

Chapter 4 Under-Floor Enclosures

4-1 General

- Manufactured dwellings must have the under-floor area enclosed with skirting.
- There are basically six types of under-floor enclosures:
 - Engineered foundation system.
 - Foundation walls.
 - Retaining walls.
 - Structural skirting.
 - Non-structural skirting.
 - Prefabricated skirting.
- Skirting is not required in flood hazard areas.

4-2 Skirting Material

- Skirting must be constructed out of durable material acceptable to the building official.
- Skirting must meet the criteria established in Section 4-2.2.

4-3 Foundation Walls

- Foundation walls are used in place of perimeter piers, and skirting.
 - Foundation walls can be used for anchoring, and to support the horizontal pressures of backfill.
 - Foundation walls must provide a tight fit to the bottom of the home, and they must be secured to the manufactured dwelling.
- Foundation walls must be constructed according to Section 4-3.2.
- Non-engineered concrete or CMU foundation walls may be up to 60 inches high and retain up to 48 inches of backfill.
- Foundation walls have specific footing and rebar requirements.
- The building official may require additional requirements if ground water issues exist.

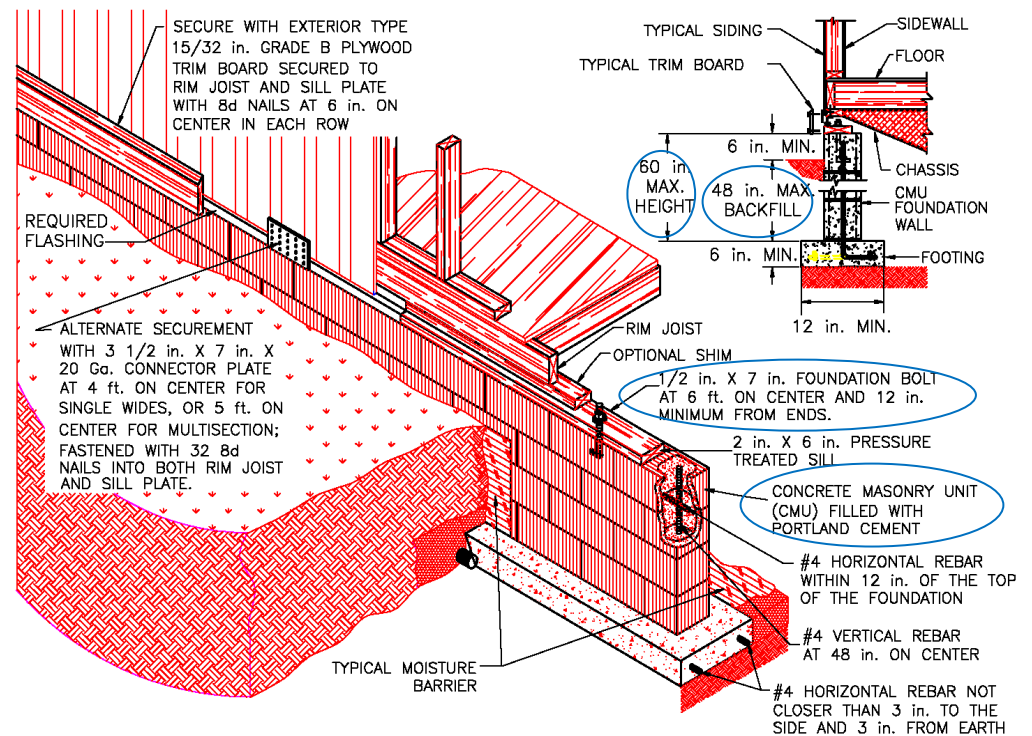


Figure 4-3.2(a) Concrete Foundation Wall Detail

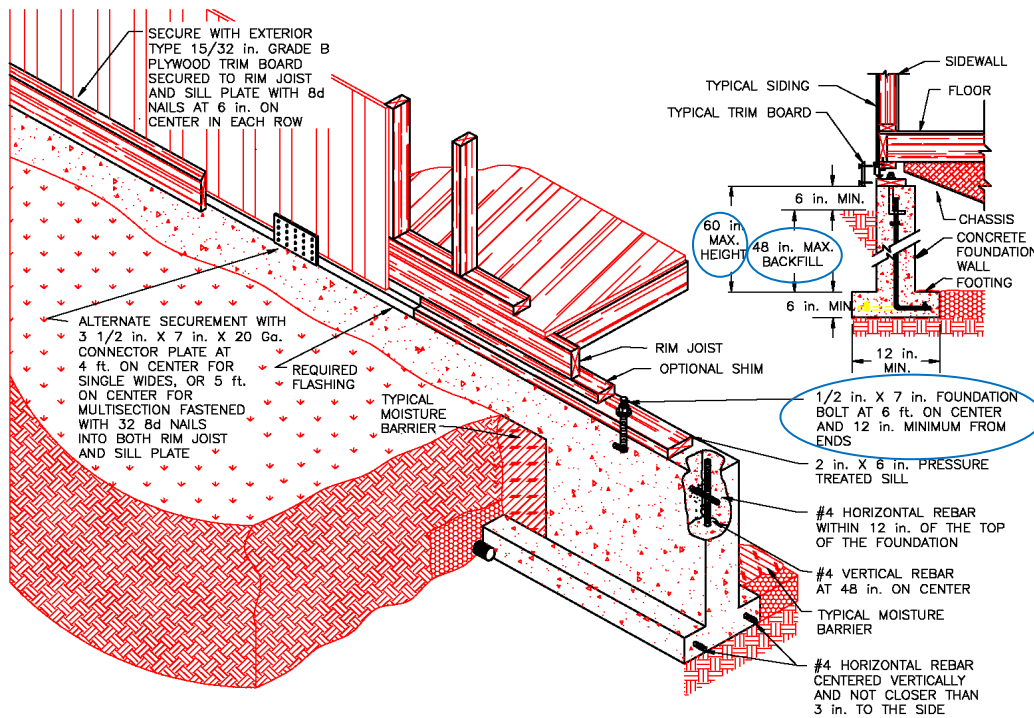


Figure 4-3.2(b) CMU Foundation Wall Detail

4-4 Structural Skirting

- Structural skirting may be used to anchor a manufactured dwelling and to replace recessed perimeter piers.
- Structural skirting may be constructed on site or prefabricated.
- Structural skirting must be installed according to Section 4-4.2.

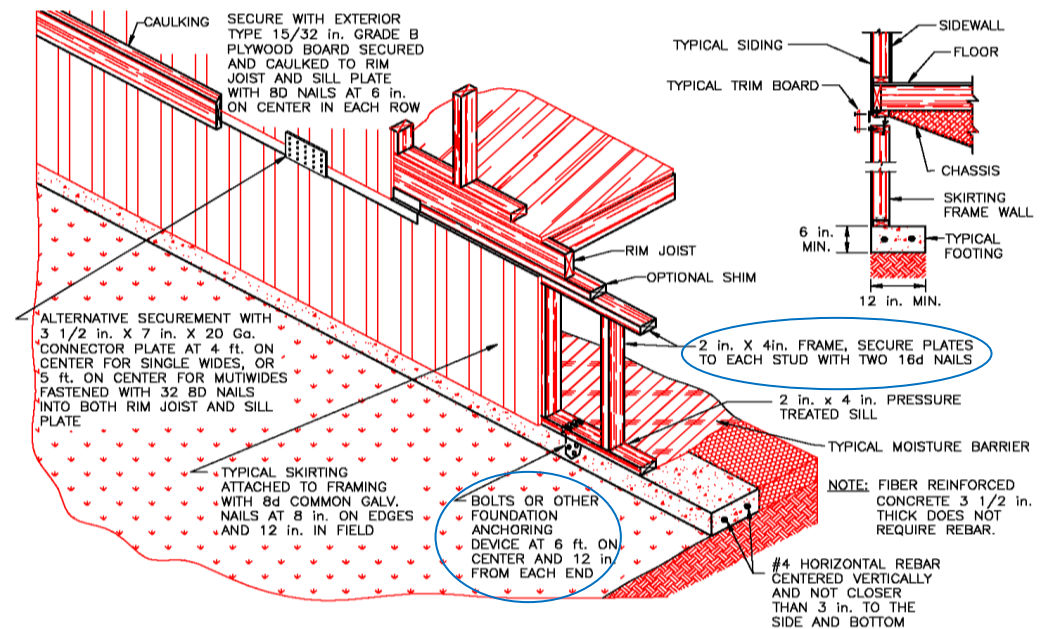


Figure 4-4.2 Structural Skirting Detail

4-5 Non-Structural Skirting

- Non-structural skirting is intended only as an under-floor enclosure.
- Non-structural skirting may be constructed with many different types of materials.
 - Wood skirting must follow the requirements of Section 4-5.1.
 - Metal or vinyl skirting must follow the requirements of Section 4-5.2.
- Non-structural skirting may not support any unbalanced fill.

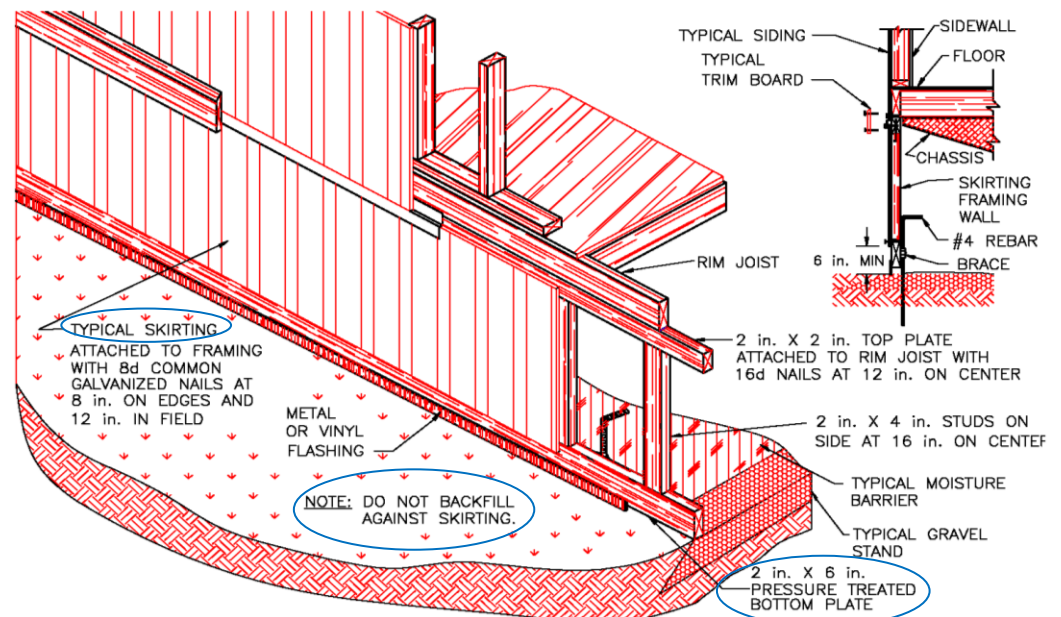


Figure 4-5.1 Non-Structural Wood Skirting Detail

4-6 Prefabricated Structural Skirting

- Prefabricated structural skirting must be installed according to the manufacturer's installation instructions.
- Prefabricated structural skirting must be installed according to Section 4-6.1.
- Prefabricated structural skirting may not support unbalanced fill greater than 8 inches unless specifically allowed in the skirting manufacturer's installation instructions.
- Prefabricated structural skirting may be used as perimeter support if rated for the designed load.

4-7 Masonry Block Skirting

- Masonry block skirting may be constructed from most types of block or stone.
- Masonry block skirting must be installed according to Section 4-7.1.
- Masonry block skirting may be mortared or dry stacked. If dry stacked it may only be used only as an enclosure.
- Masonry block skirting may not support unbalanced fill greater than 8 inches.
- Masonry block skirting may be used as perimeter support provided it complies with Section 4-7.1(5).

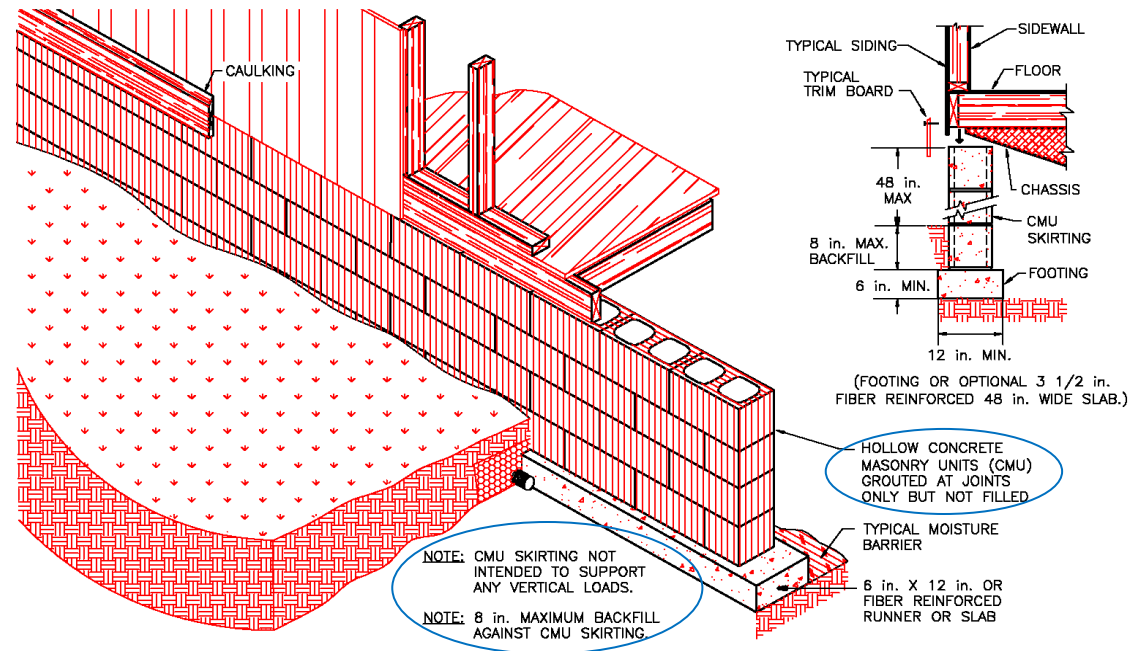


Figure 4-7.1 Concrete Masonry Block (CMU) Skirting Detail

4-8 Concrete Masonry Unit (CMU) Retaining Wall Skirting

- CMU retaining walls may take the place of skirting, and may support the horizontal pressures of backfill.
- CMU retaining walls must be installed according to Section 4-8.2.
- CMU retaining walls must be constructed with rated concrete block.
- CMU may support up to 28 inches of unbalanced fill.

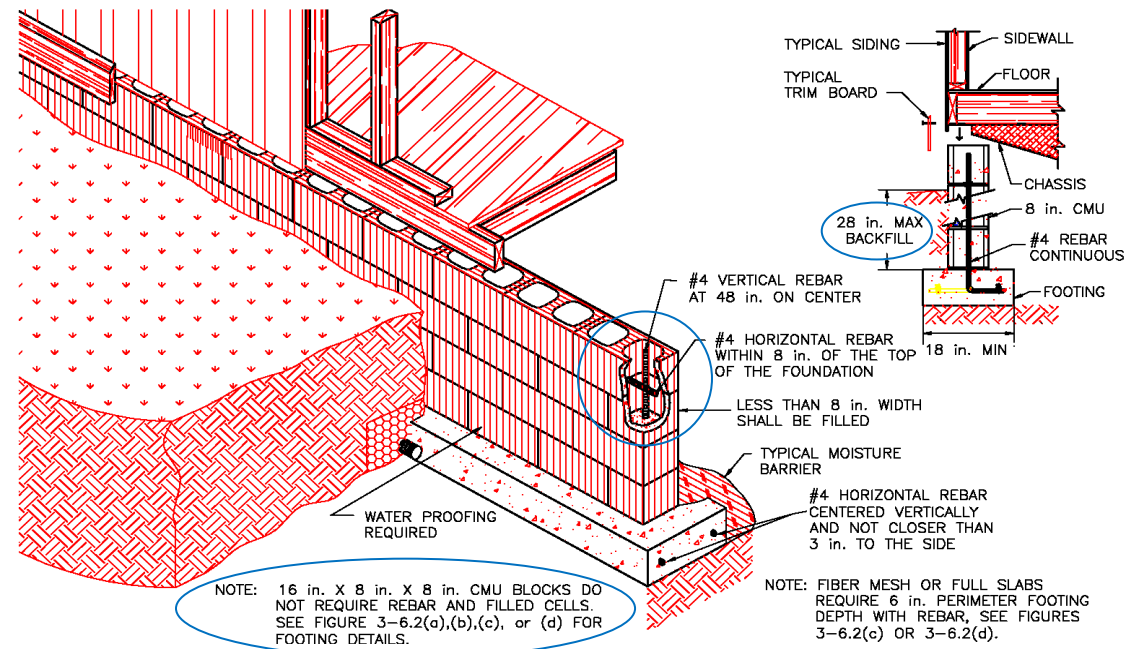


Figure 4-7.1 Concrete Masonry Block (CMU) Skirting Detail

4-9 Under-Floor Separations

- A separation must be provided between the under-floor area of a manufactured dwelling and the areas below porches, decks, landings, or other similar structures, including factory built structures.
- The purpose of this separation is to prevent the migration of moisture to the underside of the home.
- Under-floor separations must be according to Section 4-9.2.
- The under floor enclosure must be placed below the recessed exterior walls of the manufactured dwelling.
- The under floor enclosure must be made of a durable, rigid, or flexible material.
- There barrier must be placed at the footing to prevent water migration.

4-10 Under-Floor Ventilation

- The enclosed under-floor area of a manufactured dwelling must be vented.
- Under-floor ventilation must be according to Section 4-10.1.
- Each home must have a minimum of 4 vents that provide cross ventilation on at least two sides of the home.
- Ground level installations must have vent wells installed where backfill or pavement would otherwise block the vent opening.
- Vents may be of the closable type.
- Vents must have wire mesh of not less than 1/8 inch screen.

Ventilation Sizing

- The net free ventilation area must be equivalent to 1 square foot for every 1500 square feet of under-floor area.
- When a vent does not include a rating of net free area, deduct 25% of the gross ventilation area for vent hardware such as screens or louvers.
- A mechanical ventilation system may be installed provided the system provides a minimum air flow rate of 1.0 CFM for each 50 square feet of under-floor area.

Example: For a home with 1800 square feet of under-floor area.

$1800 \text{ (# sq. ft.)} \div 1500 \text{ (1 sq. ft. per 1,500 sq. ft.)} = 1.2 \text{ sq. ft.}$

$1.2 \text{ sq. ft.} \times 144 \text{ inches (1 sq. ft.)} = 172.8 \text{ (sq. in. of venting required).}$

If a 70 square inch vent is used: $172.8 \text{ (sq. in. required)} \div 70 \text{ (sq. in. vent)} = 2.46 \text{ (vents).}$

This installation only requires 3 vents. However, the code requires a minimum of 4. Four vents must be installed.

Table 4-10.2 Ventilation Sizing Table

Type of Home	Min. # Vents Required	Min. Free Area Required
Singe Wide	4	90 sq. in.
Double Wide	4	180 sq. in.
Triple Wide	4	280 sq. in.
Quad	4	380 sq. in.
NOTES: (1) More vents than the minimum required may be installed to achieve the minimum free area. (2) The minimum free area required is provided as a guide for a typical type of home being vented. The actual amount of free area required may be determined by calculation as per 4-10.2.		

4-11 Under-Floor Access

Access to the under-floor area must be provided according to Section 4-11.1.

Skirting

Access openings must provide a minimum clear opening of 18 inches x 24 inches, and an access door must be provided

Ground Level Access

- Ground level (pit set homes) must be provided with an access well or another approved means of access.
- Access wells must provide a minimum opening of 18 inches x 24 inches, and the well must have a minimum horizontal inside dimension of 24 inches x 30 inches.
- The access well must have a removable water resistive cover.

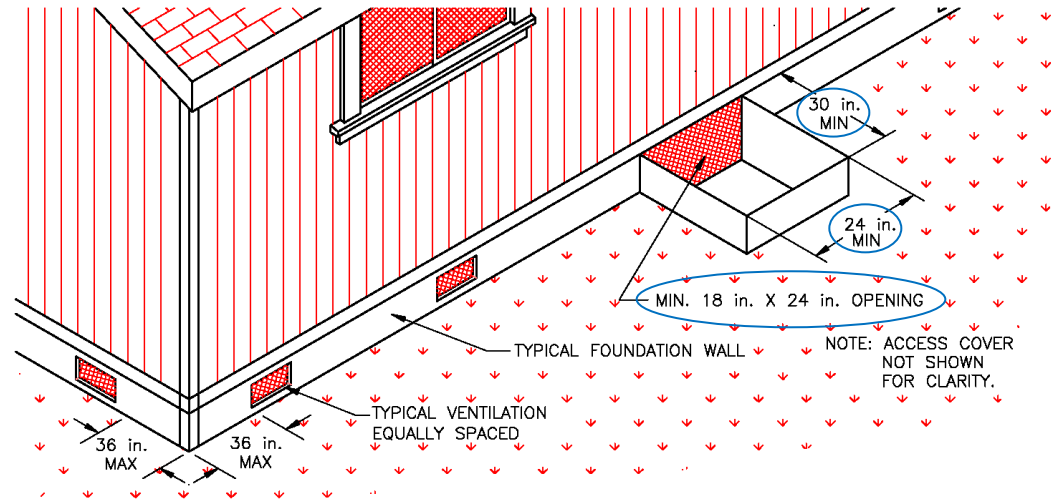


Figure 4-7.1 Concrete Masonry Block (CMU) Skirting Detail

Through the Floor and Stairway Access

- Through the floor access must be according to Section 4-11.1.3
- Stairway access must comply with Section 4-11.1.4.

END