

## CHAPTER 13

### Flood Damage Prevention Regulations

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#### ARTICLE 1

##### Statutory Authorization, Findings of Fact, Purpose and Objectives

- Section 13.1 Statutory authorization; findings of fact.

The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3,

5, and 8 of Article 19 of Chapter 160A; and Article 8 of Chapter 160A of the N.C. General Statutes, 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 Board of Commissioners of the town does ordain as follows:

(a) The flood hazard areas of the town are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of 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 flood plains 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-proofed, or otherwise unprotected from flood damage. (Ord. 90-01 of 1/16/90)

#### Section 13.2 Statement of purpose; objectives.

(a) 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 hazards, or which result in damaging increases in erosion 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 flood plains, 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; and,

(5) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

(b) 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 flood plains;
- (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; and
- (7) To insure that potential home buyers are notified that property is in a flood area. (Ord. 90-01 of 1/16/90)

## ARTICLE 2

### General Purposes

#### Section 13.3 Definitions.

For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

*Appeal* - A request from a review of the local administrator's interpretation of any provision of this chapter.

*Addition (to an existing building)* - 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.

*Area of shallow flooding* - 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 land in the

flood plain within a community subject to a one percent or greater chance of flooding in any given year.

*Base flood* - The flood having a one percent chance of being equaled or exceeded in any given year.

*Basement* - That lowest level or story which has its floor subgrade on all sides.

*Breakaway wall* - 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. A breakaway wall shall have a design safe-loading resistance of not less than ten or more than 20 pounds per square foot. A wall with loading resistance of more than 20 pounds per square foot requires an architect's or professional engineer's certificate.

*Building* - Any structure built for support, shelter, or enclosure for any occupancy or storage.

*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.

*Elevated building* - 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 manufactured home park or manufactured home subdivision* - A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale for which the construction of facilities for servicing the lot on which the manufactured home is to be affixed (including at a minimum, the installation of utilities, either final site grading or the pouring of concrete pads, and the construction of streets) is completed before the effective date of this chapter.

*Flood or flooding* - A general and temporary condition of partial or complete inundation of normally dry land areas from:

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

*Flood Hazard Boundary Map (FHBM)* - 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)* - 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* - 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* - 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* - 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* - 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* - The highest natural elevation of the ground surface, prior to construction, next to the proposed walls of the structure.

*Levee* - A man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

*Levee System* - A flood protection system which consists of a levee, or levees, and associated structures, such as to provide protection from temporary flooding.

*Lowest Floor* - The lowest floor of the lowest enclosed area (including basement). An unfinished or floor resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor provided that such enclosure is not built so as to render the structure in violation of the applicable nonelevation design requirements of this chapter.

*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 also includes park trailers, travel trailers, and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.

*Manufactured home park or subdivision* - A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

*Mean Sea Level* - The average height of the sea for all stages of the tide. It is used as a reference for establishing various elevations within the flood plain. For purposes of this chapter, the term is synonymous with National Geodetic Vertical Datum (NGVD).

*National Geodetic Vertical Datum (NGVD)* - A vertical control used as a reference for establishing varying elevations within the flood plain as corrected in 1929.

*New construction* - Constructures for which the "start of construction" commenced on or after the effective date of this chapter.

*Nonconforming building or use* - Any legal existing building or use which fails to comply with the provisions of this chapter.

*Remedy a Violation* - To bring the structure or other development into compliance with state or local flood plain 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 this chapter or otherwise deterring future similar violations, or reducing federal financial exposure with regard to the structure or other development.

*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 improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a structure (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 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.

*Structure* - 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 improvement* - Any repair, reconstruction, or improvement of a structure, where the cost equals or exceeds 50% of the market value of the structure, either before the improvement or repair is started, or if the structure has been damaged and is being restored, before the damage occurred. For the purposes 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 structure. The term does not, however, include either any project for improvement of a structure to comply with existing state and local health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions, or any alteration of a structure listed on the National Register of Historic Places or a state Inventory of Historic Places.

*Variance* - A grant of relief to a person 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.

*Violation* - The failure of a structure or other development to be fully compliant with the community's flood plain management regulations. A structure or other development without the elevation certificate, other certifications, or other

evidence of compliance required in Articles 3 and 4 is presumed to be in violation until such time as that documentation is provided. (Ord. 90-01 of 1/16/90)

#### **Section 13.4 Lands to which this chapter applies.**

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the town and its extraterritorial jurisdiction which may be amended from time to time. (Ord. 90-01 of 1/16/90)

#### **Section 13.5 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 Insurance Rate Map (FIRM) #37027C0077D, 37027C0040D, 37027C0085D, and 37027C0045D, dated August 16, 1988, 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. 90-01 of 1/16/90)

#### **Section 13.6 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. For the purposes of this section, the term Development Permit shall mean a Zoning Compliance Certificate as provided for in the town Zoning Code. (Ord. 90-01 of 1/16/90)

#### **Section 13.7 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. 90-01 of 1/16/90)

#### **Section 13.8 Abrogation and greater restrictions.**

This chapter is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this chapter and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail. (Ord. 90-01 of 1/16/90)

#### **Section 13.9 Interpretation.**

In the interpretation and application of this chapter, all provisions shall be:

- (a) Considered as minimum requirements;

(b) Liberally construed in favor of the governing body, and;

(c) Deemed neither to limit nor repeal any other powers granted under state statutes. (Ord. 90-01 of 1/16/90)

**Section 13.10 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 hereunder. (Ord. 90-01 of 1/16/90)

**ARTICLE 3**

**Administration**

**Section 13.11 Designation of local administrator.**

The Caldwell County Planning and Inspections Department is hereby appointed to administer and implement the provisions of this chapter. (Ord. 90-01 of 1/16/90)

**Section 13.12 Development permit and certification requirements.**

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

(a) Where base flood elevation data is provided in accordance with Section 13.13 (j), the application for a development permit within the Zone A on the Flood Insurance Rate Map shall show:

(1) The elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures, and

(2) If the structure has been flood-proofed in accordance with Section 13.17 (b), the elevation (in relation to mean sea level) to which the structure was flood-proofed.

(b) Where the base flood elevation data is not provided, the application for a development permit must show construction of the lowest floor at least two feet above the highest adjacent grade.

(c) Where any watercourse will be altered or relocated as a result of proposed development, the application for a development permit shall include: a description of the extent of watercourse alteration or relocation; an engineering report on the effects of the proposed project on the flood-carrying capacity of the watercourse and the effects to properties located both upstream and downstream; and a map showing the location of the proposed watercourse alteration or relocation.

(d) When a structure is flood-proofed, the applicant shall provide a certificate from a registered professional engineer or architect that the non-residential flood-proofed structure meets the flood-proofing criteria in Section 13.17 (b).

(e) A floor elevation or flood-proofing certification is required after the lowest floor is completed. Within 21 calendar days of establishment of the lowest floor elevation, or flood-proofing by whatever construction means, whichever is applicable, it shall be the duty of the permit holder to submit to the local administrator a certification of the elevation of the lowest floor, or flood-proofed elevation, 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 done within the 21-day calendar period and prior to submission of the certification shall be at the permit holder's risk. The local 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. (Ord. 90-01 of 1/16/90)

**Section 13.13 Duties and responsibilities of the local administrator.**

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

(a) Review all development permits to assure that the requirements of this chapter have been satisfied;

(b) Advise permittee that additional federal or state permits may be required, and if specific federal or state permits are known, require that copies of such permits be provided and maintained on file with the development permit.

(c) Notify adjacent communities and the N.C. Department of Crime Control and Public Safety, Division of Emergency Management, State Coordinator for the National Flood Insurance Program 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) Prevent encroachments within floodways unless the certification and flood hazard reduction provisions of Article 4 are met.

(f) Obtain actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, in accordance with Section 13.12 (e).

(g) Obtain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been flood-proofed, in accordance with Section 13.12 (e).

(h) When flood-proofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with Section 13.17 (b).

(i) 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), 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 article.

(j) When base flood elevation data or floodway data has not been provided in accordance with Section 13.6, obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state or other source, including data developed pursuant to Section 13.17 (d), in order to administer the provisions of this chapter.

(k) Make on-site inspections of projects in accordance with Section 13.14.

(l) Serve notices of violations, issue stop orders, revoke permits and take corrective actions in accordance with Section 13.14.

(m) Maintain all records pertaining to the administration of this chapter and make these records available for public inspection. (Ord. 90-01 of 1/16/90)

**Section 13.14 Administrative procedures.**

(a) *Inspections of Work in Progress:* As the work pursuant to a permit progresses, the local administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of this chapter and the terms of the permit. In exercising this power, the administrator has a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction at any reasonable hour for the purposes of inspection or other enforcement action.

(b) *Stop Orders:* Whenever a building or part thereof is being constructed, reconstructed, altered or repaired in violation of this chapter, the administrator may order the work to be immediately stopped. The stop order shall be in writing and directed to the person doing the work. The stop order shall state the specific work to be stopped, the specific reasons for the stoppage, and the conditions under which the work may be resumed. Violation of a stop order constitutes a misdemeanor.

(c) *Revocation of Permits:* The local administrator may revoke and require the return of the development permit by notifying the permit holder in writing stating the reason for the revocation. Permits shall be revoked for any substantial departure from the approved application, plans, or specifications; for refusal or failure to comply with the requirements of state or local laws; or for false statements or misrepresentations made in securing the permit. Any permit mistakenly issued in violation of an applicable state or local law may also be revoked.

(d) *Periodic Inspections:* The local administrator and each member of his inspections department shall have a right, upon presentation of proper credentials, to enter on any premises within the territorial jurisdiction of the department at any reasonable hour for the purposes of inspection or other enforcement action.

(e) *Violations to be Corrected:* When the local administrator finds violations of applicable state and local laws, it shall be his duty to notify the owner or occupant of the building of the violation. The owner or occupant shall each immediately remedy the violations of law in the property he owns.

(f) *Actions in Event of Failure to Take Corrective Action:* If the owner of a building or property shall fail to take prompt corrective action, the administrator shall give him written notice, by certified or registered mail to his last known address or by personal service:

(1) That the building or property is in violation of this chapter.

(2) That a hearing will be held before the local administrator at a designated place and time, not later than 10 days after the date of the notice, at which time the owner shall be entitled to be heard in person or by counsel and to present arguments and evidence pertaining to the matter; and,

(3) That following the hearing, the local administrator may issue such order to alter, vacate, or demolish the building; or to remove fill as appears appropriate.

(g) *Order to Take Corrective Action:* If, upon a hearing held pursuant to the notice prescribed above, the administrator shall find that the building or development is in violation of this chapter, he shall make an order in writing to the owner, requiring the owner to remedy the violation, within such period, not less than 60 days, the administrator may prescribe; provided, that where the administrator finds that there is imminent danger to life or other property, he may order that corrective action be taken in such lesser period as may be feasible.

(h) *Appeal:* Any owner who has received an order to take corrective action may appeal from the order to the Board of Commissioners by giving notice of appeal in writing to the administrator and the Town Clerk within 10 days following issuance

of the final order. In the absence of an appeal, the order of the administrator shall be final. The Board of Commissioners shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

(i) *Failure to Comply with Order:* If the owner of a building or property fails to comply with an order to take corrective action from which no appeal has been taken, or fails to comply with an order of the governing body following an appeal, he shall be guilty of a misdemeanor and shall be punished in the discretion of the court. (Ord. 90-01 of 1/16/90)

### Section 13.15 Variance procedures.

(a) The Board of Adjustment as established by the town shall hear and decide requests for variances from the requirements of this chapter.

(b) Any person aggrieved by the decision of the Board of Adjustment or any taxpayer may appeal such decision to the Court, as provided in Chapter 7A of the N.C. General Statutes.

(c) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic places without regard to the procedures set forth in the remainder of this section.

(d) In passing upon such applications, the Board of Adjustment 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 to the facility of a waterfront location, where applicable;

(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 flood plain 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; and,

(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.

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

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

(g) Conditions for Variances:

(1) Variances may not be issued when the variance will make the structure in violation of other federal, state, or local laws, regulations or ordinances.

(2) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

(3) Variances shall only be issued upon a showing of good and sufficient cause, a determination that failure to grant the variance would result in exceptional hardship, and 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.

(4) 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 structure is to be built and a written statement that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. Such notification shall be maintained with a record of all variance actions.

(5) The local administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

## ARTICLE 4

### Flood Hazard Reduction

#### Section 13.16 General standards.

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

(a) All 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. For the purpose of this requirement, manufactured homes must be elevated and anchored to resist flotation, collapse, or lateral movement in accordance with the *Regulations for Mobile Homes and Modular Housing* adopted by the Commissioner of Insurance pursuant to G.S. 143.143.15.

(c) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage;

(d) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damages;

(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) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;

(g) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters;



(h) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding; and,

(i) Any alteration, repair, reconstruction or improvements to a structure which is in compliance with the provisions of this chapter, shall meet the requirements of "new construction" as contained in this chapter.

(j) **Nonconforming buildings or uses.** Nonconforming buildings or uses may not be enlarged, replaced or rebuilt unless such enlargement or reconstruction is accomplished in conformance with the provisions of this chapter. Provided, however, nothing in this chapter shall prevent the repair, reconstruction or replacement of a building or structure existing on the effective date of this chapter and located totally or partially within the Floodway Zone, provided that the bulk of the building or structure below base flood elevation in the Floodway Zone is not increased and provided that such repair, reconstruction or replacement meets all of the other requirements of this chapter. (Ord. 90-01 of 1/16/90)

#### Section 13.17 Specific standards.

In all areas of special flood hazard where base flood elevation data has been provided, as set forth in Section 13-6, or Section 13.13 (j), the following provisions are required:

(a) **Residential Construction.** New construction or substantial improvement of any residential structure (including manufactured homes) 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.

(b) **Non-Residential Construction.** New construction or substantial improvement of any commercial, industrial, or non-residential structure shall have the lowest floor, including basement, elevated no lower than one foot above the level of the base flood elevation. Structures located in A-zones may be flood-proofed in the required elevations [if they] are water tight 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 official as set forth in Section 13.12 (e).

(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 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.

(1) Designs for complying with this requirement must either be certified by a professional engineer or architect or meet the following minimum criteria:

(i) 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;

(ii) The bottom of all openings shall be no higher than one foot above grade; and,

(iii) 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).

(3) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except to enclose storage areas.

(d) **Floodways.** Located within areas of special flood hazard established in Section 13.6 are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of flood waters which carry debris and potential projectiles and has erosion potential. The following provisions shall apply within such areas:

(1) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during occurrence of the base flood

discharge.

(2) If Section 13.17 (d)(1) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article 4.

(3) No manufactured homes shall be permitted, except in an existing manufactured 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 13.16 (b) and the elevation standards of Section 13.17 (a) are met. (Ord. 90-01 of 1/16/90)

**Section 13.18 Standards for streams without established base flood elevations and/or floodways.**

Located within the areas of special flood hazard established in Section 13.6 are small streams where no base flood data has been provided or where no floodways have been identified. The following provisions apply within such areas:

(a) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of the stream bank equal to five times the width of the stream at the top of bank or 20 feet each side from top of bank, whichever is greater, unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

(b) If subsection (a) above is satisfied and base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard chapter provisions of this article and shall be elevated or flood-proofed in accordance with elevations established in accordance with Section 13.13 (j). When base flood elevation data is not available from a federal, state or other source, the lowest floor, including basement, shall be elevated at least two feet above the highest adjacent grade. (Ord. 90-01 of 1/16/90)

**Section 13.19 Standards for areas of shallow flooding (AO Zones).**

Located within the areas of special flood hazard established in Section 13.6 are areas

designated as shallow flooding. 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. The following provisions shall apply within such areas:

(a) All new construction and substantial improvements of residential structures 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 feet above the highest adjacent grade.

(b) All new construction and substantial improvements of nonresidential structures 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 feet above the highest adjacent grade; or,

(2) Be completely flood-proofed together with attendant utility and sanitary facilities 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. 90-01 of 1/16/90)

## ARTICLE 5

### Penalty

**Section 13.20 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. Violations of this chapter shall be subject to the penalties and remedies contained in the Zoning Code. (Ord. 90-01 of 1/16/90)