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## TECHNICAL BULLETIN

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### Approved Foundation Systems for Manufactured Housing Installations

This Technical Bulletin will assist the Code Enforcement Official (“CEO”) with the installation of *foundation systems* for Manufactured Homes.

#### Approved Foundation Systems

Manufactured home installations are subject to the 2010 edition of the Residential Code of New York State (the “2010 RCNYS”) Appendix E Manufactured Housing Used as Dwellings. Section AE501.1 requires the placement of a manufactured home on a foundation system designed and constructed to comply with the code, as well as the *installation instructions* included in the consumer manual(s) provided by the manufacturer. These installation instructions include specific foundation system designs for the manufactured home.

The U.S. Department of Housing and Urban Development (HUD) standard requires the manufacturer’s installation instructions, as approved by HUD or a *Design Approval Primary Inspection Agency (DAPIA)*, be provided with each new manufactured home.

Appendix E Section AE502.3 requires that the footings and foundations for manufactured homes extend below the frost line. There is an exception for foundation systems protected from the effects of frost designed by registered design professionals.

Installing manufactured homes on foundation systems included in the installation instructions insures the homes will be supported and anchored to meet or exceed the design loads required by HUD standards.

When a foundation system designed by a registered design professional is to be used, additional approvals are required. This is because deviations from the installation instructions may inadvertently make manufactured homes noncompliant with the HUD standard to which they were constructed. All manufacturer’s installation instructions are required to include an explanation of how manufactured home installers must handle variations from those instructions. For foundation systems designed by registered design professionals, designs must be approved by the home’s manufacturer and the DAPIA.

Some manufacturers have DAPIA-approved foundation system designs not found in the installation instructions. These foundation systems are acceptable for use within the conditions specified in the design.

#### The Use of Slabs-on-Ground Cast Monolithically as Foundation Systems

The exception to Appendix E Section AE502.3 permits a foundation system designed by registered design professional to be slab-on-ground cast monolithically as long as it is protected from the effects of frost and approved by the home’s manufacturer and the DAPIA. Several manufacturers offer DAPIA-approved slab-on-ground foundation system designs that are, or will be, included in their installation manuals. Again, these foundation systems are acceptable for use within the conditions specified in the design.

The typical “Gravel-set slab” or “Floating-slab” on-ground foundation systems, commonly used over the years for manufactured home installations, do not and never have, complied with the code. Any proposed slab-on-ground foundation system design referencing Section R403.3 for frost protected shallow foundations may not comply with the RCNYS, in that it requires the space above the slab (the home’s crawl space) to maintain a monthly mean temperature of 64°F.

### **Summary**

Manufactured homes must be placed on foundations that comply with the code, as well as the specific foundation system designs included in the manufacturer’s installation instructions manual(s). While the code requires the footings and foundation systems to extend below the frost line, there is an exception for foundation systems protected from the effects of frost designed by registered design professionals. Variations from the foundation system designs found in the installation instructions – such as a foundation system protected from the effects of frost designed by registered design professional – require the home’s manufacturer and DAPIA’s approval. Slab-on-ground foundations systems are acceptable when:

- Included in the installation instructions
- Offered by the manufacturer and approved by the DAPIA
- Designed by a registered design professional and approved by the manufacturer and DAPIA

The installation of slab-on-ground foundation systems must meet all conditions of the design.

### **DEFINITIONS**

[24 CFR Part 3285] **Design Approval Primary Inspection Agency (DAPIA)**. A state or private organization that has been accepted by the Secretary in accordance with the requirements of Part 3282, Subpart H of this chapter, which evaluates and approves or disapproves manufactured home designs and quality control procedures.

[24 CFR Part 3285] **Foundation system**. A system of support that is capable of transferring all design loads to the ground, including elements of the *support system*, as defined in this section, or a site-built permanent foundation that meets the requirements of 24 CFR 3282.12.

[24 CFR Part 3285] **Installation instructions**. DAPIA-approved instructions provided by the home manufacturer that accompany each new manufactured home and detail the home manufacturer requirements for support and anchoring systems, and other work completed at the installation site to comply with these Model Installation Standards and the Manufactured Home Construction and Safety Standards in 24 CFR part 3280.

[24 CFR Part 3285] **Support system**. Pilings, columns, footings, piers, foundation walls, shims, and any combination thereof that, when properly installed, support the manufactured home.

### **REFERENCES:**

#### **Uniform Fire Prevention and Building Code**

2010 edition of the Residential Code of New York State

#### **U.S. Department of Housing and Urban Development**

24 CFR Title 24 Subtitle B Chapter XX Part 3282 Manufactured Home Procedural and Enforcement Regulations

24 CFR Title 24 Subtitle B Chapter XX Part 3285 Model Manufactured Home Installation Standards