

Showing Only Sections Changed

5th Edition FBC from 2010 FBC

[changes shown with underline and strike-through]

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5th Edition Florida Building Code, Building

102.2 [Applicability] Building. The provisions of the Florida Building Code shall apply to the construction, erection, alteration, modification, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every public and private building, structure or facility or floating residential structure, or any appurtenances connected or attached to such buildings, structures or facilities. Additions, alterations, repairs and changes of use or occupancy group in all buildings and structures shall comply with the provisions provided in Chapter 34 of this code. The following buildings, structures and facilities are exempt from the Florida Building Code as provided by law, and any further exemptions shall be as determined by the legislature and provided by law:

Items (a) through (l) unchanged

k. A building or structure having less than 1,000 square feet (93 m²) which is constructed and owned by a natural person for hunting and which is repaired or reconstructed to the same dimension and condition as existed on January 1, 2011, if the building or structure:

1. Is not rented or leased or used as a principal residence;
2. Is not located within the 100-year floodplain according to the Federal Emergency Management Agency's current Flood Insurance Rate Map; and
3. Is not connected to an off-site electric power or water supply.

105.14 Permit issued on basis of an affidavit. Whenever a permit is issued in reliance upon an affidavit or whenever the work to be covered by a permit involves installation under conditions which, in the opinion of the building official, are hazardous or complex, the building official shall require that the architect or engineer who signed the affidavit or prepared the drawings or computations shall supervise such work. In addition, they shall be responsible for conformity to the permit, provide copies of inspection reports as inspections are performed, and upon completion make and file with the building official written affidavit that the work has been done in conformity to the reviewed plans and with the structural provisions of the technical codes. In the event such architect or engineer is not available, the owner shall employ in his stead a competent person or agency whose qualifications are reviewed by the building official. The building official shall ensure that any person conducting plans review is qualified as a plans examiner under Part XII of Chapter 468, Florida Statutes, and that any person conducting inspections is qualified as a building inspector under Part III of Chapter 468, Florida Statutes.

Exception: Permit issued on basis of an affidavit shall not extend to the flood load and flood-resistance requirements of the Florida Building Code.

107.2.5 [Submittal Documents] Site plan. The construction documents submitted with the application for permit shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from lot lines, the established street grades and the proposed finished grades and, as applicable, flood hazard areas, floodways, and design flood elevations; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The building official is authorized to waive or modify the requirement for a site plan when the application for permit is for alteration or repair or when otherwise warranted.

107.2.5.1 Design flood elevations. Where design flood elevations are not specified, they shall be established in accordance with Section 1612.3.1.

107.2.5.2 For the purpose of inspection and record retention, site plans for a building may be maintained in the form of an electronic copy at the worksite. These plans must be open to inspection by the building official or a duly authorized representative, as required by the Florida Building Code.

107.6.1 Building permits issued on the basis of an affidavit. Pursuant to the requirements of federal regulation for participation in the National Flood Insurance Program (44 C.F.R. Parts 59 and 60), the authority granted to the building official to issue permits, to rely on inspections, and to accept plans and construction documents on the basis of affidavits and plans submitted pursuant to Sections 105.14 and 107.6, shall not extend to the flood load and flood-resistance construction requirements of the Florida Building Code.

117.1 [Variances in Flood Hazard Areas] Flood hazard areas. Pursuant to Section 553.73(5), Florida Statutes, the variance procedures adopted in the local floodplain management ordinance shall apply to requests submitted to the building official for variances to the provisions of Section 1612.4 of the Florida Building Code, Building or, as applicable, the provisions of Section R322 of the Florida Building Code, Residential. This section shall not apply to Section 3109 of the Florida Building Code, Building.

COASTAL HIGH HAZARD AREA. Area within the 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 wave action from storms or seismic sources, and shown on a Flood Insurance Rate Map (FIRM) or other flood hazard map as velocity Zone V, VO, VE or V1-30.

FLOOD HAZARD AREA SUBJECT TO HIGH-VELOCITY WAVE ACTION. Area within the flood hazard area that is subject to high-velocity wave action, and shown on a Flood Insurance Rate Map (FIRM) or other flood hazard map as Zone V, VO, VE or V1-30.

1403.7 Coastal high hazard areas High-velocity wave action. ~~High-velocity wave action areas~~ Coastal high hazard areas as established in Section 1612.3, electrical, mechanical and plumbing system components shall not be mounted on or penetrate through exterior walls that are designed to break away under flood loads.

1603.1.7 Flood design data. For buildings located in whole or in part in flood hazard areas as established in Section 1612.3, the documentation pertaining to design, if required in Section 1612.5, shall be included and the following information, referenced to the datum on the community's Flood Insurance Rate Map (FIRM), shall be shown, regardless of whether flood loads govern the design of the building:

1. In flood hazard areas other than coastal high hazard areas ~~high velocity wave action areas~~, the elevation of the proposed lowest floor, including the basement.
2. In coastal high hazard areas ~~high velocity wave action areas~~, the elevation to which any nonresidential building will be dry flood proofed.
3. In coastal high hazard areas ~~high velocity wave action areas~~, the proposed elevation of the bottom of the lowest horizontal structural member of the lowest floor, including the basement.

1612.3.2 Determination of impacts. In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed work will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction of the applicable governing authority.

1612.4 Design and construction. The design and construction of buildings and structures located in flood hazard areas, including coastal high hazard areas ~~flood hazard areas subject to high velocity wave action~~, shall be in accordance with Chapter 5 of ASCE 7 and with ASCE 24.

1612.5 Flood hazard documentation. The following documentation shall be prepared and sealed by a registered design professional and submitted to the building official:

1. For construction in flood hazard areas other than coastal high hazard areas ~~not subject to high velocity wave action~~:
 - 1.1. The elevation of the lowest floor, including basement, as required by the foundation inspection and the final inspection in Section 110.3.
 - 1.2. For fully enclosed areas below the design flood elevation where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.6.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.6.2.2 of ASCE 24.
 - 1.3. For dry floodproofed nonresidential buildings, construction documents shall include a statement that the dry floodproofing is designed in accordance with ASCE 24.
2. For construction in coastal high hazard areas ~~flood hazard areas subject to high velocity wave action~~:
 - 2.1. The elevation of the bottom of the lowest horizontal structural member as required by the foundation inspection and the final inspection in Section 110.3.
 - 2.2. Construction documents shall include a statement that the building is designed in accordance with ASCE 24, including that the pile or column foundation and building or structure to be attached thereto is designed to be anchored to resist flotation, collapse and lateral movement due to the effects of wind and flood loads acting simultaneously on all building components, and other load requirements of Chapter 16.
 - 2.3. For breakaway walls designed to have a resistance of more than 20 psf (0.96 kN/m²) determined using allowable stress design, ~~resist a nominal load of less than 10 psf (0.48 kN/m²) or more than 20 psf (0.96 kN/m²)~~, construction

documents shall include a statement that the breakaway wall is designed in accordance with ASCE 24.

1804.4 Grading and fill in flood hazard areas. In flood hazard areas established in Section 1612.3, grading and/or fill shall not be approved:

1. Unless such fill is placed, compacted and sloped to minimize shifting, slumping and erosion during the rise and fall of flood water and, as applicable, wave action.
2. In floodways, unless it has been demonstrated through hydrologic and hydraulic analyses performed by a registered design professional in accordance with standard engineering practice that the proposed grading or fill, or both, will not result in any increase in flood levels during the occurrence of the design flood.
3. In coastal high hazard areas ~~high-velocity wave action areas~~, unless such fill is conducted and/or placed to avoid diversion of water and waves toward any building or structure.
4. Where design flood elevations are specified but floodways have not been designated, unless it has been demonstrated that the cumulative effect of the proposed flood hazard area encroachment, when combined with all other existing and anticipated flood hazard area encroachment, will not increase the design flood elevation more than 1 foot (305 mm) at any point.



5th Edition Florida Building Code, Residential

R301.2.4 Floodplain construction. Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in Table R301.2(1) shall be designed and constructed in accordance with Section R322. Buildings and structures located in whole or in part in identified floodways shall be designed and constructed in accordance with ASCE 24.

R301.2.4.1 Alternative provisions. As an alternative to the requirements in Section R322.2 ~~for buildings and structures located in whole or in part in flood hazard areas (A Zones) or the requirements of Section 322.3 in coastal high hazard areas (V Zones)~~, ASCE 24 is permitted subject to the limitations of this code and the limitations therein.

R322.1 General. Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in Table R301.2(1) shall be designed and constructed in accordance with the provisions contained in this section. 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 R322.2 ~~for buildings and structures located in whole or in part in flood hazard areas (A Zones) or the requirements of Section 322.3 in coastal high hazard areas (V Zones)~~, ASCE 24 is permitted subject to the limitations of this code and the limitations therein.

R322.2.4.2 Pools located where floodways have not been designated. Where pools are located in riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed pool will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction.

R322.3.2 Elevation requirements.

1. All buildings and structures erected within coastal high-hazard areas shall be elevated so that the lowest portion of all structural members supporting the lowest floor, with the exception of ~~mat or raft foundations~~, piling, pile caps, columns, grade beams and bracing, is elevated to or above the design flood elevation.
 - 1.1 ~~Located at or above the design flood elevation, if the lowest horizontal structural member is oriented parallel to the direction of wave approach, where parallel shall mean less than or equal to 20 degrees (0.35 rad) from the direction of approach, or~~
 - 1.2 ~~Located at the base flood elevation plus 1 foot (305 mm), or the design flood elevation, whichever is higher, if the lowest horizontal structural member is oriented perpendicular to the direction of wave approach, where perpendicular shall mean greater than 20 degrees (0.35 rad) from the direction of approach.~~
2. Basement floors that are below grade on all sides are prohibited.
3. The use of fill for structural support is prohibited.
4. Minor grading, and the placement of minor quantities of fill, shall be permitted for landscaping and for drainage purposes under and around buildings and for support of parking slabs, pool decks, patios and walkways.

Exception: Walls and partitions enclosing areas below the design flood elevation shall meet the requirements of Sections R322.3.4 and R322.3.5.

R322.3.3 Foundations. Buildings and structures erected in coastal high-hazard areas shall be supported on pilings or columns and shall be adequately anchored to such pilings or columns. The space below the elevated building shall be either free of obstruction or, if enclosed with walls, the walls shall meet the requirements of Section R322.3.4. Pilings shall have adequate soil penetrations to resist the combined wave and wind loads (lateral and uplift). Water-loading values used shall be those associated with the design flood. Wind-loading values shall be those required by this code. Pile embedment shall include consideration of decreased resistance capacity caused by scour of soil strata surrounding the piling. Pile systems design and installation shall be certified in accordance with Section R322.3.6. Spread footing, mat, raft or other foundations that support columns shall not be permitted where soil investigations that are required in accordance with Section R401.4 indicate that soil material under the spread footing, mat, raft or other foundation is subject to scour or erosion from wave-velocity flow conditions. If permitted, spread footing, mat, raft or other foundations that support columns shall be designed in accordance with ASCE 24. Slabs, pools, pool decks and walkways shall be located and constructed to be structurally independent of buildings and structures and their foundations to prevent transfer of flood loads to the buildings and structures during conditions of flooding, scour or erosion from wave velocity flow conditions, unless the buildings and structures and their foundation are designed to resist the additional flood load.

R322.3.4 Walls below design flood elevation. Walls and partitions are permitted below the elevated floor, provided that such walls and partitions are not part of the structural support of the building or structure and:

1. Electrical, mechanical, and plumbing system components are not to be mounted on or

- penetrate through walls that are designed to break away under flood loads; and
2. Are constructed with insect screening or open lattice; or
 3. Are designed to break away or collapse without causing collapse, displacement or other structural damage to the elevated portion of the building or supporting foundation system. Such walls, framing and connections shall have a ~~design safe loading~~ resistance of not less than 10 (479 Pa) and no more than 20 pounds per square foot (958 Pa), determined using allowable stress design; or
 4. Where wind loading values of this code exceed 20 pounds per square foot (958 Pa), determined using the allowable stress design, the construction documents shall include documentation prepared and sealed by a registered design professional that:
 - 4.1 The walls and partitions below the design flood elevation have been designed to collapse from a water load less than that which would occur during the design flood.
 - 4.2 The elevated portion of the building and supporting foundation system have been designed to withstand the effects of wind and flood loads acting simultaneously on all building components (structural and nonstructural). Water-loading values used shall be those associated with the design flood. Wind-loading values shall be those required by this code.

R404.1.9.5 Masonry piers in flood hazard areas. Masonry piers for dwellings in flood hazard areas shall be designed in accordance with Section R322.

G2404.7 (301.11) [Fuel Gas; General] Flood hazard. For structures located in flood hazard areas, the appliance, equipment and system installations regulated by this code shall be located at or above the elevation required by Section R322 for utilities and attendant equipment design flood elevation and shall comply with the ~~flood resistance construction requirement of Section 322.~~

Exception: The appliance, equipment and system installations regulated by this code are permitted to be located below the ~~design flood elevation~~ elevation required by Section R322 for utilities and attendant equipment design flood elevation 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 such elevation. ~~the design flood elevation and shall comply with the flood-resistant construction requirements of Section R322.~~



5th Edition Florida Building Code, Existing Building

SUBSTANTIAL IMPROVEMENT. Any repair, reconstruction, rehabilitation, alteration, addition or other 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 building 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.

402.2 [Additions] Flood hazard areas. For buildings and structures in flood hazard areas established in Section 1612.3 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential, as applicable, any addition that constitutes substantial improvement of the existing structure, as defined in Section 202, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in flood hazard areas established in Section 1612.3 of the Florida Building Code, Building, or Section R322 of the Florida Building Code, Residential, as applicable, any additions that do not constitute substantial improvement of the existing structure, as defined in Section 202, are not required to comply with the flood design requirements for new construction.

403.2 [Alterations] Flood hazard areas. For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *Florida Building Code, Building or Section R322 of the Florida Building Code, Residential, as applicable*, any *alteration* that constitutes *substantial improvement* of the existing structure, as defined in Section 202, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *Florida Building Code, Building, or Section R322 of the Florida Building Code, Residential, as applicable*, any alterations that do not constitute *substantial improvement* of the existing structure, as defined in Section 202, are not required to comply with the flood design requirements for new construction.

404.5 [Repairs] Flood hazard areas. For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *Florida Building Code, Building, or Section R322 of the Florida Building Code, Residential, as applicable* any *repair* that constitutes *substantial improvement* of the existing structure, as defined in Section 202, shall comply with the flood design requirements for new construction, and all aspects of the existing structure shall be brought into compliance with the requirements for new construction for flood design.

For buildings and structures in *flood hazard areas* established in Section 1612.3 of the *Florida Building Code, Building, or Section R322 of the Florida Building Code, Residential, as applicable*, any repairs that do not constitute *substantial improvement* or repair of *substantial damage* of the existing structure, as defined in Section 202, are not required to comply with the flood design requirements for new construction.

601.3 Flood hazard areas. In flood hazard areas, repairs 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.

606.2.4 [Structural] Flood hazard areas. In flood hazard areas, buildings that have sustained substantial damage shall be brought into compliance with Section 1612 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential, as applicable.

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.

1103.5 Flood hazard areas. Additions and foundations in flood hazard areas shall comply with the following requirements:

1. For horizontal additions that are structurally interconnected to the existing building:
 - 1.1. If the addition and all other proposed work, when combined, constitute substantial improvement, the existing building and the addition shall comply with Section 1612 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential as applicable.
 - 1.2. If the addition constitutes substantial improvement, the existing building and the addition shall comply with Section 1612 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential as applicable.
2. For horizontal additions that are not structurally interconnected to the existing building:
 - 2.1. The addition shall comply with Section 1612 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential, as applicable.
 - 2.2. If the addition and all other proposed work, when combined, constitute substantial improvement, the existing building and the addition shall comply with Section 1612 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential, as applicable.
3. For vertical additions and all other proposed work that, when combined, constitute substantial improvement, the existing building shall comply with Section 1612 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential, as applicable.
4. For a ~~new, replacement,~~ raised or extended foundation, if the foundation work and all other proposed work, when combined, constitute substantial improvement, the existing building shall comply with Section 1612 of the Florida Building Code, Building.
5. For a new foundation or replacement foundation, the foundation shall comply with Section 1612 of the Florida Building Code, Building, or Section R322 of the Florida Building Code, Residential, as applicable.

1201.3 Flood hazard areas. In flood hazard areas, if all proposed work, including repairs, work required because of a change of occupancy, and alterations, constitutes substantial improvement, then the building shall comply with Section 1612 of the Florida Building Code, Building, or Section R322 of the Florida Building Code, Residential, as applicable.

Exception: If the program that designated the building as historic determines that it will continue to be an historic building after the proposed work is completed, then the proposed work is not considered to be substantial improvement. For the purposes of this exception, an historic building is:

1. Individually listed in the National Register of Historic Places; or
2. A contributing resource within a National Register of Historic Places listed district;
or
3. Designated as historic property under an official municipal, county, special district or state designation, law, ordinance or resolution either individually or as a contributing property in a district, provided the local program making the designation is approved by the Department of the Interior (the Florida state historic preservation officer maintains a list of approved local programs); or
4. Determined eligible by the Florida State Historic Preservation Officer for listing in the National Register of Historic Places, either individually or as a contributing property in a district.

1302.6 Flood hazard areas. If relocated or moved into a flood hazard area, structures shall comply with Section 1612 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential, as applicable.

1401.3.3 Compliance with flood hazard provisions. In flood hazard areas, buildings that are evaluated in accordance with this section shall comply with Section 1612 of the Florida Building Code, Building or Section R322 of the Florida Building Code, Residential, as applicable, if the work covered by this section constitutes substantial improvement.



5th Edition Florida Building Code, Mechanical

DESIGN FLOOD ELEVATION. The elevation of the “design flood,” including wave height, relative to the datum specified on the community’s legally designated flood hazard area map. In areas designated as Zone AO, the design flood elevation shall be the elevation of the highest existing grade of the building’s perimeter plus the depth number (in feet) specified on the flood hazard map. In areas designated as Zone AO where a depth number is not specified on the map, the depth number shall be taken as being equal to 2 feet (610 mm).

M301.16.1 Coastal high hazard areas High-velocity wave action. Coastal high hazared areas High-velocity wave action-areas, mechanical systems and equipment shall not be mounted on or penetrate walls intended to break away under flood loads.



5th Edition Florida Building Code, Plumbing

DESIGN FLOOD ELEVATION. The elevation of the “design flood,” including wave height, relative to the datum specified on the community’s legally designated flood hazard map. In areas designated as Zone AO, the design flood elevation shall be the elevation of the highest existing grade of the building’s perimeter plus the depth number (in feet) specified on the flood hazard map. In areas designated as Zone AO where a depth number is not specified on the map, the depth number shall be taken as being equal to 2 feet (610 mm).

P309.2 Flood hazard. For structures located in flood hazard areas, the following systems and equipment shall be located and installed as required by Section 1612.4 of the *Florida Building Code, Building*:

Exception: ~~The following systems are permitted to be located below the elevation required by Section 1612.4 of the *Florida Building Code, Building* for utilities and attendant equipment provided that the systems are designed and installed to prevent water from entering or accumulating within their components and the systems are constructed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding up to the design flood elevation.~~

1. Water service pipes.

2. Pump seals in individual water supply systems where the pump is located below the design flood elevation.
3. Covers on potable water wells shall be sealed, except where the top of the casing well or pipe sleeve is elevated to at least 1 foot (305 mm) above the design flood elevation.
4. Sanitary drainage piping.
5. Storm drainage piping.
6. Manhole covers shall be sealed, except where elevated to or above the design flood elevation.
7. Other plumbing fixtures, faucets, fixture fittings, piping systems and equipment.
8. Water heaters.
9. Vents and vent systems.

Exception: The systems listed in this section are permitted to be located below the elevation required by Section 1612.4 of the *Florida Building Code, Building for utilities and attendant equipment* provided that the systems are designed and installed to prevent water from entering or accumulating within their components and the systems are constructed to resist hydrostatic and hydrodynamic loads and stresses, including the effects of buoyancy, during the occurrence of flooding up to the design flood elevation.

309.3 Coastal high hazard areas ~~High velocity wave action.~~ Coastal high hazared areas ~~High velocity wave action~~ areas shall meet the requirements of Section 309.2. The plumbing systems, pipes and fixtures shall not be mounted on or penetrate through walls intended to break away under flood loads.



5th Edition Florida Building Code, Fuel Gas

DESIGN FLOOD ELEVATION. The elevation of the “design flood,” including wave height, relative to the datum specified on the community’s legally designated flood hazard map. In areas designated as Zone AO, the design flood elevation shall be the elevation of the highest existing grade of the building’s perimeter plus the depth number (in feet) specified on the flood hazard map. In areas designated as Zone AO where a depth number is not specified on the map, the depth number shall be taken as being equal to 2 feet (610 mm).