

Chapter 11

FLOOD DAMAGE PREVENTION*

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***Editor's note**—Sections 11-1—11-12, 11-36—11-40, 11-61 and 11-62 have been deleted by the editor, inasmuch as it appears to have been superseded by Ord. No. 270, §§ 1—5, adopted May 30, 1995, codified as §§ 11-1—11-12, 11-36—11-40, 11-61 and 11-62 of this chapter. Said §§ 11-1—11-12, 11-36—11-40, 11-61 and 11-62 pertained to flood damage prevention, and were derived from Ord. No. 207, arts. 1—5, adopted May 27, 1986.

Cross references—Buildings and building regulations, ch. 6; mobile homes and mobile home parks, ch. 12; planning, ch. 15; zoning, app. A.

ARTICLE I. IN GENERAL***Sec. 11-1. Statutory authorization.**

The Legislature of the State of Florida has in F. S. Ch. 166 delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the town council does ordain this chapter. (Ord. No. 270, art 1, § A, 5-30-95)

Sec. 11-2. Definitions.

Unless specifically defined below, words or phrases used in this chapter shall be interpreted so as to give them the meaning they have in common usage and to give this chapter its most reasonable application.

Addition (to an existing building) means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.

Appeal means a request for a review of the building official's interpretation of any provision of this chapter or a request for a variance.

Area of shallow flooding means a designated AO or VO Zone on a community's Flood Insurance Rate Map (FIRM) with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident.

Area of special flood hazard. The area of special flood hazard shall include:

- (1) All areas designated on a flood hazard boundary map as zone A or on a flood insurance rate map as zone A, AO, AH, A1-30, AE or A99. The relevant flood hazard boundary map and flood insurance rate maps, and any revisions thereto, are adopted by reference and declared to be a part of this division.
- (2) Other areas of the community designated on a map by the administrator as having a one percent or greater chance of flooding in any given year. This may include isolated topographic depressions with a history of flooding or a high potential for flooding.

Base flood means the flood having a one percent chance of being equaled or exceeded in any given year.

Basement means that portion of a building having its floor subgrade (below ground level) on all sides.

*State law reference—Municipal home rule powers, F.S. ch. 166.

Breakaway wall means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

Building means any structure built for support, shelter, or enclosure for any occupancy or storage.

Development means any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of materials or equipment.

Elevated building means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.

Existing construction means any structure for which the "start of construction" commenced before (the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which establishes the area of special flood hazard) or (specific date).

Existing manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community (before the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which established the area of special flood hazard) or (specific date).

Expansion to an existing manufactured home park or subdivision means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

Flood or *Flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) The overflow of inland or tidal waters;
- (2) The unusual and rapid accumulation or runoff of surface waters from any source.

Flood Hazard Boundary Map (FHBM) means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been defined as Zone A.

Flood Insurance Rate Map (FIRM) means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

Flood insurance study means the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, as well as the flood boundary floodway map and the water surface elevation of the base flood.

Floodway means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

Floor means the top surface of an enclosed area in a building (including basement), i.e., top of slab in concrete slab construction or top of wood flooring in wood frame construction. The term does not include the floor of a garage used solely for parking vehicles.

Functionally dependent facility means a facility which cannot be used for its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, ship repair, or seafood processing facilities. The term does not include long-term storage, manufacture, sales, or service facilities.

Highest adjacent grade means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a building.

Historic structure means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the secretary to qualify as a registered historic district;
- (2) Certified or preliminarily determined by the secretary of the interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the secretary to qualify as a registered historic district;
- (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the secretary of the interior; or
- (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - a. By an approved state program as determined by the secretary of the interior, or
 - b. Directly by the secretary of the interior in states without approved programs.

Mangrove stand means an assemblage of mangrove trees which is mostly low trees noted for a copious development of interlacing adventitious roots above the ground and which contain one or more of the following species: black mangrove (*Avicennia nitida*); red mangrove (*Rhizophora mangle*); white mangrove (*Longunculariaracemosa*); and buttonwood (*Conocarpus erecta*).

Manufactured or mobile home means a dwelling unit constructed either before July 1, 1976 (mobile home) or after July 1, 1976 (manufactured home) that:

- (1) Is constructed in accordance with the standards set forth by the U. S. Department of Housing and Urban Development;
- (2) Is composed of one or more components, each of which was substantially assembled in a manufacturing plant and designed to be transported to the homesite on its own chassis;
- (3) Exceeds 40 feet in length and ten feet in width.

Mean sea level means the average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the floodplain. For purposes of this chapter, the term is synonymous with National Geodetic Vertical Datum (NGVD).

National Geodetic Vertical Datum (NGVD) as corrected in 1929 is a vertical control used as a reference for establishing varying elevations within the floodplain.

New construction means any structure for which the "start of construction" commenced after (the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which establishes the area of special flood hazard) or (specific date). The term also includes any subsequent improvements to such structure.

New manufactured home park or subdivision means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

Recreational vehicle means a vehicle which is:

- (1) Built on a single chassis;
- (2) 400 square feet or less when measured at the largest horizontal projection;
- (3) Designed to be self-propelled or permanently towable by a light duty truck;
- (4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Start of construction (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (P.L. 97-348)), includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, or improvements was within 180 days of the permit date. The actual start means the first placement of permanent construction of a building (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or the placement of a manufactured home on a foundation. Permanent construction does not include land prepara-

tion, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main building. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.

Substantial damage means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

Substantial improvement means any combination of repairs, reconstruction, alteration, or improvements to a building, taking place during the life of a building in which the cumulative cost equals or exceeds 50 percent of the market value of the building. The market value of the building should be (1) the appraised value of the building prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the building prior to the damage occurring. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. For the purpose of this definition, "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the building. The term does not, however, include any project for improvement of a building required to comply with existing health, sanitary, or safety code specifications which have been identified by the code enforcement official and which are solely necessary to assure safe living conditions.

Substantially improved existing manufactured home parks or subdivisions is where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction, or improvement commenced.

Variance is a grant of relief from the requirements of this chapter which permits construction in a manner otherwise prohibited by this chapter where specific enforcement would result in unnecessary hardship.

(Ord. No. 270, art. 2, 2-25-97)

Sec. 11-3. Findings of fact.

(a) The flood hazard areas of the town are subject to periodic inundation which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

(b) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, floodproofed, or otherwise unprotected from flood damages.

(Ord. No. 270, art. 1, § B, 2-25-97)

Sec. 11-4. Statement of purpose.

It is the purpose of this chapter to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) Restrict or prohibit uses which are dangerous to health, safety and property due to water or erosion, or which result in damaging increases in erosion hazards, or in flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
- (4) Control filling, grading, dredging and other development which may increase erosion or flood damage;
- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

(Ord. No. 270, art. 1, § C, 2-25-97)

Sec. 11-5. Objectives.

The objectives of this chapter are:

- (1) To protect human life and health;
- (2) To minimize expenditure of public money for costly flood control projects;
- (3) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) To minimize prolonged business interruptions;
- (5) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- (6) To help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas;
- (7) To insure that potential home buyers are notified that property is in a flood area.

(Ord. No. 270, art. 1, § D, 2-25-97)

Sec. 11-6. Lands to which this chapter applies.

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the town.

(Ord. No. 270, art. 3, § A, 2-25-97)

Sec. 11-7. Basis for establishing the areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in its Flood Hazard Boundary Map (FHBM) or Flood Insurance Rate Map (FIRM) no. 120411, dated June 17, 1986, with accompanying maps and other supporting data, and any revision thereto, are adopted by reference and declared to be a part of this chapter.

(Ord. No. 270, art. 3, § B, 2-25-97)

Sec. 11-8. Compliance.

No structure or land shall hereafter be located, extended, converted or structurally altered without full compliance with the terms of this chapter and other applicable regulations.

(Ord. No. 270, art. 3, § D, 2-25-97)

Sec. 11-9. Interpretation.

In the interpretation and application of this chapter all provisions shall be: (1) considered as minimum requirements; (2) liberally construed in favor of the governing body; and (3) deemed neither to limit nor repeal any other powers granted under state statutes.

(Ord. No. 270, art. 3, § F, 2-25-97)

Sec. 11-10. Abrogation and greater restrictions.

This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance [Ord. No. 286] and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(Ord. No. 270, art. 3, § E, 2-25-97)

Sec. 11-11. Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering consideration. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the town or by any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

(Ord. No. 270, art. 3, § G, 2-25-97)

Sec. 11-12. Penalties for violation.

Violation of the provisions of this chapter or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or special exceptions, shall constitute a misdemeanor. Any person who violates this chapter or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$500.00 or imprisoned for not more than 60 days, or both, and in addition, shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the town from taking such other lawful actions as are necessary to prevent or remedy any violation.

(Ord. No. 270, art. 3, § H, 2-25-97)

Secs. 11-13—11-35. Reserved.**ARTICLE II. ADMINISTRATION****Sec. 11-36. Designation of building official.**

The building official as designated by the town manager is hereby appointed to administer and implement the provisions of this chapter.

(Ord. No. 270, art. 4, § A, 2-25-97)

Sec. 11-37. Duties and responsibilities of the building official.

Duties of the building official shall include, but not be limited to:

- (1) Review all development permits to assure that the permit requirements of this chapter have been satisfied;
- (2) Advise permittee that additional federal or state permits may be required, and if specific federal or state permit requirements are known, require that copies of such permits be provided and maintained on file with the development permit.
- (3) Notify adjacent communities and the department of community affairs prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- (5) Verify and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved buildings, in accordance with section 11-39(2).
- (6) Verify and record the actual elevation (in relation to mean sea level) to which the new or substantially improved buildings have been flood-proofed, in accordance with section 11-39(2).

- (7) When flood-proofing is utilized for a particular building, the building official shall obtain certification from a registered professional engineer or architect, in accordance with section 11-62(2).
 - (8) Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the building official shall make the necessary interpretation. The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this chapter.
 - (9) When base flood elevation data or floodway data have not been provided in accordance with section 11-7, then the building official shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer the provisions of chapter 11.
 - (10) All records pertaining to the provisions of this chapter shall be maintained in the office of the building official and shall be open for public inspection.
- (Ord. No. 270, art. 4, § C, 2-25-97)

Sec. 11-38. Establishment of development permit.

A development permit shall be required in conformance with the provisions of this chapter prior to the commencement of any development activities.

(Ord. No. 270, art. 3, § C, 2-25-97)

Sec. 11-39. Permit procedures.

Application for a development permit shall be made to the building official on forms furnished by him or her prior to any development activities, and may include, but not be limited to, the following plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question, existing or proposed structures, earthen fill, storage of materials or equipment, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

- (1) *Application stage.*
 - a. Elevation in relation to mean sea level of the proposed lowest floor (including basement) of all buildings;
 - b. Elevation in relation to mean sea level to which any non-residential building will be flood-proofed;
 - c. Certificate from a registered professional engineer or architect that the non-residential flood-proofed building will meet the flood-proofing criteria in section 11-62(2);
 - d. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

- (2) *Construction stage.* Provide a floor elevation or flood-proofing certification after the lowest floor is completed, or in instances where the building is subject to the regulations applicable to coastal high hazard areas, after placement of the horizontal structural members of the lowest floor. Upon placement of the lowest floor, or flood-proofing by whatever construction means, or upon placement of the horizontal structural members of the lowest floor, whichever is applicable, it shall be the duty of the permit holder to submit to the building official a certification of the elevation of the lowest floor, flood-proofed elevation, or the elevation of the lowest portion of the horizontal structural members of the lowest floor, whichever is applicable, as built, in relation to mean sea level. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When flood-proofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work undertaken prior to submission of the certification shall be at the permit holder's risk. The building official shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a stop-work order for the project.
- (Ord. No. 270, art. 4, § B, 2-25-97)

Sec. 11-40. Variance procedures.

- (a) The town council of the town shall hear and decide appeals and requests for variances from the requirements of this section.
- (b) The town council shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the building official in the enforcement or administration of this chapter.
- (c) Any person aggrieved by the decision of the town council or any taxpayer may appeal such decision to a court of competent jurisdiction, as provided by Florida law.
- (d) Variances may be issued for the repair or rehabilitation of historic structures (see definition) upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum to preserve the historic character and design of the structure.
- (e) In passing upon such applications, the town shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this chapter, and:
- (1) The danger that materials may be swept onto other lands to the injury of others;
 - (2) The danger to life and property due to flooding or erosion damage;
 - (3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

- (4) The importance of the services provided by the proposed facility to the community;
- (5) The necessity of the facility to a waterfront location, in the case of a functionally dependent facility;
- (6) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- (7) The compatibility of the proposed use with existing and anticipated development;
- (8) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- (9) The safety of access to the property in times of flood for ordinary and emergency vehicles;
- (10) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site;
- (11) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

(f) Upon consideration of the factors listed above, and the purposes of this chapter, the town council may attach such conditions to the granting of variances as it deems necessary to further the purposes of this chapter.

(g) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

(h) Conditions for variances:

- (1) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and in the instance of a historical building, a determination that the variance is the minimum necessary so as not to destroy the historic character and design of the building.
- (2) Variance shall only be issued upon (i) a showing of good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship; and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
- (3) Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the building is to be built and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
- (4) The building official shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

(Ord. No. 270, art. 4, § D, 2-25-97)

Secs. 11-41—11-60. Reserved.

ARTICLE III. FLOOD HAZARD REDUCTION

Sec. 11-61. General provisions.

In all areas of special flood hazard the following provisions are required:

- (1) New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure;
- (2) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces;
- (3) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;
- (4) New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (5) Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding;
- (6) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (7) New and replacement sanitary sewage systems will be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
- (8) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding;
- (9) Any alteration, repair, reconstruction or improvements to a building which is not in compliance with the provisions of this chapter, shall meet the requirements of "new construction" as contained in this chapter;
- (10) Any alteration, repair, reconstruction or improvements to a building which is in compliance with the provisions of this chapter, shall be undertaken only if said nonconformity is not furthered, extended, or replaced.

(Ord. No. 270, art. 5, § A, 2-25-97)

Sec. 11-62. Specific standards.

In all areas of special flood hazard where base flood elevation data have been provided, as set forth in section 11-7 or section 11-37(9), the following provisions are required:

- (1) *Residential construction.* New construction or substantial improvement of any residential building (or manufactured home) shall have the lowest floor, including

basement, elevated no lower than one foot above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of subsection (3) of this section.

- (2) *Non-residential construction.* New construction or substantial improvement of any commercial, industrial, or non-residential building (or manufactured home) shall have the lowest floor, including basement, elevated no lower than one foot above the level of the base flood elevation. Buildings located in all A-zones may be flood-proofed in lieu of being elevated provided that all areas of the building below the required elevation are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in section 11-37(9).
- (3) *Elevated buildings.* New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.
 - a. Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
 - 1. Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
 - 2. The bottom of all openings shall be no higher than one foot above grade;
 - 3. Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
 - b. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).
 - c. The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.
- (4) *Standards for manufactured homes and recreational vehicles.*
 - a. All manufactured homes placed, or substantially improved, on individual lots or parcels, in expansions to existing manufactured home parks or subdivisions, or in substantially improved manufactured home parks or subdivisions, must meet all the requirements for new construction, including elevation and anchoring.
 - b. All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision, must be elevated so that:
 - 1. The lowest floor of the manufactured home is elevated no lower than one foot above the level of the base flood elevation, or

2. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than 36 inches in height above grade.
 3. The manufactured home must be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement.
 4. In an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, any manufactured home placed or substantially improved must meet the standards of section 11-62(4)b.1 and 3 above.
- c. All recreational vehicles placed on sites must either:
1. Be fully licensed and ready for highway use, or
 2. The recreational vehicle must meet all the requirements for new construction, including anchoring and elevation requirements of section 11-62(4)a or b.1 and 3 above. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached structures.
- (5) *Floodways.* Located within areas of special flood hazard established in section 11-7 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and has erosion potential, the following provisions shall apply:
- a. Prohibit encroachments, including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge.
 - b. If section 11-62(5)a is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of article III.
 - c. Prohibit the placement of manufactured homes (mobile homes), except in an existing manufactured homes (mobile homes) park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of section 11-61(2) and the elevation standards of section 11-62(1) and the encroachment standards of section 11-62(5)a, are met.

(Ord. No. 270, art. 5, § B, 2-25-97)

Sec. 11-63. Standards for streams without established base flood elevation and/or floodways.

Located within the areas of special flood hazard established in section 11-7 where streams exist but where no base flood data has been provided or where base flood data has been provided without floodways, the following provisions apply:

- (1) No encroachments, including fill material or structures shall be located within areas of special flood hazard, unless certification by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than one foot at any point within the community. The engineering certification should be supported by technical data that conforms to standard hydraulic engineering principles.
 - (2) New construction or substantial improvements of buildings shall be elevated or flood-proofed to elevations established in accordance with section 11-37(9).
- (Ord. No. 270, art. 5, § C, 2-25-97)

Sec 11-64. Standards for subdivision proposals.

- (a) All subdivision proposals shall be consistent with the need to minimize flood damage;
 - (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
 - (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards;
 - (d) Base flood elevation data shall be provided for subdivision proposals and other proposed development (including manufactured home parks and subdivisions) which are greater than the lesser of 50 lots or five acres.
- (Ord. No. 270, art. 5, § D, 2-25-97)

Sec. 11-65. Standards for areas of shallow flooding (AO zones).

Located within the areas of special flood hazard established in section 11-7 are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one to three feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate; therefore, the following provisions apply:

- (1) All new construction and substantial improvements of residential buildings shall have the lowest floor, including basement, elevated to the depth number specified on the flood insurance rate map, in fee, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated, at least two feet above the highest adjacent grade.

- (2) All new construction and substantial improvements of nonresidential buildings shall:
- a. Have the lowest floor, including basement, elevated to the depth number specified on the flood insurance rate map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement shall be elevated at least two feet above the highest adjacent grade; or,
 - b. Together with attendant utility and sanitary facilities be completely flood-proofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

(Ord. No. 270, art. 5, § E, 2-25-97)