State Fire Marshal’s Office
Manufactured Housing
Senate Bill 384

By: Senator Bulloch of the 11th

AS PASSED SENATE

A BILL TO BE ENTITLED

AN ACT

Purpose

To amend Article 2 of Chapter 2 of Title 8 of the Official Code of Georgia Annotated, relating to factory built buildings and dwelling units, so as to provide definitions; to provide that the Safety Fire Commissioner shall promulgate standards for pre-owned manufactured homes to protect the safety, health, and welfare of the inhabitants of pre-owned manufactured homes; to provide for an inspection process and fees; to provide for certain immunities; to prohibit conflicting regulations by local jurisdictions; to provide for related matters; to provide for an effective date; to repeal conflicting laws; and for other purposes.

SECTION 1.

Article 2 of Chapter 2 of Title 8 of the Official Code of Georgia Annotated, relating to factory built buildings and dwelling units, is amended by adding a new part to read as follows:

Part 3A

8-2-170.

(1) 'Commissioner' means the Georgia Safety Fire Commissioner.

(2) 'Install' means to construct a foundation system and placing or erecting a manufactured home on such foundation system. Such term includes, without limitation, supporting, blocking, leveling, securing, or anchoring such manufactured home and connecting multiple or expandable sections of such manufactured home.

(3) 'Manufactured home' means a structure, transportable in one or more sections, which, in the traveling mode, is eight body feet or more in width or 40 body feet or more in length or, when erected on site, is 320 or more square feet and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities and includes the plumbing, heating, air-conditioning, and electrical systems contained therein; except that such term shall include any structure which meets all the requirements of this paragraph except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the secretary of housing and urban development and complies with the standards established under the National Manufactured Housing Construction and Safety Standards Act of 1974, 42 U.S.C. Section 5401, et seq.
8-2-171. - Cont’d

(2) Standards regarding the condition of the utilities so as to ensure that the pre-owned manufactured home has a kitchen sink in working order in the kitchen; a lavatory and water closet in working order in each bathroom; at least one bathroom with a tub or shower facility in working order; a properly sized and configured accessible electrical panel with proper circuit breakers properly and securely installed; electrical fixtures, switches, and receptacles; a water heater in safe and working condition; and a safe and working central heating system without any unvented heaters.

(d) The Commissioner shall establish by rule and regulation an inspection program for such pre-owned manufactured homes. The program shall provide for timely inspections in accordance with the standards promulgated by the Commissioner pursuant to this Code section and issuance of certificates of compliance or notices of deficiencies to be corrected before a certificate of compliance shall be issued. The Commissioner may provide for the inspections to be performed by county and municipal building inspectors, provided that such inspections are in compliance with the standards promulgated by the Commissioner pursuant to this Code section and the county or municipality performing the inspections has authorized the inspections by ordinance or resolution of the governing authority of the county or municipality.

8-2-171. - Cont’d

(e) The person requesting the inspection of the pre-owned manufactured home shall pay a fee not to exceed $100.00 for such inspection if such inspection or re-inspection is performed by the Commissioner. If the inspection or re-inspection is performed by a county or municipal building inspector, the fee for inspection or re-inspection shall reasonably approximate the cost of providing such inspections or re-inspections but shall not exceed the inspection or re-inspection fees charged for site built housing.

(f) Neither the Commissioner nor any inspector inspecting a pre-owned manufactured home pursuant to this Code section shall be liable for any injuries to persons resulting from any defects or conditions in such pre-owned manufactured home.

(g) If a pre-owned manufactured home is sold on an ‘as-is’ basis, the sales agreement or contract shall specifically and prominently state on its face in at least 12 point type that the purchaser understands and agrees that the pre-owned manufactured home is not habitable in its present condition and must be brought into compliance with the standards promulgated by the Commissioner pursuant to this Code section and the owner shall be required to obtain a certificate of compliance with all standards prior to the pre-owned manufactured home being relocated and occupied for residential purposes.
(h) No county or municipality shall impose any health and safety standards or conditions, as defined in subsection (c) of this Code section, including any standard or condition based upon the age of the manufactured home, for pre-owned manufactured homes that conflict with, are inconsistent with, or are more stringent than the health and safety standards promulgated by the Commissioner pursuant to this Code section; provided, however, counties and municipalities may enforce all other applicable local zoning and land use regulations.

SECTION 2.
This Act shall become effective upon its approval by the Governor or upon its becoming law without such approval.

SECTION 3.
All laws and parts of laws in conflict with this Act are repealed.
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Page 3
Scope: The purpose of this document, and all material referenced herein, is to assist installers and inspectors in becoming familiar with the federal requirements and learning how to use various manufactured home manufacturer’s installation

Objectives: The objectives of this publication and the class taught with it are for the student to understand the scope of the federal installation requirements and learn how to use various manufacturers’ installation instructions. Inspections

Manufactured Homes vs. Modular Homes: The looks and use of manufactured homes and modular homes may be similar. The main difference between the two is the code to which they are built and installed. Manufactured Homes are built to the federal Manufactured Home Construction and Safety Standards (24 CFR 3280). Modular Homes are built to state or local building codes, which may be based on model codes, such as the International Residential Code published by the International Code Council. Inspector and installer qualifications, training, and licensure may be different for manufactured homes vs. modular homes.

Page 4
HUD’s Role in Manufactured Home Construction: The National Manufactured Housing Construction and Safety Standards Act of 1974 made the U. S. Department of Housing and Urban Development (HUD) responsible for the administration of the federal manufactured home program. HUD approves and oversees each state and private Design Approval Primary Inspection Agency (DAPIA) that reviews and approves manufactured home designs, engineering, and testing. HUD also approves and oversees each state and private Production Inspection Primary Inspection Agency (PIA) that inspects each manufactured home to assure compliance with specific DAPIA-approved plans, engineering, and the federal standards.

The administration of the HUD manufactured home program is carried out according to the federal Manufactured Housing Procedural and Enforcement Regulations (24 CFR 3282).

HUD’s Role In Manufactured Home Installations: The Manufactured Housing Improvement Act of 2000 made the U. S. Department of Housing and Urban Development (HUD) responsible for the development of the Model Manufactured Home Installation Standards (24 CFR 3285) and the Manufactured Home Installation Program (24 CFR 3286). The federal installation standards provide minimum requirements for manufacturers to include in their installation instructions for new manufactured home installations. The federal manufactured home program establishes the rules and regulations which states, industry, and HUD must follow in administering the program.
State's Role in Manufactured Home Installations: In response to the 2000 Manufactured Housing Improvement Act, states may continue, or establish, state-wide manufactured home installation programs pertaining to first time installations of manufactured homes in temporary or permanent locations, which are designed and commonly used for occupancy by persons for residential purposes. States choosing to operate their own installation program must become qualified and approved by HUD. To become qualified, states must implement installer education, licensing, and installation inspection programs that meet the requirements of 24 CFR 3286. States that do not submit a program for qualification by HUD will have a federal licensing and inspection program in their state, administered by HUD.

Manufacturer's Role in Manufactured Home Installations: Each manufactured home manufacturer is required to provide DAPIA approved designs and instructions that are consistent with the federal standards (24 CFR 3280) and the federal installation standards (24 CFR 3285). The manufacturer’s installation instructions must provide a level of protection to its occupants that equals, or exceeds, the protection provided by the federal installation standards.

Alternate Construction: Alternate Construction (AC) is a provision of the federal regulations whereby a manufactured home manufacturer is permitted by HUD to build one or more manufactured homes out of compliance with the federal standards, if the home provides performance equivalent, or superior, to that required by the federal standards. The manufacturer must submit an AC request to HUD, along with all the designs, engineering, and tests needed to prove the home’s performance will be equivalent to the federal standards.

The AC provisions are usually used when a portion of the manufactured home must be finished on site, rather than in the factory. This may happen when certain elements of the home cannot be shipped in place due to hi-way width or height restrictions, such as a high pitch roof that has to be assembled on site. Special inspections are often required as part of HUD’s AC approval. Only manufactured homes specifically approved by HUD may use the AC provisions. More information on this subject can be found in the federal regulations, 24 CFR 3282.14.

HUD Labels and Data Plates: After IPA inspections have been completed, a HUD label is placed on the manufactured home to certify that the manufactured home meets all aspects of the federal standards. HUD labels are generally affixed on, or near, the rear of each section of the manufactured home. Each HUD labeled manufactured home must have a data plate permanently affixed near the main electrical panel. The data plate contains the name of the manufacturer, DAPIA, factory installed equipment, and the wind, roof, and thermal design loads for which the manufactured home was designed and built. See Figure 2-A.
1-3 Installer Licensing

1.3.1 Any person performing installation work should be licensed, certified, or otherwise approved by the state where the work is being performed, or by the Department of Housing and Urban Development. The installer is responsible for the work performed by each person engaged to perform installation tasks on a manufactured home, in compliance with the requirements of the DAPIA approved manufacturer's installation instructions.

Reference: 24 CFR 3286.203(a)

1.3.3 Unless otherwise required by a state installation program, the installer shall display an original, or a copy, of a valid installation license at the site of the installation at all times, until the installer certifies the installation.

Reference: 24 CFR 3286.203(a)(4)

1-6 Installer Responsibilities

1.6.1 Unless otherwise required by a state installation program, each installer of manufactured homes is responsible for: (1) being licensed, certified, or otherwise approved by the state or HUD to install manufactured homes in the specific location where the work is being carried out; (2) assuring the site is appropriate for the installation of a manufactured home; (3) notifying the retailer, purchaser, and others when a site is unsuitable for the installation of a manufactured home; (4) supervising work crews performing installation tasks; (5) obtaining all permits required by the LAHJ or an approved third party; and (6) arranging for inspections with the LAHJ or an approved third party.

Reference: 24 CFR 3286.403, 405, 407, and 409

Note: See Chapter 2 of this Guideline for more detailed information.

Chapter 2 - Pre-Installation

2-1 Pre-Installation

2-1.1 Each section of this chapter should be addressed prior to the installation of any manufactured home on a manufactured home lot. Failure to address these issues prior to the installation of a manufactured home can present a financial hardship to the installer, dealer, and homeowner and unwanted liability.

2-1.2 Before installing a manufactured home, the installer should: (1) assure that all required building permits have been applied for, and received, from the LAHJ prior to commencing with the installation of a manufactured home; (2) verify that the site is accessible; (3) verify that the site is appropriate for the foundation or support and stabilization system that is to be used to install the home; (4) verify, by checking the data plate that the home is designed for the roof load, wind load, and thermal zones that are applicable to the intended site; and (5) verify that the installation site is protected from surface run-off and can be graded according to the manufacturer's installation instructions.

Note: See subsection 9-2 for drainage requirements.

2-1.3 If the installer determines that the home cannot be installed properly at the site, the installer should: (1) notify the purchaser or other person with whom the installer contracted for the installation work; (2) notify the retailer that contracted with the purchaser for the sale of the home; (3) decline to install the home until the site and the home are both verified by the installer as suitable for the site; and (4) ensure that all unique characteristics of the site have been fully addressed.

2-1.4 The retailer must provide a copy of the notification received from the installer to any subsequent installer.
Each manufactured home built under the federal manufactured home program should bear a Data Plate indicating the conditions for which the manufactured home was designed and built (e.g., roof loads, wind loads, and climate).

The installer should check the Data Plate to verify the manufactured home was built to meet or exceed the design requirements for the area in which it is to be installed. If the manufactured home was not built for the area in which it is to be installed, the installer should contact and advise the dealer that the manufactured home is out of compliance and cannot be installed at that location.

Wind zones, roof load zones, and thermal zones shown on the data plate and within this chapter are further defined in 24 CFR 3280.305(c)(2), (3), and (6).
State of Georgia Installation Permit

2-4 Frost Depths

Manufactured home foundation footings should be installed below the known frost depth established by the LAHJ. As an alternative, manufactured homes may be installed on frost protected shallow foundations, when designed by a registered professional engineer or architect.


United States Frost Depth Map

Figure 1804.1

AVERAGE ANNUAL FROST PENETRATION (IN INCHES)
BASED UPON STATE AVERAGES
2-5 Wind Loads
2-5.1 A manufactured home should only be located in the wind zone for which it was
designed and built, as indicated on the home’s Data Plate. Manufactured homes may be
located in less restrictive zones (e.g. a Zone III home may be located in Wind Zones I or II).
See map in Figure 2-C

2-8 Zoning Approval
Manufactured homes should only be installed in areas which the LAHJ has specifically zoned
or approved for manufactured home installations (With the exception of SB-384)

3-1 Access
To avoid damage and delays, proper access to the manufactured home site for the transporter and
manufactured home should be prepared prior to moving the manufactured home to the site.

3-2 Drainage
3-2.1 The manufactured home should be protected from surface runoff from the surrounding area.
After removal of organic material, the manufactured home site should be graded, or otherwise
prepared, to ensure adequate drainage. Manufactured home sites should be prepared so that there
will be no depressions in which surface water may accumulate beneath the home.
3-2.2 The area of the site covered by the manufactured home should be graded, sloped, or designed
to provide drainage from beneath the home to the property line. See Figure 3-A
3-2.3 Drainage should be provided to direct water away from the manufactured home and to prevent
water build-up under the home. Other methods, such as drain tile and automatic sump pump
systems, may be used to remove any water that may collect under the manufactured
home. Drainage ditches and culverts used to provide drainage should be constructed to meet the
requirements of the LAHJ.
3-2.4 All drainage should be diverted away from the manufactured home and should slope a
minimum of one half inch per foot away from the foundation for the first 10 feet. Where property
lines, walls, slopes, or other physical conditions prohibit this slope, the site should be provided with
drains or swales, or otherwise graded to drain water away from the manufactured
home.
3-2.5 If rain gutters are installed on the manufactured home, downspouts should direct the runoff
away from the home.
3. Soil Conditions

3.1 The manufactured home foundation should 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, should be removed in areas where footings are to be placed.

3.2 The soil classification and bearing capacity of the soil should be determined before the manufactured home's foundation is constructed and the home anchored. Soil classification and bearing capacity should be determined by one or more of the following methods: (a) soil tests that are in accordance with generally accepted engineering practice; (b) soil records of the applicable LAHJ or USGS; (c) if soil classification 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 3-A may be used; (d) a pocket penetrometer; or (e) in lieu of determining the soil bearing capacity by any of the above methods, an allowable pressure of 1,500 psf may be used, unless the site-specific information requires the use of lower values base on soil classification and type.

Note: See "ASTM D 2488-00, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure, 2000)."

3.4 Ground Moisture Control

3.4.1 If the space under the manufactured home floor is enclosed with skirting or other materials, a vapor retarder should be installed to cover the ground under the home. A vapor retarder is not required in areas with dry soil conditions, or when the under floor area is ventilated according to Table 10-A of this guideline, unless specifically required by the home manufacturer or the LAHJ.

3.4.2 Vapor retarder material should be a minimum six mil polyethylene sheeting or equal. When required, the entire area under the manufactured home should be covered with vapor retarder, except for areas under an open floor of a porch, deck, or recessed entry where moisture can migrate.

3.4.3 Joints in vapor retarder should be overlapped at least 12 inches and sealed. Vapor retarder may be placed directly beneath footings, or otherwise installed around, or over, footings placed at grade, and around anchors or other obstructions. Vapor retarders should be held in place temporarily during installation with the placement of bricks or stones placed about 8 feet apart. Footings on top of the vapor retarder may take the place of the bricks or stones. Any voids or tears in the vapor retarder should be repaired by sealing or patching with permanent tape. See Figure 3-B.
The electrical service equipment disconnecting means is required to be located within sight and not more than 30 feet from the exterior wall of the manufactured home it serves. Care should be taken in sighting manufactured homes so that electrical utilities or the home will not need to be moved after the installations have been completed.

Footings

Footings should be of materials that provide equal load bearing capacity and resistance to decay. Footings should be placed on undisturbed soil or fill compacted to 90 percent of maximum relative density. A footing should support every pier under the manufactured home.

Footings may be: (1) nominal 4 inch thick unreinforced precast concrete meeting, or exceeding, ASTM C 655; (2) nominal 4 inch thick poured-in-place concrete slab; (3) nominal 6 inch, or greater, poured in-place concrete piers or ribbons; (4) two layers of nominal 2 inch pressure treated lumber; (5) a single layer of 1/4 inch pressure treated plywood with a minimum size of 16 inches by 16 inches; (6) a minimum of two layers of 5/8 inch pressure treated plywood for sizes exceeding 16 inches by 16 inches; (7) prefabricated ABS, provided they are listed or labeled for the required load capacity, installed according to the manufacturer’s installation instructions, and are certified for use in the soil classification at the site; and (8) other materials or methods designed by a registered professional engineer or architect and approved by the LAHJ. See illustrations in Figure 4-B.

Footings should be a minimum 16 inches by 16 inches, 20 inches in diameter, or 256 square inches. Footings size and placement depend on the load bearing capacity of the soil, footing, and pier. The number, size, load capacity, and spacing of footings should be determined by Table 4-A when no perimeter or centerline piers are used to support the home, or Table 4-C when perimeter or marriage line piers are also used to support the home.

The bottom of each footing should be below the frost line, unless designed and approved by the LAHJ or placement above the frost line, when the frost line depth is not available from the LAHJ, a registered professional engineer, architect, or geologist should be consulted to determine the required frost line depth for the manufactured home site.

Piers may be: (1) concrete block; (2) pressure treated wood; (3) adjustable prefabricated metal piers; (4) adjustable prefabricated concrete piers; or (5) other materials or methods designed by a registered professional engineer or architect and approved by the LAHJ. See illustrations in Figure 4-D.

Pressure treated wood should be treated with water borne preservative in accordance with AWPA Standard UI for Use Category 4B, ground contact applications.
Concrete block piers should be load bearing ASTM C90 or ASTM C145 rated concrete masonry units (CMU's) with a minimum design capacity of 8,000 lbs. Decorative concrete, cinder, pumice, slag, clay, or other non-rated blocks may not be used in place of CMU's. Concrete blocks should be supported on approved footings, or an approved foundation described in subsection 4-2 of this guideline. Concrete blocks should have a nominal dimension of at least 8 inches by 8 inches by 16 inches.

Single stack concrete block pier loads should not exceed 8,000 lbs, and double stack concrete block pier loads should not exceed 16,000 lbs.

Concrete blocks should be capped with: (1) solid concrete or masonry at least 4 inches in nominal thickness; (2) hardboard lumber at least 2 inches in nominal thickness; (3) corrosion-protected steel a minimum of at least 1/2 inch thickness; or (4) other listed materials. All caps should be of the same length and width as the piers on which they rest, except that split caps may be used on double stacked blocks when the caps are placed perpendicular, with the long dimension of the cap across the joint in the blocks below.

See illustration in Figure 4-F

Gaps between the top of the pier cap and the bottom of the main chassis beam should be filled by using the following methods: (1) hardwood plates no thicker than a nominal 2 inches (1 1/2") or a minimum of 4 inch nominal concrete block should be used to fill in remaining vertical gaps; and (2) nominal 4 inch by 6 inch by 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 (shims should be used in pairs and be driven in tightly so that they do not occupy more than one inch of vertical height). See illustration in Figure 4-F.

Pier Heights (See Table 4-G)

A minimum clearance of 12 inches should be maintained between the lowest member of the main frame (I-beam or channel-beam) and the grade under all areas of the manufactured home. A minimum of 18 inches should be maintained between the bottom of the floor joist and the grade under all areas of the manufactured home.

Note: See subsection 10-4 for under floor access requirements.

Frame piers less than 36 inches high are permitted to be constructed of single open or closed cell concrete blocks, when the design capacity of the block is not exceeded. The frame piers should be stacked with their hollow cells aligned vertically, and should be positioned at right angles to the footings. Horizontal offsets from the top to the bottom of the pier should not exceed one-half inch. Mortar is not required unless specified in the manufacturer's installation instructions or in the engineered design. See illustration A in Figure 4-G

Frame piers between 36 inches and 67 inches high, and all corner piers over three blocks high (24 inches), should be constructed of double, interlocked concrete blocks, when the design capacity of the block is not exceeded. Horizontal offsets from the top to the bottom of the pier should not exceed one inch. Mortar is not required unless specified in the manufacturer's installation instructions or in the engineered design. When concrete blocks are stacked side by side, each layer should be at right angles to the preceding layer. See illustration B in Figure 4-G
4.4.4 Piers over 67 inches high should be designed by a registered professional engineer or architect in accordance with acceptable engineering practices. Mortar is not required for concrete block piers unless otherwise specified by the manufacturer or in the engineered design. See Illustration C in Figure 4-G.

4.4.5 Piers required at marriage line supports, perimeter piers, and piers at exterior wall openings are permitted to be constructed of single open-cell or closed-cell concrete blocks to a maximum of 54 inches, when the design capacity of the block is not exceeded.

4.4.6 Pier height is measured between the top surface of the footing and the top surface of the pier cap and does not include footings or shims.

Figure 4-G

4.5 Pier Locations

4.5.1.1 The location and spacing of piers depends upon the dimensions of the manufactured home, the live and dead loads, the type construction (single- or multiple-sections), floor beam size, soil bearing capacity, pier capacity, footing size, and such other factors as the location of door, window, and concentrated loads.

4.5.1.2 Piers should be located under the main beams according to Table 4-A when no perimeter or centerline piers are used to support the home.

4.5.1.3 Piers should be located under each full height marriage line wall supporting roof loads and spaced according to Table 4-C. Piers should be located under each side of each door or opening in a marriage line wall measuring 48 inches or greater. Piers should be located under all intermediate and open span areas along the floor marriage lines at 10 feet center to center. Any marriage line wall less than 16 inches wide should be considered a column support post. When a full height mating wall does not support the ridge beam, this area is considered an unsupported span. See example in figure 4-H.

4.5.1.4 Piers should be located at the end of open ridge beam spans, according to Table 4-C. Piers should be located under each end of each ridge beam column support post at the marriage line. The locations of the column support posts should be marked by the manufacturer by decal, label, stencil, paint, or other means. If pier locations are not marked, use the manufacturer’s installation instructions. Column support posts can usually be identified by the vertical metal straps secured to the ridge beam above and the floor rim joist below. Column support posts usually fall at each end of open ridge beam spans, but can also be located inside a marriage line wall. See illustrations in figures 4-H and 4-I.

4.5.1.5 Piers should be located at each end of a single ridge beam span and sized in accordance with Table 4-D.
4-5.3.4 Piers should be located under the marriage line at each end of a combined span, and under the middle column support post or wall, when less than 16 inches in width. Piers under the middle column support post or wall should be sized for the combined span values in accordance with Table 4-D.

4-5.3.5 Marriage line piers under column support posts are in addition to all other marriage line piers. Marriage line piers supporting the end walls may be recessed up to 6 inches from the inside surface of the end walls.

<table>
<thead>
<tr>
<th>TABLE 4-A</th>
<th>FOOTING FOR ISOLATED SPANS FOR FRAME BLOCKING ONLY WITH NO PERIMETER OR MARRIAGE LINE BLOCKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building</td>
<td>Bearing</td>
</tr>
<tr>
<td>4 Foot</td>
<td>1200</td>
</tr>
<tr>
<td>5 Foot</td>
<td>1200</td>
</tr>
<tr>
<td>6 Foot</td>
<td>1200</td>
</tr>
<tr>
<td>7 Foot</td>
<td>1200</td>
</tr>
<tr>
<td>8 Foot</td>
<td>1200</td>
</tr>
<tr>
<td>9 Foot</td>
<td>1200</td>
</tr>
<tr>
<td>10 Foot</td>
<td>1200</td>
</tr>
</tbody>
</table>

NOTE: These tables are based on the use of x200 4x4 column in a soil condition 1.7 and 75 percent live load. See figure 4-A and 4-C for additional information.

4-7 Final Leveling
The manufactured home should 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.

Figure 4-H

![Diagram](image-url)
### TABLE 4-D

<table>
<thead>
<tr>
<th>Footings Sizes in Square Inches for Beam and Column Sections Prior to Foam</th>
<th>Beam Section (in.</th>
<th>Beam Section (mm)</th>
<th>Column Section (in.)</th>
<th>Column Section (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Foot</td>
<td>0.3</td>
<td>7.6</td>
<td>0.3</td>
<td>7.6</td>
</tr>
<tr>
<td>10 Foot</td>
<td>3.0</td>
<td>76.2</td>
<td>3.0</td>
<td>76.2</td>
</tr>
<tr>
<td>15 Foot</td>
<td>4.5</td>
<td>114.3</td>
<td>4.5</td>
<td>114.3</td>
</tr>
<tr>
<td>20 Foot</td>
<td>6.0</td>
<td>152.4</td>
<td>6.0</td>
<td>152.4</td>
</tr>
<tr>
<td>25 Foot</td>
<td>7.5</td>
<td>190.5</td>
<td>7.5</td>
<td>190.5</td>
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<tr>
<td>30 Foot</td>
<td>9.0</td>
<td>228.6</td>
<td>9.0</td>
<td>228.6</td>
</tr>
<tr>
<td><strong>NOTES:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. The table is based on the following design assumptions: maximum 1.0. Service loads with</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5x allowable load, 150 psi concrete, 2000 psi flexural, 1000 psi shear, 6 in. and 112</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Design section sizes to the nearest below the minimum required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. For supporting and spread column section, perimeter, and corner members, specify column size.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Load factor are minimums for each number of one-fifth deflection.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. See Section 10.2 for more specific information on pier heights.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### TABLE 4-F

#### ROUND AND SQUARE CONCRETE FORM CONVERSION CHART

<table>
<thead>
<tr>
<th>Round Concrete Form</th>
<th>Square Concrete Form</th>
<th>Form Dimensions</th>
<th>In Square Inches</th>
<th>Concrete Volume Per One Foot Of Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>12&quot; x 12&quot;</td>
<td>12&quot; x 12&quot;</td>
<td>144</td>
<td>654</td>
<td></td>
</tr>
<tr>
<td>24&quot; x 24&quot;</td>
<td>24&quot; x 24&quot;</td>
<td>460</td>
<td>2,115</td>
<td></td>
</tr>
<tr>
<td>36&quot; x 36&quot;</td>
<td>36&quot; x 36&quot;</td>
<td>858</td>
<td>3,435</td>
<td></td>
</tr>
<tr>
<td>48&quot; x 48&quot;</td>
<td>48&quot; x 48&quot;</td>
<td>1,296</td>
<td>4,950</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1. This table may be used in conjunction with Table 4-A through 4-F of this chapter.
2. Dimensions in first three columns have been rounded up to the nearest whole number.
3. See Table 4-A for design loads and provisions in determining footing sizes.

---

### TABLE 4-G

#### MAXIMUM PIER HEIGHTS

<table>
<thead>
<tr>
<th>Description of Pier Height Requirements</th>
<th>Maximum Pier Heights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single stack of concrete piers under the main frames</td>
<td>36 inches</td>
</tr>
<tr>
<td>Single stack of concrete piers under main frames and perimeter walls and openings</td>
<td>44 inches</td>
</tr>
<tr>
<td>Double intersected stack of concrete piers under main frames</td>
<td>67 inches</td>
</tr>
<tr>
<td>Single stack of concrete piers at corners of home</td>
<td>24 inches</td>
</tr>
<tr>
<td>Double intersected stack of concrete piers at corners of home</td>
<td>67 inches</td>
</tr>
<tr>
<td>Piers designed by a registered professional engineer or architect</td>
<td>Over 67 inches</td>
</tr>
</tbody>
</table>

**Note:** The table is based on FRC 370/350 and is typical of that information found in manufacturer’s installation instructions.
1. See Subsection 4-A for more specific information on pier heights.
2. Maximum heights of precast piers are determined by individual manufacturer.

---

### TABLE 4-H

<table>
<thead>
<tr>
<th>Description of Pier Height Requirements</th>
<th>Maximum Pier Heights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single stack of concrete piers under the main frames</td>
<td>36 inches</td>
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<tr>
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</tr>
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</tr>
<tr>
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<td>Over 67 inches</td>
</tr>
</tbody>
</table>

**Note:** The table is based on FRC 370/350 and is typical of that information found in manufacturer’s installation instructions.
1. See Subsection 4-A for more specific information on pier heights.
2. Maximum heights of precast piers are determined by individual manufacturer.

---
Chapter 5 - Structural Connections

5-1 General

5-1.1 Structural connections along the interior and exterior marriage lines are necessary to join all sections of the manufacture home. The connection should be made to ensure a completely integrated structure per Table 5-A.

5-1.2 Prior to making the structural connections between the manufactured home sections, all shipping and close-up materials on the marriage line floors, walls, and roofs should be removed so there are no exposed or protruding fasteners, material scraps, or other protrusions, on either side of the marriage line.

5-1.3 A durable, non-porous closed-cell foam or double layer sill seal should be installed around the perimeter of the manufactured home marriage line floor, wall, and roof to resist the entry of air, water, water vapor, insects, and rodents. Use of fiberglass insulation or foam padding is not permitted for this gasket. Gasket materials should be attached with fasteners at 6 inches center to center. See illustrations in Figure 5-A.

5-2 Gaps at Marriage Lines

5-2.1 Upon completion of the exterior close-up, all gaps should be eliminated between the structural elements being connected along the marriage lines of a multiple section manufactured home. Prior to completion of the exterior close-up, minor gaps that do not exceed 1 inch, between structural elements, should be shimmed.

5-2.2 All gaps should be shimmed with dimensional lumber, and fastener lengths used to make connections between the structural elements should be increased to provide adequate penetration into the receiving members.

5-3 Roof Connections

5-3.1 Each roof section should be secured to the adjacent roof section along each marriage line using one of the methods described in this subsection.

5-3.1.1 Secure roof sections together with 1/2 inch diameter bolts, installed with washers, spaced equally along the length of the ridge beam at a maximum of 32 inches center to center. Bolts should be installed 2 inches below the top of the ridge beam, at a 90-degree angle to the beam. Ridge beams should be pre-drilled with 5/8 inch holes to accept the bolts. Bolts should be long enough to penetrate both ridge beams and any shimming materials, and have 1 inch of exposed thread for installing the nuts. See Illustration in Figure 5-B.

5-3.1.2 Secure roof sections together with 3/8 inch diameter lag screws, installed with washers, spaced equally along the length of the ridge beam at a maximum of 16 inches center to center. Lag screws should be installed through pre-drilled pilot holes with a diameter equal to half the diameter of the lag screw. Lag screws should be long enough to penetrate through both ridge beams and any shimming material. See Illustration in Figure 5-
5-3.1.3 Secure roof sections together with #10 wood screws, spaced equally and staggered side to side along the length of the ridge beam, at a maximum of 12 inches center to center. Wood screws should be installed at a 45- to 90-degree angle and require no pre-drilling. Wood screws should be long enough to penetrate through both ridge beams and any shimming material. Note: See Chapter 10 for roof close up, folding roofs, and alternate construction information.

5-3.2 When a ridge beam column support post is located on one side only of a marriage line, install eight 1/2 inch diameter bolts with washers, or ten 3/8 inch lag screws with washers, through both ridge beams, spaced at 4 inches center to center horizontally and centered over the each applicable column support post. Use the same fastening specifications shown in subsections 5-3.1.1. See illustration in Figure 5-C.

5-4 Wall Connections

5-4.1 Marriage line walls of multiple section manufactured homes should be secured together according to this subsection.

5-4.1.1 End walls should be secured with #10 wood screws, spaced equally at 12 inches center to center, and within 6 inches of the floor and ceiling. Wood screws should be long enough to penetrate both marriage line studs and any shimming material. See illustration in Figure 5-D.
Chapter 5 - Floor Connections

5-5.1 Floors of multiple section manufactured homes should be secured together at the marriage line using one of the methods described in this subsection.

5-5.1.1 Secure floor sections together with 1/2 inch diameter bolts, installed with washers, through each steel marriage clip provided on the home marriage line. Bolts should be long enough to penetrate marriage clips, washers, and have one inch of exposed thread for installing the nuts. See illustrations in Figure 5-F.

5-5.1.2 Secure floor sections together with 3/8 inch diameter lag screws, installed with washers, spaced equally along the length of the floor's marriage line rim joists at a maximum of 24 inches center to center. Lag screws should be installed through pre-drilled pilot holes with a diameter equal to half the diameter of the lag screw. Lag screws should be installed at a 45- to 90-degree angle. Lag screws should be long enough to penetrate through both marriage line rim joists and any shimming material. See illustrations in Figure 5-F.

5-5.1.3 Secure floor sections together with #10 wood screws, spaced equally and staggered side to side along the length of the ridge beam, at a maximum of 12 inches center to center. Wood screws should be installed at a 45- to 90-degree angle and require no pre-drilling. Wood screws should be long enough to penetrate through both marriage line rim joists and any shimming material.

---

Chapter 6 - Anchoring and Tie Downs

6-1 General

6-1.1 After blocking and leveling the manufactured home, the home should be secured against the wind by use of an anchor assembly type installation, or by structural connections to an alternative foundation system provided in the manufacturer's installation instructions or designed by a registered professional engineer or architect.

Note: See Appendix E for a list of anchoring equipment manufacturers, and their WEB addresses.

6-1.2 All anchoring and foundation systems should be capable of meeting the loads the home was designed to withstand, as shown on the manufactured home's data plate.

6-2 Ground Anchors

6-2.1 Ground anchors should be capable of resisting a minimum ultimate load of 4,725 lbs, and a working load of 3,150 lbs.

6-2.2 The ultimate load and working load of ground and anchoring equipment should be determined by a registered professional engineer, architect, or tested by a nationally recognized third party testing agency, in accordance with a nationally recognized testing protocol.
6-3.3 Ground anchors should be provided with protection against weather deterioration and corrosion at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz/ft² of surface coated.

6-3.4 Each ground anchor should be manufactured and provided with installation instructions in accordance with its listing or certification. A nationally recognized testing agency should list, or a registered professional engineer or architect should certify, the ground anchor for use in a classified soil based on a nationally recognized testing protocol.

6-3 Strapping
6-3.1 A 1-1/4 inch x 0.035 inch or larger steel strapping conforming to ASTM D 3953-97, Type 1, Grade I, Finish B, with a minimum total capacity of 4,725 lbs and a working capacity of 3,150 lbs should be used.

6-3.2 The tie-down straps should be provided with protection against weather deterioration and corrosion at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz/ft² of surface coated. Slit or cut edges of coated strapping need not be zinc coated.

6-3.3 Vertical and diagonal strapping should be protected at sharp corners by use of radius clips or other approved means.

6-3.4 Diagonal straps should be installed with a minimum angle of 30 degrees between the diagonal strap and the ground.

6-4 Anchor Installation
6-4.1.1 Ground anchors and anchor strap spacing should placed at no greater than the spacing shown in Tables 6-A, 6-B, 6-C, or the manufacturer's installation instructions, unless designed by a registered professional engineer, or architect, in accordance with acceptable engineering practice and the requirements of the federal standards 24 CFR 23280. See Illustration in Figure 6-A.

6-4.1.2 Ground anchors and straps should be installed according to the Wind Zone the manufactured home is placed in.

6-4.1.3 Manufactured homes designed and located in Wind Zones II and III should have a vertical tie installed at each diagonal tie location according to Table 6-B or Table 6-C. See Illustration in Figure 6-B.

6-4.1.4 Manufactured homes designed and located in Wind Zone I are not required to have a vertical tie installed at each diagonal tie location.

6-4.1.5 Anchors and straps should be placed within 2 ft of each end of the manufactured home.

6-4.1.6 A reduced ground anchor or strap working load capacity will require reduced spacing. Ground anchors should not be spaced closer than the minimum spacing permitted by the listing or certifications.

6-4.1.7 The installed ground anchor size (length) should be for the listed soil class in which it is used.

6-4.1.8 Each ground anchor should be installed to its full depth and in accordance with its listing or certification, and the ground anchor manufacturer’s installation instructions. See Illustration in Figure 6-A.
6-4.1 Manufactured homes should be stabilized against wind in the longitudinal direction in all Wind Zones with a listed longitudinal anchoring system installed according to the manufacturer's installation instructions.

6-4.2 A registered professional engineer or architect may design alternative longitudinal anchoring methods in accordance with acceptable engineering practice.

6-4.3 Manufactured homes located in Wind Zones II and III should have longitudinal ground anchors installed on each end of each transportable section(s), or be provided with alternative systems capable of resisting wind forces in the longitudinal direction.

6-4.3.1 Stabilizer plates should be installed on each ground anchor, when required by the ground anchor listing, or certification, as indicated in the ground anchor manufacturer's installation instructions. See illustrations in Figure 6-C.

6-4.3.2 Metal stabilizer plates should be provided with protection against weather deterioration and corrosion at least equivalent to that provided by a coating of zinc on steel of not less than 0.30 oz/ft² of surface coated. Alternatively, AISI stabilizer plates may be used when listed and certified for such use.
6.4.3.3 The size and type of stabilizer plate to be used should conform to the manufacturer’s installation instruction.

6.4.4 If over the roof marriage line or shear wall straps are installed on the home, they should be connected to an anchoring assembly according to the manufacturer’s installation instructions.

6.4.5 Where ground anchors are not suitable based on the foundation type or structure supporting the manufactured home, other types of anchoring devices may be used.

See Illustrations in Figure 6-D Alternative anchoring devices should be listed by a nationally recognized testing agency or designed and certified by a registered professional engineer or architect in accordance with acceptable engineering practice and the requirements of the federal standards 24 CFR 3280. Alternative anchoring devices should be installed according to the manufacturer’s installation instructions or to the engineered design.

---

**TABLE 6-A**

<table>
<thead>
<tr>
<th>Minimum floor width for single-spired multiple stack manufactured home</th>
<th>Minimum distance from ground to strap attachment</th>
<th>Minimum spacing (20 inches minimum)</th>
<th>Minimum spacing (10 inches maximum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40' wide/16' each side (single stack)</td>
<td>20 inches</td>
<td>12 - 4</td>
<td>20</td>
</tr>
<tr>
<td>40' wide/16' each side (multiple stack)</td>
<td>20 inches</td>
<td>12 - 4</td>
<td>20</td>
</tr>
<tr>
<td>40' wide/20' each side (single stack)</td>
<td>25 inches</td>
<td>12 - 4</td>
<td>25</td>
</tr>
<tr>
<td>40' wide/20' each side (multiple stack)</td>
<td>25 inches</td>
<td>12 - 4</td>
<td>25</td>
</tr>
</tbody>
</table>

**NOTES:**
- This table is based on Table 1 in 24 CFR 3280.4.2.
- This table is based on minimum 60 lbs. pull-out capacity, referenced back wall or edge of floor or wall; a distance 18 in. (457 mm) between attachment hole and the bottom of the floor joist, a minimum 20-degree roof pitch, and a maximum 10-foot (3048 mm) wall pitch for horizontal anchors.
- Maximum distance between straps as listed in Table 6-B.
- This table is based on 3,700 lbs. working load capacity, single place within 0.8 of stack end of the manufactured home, and a minimum angle of 25 degrees and a maximum angle of 45 degrees between the strap and the ground.
- The table does not consider, and is not designed for, wind or seismic loads.
- The table does not consider, and is not designed for, wind or seismic loads.
- See the manufacturer’s installation instructions for location and type of tie-down equipment.
- See Tables 6-A and 6-C for bolt torque in Wind Zones 6 and 7.
Chapter 7 - Mechanical Installations

7-1 General

7-1.1 Mechanical installations and connections made during the installation of a manufactured home should be made in accordance with this subsection of the guideline.

7-1.2 All mechanical equipment and material used in the installation of a manufactured home should be without defect. All damaged equipment and materials should be discarded and replaced with approved component parts.

7-1.3 All mechanical installation methods should be in accordance with the equipment manufacturer’s listing, installation instructions, and the federal standards 24 CFR 3280.

7-1.4 All mechanical equipment (e.g., appliances, flues, vents, and ducts) should be listed and labeled for their intended use.

7-1.5 All mechanical installations should be accessible for inspections.

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7-2 Condensation drains from air conditioning, heat pumps, evaporative coolers, dehumidifiers, refrigeration equipment, or any other appliance or fixture, should not terminate in, or under, a manufactured home, cabana, garage, basement, or any other confined space.

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7-4 Shipped Loose Vents, Ducts, and Flues

7-4.5 When the shipped loose chimney or flue is for a solid fuel burning fireplace or wood stove, the shipped loose portion of the flue or chimney should extend at least 3 feet above the part of the roof through which it passes and at least 2 feet above the highest elevation of any part of the manufactured home within 10 horizontal feet of the chimney flue. The chimney flue should be equipped with and contain, as part of its listing, a termination device and spark arrester.

7-5 Site Installed HVAC Ducting

7-5.3 Underfloor heat and air conditioning ducts should be installed and arranged to prevent excessive bends, sharp bends, excessive length, stress at the connections, crushing, denting, and compression.
7-5.4 Underfloor heat and air conditioning ducts should be suspended or supported above the ground by straps or other means spaced at a maximum distance not to exceed 4 feet center to center, or as otherwise permitted by the manufacturer’s installation instructions. See illustration in Figure 7-C.

7-5.5 When straps are used to support a flexible type duct, the straps should be at least \( \frac{3}{4} \) inch wider than the spacing of the metal spirals enclosing the duct, so the straps cannot slip between any two spirals and compress or kink the duct.

7-5.10 All tears, holes, and penetrations in underfloor heat and air conditioning ducts should be sealed with approved foil tape, or other approved duct sealer.

7-7 Clothes Dryer and Duct Installations

---

7-11 Prohibited Practices

7-11.1 Drilling or tapping into a gas or oil piping.

7-11.2 Using fittings, connections, or devices which retard the flow of gas or oil.

7-11.3 Using used or defective materials.

7-11.4 Patching or concealing cracks, holes, or imperfections in pipes or fittings.

7-11.5 Altering listed or approved products.

7-11.6 Bending rigid piping rather than installing directional fittings.

7-11.7 Covering work prior to required inspections.
8-4 Plumbing Assembly

8-4.1 Plumbing assemblies should be free from defect, demonstrate acceptable workmanship, and be installed in conformance with acceptable engineering practices and this guideline.

8-7 Marriage Line Connections

8-7.1 The water line crossovers on multiple section manufactured homes should be: (1) connected with the connectors supplied by the manufacturer; (2) connected with an approved flexible water connector, sized no less than the water lines being connected; or (3) with other approved materials acceptable to the LAHJ. See illustration in Figure 8-B.

8-7.2 Exposed water line crossover connections should be protected from freezing with pipe insulation, or with the installation of an approved electric heat tape listed for use with manufactured homes.

Note: See subsection 8-3.9 of this guideline for further information.

Chapter 9 - Electrical Installations

9-1 General

9-1.1 Electrical wiring methods, installations, and connections made during the manufactured home installation, alteration, repair, conversion, or addition should be made in accordance with the electrical code.

Figure 8-C
9-6 Heat Tape Installation

9-6.1 Heat tape, when used, should be connected to the heat tape receptacle outlet under the manufactured home, near the main water inlet.

9-6.2 Heat tapes should be approved for the type water pipe being protected (e.g., CPVC, PVC, PEX, ABS, copper, galvanized steel, etc.).

9-6.3 Heat tape should be listed for manufactured home use, and installed according to the manufacturer's installation instructions.

9-6.4 Heat tape receptacle outlets located under the manufactured home near the main water inlet are not GFCI protected, and should not be used for connection to any other electrical appliance or device.

9-7 Communication Equipment

9-7.1 Communication cables (e.g., telephone, television, and computer cables) may be installed by the manufacturer, however, if the purchaser did not order the home pre-wired, cables will need to be installed on site.

9-7.2 Telephone, cable TV, and computer wiring installed on site should be installed according to the manufacturer's installation instructions and the requirements of the LAHJ.

9-7.3 Manufactured home floor, wall, and ceiling cavities contain electrical circuits, plumbing, and ducting. Exercise extreme care when drilling through, and placing communication cables within these cavities.

9-7.4 Communication cables installed in trenches with other electrical conductors should be separated by a minimum of 12 inches.

9-8 Grounding

9-8.1 All steel chassis and exposed metal parts on a manufactured home should be bonded, and one chassis should be grounded to the grounding bar in the main distribution panel box. Note: This is usually already done by the manufacturer at the manufacturing plant.

9-8.2 All electrical equipment connected to a manufactured home should be grounded. Do not provide electrical power to a manufactured home until all grounding electrodes have been installed, and connected.

9-16 Smoke Alarm Tests

9-16.1 Smoke alarms should be functionally tested to assure they are connected and in working order. Reference 24 CFR 3285.703 and 24 CFR 3280.208

9-16.2 After all other electrical tests have been completed, each smoke alarm installed in the manufactured home, basement, and cabana should be operationally tested according to the alarm manufacturer's instructions.

9-16.3 A smoke alarm that does not function as designed during the test, and is not fixed so that it functions properly in the next retest, should be replaced.

9-16.4 Any replacement smoke alarm should be successfully tested in accordance with this subsection of the guideline.

9-17 Ground Fault Circuit Interrupters (GFCI) Test

9-17.1 Each GFCI device should be tested by pushing the test button and then reset by pushing the reset button.

9-17.2 All receptacle outlets protected by a GFCI should be tested with a GFCI receptacle tester to assure they are properly connected and in working order.
Chapter 10 - Final Elements

10-1.1 Final Close-Up
10-1.1.1 Exterior roofing, siding, flashing, and exterior and interior trim necessary to join all sections of the manufactured home, should be supplied by the home manufacturer, and installed on site by the installer.

10-1.1.2 Siding should be installed and fastened in accordance with the designs and the product manufacturer’s installation instructions. Prior to installing any siding, any polyethylene sheeting used to protect the walls during transportation or storage should be completely removed.

10-1.4 Exterior siding and roofing close-up materials should be installed according to the material manufacturer’s installation instructions. Note: See Appendix E for WEB addresses of material manufacturer associations that can provide standard installation instructions for exterior close-up roofing and siding materials.

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10-1.1.9 Bottom board covering should be inspected for damage from the storage, transportation, or installation of the manufactured home, and should be repaired according to this guideline. Any missing insulation should be replaced prior to closure and repair of the bottom board.

10-1.1.11 Any splits or tears in the bottom board should be resealed with permanent tape or patches in accordance with methods provided by the manufacturer.

10-Hinged Roofs and Eaves

10-2.2.3 Homes with hinged roofs may be exempted from alternate construction procedures and special inspections, if they are designed for and located in Wind Zone I; the pitch of the hinged roof is less than 7:12; and there are no fuel burning appliance flue penetrations through the hinged portion of the roof.

10-4.1.3 Under-floor enclosures, such as skirting, should not be attached in a manner that impedes the contraction and expansion characteristics of the manufactured home’s exterior covering.

10-4.2.1 Under-floor enclosures, such as skirting, should be provided with an access opening to the crawl space beneath the manufactured home. The access opening should not be less than 18 inches wide and 24 inches high and not less than three square feet (ft²) in area. See illustration in Figure 10-F.

10-4.2.2 The access should be located so there are no obstructions, and so that all utility connections located under the home are accessible.
10-4.4.1 When an under-floor enclosure, such as skirting, is provided, it shall have adequate ventilation openings for the crawl space beneath the manufactured home.

10-4.4.2 The minimum net area of ventilation openings should not be less than one square foot (ft²) for every 150 square feet (ft²) of the home's floor area, as shown in Table 10-A. As an alternative, the total area of ventilation may be reduced to one square foot (ft²) for every 1,500 square feet (ft²) of the home's floor area, as shown in Table 10-B, when a 6-mil polyethylene sheet material, or other acceptable vapor retarder, is installed on the ground surface beneath the entire floor area of the home, in accordance with subsection 3-4 of these Guidelines. See illustrations in Figures 10-F and 3-B.

10-4.4.3 Ventilation openings should be located on at least two opposite sides of the manufactured home to provide cross ventilation, and be placed as high as possible above the ground. Ventilation opening should not be closer than 36 inches from a corner. Ventilation openings should not be obstructed by any part of the manufactured home's steel chassis frame.

10-4.5.2 Drains from any furnace, air conditioner, heat pump, evaporative cooler, dehumidifier, water heater, or any other similar appliance should direct the water away from the home's underfloor area to outside the underfloor enclosure (skirting), or be collected by other methods.

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Window and Door Tests

10-5.1 Upon completion of the manufactured home installation, each window should be opened to its full open position, and closed again. If there is restricted movement in a window, or it takes excessive pressure to open, or close, the window, clean the track, or adjust the window as necessary, and repeat the test. If the problem continues, check the level of the home's floor in two directions, and, if necessary, re-level the floor. Test the window once more, and, if the problem continues, call the manufacturer's service department, and report the problem.

Note: If the problem exists in an egress window, this could be a life threatening situation needing correction prior to the home's occupancy.

10-5.2 Upon completion of the manufactured home installation, each interior door, exit door, shower door, and patio door should be opened to its full open position, and closed again. If a door sticks, binds, or won't latch, adjust the door or frame as necessary. Test the door again, and, if the problem continues, call the manufacturer's service department and report the problem.

Note: If this problem exists in one or more of the two exit doors, it could be a life threatening situation needing correction prior to the home's occupancy.

Chapter 11 Ancillary structures

11-1.1 Ancillary structures are accessory buildings and structures (e.g., cabanas, attached garages, awnings, carports, storage buildings, ramadas, stairs, decks, patios, driveways, and sidewalks) used in conjunction with a manufactured home.

11-1.2 All ancillary structures should be built to the local building code adopted by the LAHJ, regardless of whether permits and inspections are required. When required, plans should be submitted to, and approved by, the LAHJ prior to the construction of an ancillary structure.

11-1.3 Ancillary structures should be free standing and self-supporting without adding any live or dead loads to the manufactured home, except when: (1) the loads have been contemplated by the home manufacturer and the attachment to the manufactured home is specifically included in the home manufacturer's installation instructions; or (2) the connection and transfer of loads is designed by a registered professional engineer or architect.

11-1.4 Ancillary structures should not take the manufactured home out of compliance with the federal standards 24 CFR 3280, or create a safety hazard for the occupants.

11-1.5 Ancillary structures should not restrict the access or egress from any manufactured home door or window, except as specifically permitted by this guideline for cabanas. Hinged exit doors should be capable of opening at least 90 degrees. No more than one manufactured home exit door should be enclosed by an ancillary structure. Ancillary structures should not restrict the egress path from a manufactured home.
11-1.6 Ancillary structures should not restrict required ventilation of any room within a manufactured home, except as specifically permitted by this guideline for cabanas and garages.

11-1.7 Ancillary structures should not restrict access to mechanical or electrical equipment. Appliance exhaust vents should not terminate within a space occupied by an ancillary structure, except that ranges and dryers may exhaust into areas occupied by awnings or carports. Ancillary structures should maintain the clearances to appliance exhaust vents required by the appliance listing.

11-1.8 Plumbing vents should not terminate, in or under, an ancillary structure. Access to plumbing equipment, cleanouts, P-taps, fixtures, or apparatus should not be restricted by an ancillary structure.

11-5 Basements

11-5.1 In addition to those guidelines provided in subsection 11-1 of this chapter, basements under manufactured homes should comply with this subsection.

11-5.2.1 Basements for manufactured homes should be designed by a registered professional engineer or architect.

11-5.2.2 Basements below manufactured homes, and stairways connecting the two structures, should be designed to meet the minimum requirements of the building code.

11-8 Other Accessory Buildings and Structures

In addition to those guidelines provided in subsection 11-1 of this chapter, stairs, ramps, decks, handrails, guardrails, storage buildings, and all other accessory buildings, and structures not specifically addressed within this chapter of the guideline, should be constructed according to the building code.

11-9 Alterations and Conversions

11-9.1 Alterations to, or conversions, of a manufactured home (e.g., moving partitions, re-siding, re-roofing, roof additions, replacement of doors or windows, adding or removing fixtures or appliances, adding insulation, or remodeling) should be performed in accordance with the requirements of the LAHJ.
Inspection Checklist

Site Conditions
- Zoning approval from LAHJ
- Permits or official authorization obtained
- Manufacturer’s installation instructions
- Fire separations and setbacks provided per LAHJ
- Soil verified or tested to identify footing size and anchor type
- Home site is prepared and graded for drainage

Foundation Construction
- 6" vapor retarder installed under home (when applicable)
- Footing size accurate for soil conditions
- Footing depth accurate for frost depth
- Footing locations according to manufacturer’s instructions
- 16" minimum clearance under floor plans
- Pier heights according to manufacturer’s instructions
- Column and support piers properly spaced and located
- Perimeter piers placed per manufacturer’s instructions
- Floor is level throughout

Structural Connections
- Shipping blocks and straps removed
- Non-porous gasket installed at marriage line
- Roof secured at marriage line
- Hinged roof and eaves secured in place
- Endwalls secured at marriage line
- Floors secured at marriage line
- Floors, eaves, and roofs are properly aligned

Anchoring and Tie Downs
- Approved anchors and straps
- Anchor approved for soil conditions
- Anchors located and strapped according to manufacturer’s instructions
- Steel bars installed (when required)
- Anchor depth in soil per manufacturer’s instructions
- Proper anchor strap attachment to chassis
- Longitudinal tie downs are installed (when required)

Mechanical Connections
- Gas system supply connection is made with approved materials
- Range and dryer exhausts are properly installed
- Condensate lines drain outside home

Plumbing Connections
- Water and drain connections have been properly made
- Water and drain crossover connections have been properly made
- Ship-loose plumbing is installed
- Drain and water line materials are approved types
- Drain and water line penetrations through floor have been sealed
- Plumbing access covers and insulation have been replaced
- Water lines and P-traps are protected from freezing

Electrical Connections
- Electrical connections at marriage line have been properly made
- Electrical connections at marriage line have proper polarity
- Electrical connections at marriage line have been insulated
- All required tests have been successfully completed

Final Elements
- Exterior siding trimmed, flashed, and sealed
- Roofing damage repaired with no holes or exposed fasteners
- Roof flashings and roof pads in place
- Roof cap and nailing material is applied over the marriage line
- Doors and windows open and close properly
- Bottom board damage is repaired and sealed
- Gutters divert water away from foundation (when installed)
- Skirting is supported, free access, and properly vented
- Finish grading provides grade away from home
- Exterior close-up attached and sealed
- Labels, insignia, and data plate are in place
120-3-.07 Consumer Complaint Handling and Remedial Actions.

Consumer complaints and remedial actions will be administratively enforced by the Department of Insurance. Consumer complaints will be received by the Department of Insurance and investigated. The Department of Insurance will issue an order for the manufacturer, retailer, or installer to remedy the situation. If the manufacturer, retailer, or installer does not remedy the situation, the Department of Insurance will initiate a formal hearing and issue a final order.

120-3-.08 Annual License.

Every retailer and retailer broker who sells or offers for sale more than three (3) new or previously owned manufactured or mobile homes in a twelve (12) month period shall apply for and obtain a license from the Manufactured Housing Section of the Safety Fire Division on the prescribed form and accompanied by the fee as provided in 0.C.G.A. §8-2-160(1) and (2). For licensing purposes, each plant location shall be treated as a separate entity and shall adhere to all licensing requirements. The applicant for licensure shall specify the actual physical location of the plant location where the mobile home is manufactured or assembled. Every retailer and retailer broker receiving a license shall display the license in the place of business and shall make such license available upon request for verification by an authorized representative of the Commissioner.

Every retailer and retailer broker who sells or offers for sale to consumers three (3) or more new or previously owned manufactured or mobile homes in a twelve (12) month period in Georgia shall apply for and obtain a license from the Manufactured Housing Section of the Safety Fire Division on the prescribed form and accompanied by the fee as provided in 0.C.G.A. §8-2-160(1) and (2). For licensing purposes, each retailer lot or location shall be treated as a separate entity and shall adhere to all licensing requirements. The applicant for licensure shall specify the actual physical location of the retailer lot or location where the mobile home is manufactured or assembled. Every retailer and retailer broker receiving a license shall display the license in the place of business and shall make such license available upon request for verification by an authorized representative of the Commissioner.

Every manufacturer who manufactures manufactured homes in Georgia and every manufacturer who manufactures manufactured homes outside the State of Georgia and who sells or offers for sale said manufactured homes in Georgia shall apply for and obtain a license from the Manufactured Housing Section of the Safety Fire Division in accordance with 0.C.G.A. §8-2-160(1) and (2) and the Rules and Regulations promulgated thereunder. Presentation of Views or Hearings will be conducted pursuant to §120-3-.10 of these Rules and Regulations.

The application for licensure for each installer shall be accompanied by proof of successful completion of an installation training course and corresponding examination, authorized or approved by the Commissioner, and designated for licensure. The course must have been taken within 12 months prior to the initial application for licensure. Refresher courses approved by the Commissioner shall be taken every 24 months thereafter. A temporary license which shall be valid for no longer than six (6) months, allowing installations to be performed during that time period, may be issued at the discretion of the Commissioner without proof of attendance at the required course. The applicant shall complete an approved course within six (6) months of the date of issuance of the temporary license.
(4) Applications for licensure must be approved by the Commissioner or his or her delegate before engaging in any activities contemplated by the Manufactured Housing Act and requiring licensure for manufacturers, retailers, retail brokers or installers. Each license shall be valid from January 1 through December 31 of the year in which the license is issued. License fees shall not be prorated for the remainder of the year in which the application is made but shall be paid for the entire year regardless of the date of application. All licenses are non-transferable regarding ownership and/or location. Any licensed entity changing the business name, or any other information not referenced herein, presented on the original application for licensure shall notify the Manufactured Housing Section of the Safety Fire Division of any change of information contained in the original application for licensure within twenty (20) days and shall complete a revised application.

(5) Applications for renewal licenses for manufacturers, retailers, retail brokers and installers shall be obtained and submitted to the Manufactured Housing Section of the Safety Fire Division on or before January 1 of each year and shall be accompanied by a completed consent form allowing a criminal history background check by the Safety Fire Commissioner’s Office. On or before December 1 of each year, the Manufactured Housing Section of the Safety Fire Division shall forward a Notice of Renewal by regular United States mail to each licensee at the last known address on the records of the Safety Fire Commissioner. After depositing the Notice of Renewal in the United States mail, the Manufactured Housing Section shall have no further duty or obligation to notify the licensee of the expiration of annual license. The fee for delinquent renewal applications received after January 10 of each year shall be double the regular annual fee.

120-3-7-.13 Installation Requirements.
(1) In addition to the licensure requirements of Rule 120-3-7-.08(3) of these Regulations, any installer performing any installation of a new or used manufactured or mobile home in the State of Georgia shall first purchase a permit from the Commissioner. The cost of each permit is prescribed in O.C.G.A. § 8-2-164(2). Each installer shall provide any information required by the Commissioner to obtain a permit. The installation permit shall be attached by the installer to the panel box of each manufactured or mobile home upon completion of the installation. The prescribed permit shall be designed by the Commissioner. A permit shall be issued only to a licensed installer, and shall not be transferable.

120-3-7-.14 INSPECTIONS
(1) Local building code inspectors are authorized to make inspections of manufactured and mobile home installations to ensure compliance with O.C.G.A. § 8-2-160 et seq. and the Rules and Regulations promulgated thereunder. No political subdivision may adopt or enforce any requirement not consistent with these Rules and Regulations.

(2) The authorized representatives of the Commissioner shall perform any inspections necessary to ensure compliance with O.C.G.A. § 8-2-160 et seq. The Commissioner or his or her specially appointed designee is the final authority on the correctness of the installation as prescribed in O.C.G.A. § 8-2-160 et seq. and the Rules and Regulations promulgated thereunder.

(3) The Commissioner or his or her agent shall perform random inspections on installations performed by each installer each year. The inspections required by this section shall be independent of any requirements under subpart I of Part 3282 of the Manufactured Home Procedural and Enforcement Regulations of the National Manufactured Housing Construction and Safety Standards Act of 1974, 42 U.S.C. Section 1461 et seq.
120-3-7.15 Reports of Manufactured and Mobile Home Installations.

(a) Each installer licensee of manufactured and mobile homes shall report all installations performed each month to the Manufactured Housing Section of the Safety Fire Division no later than the 10th day of the month following the actual installation on the form prescribed by the Commissioner. Reports submitted monthly to the Commissioner shall also include the permit number as required to be placed on each manufactured or mobile home installed. Said report shall include an accurate reading from a torque probe test within two feet of each corner of the home. This Rule shall be applicable regardless of the number of installations performed during the referenced time period. A report must be filed each month, even if no installations are performed.

120-3-7.18 Installation Instructions.

Installation instructions provided with manufactured homes must be followed for installation. These instructions are designed to be applicable when certain aspects of the manufacturer’s installation instructions are not explicit, not stipulated or need clarification, or when the manufacturer’s instructions indicate that the requirement may be left to the authority having jurisdiction. The Federal Manufactured Home Construction and Safety Standards Program (24 C.F.R. 3280, 3282 and 3283) requires that all manufactured homes be provided with installation instructions covering foundation, anchoring, utility connections, and other items. Such installation instructions shall be utilized and followed for the installation of all new manufactured homes. Previously occupied manufactured homes and mobile homes which do not have manufacturer’s installation instructions shall be installed according to requirements herein. The term mobile home shall be synonymous with the term manufactured home when used herein. Manufactured homes located within rental communities shall not be required to have poured concrete or permanent foundations.

6) Anchoring

(See attached Georgia Tie-Down and Anchoring Table)

4. Other Anchoring Devices: Other anchoring devices meeting requirements of this section shall be permitted if acceptable to the Manufactured Housing Section of the Safety Fire Division.
5. Depth of Anchors: All anchors shall be installed to the full depth shown in the anchor manufacturer’s installation instructions.
6. Anchors installed in line with the pull must be of sufficient additional length to compensate for loss of depth.
7. Anchors are to be placed within 2 feet of each end of each section in Zone I and II. In addition: See Attached Georgia Wind Zone Map
   (i) Zone I anchors must be placed 8 feet on center maximum along the length of both exterior sidewalls.
   (ii) Zone II anchors must be placed 6 feet on center maximum along the length of both exterior sidewalls.
   (iii) Both Zone I and II must have two longitudinal ties and anchors at each end of each section attached to the main "I" Beams. For pier heights exceeding 49 inches, anchors must be strapped to both "I" Beams. NOTE: Zone II homes produced since July 1994 must have vertical ties at each diagonal tie location.
8. Anchor length and/or type must be determined by probe testing all four corners, within two feet of corners. Results may be averaged and used to determine anchors based on the anchor manufacturer’s installation and/or user manual requirements.
9. Approved alternate systems of anchoring may be used when proof that the manufacturer has approved such systems is provided.

7. Foundation Standards: See attached Georgia Foundation Tables
(c) All grass and organic material shall be removed from the pier foundation location(s), and the pier foundation placed on stable soil at a depth sufficient to protect the footings from the effects of frost heave. For purpose of the installation of a manufactured or mobile home in the State of Georgia, all footers must be protected from the effects of frost heave. When properly designed by a registered professional engineer, a “floating slab” system may be used above the frost line. The design shall accommodate the anchorage requirements identified within this regulation and the manufacturer’s installation instructions.

(d) The pier foundation shall be a 16”x16”x4” solid concrete pad, precast or poured in place, or other approved methods/materials. Where poured concrete foundations are required by local authority for multiple section homes, the footing size shall be 24”x24”x6” filled with poured concrete, or other approved materials/methods. Concrete in footings shall have an ultimate compressive strength of not less than 2500 psi at 28 days. Footer size may vary on piers used with alternate anchoring systems, when installed per system manufacturer’s instructions, and marriage wall piers as required by manufacturer’s instructions.

For the purpose of installing a manufactured/mobile home in the State of Georgia, the bases of concrete or other pad types are to be placed at or below the frost line. Other types of footings such as piers, domes, or open piers are to be placed with the topmost point that serves as the base set at or below the frost line, so as to avoid the effects of frost heave. The frost line in the State of Georgia is determined to be:

(i) 4” for the following counties and all counties to the north of these counties: Troup, Meriwether, Pike, Lamar, Monroe, Jones, Baldwin, Washington, Jefferson, and Burke;
(ii) 2” for the following counties and all counties to the south of these counties: Harris, Talbot, Upson, Crawford, Bibb, Twiggs, Wilkinson, Johnson, Emanuel, Jenkins, and Screven. (See Attached Georgia Frost Line Map)
(iii) Footings or pier foundations (unless approved by a registered professional engineer) when required, shall be placed on firm un扰trenched soil or on controlled fill which is free of grass or organic materials to minimum load-bearing capacity of 1000 psi.
(iv) Piers and Spacing:
1. Piers or load-bearing supports of devices shall be designed and constructed to evenly distribute the loads.
2. Double piers are to be placed within 2 feet of each end of each main I-beam, and remaining piers spaced no more than 6 feet on center for the remaining length of each main I-beam.
3. Piers are to be placed on each side of exterior wall opening 4 feet or greater (footers at these openings may be 4” x 8” x 16”, or equivalent product).
4. Piers shall be placed on each side of exterior door opening (footers may be 4” x 8” x 16”, or equivalent).
5. The marriage line of multiple section manufactured homes shall be supported by piers spaced no more than 20 feet apart and shall have piers located within 2 feet of each end of the home, under the marriage line. In conjunction with these piers, piers must be placed at each end of openings 6 feet wide or more. Marriage line piers must support both marriage line floor rails. Footers must be a minimum of 16” x 16” x 4” equivalent.

(e) Footings or pier foundations (unless approved by a registered professional engineer) when required, shall be placed on firm un扰trenched soil or on controlled fill which is free of grass or organic materials to minimum load-bearing capacity of 1000 psi.

(f) Load-bearing supports or devices shall be designed by a registered professional engineer or architect and shall be approved by the use inspector or pier shall be constructed as follows:

(i) Piers less than 40 inches in height shall be constructed of open or closed cell, 8 inch by 16 inch, concrete blocks with open cells vertically placed upon the footing. The pier shall be covered with a 2 inch by 16 inch by 8 inch solid concrete block or equivalent, or 2 inch by 16 inch by 4 inch concrete plate.
(ii) Piers between 40 inches and 60 inches in height shall be double blocked with blocks interlocked and capped with a 4 inch by 16 inch by 8 inch solid concrete block or equivalent, or 2 inch by 16 inch by 8 inch solid concrete block or equivalent.
(iii) Piers over 60 inches in height shall be designed and approved by a registered professional engineer.

(g) Load-bearing and non-load-bearing walls constructed on site shall be constructed of concrete, masonry, pressure treated wood or any other approved material or system. Minimum thickness for load-bearing walls shall be 8 inch and non-load-bearing walls shall be 4 inch. Non-load-bearing walls shall be constructed of masonry, pressure treated wood or other approved materials. Where required by local authority, load-bearing walls shall be designed by a registered professional engineer. Non-load-bearing walls shall be constructed of masonry, pressure treated wood or other approved materials. Where required by local authority, load-bearing walls shall be designed by a registered professional engineer.

(h) Load-bearing supports or devices shall be designed by a registered professional engineer or architect and shall be approved by the use inspector or pier shall be constructed as follows:

(i) Piers less than 40 inches in height shall be constructed of open or closed cell, 8 inch by 16 inch, concrete blocks with open cells vertically placed upon the footing. The pier shall be covered with a 2 inch by 16 inch by 8 inch solid concrete block or equivalent, or 2 inch by 16 inch by 4 inch concrete plate.
(ii) Piers between 40 inches and 60 inches in height shall be double blocked with blocks interlocked and capped with a 4 inch by 16 inch by 8 inch solid concrete block or equivalent, or 2 inch by 16 inch by 8 inch solid concrete block or equivalent.
(iii) Piers over 60 inches in height shall be designed and approved by a registered professional engineer.
(8) Placement of Manufactured Homes.
(a) Clearance Under Homes: A minimum clearance of 12 inches shall be maintained beneath the lowest member of the main frame (clean or channel/beam) in the area of utility connections. No more than 25% of the underside of the main frame shall be less than 12 inches above grade.

(b) Elevated Manufactured Homes: When the manufactured home is installed on a basement or split level foundation over a habitable lower-level area, the foundation system shall be designed by a registered professional engineer or architect.

(11) Plumbing.
(a) Each manufactured home site shall be provided with a water supply and sewer located and arranged to permit attachment to the manufactured home in a workmanlike manner.
(b) Where the entire system has been completed, install permanent drain line supports at 4' on center.
(c) Proper slopes and connectors. Drain lines must slope at least 1/8" fall per foot of run. EXCEPTION: 1/8" fall per foot is allowed when a clean out is installed at the upper end of the run. Connect the main drain line to the site sewer hookup. Plumbing drain lines must be supported so as to slope at least 1/4" fall per foot of run or 1/8" fall per foot of run when full-size clean out is located in upper end of line.

(12) Manufactured Home Electrical Connections.
(a) When a manufactured home consists of two or more sections, all electrical connections from one section to another shall be installed in accordance with the manufacturer's installation requirements. In the absence of manufacturer's instructions, electrical connections shall be made in accordance with the National Electrical Code.
(b) Manufactured homes may have the service equipment mounted on or in the unit provided such units comply with all of the following conditions:
1. Exposed or accessible.
2. Permanently installed, connection system provided.
3. Located on a properly constructed foundation.
4. Unit is properly anchored and tied down.
5. Unit is constructed in accordance with HUD Construction Standards.
(c) Manufactured home utility services shall be connected to the supply sources with only approved materials.
(d) If a manufactured home is designed to have a metal support mounted on the electrical service supply, it is allowed to be installed directly on the home subject to compliance with subparagraph (12)(b), above.
(e) Temporary Electrical Service. The authority having jurisdiction shall allow for temporary electrical service for the installation of the manufactured home when the home consists of two or more sections.

(13) Additional Installation Requirements for Previously Owned Multi-Section Manufactured Homes and Mobile Homes. The floor sections, roof sections and wall sections are to be fit together tightly. Connections must be sufficiently sealed to prevent air infiltration. Connection of multi-section manufactured homes and mobile homes (two or more sections) when manufacturer's installation instructions are not available shall be as follows:

Floor Connection: All floors of multi-section manufactured homes and mobile homes shall be securely fastened together.

Wall Connection: All wall sections of multi-section manufactured homes and mobile homes shall be securely fastened together with 5/16" x 2" lag screws 24 inches on center with minimum 1 1/2" penetration into receiving member.

Roof Connection: All roof sections of multi-section manufactured homes and mobile homes shall be securely fastened together. Siding and trim pieces are to be installed at the connection of the sections.

Strap and support crossover duct 4 feet on center minimum. Duct must be supported off the ground.

Roof Covering: The joints at the ridge of the roof shall be secured and weather tight.

Plumbing drain lines must be supported off the ground. Unless specified in other sections of this Rule, all lines under the home shall be supported at 4 feet on center minimum.

(14) Clearances: Heating, and other ducts: Heating and duct work is to be connected for proper heating/cooling operation. Ductwork must be installed so that it will permit access to the floor connection. All manufactured homes and mobile homes shall be equipped with a means to operate in accordance with the manufacturer's instructions. The floor connection must be accessible at all times.

(15) Service equipment complies with Article 230 and 250 of the Georgia (National) Electrical Code.

(16) Miscellaneous.
(a) Elevated Manufactured Homes: When the manufactured home is installed on a level area, the foundation system shall be designed by a registered professional engineer or registered architect. Clearances may be reduced by a professional engineer or registered architect. No more than 25% of the underside of the main frame shall be less than 12 inches above grade.

(b) Elevated Manufactured Homes: When the manufactured home is installed on a basement or split level foundation over a habitable lower-level area, the foundation system shall be designed by a registered professional engineer or architect.

(c) Elevated Manufactured Homes: When the manufactured home is installed on a level area, the foundation system shall be designed by a registered professional engineer or registered architect.

(d) Elevated Manufactured Homes: When the manufactured home is installed on a basement or split level foundation over a habitable lower-level area, the foundation system shall be designed by a registered professional engineer or architect.
### TABLE F-1

<table>
<thead>
<tr>
<th>Pier Support Locations</th>
<th>Description of Pier Spacing Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-Beams</td>
<td>Double piers are required within 2 feet of each end of the I-beams, and single piers at 6 feet on center are required thereafter.</td>
</tr>
<tr>
<td>Sidewalls</td>
<td>Pier supports are required on each side of each doorway, and at each side of each opening over 4 feet in width.</td>
</tr>
<tr>
<td>End Walls</td>
<td>Same as for sidewalks unless the wall is provided with full headers above or cross members below.</td>
</tr>
<tr>
<td>Marriage Lines</td>
<td>Pier supports are required to support both marriage line floor rails beginning at 2 feet in from each end, at 20 feet on center, and on each side of each opening over 6 feet in width.</td>
</tr>
</tbody>
</table>

*Note: See Section 120-3-1.18(7) of Georgia's Rules and Regulations.*

### TABLE F-2

<table>
<thead>
<tr>
<th>Pier Heights</th>
<th>Description of Pier Height Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 40 Inches High</td>
<td>8&quot; by 8&quot; by 16&quot; concrete block single stacked and capped with a single 2&quot; by 8&quot; by 16&quot; wood cap or 4&quot; concrete cap</td>
</tr>
<tr>
<td>40 to 80 Inches High and all Corner Piers</td>
<td>8&quot; by 8&quot; by 16&quot; concrete block double stacked, interlocked, and capped with two solid 4&quot; by 8&quot; by 16&quot; concrete caps, or equivalent, or 2&quot; by 8&quot; by 16&quot; pressure treated wood or hardwood caps.</td>
</tr>
<tr>
<td>Over 80 Inches High</td>
<td>Designed and approved by a registered profession engineer.</td>
</tr>
</tbody>
</table>

*Note: See Section 120-3-1.18(7) of Georgia's Rules and Regulations.*

### TABLE F-3

<table>
<thead>
<tr>
<th>Footing Locations</th>
<th>Description of Footing Size Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-Beams</td>
<td>16&quot; by 16&quot; by 4&quot; precast or poured in place concrete footings or, when required the LAUH for multi-section homes, use 24&quot; by 24&quot; by 8&quot; poured in place footings.</td>
</tr>
<tr>
<td>Sidewalls</td>
<td>16&quot; by 8&quot; by 4&quot; precast concrete footings</td>
</tr>
<tr>
<td>Marriage Lines</td>
<td>16&quot; by 16&quot; by 4&quot; precast or poured in place concrete footings or, when required the LAUH for multi-section homes, use 24&quot; by 24&quot; by 6&quot; poured in place footings.</td>
</tr>
</tbody>
</table>

*Note: See Section 120-3-7.18(7) of Georgia's Rules and Regulations, all vegetation must be removed, poured in place concrete shall be not less than 2500 psi at 28 days, and footing shall be set or poured at or below Georgia’s frost line, see Georgia’s Frost Zone Map for frost lines depths.*
TABLE F-4

GEORGIA ANCHORING AND TIE DOWN REQUIREMENTS FOR PREVIOUSLY OWNED MANUFACTURED HOMES

<table>
<thead>
<tr>
<th>Wind Zones</th>
<th>From Each End of Each Section</th>
<th>Spacing Longitudinal Ties at Each End of Each Section</th>
<th>Vertical Ties at Each Diagonal Tie (on homes constructed since July 1994 only)</th>
<th>Ties to Both I-Beams when Piers are over 69&quot; High</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>2'</td>
<td>8'</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>II</td>
<td>2'</td>
<td>6'</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: See Section 120-3-7.14(6) of Georgia’s Rules and Regulations; use only approved materials for anchoring manufactured homes, and see the Georgia Wind Zone Map for specific locations of Georgia’s wind zones.

TABLE F-5

GEORGIA FROST PENETRATION REQUIREMENTS FOR ALL MANUFACTURED HOME INSTALLATIONS

<table>
<thead>
<tr>
<th>Frost Depth</th>
<th>Affected Counties</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Inches</td>
<td>Troup, Meriwether, Pike, Lamar, Monroe, Jones, Bartow, Washington, Jefferson, and Burke Counties and all those Counties to the North</td>
</tr>
<tr>
<td>2 Inches</td>
<td>Harris, Talbot, Upson, Crawford, Bibb, Twiggs, Wilkinson, Johnson, Emanuel, Jenkins, and Screven Counties and all those counties to the South</td>
</tr>
</tbody>
</table>

Note: See Section 120-3-7.18(7) of Georgia’s Rules and Regulations, all floor joists must be installed at or below the prescribed frost depth, and see the Georgia Frost Zone Map for specific locations of Georgia’s frost zones.

Georgia Frost Zone Map