

**CONFIRMATION FROM ISO/FEMA THAT FBC, RESIDENTIAL SECTION R322.1.6 SATISFIES THE CRS CLASS 8 PREREQUISITE REGARDING FREEBOARD.**

**From:** Molly O'Toole <[molly@mollyotoole.com](mailto:molly@mollyotoole.com)>  
**Sent:** Thursday, December 3, 2020 3:32 PM  
**To:** Harper, Sherry <[SHarper@verisk.com](mailto:SHarper@verisk.com)>  
**Subject:** Re: FW: CRS Class 8 Prerequisite -- need definitive statement

Hi, Sherry,  
Yes, please reply to Conn that yes, the FBC meets the Class 8 prerequisite as it pertains to machinery and equipment. Section 322.1.6 of the FBC, including the exception is the language in the IRC (see the attached), and the section is the basis of Question 16.

In short, Florida requires that equipment must be elevated unless the piece of equipment is "designed and installed to prevent water from entering or accumulating within the components..." This sentence (exception) goes on and has the word "and" many times. It's about the equipment (the equipment has to also resist hydrostatic pressure, buoyancy, etc. and the reader is sent to ASCE 24. Florida is in the clear with M&E, and 322.1.6 applies to the replacement or repair of M&E in pre-FIRM manufactured home parks.

Building Sciences has helped us understand Section 322.1.6 (and Rebecca Quinn, as well). I brought the question to Building Science and Bill brought it again. M&E requirements in the FBC meets the Class 8 prerequisite. Communities must enforce, etc.

Thanks.  
**MOLLY O'TOOLE & ASSOCIATES, LTD.**  
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**From:** Cole, Conn <[Conn.Cole@em.myflorida.com](mailto:Conn.Cole@em.myflorida.com)>  
**Sent:** Tuesday, November 10, 2020 1:54 PM  
**To:** [bill.lesser@fema.dhs.gov](mailto:bill.lesser@fema.dhs.gov)  
**Cc:** McClure, Roy <[Roy.McClure@fema.dhs.gov](mailto:Roy.McClure@fema.dhs.gov)>; Perez, Virgilio <[Virgilio.Perez@fema.dhs.gov](mailto:Virgilio.Perez@fema.dhs.gov)>; Harper, Sherry <[SHarper@verisk.com](mailto:SHarper@verisk.com)>; Liles, Heidi <[HLiles@verisk.com](mailto:HLiles@verisk.com)>; Cofoid, Scott <[SCofoid@verisk.com](mailto:SCofoid@verisk.com)>; Rebecca Quinn <[rcquinn@earthlink.net](mailto:rcquinn@earthlink.net)>  
**Subject:** CRS Class 8 Prerequisite -- need definitive statement

TO: Bill Lesser, FEMA HQ  
CC: Roy, Chris, Sherry, Heidi, Molly, Scott  
Subject: CRS Class 8 Prerequisite – equipment and freeboard

Bill,

Thank you again for your time to discuss our questions regarding the CRS Class 8 Prerequisite and the Frequently Asked Questions. The State Floodplain Management Office has finalized

guidance for communities to modify local floodplain management regulations to respond to the freeboard requirement for manufactured homes. We are preparing to contact the CRS communities in the next week or so.

Given the confusion surrounding the CRS Class 8 Prerequisite Question 16 regarding machinery and equipment, I am requesting that you reply to this email to confirm that the exception to the Florida Building Code, Residential, Section R322.1.6, is acceptable. Section R322.1.6 is copied below (the sentence about pool equipment was added with approval of FEMA HQ Building Science).

The exception to Section R322.1.6 allows equipment designed to meet the performance in 44 CFR Sec. 60.3(a)(3)(iv) that equipment be “designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.” Equipment designed to meet that performance expectation is not equivalent to “dry floodproofing.” Typical HVAC systems are not designed to meet that performance expectation and thus would not be allowed below the required elevation.

The FBC, Residential volume requires equipment to be elevated to the same elevations for lowest floors required in R322.2.1 (A zones) or R322.3.2 (V zones and Coastal A Zones), thus equipment is required to be at or above the base flood elevation plus 1 ft (or higher, if communities modify the FBC to increase freeboard). The FBC, Building volume requires the same for multi-family buildings.

**R322.1.6 Protection of mechanical, plumbing and electrical systems.** Electrical systems, equipment and components; heating, ventilating, air conditioning; plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall be located at or above the elevation required in Section R322.2 or R322.3. If replaced as part of a substantial improvement, electrical systems, equipment and components; heating, ventilating, air conditioning and plumbing appliances and plumbing fixtures; duct systems; and other service equipment shall meet the requirements of this section. Systems, fixtures, and equipment and components shall not be mounted on or penetrate through walls intended to break away under flood loads.

**Exception:** Locating electrical systems, equipment and components; heating, ventilating, air conditioning; plumbing appliances and plumbing fixtures; duct systems; and other service equipment is permitted below the elevation required in Section R322.2 or R322.3 provided that they are designed and installed to prevent water from entering or accumulating within the components and to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding to the design flood elevation in accordance with ASCE 24. Equipment for pools, spas and water features shall be permitted below the elevation required in Section R322.2 or R322.3 provided it is elevated to the extent practical and is anchored to prevent floatation and resist flood forces and is supplied by branch circuits that have ground-fault circuit interrupter protection.

Electrical wiring systems are permitted to be located below the required elevation provided that they conform to the provisions of the electrical part of this code for wet locations.

Respectfully,

Conn H. Cole, MBA/PA, CFM  
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