

**AN ORDINANCE AMENDING TOWN OF CARRBORO LAND USE ORDINANCE  
TO UPDATE THE PROVISIONS RELATING TO FLOOD DAMAGE PREVENTION  
TO REFLECT NEW FLOOD MAPS**

\*Draft 8-25-2017\*

THE BOARD OF ALDERMEN OF THE TOWN OF CARRBORO ORDAINS:

Section 1. Section 15-251 (Purpose and Objective), subsection (b) is amended with three new provisions added as ((b)(6) through (b)(8) and the existing provision (b)(6) renumbered to (b)(9) to read as follows:

(b) The objectives of this part 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 losses and interruptions;
- (5) To minimize damage to public facilities and utilities (i.e. water and gas mains, electric, telephone, cable and sewer lines, streets, and bridges) that are located in flood prone areas;
- (6) To minimize damage to private and public property due to flooding;
- (7) To make flood insurance available to the community through the National Flood Prevention Program;
- (8) To maintain the natural and beneficial functions of floodplains;
- (9) To ensure that potential buyers are aware that property is in a Special Flood Hazard Area.

Section 2. Section 15-251.1 (Definitions) is rewritten as follows:

Section 15-251.1 Definitions

Unless otherwise specifically provided, or unless clearly required by the context, the words and phrases defined in this section shall have the meaning indicated when used in this article.

1. Accessory Structure (Appurtenant Structure). A structure located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.
2. Addition (to an existing building). An extension or increase in the floor area or height of a building or structure.
3. Alteration of a Watercourse. A dam, impoundment, channel relocation, change in channel alignment, channelization, or change in cross-sectional area of the channel or the channel capacity, or any other form of modification which may alter, impede, retard or change the direction and/or velocity of the riverine flow of water during conditions of the base flood.
4. Appeal. A request for a review of the administrator's interpretation of any provision of this ordinance.
5. Area of Special Flood Hazard. See “Special Flood Hazard Area (SFHA)”
6. Basement. Any area of the building having its floor subgrade (below ground level) on all sides.
7. Base Flood. The flood having a one (1) percent chance of being equaled or exceeded in any given year.
8. Base Flood Elevation (BFE). A determination of the water surface elevations of the base flood as published in the Flood Insurance Study or, for areas not covered in the Flood Insurance Study, as may be obtained from engineering studies available from a Federal or State or other source using FEMA approved engineering methodologies. This elevation, when combined with the “Freeboard,” establishes the “Regulatory Flood Protection Elevation.”
9. Chemical Storage Facility. A building, portion of a building, or exterior area adjacent to a building used for the storage of any chemical or chemically reactive products.
10. Design Flood. See “Regulatory Flood Protection Elevation.”
11. Development. Any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials.
12. Development Activity. Any activity defined as Development which will necessitate a Floodplain Development Permit. This includes buildings, structures, and non-structural items, including (but not limited to) fill, bulkheads, piers, pools, docks, landings, ramps, and erosion control/stabilization measures.

13. Development Permit. A zoning, special use, conditional use, or sign permit required under the provisions of Article IV of this chapter.
14. Digital Flood Insurance Rate Map (DFIRM). The digital official map of the Town, issued by the Federal Emergency Management Agency (FEMA), on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.
15. Disposal. As defined in NCGS 130A-290(a)(6), the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste into or on any land or water so that the solid waste or any constituent part of the solid waste may enter the environment or be emitted into the air or discharged into any waters, including groundwaters.
16. Elevated Building. A non-basement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.
17. Encroachment. The advance or infringement of uses, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.
18. Existing Building and Existing Structure. Any building and/or structure for which the “start of construction” commenced before the date the Town’s first floodplain management ordinance was adopted.
19. Existing Manufactured Home Park or Manufactured Home Subdivision. 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) was completed before the original effective date of the floodplain management regulations adopted by the town.
20. Flood or Flooding. A general and temporary condition of partial or complete inundation of normally dry land areas from:
  - (a) the overflow of inland waters; and/or
  - (b) the unusual and rapid accumulation of runoff of surface waters from any source.
21. Flood Insurance. The insurance coverage provided under the National Flood Insurance Program.
22. Flood Insurance Rate Map (FIRM). An official map provided to the town by the Federal Emergency Management Agency, on which both the Special Flood Hazard Areas and the risk premium zones applicable to the community are delineated.

23. Flood Insurance Study (FIS). An examination, evaluation, and determination of flood hazards, corresponding water surface elevations (if appropriate), flood hazard risk zones, and other flood data provided to the town by the Federal Emergency Management Agency. The Flood Insurance Study report includes Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs), if published.
24. Flood Prone Area. See Floodplain.
25. Floodplain. Any land area susceptible to being inundated by water from any source.
26. Floodplain Management. The operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including, but not limited to, emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.
27. Floodplain Management Regulations. This ordinance and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances, and other applications of police power which control development in flood-prone areas. This term describes federal, state or local regulations, in any combination thereof, which provide standards for preventing and reducing flood loss and damage.
28. Floodproofing. Any combination of structural and nonstructural additions, changes, or adjustments to structures, which reduce or eliminate flood damage to real estate or improved real property, water and sanitation facilities, structures, and their contents.
29. Flood-resistant Material. Any building product, material, component, or system capable of withstanding direct and prolonged contact (minimum of 72 hours) with floodwaters without sustaining damage that requires more than low-cost cosmetic repair. Any material that is water-soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber or naturally decay-resistant lumbers are acceptable flooring materials. Sheet-type flooring coverings that restrict evaporation from below and materials that are impervious, but dimensionally unstable are not acceptable. Materials that absorb or retain water excessively after submergence are not flood-resistant. Please refer to Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*, available from FEMA. Class 4 and 5 materials, referenced therein, are acceptable flood-resistant materials.
30. Floodway. The channel of a river or other watercourse, including the area above a bridge or culvert when applicable, 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 (1) foot.
31. Floodway Encroachment Analysis. An engineering analysis of the impact that a proposed encroachment into a floodway or non-encroachment area is expected to have on the floodway boundaries and flood levels during the occurrence of the base flood discharge.

The evaluation shall be prepared by a qualified North Carolina licensed engineer using standard engineering methods and models.

32. Flood Zone. Means a geographical area shown on a Flood Hazard Boundary map or Flood Insurance Rate Map that reflects the severity or type of flooding in the area.
33. Freeboard. The height added to the Base Flood Elevation (BFE) to account for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization on the watershed. The Base Flood Elevation plus the freeboard establishes the “Regulatory Flood Protection Elevation”. The freeboard shall be two feet.
34. Functionally Dependent Facility. A facility which cannot be used for its intended purpose unless it is located in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, or ship repair. The term does not include long-term storage, manufacture, sales, or service facilities.
35. Hazardous Waste Facility. As defined in NCGS 130A-290(a)(9), a facility for the collection, storage, processing, treatment, recycling, recovery, or disposal of hazardous waste.
36. Highest Adjacent Grade (HAG). The highest natural elevation of the ground surface, prior to construction, immediately next to the proposed walls of the structure.
37. Historic Structure. Any structure that is:
  - (a) listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register; or
  - (b) certified or preliminarily determined by the Secretary of 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; or
  - (c) certified as contributing to the historical significance of any historic district that may be designated by the town.
38. Letter of Map Change (LOMC). An official determination issued by FEMA that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:
  - (a) Letter of Map Amendment (LOMA): An official amendment, by letter, to an effective National Flood Insurance Program map. A LOMA is based on

technical data showing that a property had been inadvertently mapped as being in the floodplain, but is actually on natural high ground above the based flood elevation. A LOMA amends the current effective Flood Insurance Rate Map and establishes that a specific property, portion of a property, or structure is not located in a special flood hazard area.

- (b) Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, special flood hazard area boundaries and floodway delineations, and other planimetric features.
  - (c) Letter of Map Revision based on Fill (LOMR-F): A determination that a structure or parcel of land has been elevated by fill above the BFE and is, therefore, no longer located within the special flood hazard area. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community's floodplain management regulations.
  - (d) Conditional Letter of Map Revision (CLOMR): A formal review and comment as to whether a proposed project complies with minimum NFIP requirements for such projects with respect to delineation of special flood hazard areas. A CLOMR does not revise the effective Flood Insurance Rate Map or Flood Insurance Study; upon submission and approval of certified as-built documentation, a Letter of Map Revision may be issued by FEMA to revise the effective FIRM.
39. Light Duty Truck. Any motor vehicle rated at 8,500 pounds Gross Vehicular Weight or less which has a vehicular curb weight of 6,000 pounds or less and which has a basic vehicle frontal area of 45 square feet or less as defined in 40 CFR 86.082-2 and is:
- (a) Designed primarily for purposes of transportation of property or is a derivation of such a vehicle; or
  - (b) Designed primarily for the transportation of persons and has a capacity of more than 12 persons; or
  - (c) Available with special features enabling off-street or off-highway operation and use.
40. Lowest Adjacent Grade (LAG). The elevation of the ground, sidewalk or patio slab immediately next to the building, or deck support, after completion of the building.
41. Lowest Floor. Lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or limited storage in an area other than a basement area is not considered a building's lowest floor, provided that such an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.
42. Manufactured Home. A structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "Manufactured Home" does not include a "Recreational Vehicle."

43. Manufactured Home Park or Subdivision. A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.
44. Market Value. The building value, not including the land value and that of any accessory structures or other improvements on the lot. Market value may be established by independent certified appraisal; replacement cost depreciated for age of building and quality of construction (Actual Cash Value); or adjusted tax assessed values.
45. New Construction. Structures for which the “Start of Construction” commenced on or after April 22, 1975 and includes any subsequent improvements to such structures.
46. Non-Encroachment Area. 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 (1) foot as designated in the Flood Insurance Study report.
47. Post-FIRM. Means construction or other development for which the “Start of Construction” occurred on or after April 22, 1975.
48. Pre-FIRM. Construction or other development for which the “Start of Construction” occurred before April 22, 1975.
49. Principally Above Ground. At least 51% of the actual cash value of the structure is above ground.
50. Public Safety Hazard and/or Nuisance. Anything which is injurious to the safety or health of an entire community or neighborhood, or any considerable number of persons, or unlawfully obstructs the free passage or use, in the customary manner, of any navigable lake, river, bay, stream, canal, or basin.
51. Recreational Vehicle (RV). A vehicle, which is (i) built on a single chassis; (ii) 400 square feet or less when measured at the largest horizontal projection; (iii) designed to be self-propelled or permanently towable by a light duty truck; and (iv) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use, and (v) is fully licensed and ready for highway use.
52. Reference Level. The top of the lowest floor for structures within the Special Flood Hazard Area designated as Zone AE.
53. Regulatory Flood Protection Elevation. The “Base Flood Elevation” plus the “Freeboard.” In “Special Flood Hazard Areas” where Base Flood Elevations (BFEs) have been determined, this elevation shall be the BFE plus two (2) feet of freeboard.
54. Remedy a Violation means to bring the structure or other development into compliance with State and community floodplain management regulations, or if this is not possible, to reduce

the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

55. Riverine. Relating to, formed by, or resembling a river (including tributaries), stream, brook, etc.
56. Salvage Yard. Any non-residential property used for the storage, collection, and/or recycling of any type of equipment, and including but not limited to vehicles, appliances and related machinery.
57. Solid Waste. Solid waste as defined in NCGS 130A-290(a) (35).
58. Solid Waste Management Facility. As defined in NCGS 130A-290(a) (35), any facility involved in the disposal of solid waste.
59. Solid Waste Disposal Site. As defined in NCGS 130A-290(a) (36), any place at which solid wastes are disposed of by incineration, sanitary landfill, or any other method.
60. Special Flood Hazard Area (SFHA). The land in the floodplain subject to a one (1%) percent or greater chance of being flooded in any given year, as determined in Section 15-251.2(b) of this part.
61. Start of Construction. This term includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the 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 preparation, 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 structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.
62. Structure. A walled and roofed building, a manufactured home, or a gas, liquid, or liquefied gas storage tank that is principally above ground.
63. Substantial Damage. Damage of any origin sustained by a structure during any one-year period whereby the cost of restoring the structure to it's before damaged condition would

equal or exceed 50 percent of the market value of the structure before the damage occurred. See definition of “Substantial Improvement.”

64. Substantial Improvement. Any combination of repairs, reconstruction, rehabilitation, addition, or other improvement of a structure, taking place during any one-year period for which the cost equals or exceeds 50 percent of the market value of the structure before the “Start of Construction” of the improvement. This term includes structures which have incurred “Substantial Damage,” regardless of the actual repair work performed. The term does not, however, include either: (i) any correction of existing violations of State or community health, sanitary, or safety code specifications which have been identified by the community code enforcement official and which are the minimum necessary to assure safe living conditions; or (ii) any alteration of a historic structure, provided that the alteration will not preclude the structure’s continued designation as a historic structure.
65. Technical Bulletin and Technical Fact Sheet. A FEMA publication that provides guidance concerning the building performance standards of the NFIP, which are contained in Title 44 of the U.S. Code of Federal Regulations at Section 60.3. The bulletins and fact sheets are intended for use primarily by State and local officials responsible for interpreting and enforcing NFIP regulations and by members of the development community, such as design professionals and builders. New bulletins, as well as updates of existing bulletins, are issued periodically as needed. The bulletins do not create regulations; rather they provide specific guidance for complying with the minimum requirements of existing NFIP regulations.
66. Temperature Controlled. Having the temperature regulated by a heating and/or cooling system, built-in or appliance.
67. Variance. A grant of relief from the requirements of this ordinance as authorized in Section 15-92 of this chapter. See also Section 15-251.5.
68. Violation. The failure of a structure or other development to be fully compliant with the provisions of this part. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this part is presumed to be in violation until such time as that documentation is provided.
69. Water Surface Elevation (WSE). The height, in relation to mean sea level, of floods of various magnitudes and frequencies in the floodplains of riverine areas.

Watercourse. A lake, river, creek, stream, wash, channel, or other topographic feature on or over which waters flow at least periodically.

Section 3. Section 15-251.2 (General Provisions), subsection (a), (b)(1) are amended to read as follows:

(a) This part shall apply to all Special Flood Hazard Areas within the town's planning jurisdiction and joint planning transition area (as those latter terms are defined in Section 15-15), as well as the Town's Extra-Territorial Jurisdiction (ETJ).

(b) The provisions of this part shall apply to the following two types of Special Flood Hazard Areas:

(1) Those Special Flood Hazard Areas that are identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its Flood Insurance Study (FIS) and its accompanying Flood Insurance Rate Maps (FIRM), for Orange County, dated [INSERT DATE OF ADOPTION], which are adopted by reference and declared to be a part of this ordinance.

Section 4. Section 15-251.2 (General Provisions), subsection (g) is rewritten as follows:

(g) A violation of the provisions of this part shall subject the violator to the penalties and remedies set forth in Article VII of this chapter. Additionally, violations of the provisions of this part or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variances or special exceptions, shall constitute a Class 1 Misdemeanor pursuant to N.C.G.S. § 143-215.58. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$100.00 or imprisoned for not more than thirty (30) days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the Town from taking such other lawful action as is necessary to prevent or remedy any violation.

Section 5. Section 15-251.3 (Application Requirements), subsection (2) is rewritten as follows:

(2) Proposed elevation, and method thereof, of all development within a Special Flood Hazard Area including but not limited to:

- a. Elevation in relation to North American Vertical Datum (NAVD) 1988 of the proposed reference level (including basement) of all structures;
- b. Elevation in relation to NAVD 1988 to which any non-residential structure in Zone AE will be flood-proofed; and
- c. Elevation in relation to NAVD 1988 to which any proposed utility systems will be elevated or floodproofed.

Section 6. Section 15-251.4 (Permit Requirements), subsections (1) and (6) are amended to read as follows:

- (1) A description of the development to be permitted under the floodplain development permit, (including by not limited to a house, garage, pool, septic, bulkhead, cabana, pier, bridge, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials, etc.).
- (6) A statement that no fill material or other development shall encroach into the floodway or non-encroachment area of any watercourse, unless the requirements of Section 15-251.10 of this ordinance have been met.

Section 7. Section 15-251.5 (Certificate Requirements), subsection (b) is rewritten and a new subsection (f) added to read as follows:

(b) Floodproofing Certificate.

1. If non-residential floodproofing is used to meet the Regulatory Flood Protection Elevation requirements, a Floodproofing Certificate (FEMA Form 086-0-34), with supporting data and an operational plan, is required prior to the actual start of any new construction. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988. Floodproofing certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. The Floodplain Administrator shall review the certificate data and plan. Deficiencies detected by such review shall be corrected by the applicant prior to permit approval. Failure to submit the certification or failure to make any required corrections shall be cause to deny a building permit. Failure to construct in accordance with the certified design shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy.
2. A final Finished Construction Floodproofing Certificate (FEMA form 086-0-34), with supporting data, an operational plan, and an inspection and maintenance plan are required prior to the issuance of a Certificate of Compliance/Occupancy. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the floodproofed design elevation of the reference level and all attendant utilities, in relation to NAVD 1988. Floodproofing certificate shall be prepared by or under the direct supervision of a professional engineer or architect certified by same. The Floodplain Administrator shall review the certificate data, the operational plan, and the inspection and maintenance plan. Deficiencies detected by such review shall be corrected by the applicant prior to Certificate of Occupancy. Failure to submit the certification or failure to make required corrections shall be cause to deny a Floodplain Development Permit. Failure to construct in accordance with the certified design shall be cause to deny a Certificate of Compliance/Occupancy.

(f) For applications for building permits to improve buildings and structures, including alterations, movement, enlargement, replacement, repair, change of occupancy, additions, rehabilitations, renovations, substantial improvements, repairs of substantial damage, and any other improvement of or work on such buildings and structures, the Floodplain Administrator,

in coordination with the Building Official, shall: (i) Estimate the market value, or require the applicant to obtain an appraisal of the market value prepared by a qualified independent appraiser, of the building or structure before the start of construction of the proposed work; in the case of repair, the market value of the building or structure shall be the market value before the damage occurred and before any repairs are made; (ii) Compare the cost to perform the improvement, the cost to repair a damaged building to its pre-damaged condition, or the combined cost of improvements and repairs, if applicable, to the market value of the building or structure; (iii) Determine and document whether the proposed work constitutes substantial improvement or repair of substantial damage; and (iv) Notify the applicant if it is determined that the work constitutes substantial improvement or repair of substantial damage and that compliance with the flood resistant construction requirements of the NC Building Code and this ordinance is required.

Section 8. Section 15-251.6 (Duties and Responsibilities of the Administrator), subsection (17) is amended as follows:

(17) Maintain a current map repository to include, but not limited to, the FIS Report, historical and effective FIRM and other official flood maps and studies adopted in accordance with Subsection 15-251.2(b) of this ordinance, including any revisions thereto including Letters of Map Change, issued by FEMA. Notify State and FEMA of mapping needs.

Section 9. Section 15-251.8 (General Standards for Flood Hazard Reductions), subsection (3) is rewritten as follows:

(3) All new 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. These include, but are not limited to, HVAC equipment, water softener units, bath/kitchen fixtures, ductwork, electric/gas meter panels/boxes, utility/cable boxes, appliances (washers, dryers, refrigerators, freezers, etc.), hot water heaters, and electric outlets/switches.

- (a) Replacements part of a substantial improvement, electrical, heating, ventilation, plumbing, air conditioning equipment, and other service equipment shall also meet the above provisions.
- (b) Replacements that are for maintenance and not part of a substantial improvement, may be installed at the original location provided the addition and/or improvements only comply with the standards for new construction consisted with the code and requirements for the original structure.

Section 10. Section 15-251.8 (General Standards for Flood Hazard Reductions), subsection (8) is deleted, and the subsequent subsections renumbered (8) through (13).

Section 11. Section 15-251.9 (Specific Standards for Flood Hazard Reductions), subsection (c) is amended to read as follows:

(c) Non-residential construction. New construction and substantial improvement of any commercial, industrial, or other non-residential structure shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation as defined by this ordinance. Structures located in the AE Zone may be floodproofed to the regulatory flood protection elevation Regulatory Flood Protection Elevation in lieu of elevation provided that all areas of the structure, together with attendant utility and sanitary facilities, below the Regulatory Flood Protection Elevation are watertight with walls substantially impermeable to the passage of water, using 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 administrator along with the operational and maintenance plans.

Section 12. Section 15-251.9 (Specific Standards for Flood Hazard Reductions), subsection (e) is reorganized as follows, with a new provision (2) and the existing provisions (2) and (3) renumbered as (3) and (4):

(e) Elevated buildings. Fully enclosed areas of new construction and substantially improved structures that are below the lowest floor of buildings located with a SFHA:

- (1) Shall not be designed or used for human habitation, but shall only be used for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator). The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, except to enclose storage areas;
- (2) Shall not be temperature controlled or conditioned;
- (3) Shall be constructed entirely of flood resistant materials below the regulatory flood protection elevation;
- (4) Shall include flood openings to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet or exceed the following minimum design criteria:
  - a. A minimum of two flood openings on different sides of each enclosed area subject to flooding;
  - b. The total net area of all flood openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding;
  - c. If a building has more than one enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
  - d. The bottom of all required flood openings shall be no higher than one (1) foot above the adjacent grade;
  - e. Flood openings may be equipped with screens, louvers, or other coverings or devices, provided they permit the automatic flow of floodwaters in both directions; and

- f. Enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require flood openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires flood openings as outlined above.

Section 13. Section 15-251.9 (Specific Standards for Flood Hazard Reductions), is amended with a new subsection (f) to read as follows, and the existing subsection (f), (g) and (h) renumbered as (g)(h) and (k):

(f) Fill/Grading.

- (1) Fill is prohibited in the SFHA, consistent with this Ordinance.
- (2) Property owners shall be required to execute and record a non-conversion agreement prior to issuance of a building permit declaring that the area below the lowest floor shall not be improved, finished, or otherwise converted to habitable space; the Town will have the right to inspect the enclosed area. The Town will conduct annual inspections. This agreement shall be recorded with the Orange County Register of Deeds and shall transfer with the property in perpetuity.
- (3) Release of Restrictive Covenants. If a property which is bound by a non-conversion agreement is modified to remove enclosed area below BFE, then the owner may request release of restrictive covenants after staff inspection and submittal of confirming documentation.

Section 14. Section 15-251.9 (Specific Standards for Flood Hazard Reductions), is amended with two new subsections (i) and (j) and the existing subsection (h) renumbered as subsection (k) to read as follows:

(i) Tanks. When gas and liquid storage tanks are to be placed within a SFHA, the following criteria shall be met:

- (1) Underground Tanks. Underground tanks in flood hazard areas shall be anchored to prevent flotation, collapse, or lateral movement resulting from hydrodynamic and hydrostatic loads during conditions of the design flood, including the effects of buoyancy assuming the tank is empty;
- (2) Above-ground Tanks, Elevated. Above-ground tanks in flood hazard areas shall be elevated to or above the Regulatory Flood Protection Elevation on a supporting structure that is designed to prevent flotation, collapse, or lateral movement during conditions of the design flood. Tank-supporting structures shall meet the foundation requirements of the applicable flood hazard area;
- (3) Above-ground Tanks, Not Elevated. Above-ground tanks that do not meet the elevation requirements of Section (2) of this ordinance shall be permitted in flood hazard areas provided the tanks are designed, constructed, installed, and anchored to resist all flood-

related and other loads, including the effects of buoyancy, during conditions of the design flood and without release of the contents in the floodwaters or infiltration of floodwaters into the tanks. Tanks shall be designed, constructed, installed, and anchored to resist the potential buoyant and other flood forces acting on an empty tank during design flood conditions.

- (4) Tank Inlets and Vents. Tank inlets, fill openings, outlets, and vents shall be:
- a. At or above the Regulatory Flood Protection Elevation or fitted with covers designed to prevent the inflow of floodwater or outflow of the contents of the tanks during conditions of the design flood; and
  - b. Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the design flood.

(k) Other Development.

- (1) Fences in regulated floodways and NEAs that have the potential to block the passage of floodwaters, such as stockade fences and wire mesh fences, shall meet the limitations of Section 15-251.10 of this ordinance.
  - (2) Retaining walls, sidewalks, and driveways in regulated floodways or NEAs that involve the placement of fill in regulated floodways shall meet the limitations of Section 15-251.10 of this ordinance.
  - (3) Roads and watercourse crossings in floodways and NEAs, including roads, bridges, culverts, low-water crossings, and similar means for vehicles and pedestrians to travel from one side of a watercourse to the other, that encroach into regulated floodways shall meet the limitations of Section 15-251.10 of this ordinance.
- (j) Subsequent to the effective date of this subsection, no portion of any Special Flood Hazard Area outside of the floodway may be filled in with fill dirt or similar material for the purpose of elevating buildings. Whenever fill is placed within a SFHA for any other permitted purpose, slopes shall be adequately stabilized to withstand the erosive force of the base flood.

Section 15. All provisions of any Town Ordinance in conflict with this Ordinance are repealed.

Section 16. This Ordinance shall become effective upon adoption.