

# APPLICABLE CODES AND STANDARDS

1. 2020 FLORIDA BUILDING CODE (7TH EDITION)
2. 2018 INTERNATIONAL BUILDING CODE
3. ASCE 7-16: MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
4. AISC STEEL CONSTRUCTION MANUAL (13TH EDITION)
5. ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
6. TMS 402-16: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
7. AWS D1.1: STRUCTURAL WELDING

## DESIGN LOADS

1. DEAD LOAD = 15 PSF
2. LIVE LOAD = 20 PSF
3. WIND LOAD (SEE TABLE 1)
- A. RISK CATEGORY = II
- B. WIND EXPOSURE CATEGORY = C
- C. ULTIMATE WIND SPEED = 120 MPH
- NOMINAL WIND SPEED = 93 MPH

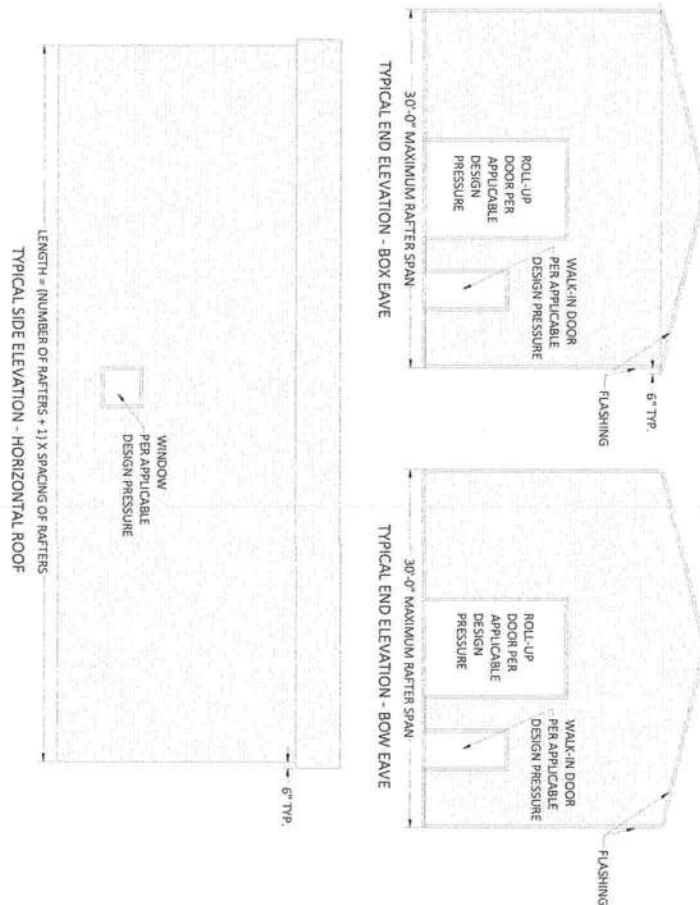
## INSTALLATION NOTES AND SPECIFICATIONS

1. END WALL COLUMNS (POST) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND SPACING U.N.O.
2. SPECIFICATIONS APPLICABLE TO 29 GA METAL PANELS FASTENED DIRECTLY TO 2.5"x2.5"x14 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.
3. AVERAGE FASTENER SPACING ON CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9" AND END = 6" MAX.
4. 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 18" (4:12 PITCH) OR LESS. SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY.
5. ANCHORS SHALL BE INSTALLED THROUGH THE BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES AND ENDS.
6. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBARS WITH WELDED NOT X 30" 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.
7. RAFTER SPACING IS 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH AND 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 180 MPH.

## DRAWING INDEX

| PAGE NO. | DESCRIPTION                                             |
|----------|---------------------------------------------------------|
| 1        | NOTES AND SPECIFICATIONS                                |
| 2        | BOX/BOW EAVE FRAME RAFTER ENCLOSED BUILDING             |
| 3        | CONNECTION DETAILS (1-2)                                |
| 4        | BASE RAIL AND FOUNDATION ANCHORAGE                      |
| 5        | BOX EAVE RAFTER END WALL, SIDE WALL AND OPENING FRAMING |
| 6        | CONNECTION DETAILS (4-10)                               |
| 7        | CONNECTION DETAILS (11-14)                              |
| 8        | BOX EAVE RAFTER LEAN-TO OPTIONS                         |
| 9        | CONNECTION DETAILS (16-18)                              |
| 10       | BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION             |
| 11       | OPTIONAL CONCRETE STRIP FOOTING                         |
| 12       | OPTIONAL HELICAL ANCHORING DETAIL                       |

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



LENGTH = NUMBER OF RAFTERS + 1 X SPACING OF RAFTERS  
TYPICAL SIDE ELEVATION - HORIZONTAL ROOF

TABLE 1

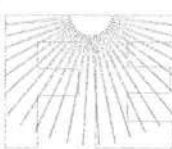
| MEMBER       | PRODUCT APPROVAL NUMBER | WIND DESIGN PRESSURES |
|--------------|-------------------------|-----------------------|
| ROOF PANELS  | FL39466                 | +12.1 PSF / -40.2 PSF |
| WALL PANELS  | FL39594                 | +16.8 PSF / -21.3 PSF |
| GARAGE DOOR  | CTP                     | +16.8 PSF / -21.3 PSF |
| WALK-IN DOOR | CTP                     | +16.8 PSF / -21.3 PSF |

| DESIGN WIND PRESSURES | 120 MPH               |
|-----------------------|-----------------------|
| ZONE 1                | +12.1 PSF / -21.2 PSF |
| ZONE 2                | +12.1 PSF / -34.5 PSF |
| ZONE 3                | +12.1 PSF / -40.2 PSF |
| ZONE 4                | +16.8 PSF / -18.4 PSF |
| ZONE 5                | +16.8 PSF / -21.3 PSF |

CTP = CONTRACTOR TO PROVIDE 2020 FBC APPROVED PRODUCTS THAT MEET OR EXCEED DESIGN PRESSURES AS TABULATED.

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52



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4161 TAMiami TRAIL, UNIT 101  
PORT CHARLOTTE, FLORIDA 33952  
(941) 391-5980  
www.flengineeringllc.com

PROJECT NO. 2217228

CA CERT. #30782

CONTRACTOR:  
**ELITE METAL MANUFACTURING**

PROJECT ADDRESS:  
12'-30" WIDE PLANS  
10121 88TH TRACE,  
LIVE OAK FL 32060

DESIGN DATE: 06/24/2022  
REVISION 1: DATE  
REVISION 2: DATE  
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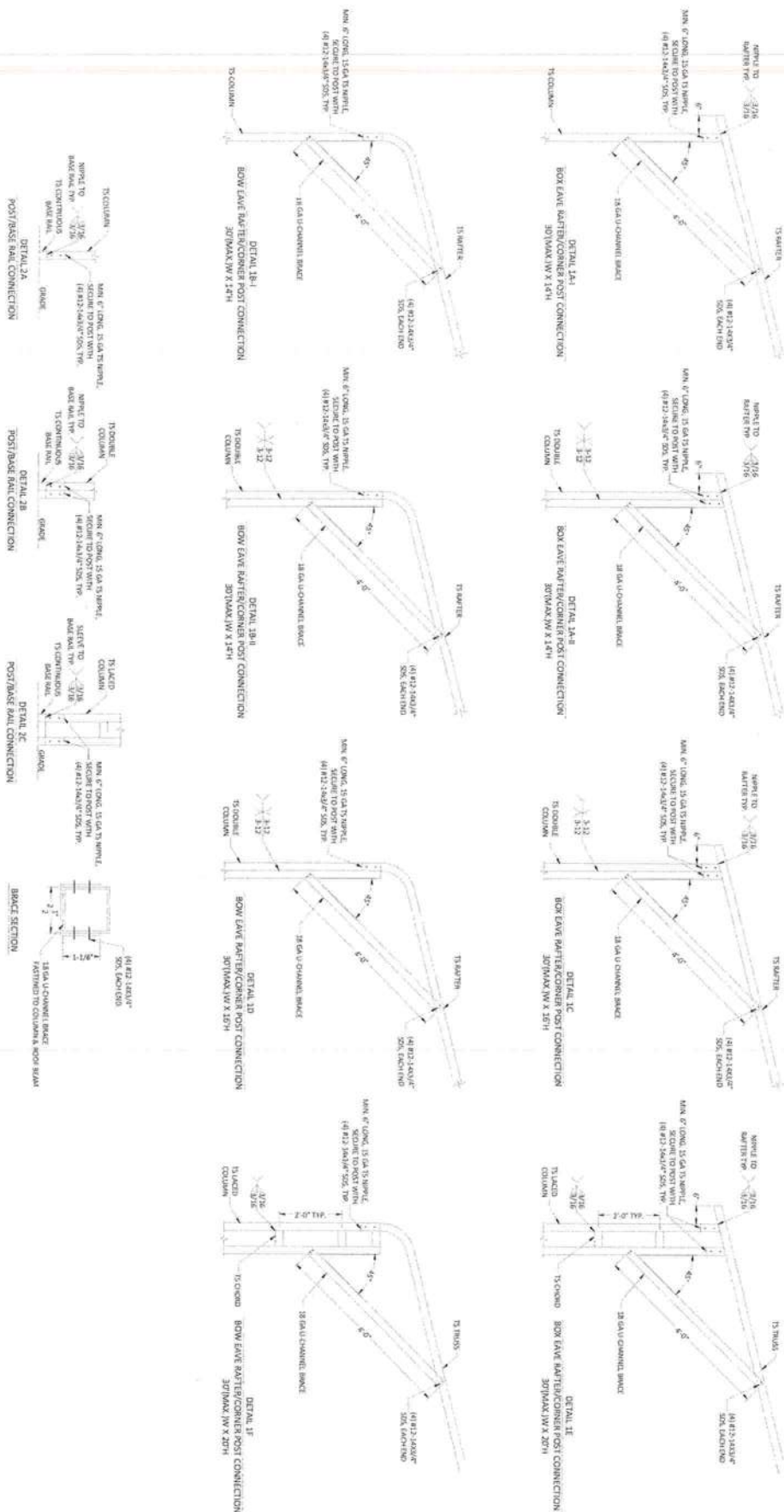
## BOW EAVE FRAME

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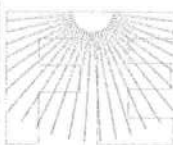
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ELITE METAL  
MANUFACTURING

PROJECT ADDRESS:  
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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

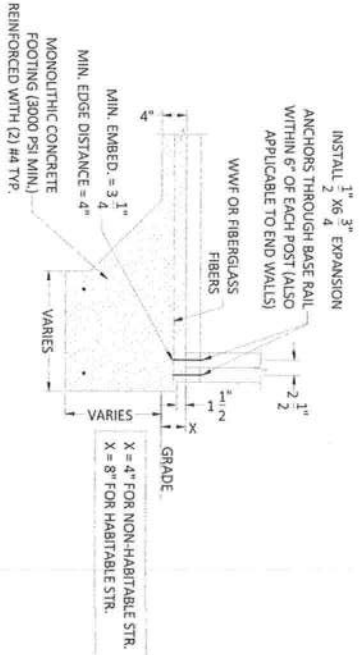
REINFORCING STEEL

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 COOL.
5. MINIMUM INSIDE DIAMETER OF BEND = (6) BAR DIAMETERS
6. 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, CAULKE, 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 LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT.
3. FOR VERY LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT.

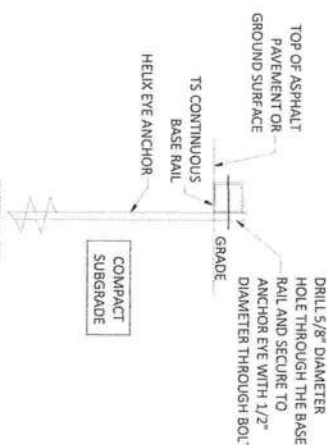
| MONOLITHIC FOOTER SIZE |                  |  |
|------------------------|------------------|--|
| 110 C - 140 C          | 8"x8" - (2) #4   |  |
| ABOVE 140 C            | 12"x12" - (2) #4 |  |



DETAIL 3A

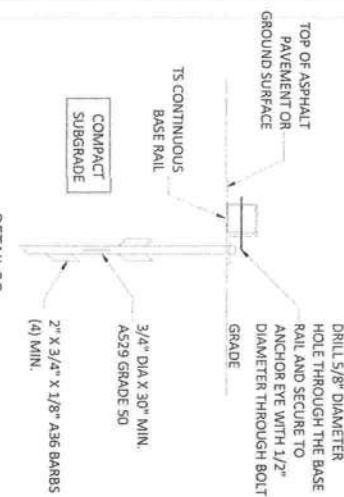
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

BASE RAIL ANCHORAGE OPTIONS



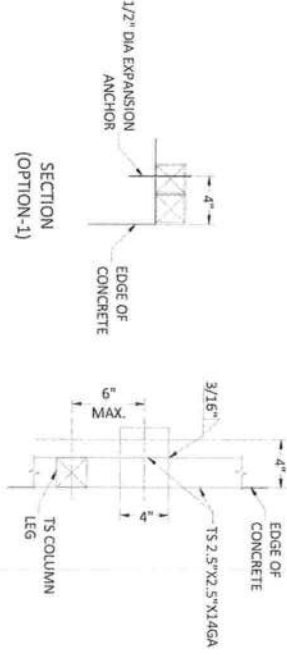
DETAIL 3B

GROUND BASE HELIX ANCHORAGE

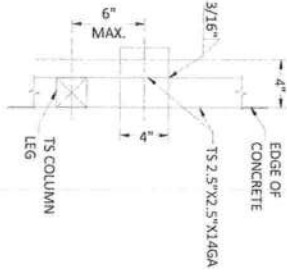


DETAIL 3C

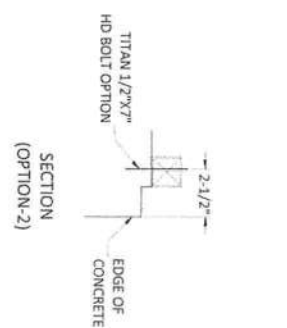
ASPHALT BASE ANCHORAGE  
(HP 9 BARBED DRIVE ANCHOR)



SECTION  
(OPTION-1)



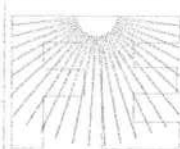
TOP VIEW  
(OPTION-1)



SECTION  
(OPTION-2)

TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE  
BASE RAIL ANCHORAGE OPTION

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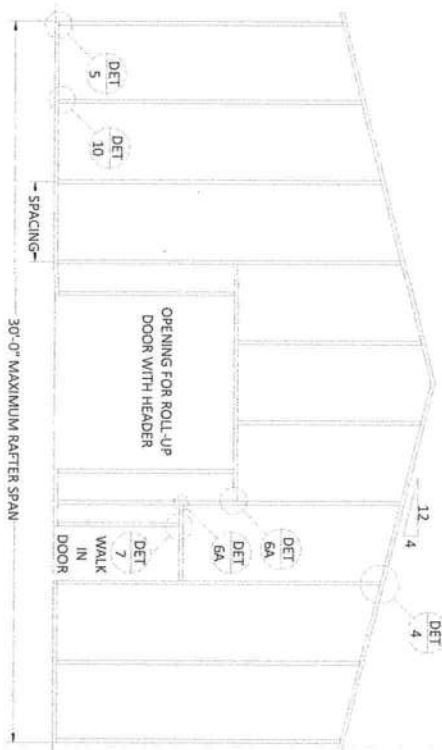
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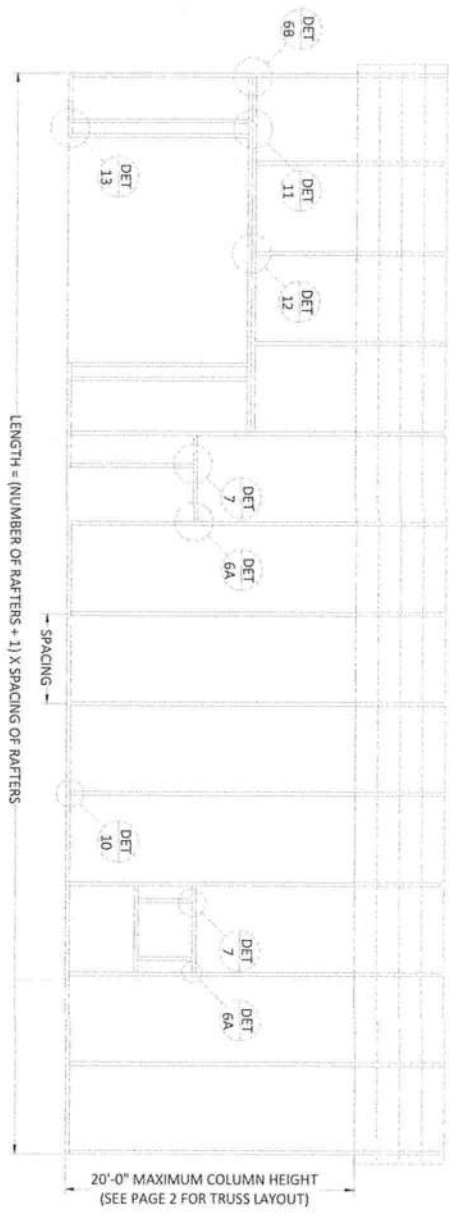
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10121 88TH TRACE,  
LIVE OAK FL 32060

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TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION



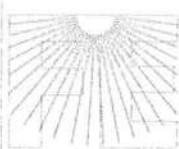
TYPICAL BOX EAVE RAFTER SIDE WALL FRAMING SECTION

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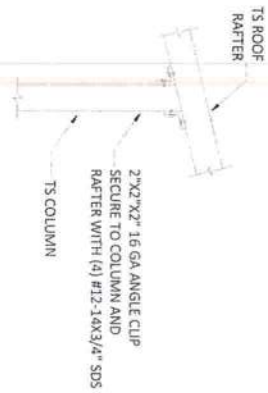


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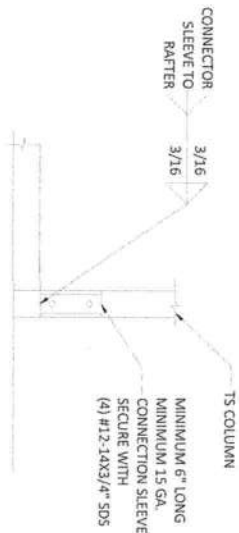
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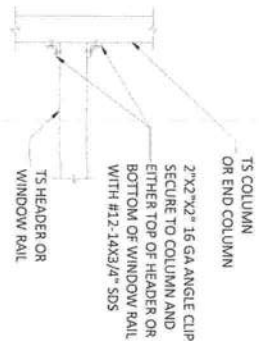
# CONNECTION DETAILS



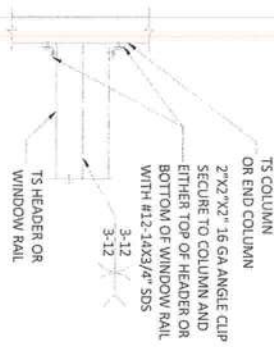
DETAIL 4  
END COLUMN/RAFTER CONNECTION



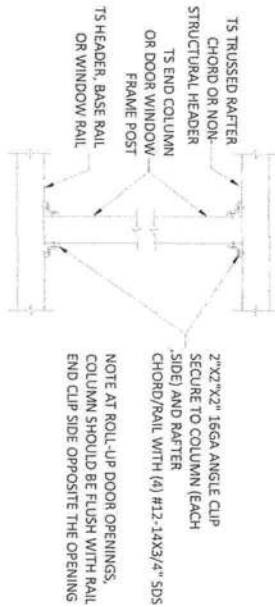
DETAIL 5  
END POST/BASE RAIL CONNECTION



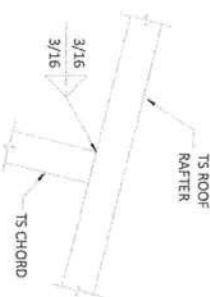
DETAIL 6A  
HEADER TO COLUMN CONNECTION



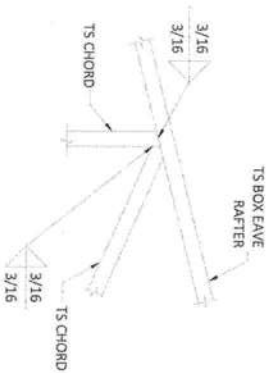
DETAIL 6B  
DOUBLE HEADER TO COLUMN CONNECTION



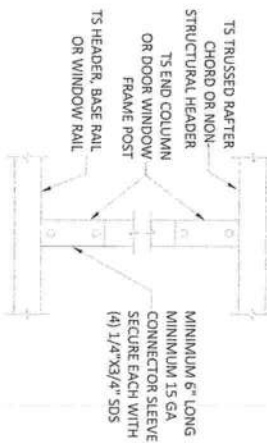
DETAIL 7  
POST TO HEADER, BASE RAIL OR WINDOW RAIL CONNECTION



DETAIL 8  
RAFTER TO CHORD CONNECTION

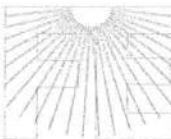


DETAIL 9  
TRUSS POST AND CHORD TO RAFTER CONNECTION



DETAIL 10  
POST TO HEADER, BASE RAIL CONNECTION

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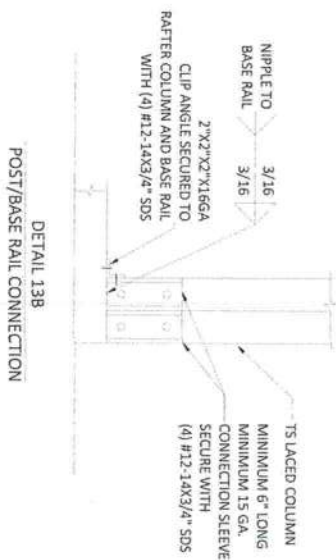
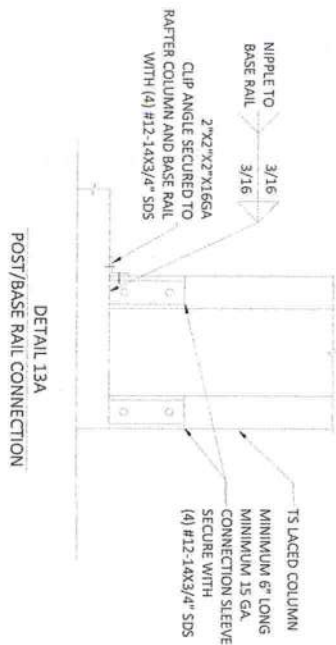
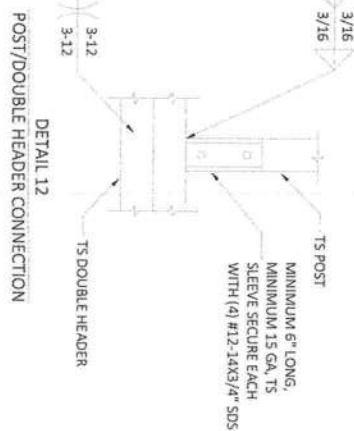
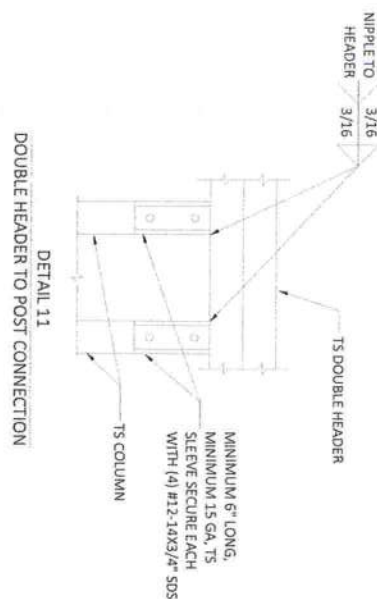
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12'-30' WIDE PLANS  
10121 88TH TRACE,  
LIVE OAK FL 32060

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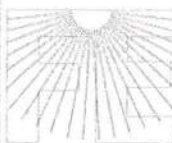
# CONNECTION DETAILS



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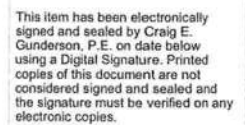


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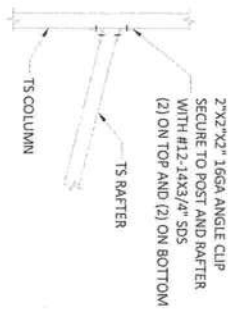
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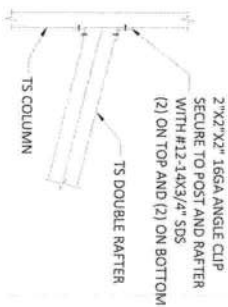


SIDE EXTENSION RAFTER/COLUMN CONNECTION  
FOR RAFTER SPANS LESS THAN 12'-0"

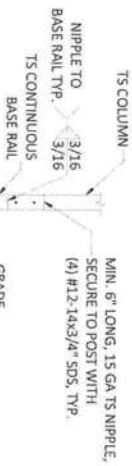
**SIDE EXTENSION RAFTER/COLUMN CONNECTION FOR RAFTER SPANS BETWEEN 12'-0" AND 16'-0"**



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



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



### LEAN-TO POST CONNECTION

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CONTRACTOR:  
ELITE METAL  
MANUFACTURING

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**CONTRACTOR:**

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|-------------|------|----|
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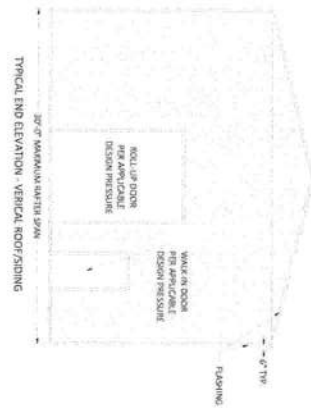
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60

1.125" TS GA HIRING CHANNEL  
FASTENED TO EACH RAFTER  
WITH (2) 1/2" X 3/16" SS  
SPACERS AT 48" O.C. MAX

PANEL ATTACHMENT  
(ALTERNATE FOR VERTICAL ROOF/SIDING)



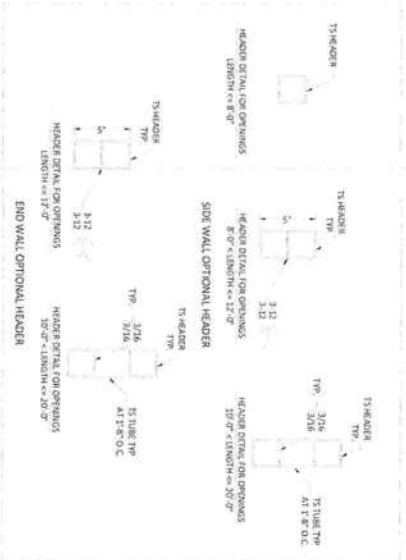
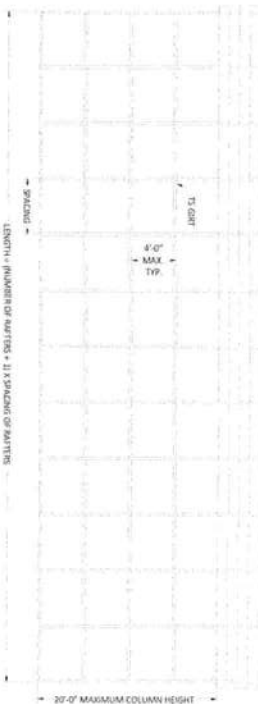
BOX EAVE FRAME ENCLOSED BUILDING

LENGTH = NUMBER OF RAFTERS + 1 X SPACING OF RAFTERS  
TYPICAL SIDE ELEVATION - VERTICAL ROOF/SIDING



BOX EAVE FRAME

LENGTH = NUMBER OF RAFTERS + 1 X SPACING OF RAFTERS  
SPACING = 5'-0" FOR WIND SPILLS BETWEEN 110 MPH AND 140 MPH  
1.125" TS GA HIRING CHANNELS CAN BE JOINTED END TO END IF NEEDED  
TYPICAL RAFTER/POST SIDE FRAME SECTION



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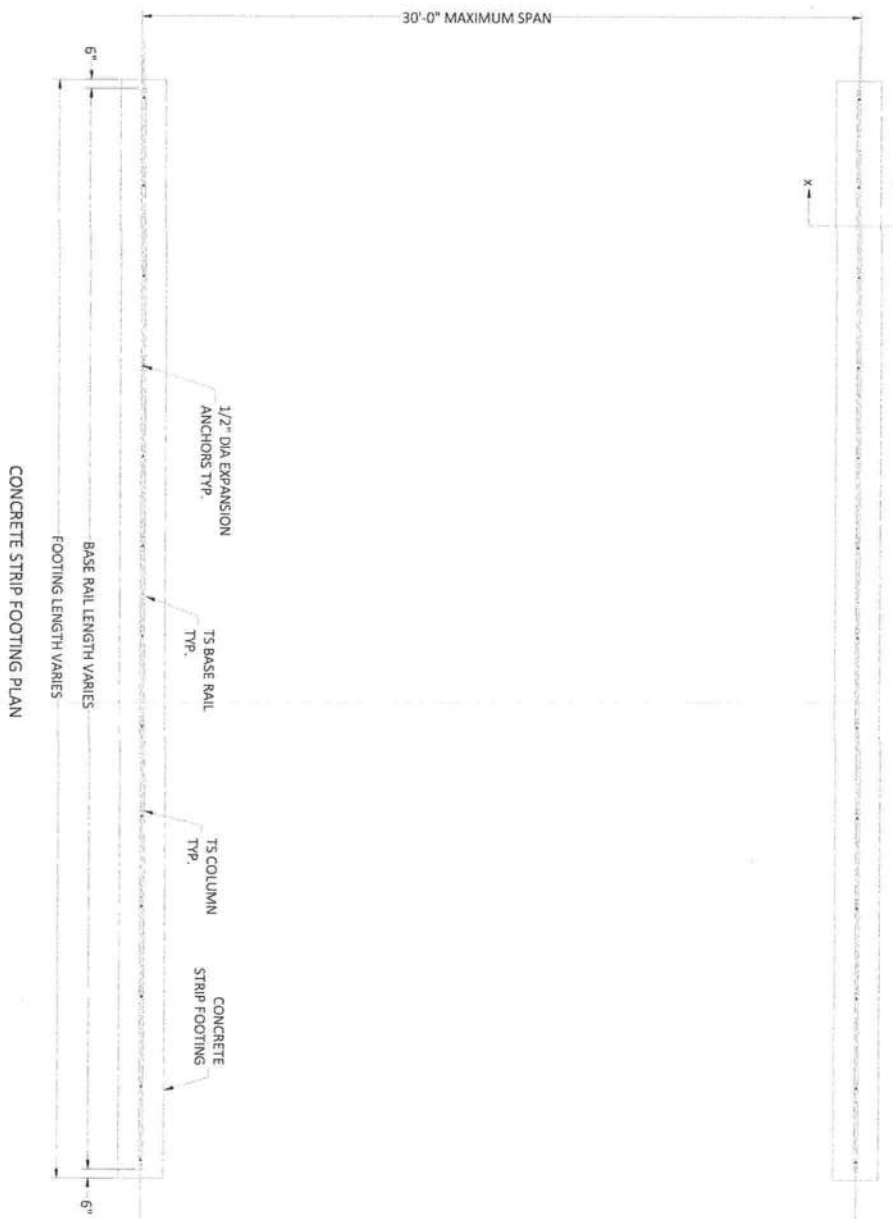
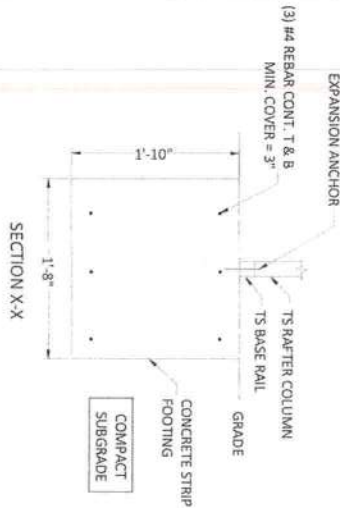
GENERAL NOTES  
CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1500 PSF.

OPTIONAL CONCRETE STRIP FOOTING

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.



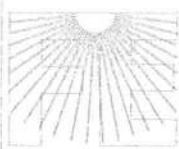
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CONTRACTOR:  
**ELITE METAL MANUFACTURING**

PROJECT ADDRESS:  
**12'-30' WIDE PLANS  
10121 88TH TRACE,  
LIVE OAK FL 32060**

DESIGN DATE: 06/24/2022  
REVISION 1: DATE  
REVISION 2: DATE  
DRAWN BY: SK  
SCALE: NTS

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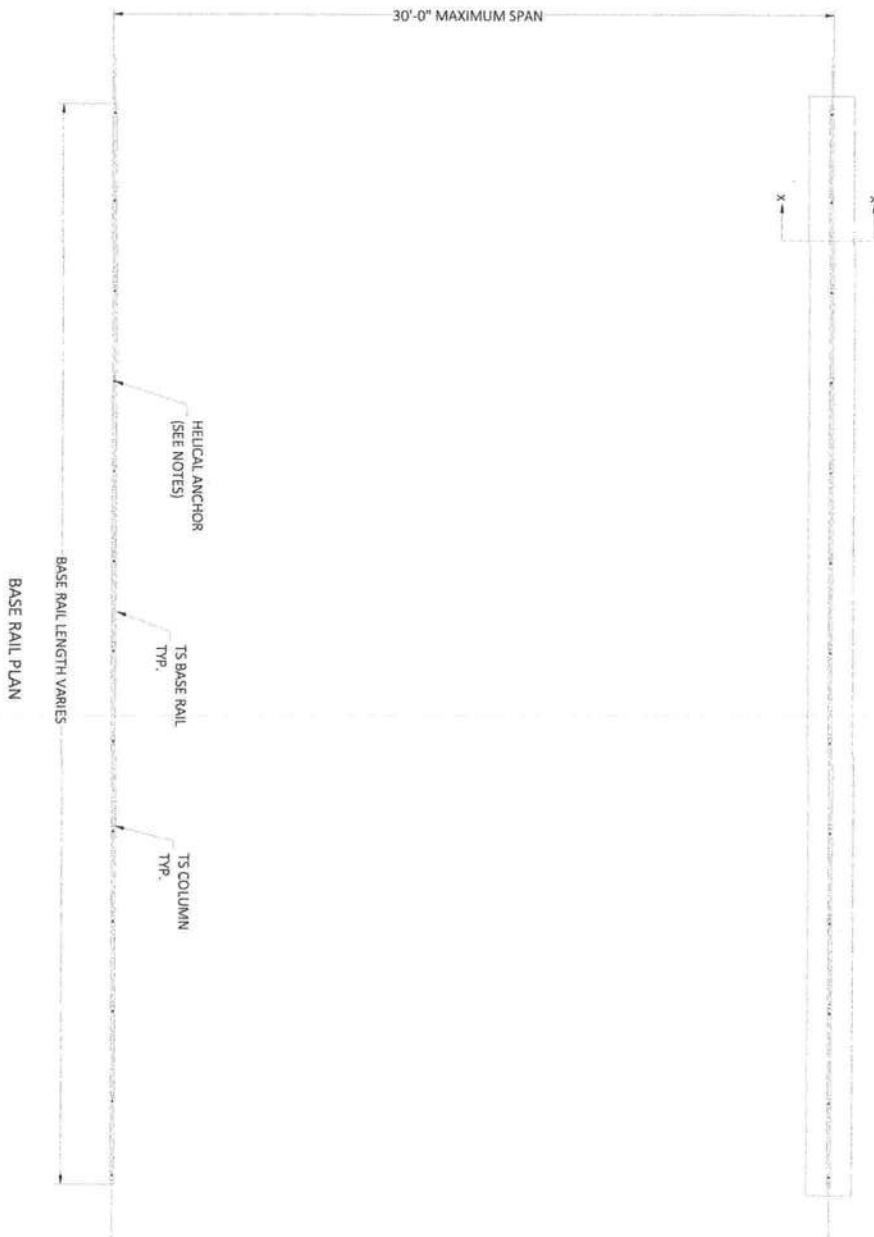
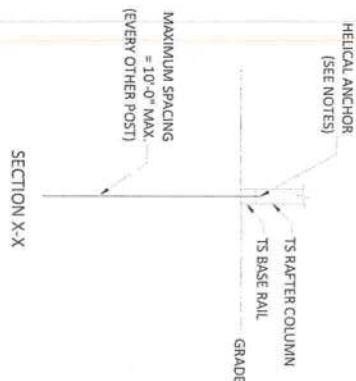
PROJECT NO. 2217228

CA CERT. #30782

# HELIX ANCHOR NOTES

1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALCULATED 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 LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT.
3. FOR VERY LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT.

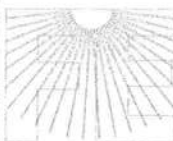
## OPTIONAL HELICAL ANCHORING DETAIL



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