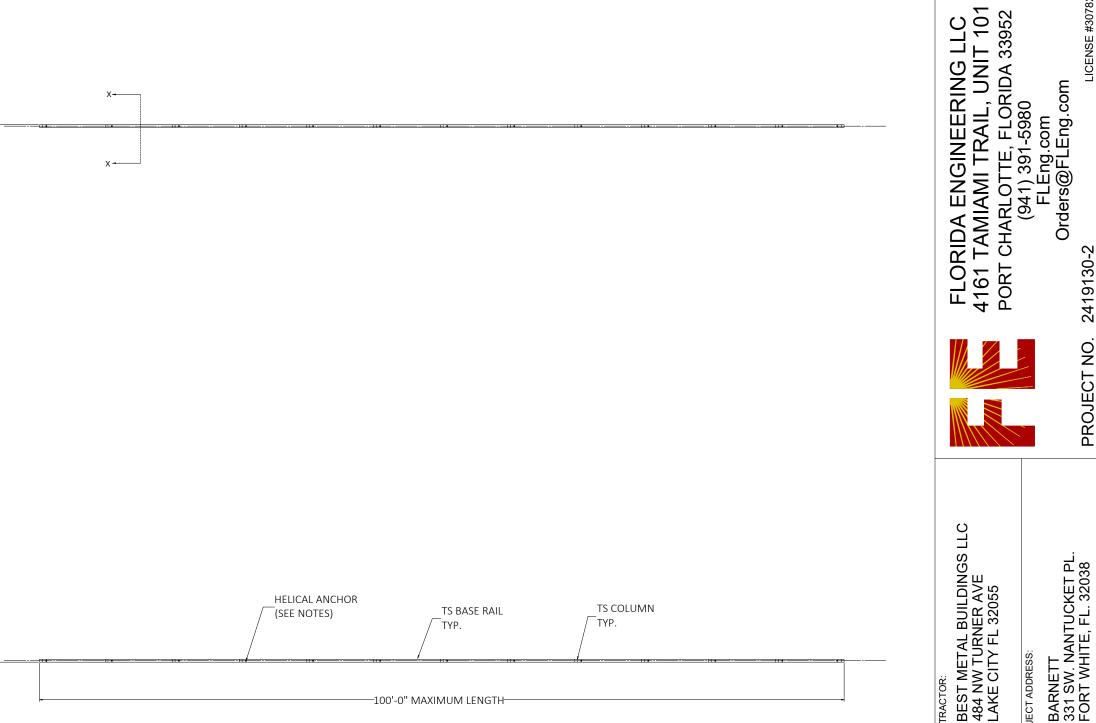
DESIGN DATE:

REVISION 1:

REVISION 2:

DRAWN BY:

SCALE:



100'-0" MAXIMUM LENGTH

BASE RAIL PLAN