

APPENDIX D

FLOOD DAMAGE PREVENTION ORDINANCE
NORTH CAROLINA MODELS

Non-Coastal Regular Phase D-3
Coastal Regular Phase D-26

**FLOOD DAMAGE PREVENTION ORDINANCE
NORTH CAROLINA MODEL**

Non-Coastal Regular Phase

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FLOOD DAMAGE PREVENTION ORDINANCE

Non-Coastal Regular Phase

ARTICLE 1. STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES

SECTION A. STATUTORY AUTHORIZATION

Municipal: 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 North Carolina 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.

County: 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 Article 6 of Chapter 153A of the North Carolina 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 _____ (*governing body*) of _____ (*local unit*), North Carolina, does ordain as follows:

SECTION B. FINDINGS OF FACT.

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

SECTION C. STATEMENT OF PURPOSE

It is the purpose of this ordinance 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 floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
- (4) control filling, grading, dredging, and other development which may increase erosion or flood damage; 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.

SECTION D. OBJECTIVES.

The objectives of this ordinance are:

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

ARTICLE 2. DEFINITIONS.

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

"Accessory Structure" means structures which are located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.

"Addition (to an existing building)" means an extension or increase in the floor area or height of a building or structure. Additions to existing buildings shall comply with the requirements for new construction, unless the addition, renovation or reconstruction to any building, that was constructed prior to the **initial** Flood Insurance Study for that area, and the addition, renovation or reconstruction does not equal 50% of the present market value of the structure. Where a fire wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and must comply with the standards for new construction.

"Appeal" means a request for a review of the administrator's interpretation of any provision of this ordinance.

"Area of special flood hazard" is the land in the floodplain within a community subject to a one percent or greater chance of being flooded in any given year.

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

"Basement" means, for floodplain management purposes, any area of the building having its floor subgrade (below ground level) on all sides.

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

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

"Elevated building" means, for floodplain management purposes, a nonbasement building which has its lowest elevated floor raised above ground level by foundation walls, shear walls, posts, piers, pilings or columns.

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"Existing construction" means for the purposes of determining rates, structures for which the start of construction" commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. "Existing construction" may also be referred to as

"existing structures".

"Existing manufactured home park or manufactured home subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets , and either final site grading or the pouring of concrete pads) is completed before _____. (*Insert effective date of original flood damage prevention ordinance.*)

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

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

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

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

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

"Flood Insurance Study" is the engineering study performed by the Federal Emergency Management Agency to identify flood hazard areas, flood insurance risk zones, and other flood data in a community. The study includes Flood Boundary and Floodway Maps (FBFMs), Flood Hazard Boundary Maps (FHBMs), and/or Flood Insurance Rate Map (FIRMs).

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

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

"Functionally dependent facility" means a facility which cannot be used for its intended

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

"Highest Adjacent Grade" means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of the structure.

"Historic Structure" means any structure that is: (a) listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a State inventory of historic places; (d) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified (1) by an approved state program as determined by the Secretary of Interior, or (2) directly by the Secretary of Interior in states without approved programs.

"Lowest Floor" means, for floodplain management and flood insurance purposes, the lowest floor of the lowest enclosed area (including basement). An unfinished or flood 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 an enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

"Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"Mean Sea Level" means, for purposes of the NFIP, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a FIRM are referenced.

"New construction" means, for floodplain management purposes, structures for which the "start of construction" commenced on or after the effective date of this ordinance and includes any subsequent improvements to such structures.

"New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the

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manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete slabs) is completed on or after _____ . *(Insert effective date of original flood damage prevention ordinance.)*

"Nonconforming building or use" means any legally existing building or use which fails to comply with the provisions of the ordinance.

"Recreational vehicle" means a vehicle which is: (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projection; (c) designed to be self-propelled or permanently towable by a light duty truck; and, (d) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Remedy a violation" means to bring the structure or other development into compliance with State or local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

"Start of construction" includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, 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. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

"Structure" means, for floodplain management purposes, a walled and roofed building, a manufactured home, a gas or liquid storage tank, or other man-made facility or infrastructure that is principally above ground.

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

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"Substantial improvement" means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either: (1) any project of improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are

the minimum necessary to assure safe living conditions; or, (2) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

"Substantially improved existing manufactured home park or subdivision" means where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction, or improvement commenced.

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

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 4 and 5 is presumed to be in violation until such time as that documentation is provided.

ARTICLE 3. GENERAL PROVISIONS.

SECTION A. LANDS TO WHICH THIS ORDINANCE APPLIES.

This ordinance shall apply to all areas of special flood hazard within the jurisdiction of _____ (*local unit*).

SECTION B. BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD.

The "Areas of Special Flood Hazard" are those identified by the Federal Emergency Management Agency (FEMA) in its Flood Hazard Boundary Map or Flood Insurance Study and Flood Insurance Rate Map(s), for _____ dated _____, which with accompanying supporting data, and any revision thereto, including Letters of Map Amendment or Revision, are adopted by reference and declared to be

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a part of this ordinance. The "Areas of Special Flood Hazard" also include those defined through standard engineering analysis for private developments or by governmental agencies, but which have not yet been incorporated in the FIRM. This includes detailed flood information generated as a requirement of Article 4, Section C (10) this Ordinance.

Municipal: In addition, upon annexation to _____, or inclusion in the Extra-territorial Jurisdiction, the Areas of Special Flood Hazard identified by the Federal Emergency Management Agency in its Flood Hazard Boundary Map or Flood Insurance Study and Flood Insurance Rate Map(s) for Unincorporated _____ County, with accompanying maps

and other supporting data, and any revision thereto, are adopted by reference and declared to be a part of this ordinance.

[NOTE: If the community regulates other flood hazard areas not shown on the FEMA maps, please modify this section to reference those additional areas and the documents in which they are described.]

SECTION C. ESTABLISHMENT OF DEVELOPMENT PERMIT.

A Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities.

SECTION D. COMPLIANCE.

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

SECTION E. ABROGATION AND GREATER RESTRICTIONS.

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.

SECTION F. INTERPRETATION.

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

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SECTION G. WARNING AND DISCLAIMER OF LIABILITY.

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 on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance 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 ordinance shall not create liability on the part of _____ (*local unit*) 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.

SECTION H. PENALTIES FOR VIOLATION.

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 misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$50.00 or imprisoned for not more than 30 days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent _____ (*local unit*) from taking such other lawful action as is necessary to prevent or remedy any violation.

ARTICLE 4. ADMINISTRATION.

SECTION A. DESIGNATION OF ADMINISTRATOR.

The _____, hereinafter referred to as the "administrator", is hereby appointed to administer and implement the provisions of this ordinance.

SECTION B. DEVELOPMENT PERMIT AND CERTIFICATION REQUIREMENTS.

Application for a Development Permit shall be made to the administrator on forms furnished by the administrator prior to any development activities. The Development Permit shall 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:

- (1) A plot plan that shows the 100 year floodplain contour or a statement that the entire lot is within the floodplain must be provided by the development permit applicant when the lot

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is within or appears to be within the floodplain as mapped by the Federal Emergency Management Agency or the floodplain identified pursuant to either Article 4, Section C(10) or Article 5 Sections C and D. The plot plan must be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same.

- (2) The plot plan required by Article 4, Section B(1) must show the floodway as identified by the Federal Emergency Management Agency or pursuant to either Article 4, Section C(10) or Article 5, Section C, or the setback required for streams without designated floodways as required by Article 5, Section C (2).

- (3) Where base flood elevation data is provided as set forth in Article 3 Section B, or Article 4, Section C(10), the application for a Development Permit within the flood hazard area shall show:
 - (a) the elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures, and
 - (b) if the non-residential structure will be floodproofed in accordance with Article 5, Section B(2), the elevation (in relation to mean sea level) to which the structure will be floodproofed.
- (4) Where the base flood elevation data is not provided, the application for a development permit must show construction of the lowest floor at least 2 feet above the highest adjacent grade.
- (5) 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.
- (6) When a structure is floodproofed, the applicant shall provide a Floodproofing Certificate (FEMA Form 81-65) from a registered professional engineer or architect that the non-residential floodproofed structure meets the floodproofing criteria in Article 5, Section B(2).
- (7) An Elevation Certificate (FEMA Form 81-31) or a Floodproofing Certificate (FEMA Form 81-65) is required after the lowest floor is completed. Within twenty-one (21) calendar days of establishment of the lowest floor elevation, or floodproofing by whatever construction means, whichever is applicable, it shall be the duty of the permit holder to submit to the administrator a certification of the elevation of the lowest floor, or floodproofed elevation, whichever is applicable, as built, in relation to mean sea

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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 twenty-one (21) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The administrator shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby shall be cause to issue a stop-work order for the project.

SECTION C. DUTIES AND RESPONSIBILITIES OF THE ADMINISTRATOR.

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

- (1) Review all development permits to assure that the requirements of this ordinance have been satisfied.
 - (2) 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.
 - (3) Notify adjacent communities and the North Carolina 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.
 - (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
 - (5) Prevent encroachments within floodways unless the certification and flood hazard reduction provisions of Article 5 are met.
 - (6) 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 Article 4, Section B(7).
 - (7) Obtain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed, in accordance with Article 4, Section B(7).
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- (8) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with Article 5, Section B(2).
 - (9) 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.
 - (10) When base flood elevation data or floodway data has not been provided in accordance with Article 3, Section B, 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 Article 5, Section D(4), in order to administer the provisions of this ordinance.

- (11) When the exact location of boundaries of the areas special flood hazards conflict with the current, natural topography information at the site the property owner may apply and be approved for a Letter of Map Amendment (LOMA) by FEMA. A copy of the Letter of Map Amendment issued from FEMA will be maintained by the administrator in the permit file.
- (12) Make on-site inspections of projects in accordance with Article 4, Section D.
- (13) Serve notices of violations, issue stop-work orders, revoke permits and take corrective actions in accordance with Article 4, Section D.
- (14) Maintain all records pertaining to the administration of this ordinance and make these records available for public inspection.

SECTION D. ADMINISTRATIVE PROCEDURES.

- (1) Inspections of Work in Progress: As the work pursuant to a permit progresses, the 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 the local ordinance 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.
- (2) Stop-Work Orders: Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work order shall state the specific work

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to be stopped, the specific reasons for the stoppage, and the conditions under which the work may be resumed. Violation of a stop-work order constitutes a misdemeanor.

- (3) Revocation of Permits: The 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.
- (4) Periodic Inspections: The 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.

- (5) Violations to be Corrected: When the 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 immediately remedy each of the violations of law in the property he owns.
- (6) 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,
- (a) that the building or property is in violation of the Flood Damage Prevention Ordinance;
 - (b) that a hearing will be held before the 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,
 - (c) that following the hearing, the administrator may issue such order to alter, vacate, or demolish the building; or to remove fill as appears appropriate.
- (7) 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 the Flood Damage Prevention Ordinance, 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.

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- (8) Appeal: Any owner who has received an order to take corrective action may appeal from the order to the local elected governing body by giving notice of appeal in writing to the administrator and the 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 local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.
- (9) 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.

SECTION E. VARIANCE PROCEDURES.

- (1) The _____ (*appeal board*) as established by _____ (*local unit*), hereinafter referred to as the "appeal board", shall hear and decide requests for variances from the requirements of this ordinance.
- (2) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.
- (3) Variances may be issued for the repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- (4) In passing upon variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:
 - (a) the danger that materials may be swept onto other lands to the injury of others;
 - (b) the danger to life and property due to flooding or erosion damage;
 - (c) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - (d) the importance of the services provided by the proposed facility to the community;
 - (e) the necessity to the facility of a waterfront location, where applicable;
 - (f) the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (g) the compatibility of the proposed use with existing and anticipated development;
 - (h) the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - (i) the safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (j) 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,
 - (k) 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.

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- (5) A written report addressing each of the above factors shall be submitted with the application for a variance.
- (6) Upon consideration of the factors listed above and the purposes of this ordinance, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
- (7) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (8) Conditions for Variances:
 - (a) Variances may not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.
 - (b) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (c) Variances shall only be issued upon (i) a showing of good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship; and, (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
 - (d) 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.

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

ARTICLE 5. PROVISIONS FOR FLOOD HAZARD REDUCTION.

SECTION A. GENERAL STANDARDS.

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

- (1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or 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 or 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;
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (6) 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;
- (7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding; and,
- (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.
- (8) Non-Conforming Buildings or Uses. Non-conforming buildings or uses may not be enlarged, replaced, or rebuilt unless such enlargement or reconstruction is accomplished in conformance with the provisions of this ordinance. Provided, however, 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 or stream setback, provided that the bulk of the building or structure

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below base flood elevation in the floodway or stream setback is not increased and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.

SECTION B. SPECIFIC STANDARDS.

In all areas of special flood hazard where base flood elevation data has been provided, as set forth in Article 3, Section B, or Article 4, Section C(10), the following provisions are required:

- (1) 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 _____ feet above the base flood elevation.

Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided.

(2) 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 _____ feet above the level of the base flood elevation. Structures located in A Zones may be floodproofed to the flood protection level in lieu of elevation provided that all areas of the structure below the required 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 official as set forth in Article 4, Section B(7).

(3) Manufactured Homes.

(a) Manufactured homes that are placed or substantially improved on sites (i) outside a manufactured home park or subdivision; (ii) in a new manufactured home park or subdivision; (iii) in an expansion to an existing manufactured home park or subdivision; or, (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated no lower than _____ feet above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

(b) Manufactured homes that are to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the provisions of Article 5, Section B(3)(a) of this ordinance must be elevated on

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reinforced piers or other structural elements so that the lowest floor of the manufactured home is no lower than _____ feet above the base flood elevation and be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement.

(c) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. For the purpose of this requirement, manufactured homes must be anchored to resist flotation, collapse, or lateral movement in accordance with the *State of North Carolina Regulations for Manufactured/Mobile Homes, 1995 Edition*, and any revision thereto 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 36 inches or less above the grade at the site, the chassis shall be supported by reinforced piers or other foundation elements of at least equivalent strength. When the elevation of the chassis is above 36 inches in height an engineering certification is required.

- (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 administrator and the local Emergency Management coordinator.
- (4) Recreational Vehicles. A recreational vehicle is ready for highway use if it is on wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions. Recreation vehicles placed on sites shall either:
- (a) be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use; or
 - (b) meet the requirements of Article 4, Section B and Article 5, Sections A and B(3).
- (5) Elevated Buildings. New construction or substantial improvements of elevated buildings that include fully enclosed areas that are usable solely for the parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to preclude finished living space and be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.
- (a) 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 required 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.
 - (b) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).
 - (c) The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except to enclose storage areas.
- (6) Temporary Structures. Prior to the issuance of a development permit for a temporary structure the following requirements must be met:

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- (a) All applicants must submit to the administrator prior to the issuance of the development permit a plan for the removal of such structure(s) in the event of a hurricane or flash flood warning notification. The plan must include the following information:
 - (i) a specified time period for which the temporary use will be permitted;
 - (ii) the name, address and phone number of the individual responsible for the removal of the temporary structure;
 - (iii) 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);
 - (iv) a copy of the contract or other suitable instrument with a trucking company to insure the availability of removal equipment when needed; and
 - (v) designation, accompanied by documentation, of a location outside the floodplain to which the temporary structure will be moved.
- (b) The above information shall be submitted in writing to the administrator for review and written approval.

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- (7) Accessory Structure. When accessory structures (sheds, detached garages, etc.) with a value of \$3,000 or less, are to be placed in the floodplain the following criteria shall be met:
 - (a) Accessory structures shall not be used for human habitation (including work, sleeping, living, cooking or restroom areas);
 - (b) Accessory structures shall be designed to have low flood damage potential;
 - (c) Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;
 - (d) Accessory structures shall be firmly anchored in accordance with Article 5, Section A(1);
 - (e) Service facilities such as electrical and heating equipment shall be installed in accordance with Article 5 Section A(4); and
 - (f) Openings to relieve hydrostatic pressure during a flood shall be provided below base flood elevation in conformance with Article 5 Section B(5).

- (8) Floodways. Located within areas of special flood hazard established in Article 3, Section B, 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:
- (a) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood. Such certification and technical data shall be presented to the administrator.
 - (b) If Article 5, Section B(8)(a) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article 5.
 - (c) No manufactured homes shall be permitted, except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring and the elevation standards of Article 5, Section B(3) and the encroachment standards of Article 5, Section B(8)(a) are met.

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SECTION C. STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS AND/OR FLOODWAYS.

Located within the areas of special flood hazard established in Article 3, Section B, 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:

- (1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty feet each side from top of bank or five 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.
- (2) If Article 5, Section C(1) 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 ordinance provisions of Article 5 and shall be elevated or floodproofed in accordance with elevations established in accordance with Article 4, Section C(10). 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 ____ () feet above the highest adjacent grade. *(Two (2) feet is the minimum requirement.)*

SECTION D. STANDARDS FOR SUBDIVISION PROPOSALS AND MAJOR DEVELOPMENTS.

- (1) Proposals for subdivisions and major developments shall be consistent with the need to minimize flood damage;
- (2) Proposals for subdivisions and major developments shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
- (3) Proposals for subdivisions and major developments shall have adequate drainage provided to reduce exposure to flood hazards; and,
- (4) Base flood elevation data shall be provided for subdivision proposals and other proposed development which is greater than the lesser of fifty lots or five acres.

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ARTICLE 6. LEGAL STATUS PROVISIONS

SECTION 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 _____ (*original adoption date*) 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 (*local government*) enacted on _____ (*original adoption date*), as amended, which are not reenacted herein are repealed.

SECTION B. EFFECT UPON OUTSTANDING BUILDING PERMITS.

Nothing herein contained shall require any change in the plans, construction, size or designated use of any building, structure or part thereof for which a building permit has been granted by the Chief Building Inspector or his 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 sixty (60) days subsequent to passage of this ordinance, construction or use shall be in

conformity with the provisions of this ordinance.

SECTION C. EFFECTIVE DATE

This ordinance shall become effective upon adoption.

SECTION D. ADOPTION CERTIFICATION

I hereby certify that this is a true and correct copy of the flood damage prevention ordinance as adopted by the _____ (*governing body*) of _____ (*local unit*), North Carolina, on the _____ day of _____, 199_.

WITNESS my hand and the official seal of _____, this the _____ day of _____, 199_.

**FLOOD DAMAGE PREVENTION ORDINANCE
NORTH CAROLINA MODEL**

Coastal Regular Phase

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FLOOD DAMAGE PREVENTION ORDINANCE

Coastal Regular Phase

ARTICLE 1. STATUTORY AUTHORIZATION, FINDINGS OF FACT, PURPOSE AND OBJECTIVES.

SECTION A. STATUTORY AUTHORIZATION.

Municipal: 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 North Carolina 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.

County: 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 Article 6 of Chapter 153A of the North Carolina 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 _____ (*governing body*) of _____ (*local unit*), North Carolina, does ordain as follows:

SECTION B. FINDINGS OF FACT.

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

SECTION C. STATEMENT OF PURPOSE.

It is the purpose of this ordinance 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 floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
- (4) control filling, grading, dredging, and other development which may increase erosion or flood damage; 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.

SECTION D. OBJECTIVES.

The objectives of this ordinance are:

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

ARTICLE 2. DEFINITIONS.

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

"Accessory Structure" means structures which are located on the same parcel of property as the principal structure and the use of which is incidental to the use of the principal structure. Garages, carports and storage sheds are common urban accessory structures. Pole barns, hay sheds and the like qualify as accessory structures on farms, and may or may not be located on the same parcel as the farm dwelling or shop building.

"Addition (to an existing building)" means an extension or increase in the floor area or height of a building or structure. Additions to existing buildings shall comply with the requirements for new construction, unless the addition, renovation or reconstruction to any building, that was constructed prior to the **initial** Flood Insurance Study for that area, and the addition, renovation or reconstruction does not equal 50% of the present market value of the structure. Where a fire wall is provided between the addition and the existing building, the addition(s) shall be considered a separate building and must comply with the standards for new construction.

"Appeal" means a request for a review of the administrator's interpretation of any provision of this ordinance.

"Area of shallow flooding" means a designated A0 or V0 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" is the land in the floodplain within a community subject to a one percent or greater chance of being flooded in any given year.

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

"Basement" means, for floodplain management purposes, any area of the building having its floor subgrade (below ground level) on all sides.

"Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system. A breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. A wall with loading resistance of more than 20 pounds per square foot requires a professional engineer or architect's certificate.

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

"Coastal High Hazard Area" means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

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

"Elevated building" means a non-basement building (a) built, in the case of a building in Zones A1-A30, AE, A, A99, A0, AH, B, C, or X to have the top of the elevated floor, or in the case of a building in Zones V1-V30, VE, or V to have the bottom of the lowest horizontal structural member of the elevated floor above the ground by means of pilings, columns (posts and piers), shear walls parallel to the flow of water and, (b) adequately anchored so as not to impair the structural integrity of the building during a flood up to the magnitude of the base flood. In the case of Zones A1-A30, AE, A, A99, A0, AH, B, C, and X, "elevated building" also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters. In the case of Zones V1-V30, VE, or V, "elevated building" also includes a building otherwise meeting the definition of "elevated building", even though the area below is enclosed by means of breakaway walls if the breakaway walls meet the standards of Article 5, Section C(8) of this ordinance.

"Existing construction" means for the purposes of determining rates, structures for which the start of construction" commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. "Existing construction" may also be referred to as "existing structures".

"Existing manufactured home park or manufactured home subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets , and either final site grading or the pouring of concrete pads) is completed before _____. (*Insert effective date of original flood damage prevention ordinance.*)

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

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

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

"Flood Hazard Boundary Map (FHBM)" means an official map of a community, issued by the

Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been defined as Zone A.

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

"Flood Insurance Study" is the engineering study performed by the Federal Emergency Management Agency to identify flood hazard areas, flood insurance risk zones, and other flood data in a community. The study includes Flood Boundary and Floodway Maps (FBFMs), Flood Hazard Boundary Maps (FHBMs), and/or Flood Insurance Rate Map (FIRMs).

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

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

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

"Highest Adjacent Grade" means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of the structure.

"Historic Structure" means any structure that is: (a) listed individually in the National Register of Historic Places (a listing maintained by the US Department of Interior) or preliminarily determined by the Secretary of Interior as meeting the requirements for individual listing on the National Register; (b) certified or preliminarily determined by the Secretary of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) individually listed on a State inventory of historic places; (d) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified (1) by an approved state program as determined by the Secretary of Interior, or (2) directly by the Secretary of Interior in states without approved programs.

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"Lowest Floor" means, for floodplain management and flood insurance purposes, the lowest floor of the lowest enclosed area (including basement). An unfinished or flood 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 an enclosure is not built so as

to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

"Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"Mean Sea Level" means, for purposes of the NFIP, the National Geodetic Vertical Datum (NGVD) of 1929 or other datum, to which base flood elevations shown on a FIRM are referenced.

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

"New construction" means, for floodplain management purposes, structures for which the "start of construction" commenced on or after the effective date of this ordinance and includes any subsequent improvements to such structures.

"New manufactured home park or subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete slabs) is completed on or after _____. *(Insert effective date of original flood damage prevention ordinance.)*

"Nonconforming building or use" means any legally existing building or use which fails to comply with the provisions of the ordinance.

"Primary frontal dune" means a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and over-topping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

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"Reference feature" is the receding edge of a bluff or eroding frontal dune or, if such a feature is not present, the normal highwater line or the seaward line of permanent vegetation if highwater line cannot be identified.

"Recreational vehicle" means a vehicle which is: (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projection; (c) designed to be self-propelled or

permanently towable by a light duty truck; and, (d) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Remedy a violation" means to bring the structure or other development into compliance with State or local floodplain management regulations, or, if this is not possible, to reduce the impacts of its noncompliance. Ways that impacts may be reduced include protecting the structure or other affected development from flood damages, implementing the enforcement provisions of the ordinance or otherwise deterring future similar violations, or reducing Federal financial exposure with regard to the structure or other development.

"60-year setback" means a distance equal to sixty (60) times the average annual long-term recession rate at a site, measured from the reference feature.

"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, rehabilitation, addition, 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. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of the building, whether or not that alteration affects the external dimensions of the building.

"Structure" means, for floodplain management purposes, a walled and roofed building, a manufactured home, a gas or liquid storage tank, or other man-made facility or infrastructure that is principally above ground.

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

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"Substantial improvement" means any repair, reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either: (1) any project of improvement of a structure to correct existing violations of State or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are

the minimum necessary to assure safe living conditions; or, (2) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure.

"Substantially improved existing manufactured home park or subdivision" means where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction, or improvement commenced.

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

"Violation" means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in Articles 4 and 5 is presumed to be in violation until such time as that documentation is provided.

"Zone of imminent collapse" means an area subject to erosion adjacent to the shoreline of an ocean, bay or lake and within a distance equal to 10 feet plus 5 times the average annual long-term erosion rate for the site, measured from the reference feature.

ARTICLE 3. GENERAL PROVISIONS.

SECTION A. LANDS TO WHICH THIS ORDINANCE APPLIES.

This ordinance shall apply to all areas of special flood hazard within the jurisdiction of _____ (*local unit*).

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SECTION B. BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD.

The "Areas of Special Flood Hazard" are those identified by the Federal Emergency Management Agency (FEMA) in its Flood Hazard Boundary Map or Flood Insurance Study and Flood Insurance Rate Map(s), for _____ dated _____, which with accompanying supporting data, and any revision thereto, including Letters of Map Amendment or Revision, are adopted by reference and declared to be a part of this ordinance. The "Areas of Special Flood Hazard" also include those defined through

standard engineering analysis for private developments or by governmental agencies, but which have not yet been incorporated in the FIRM. This includes detailed flood information generated as a requirement of Article 4, Section C (10) this Ordinance.

Municipal: In addition, upon annexation to _____, or inclusion in the Extra-territorial Jurisdiction, the Areas of Special Flood Hazard identified by the Federal Emergency Management Agency in its Flood Hazard Boundary Map or Flood Insurance Study and Flood Insurance Rate Map(s) for Unincorporated _____ County, with accompanying maps and other supporting data, and any revision thereto, are adopted by reference and declared to be a part of this ordinance.

[*NOTE: If the community regulates other flood hazard areas not shown on the FEMA maps, please modify this section to reference those additional areas and the documents in which they are described.*]

SECTION C. ESTABLISHMENT OF DEVELOPMENT PERMIT.

A Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities.

SECTION D. COMPLIANCE.

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

SECTION E. ABROGATION AND GREATER RESTRICTIONS.

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.

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SECTION F. INTERPRETATION.

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

SECTION G. WARNING AND DISCLAIMER OF LIABILITY.

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 on rare occasions. Flood heights may be increased by man-made or natural causes. This ordinance 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 ordinance shall not create liability on the part of _____ (*local unit*) 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.

SECTION H. PENALTIES FOR VIOLATION.

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 misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than \$50.00 or imprisoned for not more than 30 days, or both. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent _____ (*local unit*) from taking such other lawful action as is necessary to prevent or remedy any violation.

ARTICLE 4. ADMINISTRATION.

SECTION A. DESIGNATION OF ADMINISTRATOR.

The _____, hereinafter referred to as the "administrator", is hereby appointed to administer and implement the provisions of this ordinance.

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SECTION B. DEVELOPMENT PERMIT AND CERTIFICATION REQUIREMENTS.

Application for a Development Permit shall be made to the administrator on forms furnished by the administrator prior to any development activities. The Development Permit shall 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:

- (1) A plot plan that shows the 100 year floodplain contour or a statement that the entire lot is within the floodplain must be provided by the development permit applicant when the lot is within or appears to be within the floodplain as mapped by the Federal Emergency Management Agency or the floodplain identified pursuant to either Article 4, Section C(10) or Article 5 Sections C and D. The plot plan must be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same.
- (2) The plot plan required by Article 4, Section B(1) must show the floodway as identified by the Federal Emergency Management Agency or pursuant to either Article 4, Section C(10) or Article 5, Section C, or the setback required for streams without designated floodways as required by Article 5, Section D.
- (3) Where base flood elevation data is provided as set forth in Article 3, Section B; Article 4, Section C(10); or Article 5, Sections D and E, the application for a Development Permit within the flood hazard area shall show:
 - (a) the elevation (in relation to mean sea level) of the lowest floor (including basement) of all new and substantially improved structures, and
 - (b) if the non-residential structure will be floodproofed in accordance with Article 5, Section B(2), the elevation (in relation to mean sea level) to which the structure will be floodproofed.
- (4) Where the base flood elevation data is not provided, the application for a development permit must show construction of the lowest floor at least 2 feet above the highest adjacent grade.
- (5) 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.

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- (6) When a structure is floodproofed, the applicant shall provide a Floodproofing Certificate (FEMA Form 81-65) from a registered professional engineer or architect that the non-residential floodproofed structure meets the floodproofing criteria in Article 5, Section B(2).
- (7) An Elevation Certificate (FEMA Form 81-31) or a Floodproofing Certificate (FEMA Form 81-65) is required after the lowest floor is completed. Within twenty-one (21) calendar days of establishment of the lowest floor elevation, or floodproofing by whatever construction means, whichever is applicable, it shall be the duty of the permit holder to

submit to the administrator a certification of the elevation of the lowest floor, or floodproofed 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 twenty-one (21) day calendar period and prior to submission of the certification shall be at the permit holder's risk. The administrator shall review the floor elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby shall be cause to issue a stop-work order for the project.

SECTION C. DUTIES AND RESPONSIBILITIES OF THE ADMINISTRATOR.

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

- (1) Review all development permits to assure that the requirements of this ordinance have been satisfied.
 - (2) 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.
 - (3) Notify adjacent communities and the North Carolina 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.
 - (4) Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished.
 - (5) Prevent encroachments within floodways unless the certification and flood hazard reduction provisions of Article 5 are met.
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- (6) 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 Article 4, Section B(7).
 - (7) Obtain the actual elevation (in relation to mean sea level) to which the new or substantially improved structures have been floodproofed, in accordance with Article 4, Section B(7).
 - (8) When floodproofing is utilized for a particular structure, obtain certifications from a registered professional engineer or architect in accordance with Article 5, Section B(2).

- (9) 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.
- (10) When base flood elevation data or floodway data has not been provided in accordance with Article 3, Section B, 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 Article 5, Section E(4), in order to administer the provisions of this ordinance.
- (11) When the exact location of boundaries of the areas special flood hazards conflict with the current, natural topography information at the site the property owner may apply and be approved for a Letter of Map Amendment (LOMA) by FEMA. A copy of the Letter of Map Amendment issued from FEMA will be maintained by the administrator in the permit file.
- (12) Make on-site inspections of projects in accordance with Article 4, Section D.
- (13) Serve notices of violations, issue stop-work orders, revoke permits and take corrective actions in accordance with Article 4, Section D.
- (14) Maintain all records pertaining to the administration of this ordinance and make these records available for public inspection.

SECTION D. ADMINISTRATIVE PROCEDURES.

- (1) Inspections of Work in Progress: As the work pursuant to a permit progresses, the 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 the local ordinance and the terms of the permit. In exercising this power, the administrator has a right, upon

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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.

- (2) Stop-Work Orders: Whenever a building or part thereof is being constructed, reconstructed, altered, or repaired in violation of this ordinance, the administrator may order the work to be immediately stopped. The stop-work order shall be in writing and directed to the person doing the work. The stop-work 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-work order constitutes a misdemeanor.
- (3) Revocation of Permits: The 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.

- (4) Periodic Inspections: The 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.
 - (5) Violations to be Corrected: When the 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 immediately remedy each of the violations of law in the property he owns.
 - (6) 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,
 - (a) that the building or property is in violation of the Flood Damage Prevention Ordinance;
 - (b) that a hearing will be held before the 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,
 - (c) that following the hearing, the administrator may issue such order to alter, vacate, or demolish the building; or to remove fill as appears appropriate.
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- (7) 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 the Flood Damage Prevention Ordinance, 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.
 - (8) Appeal: Any owner who has received an order to take corrective action may appeal from the order to the local elected governing body by giving notice of appeal in writing to the administrator and the 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 local governing body shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

- (9) 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.

SECTION E. VARIANCE PROCEDURES.

- (1) The _____ (*appeal board*) as established by _____ (*local unit*), hereinafter referred to as the "appeal board", shall hear and decide requests for variances from the requirements of this ordinance.
- (2) Any person aggrieved by the decision of the appeal board may appeal such decision to the Court, as provided in Chapter 7A of the North Carolina General Statutes.
- (2) Variances may be issued for the repair or rehabilitation of historic structures upon the determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- (4) In passing upon variances, the appeal board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:
- (a) the danger that materials may be swept onto other lands to the injury of others;
 - (b) the danger to life and property due to flooding or erosion damage;
 - (c) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
 - (d) the importance of the services provided by the proposed facility to the community;
 - (e) the necessity to the facility of a waterfront location, where applicable;
 - (f) the availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (g) the compatibility of the proposed use with existing and anticipated development;
 - (h) the relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
 - (i) the safety of access to the property in times of flood for ordinary and emergency vehicles;

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- (j) 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,
 - (k) 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.
- (5) A written report addressing each of the above factors shall be submitted with the application for a variance.
 - (6) Upon consideration of the factors listed above and the purposes of this ordinance, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purposes of this ordinance.
 - (7) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
 - (8) Conditions for Variances:
 - (a) Variances may not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.
 - (b) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
 - (c) Variances shall only be issued upon (i) a showing of good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship; and, (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense,

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- create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
- (d) 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.
- (e) The administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

ARTICLE 5. PROVISIONS FOR FLOOD HAZARD REDUCTION.

SECTION A. GENERAL STANDARDS.

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

- (1) All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or 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 or 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;
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (6) 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;
- (7) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding; and,

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- (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) Non-Conforming Buildings or Uses. Non-conforming buildings or uses may not be enlarged, replaced, or rebuilt unless such enlargement or reconstruction is accomplished in conformance with the provisions of this ordinance. Provided, however, 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 or stream setback, provided that the bulk of the building or structure below base flood elevation in the floodway or stream setback is not increased and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.

SECTION B. SPECIFIC STANDARDS.

In all areas of special flood hazard where base flood elevation data has been provided, as set forth in Article 3, Section B, or Article 4, Section C(10), except areas designated as Coastal High Hazard Areas, the following provisions are required:

- (1) 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 _____ feet above the base flood elevation.

Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided.

- (2) 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 _____ feet above the level of the base flood elevation. Structures located in A Zones may be floodproofed to the flood protection level in lieu of elevation provided that all areas of the structure below the required 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 official as set forth in Article 4, Section B(7).

- (3) Manufactured Homes.

- (a) Manufactured homes that are placed or substantially improved on sites (i) outside a manufactured home park or subdivision; (ii) in a new manufactured home park or subdivision; (iii) in an expansion to an existing manufactured home park or

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- subdivision; or, (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, must be elevated on a permanent foundation such that the lowest floor of the manufactured home is elevated no lower than _____ feet above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
- (b) Manufactured homes that are to be placed or substantially improved on sites in an existing manufactured home park or subdivision that are not subject to the provisions of Article 5, Section B(3)(a) of this ordinance must be elevated on reinforced piers or other structural elements so that the lowest floor of the manufactured home is no lower than _____ feet above the base flood elevation and be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement.
- (c) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. For the purpose of this requirement, manufactured homes must be anchored to resist flotation, collapse, or lateral movement in accordance with the

State of North Carolina Regulations for Manufactured/Mobile Homes, 1995 Edition, and any revision thereto 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 36 inches or less above the grade at the site, the chassis shall be supported by reinforced piers or other foundation elements of at least equivalent strength. When the elevation of the chassis is above 36 inches in height an engineering certification is required.

- (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 administrator and the local Emergency Management coordinator.
- (4) Recreational Vehicles. A recreational vehicle is ready for highway use if it is on wheels or jacking system, is attached to the site only by quick-disconnect type utilities and security devices, and has no permanently attached additions. Recreation vehicles placed on sites shall either:
- (a) be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use; or
 - (b) meet the requirements of Article 4, Section B and Article 5, Sections A and B(3).

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- (5) Elevated Buildings. New construction or substantial improvements of elevated buildings that include fully enclosed areas that are usable solely for the parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to preclude finished living space and be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.
- (a) 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 required 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.
 - (b) Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in

connection with the premises (standard exterior door) or entry to the living area (stairway or elevator).

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

(6) Temporary Structures. Prior to the issuance of a development permit for a temporary structure the following requirements must be met:

(a) All applicants must submit to the administrator prior to the issuance of the development permit a plan for the removal of such structure(s) in the event of a hurricane or flash flood warning notification. The plan must include the following information:

(i) a specified time period for which the temporary use will be permitted;

(ii) the name, address and phone number of the individual responsible for the removal of the temporary structure;

(iii) 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);

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(iv) a copy of the contract or other suitable instrument with a trucking company to insure the availability of removal equipment when needed; and

(v) designation, accompanied by documentation, of a location outside the floodplain to which the temporary structure will be moved.

(b) The above information shall be submitted in writing to the administrator for review and written approval.

(7) Accessory Structure. When accessory structures (sheds, detached garages, etc.) with a value of \$3,000 or less, are to be placed in the floodplain the following criteria shall be met:

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

(b) Accessory structures shall be designed to have low flood damage potential;

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

(d) Accessory structures shall be firmly anchored in accordance with Article 5, Section A(1);

- (e) Service facilities such as electrical and heating equipment shall be installed in accordance with Article 5 Section A(4); and
 - (f) Openings to relieve hydrostatic pressure during a flood shall be provided below base flood elevation in conformance with Article 5 Section B(5).
- (8) Floodways. Located within areas of special flood hazard established in Article 3, Section B, 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:
- (a) No encroachments, including fill, new construction, substantial improvements and other developments shall be permitted unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the base flood. Such certification and technical data shall be presented to the administrator.

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- (b) If Article 5, Section B(8)(a) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article 5.
- (c) No manufactured homes shall be permitted, except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring and the elevation standards of Article 5, Section B(3) and the encroachment standards of Article 5, Section B(8)(a) are met.

SECTION C. COASTAL HIGH HAZARD AREAS.

Coastal High Hazard Areas (V-Zones). Located within the areas of special flood hazard established in Article 3, Section B, are areas designated as coastal high hazard areas. These areas have special flood hazards associated with wave wash. The following provisions shall apply within such areas:

- (1) All buildings or structures shall be located landward of the first line of stable natural vegetation and comply with all applicable CAMA setback requirements.
- (2) All buildings or structures shall be elevated so that the bottom of the lowest supporting horizontal member (excluding pilings or columns) is located no lower than _____ feet above the base flood elevation level, with all space below the lowest supporting member

open so as not to impede the flow of water. Open lattice work or decorative screening may be permitted for aesthetic purposes only and must be designed to wash away in the event of abnormal wave action and in accordance with Article 5, Section C(8).

- (3) All buildings or structures shall be securely anchored on pilings or columns.
- (4) All pilings and columns and the attached structures shall be anchored to resist flotation, collapse, and lateral movement due to the effect of wind and water loads acting simultaneously on all building components.
- (5) A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions contained in Article 5, Section C(4)(6) and (8) of this ordinance.
- (6) There shall be no fill used as structural support. Non-compacted fill may be used around the perimeter of a building for landscaping/ aesthetic purposes provided the fill will wash out from storm surge, thereby rendering the building free of obstruction prior to generating excessive loading forces, ramping effects, or wave deflection. The local administrator shall approve design plans for landscaping/ aesthetic fill only after the

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applicant has provided an analysis by an engineer, architect, and/or soil scientist which demonstrates that the following factors have been fully considered:

- (a) Particle composition of fill material does not have a tendency for excessive natural compaction;
 - (b) Volume and distribution of fill will not cause wave deflection to adjacent properties; and,
 - (c) Slope of fill will not cause wave run-up or ramping.
- (7) There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.
 - (8) Lattice work or decorative screening shall be allowed below the base flood elevation provided they are not part of the structural support of the building and are designed so as to breakaway, under abnormally high tides or wave action, without damage to the structural integrity of the building on which they are to be used and provided the following design specifications are met:
 - (a) No solid walls shall be allowed.
 - (b) Material shall consist of wood or mesh screening only.

- (c) Design safe loading resistance of each wall shall be not less than 10 nor more than 20 pounds per square foot; or
 - (d) If more than 20 pounds per square foot, a registered professional engineer or architect shall certify that the design wall collapse would result from a water load less than that which would occur during the base flood event, and the elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). The water loading values used shall be those associated with the base flood. The wind loading values used shall be those required by the North Carolina State Building Code.
- (9) If aesthetic lattice work or screening is utilized, such enclosed space shall not be designed to be used for human habitation, but shall be designed to be used only for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises.
 - (10) Prior to construction, plans for any structures that will have lattice work or decorative screening must be submitted to the local administrator for approval.
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- (11) Any alteration, repair, reconstruction or improvement to a structure shall not enclose the space below the lowest floor except with lattice work or decorative screening, as provided for in Article 5, Section C(8) and (9).
 - (12) No manufactured homes shall be permitted except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring and elevation standards of Article 5, Section B(3).
 - (13) Recreational vehicles shall be permitted in Coastal High Hazard Areas provided that they meet the Recreational Vehicle criteria of Article 5 Section B(4) and the Temporary Structure provisions of Article 5 Section B(6).

SECTION D. STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS AND/OR FLOODWAYS.

Located within the areas of special flood hazard established in Article 3, Section B, 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:

- (1) No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within a distance of twenty feet each side from top of bank or five 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.

- (2) If Article 5, Section C(1) 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 ordinance provisions of Article 5 and shall be elevated or floodproofed in accordance with elevations established in accordance with Article 4, Section C(10). 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 ____ () feet above the highest adjacent grade. *(Two (2) feet is the minimum requirement.)*

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SECTION E. STANDARDS FOR SUBDIVISION PROPOSALS AND MAJOR DEVELOPMENTS.

- (1) Proposals for subdivisions and major developments shall be consistent with the need to minimize flood damage;
- (2) Proposals for subdivisions and major developments shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage;
- (3) Proposals for subdivisions and major developments shall have adequate drainage provided to reduce exposure to flood hazards; and,
- (4) Base flood elevation data shall be provided for subdivision proposals and other proposed development which is greater than the lesser of fifty lots or five acres.

SECTION F. STANDARDS FOR AREAS OF SHALLOW FLOODING (A0 ZONES).

Located within the areas of special flood hazard established in Article 3, Section B, are areas designated as shallow flooding. 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. The following provisions shall apply within such areas:

- (1) 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 (2) feet above the highest adjacent grade.

- (2) All new construction and substantial improvements of non-residential structures shall:
- (a) have the lowest floor, including basement, elevated to the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent grade. If no depth number is specified, the lowest floor, including basement, shall be elevated at least two (2) feet above the highest adjacent grade; or,
 - (b) be completely floodproofed 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.

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ARTICLE 6. LEGAL STATUS PROVISIONS

SECTION 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 _____ (*original adoption date*) 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 (*local government*) enacted on _____ (*original adoption date*), as amended, which are not reenacted herein are repealed.

SECTION B. EFFECT UPON OUTSTANDING BUILDING PERMITS.

Nothing herein contained shall require any change in the plans, construction, size or designated use of any building, structure or part thereof for which a building permit has been granted by the Chief Building Inspector or his 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 sixty (60) days subsequent to passage of this ordinance, construction or use shall be in conformity with the provisions of this ordinance.

SECTION C. EFFECTIVE DATE

This ordinance shall become effective upon adoption.

SECTION D. ADOPTION CERTIFICATION

I hereby certify that this is a true and correct copy of the flood damage prevention ordinance as adopted by the _____ (*governing body*) of _____ (*local unit*), North Carolina, on the _____ day of _____, 199__.

WITNESS my hand and the official seal of _____, this the _____ day of _____, 199__ .