

Date Submitted 12/4/2018	Section 3115	Proponent Steve Martin
Chapter 31	Affects HVHZ No	Attachments Yes
TAC Recommendation Approved as Submitted		
Commission Action Pending Review		

Comments

General Comments No	Alternate Language No
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Related Modifications

Summary of Modification

Public use restrooms on publicly owned lands in flood hazard areas shall comply with the requirements of ASCE 24, except for elevation requirements, and shall comply with criteria set forth in the amendment.

Rationale

Under the current requirements of the NFIP and IFBC, restrooms for public use that are located in flood hazard areas must meet the same requirements as residential and commercial buildings. This proposal is intended to meet the intent of all NFIP requirements, except elevation requirements, to minimize flood damage, while acknowledging the special needs and access required or appropriate for public use restrooms. See support file for a complete rationale and photographs.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No change in costs associated with enforcement.

Impact to building and property owners relative to cost of compliance with code
The proposal will lower initial costs and lower routine and long-term facility maintenance by public entities that provide public use restrooms on publicly owned lands. Construction costs will be less than the cost to elevate and provide and maintain elevators and extensive ramp systems.

Impact to industry relative to the cost of compliance with code
The code change proposal will decrease the cost of construction.

Impact to small business relative to the cost of compliance with code
No impact; the proposal applies only to public use restrooms on publicly owned lands.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Accessible public use restrooms on publicly owned lands have a direct substantial connect to health, safety, and welfare of the public that visits public parks and beaches.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves the code by providing a better method to provide public use restrooms on publicly owned land, while preserving the objective of flood resistant construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No specific materials, products, methods or systems are specified.

Does not degrade the effectiveness of the code
Communities that permit public use restrooms on publicly owned lands in accordance with the proposal may have to justify such action to FEMA.

1st Comment Period History

Proponent Gregory Wilson	Submitted 2/13/2019	Attachments Yes
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Comment:
See attached letter from the FEMA Floodplain Management Division Director

SP7621-G1

3101.1 Scope. The provisions of this chapter shall govern special building construction including membrane structures, temporary structures, *pedestrian walkways* and tunnels, automatic *vehicular gates*, *awnings* and *canopies*, *marquees*, signs, and towers and antennas, and public use restroom buildings on publicly owned lands in flood hazard areas.

3115 PUBLIC USE RESTROOM BUILDINGS IN FLOOD HAZARD AREAS

3115.1 General. - For the purpose of this section, public restroom buildings are located on publicly owned lands in flood hazard areas and intended for public use. Public restroom buildings and portions of other buildings that contain public restrooms, are limited to toilet rooms, bathrooms, showers and changing rooms. Public restroom buildings and portions of buildings that contain public restrooms shall comply with the requirements of this section. Public use restrooms that are not elevated or dry flood proofed in accordance with Section 1612 shall comply with Section 3115.2. Portions of buildings that include uses other than public use toilet rooms, bathrooms, showers and changing rooms shall comply with Section 1612.

3115.2 Flood resistance. Public use restrooms on publicly owned lands in flood hazard areas shall comply with the requirements of ASCE 24, except for elevation requirements, and shall comply with all of the following criteria:

1. The building foot print is not more than 1,500 square feet.
2. Located, designed and constructed to resist the effects of flood hazards and flood loads to minimize flood damage from a combination of wind and water loads associated with the base flood.
3. Anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy during conditions of the base flood.
4. Constructed of flood damage-resistant materials.
5. Where enclosed by walls, the walls have flood openings.
6. Mechanical and electrical systems are located above the base flood elevation.
7. Plumbing fixtures and plumbing connections are located above the base flood elevation.
8. An emergency plan, approved by the jurisdiction, is submitted to the building official where the building design documents specify implementation of protection measures prior to the onset of flooding conditions.

Exceptions:

1. Minimum necessary electric equipment required to address health, life safety and electric code requirements is permitted below the base flood elevation in accordance with ASCE 24 provisions for electric elements installed below the minimum elevations.
2. Plumbing fixtures and connections are permitted below the base flood elevation provided the fixtures and connections are designed and installed to minimize or eliminate infiltration of flood waters into the sanitary sewage system and discharges from sanitary sewage systems into flood waters.

**FEMA**

23 OCT 2018

International Code Council
International Codes Governmental Member Voting Representatives
2018 Public Comment Hearings, Group A
Richmond, Virginia

International Codes Governmental Member Voting Representatives:

FEMA Floodplain Management Division appreciates the opportunity to comment on the proposed code change being offered by the Florida Department of Emergency Management (FDEM) and Building Officials Association of Florida (BOAF) related to public restroom construction in beach areas.

Over 22,300 communities currently participate in the National Flood Insurance Program (NFIP). This number represents over 90 percent of all US communities that have land use authority and identified flood hazards. By law, FEMA can only provide flood insurance via the NFIP to those States or communities that adopt and vigorously enforce floodplain management regulations that meet or exceed minimum NFIP requirements. These minimum requirements are detailed in the Code of Federal Regulations in Title 44, Emergency Management and Assistance, and are primarily within Part 60, Subpart A - Requirements for Flood Plain Management Regulations. The requirements focus on buildings and other development that is occurring in identified Special Flood Hazard Areas (SFHAs) also commonly referred to as the base or regulatory floodplain. A primary tenant of these regulations is to require that all new construction (and substantial improvements) of non-residential structures either be elevated above the elevation associated with the base or regulatory floodplain (BFE or base flood elevation) or be dry floodproofed to this elevation and capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Dry floodproofing is not, however, permissible in coastal flood hazard areas labeled as V zones, nor is it advisable in areas subject to any type of wave action.

The Public Restroom Proposal submitted by FDEM and BOAF is not consistent with floodplain management regulations that communities must adopt and enforce to remain in good standing with the NFIP. The proposal includes provisions to allow the lowest floor of restrooms to be constructed below the BFE. This is in direct conflict with the minimum floodplain management requirements of the NFIP. While the proposal does include additional provisions to address potential flood damage, including the use of flood-resistant materials and the placement of mechanical and electrical systems and plumbing fixtures above the BFE, it is still in direct conflict with current NFIP floodplain management requirements.

Should the International Building Code be changed to incorporate this proposal, it would no longer be consistent with minimum NFIP floodplain management regulations. This change would signify the first time in 15 years that an inconsistency would exist between the International Codes and the NFIP representing a significant departure in our shared goals of community resilience. Furthermore, should states and communities adopt this provision, their floodplain management regulations would no longer

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meet minimum NFIP floodplain management requirements. If states and communities implement this provision, they will be permitting NFIP violations to occur and it would be incumbent on NFIP State Coordinators and FEMA Staff to identify these violations and hold communities accountable for them. When violations in NFIP-participating communities are identified by the State or FEMA and not addressed by the community, enforcement actions—including community probation and ultimately suspension—are taken against the community.

Communities put on probation are expected to resolve identified noncompliance actions or face suspension. Probation has no effect on the continued availability of flood insurance, but a \$50 surcharge is added to premiums for new and renewed policies for each year the community is on probation. Suspension is the removal of a community from the program.

The NFIP is a voluntary program. However, it's worth noting that the NFIP can only provide flood insurance coverage in participating states and communities. Furthermore, when a community is sanctioned (i.e., it has identified flood hazard areas but does not participate in the NFIP), Federal officers and agencies are prohibited from approving any financial assistance for acquisition or construction purposes in an area of special flood hazard in the community. This restriction applies to Federal disaster assistance under the Stafford Act if the assistance is in connection with a flood.

FEMA Floodplain Management recognizes that the State of Florida is interested in identifying alternate means of public restroom construction in Special Flood Hazard Areas. We are willing to continue to explore how to address this interest and are currently working with our Office of Chief Counsel, Office of Environmental and Historic Preservation and Building Science Branch colleagues to identify a potential resolution that could be implemented while still abiding by the laws and regulations that govern our programs.

As you consider whether to approve this code change proposal, we respectfully request that you consider the impact it would have on the States and communities that would adopt and enforce this provision in the future should it become part of the International Building Code.

1. If the State or FEMA identifies community violations, there is a notable burden in terms of time, effort, coordination and stress that is placed on community officials to remedy those violations in order for the community to remain in good standing with the NFIP.
2. There would be significant ramifications in terms of NFIP flood insurance policy availability for communities that either knowingly or unknowingly permit violations, particularly if they are unable to remedy them. Additionally, there is a \$50 surcharge placed on all NFIP policy holders within a community when that community is placed on probation.
3. Federal disaster assistance is limited in floodprone areas for those communities that are sanctioned from the NFIP. Many communities rely heavily on federal disaster assistance in the wake of flood disasters to recover and become fully functional again.

FEMA Floodplain Management Division appreciates the opportunity to be heard by the voting representatives and we thank you for your time.

Sincerely,



Rachel Sears
Floodplain Management Division Director
Federal Insurance and Mitigation Administration
Resilience

RATIONALE Support File

Proposal No.: 7621

Proponent: Steve Martin, Florida Division of Emergency Management

Most Florida communities and some state agencies have public open space and parks along rivers and shorelines. Many communities experience economic value from tourism and public access to areas that feature water resources. Under the current requirements of the NFIP and FBC, restrooms for public use that are located in flood hazard areas must meet the same requirements as commercial buildings. In flood hazard areas other than coastal high hazard areas and Coastal A Zones (i.e., in flood zones identified on Federal Emergency Management Agency Flood Insurance Rate Maps with the letter "A"), restroom buildings must either be elevated or dry floodproofed to or above the elevations required by the FBC/ASCE 24. In coastal high hazard areas (flood Zone V) and Coastal A Zones, restroom buildings must be elevated to or above the elevations required by the FBC/ASCE 24.

In Florida, this has resulted in construction of public use restrooms as high as 6 to 18 feet above grade. This poses many challenges, not the least of which is access. Figures 1, 2, 3 and 4 (below) illustrate elevated restrooms with long ramps. While ramps can be built to meet ADA requirements, to reach some heights required in some flood hazard areas the ramps may be as long as 300 feet. In coastal high hazard areas, such ramps likely conflict with the NFIP requirements that elevated buildings be "free of obstruction," and the presence of such ramps would likely interfere with the ability of walls around enclosures to break away under flood conditions. Those same provisions are required by FBC Section 1612, Flood Loads, which references ASCE 24, Flood Resistant Design and Construction.

Long ramps defeat accessibility when the distance of travel still renders restroom facilities inaccessible to many persons with disabilities or limited mobility. Although the FBC (and FEMA) permits elevators to extend below the base flood elevation, installing elevators to provide access to elevated public use restrooms is expensive and creates many maintenance issues, and a high rate of failure to function, especially in beach areas where blowing sand and windborne salt aerosols create corrosive conditions.

This proposal creates a new section in FBC Chapter 31, Special Construction to limit the scope to public use restrooms that include public use toilet rooms, bathrooms, showers and changing rooms and spaces. Portions of such buildings that include other uses would have to fully comply with the elevation and other flood resistant requirements of FBC Section 1612, Flood Loads, which references ASCE 24, Flood Resistant Design and Construction.

In recognition that most public use restrooms are built on public land using public funds, the proposal is to limit the potential financial losses associated with flooded public facilities in two ways: by limiting the footprint to not more than 1,500 square feet and by

specifying design requirements that minimize or eliminate physical damage when flooding occurs. Enabling public use restrooms to be designed to withstand the hydrodynamic and hydrostatic loads below the base flood elevation is an appropriate alternative to the extremely high cost for design, construction and maintenance of highly elevated public restrooms and their required access ramps or elevators.

Although the proposed design requirements are intended to preclude significant damage during flood conditions up to and including conditions of the design flood (e.g., the base or 100-year flood), more severe floods can and do occur. Figure 5 (below) illustrates one modest design option that demonstrates the feasibility of the proposal. It shows a small masonry restroom on a beach after Hurricane Irma pushed onshore. The drawings for the building show below-grade piling support and it appears the masonry units were filled. Despite approximately 6-8 feet of flooding (including waves), there is no evidence of structural damage and the non-structural damage appears readily repairable. The Florida Division of Emergency Management staff participated in FEMA's post-Irma field work and, along with the other team members, observed some below-BFE small public restrooms designed to resist flood loads that sustained superficial damage (finishes and fixtures) and were readily repairable.

FDEM and BOAF submitted this proposal for the 2021 International Building Code (G149-18) and modified it to respond to comments by the ICC committee. The proposal is now in the last stage of online voting by government members of ICC. At a June 2018 meeting between the FDEM and senior management officials with the FEMA Flood Insurance and Mitigation Administration, FEMA indicated the agency would work to achieve consistency across agency programs to develop guidance or procedures based on the proposed amendment. No opposition to the proposal was expressed during that meeting.

The proposal includes requirements for flood resistance similar to those found in ASCE 24-14 for Flood Design Class 1 (which is essentially equivalent to Structure/Risk Category I). Those requirements effectively are the same as the NFIP requirements in 44 Code of Federal Regulations Section 60.3(a)(3)(ii), (iii), and (iv). FEMA deems the flood provisions of the FBC, with reference to ASCE 24, to meet or exceed the requirements of the National Flood Insurance Program (NFIP).

The intent is to allow public use restrooms to be at-grade or above-grade but below the base flood (partially elevated), provided they meet the design requirements listed in 3115.2. FDEM acknowledges that FEMA guidance states that restroom buildings and comfort stations in coastal high hazard areas must be elevated and meet the same design and construction requirements as other buildings.

Despite the indications from the June 2018 meeting between FDEM and FEMA, FEMA is now on record opposing this proposal for the IBC because it does not meet the minimum requirements of the NFIP. In 2015 the FDEM withdrew a similar proposal for the 2018 IBC based on a FEMA commitment to establish a task force to examine and recommend guidance for options to minimize future damage while meeting construction

requirements. The task force was expected to develop a workable solution that balances flood resistance, accessibility, costs, and aesthetics to meet the sanitary needs of the public. While the task force initiated work, FEMA did not follow through and the expected guidance was not prepared.

This proposal is intended to meet the intent of all NFIP requirements, except elevation requirements, to minimize flood damage, while acknowledging the special needs and access required or appropriate for public use restrooms. The Florida Floodplain Management Association prepared a white paper on this subject: Policy and Design Options for Public Restrooms in Special Flood Hazard Areas (2014), www.FLfloods.org/ffmawhitepaper.



Figure 1. Florida, flood Zone V. Ramp wraps around entire building. Has composting toilets, battery and solar electric system, emergency plan requires pumping out tank and filling with clean water.



Figure 2. Coastal Mississippi, flood Zone V. This facility cost \$1.1 million.



Figure 3. Florida, Gulf Coast, flood Zone V. Ramp built after original elevator determined to be unsustainable due to significant maintenance problems.



Figure 4. Southwest Florida, flood Zone V. Extensive ramp wraps around three sides.



Figure 5. Florida, after Hurricane Irma, flood Zone V. No evidence of structural damage after estimated 5 ft stillwater plus waves. From upper left: facing beach, side, interior, rear.