Department of Housing and Urban Development Manufactured Home Regulations[1]

[1] Text and images included in document are taken from following websites: https://www.law.cornell.edu/cfr/text/24/part-3285 and https://www.law.cornell.edu/cfr/text/24/part-3286

24 CFR Part 3285 - MODEL MANUFACTURED HOME INSTALLATION STANDARDS

Subpart A – General

§ 3285.1 Administration.

(a) **Scope**. These Model Installation Standards provide minimum requirements for the initial installation of new manufactured homes, in accordance with section 605 of the Act (42 U.S.C. 5404). The Model Installation Standards are one component of the Manufactured Home Installation Program in Part 3286 of this chapter, upon effect, and serve as the basis for developing the manufacturers' installation instructions required by § 3285.2 of this subpart. The manufacturer's installation instructions, including specific methods for performing a specific operation or assembly, will be deemed to comply with these Model Installation Standards, provided they meet or exceed the minimum requirements of these Model Installation Standards and do not take the home out of compliance with the Manufactured Home Construction and Safety Standards (24 CFR part 3280). Work necessary to join all sections of a multi-section home specifically identified in Subparts G, H, and I of this part, or work associated with connecting exterior lights, chain-hung light fixtures, or ceiling-suspended fans, as specifically identified in Subpart I, is not considered assembly or construction of the home, although the design of those elements of a manufactured home must comply with the Manufactured Home Construction and Safety Standards (MHCSS). However, work associated with the completion of hinged roofs and eaves in § 3285.801 and other work done on-site and not specifically identified in this part as close-up is considered construction and assembly and is subject to the requirements of the Manufactured Home Construction and Safety Standards (24 CFR part 3280) and the Manufactured Home Procedural and Enforcement Regulations (24 CFR part 3282).

(1) States that choose to operate an installation program for manufactured homes in lieu of the federal program must implement installation standards that provide protection to its residents that equals or exceeds the protection provided by these Model Installation Standards.

(2) In states that do not choose to operate their own installation program for manufactured homes, these Model Installation Standards serve as the minimum standards for manufactured home installations.

(b) **Applicability**. The standards set forth herein have been established to accomplish certain basic objectives and are not to be construed as relieving manufacturers, retailers, installers, or other parties of responsibility for compliance with other applicable ordinances, codes, regulations, and laws. The manufactured homes covered by this standard must comply with requirements of the U.S. Department of Housing and Urban Development's (HUD) MHCSS Program, as set forth in 24 CFR part 3280, Manufactured Home Construction and Safety Standards, and 24 CFR part 3282, Manufactured Home Procedural and Enforcement Regulations, as well as with, upon effect, the Manufactured Home Installation Program, 24 CFR part 3286, and the Dispute Resolution Program, 24 CFR part 3288. The requirements of this part do not apply to homes installed on site-built permanent foundations when the manufacturer certifies the home in accordance with § 3282.12 of this chapter.

(c) **Consultation with the Manufactured Housing Consensus Committee**. The Secretary will seek input from the Manufactured Housing Consensus Committee (MHCC) when revising the installation standards in this part 3285. Before publication of a proposed rule to revise the installation standards, the Secretary will provide

the MHCC with a 120-day opportunity to comment on such revision. The MHCC may send to the Secretary any of the MHCC's own recommendations to adopt new installation standards or to modify or repeal any of the installation standards in this part. Along with each recommendation, the MHCC must set forth pertinent data and arguments in support of the action sought. The Secretary will either:

(1) Accept or modify the recommendation and publish it for public comment in accordance with section 553 of the Administrative Procedure Act (5 U.S.C. 553), along with an explanation of the reasons for any such modification; or

(2) Reject the recommendation entirely, and provide to the MHCC a written explanation of the reasons for the rejection.

§ 3285.2 Manufacturer installation instructions.

(a) **Instructions required**. A manufacturer must provide with each new manufactured home, installation designs and instructions that have been approved by the Secretary or DAPIA. The approved installation instructions must include all topics covered in the Model Installation Standards for the installation of manufactured homes. These installation instructions and any variations thereto that are prepared to comply with paragraph (c) of this section must provide protection to residents of the manufactured homes that equals or exceeds the protection provided by these Model Installation Standards and must not take the manufactured home out of compliance with the MHCSS. These instructions must insure that each home will be supported and anchored in a manner that is capable of meeting or exceeding the design loads required by the MHCSS.

(b) Professional engineer or registered architect certification. A professional engineer or registered architect must prepare and certify that the manufacturer's installation instructions meet or exceed the Model Installation Standards for foundation support and anchoring whenever:

(1) The manufacturer's installation instructions do not conform in their entirety to the minimum requirements or tables or their conditions for foundation support and anchoring of this Standard; or

(2) An alternative foundation system or anchoring system is employed, including designs for basements and perimeter support foundation systems, whether or not it is included in the installation instructions; or

(3) Materials such as metal piers or alternatives to concrete footing materials are required by the installation instructions; or

(4) Foundation support and anchoring systems are designed for use in areas subject to freezing or for use in areas subject to flood damage or high seismic risk; or

(5) Foundations support and anchoring systems are designed to be used in special snow load conditions or in severe wind design areas; or

(6) Site conditions do not allow the use of the manufacturer's installation instructions; or

(7) There are any other circumstances in which the manufacturer's installation instructions would not permit the home to be installed in conformance with the Installation Standards or the MHCSS.

(c) **Variations to installation instructions.**

(1) Before an installer provides support or anchorage that are different than those methods specified in the manufacturer's installation instructions, or when the installer encounters site or other conditions (such as areas that are subject to flood damage or high seismic risk) that prevent the use of the instructions, the installer must:

(i) First attempt to obtain DAPIA-approved designs and instructions prepared by the manufacturer; or

(ii) If designs and instructions are not available from the manufacturer, obtain an alternate design prepared and certified by a registered professional engineer or registered architect for the support and anchorage of the manufactured home that is consistent with the manufactured home design, conforms to the requirements of the MHCSS, and has been approved by the manufacturer and the DAPIA.

(2) The manufacturer's installation instructions must include an explanation of the requirement in paragraph (c)(1) of this section.

(d) **Installer certification.** In making the certification of the installation required under part 3286 of this chapter, upon effect, an installer must certify that it completed the installation in compliance with either the manufacturer's instructions or with an alternate installation design and instructions that have been prepared by the manufacturer or prepared in compliance with paragraph (c) of this section.

(e) **Temporary storage**. The installation instructions must provide at least one method for temporarily supporting each transportable section of a manufactured home, to prevent structural and other damage to the structure, when those section(s) are temporarily sited at the manufacturer's facility, retailer's lot, or the home site.

§ 3285.3 Alterations during initial installation.

Additions, modifications, or replacement or removal of any equipment that affects the installation of the home made by the manufacturer, retailer, or installer prior to completion of the installation by an installer must equal or exceed the protections and requirements of these Model Installation Standards, the MHCSS (24 CFR part 3280) and the Manufactured Home Procedural and Enforcement Regulations (24 CFR part 3282). An alteration, as defined in § 3282.7 of this chapter, must not affect the ability of the basic manufactured home to comply with the MHCSS, and the alteration must not impose additional loads to the manufactured home or its foundation, unless the alteration is included in the manufacturer's DAPIA-approved designs and installation instructions, or is designed by a registered professional engineer or architect consistent with the manufacturer's design and that conforms to the requirements of the MHCSS.

§ 3285.6 Final leveling of manufactured home.

The manufactured home must be adequately leveled prior to completion of the installation, so that the home's performance will not be adversely affected. The home will be considered adequately leveled if there is no more than 1/4 inch difference between adjacent pier supports (frame or perimeter) and the exterior doors and windows of the home do not bind and can be properly operated.

Subpart B – Pre-Installation Considerations

§ 3285.101 Fire separation.

Fire separation distances must be in accordance with the requirements of Chapter 6 of NFPA 501A, 2003 edition (incorporated by reference, see § 3285.4) or the requirements of the LAHJ. The installation instructions must clearly indicate this requirement in a separate section and must caution installers to take into account any local requirements on fire separation

§ 3285.102 Installation of manufactured homes in flood hazard areas.

(a) **Definitions**. Except to the extent otherwise defined in Subpart A, the terms used in this subpart are as defined in 44 CFR 59.1 of the National Flood Insurance Program (NFIP) regulations.

(b) **Applicability.** The provisions of this section apply to the initial installation of new manufactured homes located wholly or partly within a flood hazard area.

(c) **Pre-installation considerations**. Prior to the initial installation of a new manufactured home, the installer is responsible for determining whether the manufactured home site lies wholly or partly within a special flood hazard area as shown on the LAHJ's Flood Insurance Rate Map, Flood Boundary and Floodway Map, or Flood Hazard Boundary Map, or if no LAHJ, in accordance with NFIP regulations. If so located, and before an installation method is agreed upon, the map and supporting studies adopted by the LAHJ must be used to determine the flood hazard zone and base flood elevation at the site.

(d) **General elevation and foundation requirements** -

(1) **Methods and practices**. Manufactured homes located wholly or partly within special flood hazard areas must be installed on foundations engineered to incorporate methods and practices that minimize flood damage during the base flood, in accordance with the requirements of the LAHJ, 44 CFR 60.3(a) through (e), and other provisions of 44 CFR referenced by those paragraphs.

(2) **Outside appliances**.

(i) Appliances installed on the manufactured home site in flood hazard areas must be anchored and elevated to or above the same elevation as the lowest elevation of the lowest floor of the home.

(ii) Appliance air inlets and exhausts in flood hazard areas must be located at or above the same elevation as the lowest elevation of the lowest floor of the home.

(3) **Related guidance**. Refer to FEMA 85/September 1985, Manufactured Home Installation in Flood Hazard Areas, 1985 (incorporated by reference, see § 3285.4).

§ 3285.103 Site suitability with design zone maps.

Prior to the initial installation of a new manufactured home and as part of making the certification of the installation required under part 3286, upon effect, the installer is to verify that the design and construction of the manufactured home, as indicated on the design zone maps provided with the home, are suitable for the site location where the home is to be installed. The design zone maps are those identified in part 3280 of this chapter.

(a) **Wind zone**. Manufactured homes must not be installed in a wind zone that exceeds the design wind loads for which the home has been designed, as evidenced by the wind zone indicated on the home's data plate and as further defined by counties or local governments within affected states, as applicable, in § 3280.305(c)(2) of the Manufactured Home Construction and Safety Standards in this chapter.

(b) **Roof load zone**. Manufactured homes must not be located in a roof load zone that exceeds the design roof load for which the home has been designed, as evidenced by the roof load zone indicated on the home's data plate and as further defined by counties or local governments within affected states, as applicable, in § 3280.305(c)(3) of the Manufactured Home Construction and Safety Standards in this chapter. Refer to § 3285.315 for Special Snow Load Conditions.

(c) **Thermal zone**. Manufactured homes must not be installed in a thermal zone that exceeds the thermal zone for which the home has been designed, as evidenced by the thermal zone indicated on the heating/cooling certificate and insulation zone map and as further defined by counties or local governments within affected states, as applicable, in § 3280.504(b)(5) of the Manufactured Home Construction and Safety Standards in this chapter. The manufacturer may provide the heating/cooling information and insulation zone map on the home's data plate.

Subpart C - Site Preparation

§ 3285.201 Soil conditions.

To help prevent settling or sagging, the foundation must be constructed on firm, undisturbed soil or fill compacted to at least 90 percent of its maximum relative density. All organic material such as grass, roots, twigs, and wood scraps must be removed in areas where footings are to be placed. After removal of organic material, the home site must be graded or otherwise prepared to ensure adequate drainage, in accordance with § 3285.203.

§ 3285.202 Soil classifications and bearing capacity.

The soil classification and bearing capacity of the soil must be determined before the foundation is constructed and anchored. The soil classification and bearing capacity must be determined by one or more of the following methods, unless the soil bearing capacity is established as permitted in paragraph (f) of this section:

(a) **Soil tests**. Soil tests that are in accordance with generally accepted engineering practice; or

(b) **Soil records**. Soil records of the applicable LAHJ; or

(c) **Soil classifications and bearing capacities**. If the soil class or bearing capacity cannot be determined by test or soil records, but its type can be identified, the soil classification, allowable pressures, and torque values shown in Table to § 3285.202 may be used.

(d) A pocket penetrometer; or

(e) In lieu of determining the soil bearing capacity by use of the methods shown in the table, an allowable pressure of 1,500 psf may be used, unless the site-specific information requires the use of lower values based on soil classification and type.

(f) If the soil appears to be composed of peat, organic clays, or uncompacted fill, or appears to have unusual conditions, a registered professional geologist, registered professional engineer, or registered architect must determine the soil classification and maximum allowable soil bearing capacity.

§ 3285.203 Site Drainage.

(a) **Purpose**. Drainage must be provided to direct surface water away from the home to protect against erosion of foundation supports and to prevent water build-up under the home, as shown in Figure to § 3285.203.

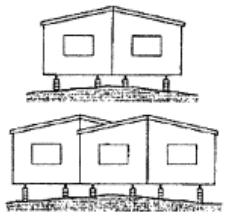
(b) The home site must be graded as shown in Figure to § 3285.203, or other methods, such as a drain tile and automatic sump pump system, must be provided to remove any water that may collect under the home.

(c) All drainage must be diverted away from the home and must slope a minimum of one-half inch per foot away from the foundation for the first ten feet. Where property lines, walls, slopes, or other physical conditions prohibit this slope, the site must be provided with drains or swales or otherwise graded to drain water away from the structure, as shown in Figure to § 3285.203.

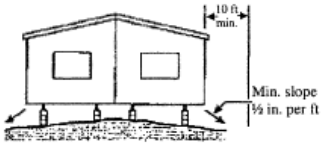
(d) **Sloped site considerations**. The home, where sited, must be protected from surface runoff from the surrounding area.

(e) Refer to § 3285.902 regarding the use of drainage structures to drain surface runoff.

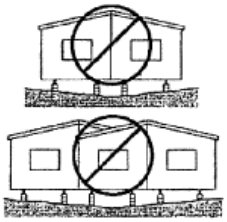
Figure to § 3285.203 - Grading and drainage.



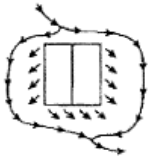
Crown and grade site to slope away from the home



Home sites must be prepared so that there will be no depressions in which surface water may accumulate beneath the home. The area of the site covered by the manufactured home must be graded, sloped, or designed to provide drainage from beneath the home or to the property line.



Do not grade site or set the home so that water collects beneath the home.



Natural drainage must be diverted around and away from the home.

(f) **Gutters and downspouts**. Manufacturers must specify in their installation instructions whether the home is suitable for the installation of gutters and downspouts. If suitable, the installation instructions must indicate that when gutters and downspouts are installed, the runoff must be directed away from the home.

§3285.204 Ground moisture control.

(a) **Vapor retarder**. If the space under the home is to be enclosed with skirting or other materials, a vapor retarder must be installed to cover the ground under the home, unless the home is installed in an arid region with dry soil conditions.
(b) **Vapor retarder material**. A minimum of six mil polyethylene sheeting or its equivalent must be used.
(c) **Proper installation**.
(1) The entire area under the home must be covered with the vapor retarder, as noted in §3285.204(a), except for areas under open porches, decks, and recessed entries. Joints in the vapor retarder must be overlapped at least 12 inches.
(2) The vapor retarder may be placed directly beneath footings, or otherwise installed around or over footings placed at grade, and around anchors or other obstructions.
(3) Any voids or tears in the vapor retarder must be repaired. At least one repair method must be provided in the manufacturer's installation instructions.

Subpart D - Foundations

§ 3285.304 Pier configuration.

(a) **Concrete blocks**. Installation instructions for concrete block piers must be developed in accordance with the following provisions and must be consistent with Figures A and B to § 3285.306.

(1) Load-bearing (not decorative) concrete blocks must have nominal dimensions of at least 8 inches × 8 inches × 16 inches;

(2) The concrete blocks must be stacked with their hollow cells aligned vertically; and

(3) When piers are constructed of blocks stacked side-by-side, each layer must be at right angles to the preceding one, as shown in Figure B to § 3285.306.

(b) **Caps**.

(1) Structural loads must be evenly distributed across capped-hollow block piers, as shown in Figures A and B to § 3285.306.

(2) Caps must be solid concrete or masonry at least 4 inches in nominal thickness, or hardboard lumber at least 2 inches nominal in thickness; or be corrosion-protected minimum one-half inch thick steel; or be of other listed materials.

(3) All caps must be of the same length and width as the piers on which they rest.

(4) When split caps are used on double-stacked blocks, the caps must be installed with the long dimension across the joint in the blocks below.

(c) **Gaps**. Any gaps that occur during installation between the bottom of the main chassis beam and foundation support system must be filled by:

(1) Nominal 4 inch × 6 inch × 1 inch shims to level the home and fill any gaps between the base of the main chassis beam and the top of the pier cap;

(2) Shims must be used in pairs, as shown in Figures A and B to § 3285.306, and must be driven in tightly so that they do not occupy more than one inch of vertical height; and

(3) Hardwood plates no thicker than 2 inches nominal in thickness or 2 inch or 4 inch nominal concrete block must be used to fill in any remaining vertical gaps.

(d) **Manufactured pier heights**. Manufactured pier heights must be selected so that the adjustable risers do not extend more than 2 inches when finally positioned.

§ 3285.305 Clearance under homes.

A minimum clearance of 12 inches must be maintained between the lowest member of the main frame (I-beam or channel beam) and the grade under all areas of the home.

§ 3285.310 Pier location and spacing.

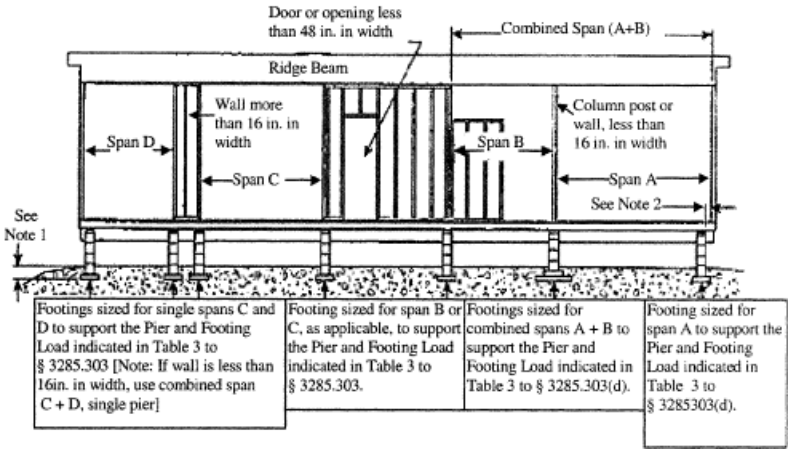
(a) The location and spacing of piers depends upon the dimensions of the home, the live and dead loads, the type of construction (single-or multi-section), I-beam size, soil bearing capacity, footing size, and such other factors as the location of doors or other openings.

(b) Mate-line and column pier supports must be in accordance with this subpart and consistent with Figures A through C to this section, unless the pier support and footing configuration is designed by a registered professional engineer or registered architect.

(c) Piers supporting the frame must be no more than 24 inches from both ends and not more than 120 inches center to center under the main rails.

(d) **Pier support locations**. Pier support locations and spacing must be presented to be consistent with Figures A and B to § 3285.312, as applicable, unless alternative designs are provided by a professional engineer or registered architect in accordance with acceptable engineering practice.

Figure A to § 3285.310 Typical Mate-Line Column Pier and Mating Wall Support when Frame Only Blocking is Required.



Notes:

1. Bottom of footings must extend below frost line depth, unless designed for placement above the frost line. (See § 3285.312(b)).

2. Piers may be offset up to 6 in. in either direction along the supported members to allow for plumbing, electrical, mechanical, equipment, crawlspaces, or other devices.

3. Single-stack concrete block pier loads must not exceed 8,000 lbs.

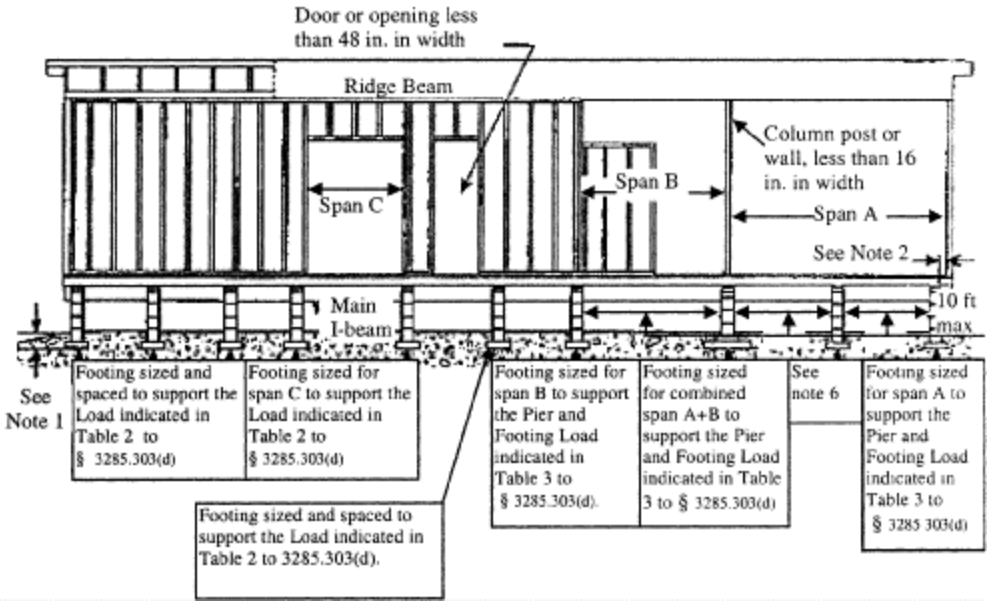
4. Prefabricated piers must not exceed their approved or listed maximum vertical or horizontal design loads.

5. When a full-height mating wall does not support the ridge beam, this area is considered an unsupported span - Span B.

6. Piers are not required at openings in the mating wall that are less than 48 inches in width. Place piers on both sides of mating wall openings that are 48 inches or greater in width. For roof loads of 40 psf or greater, a

professional engineer or registered architect must determine the maximum mating wall opening permitted without pier or other supports.

Figure B to § 3285.310(b) Typical Mate-Line Column Pier and Mating Wall Support When Perimeter Blocking is Required.



Notes:

1. Bottom of footings must be below the frost line depth, unless designed for placement above the frost line. (See § 3285.312(b)).

2. Piers may be offset 6 in. in either direction along supported members to allow for plumbing electrical, mechanical equipment, crawlspaces, or other devices.

3. Single stack concrete block pier loads must not exceed 8,000 lbs.

4. Piers are not required at openings in the mating wall that are less than 48 inches in width. Place piers on both sides of mating wall openings that are 48 inches or greater in width. For roof loads of 40 psf or greater, a professional engineer or registered architect must determine the maximum mating wall opening permitted without pier or other supports.

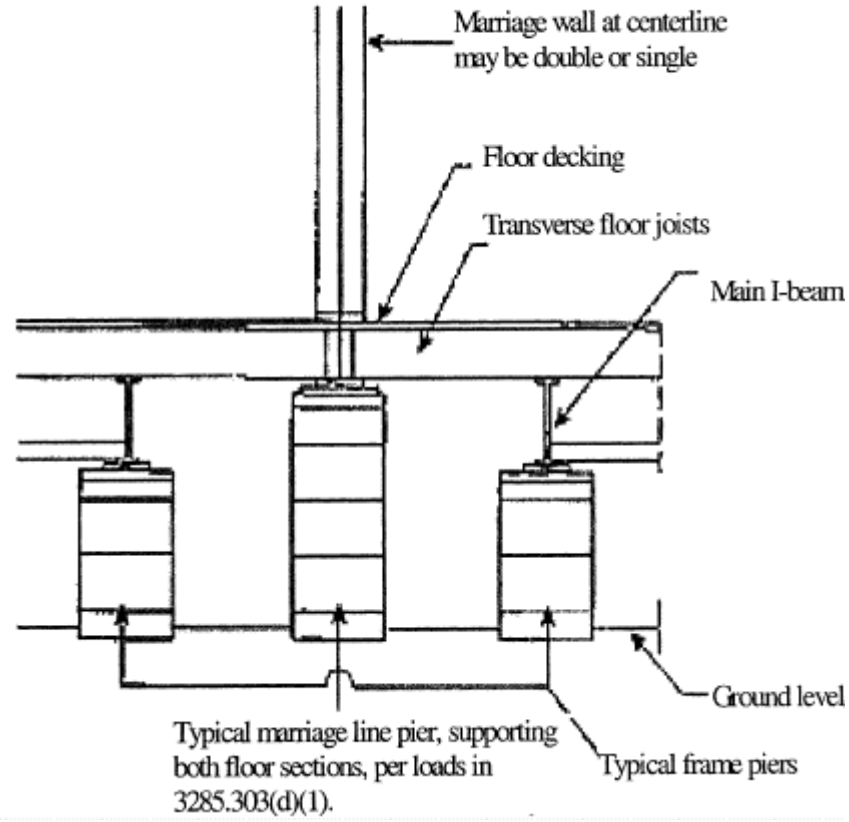
5. When a full-height mating wall does not support the ridge beam, this area is considered an unsupported span - Span B.

6. In areas where the open span is greater than 10 ft., intermediate piers and footings must be placed at maximum 10 ft. on center.

7. Prefabricated piers must not exceed their approved or listed maximum horizontal or vertical design loads.

8. Column piers are in addition to piers required under full-height mating walls.

Figure C to § 3285.310 Typical Mate-Line Column and Piers.



§ 3285.311 Required perimeter supports.

(a) Perimeter pier or other supports must be located as follows:

(1) On both sides of side wall exterior doors (such as entry, patio, and sliding glass doors) and any other side wall openings of 48 inches or greater in width, and under load-bearing porch posts, factory installed fireplaces, and fireplace stoves).

(2) Other perimeter supports must be:

(i) Located in accordance with Table 2 to § 3285.303; or

(ii) Provided by other means such as additional outriggers or floor joists. When this alternative is used, the designs required by § 3285.301 must consider the additional loads in sizing the pier and footing supports under the main chassis beam.

(b) For roof live loads of 40 psf or greater, a professional engineer or architect must determine the maximum sidewall opening permitted without perimeter pier or other supports.

(c) The location and installation of any perimeter pier support must not take the home out of compliance with the Manufactured Home Construction and Safety Standards (part 3280 of this chapter).

Subpart E – Anchorage against wind

§ 3285.401 Anchoring Instructions.

(a) After blocking and leveling, the manufactured home must be secured against the wind by use of anchor assembly type installations or by connecting the home to an alternative foundation system. See § 3285.301.

(b) For anchor assembly type installations, the installation instructions must require the home to be secured against the wind, as described in this section. The installation instructions and design for anchor type assemblies must be prepared by a registered professional engineer or registered architect, in accordance with acceptable engineering practice, the design loads of the MHCSS, and § 3285.301(d).

(c) All anchoring and foundation systems must be capable of meeting the loads that the home was designed to withstand required by part 3280, subpart D of this chapter, as shown on the home's data plate. Exception: Manufactured homes that are installed in less restrictive roof load zone and wind zone areas may have foundation or anchorage systems that are capable of meeting the lower design load provisions of the Standards, if the design for the lower requirements is either provided in the installation instructions or the foundation and anchorage system is designed by a professional engineer or registered architect.

(d) The installation instructions are to include at least the following information and details for anchor assembly-type installations:

(1) The maximum spacing for installing diagonal ties and any required vertical ties or straps to ground anchors;

(2) The minimum and maximum angles or dimensions for installing diagonal ties or straps to ground anchors and the main chassis members of the manufactured home;

(3) Requirements for connecting the diagonal ties to the main chassis members of the manufactured home. If the diagonal ties are attached to the bottom flange of the main chassis beam, the frame must be designed to prevent rotation of the beam;

(4) Requirements for longitudinal and mating wall tie-downs and anchorage;

(5) The method of strap attachment to the main chassis member and ground anchor, including provisions for swivel-type connections;

(6) The methods for protecting vertical and diagonal strapping at sharp corners by use of radius clips or other means; and

(7) As applicable, the requirements for sizing and installation of stabilizer plates.

Subpart F – Optional Features

§ 3285.502 Expanding rooms.

The support and anchoring systems for expanding rooms must be installed in accordance with designs provided by the home manufacturer or prepared by a registered professional engineer or registered architect, in accordance with acceptable engineering practice.

§ 3285.504 Skirting.

(a) Skirting, if used, must be of weather-resistant materials or provided with protection against weather deterioration at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz./ft. 2 of surface coated.

(b) Skirting must not be attached in a manner that can cause water to be trapped between the siding and trim or forced up into the wall cavities trim to which it is attached.

(c) All wood skirting within 6 inches of the ground must be pressure-treated in accordance with AWPA Standard U1 (incorporated by reference, see § 3285.4) for Use Category 4A, Ground Anchor Contact Applications, or be naturally resistant to decay and termite infestations.

(d) Skirting must not be attached in a manner that impedes the contraction and expansion characteristics of the home's exterior covering.

§3285.505 Crawlspace ventilation.

(a) A crawlspace with skirting must be provided with ventilation openings. The minimum net area of ventilation openings must not be less than one square foot (ft.2) for every 150 square feet (ft.2) of the home's floor area. The total area of ventilation openings may be reduced to one square foot (ft.2) for every 1,500 square feet (ft.2) of the home's floor area, where a uniform 6-mil polyethylene sheet material or other acceptable vapor retarder is installed, according to §3285.204, on the ground surface beneath the entire floor area of the home.
(b) Ventilation openings must be placed as high as practicable above the ground.
(c) Ventilation openings must be located on at least two opposite sides to provide cross-ventilation.
(d) Ventilation openings must be covered for their full height and width with a perforated corrosion and weather-resistant covering that is designed to prevent the entry of rodents. In areas subject to freezing, the coverings for the ventilation openings must also be of the adjustable type, permitting them to be in the open or closed position, depending on the climatic conditions.
(e) Access opening(s) not less than 18 inches in width and 24 inches in height and not less than three square feet (ft.2) in area must be provided and must be located so that any utility connections located under the home are accessible.
(f) Dryer vents and combustion air inlets must pass through the skirting to the outside. Any surface water runoff from the furnace, air conditioning, or water heater drains must be directed away from under the home or collected by other methods identified in §3285.203.

Subpart G - Ductwork and Plumbing and Fuel Supply Systems

§ 3285.601 Field assembly.

Home manufacturers must provide specific installation instructions for the proper field assembly of manufacturer-supplied and shipped loose ducts, plumbing, and fuel supply system parts that are necessary to join all sections of the home and are designed to be located underneath the home. The installation instructions must be designed in accordance with applicable requirements of part 3280, subparts G and H, of this chapter, as specified in this subpart.

§ 3285.603 Water supply.

(a) **Crossover**. Multi-section homes with plumbing in both sections require water-line crossover connections to join all sections of the home. The crossover design requirements are located in, and must be designed in accordance with, § 3280.609of this chapter.

(b) **Maximum supply pressure and reduction**. When the local water supply pressure exceeds 80 psi to the manufactured home, a pressure-reducing valve must be installed.

(c) **Mandatory shutoff valve.**

(1) An identified and accessible shutoff valve must be installed between the water supply and the inlet.

(2) The water riser for the shutoff valve connection must be located underneath or adjacent to the home.

(3) The shutoff valve must be a full-flow gate or ball valve, or equivalent valve.

(d) **Freezing protection.** Water line crossovers completed during installation must be protected from freezing. The freeze protection design requirements are located in, and must be designed in accordance with, § 3280.603 of this chapter.

(1) If subject to freezing temperatures, the water connection must be wrapped with insulation or otherwise protected to prevent freezing.

(2) In areas subject to freezing or subfreezing temperatures, exposed sections of water supply piping, shutoff valves, pressure reducers, and pipes in water heater compartments must be insulated or otherwise protected from freezing.

(3) **Use of pipe heating cable.** Only pipe heating cable listed for manufactured home use is permitted to be used, and it must be installed in accordance with the cable manufacturer installation instructions.

(e) **Testing procedures.**

(1) The water system must be inspected and tested for leaks after completion at the site. The installation instructions must provide testing requirements that are consistent with § 3280.612 of this chapter.

(2) The water heater must be disconnected when using an air-only test.

§ 3285.604 Drainage system.

(a) **Crossovers**. Multi-section homes with plumbing in more than one section require drainage system crossover connections to join all sections of the home. The crossover design requirements are located in, and must be designed in accordance with, § 3280.610 of this chapter.

(b) **Assembly and support**. If portions of the drainage system were shipped loose because they were necessary to join all sections of the home and designed to be located underneath the home, they must be installed and supported in accordance with § 3280.608 of this chapter.

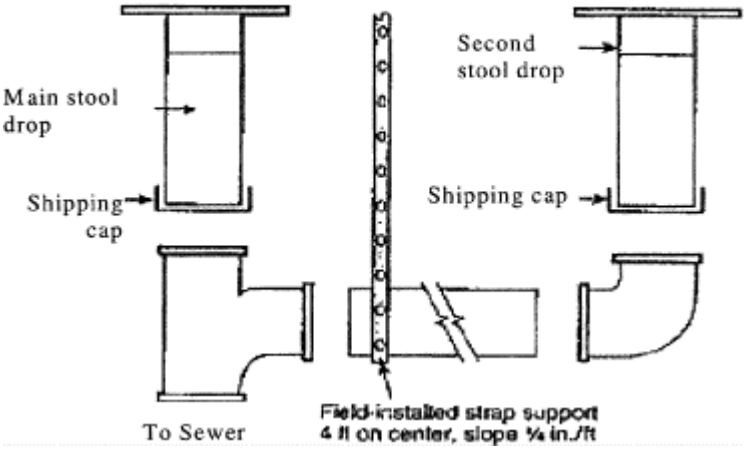
(c) **Proper slopes**. Drains must be completed in accordance with § 3280.610 of this chapter.

(1) Drain lines must not slope less than one-quarter inch per foot, unless otherwise noted on the schematic diagram, as shown in Figure to § 3285.604.

(2) A slope of one-eight inch per foot may be permitted when a clean-out is installed at the upper end of the run.

(d) **Testing procedures**. The drainage system must be inspected and tested for leaks after completion at the site. The installation instructions must provide testing requirements that are consistent with § 3280.612 of this chapter.

Figure A to § 3285.604 Drain Pipe Slope and Connections.



§ 3285.605 Fuel supply system.

(a) **Proper supply pressure**. The gas piping system in the home is designed for a pressure that is at least 7 inches of water column [4oz./in. 2 or 0.25 psi] and not more than 14 inches of water column [8 oz./in. 2 or 0.5 psi]. If gas from any supply source exceeds, or could exceed this pressure, a regulator must be installed if required by the LAHJ.

(b) **Crossovers.**

(1) Multi-section homes with fuel supply piping in both sections require crossover connections to join all sections of the home. The crossover design requirements are located in, and must be designed in accordance with, § 3280.705 of this chapter.

(2) Tools must not be required to connect or remove the flexible connector quick-disconnect.

(c) **Testing procedures.** The gas system must be inspected and tested for leaks after completion at the site. The installation instructions must provide testing requirements that are consistent with § 3280.705 of this chapter.

§ 3285.606 Ductwork connections.

(a) Multi-section homes with ductwork in more than one section require crossover connections to complete the duct system of the home. All ductwork connections, including duct collars, must be sealed to prevent air leakage. Galvanized metal straps or tape and mastics listed to UL 181A (incorporated by reference, see § 3285.4), for closure systems with rigid air ducts and connectors, or UL 181B (incorporated by reference, see §

3285.4), for closure systems with flexible air ducts and connectors, must be used around the duct collar and secured tightly to make all connections.

(b) If metal straps are used, they must be secured with galvanized sheet metal screws.

(c) Metal ducts must be fastened to the collar with a minimum of three galvanized sheet metal screws equally spaced around the collar.

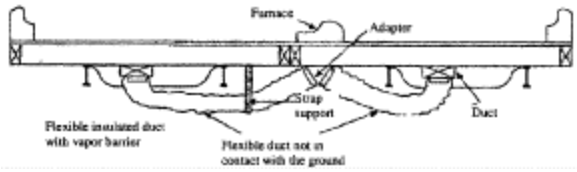
(d) Air conditioning or heating ducts must be installed in accordance with applicable requirements of the duct manufacturer installation instructions.

(e) The duct must be suspended or supported above the ground by straps or other means that are spaced at a maximum distance not to exceed 4'-0" or as otherwise permitted by the installation instructions. When straps are used to support a flexible type duct, the straps must be at least 1/2" wider than the spacing of the metal spirals encasing the duct. The ducts must be installed such that the straps cannot slip between any two spirals and arranged under the floor to prevent compression or kinking in any location, as shown in Figures A and B to this section. In-floor crossover ducts are permitted, in accordance with § 3285.606(g).

(f) Crossover ducts outside the thermal envelope must be insulated with materials that conform to designs consistent with part 3280, subpart F of this chapter.

(g) In-floor or ceiling crossover duct connections must be installed and sealed to prevent air leakage.

Figure A to §3285.606 – Crossover Duct Installation with Two Connecting Ducts.

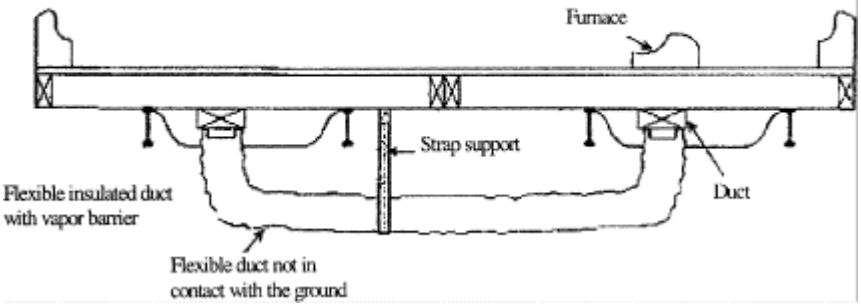


NOTES:

1. This system is typically used when a crossover duct has not been built into the floor and the furnace is outside the I-Beam. With this type of installation, it is necessary for two flexible ducts to be installed.

2. The crossover duct must be listed for exterior use.

Figure B to §3285.606 Crossover Duct Installation with One Connecting Duct.



NOTES:

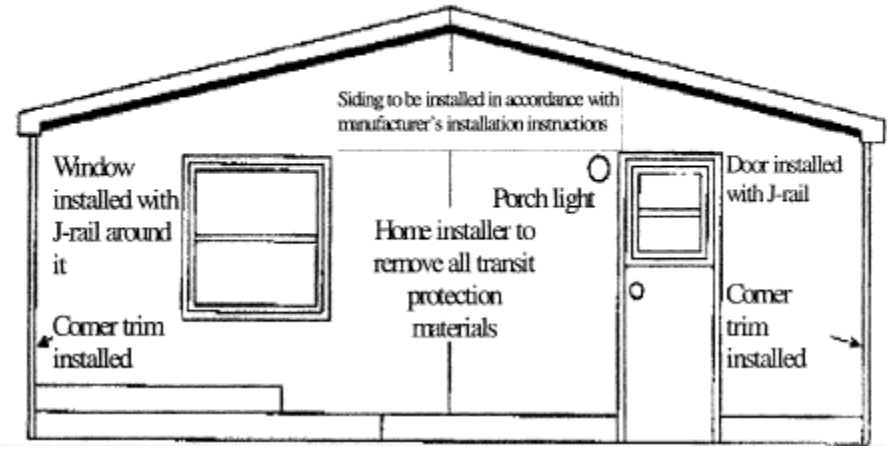
1. This system is typically used when a crossover duct has not been built into the floor and the furnace is situated directly over the main duct in one section of the home. A single flexible duct is then used to connect the two sections to each other.

2. The crossover duct must be listed for exterior use.

Subpart I – Exterior and Interior Close-Up

§ 3285.801 Exterior close-up.

FIGURE A to §3285.801 Installation of Field-Applied Horizontal Lap Siding



(a) Exterior siding and roofing necessary to join all sections of the home must be installed according to the product manufacturer installation instructions and must be fastened in accordance with designs and manufacturer instructions, consistent with §§ 3280.305 and3280.307 of this chapter. Exterior close-up strips/trim must be fastened securely and sealed with exterior sealant (see figure A to this section).

(b) **Joints and seams**. All joints and seams in exterior wall coverings that were disturbed during location of the home must be made weatherproof.

(c) Prior to installing the siding, the polyethylene sheeting covering exterior walls for transit must be completely removed.

(d) Prior to completing the exterior close-up, any holes in the roofing must be made weatherproof and sealed with a sealant or other material that is suitable for use with the roofing in which the hole is made.

(e) **Mate-line gasket**. The home manufacturer must provide materials and designs for mate-line gaskets or other methods designed to resist the entry of air, water, water vapor, insects, and rodents at all mate-line locations exposed to the exterior (see Figure B to this section).

(f) **Hinged roofs and eaves**. Hinged roofs and eaves must be completed during installation in compliance with all requirements of the Manufactured Home Construction and Safety Standards (24 CFR part 3280) and the Manufactured Home Procedural and Enforcement Regulations (24 CFR part 3282). Unless exempted by the following provisions, hinged roofs are also subject to a final inspection for compliance with the Manufactured Home Construction and Safety Standards (24 CFR part 3280) by the IPIA or a qualified independent inspector acceptable to the IPIA. Homes with hinged roofs that are exempted from IPIA inspection are instead to be completed and inspected in accordance with the Manufactured Home Installation Program (24 CFR part 3286). This includes homes:

(1) That are designed to be located in Wind Zone I;

(2) In which the roof pitch of the hinged roof is less than 7:12, including designs incorporating peak cap construction or peak flip construction; and

(3) In which fuel burning appliance flue penetrations are not above the hinge.

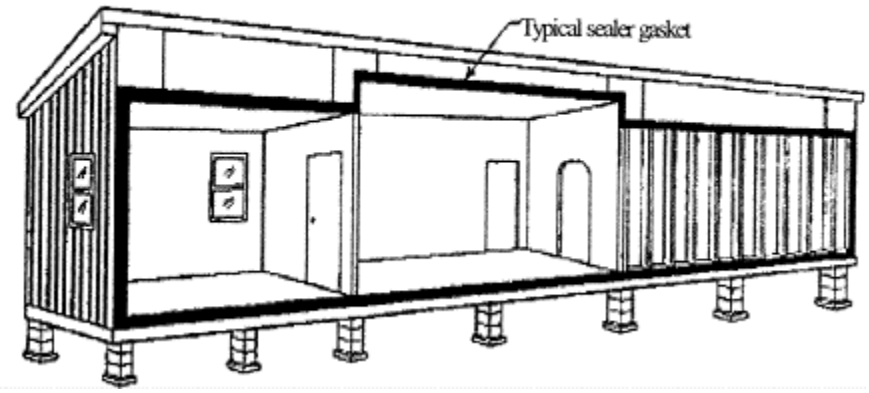
Notes:

1. Multi-section homes with horizontal-lap siding can be shipped with no siding on the front and rear end walls.

2. The manufacturer must install doors/windows trimmed with J-rail or the equivalent and protect all exposed materials not designed for exposure to the weather with plastic sheeting for transport. Siding, starter trim, and vents may be shipped loose in the home for installation on set-up.

3. All home installers must ensure that all field installed trim, windows, doors, and other openings are properly sealed according to the siding manufacturer installation instructions.

Figure B to § 3285.801 Mate-Line Gasket.



§ 3285.802 Structural interconnection of multi-section homes.

(a) For multi-section homes, structural interconnections along the interior and exterior at the mate-line are necessary to join all sections of the home.

(b) Structural interconnection must be designed in accordance with the requirements located in § 3280.305 of this chapter to ensure a completely integrated structure.

(c) Upon completion of the exterior close-up, no gaps are permitted between the structural elements being interconnected along the mate-line of multi-section homes. However, prior to completion of the exterior close-up, gaps that do not exceed one inch are permitted between structural elements provided:

(1) The gaps are closed before completion of close-up;

(2) The home sections are in contact with each other; and

(3) The mating gasket is providing a proper seal. All such gaps must be shimmed with dimensional lumber, and fastener lengths used to make connections between the structural elements must be increased to provide adequate penetration into the receiving member.

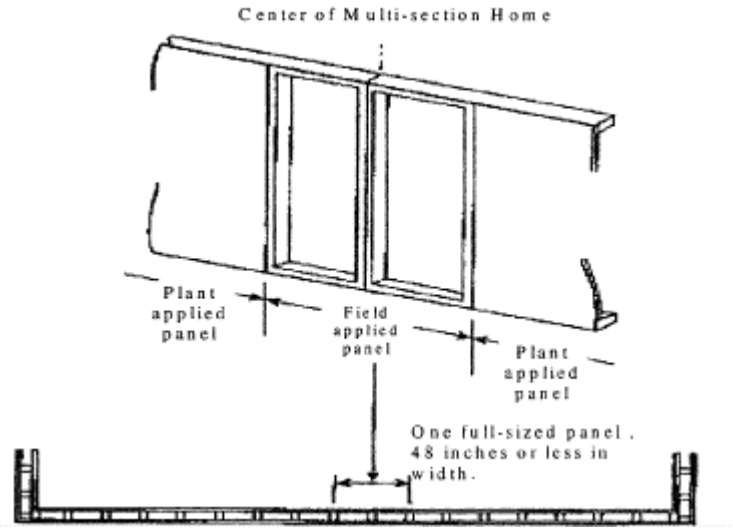
§ 3285.803 Interior close-up.

(a) All shipping blocking, strapping, or bracing must be removed from appliances, windows, and doors.

(b) Interior close up items necessary to join all sections of the home or items subject to transportation damage may be packaged or shipped with the home for site installation.

(c) Shipped-loose wall paneling necessary for the joining of all sections of the home must be installed by using polyvinyl acetate (PVA) adhesive on all framing members and fastened with minimum 1 1/2 inch long staples or nails at 6 inches on center panel edges and 12 inches on center in the field, unless alternative fastening methods are permitted in the installation instructions (see Figure A to § 3285.803).

FIGURE A to §3285.803 - Installation of Interior Field-Applied Panels.



NOTE:

Specific designs must be approved by a DAPIA and included in the home manufacturer installation instructions.

§ 3285.804 Bottom board repair.

(a) The bottom board covering must be inspected for any loosening or areas that might have been damaged or torn during ins*tallation or transportation. Any missing insulation is to be replaced prior to closure and repair of the bottom board*.

(b) Any splits or tears in the bottom board must be resealed with tape or patches in accordance with methods provided in the manufacturers installation instructions.

(c) Plumbing P-traps must be checked to be sure they are well-insulated and covered.

(d) All edges of repaired areas must be taped or otherwise sealed.

Subpart J – Optional Information for Manufacturer's Installation Instructions

§ 3285.902 Moving manufactured home to location.

It is recommended that the installation instructions indicate that the LAHJ be informed before moving the manufactured home to the site. It is also recommended that the installation instructions indicate that the manufactured home is not to be moved to the site until the site is prepared in accordance with subpart C of this part and when the utilities are available as required by the LAHJ. Examples of related areas that might be addressed in the installation instructions for meeting this recommendation include:

(a) **Access for the transporter**. Before attempting to move a home, ensure that the transportation equipment and home can be routed to the installation site and that all special transportation permits required by the LAHJ have been obtained.

(b) **Drainage structures**. Ditches and culverts used to drain surface runoff meet the requirements of the LAHJ and are considered in the overall site preparation.

24 CFR Part 3286 - MANUFACTURED HOME INSTALLATION PROGRAM

Subpart B – Certification of Installation in HUD-Administered States

§ 3286.105 Requirement for installer licensing.

(a) **Installer Licensing**. The installer that installs a manufactured home in a state that does not have a qualifying installation program must be certified or licensed in accordance with the requirements in subpart C of this part.

(b) **Use of licensed installer**. When the retailer or manufacturer agrees to provide any set up in connection with the sale or lease of the home, the retailer or manufacturer must ensure that the installer is licensed in accordance with these regulations.

Subpart E – Installer Responsibilities of Installation in HUD-Administered States

§ 3286.405 Installation suitability.

(a) **Site appropriateness**. Before installing a manufactured home at any site, the installer must assure that the site is suitable for installing the home by verifying that:

(1) The site is accessible;

(2) The site is appropriate for the foundation or support and stabilization system that is to be used to install the home in accordance with the federal installation standards or alternative requirements in part 3285 of this chapter;

(3) The data plate required by § 3280.5 of this chapter is affixed to the home, that the home is designed for the roof load, wind load, and thermal zones that are applicable to the intended site; and

(4) The installation site is protected from surface run-off and can be graded in accordance with part 3285.

(b) **Installer notification of unsuitable site**. If the installer determines that the home cannot be installed properly at the site, the installer must:

(1) Notify the purchaser or other person with whom the installer contracted for the installation work, identifying the reasons why the site is unsuitable;

(2) Notify the retailer that contracted with the purchaser for the sale of the home, identifying the reasons why the site is unsuitable;

(3) Notify HUD, identifying the reasons why the site is unsuitable;

(4) Decline to install the home until the site and the home are both verified by the installer as suitable for the site under this section; and

(5) Ensure that all unique characteristics of the site have been fully addressed.

(c) **Installer notification of failures to comply with the construction and safety standards**. If the installer notices and recognizes failures to comply with the construction and safety standards in part 3280 of this chapter prior to beginning any installation work, during the course of the installation work, or after the installation work is complete, the installer must notify the manufacturer and retailer of each failure to comply.

(d) **Retailer notification**. The retailer must provide a copy of the notification received in paragraphs (b) and (c) of this section to any subsequent installer.

§ 3286.409 Obtaining inspection.

(a) **Inspection obligations**. Ten business days prior to the completion of installation, the installer must arrange for a third-party inspection of the work performed, in accordance with subpart F of this part, unless the installer and retailer who contracted with the purchaser for the sale of the home agree, in writing, that during the same time period the retailer will arrange for the inspection. Such inspection must be performed as soon as practicable by an inspector who meets the qualifications set forth in § 3286.511. The scope of the inspections that are required to be performed is addressed in § 3286.505.

(b) **Contract rights not affected**. Failure to arrange for an inspection of a home within 5 business days will not affect the validity or enforceability of any sale or contract for the sale of any manufactured home.

(c) **State or local permits**. The licensed installer should obtain all necessary permits required under state or local laws.

§ 3286.411 Certifying installation.

(a) **Certification required**. When the installation work is complete, a licensed installer must visit the jobsite and certify that:

(1) The manufactured home has been installed in accordance with:

(i) An installation design and instructions that have been provided by the manufacturer and approved by the Secretary directly or through review by the DAPIA; or

(ii) An installation design and instructions that have been prepared and certified by a professional engineer or registered architect, that have been approved by the manufacturer and the DAPIA as providing a level of protection for residents of the home that equals or exceeds the protection provided by the federal installation standards in part 3285 of this chapter.

(2) The installation of the home has been inspected as required by § 3286.503, and an inspector has verified the installation as meeting the requirements of this part.

(3) All installation defects brought to the installer's attention have been corrected.

(b) **Recipients of certification**. The installer must provide a signed copy of its certification to the retailer that contracted with the purchaser or lessee for the sale or lease of the home, and to the purchaser or other person with whom the installer contracted for the installation work.

§ 3286.413 Recordkeeping.

(a) **Records to be retained**. The installer must retain:

(1) A record of the name and address of the purchaser or other person with whom the installer contracted for the installation work and the address of the home installed;

(2) A copy of the contract pursuant to which the installer performed the installation work;

(3) A copy of any notice from an inspector disapproving the installation work;

(4) A copy of the qualified inspector's verification of the installation work;

(5) A copy of the installer's certification of completion of installation in accordance with the requirements of this part; and

(6) A copy of foundation designs used to install the home, if different from the designs provided by the manufacturer, including evidence that the foundation designs and instructions were certified by a professional engineer or registered architect, including the name, address, and telephone number of the professional engineer or architect certifying the designs.

(b) **Retention requirement**. The records listed in paragraph (a) of this section must be maintained for a period of 3 years after the installer certifies completion of installation.

Subpart F – Inspection of Installations in HUD-Administered States

§ 3286.501 Purpose.

The purpose of this subpart F is to provide additional detail about the inspection that must be performed by a qualified third-party inspector before the installation of a manufactured home may be verified by the inspector and certified by the installer under the HUD-administered installation program.

§ 3286.503 Inspection required.

(a) **Timing of requirements**. Ten business days prior to the completion of the installation of each manufactured home, the installer must arrange for a third-party inspection of the work performed, unless the installer and retailer who contracted with the purchaser for the sale of the home agree, in writing, that during the same time period the retailer will arrange for the inspection. Such inspection must be performed as soon as practicable by an inspector that meets the qualifications set out in § 3286.511. The scope of the inspections that are required to be performed is addressed in § 3286.505.

(b) **Disclosure of requirement**. At the time of sale, the retailer must disclose to the purchaser, in a manner provided in § 3286.7, that the manufactured home must be installed in accordance with applicable federal and state law, including requirements for a third-party inspection of the installation. If the cost of inspection of the home's installation is not included in the sales price of the home, the sales contract must include a clear disclosure about whether the purchaser will be charged separately for the inspection of the home's installation and the amount of such charge.

(c) **Providing instructions to inspectors**. Installation instructions must be made available to the inspector at the installation site by the installer.

§ 3286.505 Minimum elements to be inspected.

The installation of every manufactured home that is subject to the HUD-administered installation program is required to be inspected for each of the installation elements included in a checklist. The checklist must include assurance that each of the following elements complies with the requirements of part 3285 of this chapter:

(a) Site location with respect to home design and construction;

(b) Consideration of site-specific conditions;

(c) Site preparation and grading for drainage;

(d) Foundation construction;

(e) Anchorage including verification that the ground anchors have been installed in accordance with the manufacturer's instructions, in a soil classification permitted by the anchor listing or certification, with the required size and type of stabilizer plate, if required by the listing or certification, and at an orientation and angle of pull permitted by its listing or certification.

(f) Installation of optional features;

(g) Completion of ductwork, plumbing, and fuel supply systems;

(h) Electrical systems;

(i) Exterior and interior close-up;

(j) Skirting, if installed; and

(k) Completion of operational checks and adjustments.

In addition to the inspection items listed above, it is also recommended that the inspector perform the following checks to complete the installation verification:

- Check the Data Plate to verify the correct DAPIA-approved manufacturer installation instructions have been provided and used for the installation.
- Check the Data Plate to confirm that the home is appropriate for the wind, thermal, and roof load zone in which the home is installed.
- As requirements may vary across manufacturers and models, review the DAPIA approved manufacturer’s installation instructions provided with the home to ensure familiarity with any specific requirements for the home’s installation as related to the minimum inspection elements. It is not the intent that the installation inspector be responsible to verify compliance with other aspects, such as cosmetic features, that may also be covered by the manufacturer’s installation design and instructions.

If all items are installed correctly, check the appropriate “Pass” box on the HUD 309 form. If items are not installed correctly, check the “Fail” box and write a brief but self-explanatory description of the failure to comply on the form where indicated. If the inspection item does not apply to the home that has been installed, then the “N/A” box must be checked. All items inspected must pass or be checked “N/A” in order for the home to pass the inspection.

If the installation does not pass the inspection, the inspector shall provide a brief description of the specific items that must be addressed in order to pass the inspection in Section 2 of the form (using additional sheets if necessary). Upon re-inspection, the inspector shall briefly describe the work performed to address the specific failure(s) following the initial inspection and if the re-inspected item(s) are in compliance, shall initial those items.
Upon satisfactory completion of the visual inspection that verifies the home's installation complies, the installation inspector is to sign the Form HUD 309. This signature verifies that all of the visual inspections addressing the minimum elements have been completed and to the extent observable during the inspection, passes.

§ 3286.507 Verifying installation.

(a) **Verification by inspector**. When an inspector is satisfied that the manufactured home has been installed in accordance with the requirements of this part, the inspector must provide verification of the installation in writing and return the evidence of such verification to the installer.

(b) **Certification by installer**.

(1) Once an installation has been inspected and verified, the installer is permitted to certify the installation as provided in § 3286.111. The installer must provide a signed copy of the certification to:

(i) The retailer that contracted with the purchaser for the sale of the home;

(ii) The purchaser; and

(iii) Any other person that contracted to obtain the services of the installer for the installation work on the home.

(2) The installer must retain records in accordance with § 3286.413.

§ 3286.509 Reinspection upon failure to pass.

(a) **Procedures for failed inspection**. If the inspector cannot verify the installation of the manufactured home, the inspector must immediately notify the installer of any failures to comply with the installation standards and explain the reasons why the inspector cannot issue verification that the installation complies with the requirements of this part. After the installation is corrected, it must be reinspected before verification can be issued.

(b) **Cost of reinspection**. If there is any cost for the reinspection of an installation that an inspector has refused to verify, that cost must be paid by the installer or the retailer and, absent a written agreement with the purchaser that specifically states otherwise, that cost cannot be charged to the purchaser of the manufactured home.

§ 3286.511 Inspector qualifications.

(a) **Qualifications**. Any individual or entity who meets at least one of the following qualifications is permitted to review the work and verify the installation of a manufactured home that is subject to the requirements of the HUD-administered installation program:

(1) A manufactured home or residential building inspector employed by the local authority having jurisdiction over the site of the home, provided that the jurisdiction has a residential code enforcement program;

(2) A professional engineer;

(3) A registered architect;

(4) A HUD-accepted Production Inspection Primary Inspection Agency (IPIA) or a Design Approval Primary Inspection Agency (DAPIA); or

(5) An International Code Council certified inspector.

(b) **Independence required**. The inspector must be independent of the manufacturer, the retailer, the installer, and any other person that has a monetary interest, other than collection of an inspection fee, in the completion of the sale of the home to the purchaser.

(c) **Suspension or revocation of inspection authority**. After notice and an opportunity for a presentation of views in accordance with subpart D of part 3282 of this chapter, the Secretary may suspend or revoke an inspector's authority to inspect manufactured home installations under this part in HUD-administered states. An inspector's authority may be suspended or revoked for cause. In deciding whether to suspend or revoke an inspector's authority to conduct such installation inspections, the Secretary will consider the impact of the suspension or revocation on other affected parties and will seek to assure that the sales and siting of manufactured homes are not unduly disrupted.

(d) **Reinstating inspection authority**. An inspector whose authority to inspect manufactured home installations in HUD-administered states has been suspended or revoked under this section may apply for reauthorization by contacting: Administrator, Office of Manufactured Housing Programs, HUD, 451 Seventh Street, SW., Room 9164, Washington, DC 20410-8000, or to a fax number or e-mail address obtained by calling the Office of Manufactured Housing Programs at the toll-free telephone number 1-800-927-2891, extension 57.

Subpart H – Oversight and Enforcement of Installation in HUD-Administered States

§ 3286.701 Purpose.

The purpose of this subpart H is to set out the mechanisms by which manufacturers, retailers, distributors, installers, and installation inspectors will be held accountable for assuring the appropriate installation of manufactured homes. The requirements in subpart A of this part are applicable in all states, the requirements in subparts B through H are applicable in states where the HUD-administered installation program operates, and the requirements in subpart I are applicable in states with qualifying installation programs. It is the policy of the Secretary, regarding manufactured home installation program enforcement matters, to cooperate with state or local agencies having authority to regulate the installation of manufactured homes. In addition to actions expressly recognized under this subpart H and other provisions in this part, however, HUD may take any actions authorized by the Act in order to oversee the system established by the regulations in this part.

§ 3286.703 Failure to comply.

(a) **Penalties and injunctive re**lief. Failure to comply with the requirements of this part is a prohibited act under section 610(a)(7) of the Act, 42 U.S.C. 5409(a). Any person who fails to comply with the requirements of this part is subject to civil and criminal penalties, and to actions for injunctive relief, in accordance with sections 611 and 612 of the Act, 42 U.S.C. 5410 and 5411.

(b) **Presentation of views**. When practicable, the Secretary will provide notice to any person against whom an action for injunctive relief is contemplated and will afford such person an opportunity to request a presentation of views. The procedures set forth in §§3282.152 through 3282.154 of this chapter shall apply to each request to present views and to each presentation of views authorized in accordance with this section.

(c) **Investigations**. The procedures for investigations and investigational proceedings are set forth in part 3800 of this chapter.

§ 3286.705 Applicability of dispute resolution program.

(a) **Generally**. Regardless of any action taken under § 3286.703, for any defect in a manufactured home that is reported during the one-year period beginning on the date of installation, as specified in § 3286.115, any rights and remedies available under the HUD dispute resolution program, as implemented in part 3288 of this chapter, continue to apply as provided in that part.

(b) **Waiver of rights invalid**. Any provision of a contract or agreement entered into by a manufactured home purchaser that seeks to waive any recourse to either HUD or a state dispute resolution program is void.