

## 22. Floodplain Managers & Software

*Assertion: "Due to FEMA regulations and the hurricanes, the City now has hired 2 Floodplain Managers. In addition, they purchased software called Forerunner. All of these costs are being billed to the Building Fund even though the scope of work is not just building code related and the software is a tool for all citizens to use related to floor information. They are also using outside services that the Building Fund is paying for to meet the requirements of FEMA."*

The Florida Building Code includes multiple sections related to floodplain management, including Section 1612 "Flood Loads" and Section R322 "Flood-Resistant Construction," along with the Florida Building Code's references to ASCE 24-14 "Flood Resistant Design and Construction." To ensure compliance with these sections of the Florida Building Code, the City of Cape Coral completes floodplain reviews, under-construction elevation certificate reviews, and final elevation certificate reviews. These reviews are completed by a three-person floodplain team in the Building Division, under the Building Official.

To expedite the review process and ensure efficient approvals of permit applications within the City's Special Flood Hazard Area, the City of Cape Coral expanded its floodplain team from one Floodplain Coordinator position to two Floodplain Coordinator positions and a Floodplain Manager position during Fiscal Year 2025. With the hiring of the two additional floodplain reviewers, the City has been able to reduce its reliance on third-party floodplain reviewers and reduce the turn-around time on permits within the Special Flood Hazard Area.

The City's floodplain reviewers utilize software to store elevation certificate information for reference during review and to determine flood zone boundaries for specific parcels and projects. The software includes a public information portal that may be utilized by contractors, design professionals, and owner-builders to ensure compliance with FBC 1612 and R322 in project design and building permit application development. Undoubtedly, the fact that this portal is open to the public does not equate to non-building code use of this tool and the information it provides.

Attached to support response:

- Florida Building Code 1612
- Florida Building Code R322
- Scope of Responsibilities: Floodplain Regulation Compliance

## STRUCTURAL DESIGN

**TABLE 1610.1**  
**LATERAL SOIL LOAD**

| DESCRIPTION OF BACKFILL MATERIAL <sup>c</sup>       | UNIFIED SOIL CLASSIFICATION | DESIGN LATERAL SOIL LOAD <sup>a</sup><br>(pound per square foot per foot of depth) |                  |
|---|-----------------------------|--|------------------|
|   |                             | Active pressure  | At-rest pressure |
| Well-graded, clean gravels; gravel-sand mixes       | GW                          | 30   | 60               |
| Poorly graded clean gravels; gravel-sand mixes      | GP                          | 30   | 60               |
| Silty gravels, poorly graded gravel-sand mixes      | GM                          | 40   | 60               |
| Clayey gravels, poorly graded gravel-and-clay mixes | GC                          | 45   | 60               |
| Well-graded, clean sands; gravelly sand mixes       | SW                          | 30   | 60               |
| Poorly graded clean sands; sand-gravel mixes        | SP                          | 30   | 60               |
| Silty sands, poorly graded sand-silt mixes          | SM                          | 45   | 60               |
| Sand-silt clay mix with plastic fines               | SM-SC                       | 45   | 100              |
| Clayey sands, poorly graded sand-clay mixes         | SC                          | 60   | 100              |
| Inorganic silts and clayey silts                    | ML                          | 45   | 100              |
| Mixture of inorganic silt and clay                  | ML-CL                       | 60   | 100              |
| Inorganic clays of low to medium plasticity         | CL                          | 60   | 100              |
| Organic silts and silt clays, low plasticity        | OL                          | Note b   | Note b           |
| Inorganic clayey silts, elastic silts               | MH                          | Note b   | Note b           |
| Inorganic clays of high plasticity                  | CH                          | Note b   | Note b           |
| Organic clays and silty clays                       | OH                          | Note b   | Note b           |

For SI: 1 pound per square foot per foot of depth = 0.157 kPa/m, 1 foot = 304.8 mm.

a. Design lateral soil loads are given for moist conditions for the specified soils at their optimum densities. Actual field conditions shall govern. Submerged or saturated soil pressures shall include the weight of the buoyant soil plus the hydrostatic loads.

b. Unsuitable as backfill material.

c. The definition and classification of soil materials shall be in accordance with ASTM D2487.

drainage system for structural loading (SDSL) in inches (mm).

$R$  = Rain load in psf (kN/m<sup>2</sup>).

SDSL is the roof draining system through which water is drained from the roof when the drainage systems listed in ASCE 7, Section 8.2(a) through (d) are blocked or not working.

**TABLE 1611.1**  
**DESIGN STORM RETURN PERIOD BY RISK CATEGORY**

| RISK CATEGORY | DESIGN STORM RETURN PERIOD |
|---------------|----------------------------|
| I & II        | 100 years                  |
| III           | 200 years                  |
| IV            | 500 years                  |

**1611.2 Ponding instability.** Susceptible bays of roofs shall be evaluated for ponding instability in accordance with Section 8.4 of ASCE 7.

**1611.3 Controlled drainage.** Roofs equipped with hardware to control the rate of drainage shall be equipped with a secondary drainage system at a higher elevation that limits accumulation of water on the roof above that elevation. Such roofs

shall be designed to sustain the load of rainwater that will accumulate on them to the elevation of the secondary drainage system plus the uniform load caused by water that rises above the inlet of the secondary drainage system at its design flow determined from Section 1611.1. Such roofs shall also be checked for ponding instability in accordance with Section 1611.2.

## 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.

**1612.1.1 Cross references.** See Table 1612.1.

**TABLE 1612.1**  
**CROSS REFERENCES DEFINING FLOOD-RESISTANT PROVISIONS OF THE FLORIDA BUILDING CODE**

| Florida Building Code – Building    |  |             |   |
|-------------------------------------|--|-------------|---|
| Section                             |  | Section     |   |
| Chapter 1                           | Scope and Administration                                 | Chapter 14  | Exterior Walls  |
| 102                                 | Applicability  | 1403        | Performance Requirements                                  |
| 105                                 | Permits  |             |   |
| 107                                 | Submittal Documents                                      | Chapter 16  | Structural Design   |
| 110                                 | Inspections  | 1601        | General   |
| 111                                 | Certificates of Occupancy                                | 1603        | Construction Documents                                    |
| 117                                 | Variances in Flood Hazard Areas                          | 1605        | Load Combinations   |
|                                     |  | 1612        | Flood Loads   |
| Chapter 2                           | Definitions  |             |   |
| 202                                 | Definitions  | Chapter 18  | Soils and Foundations                                     |
|                                     |  | 1804        | Excavation, Grading and Fill                              |
| Chapter 4                           | Special Detailed Requirements Based on Occupancy and Use | 1805        | Dampproofing and Waterproofing                            |
| 449                                 | Hospitals  |             |   |
| 450                                 | Nursing Homes  | Chapter 27  | Electrical  |
| 453                                 | State Requirements for Educational Facilities            | 2702        | Emergency and Standby Power Systems                       |
| 454                                 | Swimming Pools and Bathing Places (Public And Private)   |             |   |
|                                     |  | Chapter 30  | Elevators and Conveying Systems                           |
| Chapter 8                           | Interior Finishes and Decorative Materials               | 3001        | General   |
| 801                                 | General  |             |   |
|                                     |  | Chapter 31  | Special Construction                                      |
| Chapter 12                          | Interior Environment                                     | 3102        | Membrane Structures                                       |
| 1203                                | Ventilation  | 3109        | Structures Seaward of a Coastal Construction Control Line |
|                                     |  |             |   |
| Florida Building Code – Residential |  |             |   |
| Section                             |  | Section     |   |
| Chapter 2                           | Definitions  | Chapter 21  | Hydronic Piping   |
| R202                                | Definitions  | M2101       | Hydronic Piping Systems Installation                      |
|                                     |  | M2105       | Ground-Source Heat-Pump System Loop Piping                |
| Chapter 3                           | Building Planning  |             |   |
| R301                                | Design Criteria  | Chapter 22  | Special Piping and Storage Systems                        |
| R309                                | Garages and Carports                                     | M2201       | Oil Tanks   |
| R322                                | Flood-Resistant Construction                             |             |   |
|                                     |  | Chapter 24  | Fuel Gas  |
| Chapter 4                           | Foundations  | G2404 (301) | General   |
| R401                                | General  |             |   |
| R404                                | Foundation and Retaining Walls                           | Chapter 26  | General Plumbing Requirements                             |
| R408                                | Under-Floor Space  | P2601       | General   |
|                                     |  | P2602       | Individual Water Supply and Sewage Disposal               |
| Chapter 13                          | General Mechanical System Requirements                   |             |   |
| M1301                               | General  | Chapter 27  | Plumbing Fixtures   |
|                                     |  | P2705       | Installation  |
| Chapter 14                          | Heating and Cooling Equipment and Appliances             |             |   |
| M1401                               | General  | Chapter 30  | Sanitary Drainage   |
|                                     |  | P3001       | General   |
| Chapter 19                          | Special Appliances, Equipment and Systems                |             |   |
| M1905                               | Residential Permanently Installed Stand-By Generators    |             |   |

(continued)

## STRUCTURAL DESIGN

**TABLE 1612.1—continued**  
**CROSS REFERENCES DEFINING FLOOD-RESISTANT PROVISIONS OF THE FLORIDA BUILDING CODE**

| Florida Building Code – Residential       |   |            |                                    |
|---|---|------------|------------------------------------|
| Section                                   |   | Section    |                                    |
| Chapter 16                                | Duct Systems  | Chapter 20 | Boilers and Water Heaters          |
| M1601                                     | Duct Construction                                     | M2001      | Boilers                            |
|   |   |            |                                    |
|   |   | Chapter 31 | Vents                              |
| Chapter 17                                | Combustion Air  | P3101      | Vent Systems                       |
| M1701                                     | General   |            |                                    |
|   |   |            |                                    |
| Chapter 19                                | Special Appliances, Equipment and Systems             | Chapter 45 | Private Swimming Pools             |
| M1905                                     | Residential Permanently Installed Stand-By Generators | R4501      | General                            |
|   |   |            |                                    |
| Florida Building Code – Existing Building |   |            |                                    |
| Section                                   |   | Section    |                                    |
| Chapter 2                                 | Definitions   | Chapter 7  | Alterations—Level I                |
| 202                                       | Definitions   | 701        | General                            |
|   |   |            |                                    |
| Chapter 3                                 | Provisions for All Compliance                         | Chapter 12 | Historic Buildings                 |
| 301                                       | Administration  | 1201       | General                            |
|   |   |            |                                    |
| Chapter 4                                 | Repairs   | Chapter 13 | Relocated or Moved Buildings       |
| 401                                       | General   | 1302       | Requirements                       |
| 406                                       | Structural  |            |                                    |
|   |   | Chapter 14 | Performance Compliance Methods     |
| Chapter 5                                 | Prescriptive Compliance Method                        | 1401       | General                            |
| 502                                       | Additions   |            |                                    |
| 503                                       | Alterations   |            |                                    |
|   |   |            |                                    |
| Florida Building Code – Mechanical        |   |            |                                    |
| Section                                   |   | Section    |                                    |
| Chapter 3                                 | General Regulations                                   | Chapter 6  | Duct Systems                       |
| 301                                       | General   | 602        | Plenums                            |
|   |   | 603        | Duct Construction and Installation |
| Chapter 4                                 | Ventilation   |            |                                    |
| 401                                       | General   | Chapter 12 | Hydronic Piping                    |
|   |   | 1206       | Piping Installation                |
| Chapter 5                                 | Exhaust Systems                                       |            |                                    |
| 501                                       | General   | Chapter 13 | Fuel Oil Piping and Storage        |
|   |   | 1305       | Fuel Oil System Installation       |
|   |   |            |                                    |
| Florida Building Code – Plumbing          |   |            |                                    |
| Section                                   |   |            |                                    |
| Chapter 3                                 | General Regulations                                   |            |                                    |
| 309                                       | Flood Hazard Resistance                               |            |                                    |
|   |   |            |                                    |
| Florida Building Code – Fuel Gas          |   |            |                                    |
| Section                                   |   |            |                                    |
| Chapter 3                                 | General Regulations                                   |            |                                    |
| 301                                       | General (IFGC)  |            |                                    |

**1612.2 Definitions.** The following terms are defined in Chapter 2:

**BASE FLOOD.**

**BASE FLOOD ELEVATION.**

**BASEMENT.**

**COASTAL A ZONE.**

**COASTAL HIGH HAZARD AREA.**

**DESIGN FLOOD.**

**DESIGN FLOOD ELEVATION.**

**DRY FLOODPROOFING.**

**EXISTING STRUCTURE.**

**FLOOD or FLOODING.**

**FLOOD DAMAGE-RESISTANT MATERIALS.**

**FLOOD HAZARD AREA.**

**FLOOD INSURANCE RATE MAP (FIRM).**

**FLOOD INSURANCE STUDY.**

**FLOODWAY.**

**LOWEST FLOOR.**

**SPECIAL FLOOD HAZARD AREA.**

**START OF CONSTRUCTION.**

**SUBSTANTIAL DAMAGE.**

**SUBSTANTIAL IMPROVEMENT.**

**1612.3 Establishment of flood hazard areas.** To establish *flood hazard areas*, the applicable governing authority shall, by local flood plain management ordinance, adopt a flood hazard map and supporting data. The flood hazard map shall include, at a minimum, areas of special flood hazard as identified by the Federal Emergency Management Agency.

**1612.3.1 Design flood elevations.** Where design flood elevations are not included in the *flood hazard areas* established in Section 1612.3, or where floodways are not designated, the *building official* is authorized to require the applicant to:

1. Obtain and reasonably utilize any design flood elevation and floodway data available from a federal, state or other source; or
2. Determine the design flood elevation and/or floodway in accordance with accepted hydrologic and hydraulic engineering practices used to define special flood hazard areas. Determinations shall be undertaken by a *registered design professional* who shall document that the technical methods used reflect currently accepted engineering practice.

**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 and Coastal A Zones, shall be in accordance with Chapter 5 of ASCE 7 and with ASCE 24.

**1612.4.1 Modification of ASCE 24.** Table 6-1 and Section 6.2.1 in ASCE 24 shall be modified as follows:

1. The title of Table 6.1 shall be “Minimum Elevation of Floodproofing, Relative to Base Flood Elevation (BFE) or Design Flood Elevation (DFE), in Coastal A Zones and in Other Flood Hazard Areas that are not High Risk Flood Hazard Areas.”
2. Section 6.2.1 shall be modified to permit dry floodproofing in Coastal A Zones, as follows: “Dry floodproofing of nonresidential structures and nonresidential areas of mixed-use structures shall not be allowed unless such structures are located outside of High Risk Flood Hazard areas and Coastal High Hazard Areas. Dry floodproofing shall be permitted in Coastal A Zones provided wave loads and the potential for erosion and local scour are accounted for in the design. Dry floodproofing of residential structures or residential areas of mixed-use structures shall not be permitted.”

**1612.4.2 Modification of ASCE 24 9.6 Pools.** Modify Section 9.6 in ASCE 24 by adding an exception as follows:

9.6 Pools. In-ground and above-ground pools shall be designed to withstand all flood-related loads and load combinations. Mechanical equipment for pools such as pumps, heating systems and filtering systems, and their associated electrical systems, shall comply with Chapter 7.

**Exception:** Equipment for pools, spas and water features shall be permitted below the elevation required in Table 7-1, provided it is elevated to the extent practical, is anchored to prevent flotation and resist flood forces, and is supplied by branch circuits that have ground-fault circuit-interrupter protection.

**1612.5 Flood hazard documentation.** The following documentation shall be prepared and sealed by a licensed professional surveyor and mapper or a *registered design professional*, as applicable, and submitted to the *building official*:

1. For construction in *flood hazard areas* other than *coastal high hazard areas* or *coastal A zones*:
  - 1.1. The elevation of the lowest floor, including the basement, as required by the lowest floor elevation inspection in Section 110.3, Building, 1.1 and for the final inspection in Section 110.3, Building, 5.1.
  - 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 2.7.2.1 of ASCE 24, *construction documents* shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24.

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- 1.3. For *dry floodproofed* nonresidential buildings, *construction documents* shall include a statement that the *dry floodproofing* is designed in accordance with ASCE 24 and shall include the flood emergency plan specified in Chapter 6 of ASCE 24.
- 1.4. For *dry floodproofed* nonresidential buildings, the elevation to which the building is *dry floodproofed* as required for the final inspection in Section 110.3, Building, 6.1.
2. For construction in *coastal high hazard areas* and *coastal A zones*:
  - 2.1. The elevation of the bottom of the lowest horizontal structural member as required by the lowest floor elevation inspection in Section 110.3, Building, 1.1 and for the final inspection in Section 110.3, Building, 5.1.
  - 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/m<sup>2</sup>) determined using allowable stress design, *construction documents* shall include a statement that the breakaway wall is designed in accordance with ASCE 24.
  - 2.4. For breakaway walls where provisions to allow for the automatic entry and exit of floodwaters do not meet the minimum requirements in Section 2.7.2.1 of ASCE 24, construction documents shall include a statement that the design will provide for equalization of hydrostatic flood forces in accordance with Section 2.7.2.2 of ASCE 24.

### SECTION 1613 EARTHQUAKE LOADS RESERVED

### SECTION 1614 ATMOSPHERIC ICE LOADS

**1614.1 General.** Ice-sensitive structures shall be designed for atmospheric ice loads in accordance with Chapter 10 of ASCE 7.

### SECTION 1615 STRUCTURAL INTEGRITY

**1615.1 General.** *High-rise buildings* that are assigned to *Risk Category* III or IV shall comply with the requirements of Sec-

tion 1615.3 if they are frame structures, or Section 1615.4 if they are bearing wall structures.

**1615.2 Definitions.** The following words and terms are defined in Chapter 2:

#### BEARING WALL STRUCTURE.

#### FRAME STRUCTURE.

**1615.3 Frame structures.** Frame structures shall comply with the requirements of this section.

**1615.3.1 Concrete frame structures.** Frame structures constructed primarily of reinforced or prestressed concrete, either cast-in-place or precast, or a combination of these, shall conform to the requirements of Section 4.10 of ACI 318. Where ACI 318 requires that nonprestressed reinforcing or prestressing steel pass through the region bounded by the longitudinal column reinforcement, that reinforcing or prestressing steel shall have a minimum nominal tensile strength equal to two-thirds of the required one-way vertical strength of the connection of the floor or roof system to the column in each direction of beam or slab reinforcement passing through the column.

**Exception:** Where concrete slabs with continuous reinforcement having an area not less than 0.0015 times the concrete area in each of two orthogonal directions are present and are either monolithic with or equivalently bonded to beams, girders or columns, the longitudinal reinforcing or prestressing steel passing through the column reinforcement shall have a nominal tensile strength of one-third of the required one-way vertical strength of the connection of the floor or roof system to the column in each direction of beam or slab reinforcement passing through the column.

**1615.3.2 Structural steel, open web steel joist or joist girder, or composite steel and concrete frame structures.** Frame structures constructed with a structural steel frame or a frame composed of open web steel joists, joist girders with or without other structural steel elements or a frame composed of composite steel or composite steel joists and reinforced concrete elements shall conform to the requirements of this section.

**1615.3.2.1 Columns.** Each column splice shall have the minimum design strength in tension to transfer the design dead and *live load* tributary to the column between the splice and the splice or base immediately below.

**1615.3.2.2 Beams.** End connections of all beams and girders shall have a minimum nominal axial tensile strength equal to the required vertical shear strength for *allowable stress design* (ASD) or two-thirds of the required shear strength for *load and resistance factor design* (LRFD) but not less than 10 kips (45 kN). For the purpose of this section, the shear force and the axial tensile force need not be considered to act simultaneously.

**Exception:** Where beams, girders, open web joist and joist girders support a concrete slab or concrete slab on metal deck that is attached to the beam or girder with not less than  $\frac{3}{8}$ -inch-diameter (9.5 mm) headed shear studs, at a spacing of not more than 12



## BUILDING PLANNING

## SECTION R321 ELEVATORS AND PLATFORM LIFTS

**R321.1 Elevators.** Where provided, passenger elevators, limited-use and limited-application elevators or private residence elevators shall comply with ASME A17.1/CSA B44.

**R321.2 Platform lifts.** Where provided, platform lifts shall comply with ASME A18.1.

**R321.3 Accessibility.** Reserved.

**R321.4 Clearance requirements between elevator doors for elevators inside a private residence.**

### R321.4.1 For elevators installed in a private residence:

- (a) The distance between the hoistway face of the hoistway doors and the hoistway edge of the landing sill may not exceed  $\frac{3}{4}$  inch for swinging doors and  $2\frac{1}{4}$  inches for sliding doors.
- (b)
  1. Horizontal sliding car doors and gates shall be designed and installed to withstand a force of 75 pounds applied horizontally on an area 4 inches by 4 inches at right angles to and at any location on the car door without permanent deformation. The deflection may not exceed  $\frac{3}{4}$  inch and may not displace the door from its guides or tracks. The force must be applied while the door is in the fully closed position.
  2. Folding car doors shall be designed and installed to withstand a force of 75 pounds applied horizontally using a 4-inch-diameter sphere at any location within the folds on the car door without permanent deformation. The deflection may not exceed  $\frac{3}{4}$  inch and may not displace the door from its guides or tracks. The force must be applied while the door is in the fully closed position.
- (c) The distance between the hoistway face of the landing door and the hoistway face of the car door or gate shall conform to one of the following:
  1. If a power-operated horizontally sliding hoistway and car doors are used, the measurement between the leading edge of the doors or sight guard, if provided, may not exceed 4 inches. If it is possible for a user to detach or disconnect either door from the operator and such detachment or disconnection allows the user to operate the door manually, the requirement in subparagraph 5 applies.
  2. If swinging hoistway doors and folding car doors are used and both doors are in the fully closed position, the space between the hoistway door and the folding door must reject a 4-inch-diameter sphere at all points.
  3. If swinging hoistway doors and car gates are used, the space between the hoistway door and the car gate must reject a 4-inch-diameter sphere at all points.

4. If the car doors are powered and arranged so that they cannot be closed until after the hoistway door is closed, and the car doors automatically open when the car is at a landing and the hoistway door is opened, the measurement between the hoistway face of the hoistway door and the hoistway face of the car door at its leading edge may not exceed 4 inches. If it is possible for a user to detach or disconnect either door from the operator and such detachment or disconnection allows the user to operate the door manually, the requirement in subparagraph 5 applies.

5. If swinging or horizontally sliding hoistway doors and manual horizontally sliding car doors are used and both doors are in the fully closed position, the space between the swinging or horizontally sliding hoistway door and the manual horizontally sliding car doors must reject a 4-inch-diameter sphere at all points.

**Exception:** As an alternative to compliance with Section R321.4.1, Items 2 through 5, a permanent installation of a nonremovable, hoistway door space guard is allowed. The door space guard must be designed and installed to withstand a force of 75 pounds applied horizontally using a 4-inch-diameter sphere at any location within the folds on the car door without permanent deformation.

**R321.4.2** During normal operation, the elevator controller must monitor the closed and locked contacts of the hoistway door locking device, whether electrical or mechanical. If the closed and locked contacts of the landing locks are open while the car is not in the unlocking zone for the hoistway door locking device, the elevator controller must interrupt power to the motor and brake and must not allow the elevator car to restart until the owner or the owner's agent, with a master elevator key, has checked for obstructions above and below the elevator car, returned the hoistway door locking device contacts to the normal operating position, and manually reset the elevator controller with the master elevator key. Additionally, a visual indicator must be visible at all landings until the hoistway door locking device has been returned to the normal operating position and the elevator controller has been manually reset.

## 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 repair 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.

**R322.1.2 Structural systems.** Structural systems of buildings and structures shall be designed, connected and anchored to resist flotation, collapse or permanent lateral movement due to structural loads and stresses from flooding equal to the design flood elevation.

**R322.1.3 Flood-resistant construction.** Buildings and structures erected in areas prone to flooding shall be constructed by methods and practices that minimize flood damage.

**R322.1.4 Establishing the design flood elevation.** The design flood elevation shall be used to define flood hazard areas. At a minimum, the design flood elevation shall be the higher of the following:

1. The base flood elevation at the depth of peak elevation of flooding, including wave height, that has a 1 percent (100-year flood) or greater chance of being equaled or exceeded in any given year; or
2. The elevation of the design flood associated with the area designated on a flood hazard map adopted by the community, or otherwise legally designated.

**R322.1.4.1 Determination of design flood elevations.** If design flood elevations are not specified, the *building official* is authorized to require the applicant to comply with either of the following:

1. Obtain and reasonably use data available from a federal, state or other source; or
2. Determine the design flood elevation in accordance with accepted hydrologic and hydraulic engineering practices used to define special flood hazard areas. Determinations shall be undertaken by a registered *design professional* who shall document that the technical methods used reflect currently accepted engineering practice. Studies, analyses and computations shall be submitted in sufficient detail to allow thorough review and approval.

**R322.1.4.2 Determination of impacts.** In riverine flood hazard areas where design flood elevations are specified but floodways have not been designated, the applicant shall demonstrate that the effect of the proposed buildings and structures on design flood elevations, including fill, when combined with other existing and anticipated flood hazard area encroachments, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the *jurisdiction*.

**R322.1.5 Lowest floor.** The lowest floor shall be the lowest floor of the lowest enclosed area, including *basement*, and excluding any unfinished flood-resistant enclosure that is useable solely for vehicle parking, building access or limited storage provided that such enclosure is not built

so as to render the building or structure in violation of this section.

**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. Replacement of exterior equipment and exterior appliances damaged by flood shall meet the requirements of this section. 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 required 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, is anchored to prevent flotation 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.

**R322.1.7 Protection of water supply and sanitary sewage systems.** New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems in accordance with the plumbing provisions of this code. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into systems and discharges from systems into floodwaters in accordance with the plumbing provisions of this code and in accordance with Chapter 64E-6, *Florida Administrative Code*, Standards for Onsite Sewage Treatment and Disposal Systems.

**R322.1.8 Flood-resistant materials.** Building materials and installation methods used for flooring and interior and exterior walls and wall coverings below the elevation required in Section R322.2 or R322.3 shall be flood damage-resistant materials that conform to the provisions of FEMA TB-2.

**R322.1.9 Manufactured homes.** In addition to the applicable requirements of the state agency with jurisdiction over installation of manufactured homes, installation of



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manufactured homes in flood hazard areas is subject to the applicable provisions of the local floodplain management ordinance.

**R322.1.10 As-built elevation documentation.** A licensed professional surveyor and mapper or registered *design professional* shall prepare and seal documentation of the elevations specified in Section R322.2 or R322.3.

**R322.1.11 Structures seaward of a coastal control construction line.** In addition to the requirements of this section, structures located in flood hazard areas and seaward of the coastal construction line shall be designed to resist the predicted forces of a 100-year storm event in accordance with Section 3109 of the *Florida Building Code, Building*, and the more restrictive provisions shall govern.

**R322.2 Flood hazard areas (including A Zones).** Areas that have been determined to be prone to flooding and that are not subject to high-velocity wave action shall be designated as flood hazard areas. Flood hazard areas that have been delineated as subject to wave heights between  $1\frac{1}{2}$  feet (457 mm) and 3 feet (914 mm) or otherwise designated by the jurisdiction shall be designated as Coastal A Zones and are subject to the requirements of Section R322.3. Buildings and structures constructed in whole or in part in flood hazard areas shall be designed and constructed in accordance with Sections R322.2.1 through R322.2.3.

#### R322.2.1 Elevation requirements.

1. Buildings and structures in flood hazard areas not including flood hazard areas designated as Coastal A Zones, shall have the lowest floors elevated to or above the base flood elevation plus 1 foot (305 mm), or the design flood elevation, whichever is higher.
2. In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including *basement*) elevated to a height above the highest adjacent *grade* of not less than the depth number specified in feet (mm) on the FIRM plus 1 foot (305 mm), or not less than 3 feet (915 mm) if a depth number is not specified.
3. Basement floors that are below *grade* on all sides shall be elevated to or above base flood elevation plus 1 foot (305 mm), or the design flood elevation, whichever is higher.
4. Attached garages and carports shall comply with one of the following:
  - 4.1. The floors shall be elevated to or above the elevations required in Item 1 or Item 2, as applicable.
  - 4.2. The floors shall be at or above grade on not less than one side. Where an attached garage or carport is enclosed by walls, the walls shall have flood openings that comply with Section R322.2.2 and the attached garage or carport shall be used solely for parking, building access or storage.

5. Detached accessory structures and detached garages shall comply with either of the following:

- 5.1. The floors shall be elevated to or above the elevations required in Item 1 or Item 2, as applicable.
- 5.2. The floors are permitted below the elevations required in Item 1 or Item 2, as applicable, provided such detached structures comply with all of the following:
  - 5.2.1. Are used solely for parking or storage.
  - 5.2.2. Are one story and not larger than 600 square feet (56 m<sup>2</sup>).
  - 5.2.3. Are anchored to resist flotation, collapse or lateral movement resulting from design flood loads.
  - 5.2.4. Have flood openings that comply with Section R322.2.2.
  - 5.2.5. Are constructed of flood damage-resistant materials that comply with Section R322.1.8.
  - 5.2.6. Have mechanical, plumbing and electrical systems, if applicable, that comply with Section R322.1.6.

**Exception:** Enclosed areas below the elevation required in this section, including *basements* with floors that are not below *grade* on all sides, shall meet the requirements of Section R322.2.2.

**R322.2.2 Enclosed area below required elevation.** Enclosed areas, including crawl spaces, that are below the elevation required in Section R322.2.1 shall:

1. Be used solely for parking of vehicles, building access or storage.
2. Be provided with flood openings that meet the following criteria and are installed in accordance with Section R322.2.2.1:
  - 2.1. The total net area of nonengineered openings shall be not less than 1 square inch (645 mm<sup>2</sup>) for each square foot (0.093 m<sup>2</sup>) of enclosed area where the enclosed area is measured on the exterior of the enclosure walls, or the openings shall be designed as engineered openings and the *construction documents* shall include a statement by a *registered design professional* that the design of the openings will provide for equalization of hydrostatic flood forces on *exterior walls* by allowing for the automatic entry and exit of floodwaters as specified in Section 2.7.2.2 of ASCE 24.
  - 2.2. Openings shall be not less than 3 inches (76 mm) in any direction in the plane of the wall.
  - 2.3. The presence of louvers, blades, screens and faceplates or other covers and devices shall

allow the automatic flow of floodwater into and out of the enclosed areas and shall be accounted for in the determination of the net open area.

**Exception:** The following are not required to comply with this section:

1. Elevator shafts.
2. Utility chases that protect utility lines from freezing, provided the utility chases are the minimum size necessary to protect the utility lines and do not provide access for a person to enter the space.

**R322.2.2.1 Installation of openings.** The walls of enclosed areas shall have openings installed such that:

1. There shall be not less than two openings on different sides of each enclosed area; if a building has more than one enclosed area, each area shall have openings.
2. The bottom of each opening shall be not more than 1 foot (305 mm) above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening.
3. Openings shall be permitted to be installed in doors and windows; doors and windows without installed openings do not meet the requirements of this section.

**R322.2.3 Foundation design and construction.** Foundation walls for buildings and structures erected in flood hazard areas shall meet the requirements of Chapter 4.

**Exception:** Unless designed in accordance with Section R404:

1. The unsupported height of 6-inch (152 mm) plain masonry walls shall be not more than 3 feet (914 mm).
2. The unsupported height of 8-inch (203 mm) plain masonry walls shall be not more than 4 feet (1219 mm).
3. The unsupported height of 8-inch (203 mm) reinforced masonry walls shall be not more than 8 feet (2438 mm).

For the purpose of this exception, unsupported height is the distance from the finished *grade* of the under-floor space to the top of the wall.

**R322.2.4 Tanks.** Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood. Above-ground tanks shall be installed at or above the elevation required in Section R322.2.1 or shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood.

**R322.2.5 Pools in flood hazard areas.** Pools that are located in flood hazard areas established by Table R301.2(1), including above-ground pools, on-ground pools, and in-ground pools that involve placement of fill, shall comply with Section R322.2.5.1 or R322.2.5.2.

**Exception:** Pools located in riverine flood hazard areas which are outside of designated floodways.

**R322.2.5.1 Pools located in designated floodways.** Where pools are located in designated floodways, documentation shall be submitted to the building official, which demonstrates that the construction of the pool will not increase the design flood elevation at any point within the jurisdiction.

**R322.2.5.2 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 Coastal high-hazard areas (including V Zones and Coastal A Zones, where designated).** Areas that have been determined to be subject to wave heights in excess of 3 feet (914 mm) or subject to high-velocity wave action or wave-induced erosion shall be designated as coastal high-hazard areas. Flood hazard areas that have been designated as subject to wave heights between 1½ feet (457 mm) and 3 feet (914 mm) or otherwise designated by the jurisdiction shall be designated as Coastal A Zones. Buildings and structures constructed in whole or in part in coastal high-hazard areas and coastal A Zones, where designated, shall be designed and constructed in accordance with Sections R322.3.1 through R322.3.10.

#### **R322.3.1 Location and site preparation.**

1. New buildings and buildings that are determined to be substantially improved pursuant to the *Florida Building Code, Existing Building* shall be located landward of the reach of mean high tide.
2. For any alteration of sand dunes and mangrove stands, the *building official* shall require submission of an engineering analysis that demonstrates that the proposed *alteration* will not increase the potential for flood damage.

#### **R322.3.2 Elevation requirements.**

1. Buildings and structures erected within coastal high-hazard areas and Coastal A Zones, shall be elevated so that the bottom of the lowest horizontal structural members supporting the lowest floor, with the exception of piling, pile caps, columns, grade beams and bracing, is elevated to or above the base flood elevation plus 1 foot (305 mm) or the design flood elevation, whichever is higher. Where stem wall foundations are permitted in Coastal A Zones in accordance with Section R322.3.3, the bottom of the lowest horizontal structural member supporting the lowest floor is the top of the foundation wall, or top of the portion of the foundation wall, supporting the slab.
2. Basement floors that are below *grade* on all sides are prohibited.

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3. Attached garages used solely for parking, building access or storage, and carports shall comply with Item 1 or shall be at or above grade on not less than one side and, if enclosed with walls, such walls shall comply with Item 7.
4. Detached accessory structures and detached garages shall comply with either of the following:
  - 4.1. The bottom of the lowest horizontal structural member supporting the floors shall be elevated to or above the elevation required in Item 1.
  - 4.2. The floors are permitted below the elevations required in Item 1, provided such detached structures comply with all of the following:
    - 4.2.1. Are used solely for parking or storage.
    - 4.2.2. Are one story and not larger than 100 square feet (9.29 m<sup>2</sup>).
    - 4.2.3. Are anchored to resist flotation, collapse or lateral movement resulting from design flood loads.
5. The use of fill for structural support is prohibited.
6. 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.
7. Walls and partitions enclosing areas below the elevation required in this section shall meet the requirements of Sections R322.3.5 and R322.3.6.

**R322.3.3 Foundations.** Buildings and structures erected in coastal high-hazard areas and Coastal A Zones shall be supported on pilings or columns and shall be adequately anchored to such pilings or columns and shall comply with the following:

1. 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 R322.3.5.
2. Pilings shall be designed in accordance with ASCE 24 to have adequate soil penetrations to resist the combined wave and wind loads (lateral and uplift) and pile embedment shall include consideration of decreased resistance capacity caused by scour of soil strata surrounding the piling.
3. Columns and their supporting foundations shall be designed in accordance with ASCE 24 to resist combined wave and wind loads, lateral and uplift, and shall include consideration of decreased resistance capacity caused by scour of soil strata surrounding the columns. 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 founda-

tion 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.

4. Flood and wave loads shall be determined in accordance with ASCE 7 and shall include loads associated with the design flood. Wind loads shall be those required by this code.
5. Foundation designs and construction documents shall be prepared and sealed in accordance with Section R322.3.9.

**Exception:** In Coastal A Zones, stem wall foundations supporting a floor system above and backfilled with soil or gravel to the underside of the floor system shall be permitted provided the foundations are designed to account for wave action, debris impact, erosion and local scour. Where soils are susceptible to erosion and local scour, stem wall foundations shall have deep footings to account for the loss of soil.

**R322.3.3.1 Pools.** Pools in coastal high-hazard areas shall be designed and constructed in conformance with ASCE 24.

**R322.3.4 Concrete slabs.** Concrete slabs used for parking, floors of enclosures, landings, decks, walkways, patios and similar uses that are located beneath structures, or slabs that are located such that if undermined or displaced during base flood conditions could cause structural damage to the building foundation, shall be designed and constructed in accordance with one of the following:

1. To be structurally independent of the foundation system of the structure, to not transfer flood loads to the main structure, and to be frangible and break away under flood conditions prior to base flood conditions. Slabs shall be a maximum of 4 inches (102 mm) in thickness, shall not have turned-down edges, shall not contain reinforcing, shall have isolation joints at pilings and columns, and shall have control or construction joints in both directions spaced not more than 4 feet (1219 mm) apart.
2. To be self-supporting, structural slabs capable of remaining intact and functional under base flood conditions, including erosion and local scour, and the main structure shall be capable of resisting any added flood loads and effects of local scour caused by the presence of the slabs.

**R322.3.5 Walls below required elevation.** Walls and partitions are permitted below the elevation required 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 resistance of not less than 10 (479 Pa) and not more than 20 pounds per square foot (958 Pa) as determined using allowable stress design; or
4. Where wind loading values of this code exceed 20 pounds per square foot (958 Pa), as determined using 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 required elevation have been designed to collapse from a water load less than that which would occur during the base 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 structural and nonstructural building components. Water-loading values used shall be those associated with the design flood. Wind-loading values shall be those required by this code.
5. Walls intended to break away under flood loads as specified in Item 3 or 4 have flood openings that meet the criteria in Section R322.2.2, Item 2.

**Exception:** The following are not required to comply with this section:

1. Elevator shafts.
2. Utility chases that protect utility lines from freezing, provided the utility chases are the minimum size necessary to protect the utility lines and do not provide access for a person to enter the space.

**R322.3.6 Enclosed areas below required elevation.** Enclosed areas below the elevation required in Section R322.3.2 shall be used solely for parking of vehicles, building access or storage.

**R322.3.6.1 Protection of building envelope.** An exterior door that meets the requirements of Section R609 shall be installed at the top of stairs that provide access to the building and that are enclosed with walls designed to break away in accordance with Section R322.3.5.

**R322.3.7 Stairways and ramps.** Stairways and ramps that are located below the lowest floor elevations specified in Section R322.3.2 shall comply with one or more of the following:

1. Be designed and constructed with open or partially open risers and guards.
2. Stairways and ramps not part of the required means of egress shall be designed and constructed to break away during design flood conditions without causing damage to the building or structure, including foundation.

3. Be retractable, or able to be raised to or above the lowest floor elevation, provided that the ability to be retracted or raised prior to the onset of flooding is not contrary to the means of egress requirements of the code.
4. Be designed and constructed to resist flood loads and minimize transfer of flood loads to the building or structure, including foundation.

Areas below stairways and ramps shall not be enclosed with walls below the elevation required in Section R322.3.2 unless such walls are constructed in accordance with Section R322.3.5.

**R322.3.8 Decks and porches.** Attached decks and porches shall meet the elevation requirements of Section R322.3.2 and shall either meet the foundation requirements of this section or shall be cantilevered from or knee braced to the building or structure. Self-supporting decks and porches that are below the elevation required in Section R322.3.2 shall not be enclosed by solid, rigid walls, including walls designed to break away. Self-supporting decks and porches shall be designed and constructed to remain in place during base flood conditions or shall be frangible and break away under base flood conditions.

**R322.3.9 Construction documents.** The *construction documents* shall include documentation that is prepared and sealed by a registered *design professional* that the design and methods of construction to be used meet the applicable criteria of this section.

**R322.3.10 Tanks.** Underground tanks shall be anchored to prevent flotation, collapse and lateral movement under conditions of the base flood. Above-ground tanks shall be installed at or above the elevation required in Section R322.3.2. Where elevated on platforms, the platforms shall be cantilevered from or knee braced to the building or shall be supported on foundations that conform to the requirements of Section R322.3.

## SECTION R323 STORM SHELTERS

**R323.1 General.** This section applies to storm shelters where constructed as separate detached buildings or where constructed as safe rooms within buildings for the purpose of providing refuge from storms that produce high winds, such as tornados and hurricanes. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC/NSSA-500.

## SECTION 324 SOLAR ENERGY SYSTEMS

**R324.1 General.** Solar energy systems shall comply with the provisions of this section.

**R324.2 Solar thermal systems.** Solar thermal systems shall be designed and installed in accordance with Chapter 23 and the *Florida Fire Prevention Code*.



# **Scope of Responsibilities: Floodplain Regulation Compliance**

## **References:**

- Florida Building Code – Building, Section 1612 “Flood Loads”
- Florida Building Code – Residential, Section R322 “Flood-Resistant Construction”
- City of Cape Coral Code of Ordinances, LDC Chapter 9 “Floodplain Management Regulations”
- ASCE 24-14 “Flood Resistant Design and Construction”
- FEMA P-758 “Substantial Improvement/Substantial Damage Desk Reference”

## **I. Purpose**

To define and clarify the respective responsibilities of Building Official / Plans Examiners and Floodplain Administrator / Floodplain Coordinators during plan review and permitting for projects located within Special Flood Hazard Areas (SFHAs), ensuring uniform application of floodplain management requirements and compliance with both the Florida Building Code (FBC) and local higher regulatory standards adopted in the City of Cape Coral Land Development Code (LDC) Chapter 9.

## **II. General Objective**

All permit applications within identified flood hazard areas must demonstrate compliance with flood-resistant construction standards.

The Plans Examiner is responsible for verifying that all flood-related documents, including Elevation Certificates, boundary/topographic surveys, and flood design information, comply with the Florida Building Code (FBC 1612 and R322), ensuring the proposed and constructed elevations, flood openings, materials, and structural elements meet the Building Code requirements shown on the plans. The Floodplain Coordinator, however, ensures the same documents also comply with the broader floodplain management program, including LDC Chapter 9, NFIP regulations, and CRS documentation standards, confirming ordinance-level elevation requirements, fill restrictions, enclosure limitations, and all FEMA/CRS records are properly reviewed, logged, and maintained. Together, both positions overlap in the review of Elevation Certificates and surveys, Plans Examiners checking for FBC compliance, and the Floodplain Coordinator ensuring ordinance, NFIP, and CRS compliance, creating a full and coordinated floodplain review process.

## **III. Responsibilities**

### **A. Plans Examiner Responsibilities**



(Florida Building Code, Sections 1612 & R322)

**1. Flood Zone Determination:**

- Confirm project parcel location within a designated FEMA flood zone (AE, VE, X, etc.) using official Flood Insurance Rate Maps (FIRM).
- Verify Flood Insurance Study (FIS) elevation data, BFE, and applicable regulatory flood elevation (RFE) or Design Flood Elevation (DFE).

**2. Elevation and Design Review:**

- Verify compliance with minimum floor elevation per FBC 1612.4 and R322.2.1, and City's higher regulatory standard where required by ordinance.
- Confirm structure type (A-zone, V-zone, Coastal A) and ensure foundation design, flood openings, and anchoring meet ASCE 24-14 and FBC requirements.
- Confirm any fill placement, retaining walls, or grading complies with LDC §5.1.13 and §9.4.3 regarding fill limitations, swales, and drainage patterns.

**3. Construction Details:**

- Check that flood openings are detailed on plans with adequate size, placement, and vent type (per ASCE 24-14 §2.6 and FBC R322.2.2).
- Verify enclosure use restrictions below BFE (non-habitable, limited to parking, storage, or access).
- Ensure materials below design flood elevation are flood-damage-resistant (FBC R322.1.8, ASCE 24 Table 2-1).

**4. Documentation:**

- Require an Elevation Certificate (EC) at construction, final, and as-built stages (FBC 1612.5.1 and local ordinance).
- Verify the Floodplain Management Notes and Regulatory Elevation Table are included on the approved plans.
- Route any variances, dry floodproofing proposals, or LOMR-F requests to the Floodplain Administrator.

**5. Coordination:**

- Notify the Floodplain Administrator / Floodplain Coordinator of any plan revisions affecting grade, foundation type, or flood zone determination.
- Include floodplain review findings in the permit record for CRS documentation.

**B. \*\*Floodplain Coordinator Responsibilities**

(FBC, LDC Chapter 9, NFIP, and CRS Administration – Supported by Building Code Enforcement Authority)\*\*

**Primary Role:** Serve as the delegate to the City's NFIP Floodplain Administrator and support enforcement of FBC 1612, FBC-R322, and local, state and federal floodplain regulations, with duties falling under the Building Division as part of the City's adopted Building Code enforcement program.

## **1. Regulatory Oversight (Aligned with FBC Enforcement Duties)**

- Serve as the delegate to the City's designated NFIP Floodplain Administrator under LDC §9.2.3, supporting implementation of FBC 1612 flood-resistant construction requirements.
- Maintain floodplain management records in coordination with FBC enforcement, ensuring consistency with FEMA, NFIP, and CRS requirements.

## **2. Floodplain Compliance Review (Local Ordinance + FBC Integration)**

- Confirm development meets higher local standards such as BFE +1 ft, fill limitations, and V-Zone restrictions, as required by LDC Article 9 and incorporated into flood design review under FBC 1612 and R322.
- Ensure documentation satisfies CRS Activities 310–430, supporting the FBC's mandate for maintaining regulatory floodplain records.

## **3. Elevation Certificate (EC) Review & Tracking (FBC Documentation Requirement)**

- Review and certify all Elevation Certificates, which are required documentation under FBC 110.3(Building)(1) and 110.3(Building)(6) for demonstrating compliance with flood elevation requirements.
- Maintain ECs for CRS credit, FEMA audits, ISO BCEGS, and to support FBC record-keeping duties under F.S. 553.80.

## **4. Substantial Damage / Substantial Improvement (SD/SI)**

- Conduct SD/SI determinations per FEMA P-758 and LDC §9.2.4, supporting enforcement of FBC 1612 and R322 (determining when structures must be brought into compliance).
- Maintain the SD/SI database and coordinate with Building Division intake to ensure SI/SD cases receive proper FBC enforcement.

## **5. Variance & Appeals Coordination**

- Process floodplain variances under LDC §9.6.1, documenting how relief does or does not relate to minimum FBC flood construction requirements.
- Coordinate findings with the Building Official for consistency with FBC enforcement obligations.

## **6. Training & Public Outreach**

- Provide training to Building Division staff on floodplain requirements tied to FBC 1612/R322 and LDC Article 9.
- Support CRS public information and annual recertification tasks that relate to Building Code enforcement and documentation.

## **7. Post-Construction Audits (Continuation of FBC Enforcement Duties)**

- Conduct field audits for elevation, fill, drainage, flood openings, and floodproofing to ensure compliance with FBC 1612/R322 and LDC Article 9.
- Report discrepancies to the Building Official for enforcement under the FBC and local floodplain ordinance.
- Perform required Dry Floodproofing Annual Inspections.

## **IV. Enforcement Authority**

Under FS 553.79, FS 468.604, and LDC Article 9, the Building Official retains jurisdictional authority for permitting and enforcement. The Floodplain Administrator exercises delegated administrative authority for compliance with the NFIP and CRS programs, working in coordination with Building Official and the Building Division.