

APPENDIX E

MANUFACTURED HOUSING USED AS DWELLINGS

SECTION AE101 SCOPE

AE101.1 General. These provisions shall be applicable only to a manufactured home used as a single dwelling unit and shall apply to the following:

1. Construction, alteration and repair of any foundation system which is necessary to provide for the installation of a manufactured home unit.
2. Construction, installation, addition, alteration, repair or maintenance of the building service equipment which is necessary for connecting manufactured homes to water, fuel, or power supplies and sewage systems.
3. Alterations, additions, repairs, or relocation of existing manufactured homes

These provisions shall not be applicable to the design and construction of manufactured homes and shall not be deemed to authorize either modifications or additions to manufactured homes where otherwise prohibited.

Exception: In addition to these provisions, new and replacement manufactured homes to be located in flood hazard areas as established in Table R301.2(1) of this code shall meet the applicable requirements of Sections R323 of the *Residential Code of New York State*.

SECTION AE102 APPLICATION TO EXISTING MANUFACTURED HOMES AND BUILDING SERVICE EQUIPMENT

AE102.1 General. Manufactured homes and their building service equipment to which additions, alterations or repairs are made shall comply with all the requirements of these provisions for new facilities, except as specifically provided in this section.

AE102.2 Additions, alterations or repairs. Additions made to a manufactured home shall conform to one of the following:

1. Be certified under the National Manufactured Housing Construction and Safety Standards Act of 1974 (42 U.S.C. Section 5401, et seq.).
2. Be designed and constructed to conform with the applicable provisions of the National Manufactured Housing Construction and Safety Standards Act of 1974 (42 U.S.C. Section 5401, et seq.).
3. Be designed and constructed in conformance with the new construction requirements of this code.

Additions shall be structurally separated from the manufactured home.

Exception: A structural separation need not be provided when structural calculations are provided to justify the omission of such separation.

Alterations or repairs may be made to any manufactured home or to its building service equipment without requiring the existing manufactured home or its building service equipment to comply with all the requirements of these provisions, provided the alteration or repair conforms to that required for new construction, and provided further that no hazard to life, health or safety will be created by such additions, alterations or repairs.

Alterations or repairs to an existing manufactured home which are nonstructural and do not adversely affect any structural member or any part of the building or structure having required fire protection may be made with materials equivalent to those of which the manufactured home structure is constructed.

Exception: The installation or replacement of glass shall be required for new installations.

AE102.3 Existing installations. Building service equipment lawfully in existence at the time of the adoption of the applicable codes may have their use, maintenance or repair continued if the use, maintenance or repair is in accordance with the original design and no hazard to life, health or property has been created by such building service equipment.

AE102.4 Existing occupancy. Manufactured homes which are in existence at the time of the adoption of these provisions may have their existing use or occupancy continued if such use or occupancy was legal at the time of the adoption of these provisions, provided such continued use is not dangerous to life, health and safety.

The use or occupancy of any existing manufactured home shall not be changed unless such change in use or occupancy is made to conform with all applicable provisions of this code. Upon any change in use or occupancy, the manufactured home shall cease to be classified as such within the intent of these provisions.

AE102.5 Maintenance. All manufactured homes and their building service equipment, existing and new, and all parts thereof shall be maintained in a safe and sanitary condition. All device or safeguards which are required by applicable codes or by the Manufactured Home Standards shall be maintained in conformance with the code or standard under which it was installed. The owner or the owner's designated agent shall be responsible for the maintenance of manufactured homes, accessory buildings, structures and their building service equipment. To determine compliance with this subsection, the code enforcement official may cause any manufactured home, accessory building or structure to be reinspected.

AE102.6 Relocation. Manufactured homes which are relocated shall have a manufacturer's label certifying compliance with applicable Department of Housing and Urban Development (HUD) Manufactured Home Construction and Safety Standards, and a data plate, affixed in the manufacturing facility, bearing not less than the following information:

AE102.6.1 The statement: “This manufactured home is designed to comply with the federal mobile home construction and safety standards in force at the time of manufacture.”

AE102.6.2 Reference to the structural zone and wind zone for which the home is designed.

AE102.6.3 Data relative to the heating and insulation zone and outdoor design temperature.

Exception: Mobile homes manufactured before June 15, 1976, need not comply with these provisions if they have been inspected by an agency or individual acceptable to the code enforcement official to determine that they are:

- (1) structurally sound;
- (2) free of heating and electrical system hazards.

Written documentation signed by the agency or individual performing the inspection shall be submitted to the code enforcement official.

**SECTION AE201
DEFINITIONS**

AE201.1 General. For the purpose of these provisions, certain abbreviations, terms, phrases, words and their derivatives shall be construed as defined or specified herein.

ACCESSORY BUILDING. Any building or structure, or portion thereto, located on the same property as a manufactured home which does not qualify as a manufactured home as defined herein.

BUILDING SERVICE EQUIPMENT. Refers to the plumbing, mechanical and electrical equipment including piping, wiring, fixtures and other accessories which provide sanitation, lighting, heating ventilation, cooling, fire protection and facilities essential for the habitable occupancy of a manufactured home or accessory building or structure for its designated use and occupancy.

MANUFACTURED HOME. A structure transportable in one or more sections that, in the traveling mode, is 8 feet (2438 mm) or more in width or 40 feet (12192 mm) or more in length or, when erected on site, is 320 square feet (29.7m²) minimum, and that was built on or after June 15, 1976, 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. The term “manufactured home” shall also include any structure that meets all the requirements of this definition except the size requirements and with respect to which the manufacturer voluntarily files a certification required by the federal department of housing and urban development and complies with the standards established under the national manufactured housing construction and safety act of 1974, as amended. The term “manufactured home” shall not include any self-propelled recreational vehicle.

A label certifying compliance with the Standard for Mobile Homes, NFPA 501, ANSI 119.1, in effect at the time of manufacture is deemed acceptable. For the purpose of these provisions,

a mobile home shall be considered a manufactured home.

MANUFACTURED HOME INSTALLATION. Construction which is required for the installation of a manufactured home, including the construction of the foundation system, required structural connections thereto and the installation of on-site water, gas, electrical and sewer systems and connections thereto which are necessary for the normal operation of the manufactured home.

MANUFACTURED HOME STANDARDS. The Manufactured Home Construction and Safety Standards as promulgated by the United States Department of Housing and Urban Development.

MOBILE HOME. A moveable or portable dwelling unit that was built prior to June 15, 1976, and designed and constructed to be towed on its own chassis, composed of frame and wheels, connected to utilities, and designed and constructed without a permanent foundation for year-round living, excluding travel trailers.

**SECTION AE301
RESERVED**

**SECTION AE302
RESERVED**

**SECTION AE303
RESERVED**

**SECTION AE304
RESERVED**

**SECTION AE305
RESERVED**

**SECTION AE306
RESERVED**

**SECTION AE307
RESERVED**

**SECTION AE401
OCCUPANCY CLASSIFICATION**

AE401.1 Manufactured homes. A manufactured home shall be limited in use to use as a single dwelling unit.

AE401.2 Accessory buildings. Accessory buildings shall be classified as to occupancy by the code enforcement official as set forth in this code.

SECTION AE402 LOCATION ON PROPERTY

AE402.1 General. Manufactured homes and accessory buildings shall be located on the property in accordance with Section R302 of this code.

SECTION AE501 DESIGN

AE501.1 General. A manufactured home shall be installed on a foundation system which is designed and constructed to sustain, within the stress limitations specified in this code, all loads specified in this code, and the installation instructions included within the consumer manual(s) provided by the manufacturer.

Exception: Where installation instructions are not provided, foundation and anchorage systems which are constructed in accordance with the methods specified in AE600 of these provisions, or applicable provisions of the NCSBCS/ANSI A225-1 standards, or which are designed by a registered design professional, shall be deemed to meet the requirements of this code.

AE501.2 Installation instructions. The installation instructions as included in the consumer manual(s) provided by the manufacturer of the manufactured home shall be used to determine permissible points of support for vertical loads and points of attachment for anchorage systems used to resist horizontal and uplift forces. Where manufactured homes are relocated, and the installation instructions are not available, such points of support and attachment shall be determined in accordance with applicable provisions of the NCSBCS/ANSI A225-1 standards or by a registered design professional.

SECTION AE502 FOUNDATION SYSTEMS

AE502.1 General. Foundation systems designed and constructed in accordance with this section may be considered as a permanent installation.

AE502.2 Soil classification. The classification of the soil at each manufactured home site shall be determined in accordance with the requirements of Section R401 of this code.

When required by the code enforcement official, the soil classification design bearing capacity and lateral pressure shall be shown on the plans.

AE502.3 Footings and foundations. Footings and foundations, unless otherwise specifically provided, shall be constructed of materials specified by this code for the intended use and in all cases shall extend below the frost line. Footings of concrete and masonry shall be of solid material. Foundations supporting untreated wood shall extend at least 8 inches (203 mm) above the adjacent finish grade. Footings shall have a minimum depth below finished grade of 12 inches (305 mm) unless a greater depth is recommended by a foundation investigation.

Exception: Where a foundation system is designed by a registered design professional so that it will otherwise be

protected from the effects of frost, such foundation system is not required to extend below the frost line

Piers and bearing walls shall be supported on masonry or concrete foundations or piles, or other systems identified in the installation instructions included in the consumer manual(s) provided by the manufacturer, or in the referenced standard, NCSBCS/ANSI A225-1-1994 American National Standard Manufactured Home Installations, which shall be of sufficient capacity to support all loads.

AE502.4 Foundation design. When a design is provided, the foundation system shall be designed in accordance with the applicable structural provisions of this code and shall be designed to minimize differential settlement. Where a design is not provided, the minimum foundation requirements shall be as set forth in this code.

AE502.5 Drainage. Provisions shall be made for the control and drainage of surface water away from the manufactured home.

AE502.6 Under-floor clearances—ventilation and access. A minimum clearance of 12 inches (305 mm) shall be maintained beneath the lowest member of the floor support framing system. Clearances from the bottom of wood floor joists or perimeter joists shall be as specified in Section R319 of this code.

Under-floor spaces shall be ventilated with openings as specified in Section R408 of this code. If combustion air for one or more heat-producing appliances is taken from within the under-floor spaces, ventilation shall be adequate for proper appliance operation.

Under-floor access openings shall be provided. Such openings shall be not less than 18 inches (457 mm) in any dimension and not less than 3 square feet (0.279 m²) in area and shall be located so that any water supply and sewer drain connections located under the manufactured home are accessible.

SECTION AE503 SKIRTING AND PERIMETER ENCLOSURES

AE503.1 Skirting and permanent perimeter enclosures. Skirting, when installed, shall be of material suitable for exterior exposure and contact with the ground. Permanent perimeter enclosures shall be constructed of materials as required by this code for regular foundation construction.

Skirting shall be installed in accordance with the installation instructions included in the consumer manual(s) provided by the manufacturer. Skirting shall be adequately secured to assure stability, to minimize vibration and susceptibility to wind damage, and to compensate for possible frost heave.

AE503.2 Retaining walls. Where retaining walls are used as a permanent perimeter enclosure, they shall resist the lateral displacements of soil or other materials and shall conform to this code as specified for foundation walls. Retaining walls and foundation walls shall be constructed of approved treated wood, concrete, masonry or other approved materials or combination of materials as for foundations as specified in this code. Siding materials shall extend below the top of the exterior of the retaining or foundation wall or the joint between siding

and enclosure wall shall be flashed in accordance with this code.

SECTION AE504 STRUCTURAL ADDITIONS

AE504.1 General. Accessory buildings shall not be structurally supported by or attached to a manufactured home unless engineering calculations are submitted to substantiate any proposed structural connection.

SECTION AE505 BUILDING SERVICE EQUIPMENT

AE505.1 General. The installation, alteration, repair, replacement, addition to or maintenance of the building service equipment within the manufactured home shall conform to regulations set forth in the Manufactured Home Standards. Such work which is located outside the manufactured home shall comply with this code.

SECTION AE506 EXITS

AE506.1 Site development. Exterior stairways and ramps which provide egress to the public way shall comply with applicable provisions of this code.

AE506.2 Accessory buildings. Every accessory building or portion thereof shall be provided with exits as required by this code.

SECTION AE507 OCCUPANCY, FIRE SAFETY AND ENERGY CONSERVATION STANDARDS

AE507.1 General. Alterations made to a manufactured home subsequent to its initial installation shall conform to the occupancy, fire-safety and energy conservation requirements set forth in the Manufactured Home Standards.

SECTION AE600 SPECIAL REQUIREMENTS FOR FOUNDATION SYSTEMS

AE600.1 General. Sections AE600 through AE605 are applicable only when installation instructions included in the consumer manual(s) provided by the manufacturer are not provided.

SECTION AE601 FOOTINGS AND FOUNDATIONS

AE601.1 General. The capacity of individual load-bearing piers and their footings shall be sufficient to sustain all loads specified in this code within the stress limitations specified in this code. Footings shall be placed level on firm, undisturbed soil or an engineered fill which is free of organic material, such as weeds and grasses. Where used, an engineered fill shall provide a minimum load-bearing capacity of not less than 1,000 psf (48 kN/m²). Continuous footings shall conform to the requirements

of this code. Section AE502 of this code shall apply to footings and foundations constructed under the provisions of this section.

SECTION AE602 PIER CONSTRUCTION

AE602.1 General. Piers shall be designed and constructed to distribute loads evenly. Multiple section homes may have concentrated roof loads which will require special consideration. Load-bearing piers may be constructed utilizing one of the methods listed below. Such piers shall be considered to resist only vertical forces acting in a downward direction. They shall not be considered as providing any resistance to horizontal loads induced by wind or earthquake forces.

1. A prefabricated load-bearing device that is listed and labeled for the intended use.
2. Mortar shall comply with ASTM C 270 Type M, S or N; this may consist of one part portland cement, one-half part hydrated lime and four parts sand by volume. Lime shall not be used with plastic or waterproof cement.
3. A cast-in-place concrete pier with concrete having specified compressive strength at 28 days of 2,500 psi (17 225 kPa).

Alternate materials and methods of construction may be used for piers which have been designed by a registered design professional.

Caps and leveling spacers may be used for leveling of the manufactured home. Spacing of piers shall be as specified in the installation instructions included in the consumer manual(s) provided by the manufacturer, if available, or by a registered design professional.

SECTION AE603 HEIGHT OF PIERS

AE603.1 General. Piers constructed as indicated in Section AE602 may have heights as follows:

1. Except for corner piers, piers 36 inches (914 mm) or less in height may be constructed of masonry units, placed with cores or cells vertically. Piers shall be installed with their long dimension at right angles to the main frame member they support and shall have a minimum cross-sectional area of 128 square inches (82 560 mm²). Piers shall be capped with minimum 4-inch (102 mm) solid masonry units or equivalent.
2. Piers between 36 and 80 inches (914 mm and 2032 mm) in height and all corner piers over 24 inches (610 mm) in height shall be at least 16 inches by 16 inches (406 mm by 406 mm) consisting of interlocking masonry units and shall be fully capped with minimum 4-inch (102 mm) solid masonry units or equivalent.
3. Piers over 80 inches (2032 mm) in height may be constructed in accordance with the provisions of Item 2 above, provided the piers shall be filled solid with grout and reinforced with four continuous No. 5 bars. One bar shall be placed in each corner cell of hollow masonry unit

piers or in each corner of the grouted space of piers constructed of solid masonry units.

4. Cast-in-place concrete piers meeting the same size and height limitations of Items 1, 2 and 3 above may be substituted for piers constructed of masonry units.

SECTION AE604 ANCHORAGE INSTALLATIONS

AE604.1 Ground anchors. Ground anchors shall be designed and installed to transfer the anchoring loads to the ground. The load-carrying portion of the ground anchors shall be installed to the full depth called for by the manufacturer's installation directions and shall extend below the established frost line into undisturbed soil.

Manufactured ground anchors shall be listed and installed in accordance with the terms of their listing and the anchor manufacturer's instructions and shall include means of attachment of ties meeting the requirements of Section AE605. Ground anchor manufacturer's installation instructions shall include the amount of preload required and load capacity in various types of soil. These instructions shall include tensioning adjustments which may be needed to prevent damage to the manufactured home, particularly damage that can be caused by frost heave. Each ground anchor shall be marked with the manufacturer's identification and listed model identification number which shall be visible after installation. Instructions shall accompany each listed ground anchor specifying the types of soil for which the anchor is suitable under the requirements of this section.

Each approved ground anchor, when installed, shall be capable of resisting an allowable working load at least equal to 3,150 pounds (14 kN) in the direction of the tie plus a 50 percent overload [4,725 pounds (21 kN) total] without failure. Failure shall be considered to have occurred when the anchor moves more than 2 inches (51 mm) at a load of 4,725 pounds (21 kN) in the direction of the tie installation. Those ground anchors which are designed to be installed so that loads on the anchor are other than direct withdrawal shall be designed and installed to resist an applied design load of 3,150 pounds (14 kN) at 40 to 50 degrees from vertical or within the angle limitations specified by the home manufacturer without displacing the tie end of the anchor more than 4 inches (102 mm) horizontally. Anchors designed for connection of multiple ties shall be capable of resisting the combined working load and overload consistent with the intent expressed herein.

When it is proposed to use ground anchors, and the soil characteristics at a given site are such as to render the use of ground anchors advisable, or when there is doubt regarding the ability of the ground anchors to obtain their listed capacity, a representative field installation shall be made at the site in question and tested to demonstrate ground anchor capacity.

AE604.2 Anchoring equipment. Anchoring equipment, when installed as a permanent installation, shall be capable of resisting all loads as specified within these provisions. When the stabilizing system is designed by a registered design professional, alternative designs may be used, providing the anchoring equipment to be used is capable of withstanding a load equal to 1.5 times the calculated load. All anchoring equipment

shall be listed and labeled as being capable of meeting the requirements of these provisions. Anchors as specified in this code may be attached to the main frame of the manufactured home by an approved $\frac{3}{16}$ -inch-thick (4.76 mm) slotted steel plate anchoring device.

Anchoring systems shall be so installed as to be permanent. Anchoring equipment shall be so designed to prevent self-disconnection with no hook ends used.

AE604.3 Resistance to weather deterioration. All anchoring equipment, tension devices and ties shall have a resistance to deterioration as required by this code.

AE604.4 Tensioning devices. Tensioning devices, such as turnbuckles or yoke-type fasteners, shall be ended with clevis or welded eyes.

SECTION AE605 TIES, MATERIALS AND INSTALLATION

AE605.1 General. Steel strapping, cable, chain or other approved materials shall be used for ties. All ties shall be fastened to ground anchors and drawn tight with turnbuckles or other adjustable tensioning devices or devices supplied with the ground anchor. Tie materials shall be capable of resisting an allowable working load of 3,150 pounds (14 kN) with no more than 2 percent elongation and shall withstand a 50 percent overload [4,750 pounds (21 kN)]. Ties shall comply with the weathering requirements of Section AE604.3. Ties shall connect the ground anchor and the main structural frame. Ties shall not connect to steel outrigger beams which fasten to and intersect the main structural frame unless specifically stated in the installation instructions included in the consumer manual(s) provided by the manufacturer. Connection of cable ties to main frame members shall be $\frac{5}{8}$ -inch (15.9 mm) closed-eye bolts affixed to the frame member in an approved manner. Cable ends shall be secured with at least two U-bolt cable clamps with the "U" portion of the clamp installed on the short (dead) end of the cable to assure strength equal to that required by this section.

Wood floor support systems shall be fixed to perimeter foundation walls in accordance with provisions of this code. The minimum number of ties required per side shall be sufficient to resist the wind load stated in this code. Ties shall be evenly spaced as practicable along the length of the manufactured home with the distance from each end of the home and the tie nearest that end not exceeding 8 feet (2438 mm). When continuous straps are provided as vertical ties, such ties shall be positioned at rafters and studs. Where a vertical tie and diagonal tie are located at the same place, both ties may be connected to a single anchor, provided the anchor used is capable of carrying both loadings. Multisection manufactured homes require diagonal ties only. Diagonal ties shall be installed on the exterior main frame and slope to the exterior at an angle of 40 to 50 degrees from the vertical or within the angle limitations specified by the home manufacturer. Vertical ties which are not continuous over the top of the manufactured home shall be attached to the main frame.

**SECTION AE606
REFERENCED STANDARDS**

ASTMC 270-01a Specification for Mortar
for Unit Masonry AE602
NFPA 501-99 Standard on Manufactured
Housing AE201

NEW YORK STATE CODE

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