DATE: September 12, 2019

TO: All Building Officials

FROM: James DiPietro, Administrative Director

SUBJECT: Replacement of air conditioning (A/C) systems in flood hazard areas.

At its regular meeting of September 12, 2019, the Board approved an interpretation of the following codes and sections:

- Florida Building Code, 6th Edition (2017)-Existing Building, Chapter 2-Definitions, unless performed in conjunction with another alteration, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure, before the improvement or repair is started.

**Formal Interpretation:**

An air conditioning (A/C) replacement by itself, does not constitute a substantial improvement as defined by the 2017 Florida Building Code - Existing Building, Sixth Edition, Chapter 2-Definitions, unless performed in conjunction with another alteration, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure, before the improvement or repair is started.

**EFFECTIVE DATE:** September 13, 2019

James DiPietro, Administrative Director

****PLEASE POST AT YOUR PERMIT COUNTER*****
Code sections relevant to Formal Interpretation #2*

**2017 Florida Building Code - Existing Building, Sixth Edition**

**CHAPTER 5 CLASSIFICATION OF WORK**
- ALTERATION—LEVEL 1

**503.1 Scope.**
Level 1 alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.

**503.2 Application.**
Level 1 alterations shall comply with the provisions of Chapter 7.

**CHAPTER 7 ALTERATIONS—LEVEL 1**

- **[BS]701.3 Flood hazard areas.**
In flood hazard areas, alterations that constitute substantial improvement shall require that the building comply with Section 1612 of the Florida Building Code, Building, or Section R322 of the Florida Building Code, Residential, as applicable.

**CHAPTER 2 DEFINITIONS**

- **[BS]SUBSTANTIAL DAMAGE.** For the purpose of determining compliance with the flood provisions of this code, damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

- **[BS]SUBSTANTIAL IMPROVEMENT.** For the purpose of determining compliance with the flood provisions of this code, any repair, alteration, addition, or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure, before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:
  1. Any project for improvement of a building required to correct existing health, sanitary, or safety code violations identified by the code official and that is the minimum necessary to ensure safe living conditions; or
  2. Any alteration of a historic structure, provided that the alteration will not preclude the structure’s continued designation as a historic structure.
2017 Florida Building Code - Building, Sixth Edition
SECTION 1612 FLOOD LOADS
1612.1 General.

Within flood hazard areas as established in Section 1612.3, all new construction of buildings, structures and portions of buildings and structures, including substantial improvement and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood hazards and flood loads. For buildings that are located in more than one flood hazard area, the provisions associated with the most restrictive flood hazard area shall apply.

2017 Florida Building Code - Residential, Sixth Edition
SECTION R322 FLOOD-RESISTANT CONSTRUCTION

- R322.1 General.

Buildings and structures constructed in whole or in part in flood hazard areas, including A or V Zones and Coastal A Zones, as established in Table R301.2(1), and substantial improvement and restoration of substantial damage of buildings and structures in flood hazard areas, shall be designed and constructed in accordance with the provisions contained in this section. Buildings and structures that are located in more than one flood hazard area shall comply with the provisions associated with the most restrictive flood hazard area. Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

R322.1.1 Alternative provisions.

As an alternative to the requirements in Section R322, ASCE 24 is permitted subject to the limitations of this code and the limitations therein.

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. 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.

Additional information.

Similar language is found in the ASCE 24-14 Flood Resistant Design and Construction, see next.
CHAPTER 1
GENERAL

1.1 SCOPE
This standard provides minimum requirements for flood resistant design and construction of structures that are subject to building code requirements and that are located, in whole or in part, in Flood Hazard Areas. This standard applies to the following: (1) new construction, including subsequent work to such structures, and (2) work classified as substantial improvement of an existing structure that is not an historic structure (see Fig. 1-1).

The general provisions of this section shall apply to all new construction and substantial improvements in flood hazard areas. In addition to the requirements of this section (see Fig. 1-2):

1. Chapter 2 shall apply to all new construction and substantial improvements in Flood Hazard Areas and High Risk Flood Hazard Areas except those that are identified as Coastal High Hazard Areas and Coastal A Zones;
2. Chapter 3 shall apply to all new construction and substantial improvements in High Risk Flood Hazard Areas;
3. Chapter 4 shall apply to all new construction and substantial improvements in Coastal High Hazard Areas and Coastal A Zones; and
4. Chapters 5, 6, 7, 8, and 9 shall apply to all new construction and substantial improvements.

1.2 DEFINITIONS
The following definitions apply to the provisions of the entire standard (italicized words in a definition mean the words are defined in this section):

**500-Year Flood Elevation**—Elevation of flooding having a 0.2% chance of being equaled or exceeded in any given year.

**Accessory Storage Structure**—A structure designed and used only for storage that is customarily accessory to and incidental to that of dwellings.

**Alluvial Fan Flooding**—Type of flood hazard that occurs only on alluvial fans. Alluvial fan flooding is considered hazardous when designated as a flood hazard area on a community’s flood hazard map or otherwise legally designated.

**Apex**—Highest point on an alluvial fan or similar landform, where the flow is last confined. The apex generally corresponds to the location where the watershed erosion ceases and fan sediment deposition commences.

**Attendant Utilities and Equipment**—Utilities, mechanical, electrical, fuel gas, plumbing, HVAC, and related equipment, as well as services associated with new construction and substantial improvements.

**Authority Having Jurisdiction**—Organization, community, political subdivision, office, or agency that has adopted this standard under due legislative authority.

**Base Flood**—Flood having a 1% chance of being equaled or exceeded in any given year.

**Base Flood Elevation (BFE)**—Elevation of flooding, including wave height, having a 1% chance of being equaled or exceeded in any given year.

**Basement**—That portion of a structure having its lowest floor below ground level on all sides.

**Breakaway Wall**—Any type of wall subject to flooding that is not required to provide structural support to a building or other structure and that is designed and constructed such that, under base flood or lesser flood conditions, it will collapse under specific lateral loads in such a way that (1) it allows the free passage of floodwaters, and (2) it does not damage the structure or supporting foundation system.

**Bulkhead**—Wall or structure to retain or prevent sliding or erosion of the land; sometimes used to protect against wave action.

**Channel**—Natural or artificial waterway that periodically or continuously contains moving water.

**Coastal A Zone (CAZ)**—Area within a special flood hazard area, landward of a V Zone or landward of an open coast without mapped V Zones. In a Coastal A Zone, the principal source of flooding must be astronomical tides, storm surges, seiches, or tsunamis, not riverine flooding. During the base flood conditions, the potential for breaking wave height shall be greater than or equal to 1.5 ft. The inland limit of the Coastal A Zone is (1) the Limit of Moderate Wave Action if delineated on a FIRM, or (2) designated by the authority having jurisdiction.

**Coastal High Hazard Area (CHHA)**—Area within a special flood hazard area extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area that is subject to high velocity water action from storms or seismic sources. This area is designated on FIRM as velocity zones V, VO, VE, or V1-30.

**Community**—Any state or area or political subdivision thereof, or any Indian tribe or authorized tribal organization, or Alaska native village or authorized native organization, which has the authority to adopt and enforce this standard for areas within its jurisdiction.

**Datum**—The vertical reference on which maps are drawn, including but not limited to the North American Vertical Datum of 1988 (NAVD) and the National Geodetic Vertical Datum of 1929 (NGVD).

**Debris Flow**—Mass movement of sediment, including boulders, organic materials, and other debris; debris flows typically move in surges and are characterized by a steep frontal wave.
on a transient or nontransient basis; (2) structures including but not limited to one- and two-family dwellings, townhouses, condominiums, multifamily dwellings, apartments, congregate residences, boarding houses, lodging houses, rooming houses, hotels, motels, apartment buildings, convents, monasteries, dormitories, fraternity houses, sorority houses, vacation time-share properties; and (3) institutional facilities where people are cared for or live on a 24-h basis in a supervised environment, including but not limited to board and care facilities, assisted living facilities, halfway houses, group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug centers, convalescent facilities, hospitals, nursing homes, mental hospitals, detoxification facilities, prisons, jails, reformatories, detention centers, correctional centers, and prerelease centers.

Sand Dune—Natural or artificial ridges or mounds of sand landward of a beach.

Seawall—Wall separating land and water areas, primarily designed to prevent erosion and other damage due to wave action.

Shear Wall—Load bearing or nonload-bearing wall that transfers, by in-plane lateral forces, lateral loads acting on a structure to its foundation.

Shield—Removable or permanent substantially impermeable protective cover for an opening in a structure below the DFE, used in dry floodproofing the structure.

Special Flood Hazard Area—Land in the floodplain subject to a 1% or greater chance of flooding in any given year; area delineated on the Flood Insurance Rate Map as Zone A, AE, A1-30, A99, AR, AO, AH, V, VO, VE, or V1-30.

Start of Construction—Date the construction permit was issued for new construction, provided that actual start of construction commenced within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of a slab or footing, the installation of piles, the construction of columns, or any other work beyond the stage of excavation; or the placement of a manufactured home. Permanent construction does not include land preparation, such as clearing, grading, or filling; nor does it include excavation for a basement, footings, piers, or foundation or the erection of temporary forms; nor does it include the installation of accessory structures, such as garages or sheds not occupied as dwelling units or not part of the main structure. For substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a structure, whether or not that alteration affects the external dimensions of the structure.

Steel Walls—Masonry or concrete perimeter walls backfilled with compacted soil or gravel to support a floor slab or floor system.

Stillwater Depth—Vertical distance between the ground and the stillwater elevation.

Stillwater Elevation—Elevation that the surface of the water would assume in the absence of waves referenced to a datum.

Storage Tank—Closed vessel used to store gases or liquids.

Structural Fill—Fill placed and compacted to a specified density to provide structural support or protection to a structure.

Structure—Any building or other structure, including gas and liquid storage tanks.

Substantial Damage—Damage of any origin sustained by a structure, whereby the cost of restoration to its predamage condition equals or exceeds 50% of its predamage market value, or equals or exceeds a smaller percentage established by the authority having jurisdiction.

Substantial Improvement—Any reconstruction, rehabilitation, addition, or other improvement to a structure, the cost of which equals or exceeds 50% of its improvement market value, or equals or exceeds a smaller percentage established by the authority having jurisdiction. This term includes structures that have incurred substantial damage, regardless of the actual repair work performed.

Substantially Impermeable—Use of flood damage-resistant materials and techniques for dry floodproofing portions of a structure, which result in a space free of through cracks, openings, or other channels that permit unobstructed passage of water and seepage during flooding, and which result in a maximum accumulation of 4 in. of water depth in each space during a period of 24 h.

V Zone—Velocity Zones V, VO, VE, or V1-30 (See Coastal High Hazard Area).

Watershed—Topographically defined area drained by a river or stream, or by a system of connecting rivers and streams such that all outfall is discharged through a single outlet.

Wave—Ridge, deformation, or undulation of the water surface.

Wave Height—Vertical distance between the crest and the trough of a wave.

Wave Loads—Loads imparted on a structure caused by waves striking the structure or a portion thereof.

Wave Runup—Rash of wave water running up a slope or structure.

Wave Runup Elevation—Elevation, usually referenced to a datum, reached by wave runup.

Wet Floodproofing—Floodproofing method that relies on the use of flood damage-resistant materials and construction techniques in areas of a structure that are below the elevation required by this standard by intentionally allowing those areas to flood (see Floodproofing).

1.3 IDENTIFICATION OF FLOOD HAZARD AREAS

This standard shall apply to the larger of (1) those lands within a floodplain subject to a 1% or greater chance of flooding in any year (i.e., the area subject to flooding during the base flood event); and (2) those lands designated as a flood hazard area on a community’s flood hazard map, or otherwise legally designated.

The flood associated with the governing definition listed here shall be termed the design flood. Design and construction requirements for new construction and substantial improvements shall be dictated by conditions during the design flood.

1.4 IDENTIFICATION OF FLOOD-PRONE STRUCTURES

1.4.1 General A determination shall be made as to whether or not a structure lies, in whole or in part, within a flood hazard area following review of flood hazard maps, studies available in the public domain, and other information available from the authority having jurisdiction.

1.4.2 Consideration for Flood Protective Works Dams, levees, floodwalls, diversions, channels, flood control structures, and other flood protective works shall not be considered to provide protection for structures during the design flood, unless those works are shown on the flood hazard map as providing protection during design flood conditions.

Design of structures behind levees and floodwalls shall consider the adequacy of drainage of rainfall, runoff, and other waters behind the levees and floodwalls.