

Article VII

ENVIRONMENTAL REGULATIONS

7-1. Stormwater Management/Watershed Protection Districts

- 7-1.1. District Descriptions.
- 7-1.2. Incorporation of Designated Water Supply Watershed/NPDES Phase II Stormwater Map of Guilford County North Carolina.
- 7-1.3. Applicability.
- 7-1.4. Participation in a Public Regional Water Quality Lake Program.
- 7-1.5. Stormwater Management/Watershed Development Plan.
- 7-1.6. Improvements.
- 7-1.7. Clustering.
- 7-1.8. Drainage.
- 7-1.9. Stream Buffer Required.
- 7-1.10. Stream Channelization.
- 7-1.11. Activities Regulated by Other Governmental Agencies.
- 7-1.12. Variances.
- 7-1.13. Watershed Reporting.

7-2. Watershed Protection Districts and Performance Standards

- 7-2.1. National Pollutant Discharge Elimination System (NPDES).
- 7-2.2. General Watershed Areas (GWA).
- 7-2.3. Watershed Critical Areas (WCA).

7-3. Illicit and Illegal Discharges

- 7-3.1. Objectives.
- 7-3.2. Jurisdiction.
- 7-3.3. Authority.
- 7-3.4. Abrogation.
- 7-3.5. Definitions.
- 7-3.6. Acronyms.
- 7-3.7. Right of entry.
- 7-3.8. Prohibited discharges.
- 7-3.9. Spill response.
- 7-3.10. Review of Stormwater Pollution Prevention Plans.
- 7-3.11. Violations.
- 7-3.12. Civil Penalties.
- 7-3.13. Remedies.
- 7-3.14. Appeal Hearing

7-4. Soil Erosion and Sedimentation Control

- 7-4.1. General Requirements.
- 7-4.2. Basic Control Objectives.
- 7-4.3. Mandatory Standards for Land-disturbing Activity.

- 7-4.4. Design and Performance Standards.
- 7-4.5. Storm Water Outlet Protection.
- 7-4.6. Borrow and Waste Areas.
- 7-4.7. Access and Haul Roads.
- 7-4.8. Operations in Lakes or Natural Watercourses.
- 7-4.9. Responsibility for Maintenance.
- 7-4.10. Additional Measures.
- 7-4.11. Existing Uncovered Areas.
- 7-4.12. Erosion and Sedimentation Control Plans.

7-5. Flood Damage Prevention

- 7-5.1. Statutory Authorization and Legal Status Provisions.
- 7-5.2. Findings of Fact.
- 7-5.3. ~~Statement of Purpose.~~ General Provisions
- 7-5.4. ~~General Provisions.~~ Establishment of Floodplain Development Permit.
- 7-5.5. ~~Objectives.~~ Compliance.
- 7-5.6. ~~Establishment of Floodplain Development Permit.~~ Warning and Disclaimer of Liability.
- 7-5.7. ~~Compliance.~~ Floodplain Development Application, Permit and Certification Requirements.
- 7-5.8. ~~Abrogation and Greater Restrictions.~~ Provisions for Flood Hazard Reduction.
- 7-5.9. ~~Interpretation.~~ Standards for Floodplains without Established Base Flood Elevations.
- 7-5.10. ~~Warning and Disclaimer of Liability.~~ Standards for Riverine Floodplains with BFE but Without Established Floodways or Non-Encroachment Areas.
- 7-5.11. ~~Penalties for Violation.~~ Floodways and Non-Encroachment Areas.
- 7-5.12. Floodplain Development Application, Permit and Certification Requirements.
- 7-5.13. Provisions for Flood Hazard Reduction.
- 7-5.14. Standards for Floodplains without Established Base Flood Elevations.
- 7-5.15. Standards for Riverine Floodplains with BFE but Without Established Floodways or Non-Encroachment Areas.
- 7-5.16. Floodways and Non-Encroachment Areas.
- 7-5.17. Standards for Areas of Shallow Flooding (Zone AO).
- 7-5.18. Standard for Areas of Shallow Flooding (Zone AH).
- 7-5.19. Legal Status Provisions.

7-1. STORMWATER MANAGEMENT/WATERSHED PROTECTION DISTRICTS

7-5. FLOOD DAMAGE PREVENTION*

7-5.1. Statutory Authorization and Legal Status Provisions.

- (A) *Statutory Authorization:* The Legislature of the State of North Carolina has in Part 6, Article 21 of Chapter 143; Parts 3 and 4 of Article 18 of Chapter 153A; and Part 121, Article 6 of Chapter 153A of the North Carolina General Statutes, delegated to local governmental units the responsibility to adopt regulations designed to promote the public health, safety, and general welfare. ~~of its citizenry.~~

Therefore, the Board of County Commissioners of Guilford County, North Carolina, does ordain as follows:

- (B) *Legal Status Provisions:*
- (1) *Effect on Rights and Liabilities under the Existing Flood Damage Prevention Ordinance:* This Ordinance in part comes forward by re-enactment of some of the provisions of the Flood Damage Prevention Ordinance enacted on November 19, 1990, as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this Ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of the unincorporated areas of Guilford County enacted on November 19, 1990, as amended, which are not reenacted herein are repealed.
 - (2) *Effect upon Outstanding Floodplain Development Permits:* Nothing herein contained shall require any change in the plans, construction, size, or designated use of any development or any part thereof for which a Floodplain Development Permit has been granted by the Floodplain Administrator or his or her authorized agents before the time of passage of this Ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this Ordinance.
 - (3) *Effective Date:* This Ordinance shall become effective upon adoption.

7-5.2. Findings of Fact.

- (A) The flood prone areas within the jurisdiction of unincorporated Guilford County 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.

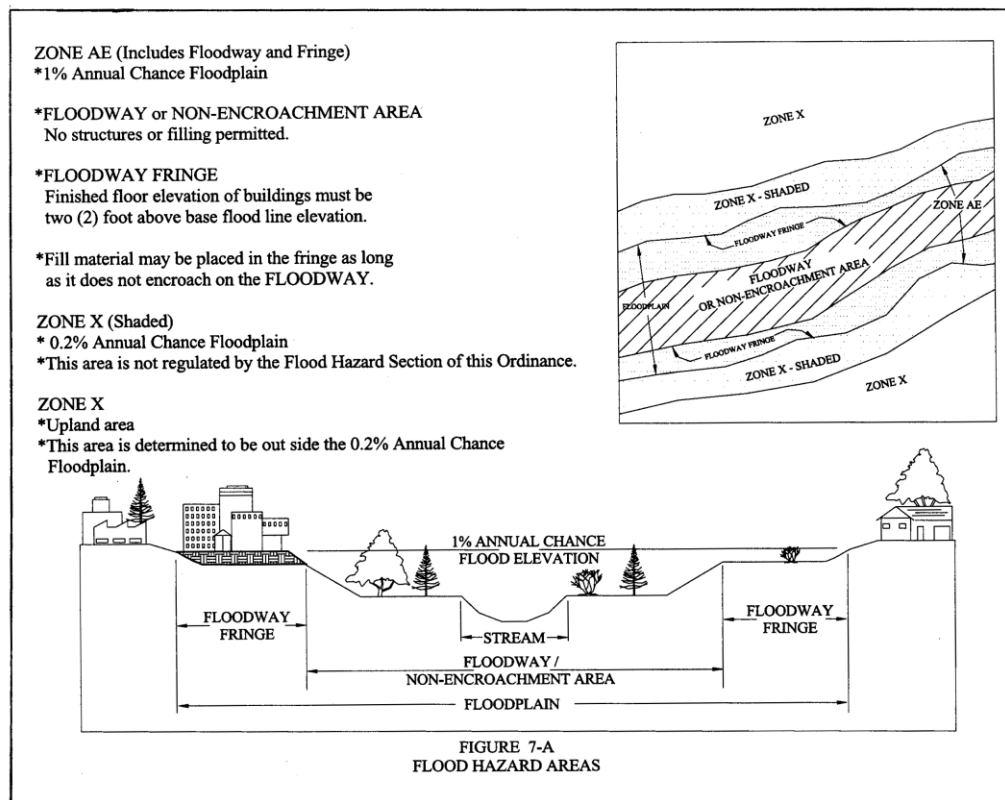
- (B) These flood losses are caused by the cumulative effect of obstructions in floodplains causing increases in flood heights and velocities and by the occupancy in flood prone areas of uses vulnerable to floods or other hazards.

7-5.3. Statement of Purpose. General Provisions

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

- (A) Restrict or prohibit uses that are dangerous to health, safety, and property due to water or erosion hazards or that result in damaging increases in erosion, flood heights or velocities;
 - (B) Require that uses vulnerable to floods, including facilities that 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 floodwaters;
 - (D) Control filling, grading, dredging, and all other development that may increase erosion or flood damage; and
 - (E) Prevent or regulate the construction of flood barriers that will unnaturally divert flood waters or which may increase flood hazards to other lands.
- (A) ~~*Lands to Which this Ordinance Applies:* This Ordinance shall apply to all Special Flood Hazard Areas within unincorporated Guilford County. Bona fide farms are not exempt from the provisions of this Ordinance regulating development in floodways and floodplains as required for participation in the National Flood Insurance Program.~~
- (B) ~~*Basis for Establishing the Special Flood Hazard Areas:* The Special Flood Hazard Areas are those 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 Guilford County, dated June 18, 2007 which are adopted by reference and declared to be a part of this Ordinance.~~

7-5.4 General Provisions. Establishment of Floodplain Development Permit.



- (C) *Lands to Which this Ordinance Applies:* This Ordinance shall apply to all Special Flood Hazard Areas within unincorporated Guilford County. Bona fide farms are not exempt from the provisions of this Ordinance regulating development in floodways and floodplains as required for participation in the National Flood Insurance Program.
- (B) *Basis for Establishing the Special Flood Hazard Areas:* ~~The Special Flood Hazard Areas are those 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 Guilford County, dated June 18, 2007 which are adopted by reference and declared to be a part of this Ordinance. The~~ Special Flood Hazard Areas are those identified under the Cooperating Technical State (CTS) agreement between the State of North Carolina and FEMA in its FIS dated November 17, 2017 for Guilford County and associated DFIRM panels, including any digital data developed as part of the FIS, which are adopted by reference and declared a part of this ordinance. Future revisions to the FIS and DFIRM panels that do not change flood hazard data within the jurisdictional authority of Guilford County are also adopted by reference and declared a part of this ordinance. Subsequent Letter of Map Revisions (LOMRs) and/or Physical Map Revisions (PMRs) shall be adopted within 3 months.

A Floodplain Development Permit shall be required in conformance with the provisions of this Ordinance prior to the commencement of any development activities within Special Flood Hazard Areas determined in accordance with Section 7-5.3(B) of this Ordinance.

7-5.5. Objectives Compliance.

The objectives of this ordinance are to:

- (A) Protect human life, safety, and health;
- (B) Minimize expenditure of public money for costly flood control projects;
- (C) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (D) Minimize prolonged business losses and interruptions;
- (E) 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;
- (F) Minimize damage to private and public property due to flooding;
- (G) Make flood insurance available to the community through the National Flood Insurance Program;
- (H) Maintain the natural and beneficial functions of floodplains;
- (I) Help maintain a stable tax base by providing for the sound use and development of flood prone areas; and
- (J) Ensure that potential buyers are aware that property is in a Special Flood Hazard Area.

~~No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this Ordinance and other applicable regulations.~~

7-5.6. Establishment of Floodplain Development Permit. ~~Warning and Disclaimer of Liability.~~

A Floodplain Development Permit shall be required in conformance with the provisions of this Ordinance prior to the commencement of any development activities within Special Flood Hazard Areas determined in accordance with Section 7-5.3-4(B) of this Ordinance.

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

7-5.7. Compliance. Floodplain Development Application, Permit and Certification Requirements.

No structure or land shall hereafter be located, extended, converted, altered, or developed in any way without full compliance with the terms of this Ordinance and other applicable regulations.

(A) ~~Application for Permit:~~ On a property containing an area of Special Flood Hazard, application for a Flood Plain Development Permit shall be made in accordance with Section 3 3.5 (Flood Plain Development Permit).

(B) ~~Certificate of Floor Elevation/Floodproofing:~~ When a property is located in a Flood Hazard Area or when a structure is floodproofed, a certificate shall be provided in accordance with Section 3 8.4 (Certificate of Floor Elevation/Floodproofing).

7-5.8. Abrogation and Greater Restrictions. Provisions for Flood Hazard Reduction.

This ordinance is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this ordinance and another conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

(A) ~~General Standards:~~ In all Special Flood Hazard Areas the following provisions are required:

- 1) ~~All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.~~
- 2) ~~All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.~~
- 3) ~~All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.~~
- 4) ~~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.~~
- 5) ~~All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.~~
- 6) ~~New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into flood waters.~~
- 7) ~~On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.~~
- 8) ~~Any alteration, repair, reconstruction, or improvements to a structure, which is in compliance with the provisions of this Ordinance, shall meet the requirements of "new construction" as contained in this Ordinance.~~
- 9) ~~Nothing in this Ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this~~

~~Ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the Regulatory Flood Protection Elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this Ordinance.~~

- ~~10) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Section 9 5.9 (J). A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the Regulatory Flood Protection Elevation and certified according to Section 3 8.4 of this Ordinance.~~
- ~~11) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.~~
- ~~12) All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.~~
- ~~13) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.~~
- ~~14) All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.~~
- ~~15) Permitted Uses. The following uses shall be permitted below flood protection elevation within the floodway fringe zone to the extent that they are otherwise permitted by this Ordinance:~~
 - ~~a) Any use as permitted and regulated in the floodway zone.~~
 - ~~b) Fill material graded to drain, provided such is protected against erosion. Any fill material on which a structure is to be located shall be extended at grade ten (10) feet beyond the limits of the structure foundation, and shall have a side slope no steeper than two (2) feet horizontal to one (1) foot vertical.~~

(B) *Specific Standards:* In all Special Flood Hazard Areas where Base Flood Elevation (BFE) data has been provided, as set forth in Section 7 5.3(B), or Section 9 7.3 (11 & 12), the following provisions, in addition to Section 7 5.8(A), are required:

- ~~1) Residential Construction. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Section 2 1.6 of this Ordinance.~~

~~2) *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 in Section 2-1.6 of this Ordinance. Structures located in A, AE and A1-30 Zones may be floodproofed to the 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 Floodplain Administrator as set forth in Section 3-8.4, along with the operational and maintenance plans.~~

~~3) *Manufactured Homes.*~~

~~a) New or replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the Regulatory Flood Protection Elevation, as defined in Section 2-1.6 of this Ordinance.~~

~~b) Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by engineer certification, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.~~

~~c) All enclosures or skirting below the lowest floor shall meet the requirements of Section 7-5.8 (B)(4)(a), (b), and (c).~~

~~d) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged manufactured home parks or subdivisions located within flood-prone areas. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management coordinator.~~

~~4) *Elevated Buildings.* Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:~~

~~a) 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;

b) ~~Shall be constructed entirely of flood resistant materials to the top of any enclosure below the lowest floor;~~

c) ~~Shall include, in Zones A, AE, and A1-30, 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;~~

i. ~~A minimum of two (2) flood openings on different sides of each enclosed area subject to flooding;~~

ii. ~~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;~~

iii. ~~If a building has more than one (1) enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;~~

iv. ~~The bottom of all required flood openings shall be no higher than one (1) foot above the adjacent grade;~~

v. ~~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~~

vi. ~~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.~~

~~5) Additions/Improvements:~~

a) ~~Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:~~

i. ~~Not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure.~~

ii. ~~A substantial improvement, both the existing structure and~~

~~the addition and/or improvements must comply with the standards for new construction.~~

~~b) Additions to post FIRM structures with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.~~

~~c) Additions and/or improvements to post FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:~~

~~i. Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction.~~

~~i. A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.~~

~~d) Where an independent perimeter load bearing wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and only the addition must comply with the standards for new construction.~~

~~6) *Recreational Vehicles*. Recreational vehicles shall either:~~

~~a) Be on site for fewer than one hundred eighty (180) consecutive days and be fully licensed and ready for highway use (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 has no permanently attached additions); or~~

~~b) Meet all the requirements for new construction.~~

~~7) *Temporary Non-Residential Structures*. Prior to the issuance of a Floodplain Development Permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the Floodplain Administrator for review and written approval;~~

~~a) A specified time period for which the temporary use will be permitted. Time specified may not exceed three months, renewable up to one year;~~

~~b) The name, address, and phone number of the individual responsible for the removal of the temporary structure;~~

~~c) The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);~~

~~d) A copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and~~

~~e) Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.~~

~~8) *Accessory Structures.* When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area, the following criteria shall be met:~~

~~a) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);~~

~~b) Accessory structures shall not be temperature controlled;~~

~~c) Accessory structures shall be designed to have low flood damage potential;~~

~~d) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;~~

~~e) Accessory structures shall be firmly anchored in accordance with Section 7-5.8(A)(1);~~

~~f) All service facilities such as electrical shall be installed in accordance with Section 7-5.8(A)(4); and~~

~~g) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Regulatory Flood Protection Elevation in conformance with Section 7-5.8(B)(4)(c).~~

~~An accessory structure with a footprint less than one hundred fifty (150) square feet that satisfies the criteria outlined above does not require an elevation or floodproofing certificate. Elevation or floodproofing certifications are required for all other accessory structures in accordance with Section 3-8.4.~~

7-5.9. Interpretation. Standards for Floodplains without Established Base Flood Elevations.

In the interpretation and application of this ordinance, 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.

~~(A) Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Section 7-5.3(B), where no Base Flood Elevation (BFE) data has been provided by FEMA, the following provisions, in addition to Section 7-5.8(A) and (B), shall apply:~~

~~No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from top of bank or five (5) times the width of the stream, 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) — The BFE used in determining the Regulatory Flood Protection Elevation shall be determined based on one of the following criteria set in priority order:~~

- ~~1) If Base Flood Elevation (BFE) data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this Ordinance and shall be elevated or floodproofed in accordance with standards in Section 9-7.3 (11 & 12).~~
- ~~2) All subdivision, manufactured home park and other development proposals shall provide Base Flood Elevation (BFE) data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such Base Flood Elevation (BFE) data shall be adopted by reference per Section 7-5.3(B) to be utilized in implementing this Ordinance.~~
- ~~3) When Base Flood Elevation (BFE) data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated to or above the Regulatory Flood Protection Elevation, as defined in Section 2-1.6.~~

7-5.10. ~~Warning and Disclaimer of Liability. Standards for Riverine Floodplains with BFE but Without Established Floodways or Non-Encroachment Areas.~~

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

~~Along rivers and streams where BFE data is provided but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:~~

~~(A) — Standards outlined in Sections 7-5.8(A) and (B); and~~

~~(B) — Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.~~

7-5.11. Penalties for Violation. ~~Floodways and Non-Encroachment Areas.~~

Violation of the provisions of this ordinance 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 Class 1 misdemeanor pursuant to NC 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 Guilford County from taking such other lawful action as is necessary to prevent or remedy any violation.

~~Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Section 7-5.3(B). The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Sections 7-5.8(A) and (B), shall apply to all development within such areas:~~

~~(A) — No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated that:~~

~~1) — The proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the Floodplain Administrator prior to issuance of Floodplain Development Permit, or~~

~~2) — A Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained upon completion of the proposed encroachment.~~

~~(B) — If Section 7-5.11(A) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this Ordinance.~~

~~(C) — No manufactured homes shall be permitted, except replacement manufactured homes in an existing manufactured home park or subdivision, provided the following provisions are met:~~

~~1) — The anchoring and the elevation standards of Section 7-5.8(B)(3); and~~

~~2) — The no-encroachment standard of Section 7-5.11(A).~~

~~(D) — *Permitted Uses:* The following uses shall be permitted within the floodway zone to the extent that they are otherwise permitted by this Ordinance and provided that they do not employ structures or fill except as specified herein:~~

~~1) — General farming, pasture, outdoor plant nurseries, horticulture, forestry, wildlife sanctuary, game farm, and other similar agricultural, quarrying, wildlife and related uses;~~

~~2) — Ground level loading areas, ground level automobile parking areas, rotary-aircraft ports and other similar industrial and commercial uses;~~

- ~~3) Tractor trailer parking, provided that no trailers shall be detached from tractors;~~
- ~~4) Lawns, gardens, play areas, and other similar uses;~~
- ~~5) Golf courses, tennis courts, driving ranges, archery ranges, picnic grounds, parks, swimming pools, hiking or horseback riding trails, open space and other similar private and public recreational uses;~~
- ~~6) Streets, bridges, utility lines, storm drainage facilities, sewage or waste treatment facilities, water supply facilities, and other similar public or private utility uses, but only if the proposed activity combined with the allowable encroachment of the floodway fringe and with any previously placed or previously approved encroachment in the complies with the provisions of Section 7-5.11(A);~~
- ~~7) Temporary facilities such as displays, circuses, carnivals, or similar transient amusement enterprises;~~
- ~~8) Boat docks, ramps, piers, or similar structures;~~
- ~~9) Grading, as it complies with the provisions of Section 7-5.11(A); and~~
- ~~10) Cantilevered portions of structures, provided that foundation and supports are located outside the floodway zone and the underside of the cantilevered portion is at least two (2) feet above Base Flood Elevation.~~

~~(E) — *Prohibited Uses:* Storage or processing of materials that are flammable, corrosive, toxic, or explosive, or which could otherwise be injurious to human, animal or plant life in time of flood is prohibited in the floodway zone.~~

7-5.12. Floodplain Development Application, Permit and Certification Requirements.

- (A) *Application for Permit:* On a property containing an area of Special Flood Hazard, application for a Flood Plain Development Permit shall be made in accordance with Section 3-3.5 (Flood Plain Development Permit).
- (B) *Certificate of Floor Elevation/Floodproofing:* When a property is located in a Flood Hazard Area or when a structure is floodproofed, a certificate shall be provided in accordance with Section 3-8.4 (Certificate of Floor Elevation/Floodproofing).

(C) *Certification Requirements:*

(a) Elevation Certificates

- (i) An Elevation Certificate (FEMA Form 086-0-33) 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 elevation of the reference level, in relation to NAVD 1988. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder prior to the beginning of construction. Failure to submit the certification or failure to make required corrections shall be cause to deny a floodplain development permit.
- (ii) An Elevation Certificate (FEMA Form 086-0-33) is required after the reference level is established. Within seven (7) calendar days of establishment of the reference level elevation, it shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of the elevation of the reference level, in relation to NAVD 1988. Any work done within the seven (7) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further work being permitted to proceed. Failure to submit the certification or failure to make required corrections shall be cause to issue a stop-work order for the project.
- (iii) A final Finished Construction Elevation Certificate (FEMA Form 086-0-33) is required after construction is completed and prior to Certificate of Compliance/Occupancy issuance. It shall be the duty of the permit holder to submit to the Floodplain Administrator a certification of final as-built construction of the elevation of the reference level and all attendant utilities. The Floodplain Administrator shall review the certificate data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to Certificate of Compliance/Occupancy issuance. In some instances, another certification may be required to certify corrected as-built construction. Failure to submit the certification or failure to make required corrections shall be cause to withhold the issuance of a Certificate of Compliance/Occupancy. The Finished Construction Elevation Certificate certifier shall provide at least 2 photographs showing the front and rear of the building taken within 90 days from the date of certification. The photographs

must be taken with views confirming the building description and diagram number provided in Section A. To the extent possible, these photographs should show the entire building including foundation. If the building has split-level or multi-level areas, provide at least 2 additional photographs showing side views of the building. In addition, when applicable, provide a photograph of the foundation showing a representative example of the flood openings or vents. All photographs must be in color and measure at least 3" × 3". Digital photographs are acceptable.

7-5.13. Provisions for Flood Hazard Reduction.

In all Special Flood Hazard Areas, the following provisions are required:

(A) *General Standards:* In all Special Flood Hazard Areas the following provisions are required:

- 1) All new construction and substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse, and lateral movement of the structure.
- 2) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage *in accordance with the FEMA Technical Bulletin 2, Flood Damage-Resistant Materials Requirements.*
- 3) All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.
- 4) All new electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be located at or above the RFPE or designed and installed to prevent water from entering or accumulating within the components during the occurrence of the base flood. ~~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 consistent with the code and requirements for the original structure.
- 5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

- 6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems ~~and discharges from the systems~~ into flood waters.
- 7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- 8) Nothing in this Ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this Ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the Regulatory Flood Protection Elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this Ordinance.
~~Any alteration, repair, reconstruction, or improvements to a structure, which is in compliance with the provisions of this Ordinance, shall meet the requirements of "new construction" as contained in this Ordinance.~~
- 9) New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Section 9-5.15 (J). ~~(k)~~ A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the Regulatory Flood Protection Elevation and certified according to Section 3-8.4 of this Ordinance.

~~Nothing in this Ordinance shall prevent the repair, reconstruction, or replacement of a building or structure existing on the effective date of this Ordinance and located totally or partially within the floodway, non-encroachment area, or stream setback, provided there is no additional encroachment below the Regulatory Flood Protection Elevation in the floodway, non-encroachment area, or stream setback, and provided that such repair, reconstruction, or replacement meets all of the other requirements of this Ordinance.~~

- 10) All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.

~~New solid waste disposal facilities and sites, hazardous waste management facilities, salvage yards, and chemical storage facilities shall not be permitted, except by variance as specified in Section 9-5.9 (J). A structure or tank for chemical or fuel storage incidental to an allowed use or to the operation of a water treatment plant or wastewater treatment facility may be located in a Special Flood Hazard Area only if the structure or tank is either elevated or floodproofed to at least the Regulatory Flood Protection Elevation and certified according to Section 3-8.4 of this Ordinance.~~

- 11) All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.

~~All subdivision proposals and other development proposals shall be consistent with the need to minimize flood damage.~~

- 12) All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.

~~All subdivision proposals and other development proposals shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.~~

- 13) All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.

~~All subdivision proposals and other development proposals shall have adequate drainage provided to reduce exposure to flood hazards.~~

- 14) When a structure is partially located in a Special Flood Hazard Area, the entire structure shall meet the requirements for new construction and substantial improvements.

~~All subdivision proposals and other development proposals shall have received all necessary permits from those governmental agencies for which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334.~~

- 15) When a structure is located in multiple flood hazard zones or in a flood hazard risk zone with multiple base flood elevations, the provisions for the more restrictive flood hazard risk zone and the highest BFE shall apply.

~~Permitted Uses. The following uses shall be permitted below flood protection elevation within the floodway fringe zone to the extent that they are otherwise permitted by this Ordinance:~~

~~a) Any use as permitted and regulated in the floodway zone.~~

~~b) Fill material graded to drain, provided such is protected against erosion. Any fill material on which a structure is to be located shall be extended at grade ten (10) feet beyond the limits of the structure foundation, and shall have a side slope no steeper than two (2) feet horizontal to one (1) foot vertical.~~

- 16) Fill is prohibited in the SFHA, including construction of buildings on fill. This includes not approving Conditional Letters or Letters of Map Revision - Based on Fill (CLOMR-F or LOMR-F).

- (B) *Specific Standards:* In all Special Flood Hazard Areas where Base Flood Elevation (BFE) data has been provided, as set forth in Section 7-5.3 4(B), or Section 9-7.3 (11-K & 12L), the following provisions, in addition to Section 7-5.8-13(A), are required:

- 1) *Residential Construction.* New construction and substantial improvement of any residential structure (including manufactured homes) shall have the reference level, including basement, elevated no lower than the Regulatory Flood Protection Elevation, as defined in Section 2-1.6 of this Ordinance.
- 2) *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 in Section 2-1.6 of this Ordinance. Structures located in A, AE and ~~A1-30~~, AH, AO, A99 Zones may be floodproofed to the 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. For AO Zones, the floodproofing elevation shall be in accordance with Section 9-7.3.(B) A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Section 9-7.3.(E), along with the operational plan and the inspection and maintenance plan. A registered professional engineer or architect shall certify that the floodproofing standards of this subsection are satisfied. Such certification shall be provided to the Floodplain Administrator as set forth in Section 3-8.4, along with the operational and maintenance plans.
- 3) *Manufactured Homes.*
 - a) New or replacement manufactured homes shall be elevated so that the reference level of the manufactured home is no lower than the Regulatory Flood Protection Elevation, as defined in Section 2-1.6 of this Ordinance.
 - b) Manufactured homes shall be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement, either by engineer certification, or in accordance with the most current edition of the State of North Carolina Regulations for Manufactured Homes adopted by the Commissioner of Insurance pursuant to NCGS 143-143.15. Additionally, when the elevation would be met by an elevation of the chassis thirty-six (36) inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above thirty-six (36) inches in height, an engineering certification is required.
 - c) All enclosures or skirting below the lowest floor shall meet the requirements of Section 7-5.813. (B)(4)(a), (b), and (c).
 - d) An evacuation plan must be developed for evacuation of all residents of all new, substantially improved or substantially damaged

manufactured home parks or subdivisions located within flood prone areas. This plan shall be filed with and approved by the Floodplain Administrator and the local Emergency Management coordinator.

4) *Elevated Buildings*. Fully enclosed area, of new construction and substantially improved structures, which is below the lowest floor:

- a) 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;
- b) Shall not be temperature-controlled or conditioned;
~~Shall be constructed entirely of flood resistant materials to the top of any enclosure below the lowest floor;~~
- c) Shall be constructed entirely of flood resistant materials to the top of any enclosure below the lowest floor. Regulatory Flood Protection Elevation: and
- d) Shall include, in Zones A, AE, AH, AO, A99 and A1-30, 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;
 - i. A minimum of two (2) flood openings on different sides of each enclosed area subject to flooding;
 - ii. 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;
 - iii. If a building has more than one (1) enclosed area, each enclosed area must have flood openings to allow floodwaters to automatically enter and exit;
 - iv. The bottom of all required flood openings shall be no higher than one (1) foot above the adjacent grade;
 - v. 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
 - vi. 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.

(e) Fill/Grading

(i) Fill is prohibited in the SFHA.

(f) 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. Guilford County will have the right to inspect the enclosed area. Guilford County will conduct annual inspections. This agreement shall be recorded with the County Name County Register of Deeds and shall transfer with the property in perpetuity.

(g) Release of restrictive covenant. If a property which is bound by a non-conversion agreement is modified to remove enclosed areas below BFE, then the owner may request release of restrictive covenant after staff inspection and submittal of confirming documentation.

5) *Additions/Improvements.*

- a) Additions and/or improvements to pre-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:
 - i. Not a substantial improvement, the addition and/or improvements must be designed to minimize flood damages and must not be any more non-conforming than the existing structure.
 - ii. A substantial improvement, ~~both the existing structure and the addition and/or improvements~~ with modifications/rehabilitations/improvements to the existing structure or the common wall is structurally modified more than installing a doorway, both the existing structure and the addition must comply with the standards for new construction.
- b) Additions to post-FIRM structures with no modifications to the existing structure other than a standard door in the common wall shall require only the addition to comply with the standards for new construction.
- c) Additions and/or improvements to post-FIRM structures when the addition and/or improvements in combination with any interior modifications to the existing structure are:

- i. Not a substantial improvement, the addition and/or improvements only must comply with the standards for new construction.
 - ii. A substantial improvement, both the existing structure and the addition and/or improvements must comply with the standards for new construction.
- d) Where an independent perimeter load-bearing wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and only the addition must comply with the standards for new construction.

(e) Any combination of repair, reconstruction, rehabilitation, addition or improvement of a building or structure taking place during a one-year period, the cumulative cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started must comply with the standards for new construction. For each building or structure, the one-year period begins on the date of the first improvement or repair of that building or structure subsequent to the effective date of this ordinance. Substantial damage also means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such flood event, on the average, equals or exceeds 25 percent of the market value of the structure before the damage occurred. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The requirement does not, however, include either:

- (i) Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to assume safe living conditions.
- (ii) Any alteration of a historic structure provided that the alteration will not preclude the structure's continued designation as a historic structure.

6) *Recreational Vehicles.* Recreational vehicles shall either:

- a) Be on site for fewer than one hundred eighty (180) consecutive days and be fully licensed and ready for highway use (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 has no permanently attached additions);
- b) Permanent Placement. Recreational vehicles that do not meet the limitations of Temporary Placement shall meet all the requirements for new construction.

- 7) *Temporary Non-Residential Structures.* Prior to the issuance of a Floodplain Development Permit for a temporary structure, the applicant must submit to the Floodplain Administrator a plan for the removal of such structure(s) in the event of a hurricane, flash flood or other type of flood warning notification. The following information shall be submitted in writing to the Floodplain Administrator for review and written approval;
- a) A specified time period for which the temporary use will be permitted. Time specified may not exceed three months, renewable up to one year;
 - b) The name, address, and phone number of the individual responsible for the removal of the temporary structure;
 - c) The time frame prior to the event at which a structure will be removed (i.e., minimum of 72 hours before landfall of a hurricane or immediately upon flood warning notification);
 - d) A copy of the contract or other suitable instrument with the entity responsible for physical removal of the structure; and
 - e) Designation, accompanied by documentation, of a location outside the Special Flood Hazard Area, to which the temporary structure will be moved.
- 8) *Accessory Structures.* When accessory structures (sheds, detached garages, etc.) are to be placed within a Special Flood Hazard Area, the following criteria shall be met:
- a) Accessory structures shall not be used for human habitation (including working, sleeping, living, cooking or restroom areas);
 - b) Accessory structures shall not be temperature-controlled;
 - c) Accessory structures shall be designed to have low flood damage potential;
 - d) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
 - e) Accessory structures shall be firmly anchored in accordance with Section 7-5.8 7-5.13.(A)(1);
 - f) All service facilities such as electrical shall be installed in accordance with Section 7-5.8 7-5.13.(A)(4); and
 - g) Flood openings to facilitate automatic equalization of hydrostatic flood forces shall be provided below Regulatory Flood Protection Elevation in conformance with Section 7-5.8 7-5.13.(B)(4)(c).

An accessory structure with a footprint less than one hundred fifty (150) square feet or that satisfies the criteria outlined above does not require an elevation or that is a minimal investment of Structure \$3,000 or less and satisfies the criteria outlined above is not required to meet the elevation or floodproofing standards of Section 7-5.13.(B) (2). Elevation or floodproofing certifications are required for all other accessory structures in accordance with Section 7-5.12.(B). ~~flood proofing certificate. Elevation or floodproofing certifications are required for all other accessory structures in accordance with Section 3-8.4.~~

9) Tanks. When gas and liquid storage tanks are to be placed within a Special Flood Hazard Area, the following criteria shall be met:

- (a) 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;
- (b) 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;
- (c) Above-ground tanks, not elevated. Above-ground tanks that do not meet the elevation requirements of Section 7-5.13.(B)(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 contents in the floodwaters or infiltration by 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.
- (d) Tank inlets and vents. Tank inlets, fill openings, outlets and vents shall be:
 - (i) 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
 - (ii) Anchored to prevent lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy, during conditions of the design flood.

10) *Other Development.*

- (a) 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 7-5.16. of this ordinance.
- (b) Retaining walls, sidewalks and driveways in regulated floodways and NEAs. Retaining walls and sidewalks and driveways that involve the placement of fill in regulated floodways shall meet the limitations of Section 7-5.16. of this ordinance.
- (c) Roads and watercourse crossings in regulated floodways and NEAs. Roads and watercourse crossings, including roads, bridges, culverts, low-water crossings and similar means for vehicles or pedestrians to travel from one side of a watercourse to the other side, that encroach into regulated floodways shall meet the limitations of Section 7-5.16. of this ordinance.

7-5.14. Standards for Floodplains without Established Base Flood Elevations.

- (A) Within the Special Flood Hazard Areas designated as Approximate Zone A and established in Section 7-5.34(B), where no Base Flood Elevation (BFE) data has been provided by FEMA, the following provisions, in addition to Section 7-5.813(A) and (B), shall apply:

No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty (20) feet each side from top of bank or five (5) times the width of the stream, 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) The BFE used in determining the Regulatory Flood Protection Elevation shall be determined based on one of the following criteria set in priority order:
 - 1) ~~If~~ When Base Flood Elevation (BFE) data is available from other sources, all new construction and substantial improvements within such areas shall also comply with all applicable provisions of this Ordinance and shall be elevated or floodproofed in accordance with standards in Section 9-7.3 (~~11J~~ & ~~12K~~).
 - 2) All subdivision, manufactured home park and other development proposals shall provide Base Flood Elevation (BFE) data if development is greater than five (5) acres or has more than fifty (50) lots/manufactured home sites. Such Base Flood Elevation (BFE) data shall be adopted by reference per Section ~~7-5.3~~ 7-5.4.(B) to be utilized in implementing this Ordinance.
 - 3) When Base Flood Elevation (BFE) data is not available from a Federal, State, or other source as outlined above, the reference level shall be elevated or floodproofed(nonresidential) to or above the Regulatory Flood Protection Elevation, as defined in Section 2-1.6.

- 4) When floodway or non-encroachment data is available from a Federal, State, or other source, all new construction and substantial improvements within floodway and non-encroachment areas shall also comply with the requirements of Sections 7-5.13.(B) and 7-5.16.

7-5.15. Standards for Riverine Floodplains with BFE but Without Established Floodways or Non-Encroachment Areas.

Along rivers and streams where BFE data is provided but neither floodway nor non-encroachment areas are identified for a Special Flood Hazard Area on the FIRM or in the FIS report, the following requirements shall apply to all development within such areas:

- (A) Standards outlined in Sections ~~7-5.8~~ 7-5.13.(A) and (B); and
- (B) Until a regulatory floodway or non-encroachment area is designated, no encroachments, including fill, new construction, substantial improvements, or other development, shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

7-5.16. Floodways and Non-Encroachment Areas.

Areas designated as floodways or non-encroachment areas are located within the Special Flood Hazard Areas established in Section ~~7-5.8~~ 7-5.13. (B). The floodways and non-encroachment areas are extremely hazardous areas due to the velocity of floodwaters that have erosion potential and carry debris and potential projectiles. The following provisions, in addition to standards outlined in Sections ~~7-5.8~~ 7-5.13.(A) and (B), shall apply to all development within such areas:

- (A) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated that:
 - 1) The proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood, based on hydrologic and hydraulic analyses performed in accordance with standard engineering practice and presented to the Floodplain Administrator prior to issuance of Floodplain Development Permit, or
 - 2) A Conditional Letter of Map Revision (CLOMR) has been approved by FEMA. A Letter of Map Revision (LOMR) must also be obtained upon completion of the proposed encroachment.
- (B) If Section ~~7-5.14~~ 7-5.16.(A) is satisfied, all development shall comply with all applicable flood hazard reduction provisions of this Ordinance.
- (C) No manufactured homes shall be permitted, except replacement manufactured homes in an existing manufactured home park or subdivision, provided the following provisions are met:

(1) The anchoring and the elevation standards of Section ~~7-5.8~~ 7-5.13(B)(3); and

(2) The no encroachment standard of Section ~~7-5.14~~ 7-5.16.(A).

(D) *Permitted Uses:* The following uses shall be permitted within the floodway zone to the extent that they are otherwise permitted by this Ordinance and provided that they do not employ structures or fill except as specified herein:

- 1) General farming, pasture, outdoor plant nurseries, horticulture, forestry, wildlife sanctuary, game farm, and other similar agricultural, quarrying, wildlife and related uses;
- 2) Ground level loading areas, ground level automobile parking areas, rotary aircraft ports and other similar industrial and commercial uses;
- 3) Tractor-trailer parking, provided that no trailers shall be detached from tractors;
- 4) Lawns, gardens, play areas, and other similar uses;
- 5) Golf courses, tennis courts, driving ranges, archery ranges, picnic grounds, parks, swimming pools, hiking or horseback riding trails, open space and other similar private and public recreational uses;
- 6) Streets, bridges, utility lines, storm drainage facilities, sewage or waste treatment facilities, water supply facilities, and other similar public or private utility uses, but only if the proposed activity combined with the allowable encroachment of the floodway fringe and with any previously placed or previously approved encroachment in the complies with the provisions of Section 7-5.10.(A);
- 7) Temporary facilities such as displays, circuses, carnivals, or similar transient amusement enterprises;
- 8) Boat docks, ramps, piers, or similar structures;
- 9) Grading, as it complies with the provisions of Section ~~7-5.14~~ 7-5.15.(A); and
- 10) Cantilevered portions of structures, provided that foundation and supports are located outside the floodway zone and the underside of the cantilevered portion is at least two (2) feet above Base Flood Elevation.

(E) *Prohibited Uses:* Storage or processing of materials that are flammable, corrosive, toxic, or explosive, or which could otherwise be injurious to human, animal or plant life in time of flood is prohibited in the floodway zone.

7-5.17. Standards for Areas of Shallow Flooding (Zone AO).

Located within the Special Flood Hazard Areas established in Section 7-5.4.(B), are areas designated as shallow flooding areas. These areas have special flood hazards associated with base flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of flooding is unpredictable and indeterminate. In addition to Sections 7-5.13. (A)(B) and 7-5.13. (B)(2), all new construction and substantial improvements shall meet the following requirements:

- (1) The reference level shall be elevated at least as high as the depth number specified on the Flood Insurance Rate Map (FIRM), in feet, plus a freeboard of two feet, above the highest adjacent grade; or at least two feet above the highest adjacent grade if no depth number is specified.
- (2) Non-residential structures may, in lieu of elevation, be floodproofed to the same level as required in Section 7-5.17.(1) so that the structure, together with attendant utility and sanitary facilities, below that level shall be 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. Certification is required in accordance with Section 7-5.12(B) and Section 7-5.12(D)
- (3) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

7-5.18. Standard for Areas of Shallow Flooding (Zone AH).

Located within the Special Flood Hazard Areas established in Section 7-5.4.(B), are areas designated as shallow flooding areas. These areas are subject to inundation by 1-percent-annual-chance shallow flooding (usually areas of ponding) where average depths are one (1) to three (3) feet. Base Flood Elevations are derived from detailed hydraulic analyses are shown in this zone. In addition to Sections 7-5.13. (A)(B) and 7-5.13. (B)(2), all new construction and substantial improvements shall meet the following requirements:

- (1) Adequate drainage paths shall be provided around structures on slopes, to guide floodwaters around and away from proposed structures.

7-5.19. Legal Status Provisions.

(A) Effect on Rights and Liabilities Under the Existing Flood Damage Prevention Ordinance.

This ordinance in part comes forward by re-enactment of some of the provisions of the Flood Damage Prevention Ordinance enacted insert adoption date of the community's initial Flood Damage Prevention Ordinance as amended, and it is not the intention to repeal but rather to re-enact and continue to enforce without interruption of such existing provisions, so that all rights and liabilities that have accrued thereunder are reserved and may be enforced. The enactment of this ordinance shall not affect any action, suit or proceeding instituted or pending. All provisions of the Flood Damage Prevention Ordinance of Guilford County enacted on November 19, 1990, as amended, which are not reenacted herein are repealed.

(B) Effect Upon Outstanding Floodplain Development Permits.

Nothing herein contained shall require any change in the plans, construction, size, or designated use

of any development or any part thereof for which a floodplain development permit has been granted by the Floodplain Administrator or his or her authorized agents before the time of passage of this ordinance; provided, however, that when construction is not begun under such outstanding permit within a period of six (6) months subsequent to the date of issuance of the outstanding permit, construction or use shall be in conformity with the provisions of this ordinance.

(C) Severability.

If any section, clause, sentence, or phrase of the Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way effect the validity of the remaining portions of this Ordinance.