

Patton Aluminum Products, Inc.

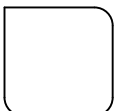
Engineering Specifications  
for  
2" & 4" Insulated Enclosures

Prepared by:  
Brad Doudican, P.E.  
Doudican Engineering and Design, LLC  
February 2013

All original documents on file at  
Patton Aluminum Products, Inc.  
65 Quick Road  
New Carlisle, OH 45344

Patton Aluminum Products  
65 Quick Road, New Carlisle, OH 45344  
Ph. 937.845.9404, Fax 937.845.9424

Title: Cover Sheet  
Scale: n/a  
Date: 2-10-13



1. GENERAL NOTES

- a. THESE NOTES SHALL APPLY TO THE ARCHITECTURAL AND STRUCTURAL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED.
- b. THE CONTRACTOR SHALL CONDUCT ALL OPERATIONS IN STRICT ACCORDANCE WITH THE SAFETY REQUIREMENTS IMPOSED BY THE OWNER AND OSHA. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
- c. THIS STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER IT IS FULLY COMPLETED. IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCES, AND TO ENSURE THE STABILITY OF THE STRUCTURE AND ITS COMPONENT PARTS, AND THE ADEQUACY OF TEMPORARY BRACING, GUYS, OR TIE-DOWNS THAT MIGHT BE NECESSARY. SUCH MATERIAL IS NOT SHOWN AND SHALL REMAIN THE CONTRACTOR'S PROPERTY.
- d. ALL DEVIATIONS FROM THE ENGINEERING DRAWINGS SHALL BE SUBMITTED IN WRITTEN FORM TO THE OWNER AND THEIR REPRESENTATIVE FOR APPROVAL.
- e. DIMENSIONS PERTAINING TO EXISTING CONDITIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ANY FABRICATIONS, CONSTRUCTION, OR ERECTION.

2. DESIGN DATA

- a. UNLESS OTHERWISE INDICATED, ALL DETAILS OF DESIGN, WORKMANSHIP, AND MATERIAL SHALL CONFORM TO THE RESIDENTIAL CODE OF OHIO FOR ONE-, TWO-, AND THREE-FAMILY DWELLINGS, LATEST EDITION. WHERE OTHERWISE NOT CONFORMING TO THIS CODE, DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH SECTION 301.1.3 "ENGINEERED DESIGN".
- b. DEAD LOAD = 10 PSF
- c. ROOF LIVE LOAD = 12 PSF
- d. GROUND SNOW LOAD - 20 PSF
- e. BUILDING CATEGORY - II
- f. BASIC DESIGN WIND SPEED - 115 M.P.H., EXPOSURE C
- g. IMPORTANCE FACTOR - 1.0
- h. ALLOWABLE SOIL BEARING - 1500 PSF
- i. SEISMIC DESIGN CATEGORY - B (DOES NOT GOVERN)

3. FOOTINGS AND FOUNDATIONS

- a. ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL. EXCAVATIONS SHALL BE FREE OF LOOSE MATERIAL AND WATER. BEARING ELEVATION SHALL BE A MINIMUM OF 36-INCHES BELOW GRADE, UNLESS NOTED OTHERWISE (UNO).
- b. ALL CONCRETE FOUNDATIONS SHALL BE 3,000 PSI (28-DAY COMPRESSIVE STRENGTH CONCRETE) UNO.

4. ALUMINUM

- a. ALUMINUM MATERIALS SHALL BE 3003-H16 OR 6063-T6 OR OTHER ALUMINUM ALLOW APPROVED BY THE ENGINEER.
- b. ALUMINUM CONSTRUCTION AND DESIGN SHALL ADHERE TO "ALUMINUM DESIGN MANUAL" BY THE ALUMINUM ASSOCIATION (2010).
- c. ALL WELDING SHALL CONFORM WITH AWS D1.2 "STRUCTURAL WELDING CODE - ALUMINUM" (LATEST EDITION).

5. STRUCTURAL STEEL

- a. STRUCTURAL STEEL SHALL BE NEW.
- b. STRUCTURAL STEEL FOR BEAMS AND PLATES SHALL COMPLY WITH ASTM SPECIFICATION A-36. STRUCTURAL STEEL FOR STEEL COLUMNS SHALL COMPLY WITH ASTM SPECIFICATION A-53 GRADE B OR A-501. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B.
- c. ALL DETAILING SHALL CONFORM TO CURRENT AISC SPECIFICATIONS.
- d. ALL WELDING SHALL CONFORM TO CURRENT AMERICAN WELDING SOCIETY SPECIFICATIONS FOR MATERIAL BEING WELDED AND BE PERFORMED BY CERTIFIED WELDERS.
- e. ALL BOLTS SHALL BE UNFINISHED ASTM A307, UNO.
- f. ALL STRUCTURAL STEEL AND MISCELLANEOUS IRON NOT ENCASED IN CONCRETE SHALL RECEIVE ONE SHOP COAT OF APPROVED PRIMER PAINT.

6. ENGINEERED LUMBER

- a. ENGINEERED LUMBER DOCUMENTS SHALL BE PREPARED BY A REGISTERED DESIGN PROFESSIONAL AND SHALL BE PROVIDED TO THE RESIDENCE DESIGNER AND THE BUILDING OFFICIAL, AND APPROVED BY BOTH PRIOR TO INSTALLATION.
- b. CONSTRUCTION DOCUMENTS SHALL INCLUDE, AT A MINIMUM, THE INFORMATION SPECIFIED BELOW.
  - b.a. LOCATION PLAN FOR EACH OF THE ENGINEERED LUMBER STRUCTURAL COMPONENTS.
  - b.b. DESIGN LOADS, SPAN, AND REACTION FORCE AND DIRECTION.
  - b.c. REQUIRED BEARING WIDTH.
  - b.d. DETAILS AND SPECIFICATIONS FOR ALL CONNECTORS AND ACCESSORIES.
  - b.e. REQUIRED PERMANENT MEMBER BRACING LOCATION, BRACE SIZES, AND REACTIONS.
  - b.c. REQUIRED CONSTRUCTION OR TEMPORARY BRACING AND SHORING AS NECESSARY.
  - b.d. IF SPECIFIED, PROVIDE MASONRY VENEER SUPPORT DETAILS INCLUDING CONNECTION TO ENGINEERED LUMBER AND REACTION FORCE AND DIRECTION.

7. MISCELLANEOUS

- a. ALL MATERIALS, SUPPLIES, AND EQUIPMENT TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS AND AS PER LOCAL CODES AND REQUIREMENTS.

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NOTES

Job Information

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Size of patio cover (ft.): \_\_\_\_\_ projection x \_\_\_\_\_ width

Type of patio cover:

Insulated Panel Ref: "Engineering Specifications for 3", 4", and 6" Insulated Patio Cover System"

W- or Flat Pan Ref: "Engineering Specifications for 1 2-inch Panel Patio Cover System"

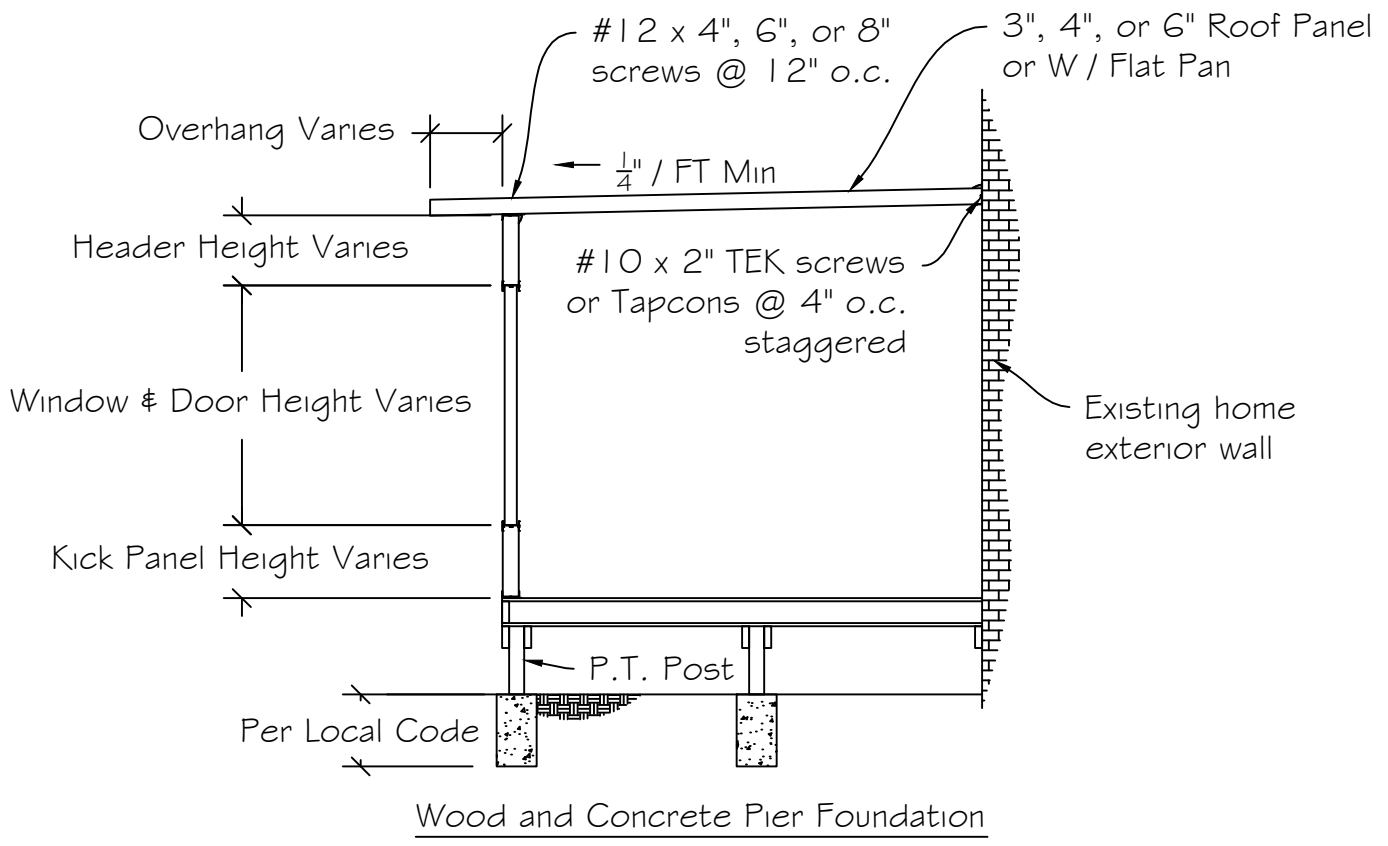
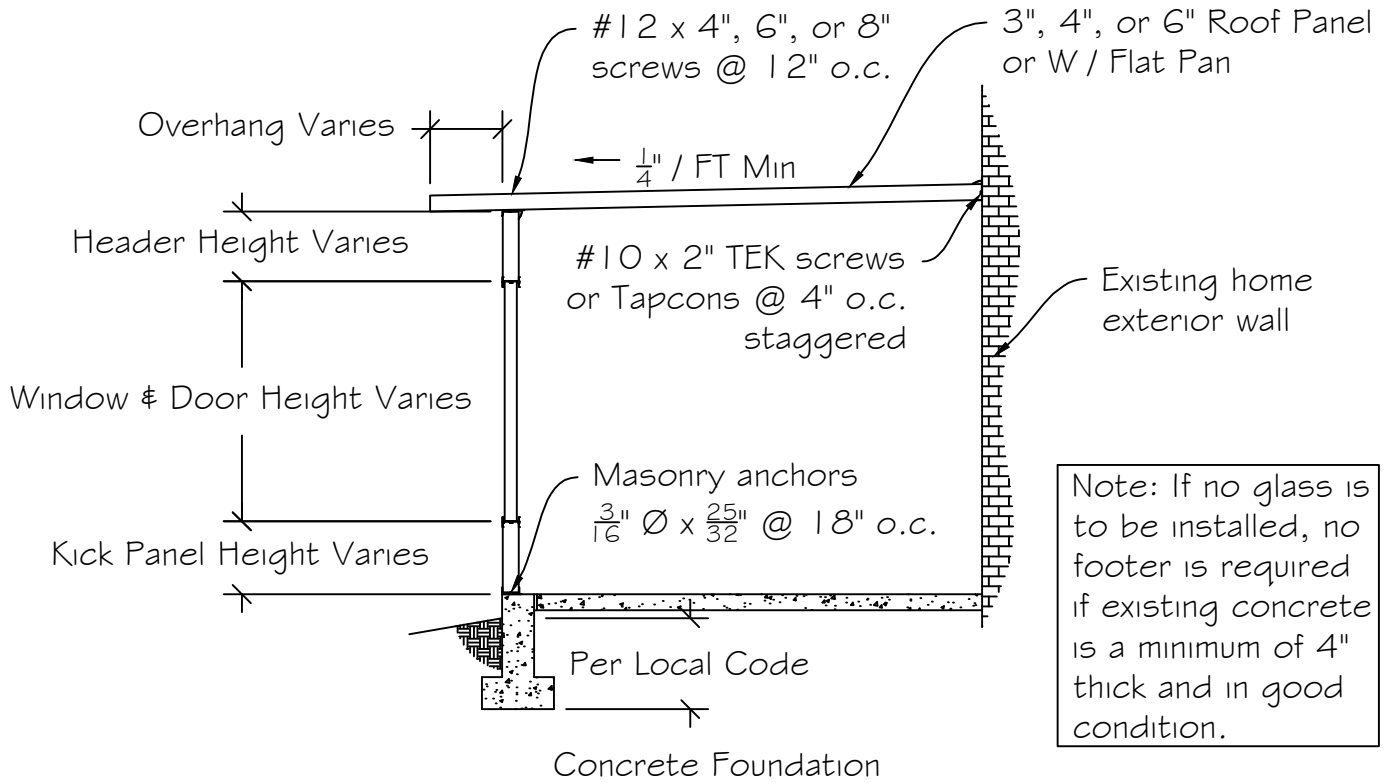
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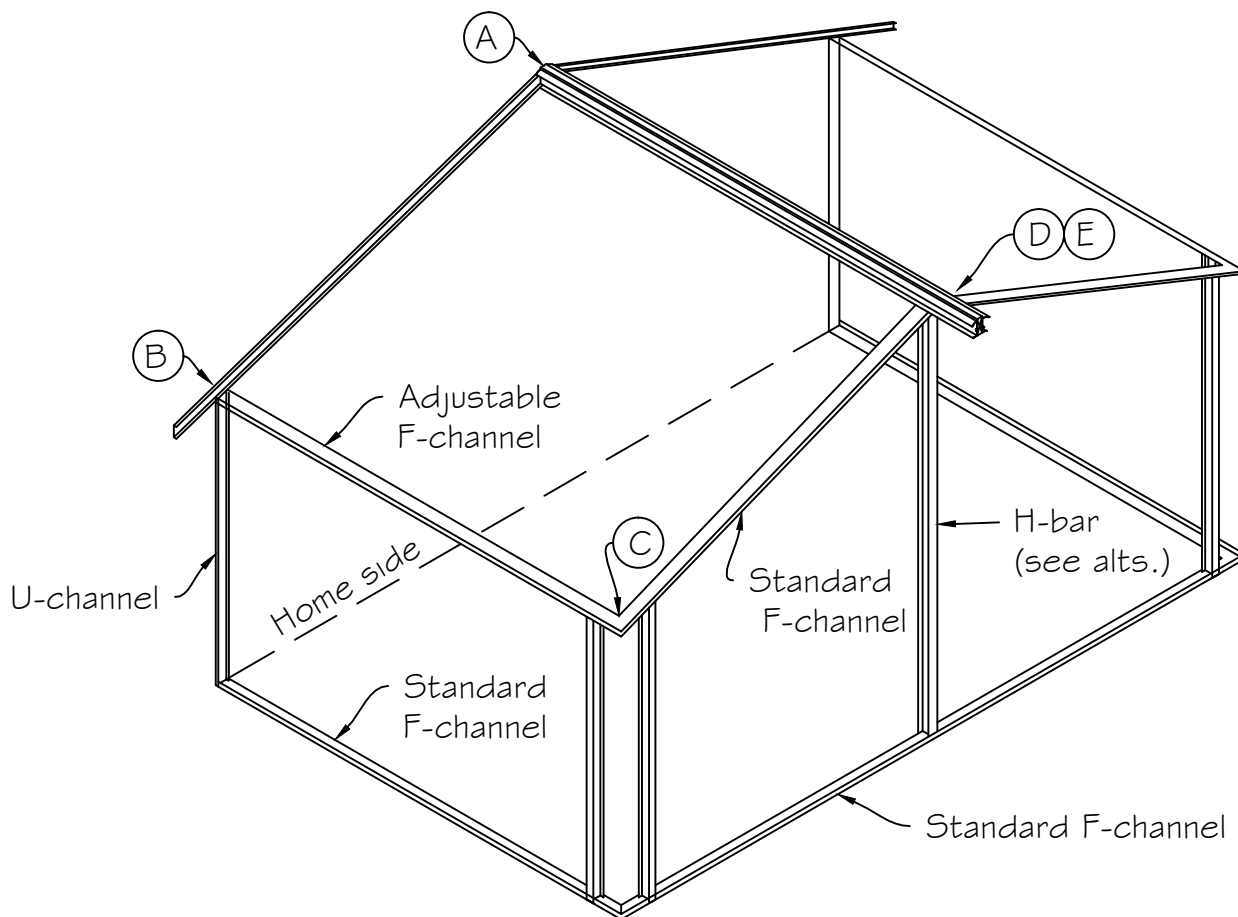
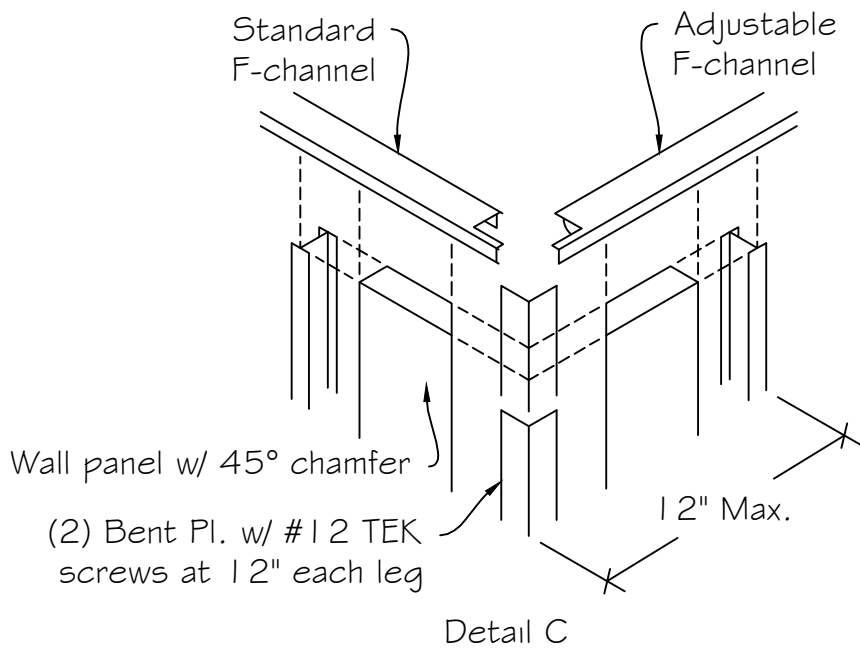
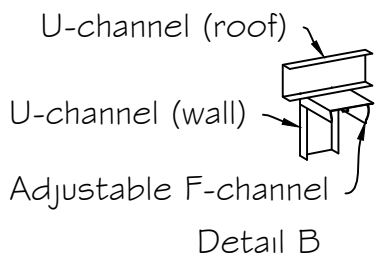
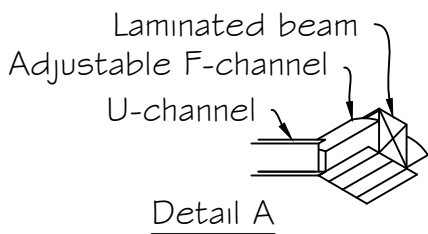
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JOB  
INFO

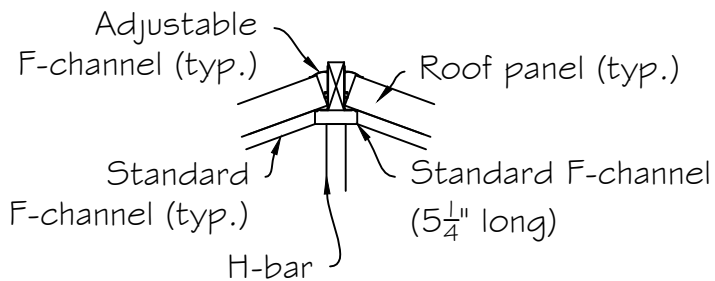
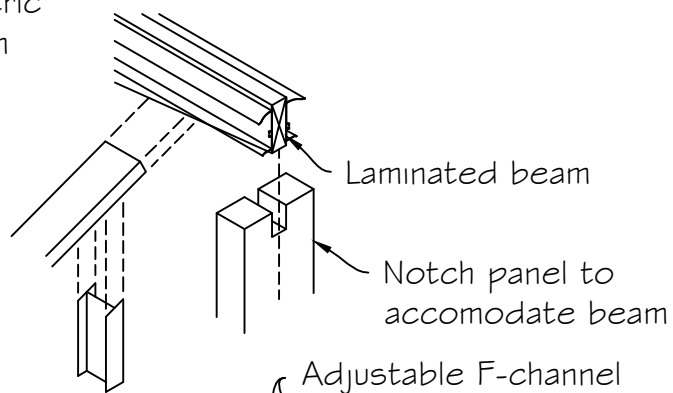
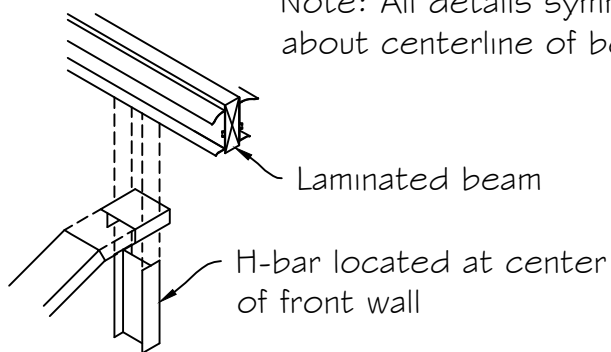




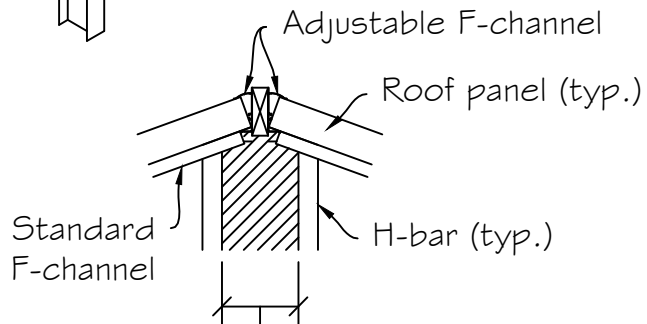


Typical Components of Gabled Style Enclosure  
Note: Wall components omitted for clarity.

Note: All details symmetric about centerline of beam

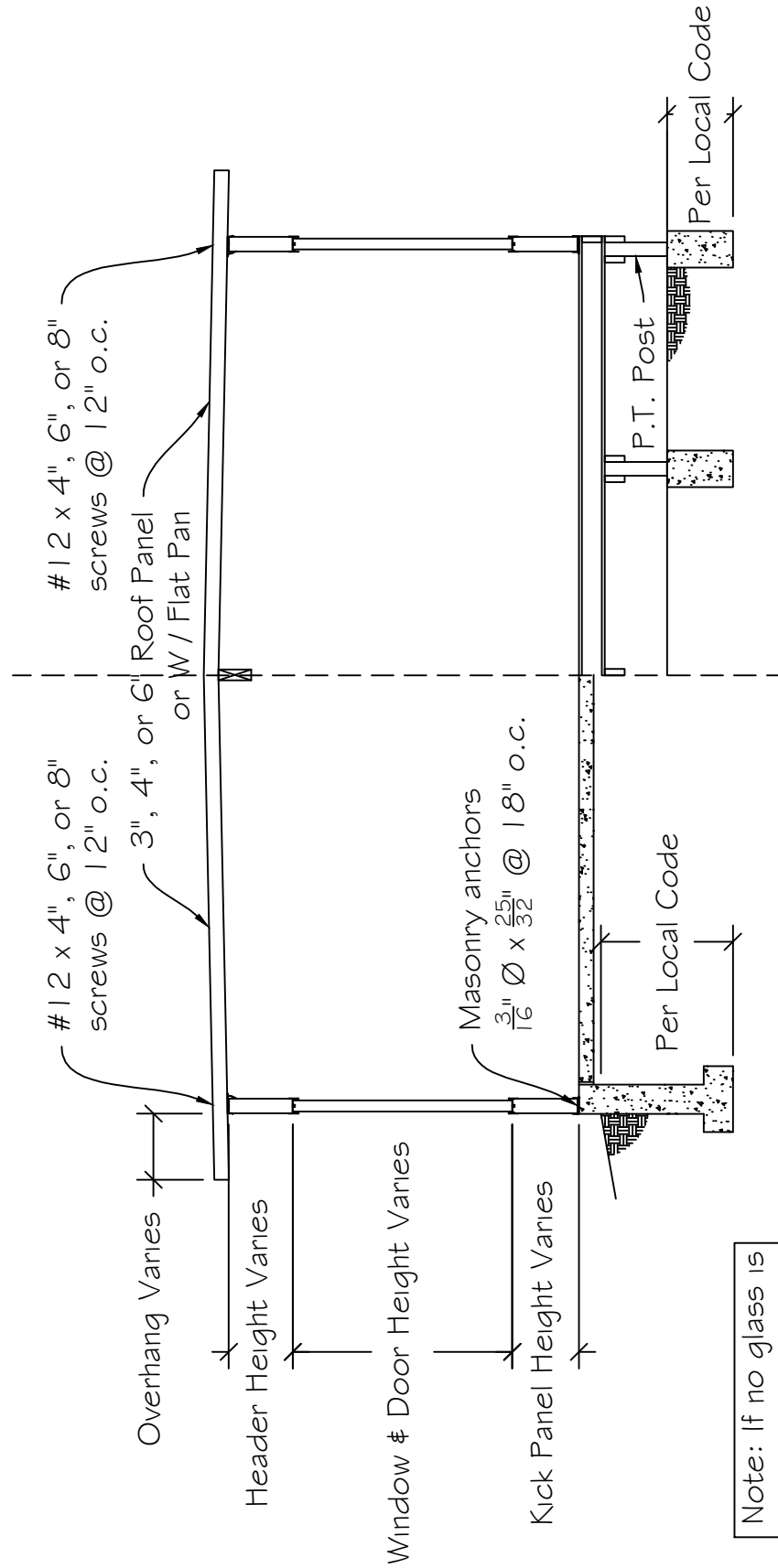


Alternative 1



Alternative 2

Detail D



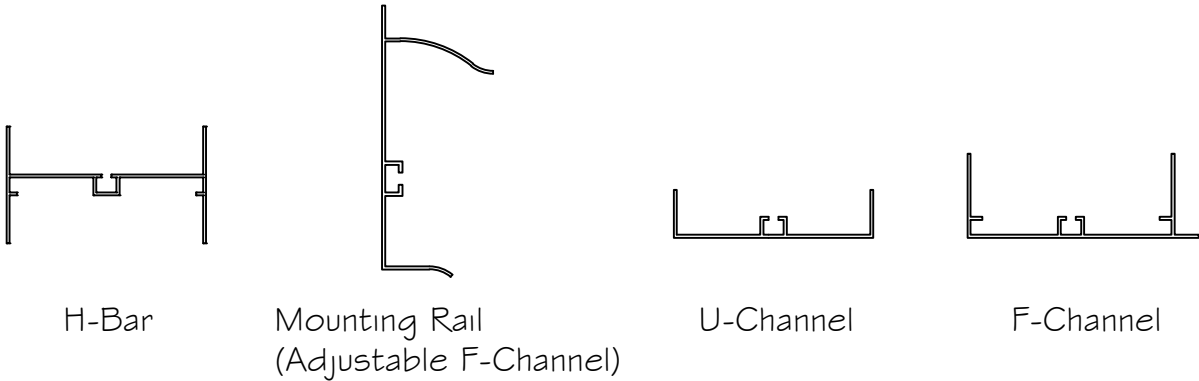
Note: If no glass is to be installed, no footer is required if existing concrete is a minimum of 4" thick and in good condition.



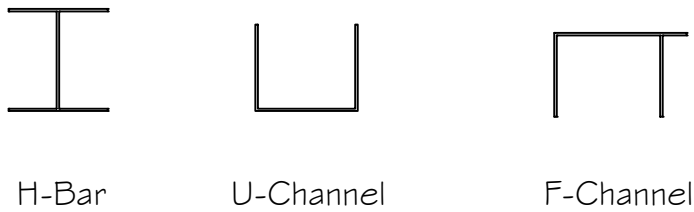
Wall Panel Allowable Strength		
	Solid Wall Panel	Framed Panel (Doors/Windows)
Maximum Axial Compressive Load (lb/ft)	1 200	1 000
Maximum Racking Load (lb/ft)	79	71

Note: Wall panels shall be positively fastened at top and bottom in accordance with manufacturer's requirements to independently transfer gravity and racking loads to the foundation.

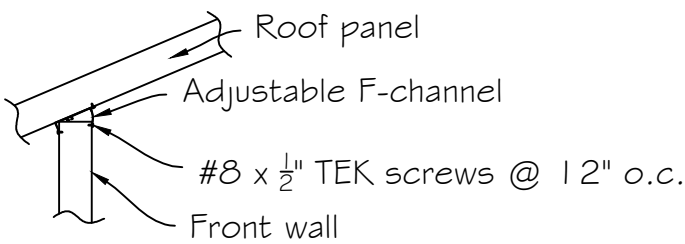
Wall Panels for 2" & 4" Insulated Room



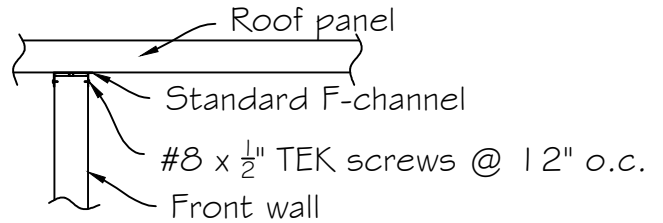
Extrusions for 4" Insulated Room



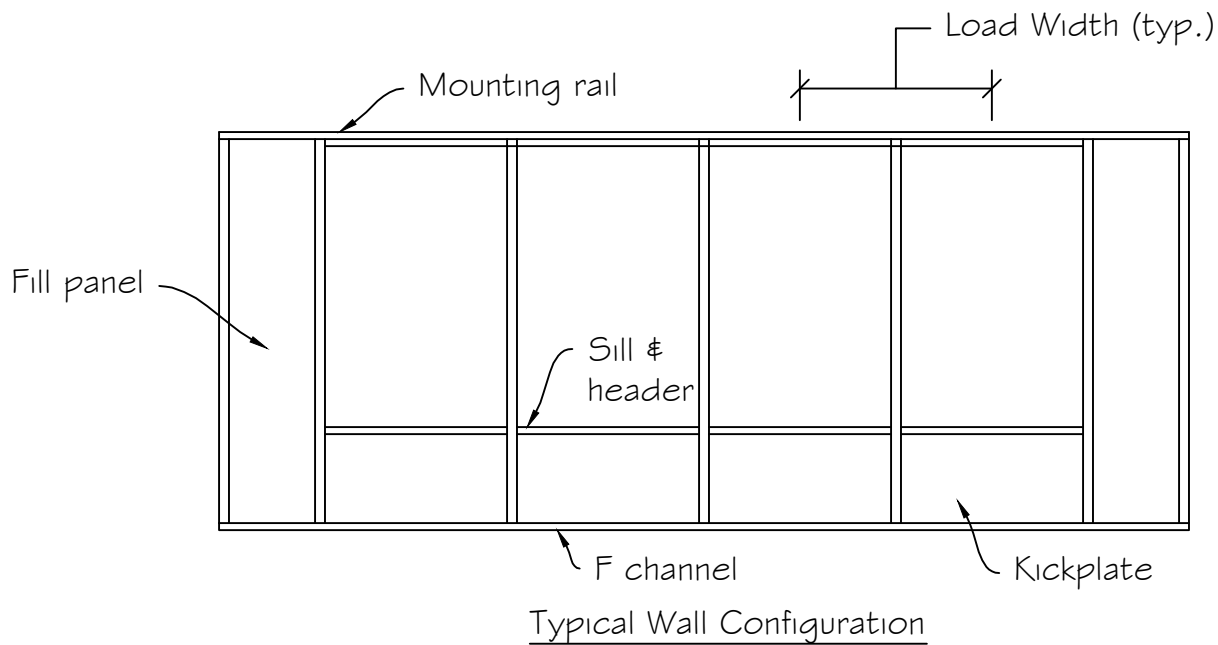
Extrusions for 2" Insulated Room



Sloped Roof Connection Detail



Flat Roof Connection Detail



How to use this package:

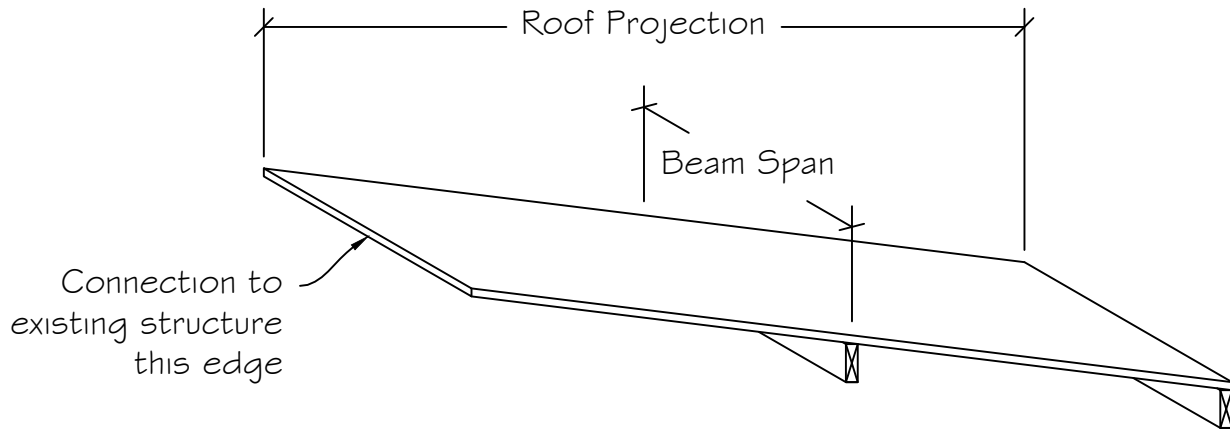
1. Choose post spacing for site-specific screen, window, and door configuration.
2. Use tables on Sheet 3/3 with post spacing and code-prescribed wind loads to determine allowable post height for 2" or 4" H-bar per instructions.
3. If additional projection is required, see Sheet 3/3 for design of intermediate 2x8 support beam.

	Allowable 2" H-Bar Post Height (ft)			
	Wind Load (psf)			
Load Width (ft)	10	12	15	20
3.0	10.5	9.6	8.5	7.4
3.5	9.7	8.8	7.9	6.8
4.0	9.1	8.3	7.4	6.4
4.5	8.5	7.8	7.0	6.0
5.0	8.1	7.4	6.6	5.7
5.5	7.7	7.1	6.3	5.5
6.0	7.4	6.8	6.0	5.2

Windspeed to Wall Load Conversion		
Wind Speed (mph)	Screened Wall (>65% permeable) (psf)	Solid Wall (psf)
90	10	14
100	11	17
110	13	21
120	15	25

Note: Tables this sheet assume 6061-T6 aluminum.

For wall heights and post spacings exceeding the tables on this sheet use 4" H-bar sections. The maximum allowable post height for 4" H-bar is 12'-0". Any scenarios exceeding the conditions specified on this sheet require site-specific engineering.



2 x 8 x 0.086 Built-Up Beam Allowable Span (ft)				
	DL + LL (lbs)			
Roof Projection (ft)	20	25	30	35
8	16'-10"	15'-0"	13'-8"	12'-8"
12	13'-8"	12'-3"	11'-2"	10'-4"
16	11'-11"	10'-7"	9'-8"	8'-5"
20	10'-7"	9'-6"	8'-8"	8'-0"

Patton Aluminum Products  
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Title: Non-Insulated Room Design  
 Scale: n/a  
 Date: 2-10-13

