

ARTICLE 16. FLOOD DAMAGE PREVENTION

Section 16-1: Findings of Fact

- (A) The flood hazard areas of the Town of Lillington 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, flood-protected, or otherwise unprotected from flood damages.

Section 16-2: Statement of Purpose

It is the purpose of this Article 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:

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

Section 16-3: Objectives

The objectives of this Article are:

- (A) To protect human life and health;
- (B) To minimize expenditure of public money for costly flood control projects;
- (C) To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (D) To minimize prolonged business interruptions;
- (E) To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, street and bridges located in floodplains;
- (F) 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; and
- (G) To ensure that potential homebuyers are notified that property is in a flood area.

Section 16-4: Lands to Which this Article Applies

This Article shall apply to all areas of special flood hazard within the planning jurisdiction of the Town of Lillington.

Section 16-5: 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) #370381, dated April 16, 1990.

Section 16-6: Establishment of Development Permit

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

Section 16-7: Interpretation

In the interpretation and application of this Article, 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.

Section 16-8: Warning and Disclaimer of Liability

The degree of flood protection required by this Article 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 Article 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 Article shall not create liability on the part of the Town of Lillington or by any officer or employee thereof for any flood damages that result from reliance on this Article or any administrative decision lawfully made thereunder.

Section 16-9: Permit Procedures

Application for a Development Permit shall be made to the Administrator 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 questions; 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:

(A) *Application Stage.*

- (1) Elevation in relation to mean sea level of the proposed lowest floor (including basement) of all buildings;
- (2) Elevation in relation to mean sea level to which any non-residential building will be flood proofed;
- (3) Certificate from a registered professional engineer or architect that the non-residential flood proofed building will meet the flood proofed criteria in Section 16-12(A);

- (4) Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.

- (B) **Construction Stage.** Provide a floor elevation or flood-proofing certification after the lowest floor is completed following 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 Administrator a certification of 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 Administrator 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.

Section 16-10: Duties and Responsibilities of the Administrator

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

- (A) Review all development permits to assure that the permit requirements of this Article have been satisfied.

- (B) 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.

- (C) Notify adjacent communities and the North Carolina Department of Environmental Management prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.

- (D) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
- (E) 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 16-9(B).
- (F) 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 16-9(B).
- (G) When flood proofing is utilized for a particular building, the Administrator shall obtain certification from a registered professional engineer or architect, in accordance with Section 16-12(A).
- (H) 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 Administrator shall make the necessary interpretation.
- (I) All records pertaining to the provisions of this Article shall be maintained in the office of the Administrator and shall be open for public inspection.

Section 16-11: General Standards

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

- (A) New construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure;
- (B) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but not be 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.
- (C) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;

- (D) New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (E) 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.
- (F) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;
- (G) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding; and
- (H) Any alteration, repair, reconstruction, or improvements to a building which is in compliance with the provisions of this Article, shall meet the requirements of “new construction” as contained in this Article.
- (I) Any alteration, repair, reconstruction, or improvements to a building which is not in compliance with the provisions of this Article, shall be undertaken only if said non-conformity is not furthered, extended, or replaced.

Section 16-12: Specific Standards

In all areas of special flood hazard where base flood elevation data have been provided, as set forth in Section 16-5, or Section 16-10(I), the following provisions are required:

- (A) ***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 two (2) feet above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with standards of Section 16-12(C).
- (B) ***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 two (2)

feet 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 16-10(G).

- (C) ***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 allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.
- (1) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:
 - (a) Provide a minimum of two openings having a total net area of not less than one (1) square inch for every square foot of enclosed area subject to flooding;
 - (b) The bottom of all openings shall be no higher than one (1) foot above grade; and
 - (c) Openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
 - (2) 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); and
 - (3) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.

(D) *Standards for Manufactured Homes and Recreational Vehicles.*

- (1) 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.
- (2) All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision must be elevated so that:
 - (a) The lowest floor of the manufactured home is elevated no lower than two (2) feet above the level of the base flood elevation, or
 - (b) The manufactured home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than thirty-six (36) inches in height above grade.
 - (c) The manufactured home must be securely anchored to the adequately anchored foundation system to resist flotation, collapse, and lateral movement.
 - (d) 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 16-12(D)(2)(a) and (c) above.
- (3) All recreational vehicles placed on sites must either:
 - (a) Be fully licensed and ready for highway use; or
 - (b) The recreational vehicle must meet all the requirements for new construction, including anchoring and elevation requirements of Section 16-12(D)(1) or (2)(a) and (c) 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.

- (E) **Floodways.** Located within areas of special flood hazard established in Section 16-14 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris, potential projectiles and has erosion potential, the following provisions shall apply:
- (1) 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;
 - (2) If Section 16-12(E)(1) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 16-11.
 - (3) 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 that anchoring standards of Section 16-11(B) and the elevation standards of Section 16-12(A) and the encroachment standards of Section 16-12(E)(1), are met.

Section 16-13: Standards for Streams without Established Base Flood Elevation and/or Floodways

Located within the areas of special flood hazard established in Section 16-5, where streams exist but where no base flood data has been provided or where base flood data has been provided about floodways, the following provisions apply:

- (A) 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 (1) foot at any point within the community. The engineering certification should be supported by technical data that conforms to standard hydraulic engineering principles.

- (B) New construction or substantial improvements of buildings shall be elevated or flood proofed to elevations established in accordance with Section 16-10(I).

Section 16-14: 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; and
- (D) Base flood elevation data shall be provided for subdivision proposals and other proposed development (including manufactured home parks and subdivisions) which is greater than the lesser of fifty (50) lots or five (5) acres.

Section 16-15: Standards of Areas of Shallow Flooding (AO Zones)

Located within the areas of special flood hazard established in Section 16-5 are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one to three feet (1' - 3') where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate; therefore, the following provisions apply:

- (A) 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 feet above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated at least two (2) feet above the highest adjacent grade.
- (B) All new construction and substantial improvements of non-residential buildings shall:
 - (1) 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 (2) feet above the highest adjacent grade; or

- (2) 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.