

Chapter 9 FLOOD DAMAGE PREVENTION AND CONTROL *

***Editor's note:** Ord. No. 8-87, adopted May 5, 1987, has been codified herein as superseding the provisions of former Ch. 9, §§ 9-1--9-11, 9-26--9-28, 9-41, 9-42, 9-56--9-60, as derived from Ord. No. 19-83, adopted Nov. 8, 1983.

Ord. No. 8-87 also provided that "The final rule, *Federal Register*," Vol. 51, No. 164, Monday, August 25, 1986, is hereby attached and made part of the Flood Damage Prevention Ordinance for Horry County."

Cross references: Airport zoning regulations, § 3-16 et seq.; beaches, Ch. 5; buildings and building regulations, Ch. 6; garbage, trash and refuse, Ch. 10; health and sanitation, Ch. 11; planning, Ch. 15; roads and bridges, Ch. 16; drainage structures, § 16-46 et seq.; subdivision regulations, Ch. 18; zoning, App. B.

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ARTICLE I. IN GENERAL

Sec. 9-1. Statutory authorization.

The legislature of the State of South Carolina has in 1976 Code of Laws of South Carolina, Title 4, Chapter 7, section 4-9-30, 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 county council of Horry County, South Carolina, does ordain the provisions of this chapter as follows.

(Ord. No. 8-87, Art. I, § A, 5-5-87; Ord. No. 43-90, Art. 1, § A, 8-7-90)

Sec. 9-2. Findings of fact.

(a) The flood hazard areas of the county are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.

(b) These flood losses are caused by the cumulative effect of obstructions in flood plains causing increases in flood heights and velocities, and by the occupancy in flood hazard areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, flood-proofed, or otherwise unprotected from flood damages.

(Ord. No. 8-87, Art. 1, § B, 5-5-87; Ord. No. 43-90, Art. 1, § B, 8-7-90)

Sec. 9-3. Purpose.

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

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

(Ord. No. 8-87, Art. 1, § C, 5-5-87; Ord. No. 43-90, Art. 1, § C, 8-7-90)

Sec. 9-4. Objectives.

The objectives of this chapter are:

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

(Ord. No. 8-87, Art. 1, § D, 5-5-87; Ord. No. 43-90, Art. 1, § D, 8-7-90)

Sec. 9-5. Definitions.

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

Accessory structure means a structure used for the parking of vehicles, and/or boats, and/or limited storage of maintenance equipment used in connection with the premises.

Addition to an existing building means any walled and roofed expansion to the perimeter of a building in which the addition is connected by a common load-bearing wall other than a fire wall. Any walled and roofed addition which is connected by a fire wall or is separated by independent perimeter load-bearing walls is new construction.

Appeal means a request for a review of the flood prevention enforcement officer's (FPEO) interpretation of any provision of this chapter or a request for a variance. The appeal shall be heard by the board of adjustment and appeals, building inspection department.

Area of shallow flooding means a designated AO or VO Zone on a community's Flood Insurance Rate Map (FIRM) with base flood depths from one (1) to three (3) 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 flood plain within a community subject to a one (1) percent or greater chance of flooding in any given year.

Base flood means the flood having a one (1) percent chance of being equaled or exceeded in any given year.

Basement means that portion of a building having its flood 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.

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

Coastal high hazard area means the area subject to high velocity waters caused by, but not limited to, hurricane wave wash. The area is designated on a FIRM as Zone V1-30, VE or V.

Development means any man-made change to improved or unimproved real estate, including,

but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavating, drilling operations, or permanent storage of materials or equipment.

Elevated building means a nonbasement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (posts and piers), shear walls, or breakaway walls.

Existing construction means any structure for which the "start of construction" commenced before the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which establishes the area of special flood hazard, June 26, 1978, date of adoption of Ordinance No. 6-78.

Existing 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 pads) is completed before the effective date of the flood plain management regulations adopted by a community, or June 26, 1978.

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 pads).

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;
- (2) The unusual and rapid accumulation or 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 area 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 area of special flood hazard and the risk premium zones applicable to the community.

Flood Insurance Study is the official report provided by the Federal Emergency Management Agency. The report contains flood profiles, as well as the Flood Boundary-Floodway Map and the water surface elevation of the base flood.

Floodway 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 (1) 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 ground surface, prior to construction, next to the proposed walls of a structure.

Historic structure means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the secretary of the interior as

meeting the requirements for individual listing on the National Register;

(2) Certified or preliminarily determined by the secretary of the 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;

(3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the secretary of the interior; or

(4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:

a. By an approved state program as determined by the secretary of the interior;
or

b. Directly by the secretary of the interior in states without approved programs.

Increased cost of compliance (ICC) is additional insurance coverage for claimants who have flood insurance which provides for payment of a claim for the cost to comply with the local ordinance after a direct loss by physical flood up to a maximum of fifteen thousand dollars (\$15,000.00). This can be done through repairing, relocating, elevating or demolishing.

Manufactured home means a building, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes park trailers, travel trailers, and similar transportable structures placed on a site for one hundred eighty (180) consecutive days or longer and intended to be improved property.

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

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

New construction is any structure for which the "start of construction" commenced after (the effective date of the first floodplain management code, ordinance, or standard based upon specific technical base flood elevation data which establishes the area of special flood hazard) June 26, 1978. The term also includes any subsequent improvements to such structure.

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 pads) is completed on or after the effective date of flood plain management regulations adopted by a community.

Recreational vehicle means a vehicle which is:

(1) Built on a single chassis;

(2) Four hundred (400) square feet or less when measured at the largest horizontal projection;

(3) Designed to be self-propelled or permanently towable by a light-duty truck; and

(4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Repetitive loss structure is a structure covered by a contract for flood insurance that has incurred flood related damages on two (2) separate occasions during a five-year period ending on the date of the event for which a second claim is made, in which the cost of repairing the flood damage, on the average, equaled or exceeded twenty-five (25) percent of the market value of the building at the time of each such flood event.

Sand dunes mean naturally occurring accumulations of sand in ridges or mounds landward of the beach.

Start of construction for other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348), includes substantial improvement, and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within one hundred eighty (180) days of the permit date. The actual start means the first placement of permanent construction of a building (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 building, whether or not that alteration affects the external dimensions of the building.

Structure means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.

Substantial 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 fifty (50) percent of the market value (valuation method to be determined by the community) of the structure before the damage occurred. Substantial damage also means flood related damages sustained by a structure on two (2) separate occasions during a five-year period for which the cost of the repairs at the time of each such flood event, on the average equals or exceeds twenty-five (25) percent of the market value of the structure before the damage occurred.

Substantial improvement means any combination repairs, reconstruction, rehabilitation, addition, alteration or improvements to the structure taking place during a five-year period in which the cumulative cost equals or exceeds fifty (50) percent of the market value of the building. The market value of the building will be the value of the structure as determined by the community prior to the start of the repairs or improvement or the date the damage occurred. This term includes structures which have incurred "repetitive loss" or "substantial damage" regardless of the actual work performed. For the purpose of this definition, "substantial improvement" is considered to occur when the first alteration/addition of any wall, ceiling, floor or other structural part of the building commences, whether or not the alteration/addition affects the external dimensions of the building. The term does not, however include any project for improvement of a building required to comply with existing health, sanitary or safety code specifications which have been identified by the code enforcement official and which are solely necessary to assure safe living conditions.

Substantially improved existing manufactured home parks or subdivisions is where the repair, reconstruction, rehabilitation or improvement of the streets, utilities and pads equals or exceeds fifty (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 chapter which permits construction in a manner otherwise prohibited by this chapter where specific enforcement would result in unnecessary hardship.

(Ord. No. 8-87, Art. 2, 5-5-87; Ord. No. 43-90, Art. 2, 8-7-90; Ord. No. 51-91, § 2, 9-3-91; Ord. No. 88-00, § 1, 9-19-00)

Sec. 9-6. Applicability of chapter.

This chapter shall apply to all areas of special flood hazard within the jurisdiction of the county.

(Ord. No. 8-87, Art. 3, § A, 5-5-87; Ord. No. 43-90, Art. 3, § A, 8-7-90)

Sec. 9-7. Basis for establishing areas of special flood hazard.

The areas of special flood hazard identified by the Federal Emergency Management Agency in its latest Flood Insurance Rate Map (FIRM), with accompanying maps and other supporting data, and any revision thereto, are adopted by reference and declared to be a part of this chapter.

(Ord. No. 8-87, Art. 3, § B, 5-5-87; Ord. No. 43-90, Art.3, § B, 8-7-90; Ord. No. 88-00, § 2, 9-19-00)

Sec. 9-8. Compliance with chapter required.

No structure or land shall hereafter be located, extended, converted, or structurally altered without full compliance with the terms of this chapter and other applicable regulations.(Ord. No. 8-87, Art. 3, § D, 5-5-87; Ord. No. 43-90, Art. 3, § D, 8-7-90)

Sec. 9-9. Effect of conflict with other ordinances.

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

(Ord. No. 8-87, Art. 3, § E, 5-5-87; Ord. No. 43-90, Art. 3, § E, 8-7-90)

Sec. 9-10. Interpretation of chapter.

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

- (1) Considered as minimum requirements;
- (2) Liberally construed in favor of the governing body; and
- (3) Demand neither to limit nor repeal any other powers granted under state statutes.

(Ord. No. 8-87, Art. 3, § F, 5-5-87; Ord. No. 43-90, Art. 3, § F, 8-7-90)

Sec. 9-11. Warning and disclaimer of liability.

The degree of flood protection required by this chapter is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This chapter does not imply that land outside the areas of special flood hazard or uses permitted within such areas will be free from flooding or flood damages. This chapter shall not create liability on the part of the county councilor by any officer or employee thereof for any flood damages that result from reliance on this chapter or any administrative decision lawfully made thereunder.

(Ord. No. 8-87, Art. 3, § G, 5-5-87; Ord. No. 43-90, Art. 3, § G, 8-7-90)

Sec. 9-12. Penalties for violation.

Violation of the provisions of this chapter or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grants of variance or

special exceptions, shall constitute a misdemeanor. Any person who violates this chapter or fails to comply with any of its requirements shall, upon conviction thereof, be fined not more than two hundred dollars (\$200.00) or imprisoned for not more than thirty (30) days, or both, and in addition shall pay all costs and expenses involved in the case. Each day such violation continues shall be considered a separate offense. Nothing herein contained shall prevent the county council from taking such other lawful action as is necessary to prevent or remedy any violation.

(Ord. No. 8-87, Art. 3, § H, 5-5-87; Ord. No. 43-90, Art. 3, § H, 8-7-90)

Secs. 9-13--9-25. Reserved.

ARTICLE II. ADMINISTRATION*

*Cross references: Administration generally, Ch. 2.

DIVISION 1. GENERALLY

Sec. 9-26. Flood hazard reduction officer--Designated.

The county administrator of Horry County is hereby authorized to appoint a flood hazard reduction officer to administer and implement the provisions of this chapter. The officer shall be under the control and supervision of the division of development control.

(Ord. No. 8-87, Art. 4, § A, 5-5-87; Ord. No. 43-90, Art. 4, § A, 8-7-90)

Sec. 9-27. Same--Duties and responsibilities.

Duties of the county flood hazard reduction officer shall include, but not be limited to:

- (1) Review all development permits to assure that the permit requirements of this chapter have been satisfied;
- (2) Advise permittee that additional federal or state permits may be required, and if specific federal or state permit requirements are known, require that copies of such permits be provided and maintained on file with the development permit.
- (3) Notify adjacent communities and the state coordinating agency 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) Verify and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved buildings, in accordance with section 9-42(2).
- (6) Verify and record the actual elevation (in relation to mean sea level) to which the new or substantially improved buildings have been floodproofed, in accordance with section 9-42(2).
- (7) In coastal hazard areas, certification shall be obtained from a registered professional engineer or architect that the building is designed and securely anchored to adequately anchored pilings or columns in order to withstand velocity waters and hurricane wave wash.
- (8) In coastal high hazard areas, the county flood hazard reduction officer shall review plans for adequacy of breakaway walls in accordance with section 9-57(6)(h).
- (9) When floodproofing is utilized for a particular building, the county flood hazard

reduction officer shall obtain certification from a registered professional engineer or architect, in accordance with section 9-57(2).

(10) Where interpretation is needed as to the exact location of boundaries of the areas of special flood hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the county flood hazard reduction officer shall 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.

(11) When base flood elevation data or floodway data have not been provided in accordance with section 9-7, then the county flood hazard reduction officer may obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, in order to administer the provisions of Article III.

(12) All records pertaining to the provisions of this chapter shall be maintained in the office of the county flood hazard reduction officer and shall be open for public inspection.

(Ord. No. 8-87, Art. 4, § C, 5-5-87; Ord. No. 43-90, Art. 4, § C, 8-7-90; Ord. No. 88-00, § 3, 9-19-00)

Sec. 9-28. Variance procedures.

(a) The board of adjustments and appeals (building inspection) as established by Horry County shall hear and decide appeals and requests for variances from the requirements of this chapter.

(b) The board of adjustments and appeals (building inspection) shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the county flood hazard reduction officer in the enforcement or administration of this chapter.

(c) Any person aggrieved by the decision of the board of adjustments and appeals (building inspection) or any taxpayer may appeal such decision to the XV Judicial Circuit Court.

(d) Variances may be issued for the repair or rehabilitation of historic structures (see definition) upon a 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 to preserve the historic character and design of the structure.

(e) In passing upon such applications, the board of adjustments and appeals (building inspection) shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this chapter, and:

- (1) The danger that materials may be swept onto other lands to the injury of others;
- (2) The danger to life and property due to flooding or erosion damage;
- (3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- (4) The importance of the services provided by the proposed facility to the community;
- (5) The necessity of the facility to a waterfront location, in the case of a functionally dependent facility;
- (6) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
- (7) The compatibility of the proposed use with existing and anticipated development;
- (8) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- (9) The safety of access to the property in times of flood for ordinary and emergency

vehicles;

(10) The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, excepted at the site; and

(11) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.

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

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

(h) Conditions for variances:

(1) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief; and in the instance of a historical building, a determination that the variance is the minimum necessary so as not to destroy the historic character and design of the building.

(2) 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.

(3) 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 building is to be built and stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

(4) The county flood hazard reduction officer shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

(Ord. No. 8-87, Art. 4, § D, 5-5-87; Ord. No. 43-90, Art. 4, § D, 8-7-90)

Secs. 9-29--9-40. Reserved.

DIVISION 2. DEVELOPMENT PERMIT

Sec. 9-41. Required.

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

(Ord. No. 8-87, Art. 3, § C, 5-5-87; Ord. No. 43-90, Art. 3, § C, 8-7-90)

Sec. 9-42. Application; required information.

Application for a development permit shall be made to the county flood hazard reduction officer on forms furnished by him or her prior to any development activities, and may include, but not be limited

to, the following plans in duplicate drawn to scale showing the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, earthen fill, storage of materials or equipment, drainage facilities, and the location of the foregoing. Specifically, the following information is required:

(1) *Application stage.*

- a. Elevation in relation to mean sea level of the proposed lowest floor (including basement) of all buildings;
- b. Elevation in relation to mean sea level to which any nonresidential building will be floodproofed;
- c. Certificate from a registered professional engineer or architect that the nonresidential floodproofed building will meet the floodproofing criteria in section 9-57(2);
- d. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development; and

(2) *Construction stage.* Provide a floor elevation or floodproofing certification after the lowest floor is completed, or instances where the building is subject to the regulations applicable to coastal high hazard areas, after placement of the horizontal structural members of the lowest floor. Upon placement of the lowest floor, or floodproofing by whatever construction means, or upon placement of the horizontal structural members of the lowest floor, whichever is applicable, it shall be the duty of the permit holder to submit to the county flood hazard reduction officer a certification of the elevation of the lowest floor, floodproofed elevation, or the elevation of the lowest portion of the horizontal structural members of the lowest floor, whichever is applicable, as built, in relation to mean sea level. Said certification shall be prepared by or under the direct supervision of a registered land surveyor or professional engineer and certified by same. When floodproofing is utilized for a particular building, said certification shall be prepared by or under the direct supervision of a professional engineer or architect and certified by same. Any work undertaken prior to submission of the certification shall be at the permit holder's risk. The flood hazard reduction officer shall review the flood elevation survey data submitted. Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the survey or failure to make said corrections required hereby, shall be cause to issue a stop-work order for the project.

(Ord. No. 8-87, Art. 4, § B, 5-5-87; Ord. No. 43-90, Art. 4, § B, 8-7-90)

Secs. 9-43--9-55. Reserved.

ARTICLE III. PROVISIONS FOR FLOOD HAZARD REDUCTION

Sec. 9-56. General standards.

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

- (1) New construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure.
- (2) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state requirements for resisting wind forces.
- (3) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- (4) New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- (5) 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.
- (6) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- (7) 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.
- (8) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (9) Any alteration, repair, reconstruction or improvements to a building which is in compliance with the provisions of this article, shall meet the requirements of "new construction" as contained in this chapter.
- (10) Any alteration, repair, reconstruction or improvements to a building which is not in compliance with the provisions of this article, shall be undertaken only if said nonconformity is not furthered, extended, or replaced.

(Ord. No. 8-87, Art. 5, § A, 5-5-87; Ord. No. 43-90, Art. 5, § A, 8-7-90)

Sec. 9-57. Specific standards.

In all areas of special flood hazard where base flood elevation data have been provided, as set forth in section 9-7 or section 9-27(11), the following provisions are required:

- (1) *Residential construction:* New construction or substantial improvement of any residential building (or manufactured home) shall have the lowest floor, including basement elevated no lower than one (1) foot above the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of flood waters shall be provided in accordance with standards of subsection (3) of this section.

(2) *Nonresidential construction:* New construction or substantial improvement of any commercial, industrial, or nonresidential building (or manufactured home) shall have the lowest floor, including basement, elevated no lower than one (1) foot above the level of the base flood elevation. Buildings located in all A Zones may be floodproofed in lieu of being elevated provided that all areas of the building below the required elevation are watertight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification shall be provided to the official as set forth in section 9-27(9).

(3) *Elevated buildings:* New construction or substantial improvements of elevated buildings that include fully enclosed areas formed by foundation and other exterior walls below the base flood elevation shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls.

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

1. Provide a minimum of two (2) openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
2. The bottom of all openings shall be no higher than one (1) foot above grade; and
3. 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); and

c. The interior portion of such enclosed area shall not be partitioned or finished into separate rooms.

(4) *Standards of manufactured homes and recreational vehicles:*

a. All manufactured homes placed, or substantially improved, on individual lots or parcels, in expansions to existing manufactured home parks or subdivisions, or in substantially improved manufactured home parks or subdivision, must meet all the requirements for new construction, including elevation and anchoring.

b. All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision must be elevated so that:

1. The lowest floor of the manufactured home is elevated not lower than one (1) foot above the level of the base flood elevation; or
2. The manufactured home chassis is supported by reinforced piers or other foundation elements of at least an equivalent strength, of no less than thirty-six (36) inches in height above grade.
3. The manufactured home must be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement.
4. In an existing manufactured home park or subdivision on which a

manufactured home has incurred "substantial damage" as the result of a flood, any manufactured home placed or substantially improved must meet the standards of subsection (4)(b)(1) and (3) of this section.

- c. All recreational vehicles placed on sites must either:
1. Be fully licensed and ready for highway use; or
 2. The recreational vehicle must meet all the requirements for new construction, including anchoring and elevation requirements of subsection (4) paragraphs (a) or (b), subparagraphs (1) or (3), above.

A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached structures.

(5) *Floodways*: Located within areas of special flood hazard established in section 9-7 are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and has erosion potential, the following provisions shall apply:

- a. Prohibit encroachments, including fill, new construction, substantial improvements and other developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during occurrence of the base flood discharge;
- b. If subsection (5)(a) of this section is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Article III.

(6) *Coastal high hazard areas (V Zones)*: Located within the areas of special flood hazard established in section 9-7 are areas designated as coastal high hazard areas. These areas have special flood hazards associated with wave wash, therefore, the following provisions shall apply:

- a. All buildings, excluding fishing piers and buildings permitted by special permit obtained from the South Carolina Coastal Council (SCCC), shall be located landward of the SCCC baseline, in conformance with a site plan approved by the SCCC. Fishing piers and buildings permitted seaward of the baseline by the SCCC must conform to all SCCC requirements and permit conditions.
- b. All buildings shall be elevated so that the bottom of the lowest supporting horizontal member (excluding pilings or columns) is located no lower than one (1) foot 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 subsection (6)(h) of this section.
- c. All buildings or structures shall be securely anchored on pilings or columns.
- d. All pile and column foundations and structures attached thereto 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. Water loading values shall equal or exceed the base flood. Wind loading values shall be in accordance with the latest edition of the Standard Building Code, as adopted by the Horry County Council.
- e. A registered professional engineer or architect shall certify that the design, specifications and plans for construction are in compliance with the provisions

contained in subsection (6)(b), (c) and (d) of this section.

f. There shall be no fill used as structural support. Noncompacted 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 county flood hazard reduction officer shall approve design plans for landscaping/aesthetic fill only after the applicant has provided an analysis by an engineer, architect, and/or soil scientist, which demonstrates that the following factors have been fully considered:

1. Particle composition of fill material does not have a tendency for excessive natural compaction;
2. Volume and distribution of fill will not cause wave deflection to adjacent properties; and
3. Slope of fill will not cause wave run-up or ramping.

g. There shall be no alteration of sand dunes or mangrove stands which would increase potential flood damage.

h. 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 break away, 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:

1. No solid walls shall be allowed; and
2. Material shall consist of lattice or mesh screening only.

i. 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.

j. Prior to construction, plans for any buildings that will have lattice work or decorative screening must be submitted to the county flood hazard reduction officer for approval.

k. 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 subsection (6)(h) and (i) of this section.

l. Prohibit the placement of manufactured homes (mobile homes), except in an existing manufactured homes (mobile homes) park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring standards of subsection (6)(e), and the elevation standards of subsection (6)(b) of this section are met.

(7) *Accessory structures:* Accessory structures may be exempted from the elevation requirements in AE and A zones only, provided the following conditions are met:

a. The structure is securely anchored in accordance with currently adopted building code standards to resist flotation, collapse, and lateral movement.

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

1. Provide a minimum of two (2) openings having a total net area of not less than one (1) square inch for every square foot of enclosed area

subject to flooding;

2. The bottom of all required openings shall be no higher than one (1) foot above grade; and

3. Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.

c. The structure is made of flood-resistant materials and all electrical components are elevated above the base flood elevation. One (1) receptacle, switch and light is allowed below the base flood elevation provided that it is protected by a ground fault circuit. New structures and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage. No plumbing accessories are allowed.

d. *Size limitation:*

1. Structures used for parking of vehicles or boats may not exceed six hundred (600) square feet.

2. Structures for the limited storage of maintenance equipment used in connection with the premises may not exceed one hundred fifty (150) square feet.

3. No more than one (1) accessory structure of each category as defined in subparagraphs 1 and 2 allowed for each lot or parcel.

(Ord. No. 8-87, Art. 5, § B, 5-5-87; Ord. No. 43-90, Art. 5, § B, 8-7-90; Ord. No. 79-90, 1-15-91; Ord. No. 51-91, §§ 1, 3, 9-3-91; Ord. No. 15-92, § 6, 5-5-92; Ord. No. 88-00, § 4, 9-19-00)

Sec. 9-58. Standards for streams without established base flood elevation and/or floodways.

Located within the areas of special flood hazard established in section 9-7, where streams exist but where no base flood data has been provided or where base flood data has been provided without floodways, the following provisions apply:

(1) No encroachments, including fill material or structures shall be located within areas of special flood hazard, unless certification by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than one foot at any point within the community. The engineering certification should be supported by technical data that conforms to standard hydraulic engineering principles.

(2) New construction or substantial improvement of buildings shall be elevated so that the floor is no less than two (2) feet above the highest adjacent grade at the building site.

(Ord. No. 8-87, Art. 5, § C, 5-5-87; Ord. No. 43-90, Art. 5, § C, 8-7-90)

Sec. 9-59. Standards for subdivision proposals.

(a) All subdivision proposals shall be consistent with the need to minimize flood damage.

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

(c) All subdivision proposals shall have adequate drainage provided to reduce exposure to

flood hazards.

(d) Base flood elevations approved by the Federal Emergency Management Agency (FEMA) shall be provided for subdivision proposals and other proposed developments (including manufactured home parks and subdivisions) which is greater than the less of fifty (50) lots or five (5) acres. All phases of development to be included; cumulative.

(Ord. No. 8-87, Art. 5, § D, 5-5-87; Ord. No. 43-90, Art. 5, § D, 8-7-90; Ord. No. 88-00, § 5, 9-19-00)

Sec. 9-60. Standards for areas of shallow flooding (AO Zones).

Located within the areas of special flood hazard established in section 9-7 of this chapter are areas designated as areas of 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; therefore, the following provisions apply:

(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 nonresidential 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. Together with attendant utility and sanitary facilities be completely floodproofed to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.

(Ord. No. 8-87, Art. 5, § E, 5-5-87; Ord. No. 43-90, Art. 5, § E, 8-7-90)