### APPLICABLE CODES AND STANDARDS

- 2023 FLORIDA BUILDING CODE (8TH EDITION)
- 2021 INTERNATIONAL BUILDING CODE
- ASCE 7-22: MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
- AISC STEEL CONSTRUCTION MANUAL (15TH EDITION)
- ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- TMS 402-16: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- AWS D1.1: STRUCTURAL WELDING

### INSTALLATION NOTES AND SPECIFICATIONS

- ROOF PITCH SHALL NOT BE GREATER THAN 12H:4V
- 2. END WALL COLUMNS (POST) AND SIDE WALL COLUMNS ARE THE SAME U.N.O.
- 29 GA METAL PANELS SHALL BE FASTENED DIRECTLY TO 2.5" x 2.5" x 14 GA TUBE STEEL (TS) FRAMING MEMBERS FOR VERTICAL PANELS.
- 29 GA METAL PANELS SHALL BE FASTENED DIRECTLY TO 18 GA HAT CHANNELS U.N.O.
- 4. FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS SHALL BE:
- INTERIOR = 9" 4.2. END = 6".
- 5. FASTENERS SHALL BE #12-14 x 3/4" SELF-DRILLING SCREWS (SDS), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS. APPLICABLE ONLY FOR:
- MEAN ROOF HEIGHT OF 20'-0" OR LESS
- ROOF SLOPES OF 18° (4:12 PITCH) OR LESS
- SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY.
- 6. ANCHORS SHALL BE INSTALLED THROUGH THE BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES AND ENDS.
- STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR WITH WELDED NUT x 30" LONG AND MAY BE USED IN SUITABLE SOILS.
- 7.1. 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

#### BOW/RAFTER FRAME, END POST, GROUND ANCHOR AND PANEL FASTENER SPACING SPECIFICATIONS FASTENER SPACING O.C FOR ULT NOMINAL MAXIMUM RAFTERS/PURLINS, & POSTS (INCHES) WIND WIND RAFTER/BOW WIND SPEED SPEED EXPOSURE AND END POST CATEGORY INTERIOR (MPH) CATEGORY SPACING (FEET) BOWS/RAFTERS BOWS/RAFTERS I, II, III, or IV 115 - 150 89 - 116 151 - 180 | 117 - 139 4.0

PAGE NO.

S-1

S-2

S-3

S-4

S-5

S-6 S-7

S-8

S-9

S-10

S-11

S-12

S-13

NOTES:
1. SPECIFICATIONS APPLICABLE TO 26 OR 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 12 OR 14 GAUGE STEEL TUBE BOW FRAMES.
2. FASTENTERS CONSIST OF 1/4\*-14X1\* SELF-DRILLING SCREWS WITH CONTROL SEAL WASHER.

- SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 20 FEET OR LESS, AND ROOF SLOPES OF 14°(3:12 PITCH SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY.

**DRAWING INDEX** 

DESCRIPTION NOTES AND SPECIFICATIONS

BOX-BOW EAVE FRAME RAFTER ENCLOSED BUILDING

BASE RAIL AND ANCHORAGE DETAILS

CONNECTION DETAILS (1 OF 4)

CONNECTION DETAILS (2 OF 4)

CONNECTION DETAILS (3 OF 4)

BOX EAVE RAFTER LEAN-TO OPTIONS

CONNECTION DETAILS (4 OF 4)

OPTIONAL CONCRETE STRIP FOOTING

OPTIONAL HELICAL ANCHORING DETAIL

FREESTANDING BOX EAVE RAFTER LEAN-TO OPTIONS

BOX EAVE RAFTER VERTICAL ROOF-SIDING OPTION

BOX EAVE RAFTER END WALL, SIDE WALL AND OPENING FRAMING

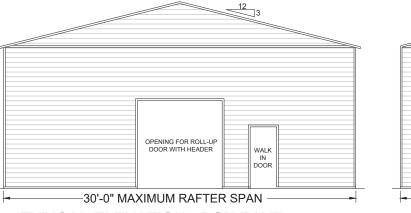
- 4. GROUND ANCHOR REQUIREMENTS ARE 1 @ EACH CORNER AND ONE EVERY OTHER INTERIOR BOW/RAFTER POST LOCATION, AT MAXIMUM OF 10' O.C., AND BOTH SIDES OF OPENINGS WHERE BASE RAIL IS ABSENT.

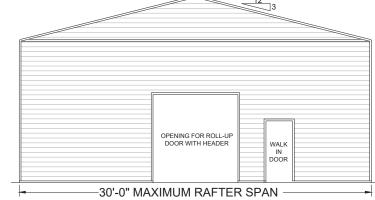
  5. GROUND ANCHORS ARE NOT REQUIRED WITH CONCRETE SLAB CONSTRUCTION.

### **DESIGN LOADS**

- DEAD LOAD = 15 PSF
- LIVE LOAD = 20 PSF
- 3. WIND LOAD (SEE TABLE 1)

# **ENCLOSED METAL BUILDING DESIGN** 30FT WIDE X 40FT LONG X 12FT EAVE HT.



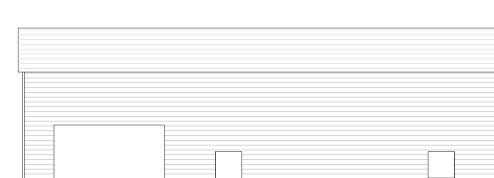


## **TYPICAL ELEVATION - BOX EAVE**

SCALE: NTS

**TYPICAL ELEVATION - BOW EAVE** 

SCALE: NTS



-LENGTH = (NUMBER OF RAFTERS + 1) x SPACING OF RAFTERS

SCALE: NTS

### TABLE 1

MEMBER	PRODUCT	MAX WIND DESIGN				
	APPROVAL NUMBER	PRESSURES				
ROOF PANELS	FL39466	+41.6 PSF / -31.2 PSF				
WALL PANELS	FL39594	+55.4 PSF / -41.6 PSF				
GARAGE DOOR	CTP	CTP				
WALK-IN DOOR	CTP	СТР				

CTP = CONTRACTOR TO PROVIDE 2023 FBC APPROVED PRODUCTS THAT MEET OR EXCEED DESIGN PRESSURES AS TABLULATED.

# PLANS PREPARED BY: **TYPICAL SIDE ELEVATION**

12558 BASS ROAD, LIVE OAK, FLORIDA 32060 P:386.320.7400 F: 850.807.7309

WWW.COLLINSENG.COM **CERTIFICATE OF AUTHORIZATION: 31728** 

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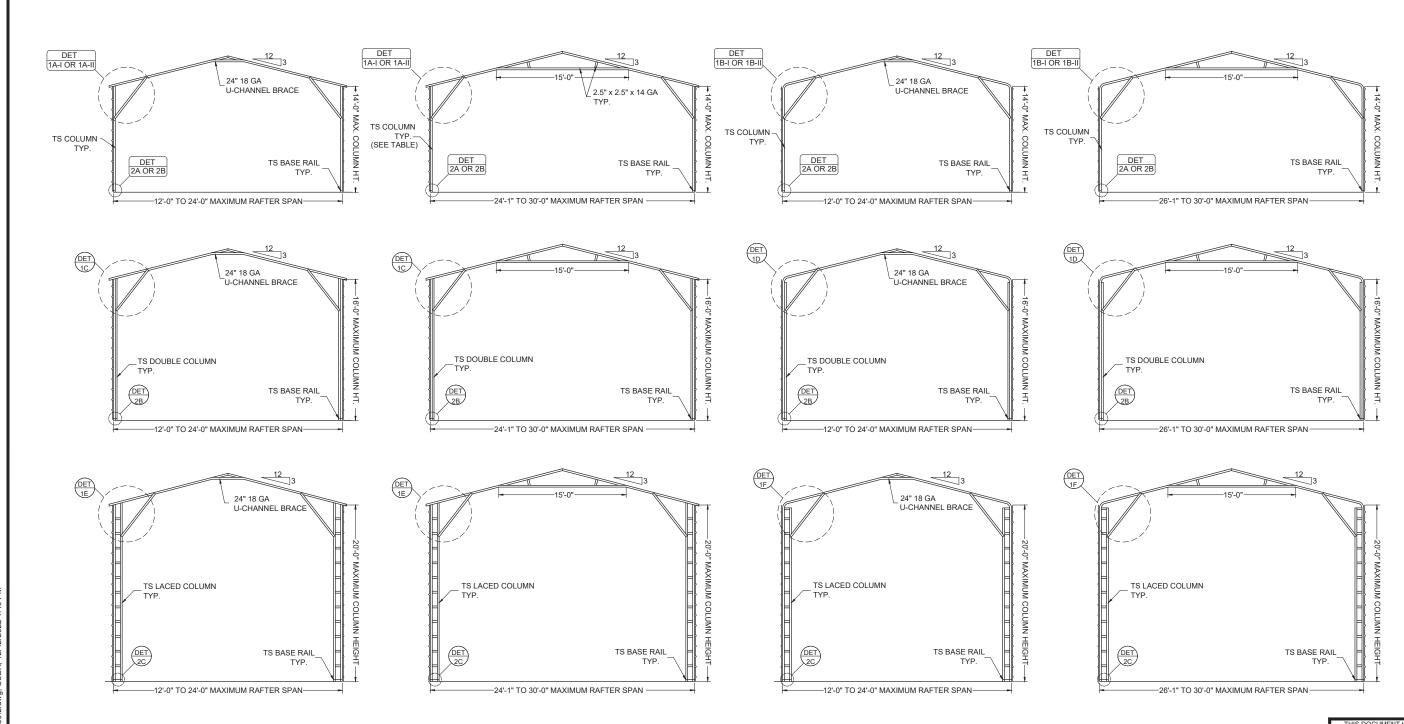
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ELITE METAL MANUFACTURING 10121 88TH TRACE

**NOTES AND SPECIFICATIONS** 

Ray Kline 2134 Herlong St. Ft. White, FL 32038

S-1 SCALE AS-SHOWN



# **BOX EAVE FRAME**

SCALE: NTS

# **BOW EAVE FRAME**

SCALE: NTS

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**BOX-BOW EAVE** FRAME RAFTER MANUFACTURING 10121 88TH TRACE **ENCLOSED BUILDING** 

**ELITE METAL** 

Ray Kline 2134 Herlong St. Ft. White, FL 32038

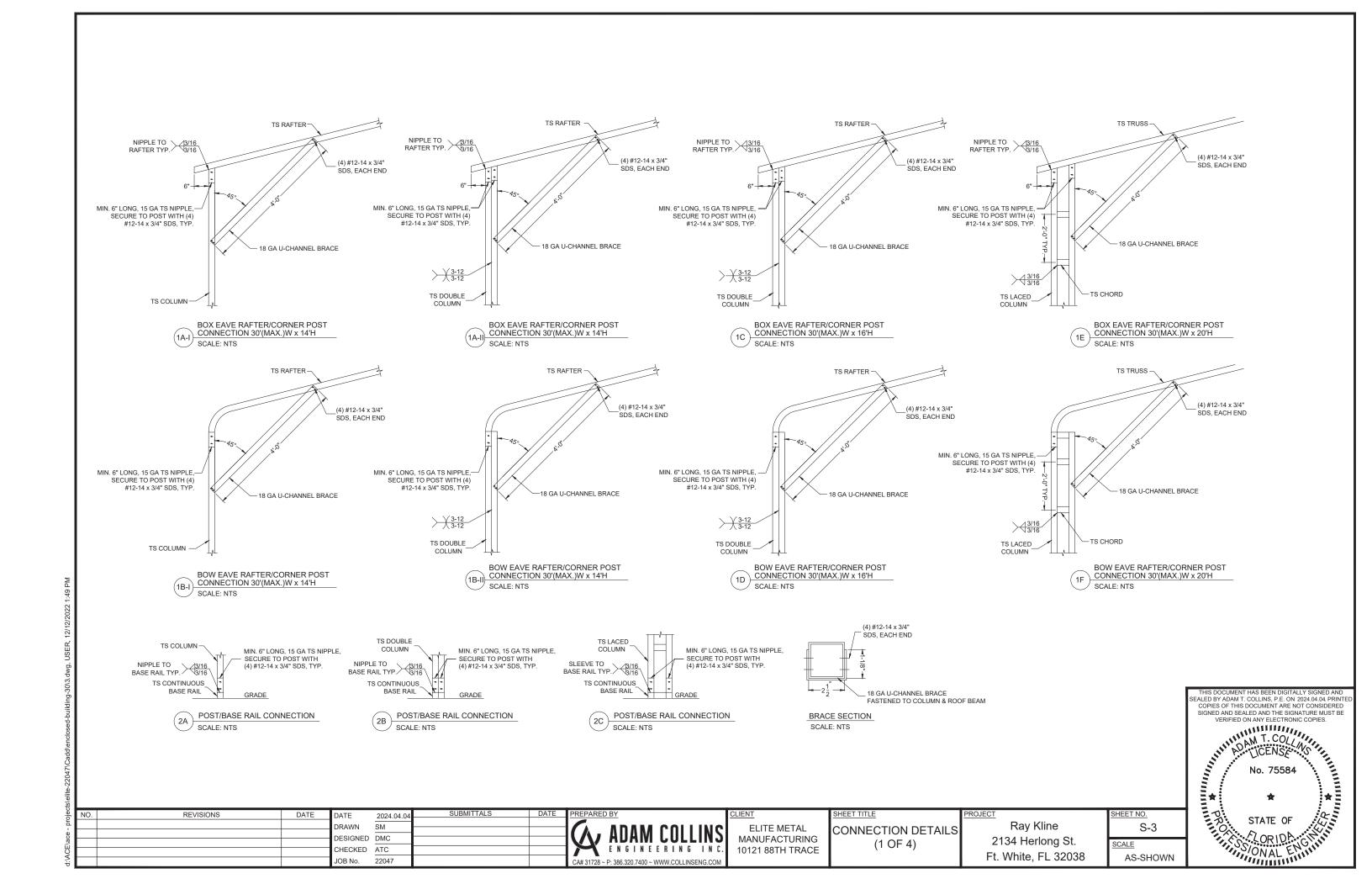
S-2 SCALE AS-SHOWN

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### **GENERAL NOTES**

MINIMUM SOIL BEARING CAPACITY: 1500 PSF CONCRETE STRENGTH: 3000 PSI @ 28 DAYS

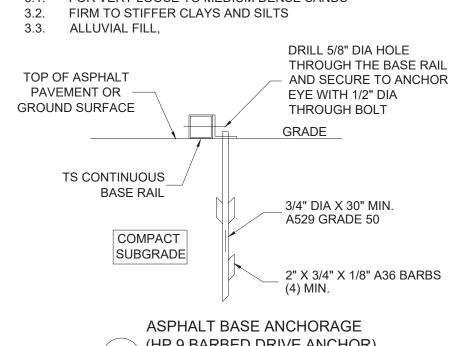
# MONOLITHIC FOOTER SIZE 110 C - 140 C 8" x 12" - (2) #4 ABOVE 140 C 12" x 16" - (2) #4

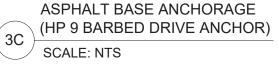
### REINFORCING STEEL

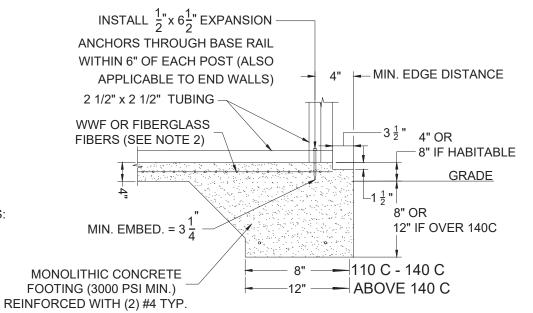
- 1. REBAR SHALL BE ASTM A615 GRADE 60
- 2. SLAB REINFORCEMENT = WELDED WIRE FABRIC PER ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT
- CONCRETE COVER SHALL BE
- 3.1. 3" WHERE EXPOSED TO SOIL OR WATER.
- 3.2. 2" EVERYWHERE ELSE.
- 4. REBAR SHALL BE BENT WITHOUT HEATING.
- 6. MINIMUM BEND = 6 X BAR DIAMETER
- 6. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.

### **HELIX ANCHOR NOTES**

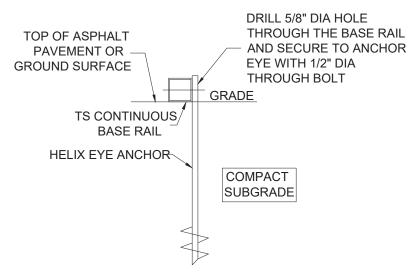
- 1. USE MINIMUM (2) 4" HELICES WITH 30" EMBEDMENT FOR THE FOLLOWING SOILS:
- 1.1. VERY DENSE AND/OR CEMENTED SANDS
- 1.2. COARSE GRAVEL AND COBBLES
- 1.3. CALICHE
- 1.4. PRELOADED SILTS AND CLAYS
- 1.5. CORALS
- 1.6. MEDIUM DENSE COARSE SANDS
- 1.7. SANDY GRAVEL
- 1.8. VERY STIFF SILTS AND CLAYS
- 2. USE MINIMUM (2) 6" HELICES WITH MINIMUM 48" EMBEDMENT FOR
- 2.1. LOOSE TO MEDIUM DENSE SANDS
- 2.2. FIRM TO STIFF CLAYS AND SILTS
- 2.3. ALLUVIAL FILL
- 3. USE MINIMUM (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT.
- 3.1. FOR VERY LOOSE TO MEDIUM DENSE SANDS



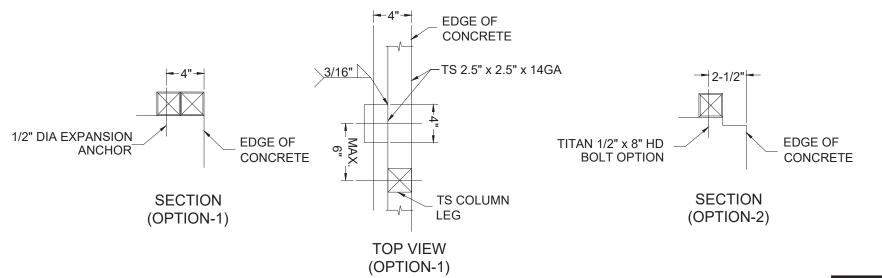








3B GROUND BASE HELIX ANCHORAGE SCALE: NTS



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

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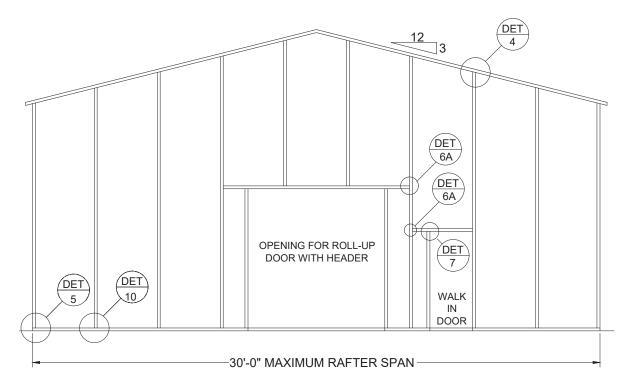
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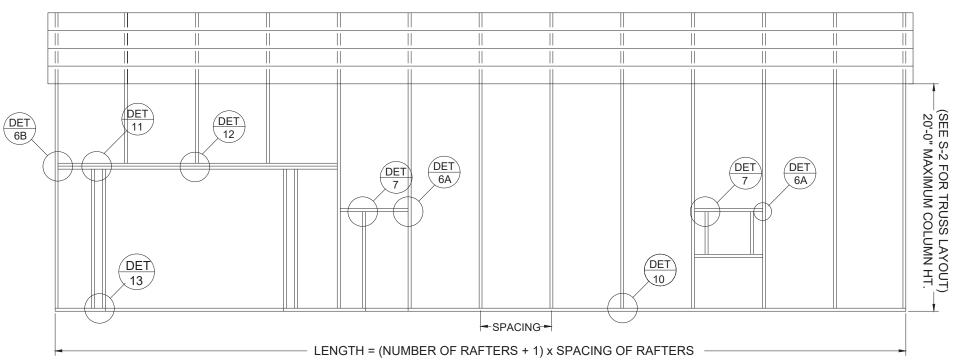
ELITE METAL MANUFACTURING 10121 88TH TRACE BASE RAIL AND ANCHORAGE DETAILS Ray Kline 2134 Herlong St. Ft. White, FL 32038 S-4
SCALE
AS-SHOWN



SPACING = 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH SPACING = 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 180 MPH

## TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



SPACING = 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH SPACING = 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 180 MPH

## TYPICAL BOX EAVE RAFTER SIDE FRAMING SECTION

SCALE: NTS

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ELITE METAL
MANUFACTURING
10121 88TH TRACE

BOX EAVE RAFTER END WALL, SIDE WALL AND OPENING FRAMING

Ray Kline 2134 Herlong St. Ft. White, FL 32038 SHEET NO.
S-5

SCALE
AS-SHOWN

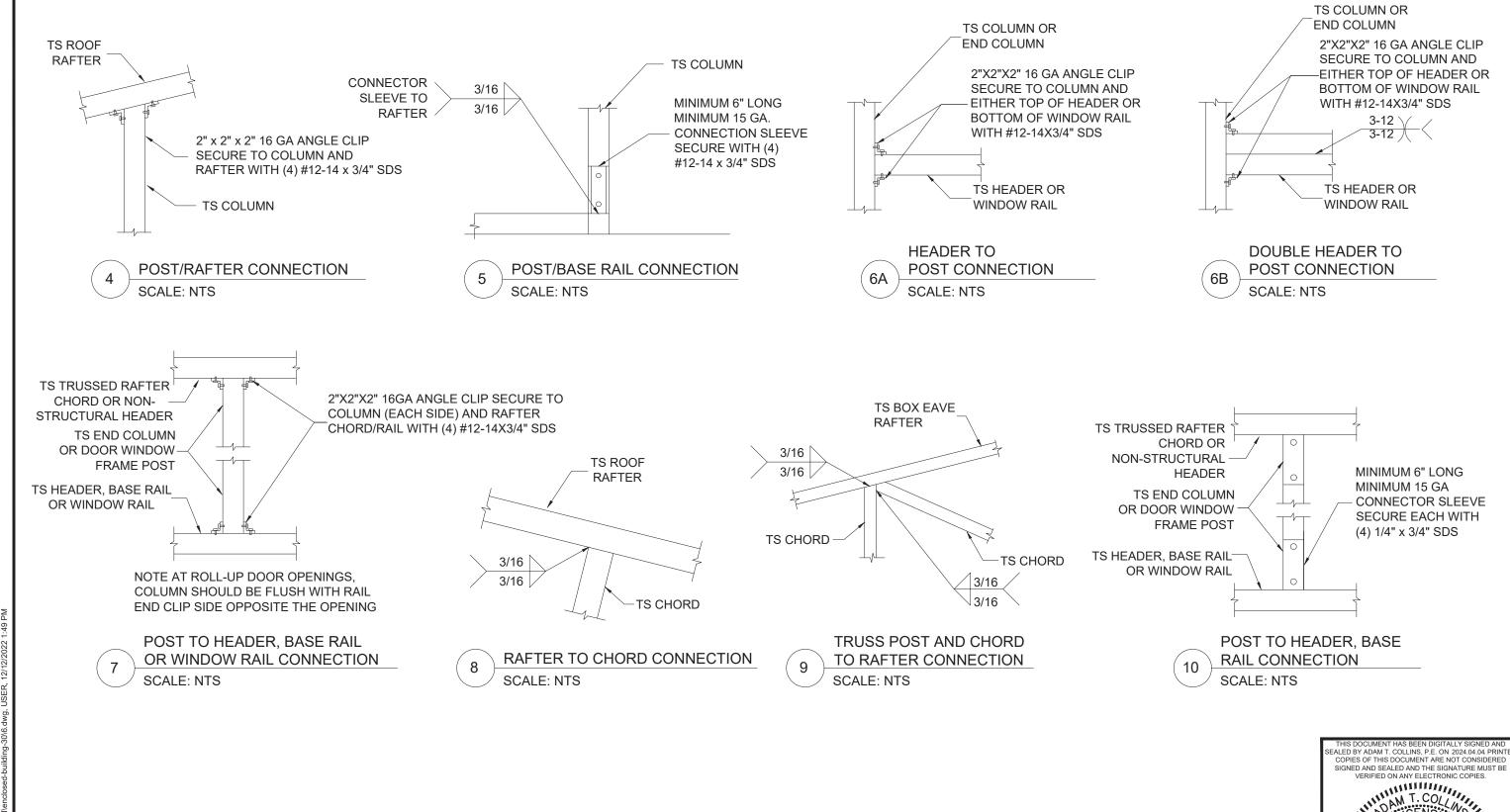
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ELITE METAL MANUFACTURING 10121 88TH TRACE CONNECTION DETAILS (2 OF 4)

SHEET TITLE

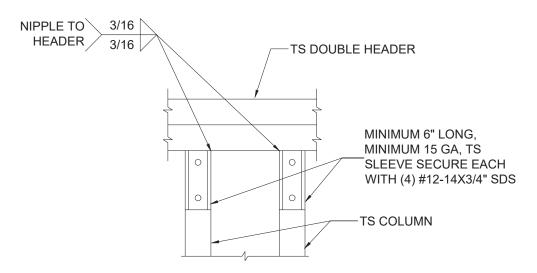
Ray Kline 2134 Herlong St. Ft. White, FL 32038 SHEET NO.
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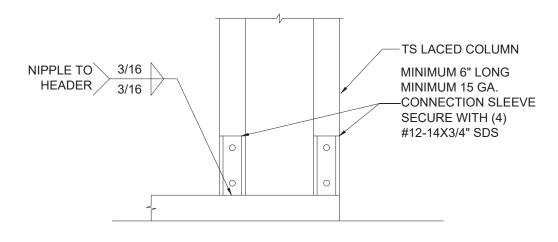
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DOUBLE HEADER TO POST CONNECTION SCALE: NTS



POST/BASE RAIL CONNECTION

TS LACED COLUMN NIPPLE TO 3/16 MINIMUM 6" LONG BASE RAIL / 3/16 MINIMUM 15 GA. -CONNECTION SLEEVE SECURE WITH (4) #12-14X3/4" SDS

POST/DOUBLE HEADER CONNECTION

TS POST

MINIMUM 6" LONG. MINIMUM 15 GA, TS SLEEVE SECURE EACH WITH (4) #12-14X3/4" SDS

TS DOUBLE HEADER

POST/BASE RAIL CONNECTION (13B SCALE: NTS

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SCALE: NTS

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**ELITE METAL** MANUFACTURING 10121 88TH TRACE

NIPPLE TO 3/16

HEADER 3/16

/ 3/12

3/12

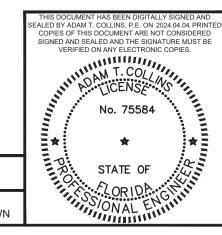
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SHEET TITLE (3 OF 4)

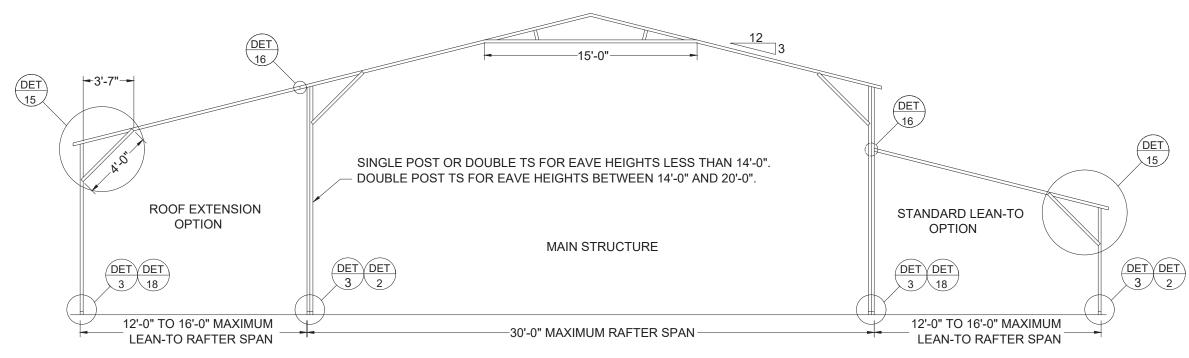
Ray Kline 2134 Herlong St. Ft. White, FL 32038

S-7 SCALE

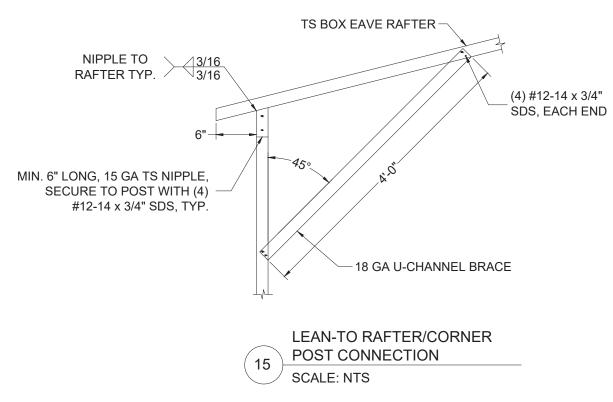


CONNECTION DETAILS

AS-SHOWN



TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION SCALE: NTS



Ray Kline S-8 **BOX EAVE RAFTER** 2134 Herlong St. **LEAN TO OPTIONS** SCALE Ft. White, FL 32038 AS-SHOWN THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY ADAM T. COLLINS, P.E. ON 2024.04.04 PRINTE COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

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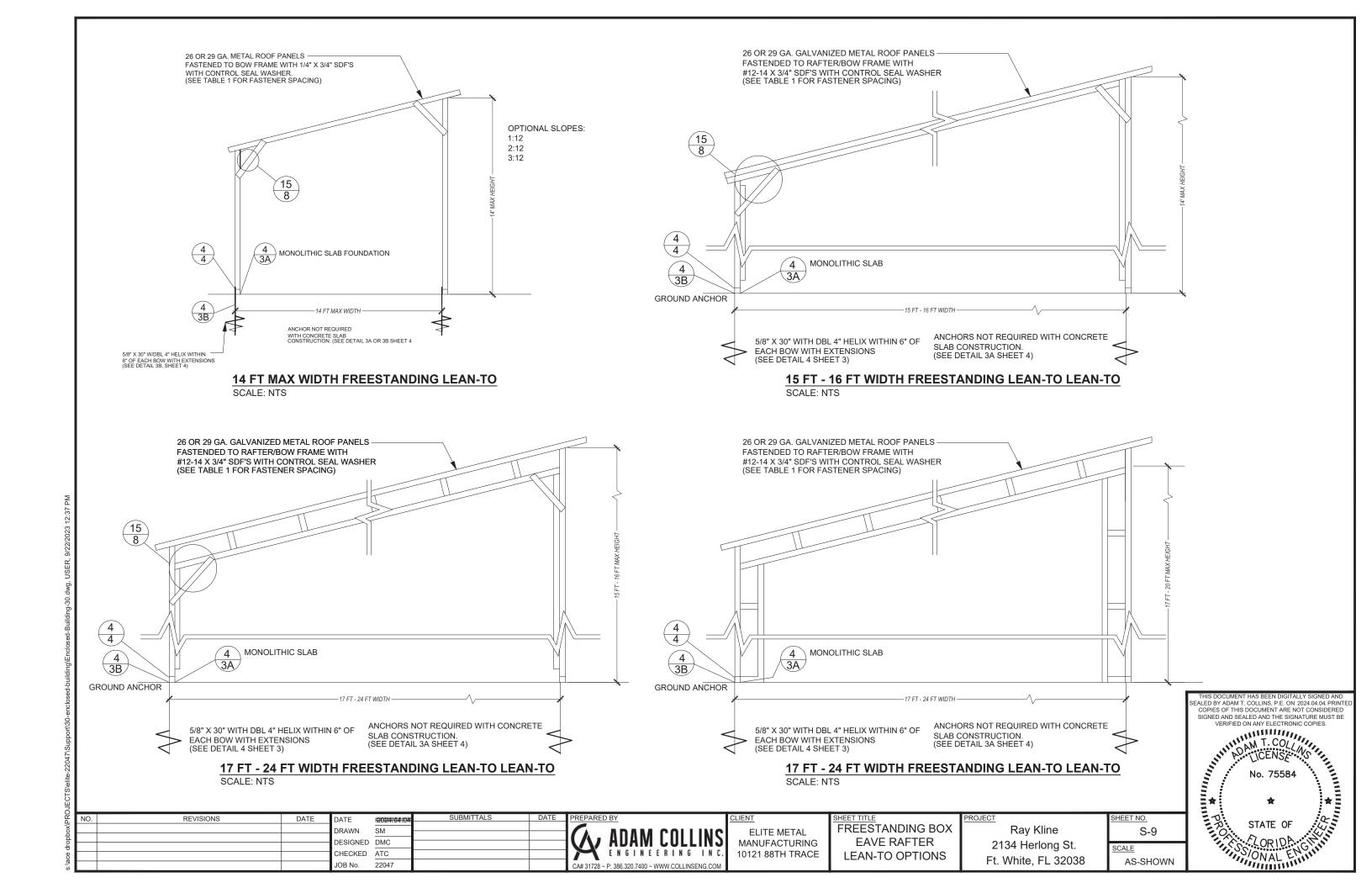
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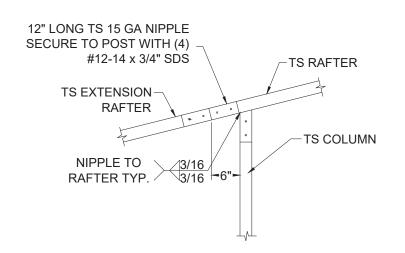
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**ELITE METAL** MANUFACTURING 10121 88TH TRACE



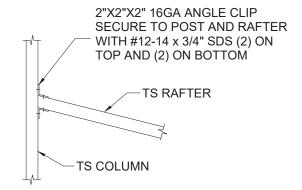


12" LONG TS 15 GA NIPPLE SECURE TO POST WITH (4) / NIPPLE TO #12-14 x 3/4" SDS RAFTER TYP. TS EXTENSION **RAFTER** 3-12 TS RAFTER TS COLUMN 2" x 2" x 2" 16 GA ANGLE CLIP <del>-</del>6"-SECURE TO COLUMN AND EITHER TOP OF HEADER OR-**BOTTOM OF WINDOW RAIL** WITH #12-14 x 3/4" SDS

SIDE EXTENSION RAFTER/POST CONNECTION RAFTER SPAN LESS THAN 12'-0" 16A

SCALE: NTS

SIDE EXTENSION RAFTER/POST CONNECTION RAFTER SPAN BETWEEN 12'-0" AND 16'-0" 16B SCALE: NTS



2"X2"X2" 16GA ANGLE CLIP SECURE TO POST AND RAFTER WITH #12-14 x 3/4" SDS (2) ON TOP AND (2) ON BOTTOM TS DOUBLE RAFTER TS COLUMN

LEAN TO RAFTER/COLUMN CONNECTION RAFTER SPANLESS THAN 12'-0" (17B

SCALE: NTS

LEAN TO RAFTER/COLUMN CONNECTION RAFTER SPAN BETWEEN 12'-0" AND 16'-0" 17B SCALE: NTS

TS COLUMN MIN. 6" LONG, 15 GA TS NIPPLE, SECURE TO POST WITH (4) NIPPLE TO 3/16 BASE RAIL TYP. 3/16 #12-14 x 3/4" SDS, TYP. TS CONTINUOUS-BASE RAIL GRADE

> LEAN-TO POST CONNECTION 18 SCALE: NTS

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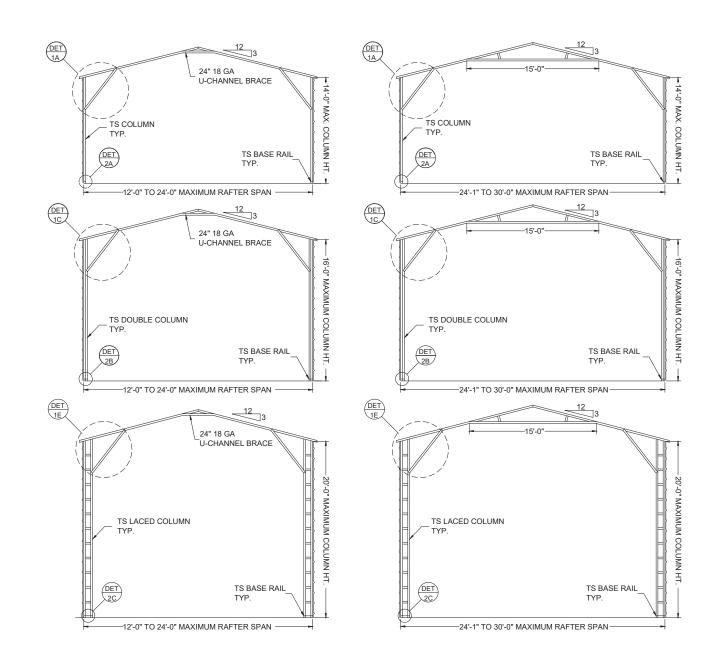
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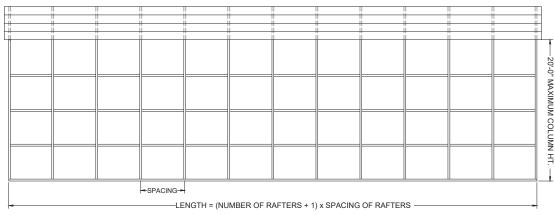
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SHEET TITLE ELITE METAL CONNECTION DETAILS MANUFACTURING (4 OF 4) 10121 88TH TRACE

Ray Kline 2134 Herlong St. Ft. White, FL 32038

S-10 SCALE

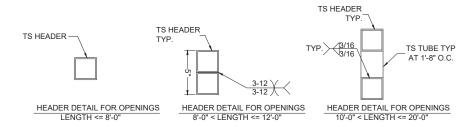




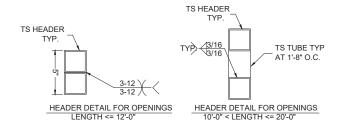
SPACING = 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH SPACING = 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 180 MPH 1.125" 18 GA HAT CHANNELS CAN BE USED IN LIEU OF TS FOR GIRTS.

### TYPICAL SIDE FRAME SECTION

SCALE: NTS



### SIDE WALL OPTION HEADER



### **END WALL OPTION HEADER**

SCALE: NTS

## **BOX EAVE FRAME**

1.125" 18 GA FURRING CHANNEL FASTENED TO EACH RAFTER WITH (2) #12-14 x 3/4" SDS SPACED AT 48" O.C. MAX TS RAFTER

PANEL ATTACHMENT (ALTERNATE FOR VERTICAL ROOF PANELS)

SCALE: NTS

REVISIONS 2024.04.04 **BOX EAVE RAFTER** ORAWN SM **ELITE METAL** VERTICAL MANUFACTURING DESIGNED DMC CHECKED ATC 10121 88TH TRACE **ROOF-SIDING OPTION** 22047 CA# 31728 ~ P: 386.320.7400 ~ WWW.COLLINSENG.COM

Ray Kline 2134 Herlong St. Ft. White, FL 32038

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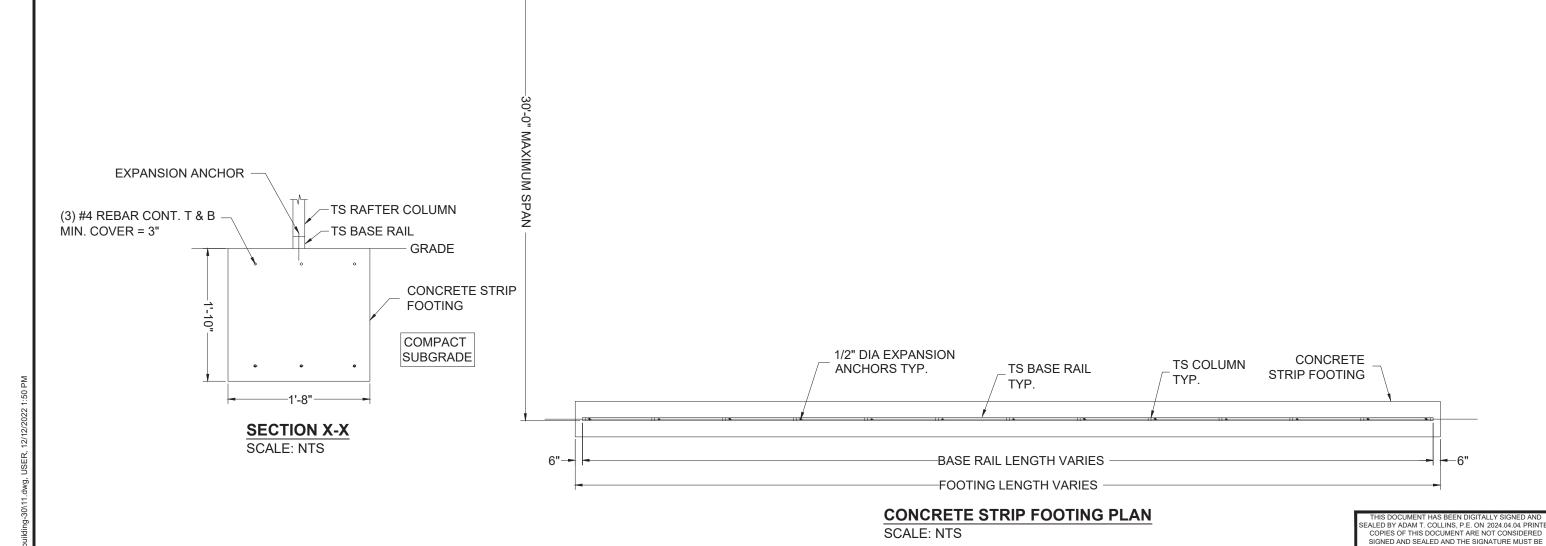
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MINIMUM SOIL BEARING CAPACITY: 1500 PSF. CONCRETE STRENGTH: 3000 PSI @ 28 DAYS

### **REINFORCING STEEL**

- 1. REBAR SHALL BE ASTM A615 GRADE 60
- 2. SLAB REINFORCEMENT = WELDED WIRE FABRIC PER ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT
- CONCRETE COVER SHALL BE
- 3.1. 3" WHERE EXPOSED TO SOIL OR WATER.
- 3.2. 2" EVERYWHERE ELSE.
- 4. REBAR SHALL BE BENT WITHOUT HEATING.
- MINIMUM BEND = 6 X BAR DIAMETER
- REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.



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**ELITE METAL** MANUFACTURING 10121 88TH TRACE OPTIONAL CONCRETE STRIP FOOTING

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Ray Kline 2134 Herlong St. Ft. White, FL 32038

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