

**LIST OF DRAWINGS**

- 1. GENERAL NOTES
- 2. INSTALLATION DETAIL
- 3. PLAN AND PROFILE
- 4. VENTILATION



**STORM SAFE SHELTERS**  
 6101 Camille St  
 Valley Brook, OK 73149  
 (405) 606-2563

**F30-JUMBO INDOOR UNDERGROUND SHELTER**

**GENERAL NOTES**

- 1. GENERAL:
  - A. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS AND QUANTITIES PRIOR TO STARTING CONSTRUCTION.
  - B. THE CONSTRUCTION DRAWINGS SHALL NOT BE SCALED. DIMENSIONS APPLY.
  - C. IF THERE IS A CONFLICT AMONG THE GENERAL NOTES, SPECIFICATION AND THE PLANS, THE ORDER OF PRECEDENCE IS NOTES, THEN SPECIFICATIONS, THEN PLANS.
  - D. THE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PROVIDING ALL MEASURES NECESSARY TO ENSURE THAT THE STRUCTURE IS PROTECTED DURING CONSTRUCTION. THESE MEASURES INCLUDE (BUT ARE NOT LIMITED TO) SHORING AND BRACING FOR CONSTRUCTION LOADS AND WORKER SAFETY PURPOSES.
  - E. SPACE REQUIRED INSIDE SHELTER IS SHOWN IN TABLE I.
  - F. THE DESIGN IS BASED ON GENERAL REQUIREMENTS LAID DOWN BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) AND IT IS INTENDED TO PROVIDE HIGH DEGREE OF OCCUPANT PROTECTION DURING SEVERE WINDSTORMS. BECAUSE IT IS NOT POSSIBLE TO PREDICT OR TEST ALL CONDITIONS THAT MAY OCCUR DURING SEVERE WINDSTORMS, OR CONTROL THE QUALITY OF CONSTRUCTION, AMONG OTHER THINGS, THE DESIGNER DOES NOT WARRANT THE DESIGN, OPERATION, DURABILITY OR FITNESS FOR USE.
  - G. THE CONTRACTOR SHOULD PROVIDE MEANS OF ACCESS TO THE SHELTER ACCORDING TO THE LOCAL BUILDING CODE REQUIREMENTS.
  - H. THE SHELTER SHOULD NOT BE LOCATED CLOSE TO THE OBJECTS, WHICH CAN FALL OVER THE SHELTER ROOF AND EXERT IMPACT FORCE ON IT.
  - I. THE DESIGN IS BASED ON THE LOADS AND SOIL CHARACTERISTICS SHOWN IN THE DESIGN DATA. IF ANY OF THE DESIGN PARAMETERS OR BUILDING GEOMETRY CHANGE THE DESIGN SHOULD BE REVIEWED FOR ADEQUACY.
  - J. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE GRADES FOR PROPER WATER DRAINAGE DURING AND AFTER CONSTRUCTION.
  - K. THE SHELTERS WILL WITHSTAND SOIL LOADS BASED ON ANY SOILS EXPECTED IN OKLAHOMA. ROCKS AND OTHER MATERIALS THAT MAY DAMAGE THE WALLS CANNOT BE PLACED AGAINST THE WALLS OF THE STRUCTURE.
  - L. THE SHELTERS ARE WATERPROOF SINCE THE EXTERIOR IS COATED WITH AN EPOXY THAT WILL WITHSTAND MOISTURE INDEFINITELY AND PREVENT RUST.
  - M. THIS SHELTER MEETS OR EXCEEDS FEMA 320, FEMA 361, ICC 500-14, AND IBC 2018 REQUIREMENTS FOR RESIDENTIAL AND NON-COMMUNITY STORM SHELTERS.
  - N. THE SHELTERS WILL NOT FLOAT BASED ON CALCULATIONS THAT MEET THE REQUIREMENTS OF THE STANDARDS REFERENCED IN NOTE M & ARTICLE 10 SECTION 12-232 IN THE OKLAHOMA CITY BUILDING CODE WHEN THE SHELTER IS EMPTY AND THE FLOTATION FORCE IS CONSIDERED TO BE 100%.
  - O. LID TESTING PERFORMED BY THE WIND SCIENCE & ENGINEERING RESEARCH CENTER DEBRIS IMPACT TEST FACILITY IN LUBBOCK, TX, TEST REPORT 20140117B, DATED NOV. 11, 2011.

**MATERIAL NOTES**

- 2. CONCRETE:
  - A. ALL CONCRETE SHALL HAVE STONE AGGREGATE (NORMAL WEIGHT) OR 3/8 INCH CHIP. 28-DAY COMPRESSIVE STRENGTH (F'C) SHALL BE 3,000 PSI MINIMUM FOR CAST-IN-PLACE CONCRETE.
  - B. REINFORCING BARS SHALL BE MILD STEEL WITH A MINIMUM YIELD STRENGTH OF 40 KSI.
  - C. REINFORCING BAR PROTECTION:
    - 1. CONCRETE PLACED AGAINST EARTH - 3"
    - 2. CONCRETE PLACED IN FORMS - 1-1/2"
- 3. DESIGN BASIS
  - A. LIVE LOADS USED IN DESIGN:
    - 1. WIND PRESSURES DEVELOPED FROM 250-MPH 3-SEC. GUST IN ACCORDANCE THE WIND LOAD CALCULATION PROCEDURE IN ASCE7-05, SECTION 6.5 METHOD 2-ANALYTICAL METHOD AS MODIFIED BY FEMA 361, CHAPTER 3 FOR SAFE ROOM DESIGN AND LIFE-SAFETY PROTECTION.
    - 2. WINDBORNE DEBRIS (MISSILE) IMPACT LOADS CREATED BY A 15-LB 2X4 TRAVELING HORIZONTALLY AT 100 MPH, TRAVELING VERTICALLY AT 67 MPH, AND IMPACTING NORMAL TO WALL SURFACE.
  - B. SOIL BEARING CAPACITY OF 2000 PSF MIN. HAS BEEN ASSUMED.



DRAWING TITLE: GENERAL NOTES		CLIENT: STORM SAFE SHELTERS	
DOCUMENT TITLE: F30-JUMBO I.D. U.G. SHELTER		LOCATION: VALLEY BROOK, OKLAHOMA	
<b>Dansby Engineering PLC</b> CIVIL & ENVIRONMENTAL ENGINEERS 2202 Westpark Dr. Suite B Norman, OK 73069 C.A. No. 5351 EXP. 6/30/2024		DRAWN BY: JWD	SCALE: NTS
		CHKD BY: JWD	DATE: 03/06/23
		PROJ. NO: 1623	DWG NO: 1 of 4
		CAD TITLE:	REVISED: 03/06/23

#4 REBAR X 12" LONG  
18" O.C. (TYP)  
EXISTING  
SLAB (TYP)

PROVIDE (12) 80# BAGS (MIN)  
OF CONCRETE IN TOP OF  
EXCAVATION (TYP)

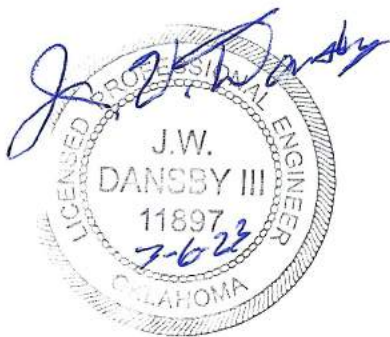
OVERCUT & EXCAVATION  
IS 4-6 INCHES ON SIDES  
AND 2 INCHES ON BOTTOM

F30 FLAT TOP SHELTER  
65" WIDE X 74" TALL X 108"  
LONG

SOIL COMPACTED TO 95%  
STANDARD PROCTOR  
DENSITY (TYP)

(21) 80 # BAGS  
OF 3000 PSI CONCRETE  
IN BOTTOM OF EXCAVATION

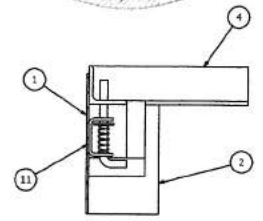
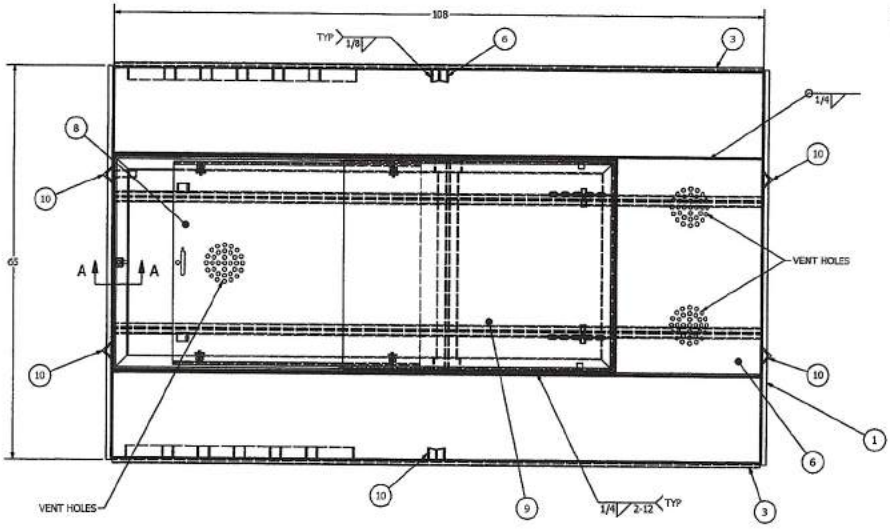
1/2" X 1/8" ANGLE ON  
ALL SIDES OF SHELTER



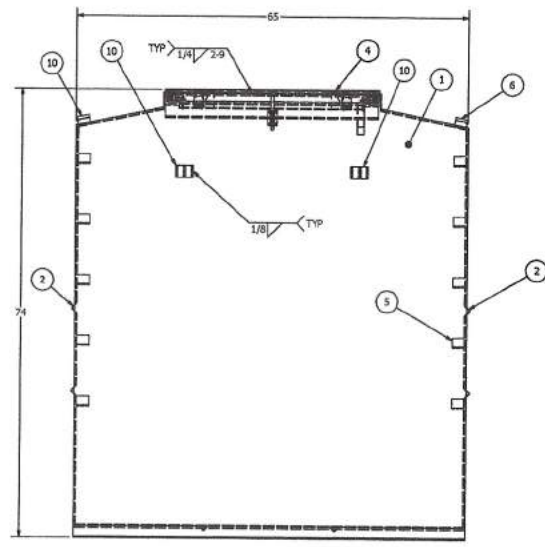
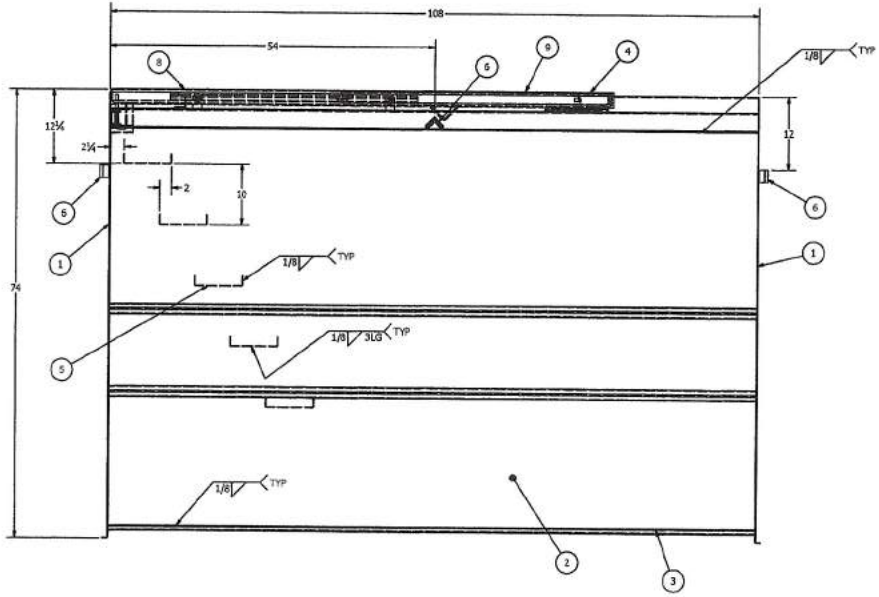
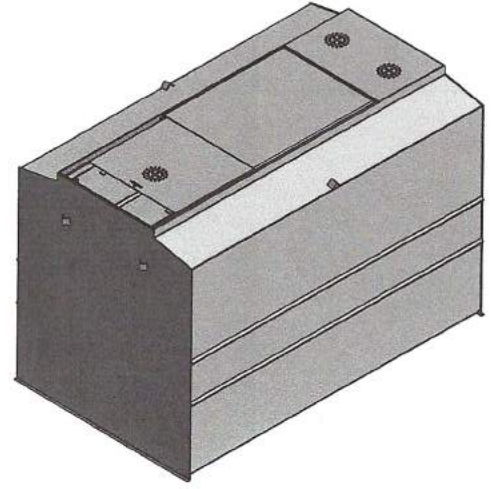
DRAWING TITLE: INSTALLATION DETAIL		CLIENT: STORM SAFE SHELTERS		DRAWN CWG		1/30/2013		<b>STORM SAFE SHELTERS</b> 6101 Camille St Valley Brook, OK 73149 (405) 606-2563			
DOCUMENT TITLE: F30-JUMBO I.D. U.G. SHELTER		LOCATION: VALLEY BROOK, OKLAHOMA		CHECKED							
<b>Dansby Engineering PLC</b> CIVIL & ENVIRONMENTAL ENGINEERS 2202 Westpark Dr. Suite B Norman, OK 73069 C.A. No. 5351 EXP. 6/30/2024				DRAWN BY: JWD		SCALE: NTS		QA			
				CHKD BY: JWD		DATE: 03/06/23		MFG		TITLE	
				PROJ. NO: 1623		DWG NO: 2 of 4		APPROVED		STORM SAFE SHELTER, F30	
				CAD TITLE:		REVISED: 03/06/23				SIZE	
										C	
						DWG NO		REV			
						29639		A			
						SCALE 1 1/2"=1'-0"		SHEET 2 OF 3			

*J.W. Dansby III*  
 LICENSED PROFESSIONAL ENGINEER  
 J.W. DANSBY III  
 11897  
 3-6-23  
 OKLAHOMA

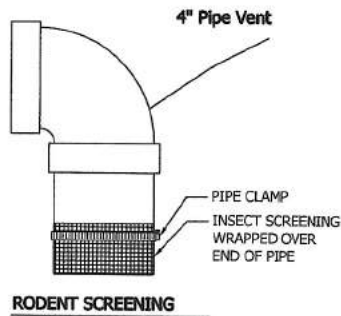
REVISION HISTORY		BY	DATE
REV	DESCRIPTION		
A	REVISED PER AS BUILT, UPDATED TITLEBLOCK	CWG	11 FEB 14



SECTION A-A



DRAWING TITLE: PLAN & PROFILE		CLIENT: STORM SAFE SHELTERS				
DOCUMENT TITLE: F30-JUMBO I.B. U.G. SHELTER		LOCATION: VALLEY BROOK, OKLAHOMA				
<b>Dansby Engineering PLC</b> CIVIL & ENVIRONMENTAL ENGINEERS 2202 Westpark Dr. Suite B Norman, OK 73069 C.A. No. 5351 EXP. 6/30/2024		DRAWN BY: JWD	SCALE: NTS			
		CHKD BY: JWD	DATE: 03/06/23			
PROJ. NO: 1623		DWG. NO: 3 of 4				
CAD TITLE:		REVISED:				
DESCRIPTION: STORM SAFE SHELTER, F30		DWG. NO.	25639			
SHIP DATE						
ITEM	QTY	PART NO	DESCRIPTION	REQ.	WEIGHT	TOTAL
1	2	29590	STORM SAFE ENDS, XL JUMBO	1.3		0.0
2	2	29641	STORM SAFE SIDES, XL JUMBO	1.3		0.0
3	1	29642	STORM SAFE FLOOR, XL JUMBO	1.0		0.0
4	1	29596	STORM SAFE DOOR FRAME	1.0		0.0
5	10	29643	STORM SAFE STEP SUPPORT, XL JUMBO	10.0		0.0
6	1	29723	XL JUMBO TOP EXTENSION	1.0		0.0
7			NOT USED			0.0
8	1	29910	STORM SAFE DOOR ASSY W/VENT	1.0		0.0
9	1	29911	STORM SAFE DOOR ASSY W/O VENT	1.0		0.0
10	8	800-088	2 X 2 X 1/4 ANGLE X 2	1.0	3.19	3.2
11	1	29621	DOOR LATCH ASSEMBLY	1.0		0.0
DRAWN	1/30/2013	STORM SAFE SHELTERS				
CHECKED		6161 Camille St Valley Brook, OK 73149 (405) 606-2503				
QA		TITLE				
MFG		STORM SAFE SHELTER, F30				
APPROVED		DATE: D DWG. NO: 29639-PAGE 3 REV: A				
		SCALE: SHEET 3 OF 3				



**TABLE I**  
**OCCUPANCY AND VENTILATION REQUIREMENTS**

ITEM #	TYPE OF SHELTER	MINIMUM REQUIRED USABLE FLOOR AREA (SQ. FT / OCCUPANT)	VENTING AREA (SQ. IN / OCCUPANT)
1	ONE & TWO FAMILY DWELLING	3	4
2	OTHER RESIDENTIAL OR SMALL BUSINESS	5	4

**NOTE: THE MAXIMUM OCCUPANCY FOR THIS SHELTER IS 16 PEOPLE.**

**NOTE:**

1. VENTILATION IS TO BE PROVIDED IN ACCORDANCE WITH THE LOCAL BUILDING CODE. VENTILATION MAY BE NATURAL OR MECHANICAL SUCH THAT MINIMUM VENTILATION IS PROVIDED AS SHOWN IN TABLE I.
2. THE VENTILATION CAPACITY OF 1-4 INCH PIPE VENT OR THE VENT IN INDOOR LID AS SHOWN ON PAGE 3 IS 12.6 SQUARE INCHES OR 3 OCCUPANTS.



DRAWING TITLE: VENTILATION		CLIENT: STORM SAFE SHELTERS	
DOCUMENT TITLE: F30-JUMBO I.D. U.G. SHELTER		LOCATION: VALLEY BROOK, OKLAHOMA	
<b>Dansby Engineering PLC</b> CIVIL & ENVIRONMENTAL ENGINEERS 2202 Westpark Dr. Suite B Norman, OK 73069 C.A. No. 5351 EXP. 6/30/2024		DRAWN BY: JWD	SCALE: NTS
		CHKD BY: JWD	DATE: 03/06/23
		PROJ. NO: 1623	DWG NO: 4 of 4
		CAD TITLE:	
		REVISED:	REVISED: