

WARWICK
INDUSTRIES LTD.

6999 - 84th Street SE, Calgary, AB, T2C 4T6
Ph: (403) 720-9425 Fax: (403) 720-9426
E-mail: rtooth@telusplanet.net

METAL BUILDING ASSEMBLY MANUAL

WARWICK INDUSTRIES LTD.

6999 - 84th Street SE, Calgary, AB, T2C 4T6
Ph: (403) 720-9425 Fax: (403) 720-9426
E-mail: rtooth@warwickind.ab.ca

TABLE OF CONTENTS

| | |
|-----------|---|
| SECTION 1 | BASE PREPARATION AND BOTTOM CHANNEL LAYOUT <ul style="list-style-type: none">• Figures 1, 2, 3, 4 & 5 |
| SECTION 2 | WALL PANEL INSTALLATION <ul style="list-style-type: none">• Figures 6, 7 & 8 |
| SECTION 3 | RIDGE AND ROOF PANEL INSTALLATION <ul style="list-style-type: none">• Figures 9, 10 & 11 |
| SECTION 4 | INSULATION AND LINING <ul style="list-style-type: none">• Figures 12 |

LIST OF FIGURES

| | |
|-----------|---|
| FIGURE 1 | BASE AND INSERTS |
| FIGURE 2 | BOTTOM CHANNEL ANCHORING LAYOUT |
| FIGURE 3 | CORNER DETAIL |
| FIGURE 4 | SPLICE DETAIL |
| FIGURE 5 | DETAIL OF PANEL INSTALLATION |
| FIGURE 6 | WALL PANEL INSTALLATION |
| FIGURE 7 | WINDOW DETAIL |
| FIGURE 8 | DOOR DETAIL |
| FIGURE 9 | ROOF PANEL INSTALLATION |
| FIGURE 10 | SECTION THROUGH GABLE END WALL AND ROOF |
| FIGURE 11 | SECTION THROUGH WALL AND ROOF |
| FIGURE 12 | INSTALLATION OF LINING AND INSULATION |

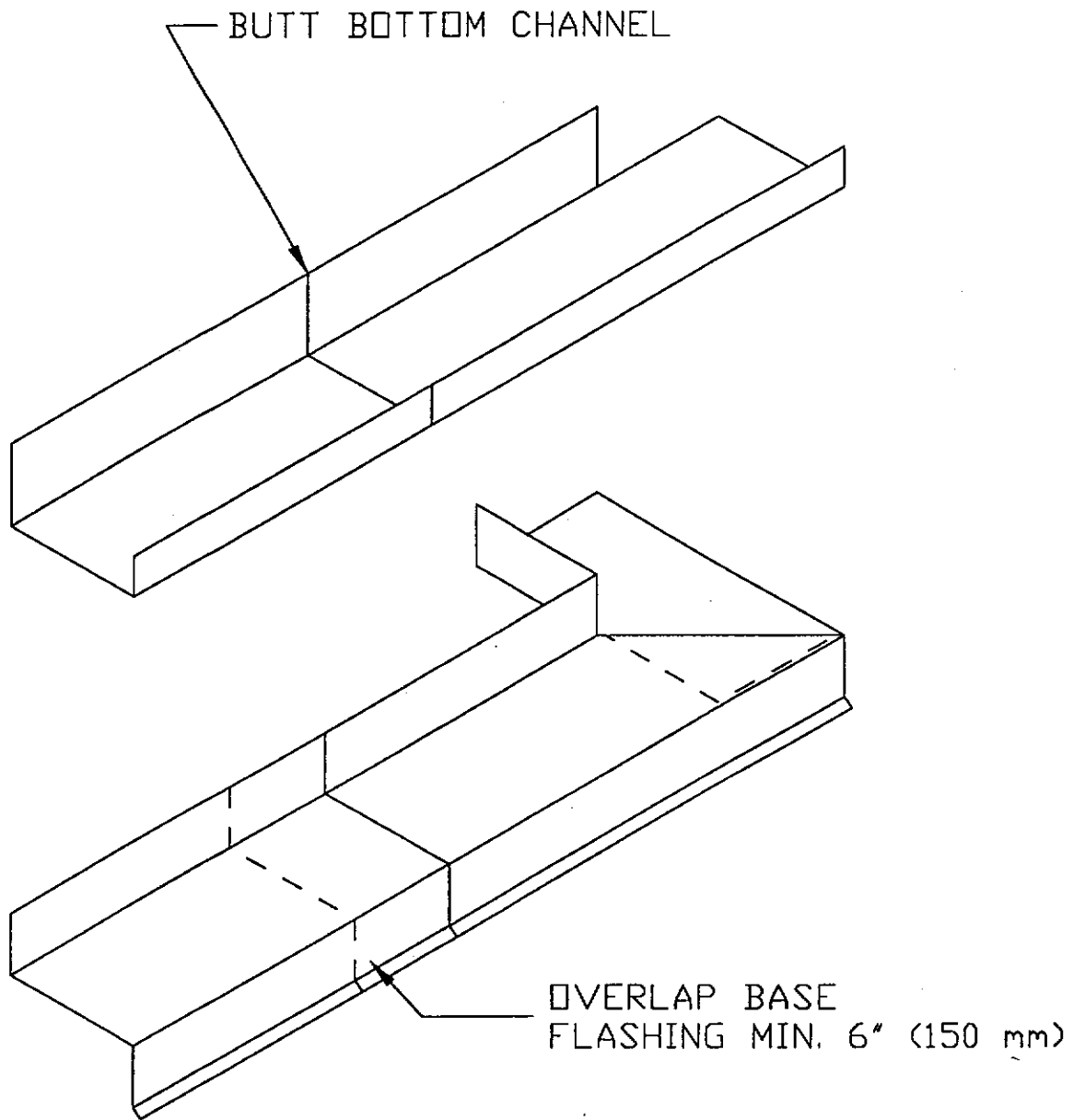
BASE FLASHING & BOTTOM CHANNEL LAYOUT AND NOTCHING (Figures 1, 2, 3, 4 & 5)

Foundation or base must be square, level and smooth. Outside dimensions must be exactly equal to building dimensions (e.g. 30'0" {9144mm} x 40'0" {12,192mm} building requires a 30'0" {9144mm} x 40'0" {12,192mm} base). For timber base, steel stakes should be used to anchor the base to the ground.

In general, the bottom channel fasteners are placed 6" {150mm} off all corners and door openings, and 1½" {38mm} from the exterior edge of the foundation to the center of the fastener. Spacing is approximately every 20" {508mm} beside each rib, and the bottom channel is drilled in the field. (Figures 1 & 2)

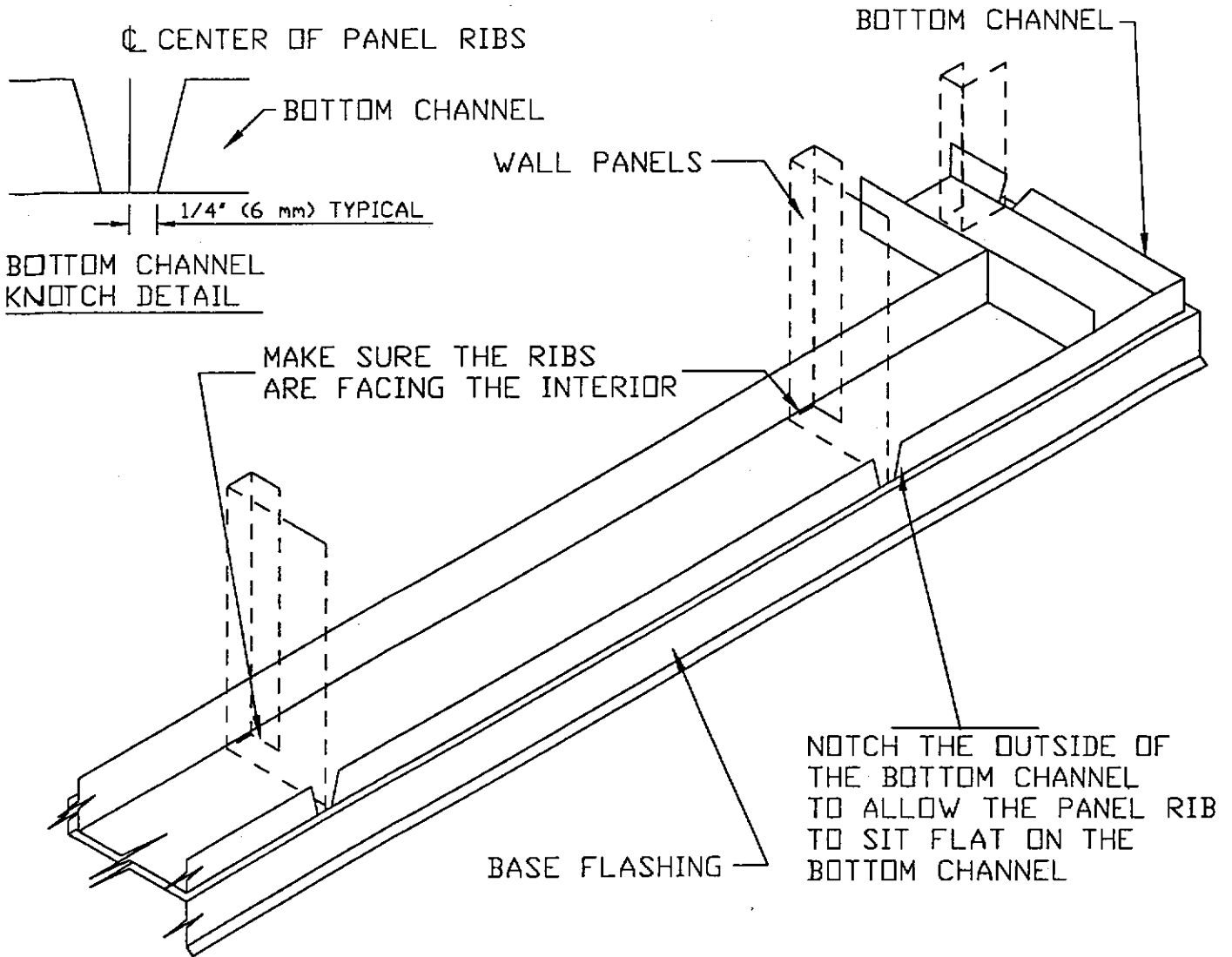
Lay out the base flashing and bottom channel and check diagonals. Drill holes in the building foundation, base flashing and the bottom channel to correspond with the placement of the fasteners. Caulk the base on which the base flashing is to be laid. Cut the bottom channel at all door openings as required and fasten down both the bottom channel and the base flashing to the base. (Figures 3 & 4)

Using the building layout as a guide, lay out the wall panels (wall panels are profiled, roof panels are not) around the perimeter of the building base. Notch out the outside edge of the bottom channel to correspond with the location of the panel ribs. (Figure 5)



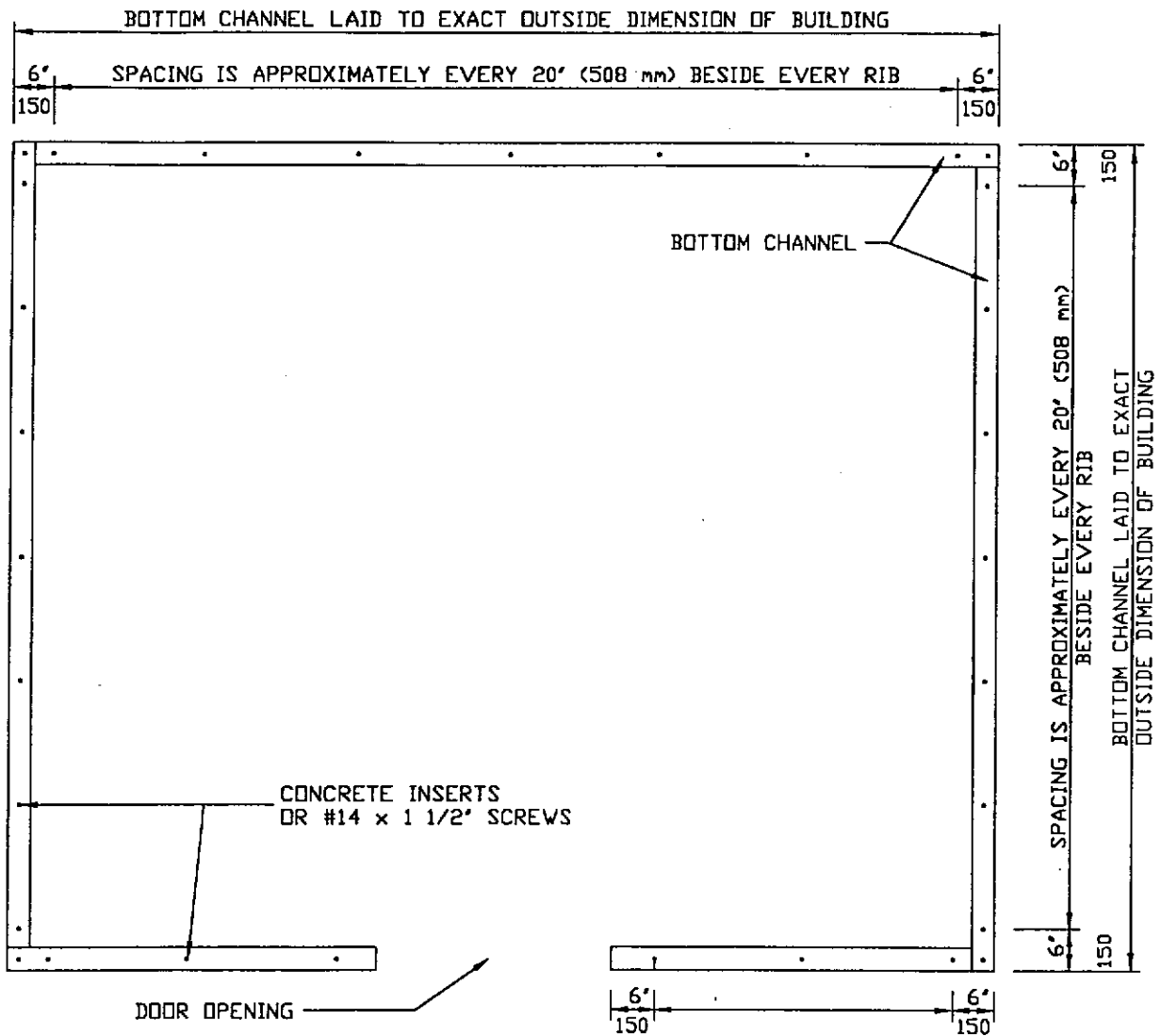
SPLICE DETAIL

FIGURE 4



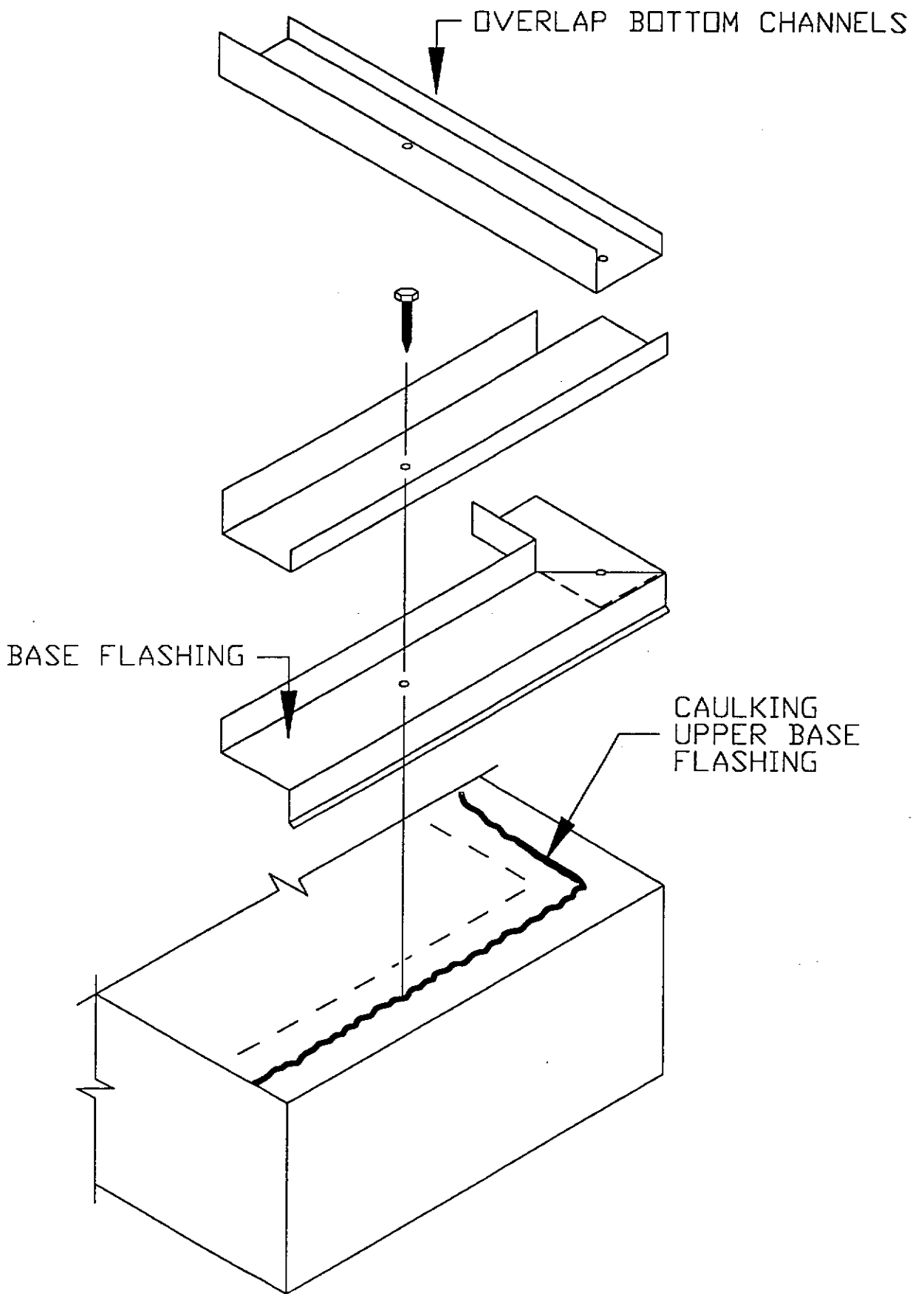
DETAIL OF PANEL INSTALLATION

FIGURE 5



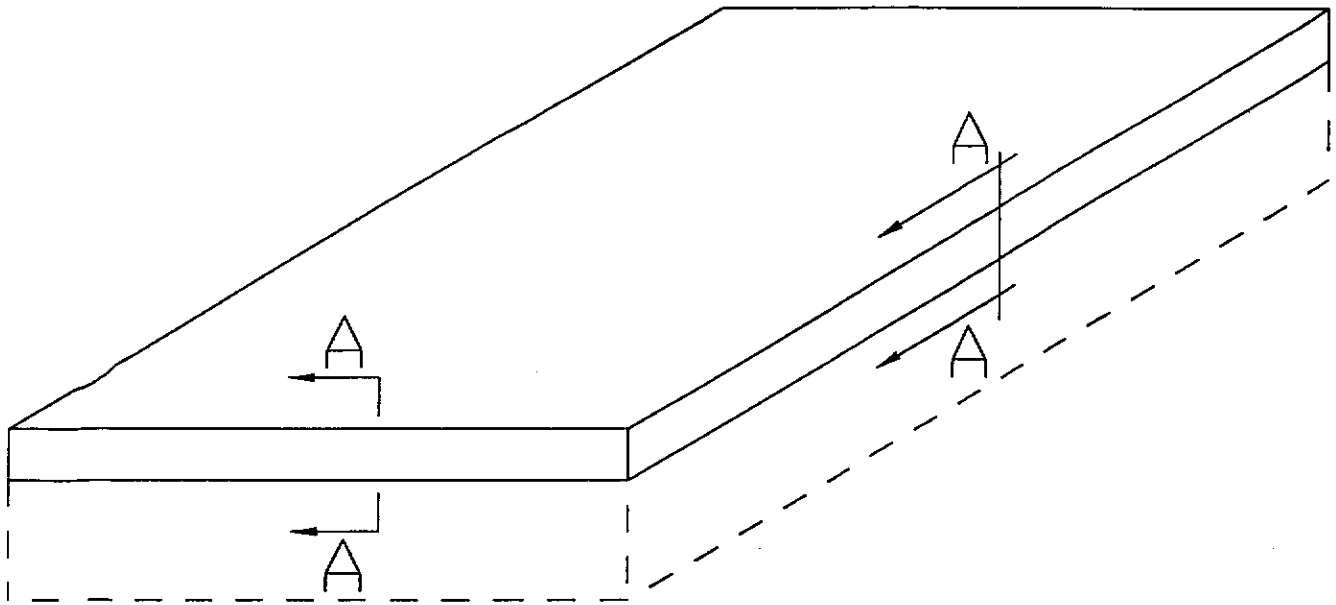
BOTTOM CHANNEL ANCHORING LAYOUT

FIGURE 2

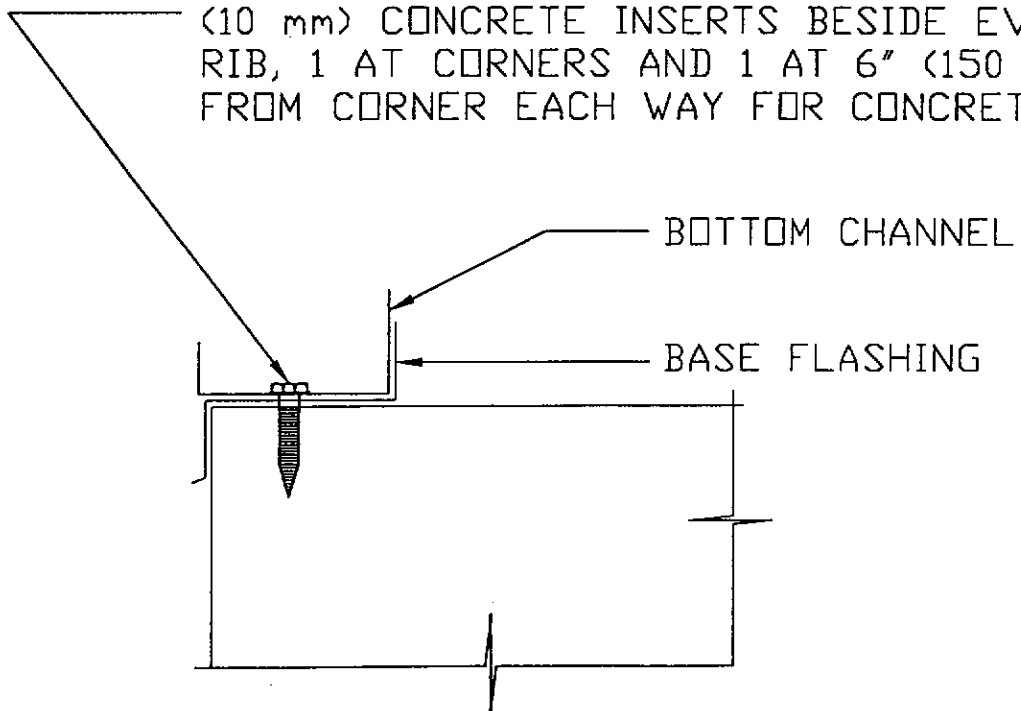


CORNER DETAIL

FIGURE 3



#14 x 1 1/2" SCREW BESIDE EVERY RIB, 1 AT CORNERS AND 1 AT 6" (150 MM) FROM CORNER EACH WAY FOR STEEL & TIMBER BASES OR 3/8" (10 mm) CONCRETE INSERTS BESIDE EVERY RIB, 1 AT CORNERS AND 1 AT 6" (150 MM) FROM CORNER EACH WAY FOR CONCRETE BASES



BASE AND INSERTS

FIGURE 1

WALL PANEL INSTALLATION (Figures 6, 7 & 8)

Begin wall assembly with special corner panel (regular panels with 90 degree brake to create corner).

From the outside **THE FEMALE RIB (BIG END, "B" ON DRAWING) SHOULD BE TO THE RIGHT**. Install one panel on each side of the corner panel and plumb assembly.

Secure the corner panel and wall panels to the bottom channel on the outside of the wall with #8 X ½" self-tapping metal screws at each low profile of panel.

When assembling the walls, attach each panel to the next by placing #8 X ½" self-tapping screws through the 3" (75mm) ribs, spaced as per fasteners and drawing.

Continue assembling wall panels until you arrive at a window or door opening. Place window or door unit (doors only when frame is welded) in place and build the wall around it. Check building layout for planned locations of doors, windows, etc.

Continue along end walls using the same procedure as for side walls. Wall panels are numbered and marked to correspond with layout of the drawing (e.g. #1c {corner} #2, #3, etc.).

When putting window and door units in the openings, be sure that they are installed correctly, not upside down, and are in the proper locations. (See figures 7 & 8)

When enough wall panels have been erected, install the top channel and the top drip channel.

All panels are to be fastened to the outside of the bottom channel at each low point of the profile with # 8 X ½" self-tapping metal screws. Panels are to be fastened to the top channel at each high profile also using # 8 X ½" self-tapping metal screws.

Lengths of top channel and top drip channel should be offset so that the joints between lengths do not occur within 3'0" (900mm) of each other. (See figure 6).

Continue in this manner until all sides and end wall panels have been assembled, temporarily bracing walls as required.

After the top channel is in place, put the top drip channel over the top channel and fasten on top by staggering the placement of # 8 X ½" screws at 8" o.c. (See figure 6).

Fasten all wall panels to the inside of the top channel, top drip channel and bottom channel with #8 X ½ self tapping screws on each rib.

After the side walls and end walls are completed, cross bracing and windbracing (if required) are to be fastened through the top channel and drip channel with supplied bolts (size as indicated on drawings). See cut-list and drawing for location of cross bracing. (Figure 7)

JOINTS OF TOP CHANNEL & DRIP CHANNEL ARE TO BE OFFSET AT LEAST 3'-0" (900 mm)

END WALLS MITRES TO PROPER SLOPE ON BUILDINGS WITH GREATER THAN 2/12 SLOPE

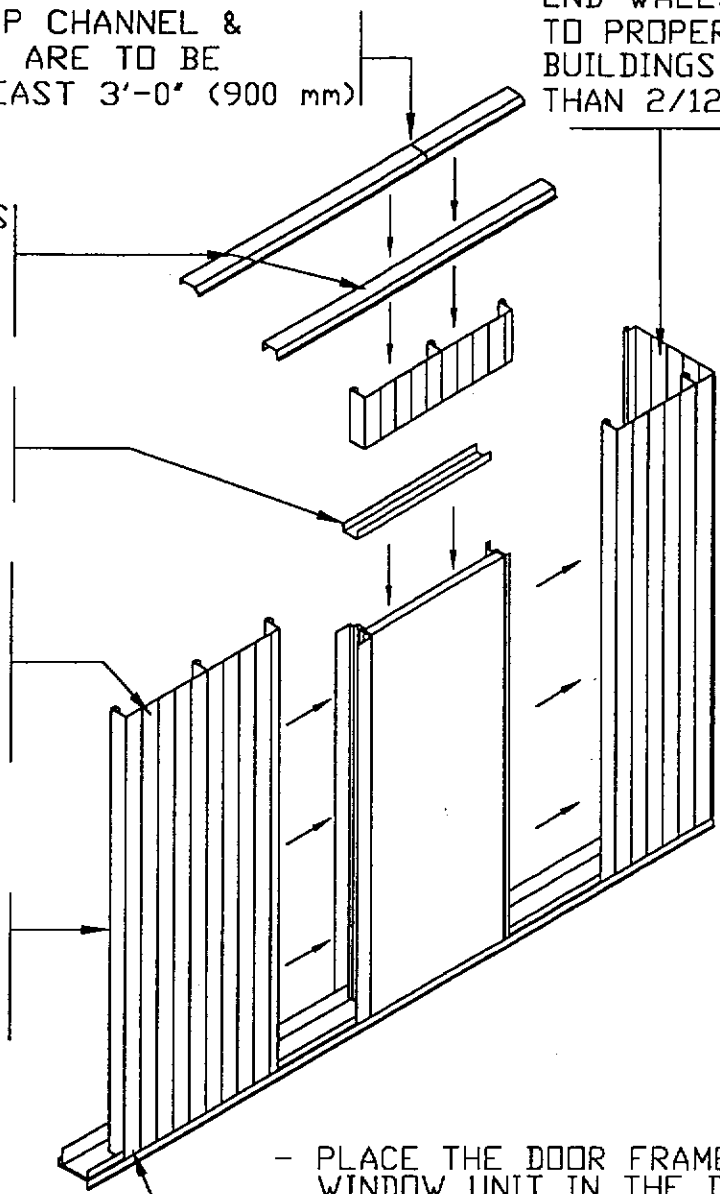
#8 X 1/2" SCREWS THROUGH DRIP CHANNEL & TOP CHANNEL

U-CHANNEL FRAMING FOR FRAMING AT LARGE OPENINGS

#8 X 1/2" SELF TAPPING SCREWS @ EACH HIGH PROFILE THROUGH THE TOP CHANNEL & WALL PANEL

#8 X 1/2" SCREWS THROUGH PANEL RIBS (REFER TO FASTENER SPACING ON DWG.)

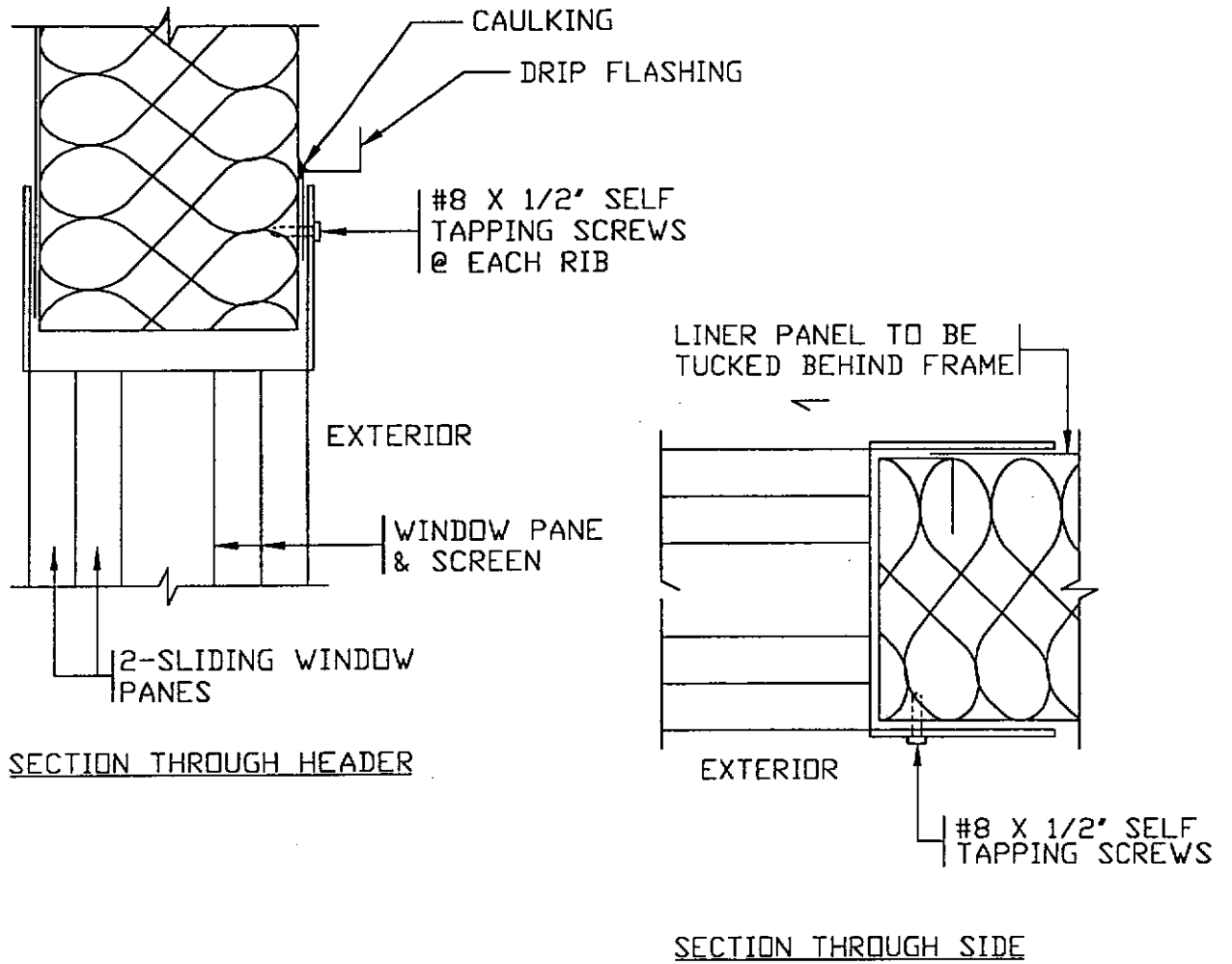
#8 X 1/2" SELF TAPPING SCREWS @ EACH LOW PROFILE THROUGH WALL PANEL & BOTTOM CHANNEL



- PLACE THE DOOR FRAME OR WINDOW UNIT IN THE DESIRED LOCATION INDICATED ON THE DRAWING AND BUILD THE WALL AROUND THE UNIT.
- SET & FASTEN THE DOOR OR WINDOW UNIT TO THE WALL SYSTEM AFTER WALLS & ROOF ARE INSTALLED.

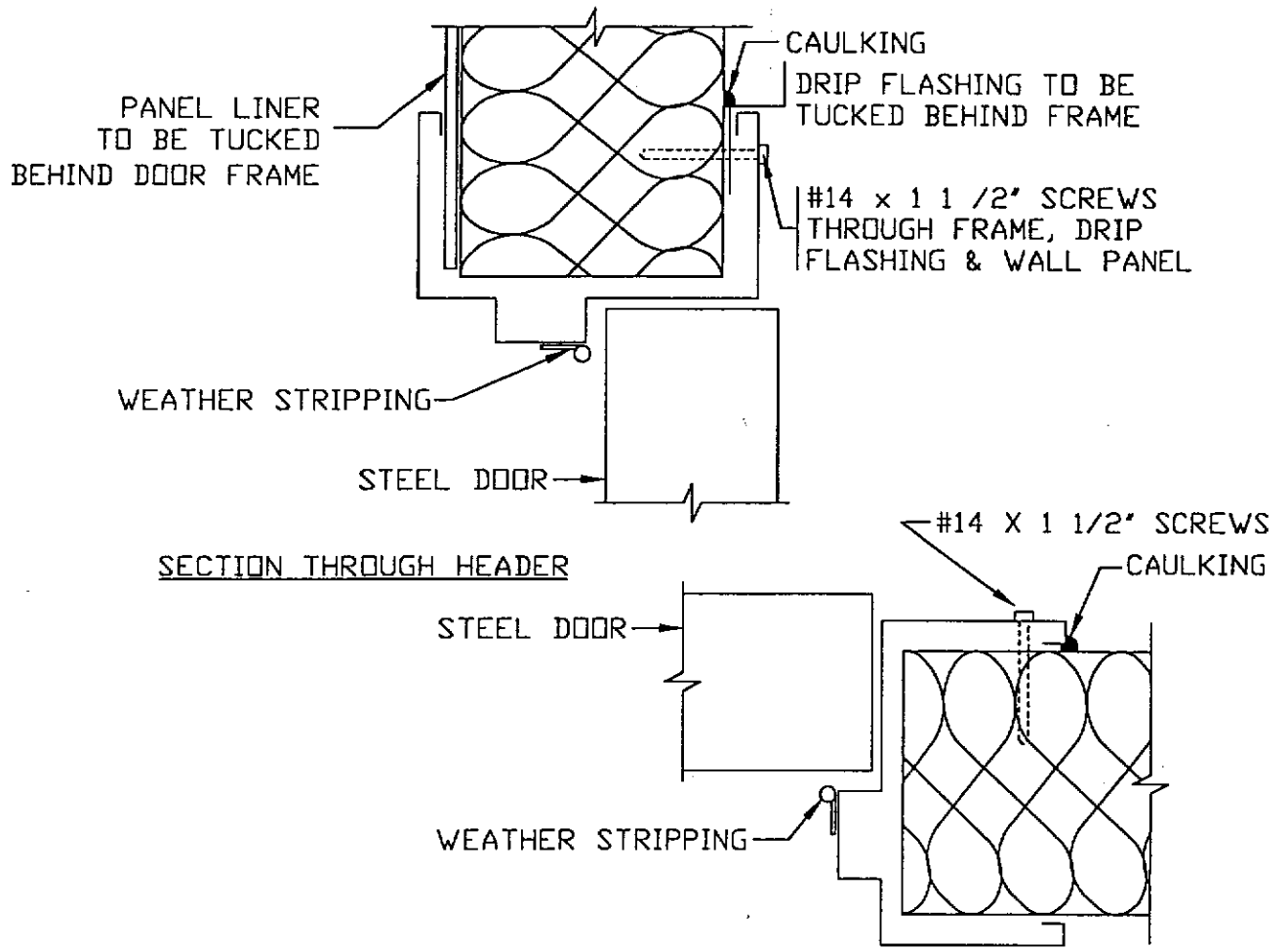
WALL PANEL INSTALLATION

FIGURE 6



NOTE: WINDOWS HAVE TO BE INSTALLED WHEN WALL PANELS ARE BEING INSTALLED.

WINDOW DETAIL
FIGURE 7



DOOR DETAIL

FIGURE 8

RIDGE INSTALLATION (Figure 9)

Shed roof buildings refer to buildings with a single slope roof. The roof spans the width of the building with one slope, eliminating the use of the ridge, etc. Cross bracing and windbracing are not required in shed roof buildings, otherwise shed type buildings are constructed in a similar fashion to the gable type buildings.

If the building is 40'0" {12,192mm} long or less, construct the ridge on the ground. When assembled, lift into place on top of the gable end walls and cross braces.

NOTE: For a 40'0" {12,192mm} gable long ridge it will take three or four men to lift into place, use of a crane is highly recommended.

Overlap the connections of the two-piece ridge by 3'0" (900mm) so that the ridge maintains its maximum strength. Make sure that all of the walls are square and braced up.

Attach ridge to the top channel of the gable wall at the peak using four # 8 X ½" self-tapping metal screws on each side of the ridge into the top channel. Bottom ridge should be inset 3 ¼" {83mm} from top ridge ends. Set up temporary support (posts) under ridge/cross brace sufficient to support ridge while the roof is erected upon it. If the building is large enough that the ridge cannot be lifted into place in one piece, erect all the ridge before roof panels are put in place.

Brace the center of the ridge up to camber about ¾" to 1" above level. This allows the roof to settle slightly when supports are taken away.

Remove roof supports after the roof is totally in place and fastened. Apply a continuous bead of caulking wherever roof panels meet the ridge.

ROOF PANEL INSTALLATION (Figures 9, 10 & 11)

Begin roof panel installation with special starter panel (panel with two small end ribs - male). Keep first panel flush with outside edge of the wall (See figure 9).

If the building is insulated, insulation clips must be installed between roof panel laps as the panels are installed (See figure 10).

Start roof panel installation at one end wall and continue along toward the opposite end, installing panels equally on both sides of the ridge.

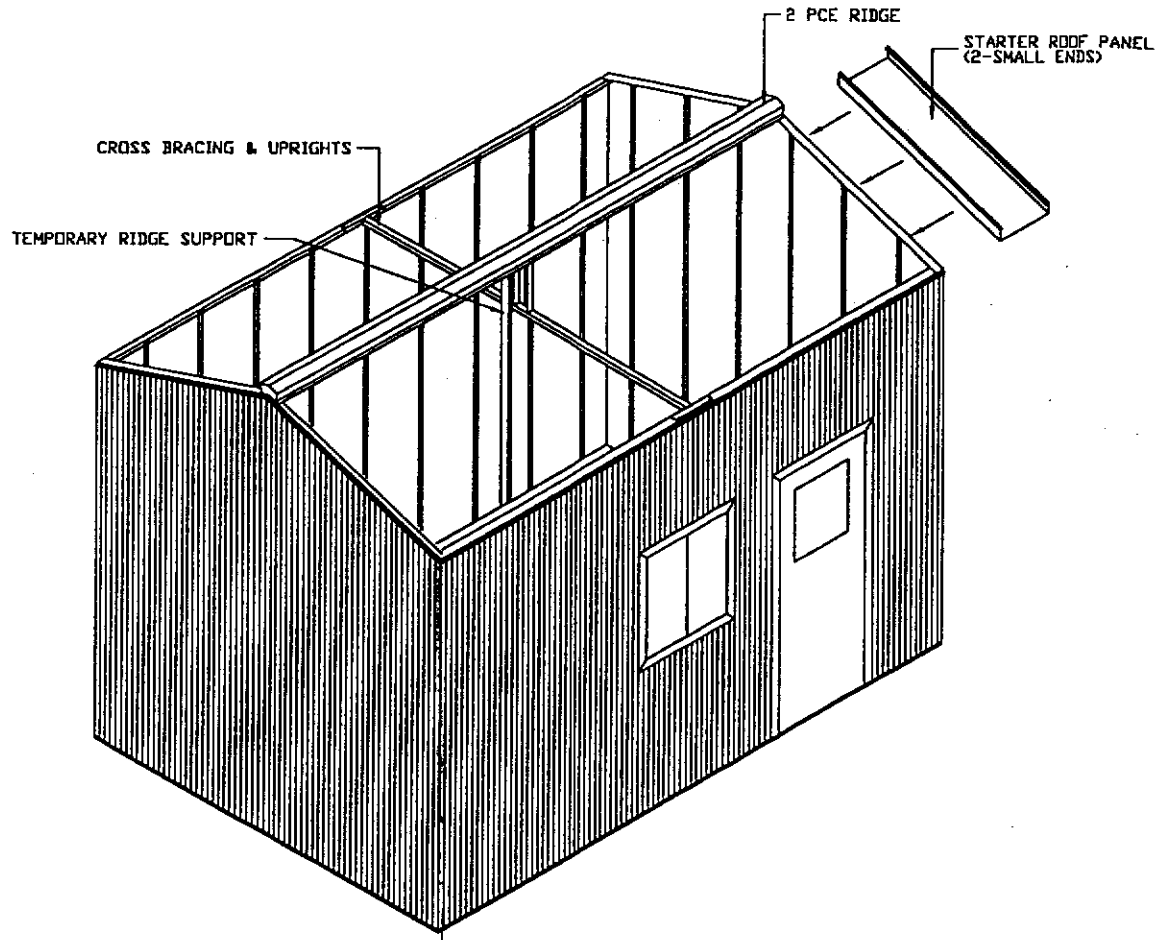
Roof panels are fastened to the ridge member with screws (refer to fastener requirements on drawing) through the roof panel and ridge.

Roof panels are fastened to the drip channel with screws (refer to fastener requirements on drawing) through the roof panel. (See figure 11)

After roof is in place, check that all fasteners are in place and properly sized.

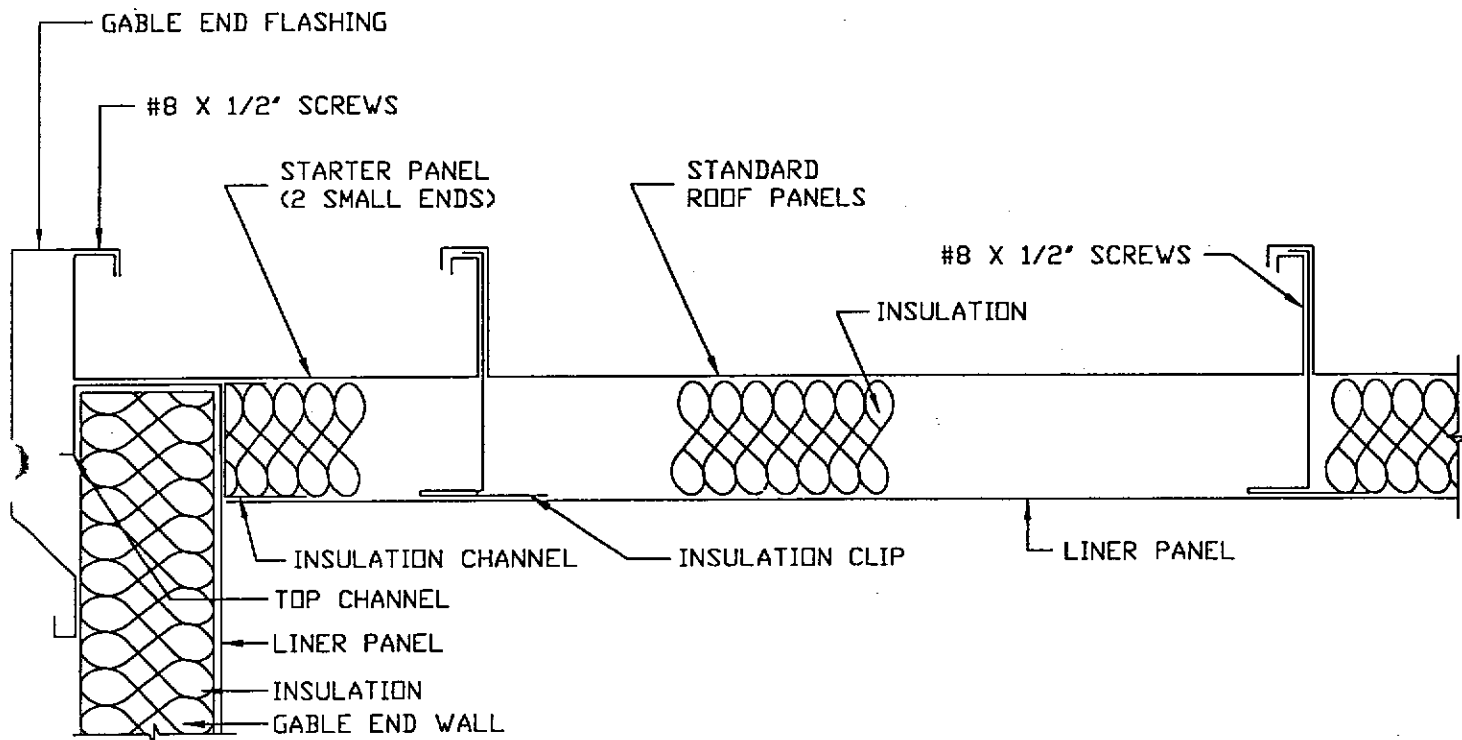
Caulk roof along joint of roof panel and ridge, and along joint of two-piece ridge in such a fashion as to not create water traps.

Place the ridge cap over the roof panels and ridge. Fasten with # 8 X ½" self-tapping screws at each roof panel rib. Install the gable and flashing, gable end caps and name plates.



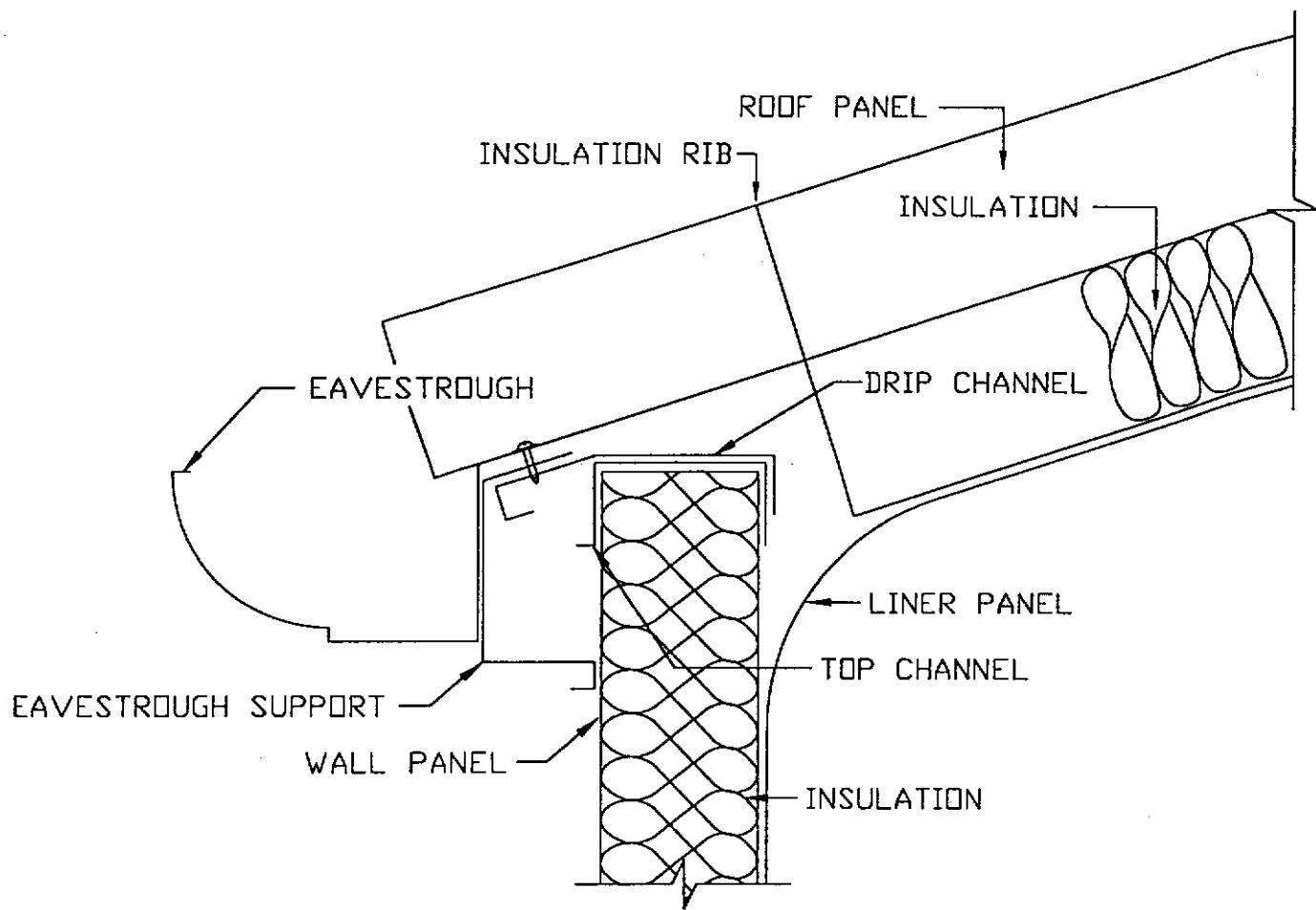
ROOF PANEL INSTALLATION

FIGURE 9



SECTION THROUGH GABLE END WALL AND ROOF

FIGURE 10



SECTION THROUGH WALL AND ROOF

FIGURE 11

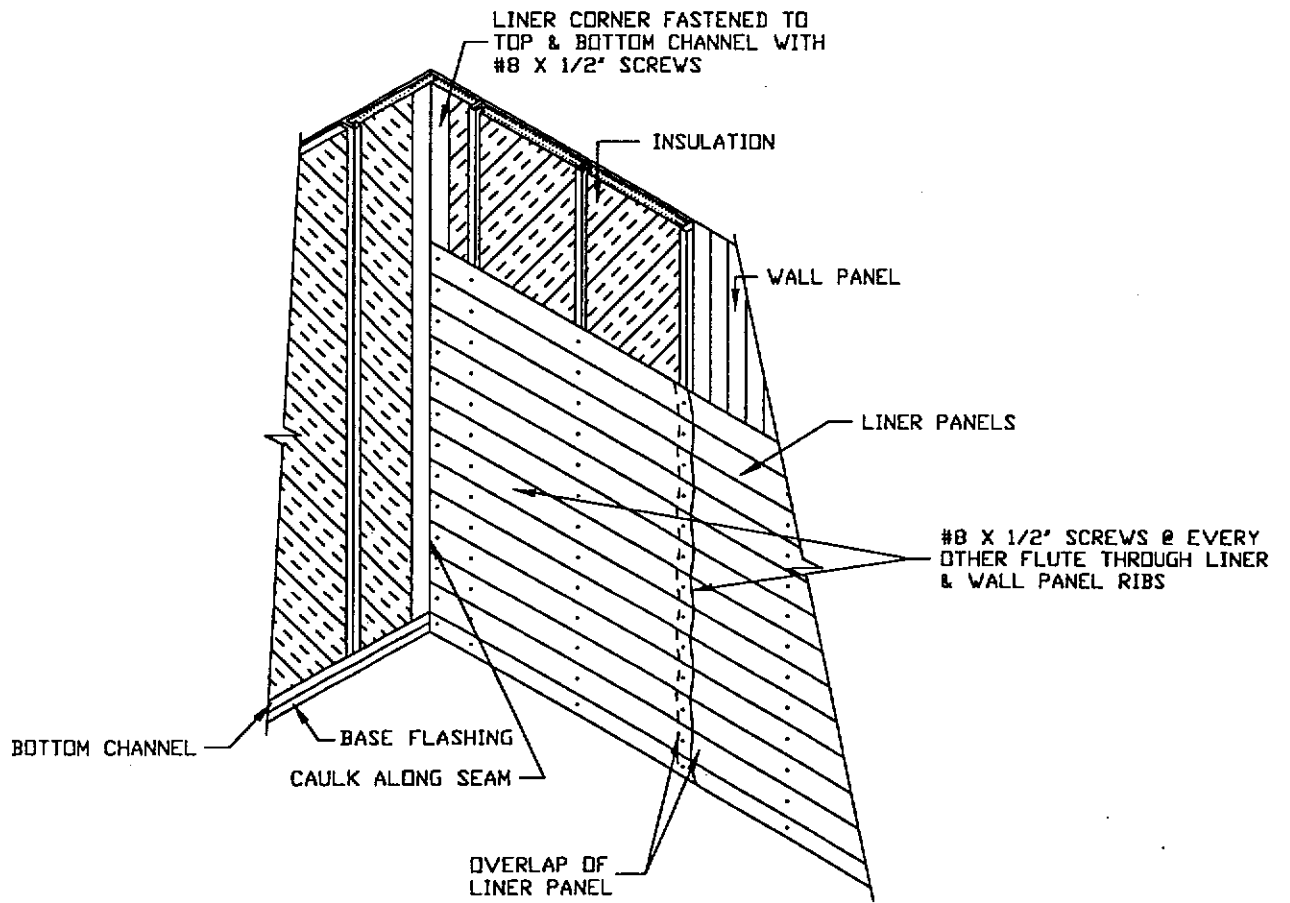
INSULATION AND LINING (FIGURE 12)

Fill all wall and roof cavities with required insulation. Fasten liner corner to bottom channel, top channel and the top drip channel. (See figure 12)

Commence liner panel installation at the end walls starting at the bottom channel and working upwards. Fasten liner panel to ribs and the liner corner with # 8 X ½" self tapping screws at every second flute of liner panel and to the bottom channel at approximately every 6" {150mm} o.c. Overlap liner panels one full flute or about 3" {75mm}. Cut liner panel around openings (door, window, etc) so that it can be slipped between frame and panel ribs, and fasten with # 8 X ½" screws. At the end wall roof line cut the liner panels to the required roof slope. Place insulation channel over liner and fasten to top channel with # 8 X ½" screws.

Install roof insulation between insulation clips in roof. Install side wall liner panels similarly to that at end walls. At the eave, bend or curve liner panel onto roof and cut out where necessary for cross bracing. Fasten roof liner panels to insulation clips using the same fasteners and centers as for side walls.

Line up both side walls and meet at ridge of roof - care should be taken to insure that screws are placed in straight as any variation may distort liner sheet.



INSTALLATION OF LINING & INSULATION

FIGURE 12