

STANDARD BUILDING DETAILS 12 ft to 24 ft SPAN

LIGHT FRAME CONSTRUCTION

NOTE: USE $8 \times 2\frac{1}{2}" \times 2\frac{1}{2}"$ 14 Ga.
 $8 \times 2\frac{1}{2}" \times 2\frac{1}{2}"$ 12 Ga.
STEEL TUBE FOR ALL FRAME AND BASE
RAIL MEMBERS UNLESS OTHERWISE SHOWN.

NOTE: THESE ARE 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.



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CONCRETE FOUNDATION DESIGN RECOMMENDATIONS:

THE CONCRETE SLAB AND FOUNDATION ARE CONSTRUCTED BY OTHERS.
THE OWNER IS RESPONSIBLE FOR PROVIDING A SUITABLE SLAB AND
FOUNDATION FOR THE PROPOSED STRUCTURE. THE CONCRETE DETAILS
SHOWN ON THESE PLANS MAY BE USED, HOWEVER, THE LOCAL BUILDING
CODE OFFICIALS MAY HAVE MORE RESTRICTIVE REQUIREMENTS. THE
OWNER IS RESPONSIBLE FOR COORDINATING THE CONCRETE SLAB AND
FOUNDATION STRENGTH AND DEPTH REQUIREMENTS WITH THE LOCAL
BUILDING CODE OFFICIALS.

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF
3,000 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 AND $1\frac{1}{2}"$ 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.

SOIL BEARING PRESSURE:
THE ALLOWABLE SOIL BEARING PRESSURE IS BASED ON A PRESUMPTIVE
ALLOWABLE BEARING PRESSURE OF 1,500 PSF IN ACCORDANCE WITH
TABLE 1806.2 OF THE INTERNATIONAL BUILDING CODE.

TABLE 1
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.
2. Fasteners consist of #12 x $\frac{1}{4}"$ self-drilling screws without control seal washers.
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 $\frac{1}{4}"$ 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 $\frac{1}{4}"$ 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 TRIBOLT 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.



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METAL BUILDING INSTALLATION PLANS AND DETAILS AND FRAMING AND FASTENER SPECIFICATIONS

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	II-B	

IMPORTANCE FACTORS		
WIND I_w	1.0	
SNOW I_s	0.8	1.0
EARTHQUAKE I_e	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	10	PSF
MAX. GROUND SNOW LOAD		
MIN. ULTIMATE WIND SPEED		SEE TABLE 1
MAX. ULTIMATE WIND SPEED		
EXPOSURE CATEGORY		
MAX. SEISMIC DESIGN CATEGORY	D2	

Project Location:

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Zip: 28390

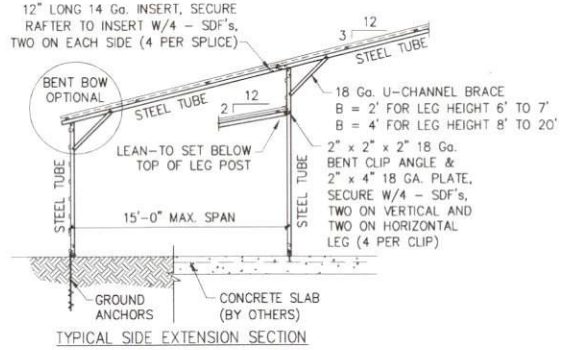
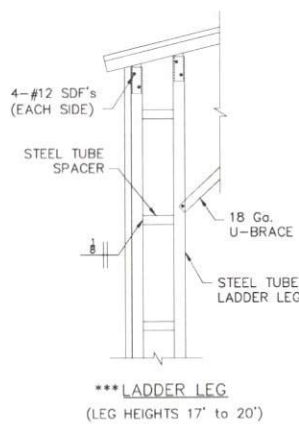
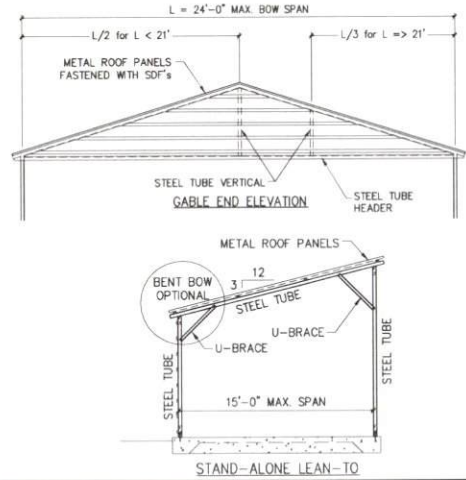
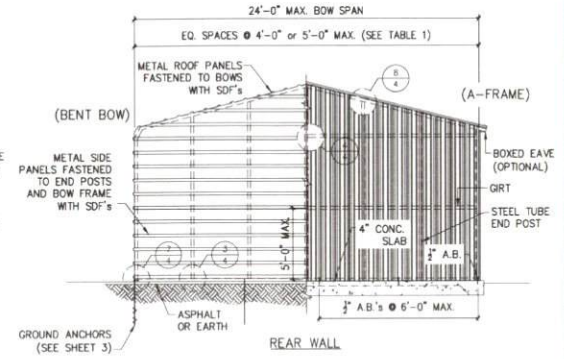
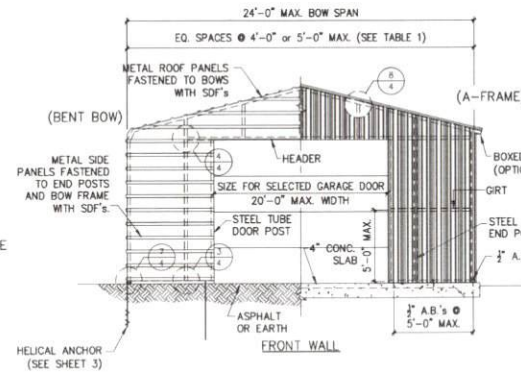
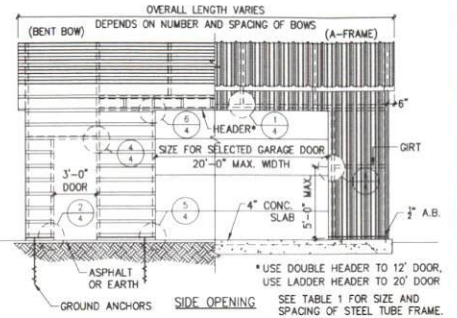
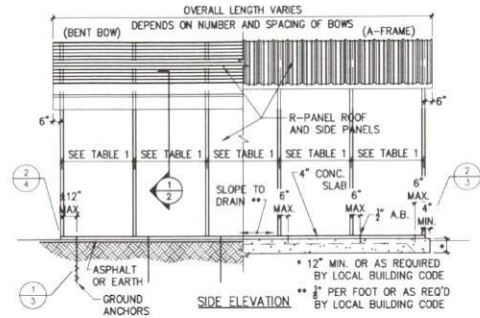
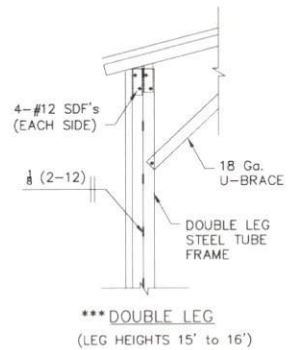
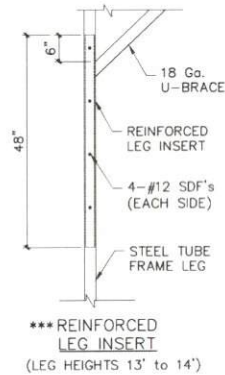
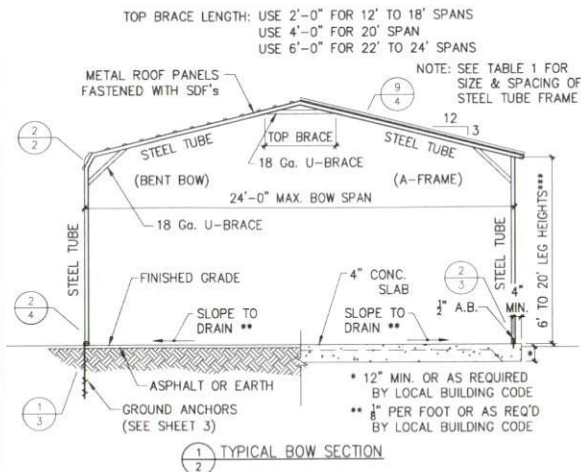
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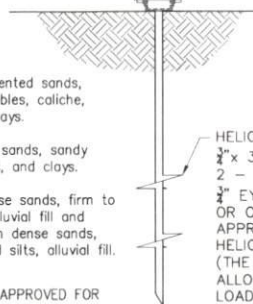
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SHEET 1 OF 4

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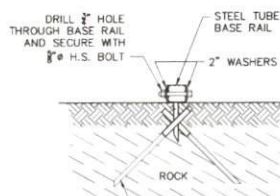
SOIL CLASS	SOIL DESCRIPTION
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- 2 Very dense &/or cemented sands, coarse gravel and cobbles, caliche, preloaded silts, and clays.
- 3 Medium dense coarse sands, sandy gravels, very stiff silts, and clays.
- 4 Loose to medium dense sands, firm to stiff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

THE HELICAL ANCHOR SHALL BE APPROVED FOR
USE IN SOIL CLASSIFICATIONS 2, 3, AND 4.

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

① SOIL BASE RAIL ANCHOR DETAIL

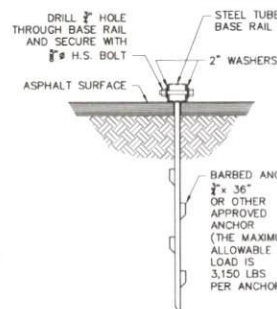


SOIL CLASS	SOIL DESCRIPTION
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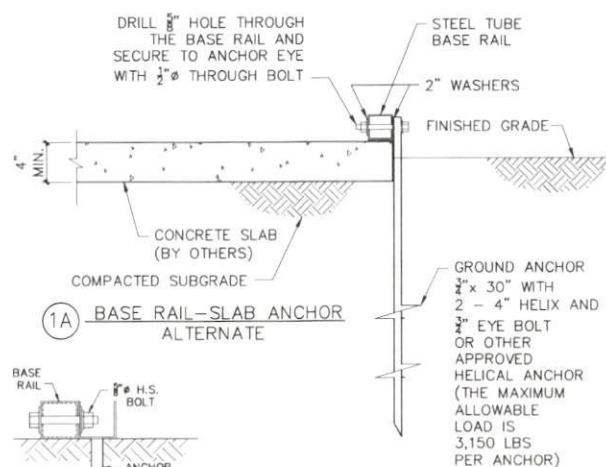
1 Rock or Hard Pan

ROCK ANCHOR MMA-35 36 XDH
WITH $\frac{3}{4}$ " H.S. BOLT OR EQUIVALENT
(THE MAXIMUM ALLOWABLE LOAD
IS 4,725 LBS PER ANCHOR)

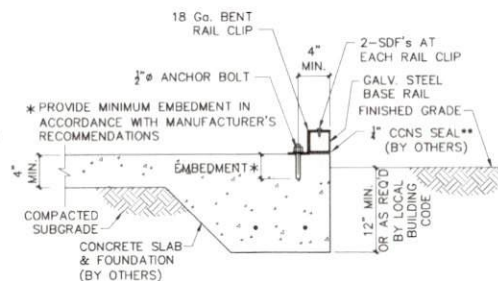
1C) ROCK BASE RAIL ANCHOR DETAIL



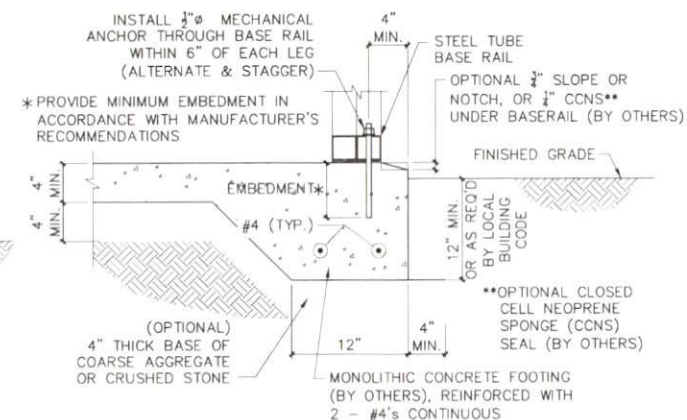
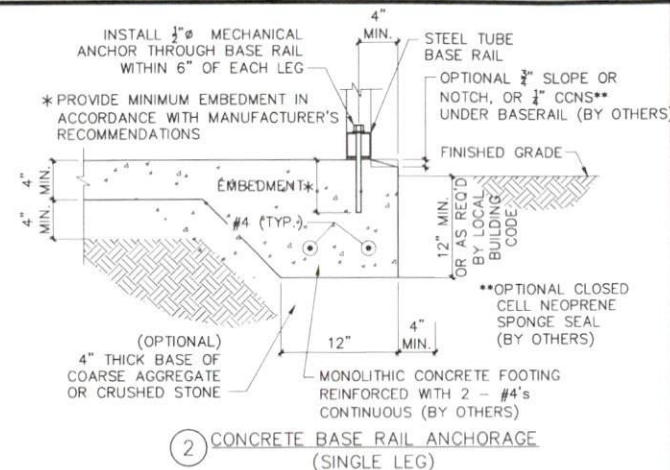
(1B) ASPHALT ANCHOR DETAIL



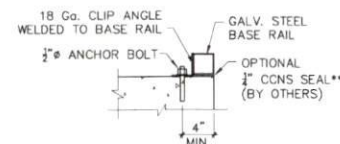
ALTERNATE DETAIL



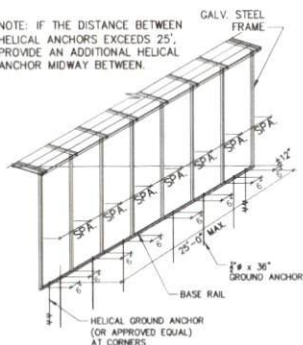
(2C) ALTERNATE BASE RAIL ANCHORAGE



(2B) CONCRETE BASE RAIL ANCHORAGE
(DOUBLE LEG)

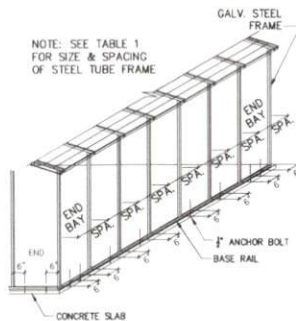


(2D) ALTERNATE BASE RAIL CLIP



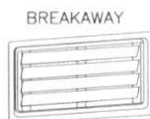
NOTE: IF THE DISTANCE BETWEEN
HELICAL ANCHORS EXCEEDS 25',
PROVIDE AN ADDITIONAL HELICAL
ANCHOR MIDWAY BETWEEN.

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



HELICAL GROUND ANCHORS

ANCHOR BOLTS



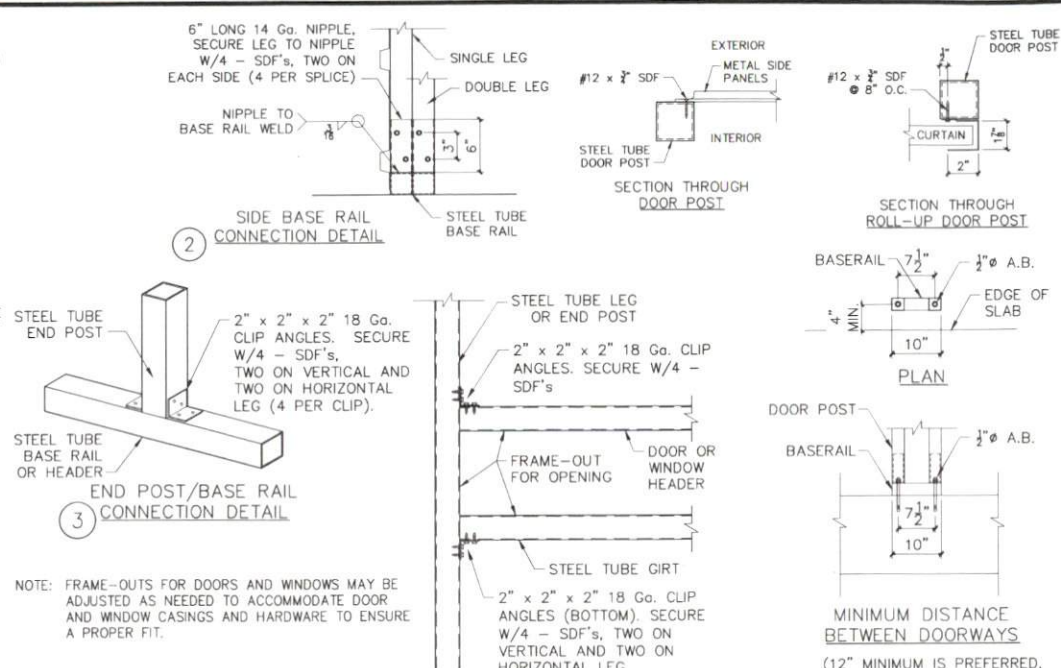
CRAWL SPACE DOOR SYSTEMS, INC.
5741 Bayside Road, #105
Virginia Beach, VA 23455
Engineered Flood Vent
Model CSBA816

OR Approved Equal
FLOOD VENTS



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SHEET 3 OF 4



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