

| TABLE 1<br>BOW/RAFTER FRAME, END POST, GROUND ANCHOR AND PANEL FASTENER SPACING SPECIFICATIONS                                                                                                                                                                                                                                                                                                                                          |                           |                          |                                |                                    |                                                                                           |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------|--------------------------------|------------------------------------|-------------------------------------------------------------------------------------------|---------|
| WIND EXPOSURE CATEGORY                                                                                                                                                                                                                                                                                                                                                                                                                  | ULTIMATE WIND SPEED (MPH) | NOMINAL WIND SPEED (MPH) | MAXIMUM GROUND SNOW LOAD (PSF) | MAXIMUM POST/RAFTER SPACING (FEET) | AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS OR GIRTS (INCHES) |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                          |                                |                                    | METAL PANELS                                                                              | SPACING |
| B or C                                                                                                                                                                                                                                                                                                                                                                                                                                  | 105 TO 150                | 82 TO 117                | 35                             | 5.0                                | 29 Gauge                                                                                  | 8       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                          | 40                             | 4.0                                |                                                                                           |         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                          | 50                             | 4.0 (12 Ga.)                       |                                                                                           |         |
| NOTES: 1. Specifications applicable to 29 gauge metal panels fastened directly to 12 or 14 gauge steel tube bow frames.<br>2. Fasteners consist of #12 x $\frac{3}{4}$ " self-drilling screws without control seal washers.<br>3. Specifications applicable only for mean roof height of 24 feet or less and roof slopes of 7 to 27 degrees (1.5:12 to 6:12 pitch). Spacing requirements for other roof heights and/or slopes may vary. |                           |                          |                                |                                    |                                                                                           |         |

GENERAL NOTES:

THESE PLANS PERTAIN ONLY TO THE STRUCTURE, INCLUDING MAIN WIND FORCE RESISTING SYSTEM (MWFRS), COMPONENTS AND CLADDING, AND BASE RAIL ANCHORAGE. OTHER DESIGN ISSUES, INCLUDING, BUT NOT LIMITED TO, PLUMBING, ELECTRICAL, INGRESS/EGRESS, PROPERTY SET-BACKS, OR OTHER LOCAL ZONING REQUIREMENTS ARE THE RESPONSIBILITY OF OTHERS.

THESE STRUCTURES ARE DESIGNED AS UTILITY/STORAGE BUILDINGS CAPABLE OF SUPPORTING THE DEAD LOAD OF THE STRUCTURE AND APPLICABLE LIVE AND WIND LOADS. IMPROVEMENTS NOT SPECIFICALLY ADDRESSED HEREIN, WHICH EXERT ADDITIONAL LOADS ON THE STRUCTURE SHALL BE AT THE OWNER'S RISK. CAROLINA CARPORTS SHALL NOT BE RESPONSIBLE FOR STRUCTURAL DAMAGE OR FAILURE DUE TO THE APPLICATION OF ADDITIONAL LOADS.

THE SPACING INDICATED IN THE ABOVE TABLE IS THE MAXIMUM SPACING FOR THE MAIN WIND FORCE RESISTING SYSTEM. A CLOSER SPACING MAY BE NEEDED TO MEET LOCAL BUILDING CODE AND/OR SITE SPECIFIC REQUIREMENTS.

ALL STEEL TUBING SHALL BE 55 KSI STEEL OR BETTER. ALL METAL PANELS SHALL BE 80 KSI STEEL OR BETTER.

FASTEN METAL ROOF AND WALL PANELS TO FRAMING WITH #12" x 3/4" SELF DRILLING FASTENERS WITH CONTROL SEAL WASHERS AT AN AVERAGE SPACING OF 8" FOR 29 GAUGE PANELS AND 6" FOR 26 GAUGE PANELS.

ALL FIELD CONNECTIONS SHALL BE #12 x 3/4" SELF DRILLING FASTENERS (SDF) UNLESS NOTED OTHERWISE.

ALL WELDED CONNECTIONS SHALL BE SHOP WELDED UNLESS NOTED OTHERWISE.

GROUND ANCHOR REQUIREMENTS: INSTALL HELICAL ANCHORS ALONG SIDE BASE RAIL WITHIN 6" OF EACH CORNER POST AND AT A MAXIMUM SPACING OF 25' ALONG THE BASE RAIL. INSTALL GROUND ANCHORS (#4 THREADED REBAR) BETWEEN THE HELICAL ANCHORS WITHIN 6" OF EACH POST ALONG THE BASE RAIL. HELICAL ANCHORS AND GROUND ANCHORS ARE NOT REQUIRED FOR CONCRETE FOOTING AND/OR CONCRETE SLAB CONSTRUCTION.

INSTALL CONCRETE ANCHORS WITHIN 6" OF EACH VERTICAL POST ALONG SIDE AND END BASE RAILS. USE ITW RAMSET/ REDHEAD TRUBOLT OR SIMPSON STRONG-TIE STRONG BOLT-2 WEDGE ANCHORS, OR ITW REDHEAD TAPCON+ OR TITEN HD SCREW ANCHORS OR AN APPROVED EQUAL.

POST/RAFTER BRACING: BRACE ON EVERY POST/RAFTER CONNECTION, EXCEPT FOR END WALLS AND HEADERS.

GALVANIZATION: METAL ACCESSORIES FOR USE IN EXTERIOR WALL CONSTRUCTION AND NOT DIRECTLY EXPOSED TO THE WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153, CLASS B-2. METAL PLATE CONNECTORS, SCREWS, BOLTS AND NAILS EXPOSED DIRECTLY TO THE WEATHER SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED.

# STANDARD CARPORT DETAILS

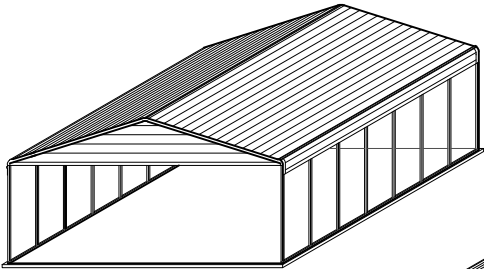
## 26 ft to 30 ft SPAN

### LIGHT FRAME CONSTRUCTION

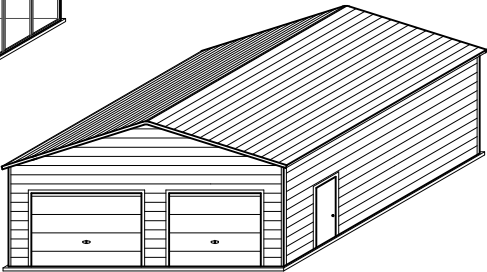
NOTE: THESE PLANS MAY BE USED FOR SPANS LESS THAN 26 FEET.

NOTE: USE 2 1/2" x 2 1/2" 14 Ga.  
2 1/4" x 2 1/4" 12 Ga.  
STEEL TUBE FOR ALL FRAME AND BASE  
RAIL MEMBERS UNLESS OTHERWISE SHOWN.

NOTE: THESE PLANS INCLUDE STANDARD DETAILS THAT CAN BE USED FOR A WIDE RANGE OF APPLICATIONS. IF SITE SPECIFIC PLANS ARE REQUIRED, A SEPARATE SET OF PLANS WILL NEED TO BE PREPARED.



ISOMETRIC



ISOMETRIC

### CONCRETE FOUNDATION DESIGN RECOMMENDATIONS:

CONCRETE INFORMATION AND DETAILS SHOWN IN THESE PLANS ARE FOR INFORMATION ONLY. THE CONCRETE SLAB AND FOUNDATION ARE BY OTHERS. THE OWNER IS RESPONSIBLE FOR PROVIDING A SUITABLE FOUNDATION FOR THE PROPOSED STRUCTURE AND COORDINATING CONCRETE STRENGTH AND FOUNDATION DEPTH REQUIREMENTS WITH THE LOCAL BUILDING CODE OFFICIALS.

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS OR AS REQUIRED BY LOCAL BUILDING CODE. THE USE OF HIGHER STRENGTH CONCRETE IS ACCEPTABLE.

COVER OVER REINFORCING STEEL:  
MINIMUM CONCRETE OVER REINFORCING BARS SHALL BE 3 INCHES WHERE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER AND 1 1/2" ELSEWHERE.

REINFORCING STEEL:  
THE REINFORCING STEEL SHALL BE MINIMUM GRADE 40. THE USE OF FIBER REINFORCED CONCRETE (FRC) OR WELDED WIRE FABRIC (WWF) IS ACCEPTABLE.



**CAROLINA CARPORTS INC.**  
P.O. BOX 1263  
DOBSON, NC 27017  
TOLL FREE 1-800-670-4262  
LOCAL 336-367-6400  
FAX 336-367-6410

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## METAL CARPORT INSTALLATION PLANS AND DETAILS

### AND

### FRAMING AND FASTENER SPECIFICATIONS

CAROLINA CARPORTS, INC.  
187 Cardinal Ridge Trail  
DOBSON, NORTH CAROLINA 27017

THE OWNER IS RESPONSIBLE FOR OBTAINING A BUILDING PERMIT, IF NEEDED, AND FOR COMPLYING WITH ALL LOCAL BUILDING CODE REQUIREMENTS.

THIS IS TO CERTIFY THAT THE CALCULATIONS AND SPECIFICATIONS HEREIN HAVE BEEN PREPARED BY THE UNDERSIGNED PROFESSIONAL ENGINEER, AND ARE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2015 INTERNATIONAL BUILDING CODE, THE 2015 INTERNATIONAL RESIDENTIAL CODE, THE 2018 NORTH CAROLINA BUILDING CODE AND THE 2018 NORTH CAROLINA RESIDENTIAL CODE.

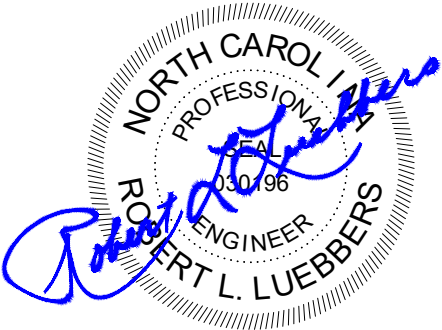
| BUILDING CODE INFORMATION |        |     |  |
|---------------------------|--------|-----|--|
| RISK CATEGORY             | I      | II  |  |
| USE GROUP                 | U or S |     |  |
| CONSTRUCTION TYPE         | 2B     |     |  |
| IMPORTANCE FACTORS        |        |     |  |
| WIND I <sub>w</sub>       | 1.0    |     |  |
| SNOW I <sub>s</sub>       | 0.8    | 1.0 |  |
| EARTHQUAKE I <sub>e</sub> | 1.0    |     |  |

| DESIGN LOADS                 |             |
|------------------------------|-------------|
| MIN. DEAD LOAD               | 5 PSF       |
| MIN. FLOOR LIVE LOAD         | 125 PSF     |
| MIN. ROOF LIVE LOAD          | 20 PSF      |
| MIN. GROUND SNOW LOAD        | SEE TABLE 1 |
| MAX. GROUND SNOW LOAD        |             |
| MIN. ULTIMATE WIND SPEED     |             |
| MAX. ULTIMATE WIND SPEED     |             |
| EXPOSURE CATEGORY            | D2          |
| MAX. SEISMIC DESIGN CATEGORY |             |

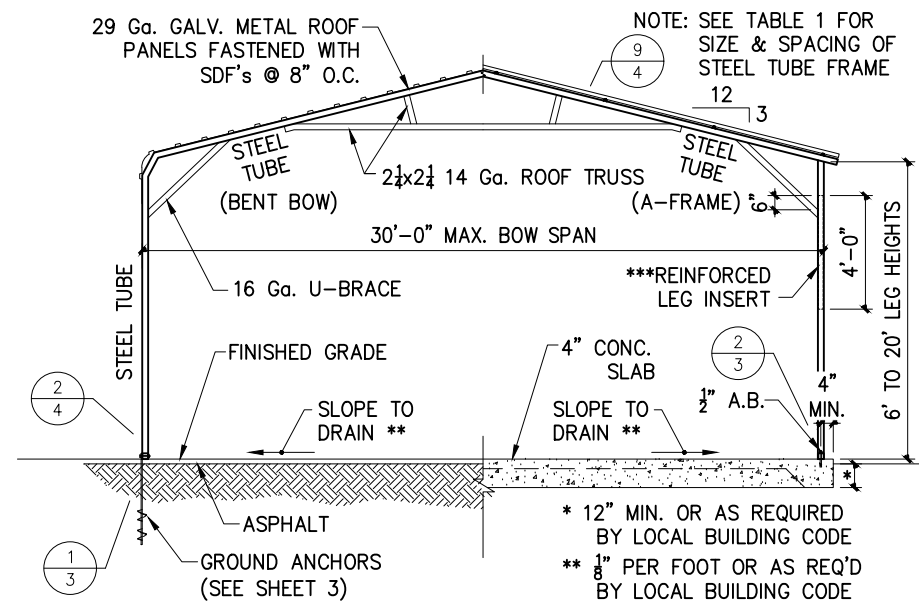
These plans have been provided for the purpose of obtaining a building permit for the construction of the building for:

Name: Donovan Coulter  
Address: 264 Williams Rd.  
City: Coats State: NC  
Zip: 27521

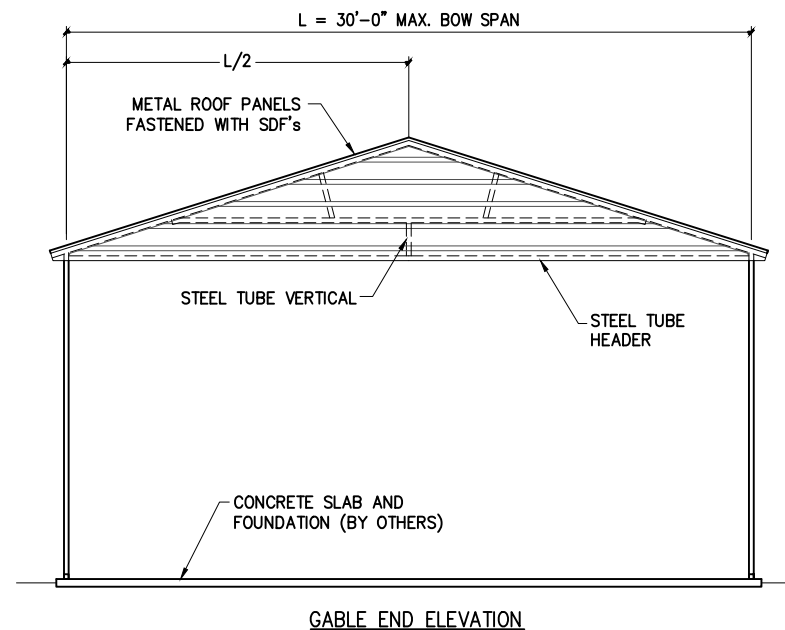
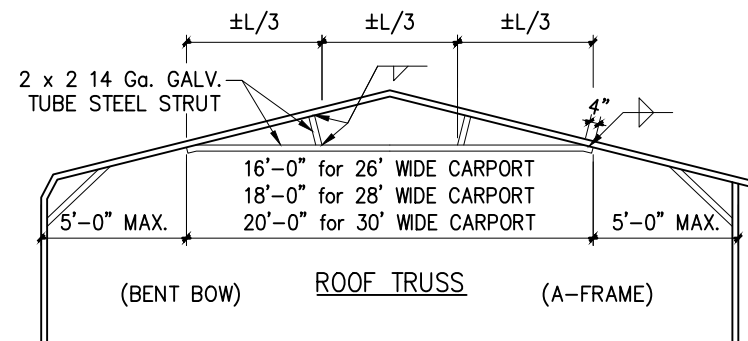
Use of these plans by anyone else or for any other purpose is prohibited.



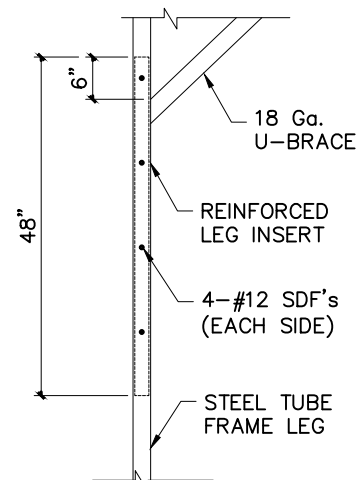
11/14/2024



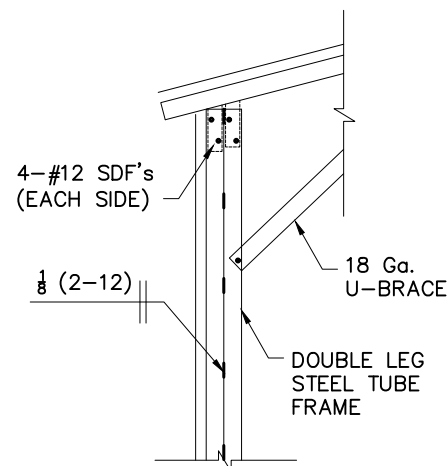
1  
2 TYPICAL BOW SECTION



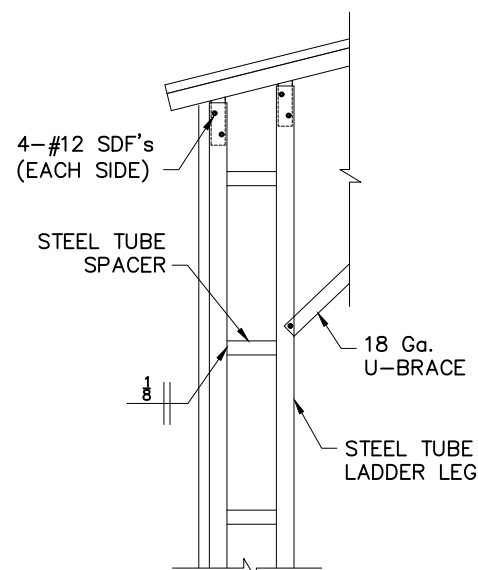
GABLE END ELEVATION



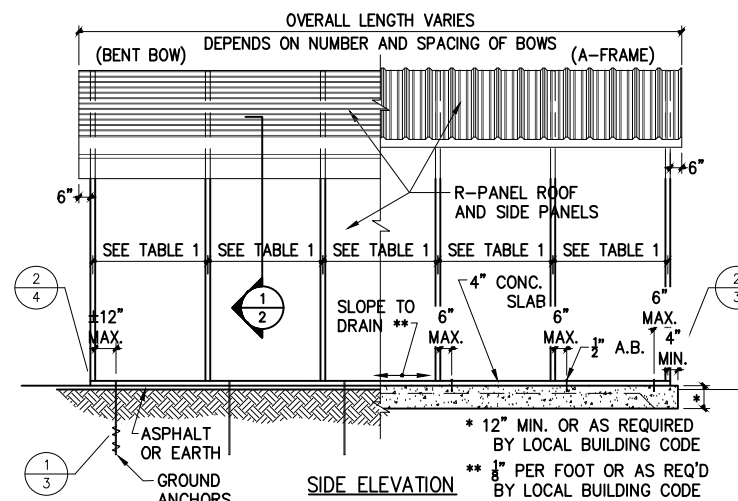
\*\*\*REINFORCED LEG INSERT  
(LEG HEIGHTS 13' to 14')



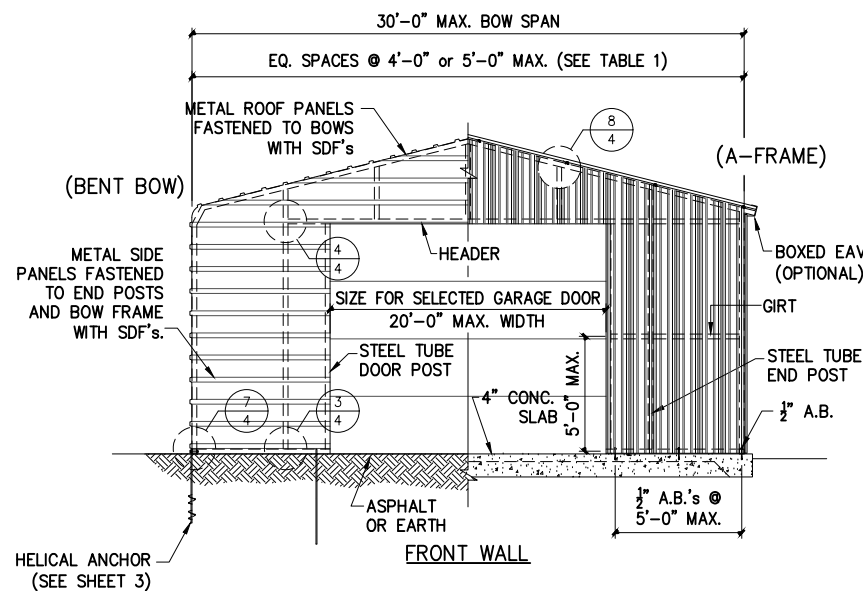
\*\*\*DOUBLE LEG  
(LEG HEIGHTS 15' to 16')



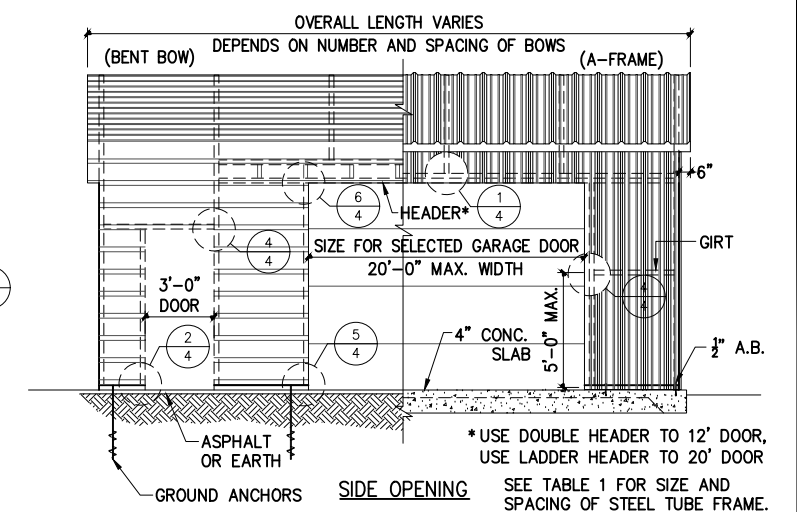
\*\*\*LADDER LEG  
(LEG HEIGHTS 17' to 20')



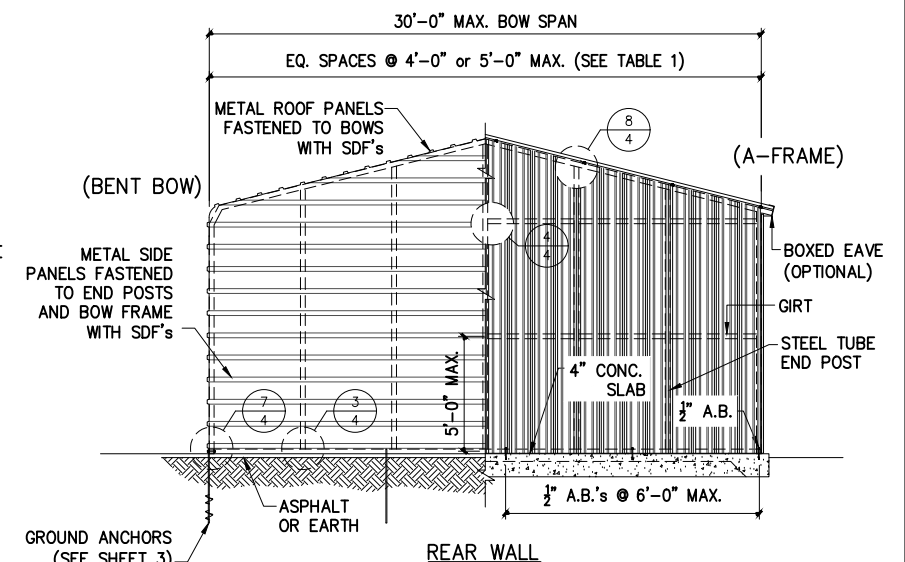
SIDE ELEVATION



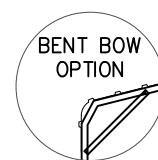
FRONT WALL



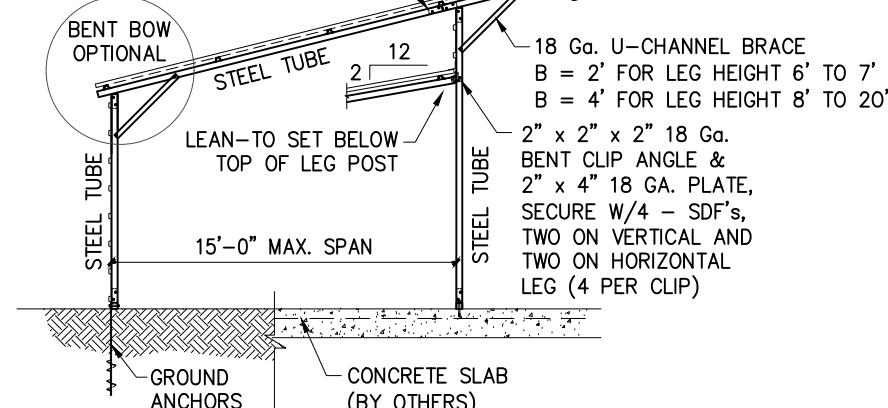
SIDE OPENING



REAR WALL

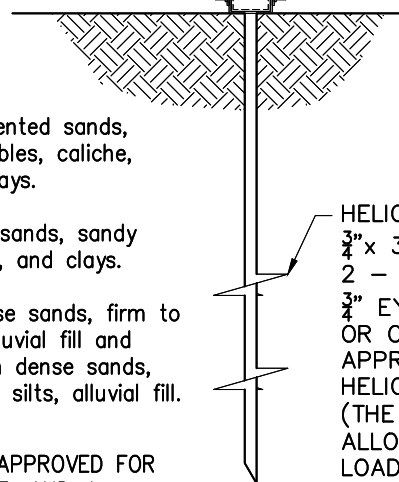


12" LONG 14 Ga. INSERT, SECURE RAFTER TO INSERT W/4 - SDF's, TWO ON EACH SIDE (4 PER SPLICE)



TYPICAL SIDE EXTENSION SECTION

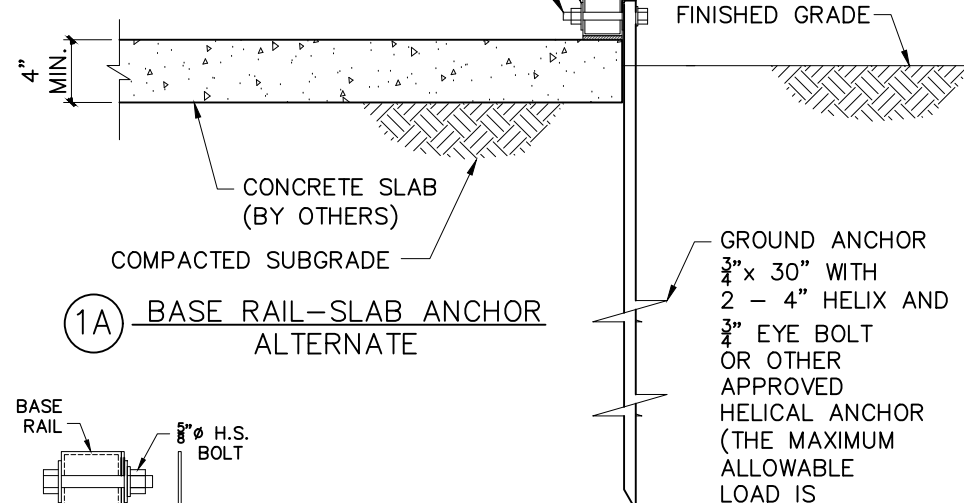




- 2 Very dense &/or cemented sands, coarse gravel and cobbles, caliche, preloaded silts, and clays.
- 3 Medium dense coarse sands, sandy gravels, very stiff silts, and clays.
- 4 Loose to medium dense sands, firm to stiff clays and silts alluvial fill and VERY loose to medium dense sands, firm to stiff clays and silts, alluvial fill.

\* Taken from HUD "Standard for Installation of Mobile Homes"

- HELICAL ANCHOR  
 $\frac{3}{4}$ " x 30" WITH  
 2 - 4" HELIX AND  
 $\frac{3}{4}$ " EYE BOLT  
 OR OTHER  
 APPROVED  
 HELICAL ANCHOR  
 (THE MAXIMUM  
 ALLOWABLE  
 LOAD IS  
 3,150 LBS  
 PER ANCHOR)



GROUND ANCHOR  
 $\frac{3}{4}$ "x 30" WITH  
 2 - 4" HELIX AND  
 $\frac{3}{4}$ " EYE BOLT  
 OR OTHER  
 APPROVED  
 HELICAL ANCHOR  
 (THE MAXIMUM  
 ALLOWABLE  
 LOAD IS  
 3,150 LBS  
 PER ANCHOR)

Diagram illustrating the assembly of a base rail. The components shown are:

- BASE RAIL
- 5"  $\varnothing$  H.S. BOLT
- ANCHOR

Diagram illustrating the connection of a steel tube base rail to an asphalt surface:

- DRILL  $\frac{3}{4}$ " HOLE THROUGH BASE RAIL AND SECURE WITH  $\frac{5}{8}$ "  $\phi$  H.S. BOLT
- STEEL TUBE BASE RAIL
- 2" WASHERS
- ASPHALT SURFACE

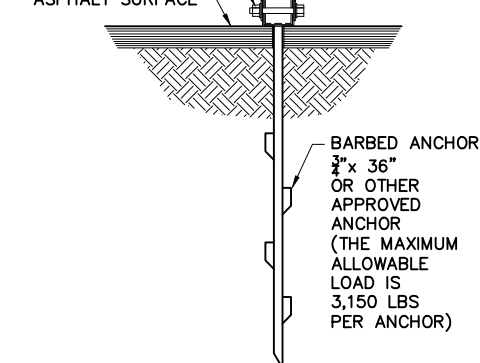


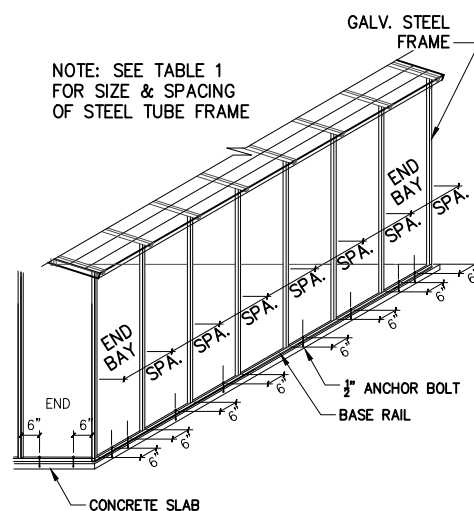
Diagram illustrating the installation of a steel tube base rail into a rock. The rail is secured by a 5/8" H.S. bolt passing through a 3/4" hole drilled through the base rail. Two 2" washers are used to secure the bolt. The rail is embedded in a rock surface.

1 Rock or Hard Pan

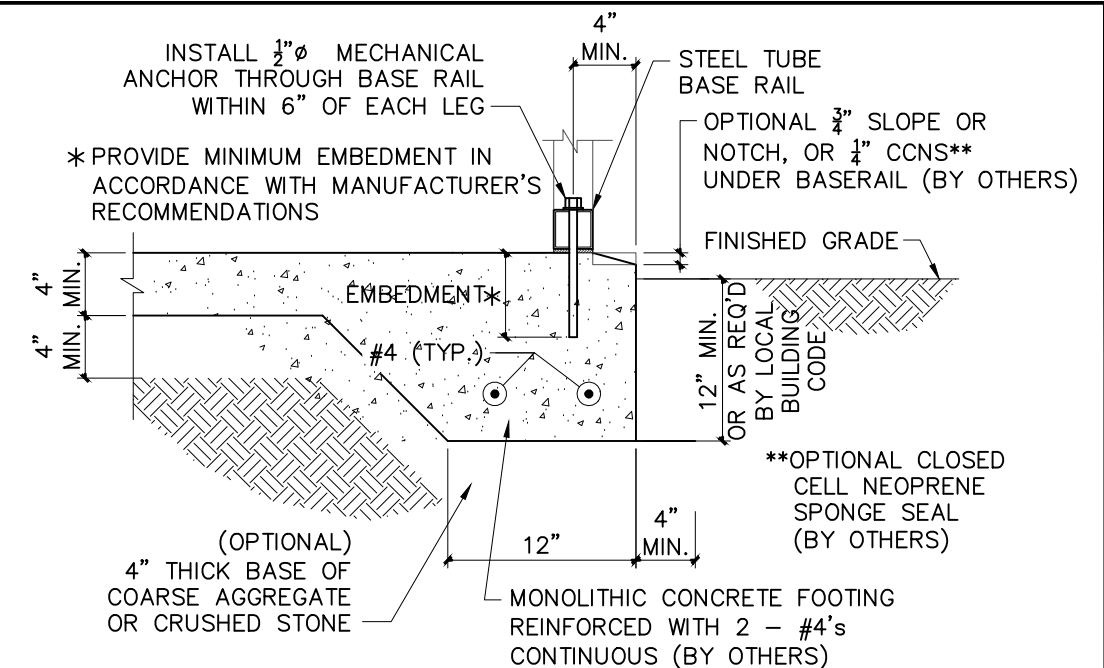
ROCK ANCHOR MMA-55 38 XDH  
WITH  $\frac{5}{8}$ " H.S. BOLT OR EQUIVALENT  
(THE MAXIMUM ALLOWABLE LOAD  
IS 4,725 LBS PER ANCHOR)

NOTE: IF THE DISTANCE BETWEEN  
HELICAL ANCHORS EXCEEDS 25',  
PROVIDE AN ADDITIONAL HELICAL  
ANCHOR MIDWAY BETWEEN.

NOTE: SEE TABLE 1  
FOR SIZE & SPACING  
OF STEEL TUBE FRAME



OR Approved Equal  
FLOOD VENTS



INSTALL  $\frac{1}{2}$ "  $\emptyset$  MECHANICAL ANCHOR THROUGH BASE RAIL WITHIN 6" OF EACH LEG (ALTERNATE & STAGGER)

\* PROVIDE MINIMUM EMBEDMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

4" MIN.

4" MIN.

EMBEDMENT\*

#4 (TYP.)

STEEL TUBE BASE RAIL

OPTIONAL  $\frac{3}{4}$ " SLOPE OR NOTCH, OR  $\frac{1}{4}$ " CCNS\*\* UNDER BASERAIL (BY OTHERS)

FINISHED GRADE

12" MIN.

OR AS REQ'D BY LOCAL BUILDING CODE

4" THICK BASE OF COARSE AGGREGATE OR CRUSHED STONE (OPTIONAL)

12"

4" MIN.

\*\*OPTIONAL CLOSED CELL NEOPRENE SPONGE (CCNS) SEAL (BY OTHERS)

MONOLITHIC CONCRETE FOOTING (BY OTHERS), REINFORCED WITH 2 - #4's CONTINUOUS

18 Ga. CLIP ANGLE  
WELDED TO BASE RAIL

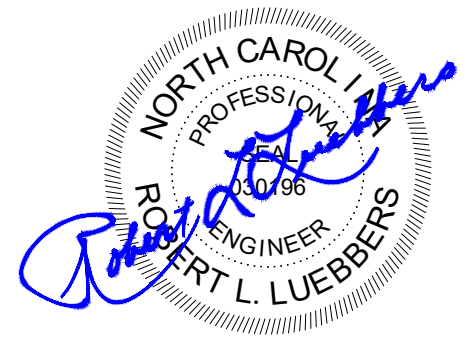
1/2" Ø ANCHOR BOLT

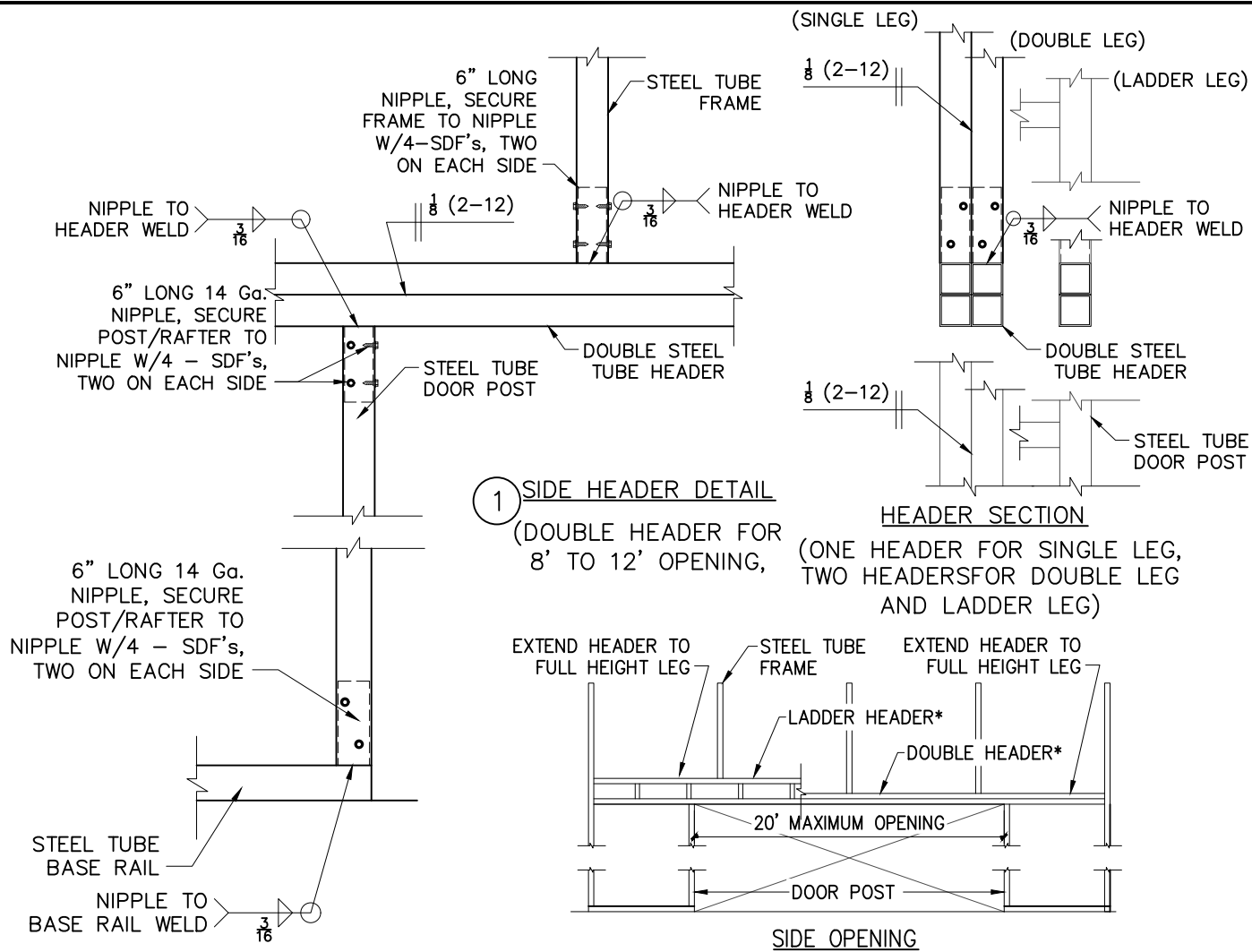
GALV. STEEL  
BASE RAIL

OPTIONAL  
1/4" CCNS SEAL\*\*  
(BY OTHERS)

4" MIN

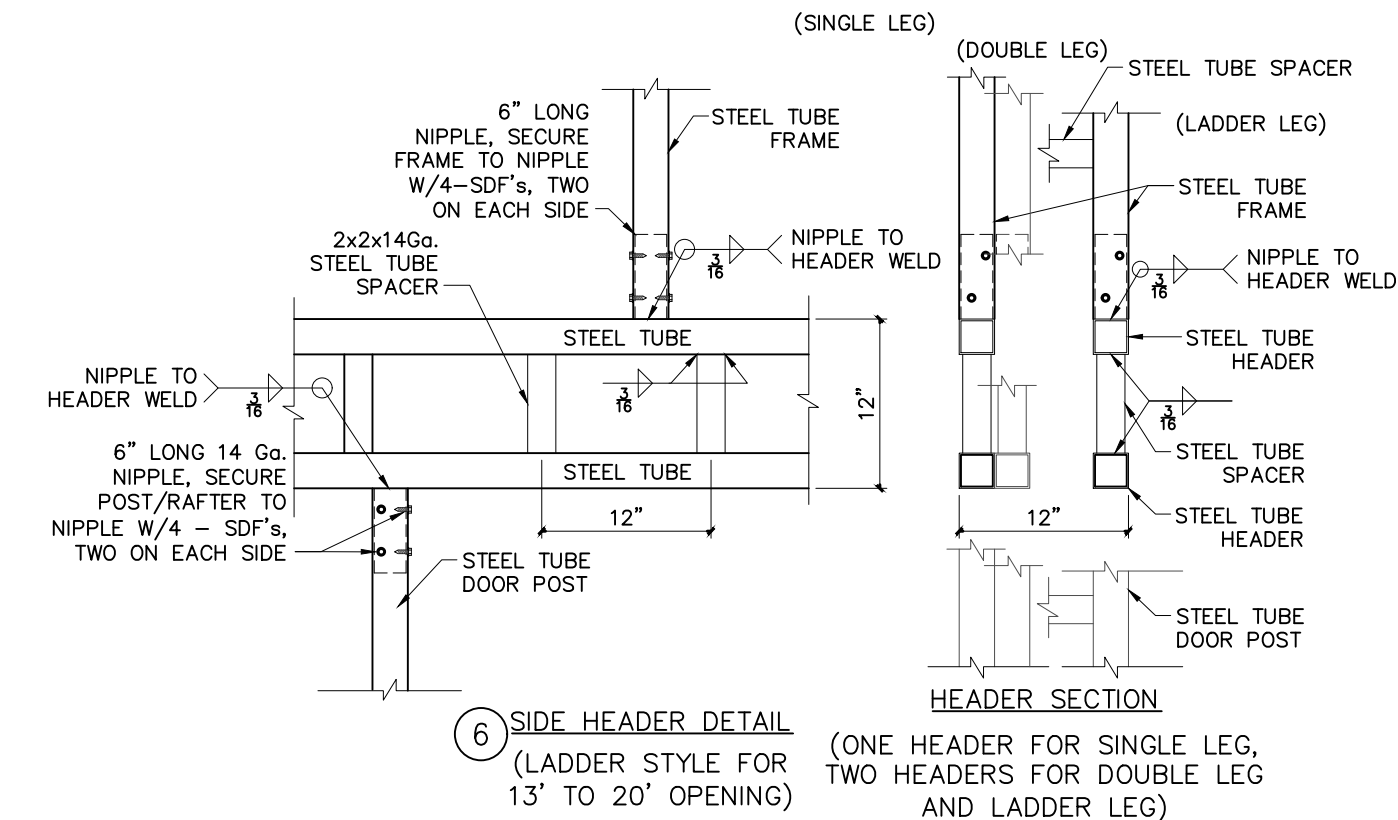
(2D) ALTERNATE BASE RAIL CLIP





\* USE DOUBLE HEADER TO 12' DOOR, USE LADDER HEADER TO 20' DOOR

\*\* USE SINGLE DOOR POST TO 12' DOOR, USE DOUBLE DOOR POST TO 20' DOOR.



6 SIDE HEADER DETAIL  
(LADDER STYLE FOR 13' TO 20' OPENING)

ONE HEADER FOR SINGLE LEG, TWO HEADERS FOR DOUBLE LEG AND LADDER LEG

