NO. 5031

AN ORDINANCE

AN ORDINANCE TO AMEND CHAPTER 8, ARTICLE II OF THE CODE OF GREENVILLE COUNTY, ENTITLED "FLOOD CONTROL, DRAINAGE, STORMWATER MANAGEMENT - FLOODS AND FLOOD CONTROL" SO AS TO ADOPT CERTAIN CHANGES IN THE NATIONAL FLOOD INSURANCE PROGRAM MANDATED BY THE DEPARTMENT OF HOMELAND SECURITY-FEMA, NATIONAL FLOOD INSURANCE PROGRAM; TO INCREASE EASE OF PERMITTING AND ENFORCEMENT; TO MAINTAIN RECORDS FOR FUTURE FEDERAL AUDITS; AND TO INCORPORATE MAP, TECHNICAL AND LANGUAGE MODERNIZATION IN THE GREENVILLE COUNTY FLOOD DAMAGE PREVENTION ORDINANCE.

Section 1. Title. THIS ORDINANCE SHALL BE KNOWN AS THE ***"GREENVILLE COUNTY FLOOD DAMAGE PREVENTION ORDINANCE".***

Section 2. Amendment. Chapter 8, of The Code of Greenville County is amended to read as follows:

I. GENERAL PROVISIONS

Section 8-20. - Authority.

The Legislature of the State of South Carolina has in S.C. Code, Title 4, Chapters 9 (Article1), 25, and 27, and amendments thereto, delegated the responsibility to local governments units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry.

Section 8-21. - Findings of Fact.

Section 8-21.1 - The flood hazard areas of Greenville County are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures of flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety, and general welfare.

Section 8-21.2 - Furthermore, 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 8-22. - Purpose of Article.

It is the purpose of this ordinance to protect human life and health, minimize property damage, and encourage appropriate construction practices to minimize public and private losses due to flood conditions by requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood

damage at the time of initial construction. Uses of the floodplain which are dangerous to health, safety, and property due to water or erosion hazards, or which increase flood heights, velocities, or erosion are restricted or prohibited. These provisions attempt to control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters, and control filling, grading, dredging and other development which may increase flood damage or erosion.

Section 8-23. - Objectives of Article.

Section 8-23.1 - The objectives of this ordinance are to protect human life and health; 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 damage from flooding; and, to provide notification to potential home buyers that their property is in a flood area. The provisions of the ordinance are intended to minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, and sewer lines, streets and bridges located in the floodplain, and prolonged business interruptions. Also, an important floodplain management objective of this ordinance is to minimize expenditure of public money for costly flood control projects and rescue and relief efforts associated with flooding.

Section 8-23.2 - Floodplains are an important asset to the community. They perform vital natural functions such as temporary storage of floodwaters, moderation of peak flood flows, maintenance of water quality, groundwater recharge, prevention of erosion, habitat for diverse natural wildlife populations, recreational opportunities, and aesthetic quality. These functions are best served if floodplains are kept in their natural state. Wherever possible, the natural characteristics of floodplains and their associated wetlands and water bodies should be preserved and enhanced. Decisions to alter floodplains should be the result of careful planning processes which evaluate resource conditions and human needs.

Section 8-24. - Lands to Which this Ordinance Applies.

This ordinance shall apply to all parcels of land that lie either wholly or partially within, or immediately adjacent to, areas of special flood hazard that are within the jurisdiction of the unincorporated areas of Greenville County, South Carolina. These areas of special flood hazard identified by the Department of Homeland Security-FEMA, National Flood Insurance Program, in its Flood Insurance Study, dated January 18, 2019 with accompanying maps and other supporting data are hereby adopted by reference and declared to be a part of this ordinance. Further, this ordinance shall apply to any areas of special flood hazard established and accepted by Greenville County that utilize DHS-FEMA NFIP detailed flood study standards, or better.

Adoption of Letter of Map Revisions (LOMR) – All LOMRs that are issued in the areas identified in Section 8-24 of this ordinance are hereby adopted.

Section 8-25. - Establishment of Development Permit.

A Development Permit shall be required in accordance with the provisions of this ordinance prior to the commencement of any development activities in the Special Flood Hazard Areas.

Section 8-26. - Compliance.

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

Section 8-27. - Interpretation.

In the interpretation and application of this ordinance all provisions shall be considered as minimum requirements, liberally construed in favor of the governing body, and deemed neither to limit nor repeal any other powers granted under State law. 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.

II DEFINITIONS

Section 8-28. - General.
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 and to give this ordinance its most reasonable application. The definitions hereby set out in this section are subject to change or amendment by act of the Federal Government found in 44 CFR, and/or the National Flood Insurance Program Regulations.

Section 8-28.1 - Definitions.

Accessory Structure (Appurtenant Structure) - structure that is 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. Accessory structures should constitute a minimal investment (< 10% of the primary structure's fair market value); may not be used for human habitation; and, should be designed to have minimal flood damage potential. Examples of accessory structures are two-car detached garages or smaller, carports, storage sheds, pole barns and hay sheds.

Addition (to an existing building) - an extension or increase in the floor area or height of a building or structure. Additions to existing buildings shall comply with the requirements of new construction regardless as to whether the addition is a substantial improvement or not. Where a firewall 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.

Agricultural Structure - a structure used solely for agricultural purposes in which the use is exclusively in connection with the production, harvesting, storage,

drying, or raising of agricultural commodities, including the raising of livestock. Agricultural structures are **not** exempt from the provisions of this ordinance.

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

Area of Special Flood Hazard - the land in the floodplain within a community subject to inundation by the base flood having a one percent or greater chance of being equaled or exceeded in any given year.

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

Basement - means any enclosed area of a building having its floor below grade on all sides.

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

Critical Facility - those functions or structures, or buildings used for essential services for the public good, health and welfare of the essential daily operations and delivery of services to the citizens of the County, such as, but not limited to, store or produce highly volatile, toxic or water-reactive materials, waste water treatment facilities, potable water distribution facilities, power generation facilities, telecommunication centers, schools, hospitals, fire departments, law enforcement facilities, emergency medical service facilities, governmental offices, care centers, nursing homes, gas/oil/propane storage facilities, disaster shelter facilities and the like.

DHS-FEMA - Department of Homeland Security-FEMA

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

Elevated Building - a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns, piers, or shear walls parallel to the flow of water.

Executive Order 11988 (Floodplain Management) - issued by President Carter in 1977, this order requires that no federally assisted activities be conducted in or have the potential to affect identified special flood hazard areas, unless there is no practicable alternative.

Existing Construction - means, for the purposes of determining rates, structures for which the start of construction commenced before the effective date of December 2, 1980.

Existing Manufactured Home Park or Manufactured Home Subdivision - a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the placing of concrete pads) is completed before July 20, 1982.

Expansion to an Existing Manufactured Home Park or Subdivision - 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 placing of concrete slabs).

Flood - a general and temporary condition of partial or complete inundation of normally dry land areas from the overflow of inland or tidal waters, or the unusual and rapid accumulation of runoff of surface waters from any source.

Flood Insurance Rate Map (FIRM) - an official map of a community, on which the Department of Homeland Security-FEMA, National Flood Insurance Program has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

Flood Insurance Study - the official report containing the examination, evaluation and determination of flood hazard areas provided by the Department of Homeland Security-FEMA, National Flood Insurance Program. The report contains flood profiles, as well as flood risk data for various areas of the County and the water surface elevation of the base flood.

Flood-resistant Material - any building material capable of withstanding direct and prolonged contact (minimum 72 hours) with floodwaters without sustaining damage which requires more than low-cost cosmetic repair. Any material which is water soluble or is not resistant to alkali or acid in water, including normal adhesives for above-grade use, is not flood-resistant. Pressure-treated lumber or naturally decay-resistant lumber are acceptable flooring materials. Sheet-type flooring coverings which restrict evaporation from below and materials which are impervious, but dimensionally unstable are not acceptable. Materials which absorb or retain water excessively after submergence are not flood-resistant.

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

Freeboard - a factor of safety usually expressed in feet above a flood level for purposes of flood plain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization of the watershed.

Functionally Dependent Use - a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and

unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

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

Historic Structure - any structure that is: (a) listed individually in the National Register of Historic Places (a listing maintained by the U.S. Department of the Interior (DOI)) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) 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; (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. Some structures or districts listed on the State or local inventories MAY NOT be "Historic" as cited above, but have been included on the inventories because it was believed that the structures or districts have the potential for meeting the "Historic" structure criteria of the DOI. In order for these structures to meet NFIP historic structure criteria, it must be demonstrated and evidenced that the South Carolina Department of Archives and History has individually determined that the structure or district meets DOI historic structure criteria.

Increased Cost of Compliance (ICC) - applies to all new and renewed flood insurance policies effective on and after June 1, 1997. The NFIP shall enable the purchase of insurance to cover the cost of compliance with land use and control measures established under Section 1361. It provides coverage for the payment of a claim to help pay for the cost to comply with State or community floodplain management laws or ordinances after a flood event in which a building has been declared substantially or repetitively damaged.

Limited Storage - an area used for storage and intended to be limited to incidental items, which can withstand exposure to the elements and have low flood damage potential. Such an area must be of flood resistant material, void of utilities except for essential lighting and cannot be temperature controlled. If the area is located below the base flood elevation in an A or AE zone it must meet the requirements of Section 8-34.6 of this ordinance.

Lowest Adjacent Grade (LAG) - is an elevation of the lowest ground surface that touches any of the exterior walls of a building or proposed building walls.

Lowest Floor - the lowest floor of the lowest enclosed area (including basement). Any 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 provisions of non-elevation design requirements of this ordinance.

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

Manufactured Home Park or Subdivision - a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean Sea Level - means, for the purpose of this ordinance, the National Geodetic Vertical Datum (NGVD) of 1929, North American Vertical Datum (NAVD) of 1988, or other datum, to which the base flood elevations shown on a community's Flood Insurance Rate Maps (FIRM) are shown.

National Geodetic Vertical Datum (NGVD) - as corrected in 1929, elevation reference points set by National Geodetic Survey based on mean sea level.

North American Vertical Datum (NAVD) - vertical control, as corrected in 1988, used as the reference datum on Flood Insurance Rate Maps.

New Construction - structure for which the start of construction commenced after July 20, 1982. The term also includes any subsequent improvements to such structure.

New Manufactured Home Park or Subdivision - a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete slabs) is completed on or after, July 20, 1982.

NFIP - National Flood Insurance Program

Repetitive Loss Structure – a building covered by a contract for flood insurance that has incurred flood-related damages on two (2) occasions during a 10-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 25 percent of the market value of the building at the time of such flood event.

Recreational Vehicle - 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 selfpropelled or permanently towable by a vehicle; and, (d) designed primarily not for use as a permanent dwelling, but as temporary living quarters for recreational, camping, travel, or seasonal use.

Regulatory Floodway - regulatory 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.

Section 1316 of the National Flood Insurance Act of 1968 - the Act provides that new flood insurance coverage may not be available for buildings constructed or altered in any way that violates the State or local floodplain management laws, regulations, or ordinances.

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 placement 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 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 - a walled and roofed building, including a gas or liquid storage tank, which is principally above ground and affixed to a permanent site, as well as a manufactured home.

Subdivision - the division of a tract, lot or parcel of land into two or more lots, plats, sites, or other divisions of land.

Substantial Damage - 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. Please refer to the definition of "substantial improvement".

Substantial Improvement - 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 that have incurred repetitive loss or substantial damage, regardless of the actual repair work performed. The term does not, however, include either:

> (1) any project of improvement to 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 (does not include accessibility compliance standards); or,
>
> (2) any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure. Permits shall be cumulative for a period of ten years. If the improvement

project is conducted in phases, the total of all costs associated with each phase, beginning with the issuance of the first permit, shall be utilized to determine whether "substantial improvement" will occur.

Substantially Improved Existing Manufactured Home Park or Subdivision - 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 - the grant of relief from a term or terms of this ordinance.

Violation - the failure of a structure or other development to be fully compliant with these regulations.

III. ADMINISTRATION

Section 8-29 - Designation of Local Administrator.

The Building Official or his/her designee (i.e. Floodplain Administrator) is hereby appointed to administer and implement the provisions of this ordinance.

Section 8-29.1 - Development Permit and Certification Requirements. Application for a development permit shall be made to the local administrator on forms furnished by him or her prior to any development activities. The development permit may include, but not be limited to, plans in duplicate drawn to scale showing: the nature, location, dimensions, and elevations of the area in question; existing or proposed structures; and the location of fill materials, storage areas, and drainage facilities. Specifically, the following information is required:

Section 8-29.1.1 - A plot plan that shows the 1% (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 or adjacent to the special flood hazard area as mapped by the Department of Homeland Security-FEMA, National Flood Insurance Program or the floodplain identified pursuant to either Section 8-30.2 or Sections 8-39 and 8-40. The plot plan must be prepared by or under the direct supervision of a S.C. Registered Land Surveyor or Professional Engineer and certified by same.

Section 8-29.1.2 - The plot plan required by Section 8-29.1.1 must show the floodway, if any, as identified by the Department of Homeland Security-FEMA, National Flood Insurance Program or the floodway identified pursuant to either Section 8-30.2 or Sections 8-39 and 8-40.

Section 8-29.1.3 - Where base flood elevation data is provided, the application for a development permit within the flood hazard area shall show:

Section 8-29.1.3.1 - the elevation (in relation to mean sea level) of the lowest floor of all new and substantially improved structures, and

Section 8-29.1.3.2 - if the structure will be floodproofed in accordance with Section 8-33.2, the elevation (in relation to mean sea level) to which the structure will be floodproofed.

Section 8-29.1.4 - In the absence of other available data from another source, and where no base flood elevation data is provided as set forth in Section 8-24 or Section 8-30.2, the application for a development permit must show construction of the lowest floor at least a minimum of four (4) feet above the highest adjacent grade. A higher lowest floor elevation will be required if base flood elevation data from adjacent areas indicate that the four (4) feet minimum may be inadequate to protect the structure and service facilities from flooding during a 1% annual chance flood event. The requirements of Section 8-39 must also be met, if applicable.

Section 8-29.1.5 - 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 utilizing detailed methods accepted by DHS-FEMA, US Army Corps and any other applicable Federal or State regulatory agencies, 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, and notification of the proposal to the appropriate authorities of all affected agencies. A copy of the notification shall be maintained in the permit records and submitted to the Department of Homeland Security-FEMA, National Flood Insurance Program.

Prior to the commencement of any work on the alteration of a water course the applicant must procure and submit to the local administrator any applicable Federal or State approvals or permits, including a Conditional Letter of Map Revision (CLOMR).

Section 8-29.1.6 - Within 60 days of completion of an alteration of a watercourse, referenced in Section 8-29.1.5, the applicant shall submit as-built certification, by a SC Registered Professional Engineer, to the Local Administrator, the Department of Homeland Security-FEMA, National Flood Insurance Program as a Letter of Map Revision, and the State of South Carolina, Department of Natural Resources, Flood Mitigation Program.

Section 8-29.1.7 - When a structure is constructed or substantially improved in the Area of Special Flood Hazard, a Flood Elevation

Certificate is required, after the lowest floor is completed and before any further inspections are accepted and vertical construction commences. The "as- built" measurement shall be made in relation to mean sea level, and be a minimum of four (4) feet above the base flood elevation. The Certification shall be prepared, signed and sealed by a S.C. Registered Land Surveyor or S.C. Professional Engineer. Any work done prior to submission of the certification shall be at the permit holder's risk. The local administrator shall review the floor elevation survey data submitted.

Deficiencies detected by such review shall be corrected by the permit holder immediately and prior to further progressive work being permitted to proceed. Failure to submit the certification or failure to make said corrections shall be cause to issue a stop-work order for the project.

Section 8-29.1.8 - When a nonresidential structure is constructed and/or substantially improved in the Area of Special Flood Hazard, a Floodproofing Certificate is required for the structure if the lowest floor, mechanical system and utilities are not elevated four (4) feet above the base flood elevation. All construction to accomplish this floodproofing shall be constructed of materials that prevent the passage of water and the effects of buoyancy under the hydrostatic and hydrodynamic loads imposed during flood inundation.

The Floodproofing Certificate shall be prepared by a SC Registered Architect or Engineer and submitted with the Development Permit application. Upon completion of the floodproofing, a certification statement indicating that the floodproofing has been completed according to the submitted plans shall be prepared, signed and sealed by a SC Registered Architect or Engineer. This statement shall be submitted to the local administrator for review and acceptance. Any work done prior to submission of the certification shall be at the permit holder's risk. The local administrator shall review the floodproofing statement and any accompanying 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 certification or failure to make required corrections shall be cause to issue a stop-work order for the project.

Section 8-29.1.9 - If the proposed project will impact the configuration of the watercourse, floodway, or base flood elevation for which a detailed Flood Insurance Study has been developed, the applicant shall apply for and must receive approval for a Conditional Letter of Map Revision (CLOMR) with the Department of Homeland Security-FEMA, National Flood Insurance Program. The floodplain development permit will not be issued until DHS-FEMA has issued the CLOMR. When a CLOMR has been issued for a project the following shall apply. Within 30 calendar days of completion of

construction activities, the applicant shall apply to DHS-FEMA for a Letter of Map Revision (LOMR). The applicant is responsible for all technical submissions and fees required to obtain the CLOMR/LOMR.

Section 8-29.1.10 - Upon completion of the development a SC Registered Professional Engineer, Land Surveyor or Architect, whichever professional is appropriate, shall certify that Sections, 8-29.1.5 through 8-29.1.8 are built in accordance with the submitted plans and previous predevelopment certifications.

Section 8-30 - Duties and Responsibilities of the Local Administrator. Duties of the local administrator shall include, but not be limited to:

A- Review all development permit applications to assure that the requirements of this ordinance have been satisfied.

B- Review proposed development to assure that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments 0f 1972, 33 U.S.C. 1334.

C - Prior to the issuance of The Floodplain Development Permit to alter or relocate a watercourse, notify adjacent communities, South Carolina Department of Natural Resources, Land, Water and Conservation Division, State Coordinator for Flood Mitigation Programs for the National Flood Insurance Program, and submit evidence of such notification to the Department of Homeland Security-FEMA, National Flood Insurance Program.

D - In addition to the notifications required in Section 8-30.C, a program shall be established by the person altering the watercourse to maintain the watercourse and written reports of maintenance records must be maintained to show that maintenance has been provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished. This maintenance must consist of a comprehensive program of periodic inspections, and routine channel clearing and dredging, or other related functions. The assurance shall consist of a description of maintenance activities, frequency of performance, and the local person responsible for maintenance performance. Records shall be kept on file in the local office for the Department of Homeland Security-FEMA, National Flood Insurance Program inspection.

E - Prevent encroachments within floodways unless the requirements of Sections 8-37, 8-37.1 through 8-37.4, 8-47 and 8-48 of this ordinance are met.

F - Accept and review documentation for all structures located in the Areas of Special Flood Hazard in accordance with Section 8-29.1.7.

G - Accept and review documentation for all structures located in the Areas of Special Flood Hazard in accordance with Section 8-29.1.8.

H - When floodproofing is utilized for a particular structure, obtain certifications from a SC Registered Professional Engineer or Architect in accordance with Section 8-29.1.8 and 8-33.2 of this ordinance.

I - Where interpretation is needed as to the exact location of boundaries of the Areas of Special Flood Hazard (for example, where there appears to be a conflict between a mapped boundary and actual field conditions), make the necessary interpretation.

J - Make on-site inspections of projects in accordance with Section 8-31.

K - Serve notices of violations, issue stop-work orders, revoke permits and direct corrective actions in accordance with Section 8-31.2 through 8-31.9.

L - Maintain all records pertaining to the administration of this ordinance and make these records available for public inspection.

M - To determine damage to structures located in the Area of Special Flood Hazards, regardless of the source of the damage, and to further determine if the damage is considered "substantial damage" and/ or a repetitive loss due to flooding in accordance with Section 8-28.1, and notify the owner of the property of such finding. If the damage to the structure is caused by flooding and is determined to be substantial damage or is a repetitive loss, and the structure is covered by the NFIP, the structure may be eligible for the Increased Cost Coverage (ICC) provision under NFIP.

N - Notify the South Carolina Department of Natural Resources Land, Water and Conservation Division, within six (6) months, of any annexations or detachments that include special flood hazard areas.

O - Adjoining Floodplains - Cooperate with neighboring communities with respect to the management of adjoining floodplains and/or flood-related erosion areas in order to prevent aggravation of existing hazards.

P - Prevailing Authority - Where a map boundary showing an area of special flood hazard and field elevations disagree, the base flood elevations for flood protection elevations (as found on an elevation profile, floodway data table, etc.) shall prevail. The correct information should be submitted to FEMA as per the map maintenance activity requirements outlined in Section 8-30.3.

Q - Substantial Damage Determination - Perform an assessment of permit applications for improvements or repairs to be made to a building or structure that equals or exceeds 50 percent of the market value of the structure before the start of construction. Cost of work counted for determining if and when substantial improvement to a structure occurs shall be cumulative for a period of Ten (10) years. If the improvement project is conducted in phases, the total of all costs associated with each phase, beginning with the issuance of the first permit, shall be utilized to determine whether "substantial improvement" will occur.

The market values shall be determined by one of the following methods:

a) The current assessed building value as determined by the county's assessor's office or the value of an appraisal performed by a licensed appraiser at the expense of the owner within the past 6 months.

b) One or more certified appraisals from a registered professional licensed appraiser in accordance with the laws of South Carolina. The appraisal shall indicate actual replacement value of the building or structure in its pre-improvement condition, less the cost of site improvements and depreciation for functionality and obsolescence.

c) Real Estate purchase contract within 6 months prior to the date of the application for a permit.

R - The Building Official or his/her designee (Floodplain Administrator) may issue variances for:

(1) "Functionally Dependent Uses" as specified in Section 8-41.2;

(2) Wet flood proofing of "Agricultural Structures" as specified in Sections 8-44, 8-45, and 8-46; and

(3) "Historic Structures" as specified in Section 8-43.

Section 8-30.1 - The person contesting the location of the Area of Special Flood Hazard boundary may obtain an approved Letter of Map Amendment (LOMA) from DHS-FEMA, or appeal the interpretation as provided for in this ordinance.

Section 8-30.2 - When base flood elevation data or floodway data has not been provided (Zone A) in accordance with Section 8-24 for a project of less than three (3) acres in size or less than thirty (30) lots, the local administrator is authorized to allow the applicant to submit for review, and reasonably utilize best available base flood elevation data and floodway data available from a Federal, State, or other source, including data developed pursuant to Section 8-39 in order to administer the provisions of this ordinance. Data from preliminary, draft, and final Flood Insurance Studies constitutes best available data from a Federal, State, or other source.

However; if a detailed study is required using detailed methods as are acceptable by the Department of Homeland Security-FEMA, which utilizes floodplain geometry, hydrology and hydraulics to analyze the pre and post development conditions. All studies shall take into consideration a "full build out" condition for the studied watershed area. Such analysis shall be undertaken by a SC licensed Professional Engineer, who shall certify that the technical methods used reflect currently accepted engineering

practices. Studies, analysis, and computations shall be submitted in sufficient detail to allow review and approval by the local administrator, and in a digital format compatible with the requirements and standards of Greenville County GIS. The accuracy of the data submitted for such determination shall be the sole responsibility of the applicant.

After review of the detailed study by the local administrator the applicant shall submit to DHS-FEMA an application for a Letter of Map Revision (LOMR) based upon existing site conditions. Applications for encroachments and/or modifications to the area of special flood hazard will be evaluated and processed as described in Section 8-29.1.9 and Section 8-38.6. The applicant shall be responsible for all technical submissions and fees to DHS-FEMA in order to obtain the map change. The floodplain development permit will not be issued until DHS-FEMA has issued the LOMR or CLOMR, as applicable.

Section 8-30.3 - Map Maintenance Activities - The National Flood Insurance Program (NFIP) requires flood data to be reviewed and approved by FEMA. This ensures that flood maps, studies and other data identified in Section 8-24 accurately represent flooding conditions so appropriate floodplain management criteria are based on current data. The following map maintenance activities are identified:

Requirement to Submit New Technical Data

(1) For all development proposals that impact floodway delineations or base flood elevations, the community shall ensure that technical or scientific data reflecting such changes be submitted to FEMA as soon as practicable, but no later than six months of the date such information becomes available. These development proposals include; but not limited to:

(a) Floodway encroachments (refer to Sections 8-37, 8-37.1 through 8-37.4 and 8-47) that increase or decrease base flood elevations or alter floodway boundaries;

(b) Fill sites (refer to Section 8-38, 8-38.1 through 8-38.6) to be used for the placement of proposed structures where the applicant desires to remove the site from the special flood hazard area;

(c) Alteration of watercourses that result in a relocation or elimination of the special flood hazard area, including the placement of culverts; and

(d) Subdivision or large scale development proposals requiring the establishment of base flood elevations in accordance with Section 8-30.2.

(2) It is the responsibility of the applicant to have technical data, required in accordance with Section 8-38.6, prepared in a format

required for a Conditional Letter of Map Revision or Letter of Map Revision, and submitted to FEMA. Submittal and processing fees for these map revisions shall also be the responsibility of the applicant.

(3) The local floodplain administrator shall require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:

(a) Proposed floodway encroachments (Refer to Sections 8-37, 8-37.1 through 8-37.4 and 8-47); and

(b) Proposed development which increases the base flood elevation (Refer to Section 8-38, 8-38.1 through 8-38.6)

(4) Floodplain development permits issued by the local floodplain administrator shall be conditioned upon the applicant obtaining a Letter of Map Revision from FEMA for any development proposal subject to Section 8-38.6.

Section 8-31 - Administrative Procedures.

Section 8-31.1 - Inspections of Work in Progress. As the work pursuant to a permit progresses, the local administrator shall make as many inspections of the work as may be necessary to ensure that the work is being done according to the provisions of this 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.

Section 8-31.2 - Stop-Work Orders. Whenever a building or part thereof, or development 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 an unlawful continuance.

Section 8-31.3 - Revocation of Permits. The local administrator may revoke and require the return of the development permit by notifying the permit holder in writing, stating the reason for the revocation. Permits shall be revoked for 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 issued in error in violation of an applicable State or local law may also be revoked.

Section 8-31.4 - Violations to be Corrected. When the local administrator finds violations of applicable State and local laws, he has the authority 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 on the property he owns or occupies.

Section 8-31.5 - 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 address provided on the application for permit or by personal service, that the building or property is in violation of the Flood Damage Prevention Ordinance.

Section 8-31.6 - Order to Take Corrective Action. 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 reasonable period. 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.

Section 8-31.7 - 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 within 10 days following issuance of the final order. In the absence of an appeal, the order of the administrator shall be final. The Greenville County Construction Board of Adjustments and Appeals shall hear an appeal within a reasonable time and may affirm, modify and affirm, or revoke the order.

Section 8-31.8 - 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 within the jurisdictional limits of magistrate's court. Each such person, firm, corporation or agent shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this ordinance is committed, or continued.

Section 8-31.9 - Denial of Flood Insurance under the NFIP. If a structure is declared in violation of this ordinance and the violation is not remedied then the local administrator shall notify the Federal Emergency Management Agency to initiate a Section 1316 of the National Flood insurance Act of 1968 action against the structure upon the finding that the violator refuses to bring the violation into compliance with the ordinance. Once a violation has been remedied the local administrator shall notify FEMA of the remedy and ask that the Section 1316 be rescinded.

Section 8-31.10. - The following documents are incorporated by reference and may be used by the local floodplain administrator to provide further guidance and interpretation of this ordinance as found on FEMA's website

at www.fema.gov:

a) All FEMA Technical Bulletins

b) All FEMA Floodplain Management Bulletins

c) FEMA P-348 Protecting Building Utilities from Flood Damage

IV. PROVISIONS FOR FLOOD HAZARD REDUCTION

Section 8-32 - General Standards. Development may not occur in the Areas of Special Flood Hazard where alternative locations exist due to the inherent hazards and risks involved. Before a permit is issued, the applicant shall demonstrate that new structures cannot be located out of the Areas of Special Flood Hazard and that encroachments onto the Areas of Special Flood Hazard are minimized. In all Areas of Special Flood Hazard, as set forth in Section 8-24, the following provisions are required:

Section 8-32.1 - All new construction and substantial improvements shall be anchored to prevent flotation, collapse, or lateral movement of the structure.

Section 8-32.2 - All new construction and substantial improvements shall be constructed with flood resistant materials and utility equipment resistant to flood damage in accordance with Technical Bulletin 2, *Flood Damage-Resistant Materials Requirements*, dated 8/08, and available from FEMA.

Section 8-32.3 - All new construction and substantial improvements shall be constructed by methods and practices that minimize flood damages.

Section 8-32.4 - Electrical, ventilation, plumbing, heating and air conditioning equipment (including ductwork), and other service facilities shall be designed so as to prevent water from entering or accumulating within the components during conditions of flooding, and at a minimum of four (4) feet above the Base Flood Elevation (BFE). This requirement does not preclude the installation of outdoor faucets for shower heads, sinks, hoses, etc., as long as cut off devices and back flow devices are installed to prevent contamination to the service components and thereby minimize any flood damages to the building.

Section 8-32.5 - New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

Section 8-32.6 - 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. Gravity sewer manholes must be constructed at or above the base flood elevation or floodproofed.

Section 8-32.7 - On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding. Refer to FEMA P-348, Edition 2 / February 2017.

Section 8-32.8 - All gas or liquid storage tanks, either located above ground or buried, shall be anchored to prevent flotation and lateral movement resulting from hydrodynamic and hydrostatic loads.

Section 8-32.9 - Any alteration, repair, reconstruction, or improvement to a structure must be in compliance with the provisions of this ordinance, and shall meet the requirements of "new construction" as contained in this ordinance. This includes both pre-FIRM and post-FIRM development and structures.

Section 8-32.10 - 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.

Section 8-32.11 - Accessibility. A building must meet the specific standards for construction in the Areas of Special Flood Hazard, as well as any applicable Accessibility requirements promulgated by the South Carolina Building Codes Council. The Accessibility requirements are not justification for issuing variance or otherwise waiving these requirements. Also, the cost of improvements required to meet the Accessibility provisions shall be included in the costs of the improvements for calculating substantial improvement.

Section 8-32.12 - Reasonably Safe from flooding. Review all permit applications to determine whether proposed building sites will be reasonably safe from flooding.

Section 8-33 Specific Standards. - In all Areas of Special Flood Hazard where base flood elevation data has been provided, as set forth in Section 8-24 and Section 8-30.2, the following provisions are required:

Section 8-33.1 - Residential Construction. New construction and substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor and the associated electrical, ventilation, plumbing, heating and air conditioning equipment (including ductwork), and other service facilities, elevated no lower than four (4) feet above the base flood elevation. No basements are permitted. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with Section 8-34.6.

Section 8-33.2 - Non-Residential Construction. New construction and substantial improvement of any commercial, industrial, or non-residential structure (including manufactured modular buildings) shall have the lowest floor and the associated electrical, ventilation, plumbing, heating and air

conditioning equipment (including ductwork), and other service facilities elevated no lower than four (4) feet above the level of the base flood elevation. Should solid foundation perimeter walls be used to elevate a structure, openings sufficient to facilitate the unimpeded movements of floodwaters shall be provided in accordance with Section 8-34.6. No basements are permitted. Structures may be floodproofed 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 SC Registered Professional Engineer or Architect shall certify that the standards of Section 8-33 are satisfied. Such certifications shall be provided to the official as set forth in Sections 8-29.1.7 and 8-29.1.8. A variance may be considered for wetfloodproofing agricultural structures in accordance with the criteria outlined in Section 8-44 of this ordinance. Agricultural structures not meeting the criteria of Section 8-44 must meet the non-residential construction standards and all other applicable provisions of this ordinance. Structures which are floodproofed are required to have an approved maintenance plan with an annual exercise. The maintenance plan must be approved by the local administrator and notification of the annual exercise shall be provided to same.

Section 8-33.3 - Critical Facilities

Section 8-33.3.1 - Existing critical facilities located in the 1% or 0.2% Area of Special Flood Hazard that are substantially damaged or improved shall be elevated or floodproofed in accordance with Section 8-29.1.7 or 8-29.1.8.

Section 8-33.3.2 - New critical facilities shall not be permitted in the 1% or the 0.2% Area of Special Flood Hazard.

Section 8-34 - Manufactured Homes.

Section 8-34.1 - Manufactured homes that are placed or substantially improved on sites outside a manufactured home park or subdivision; in a new manufactured home park or sub-division; in an expansion to an existing manufactured home park or subdivision; or 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 and the associated electrical, ventilation, plumbing, heating and air conditioning equipment (including ductwork), and other service facilities of the manufactured home is elevated no lower than four (4) feet above the base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

Section 8-34.2 - 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 Section 8-34.1 of this ordinance must be elevated so that the lowest floor and the associated electrical, ventilation, plumbing, heating and air conditioning equipment (including ductwork), and other service facilities of the manufactured home is elevated no lower than four (4) feet above the base flood elevation, and be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement.

Section 8-34.3 - 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 Section 40-29-10 of the South Carolina Manufactured Housing Board Regulations. When the elevation requirement would be met by an elevation of the chassis at 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 for the support system is required.

Section 8-34.4 - 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 local administrator and the local Emergency Preparedness coordinator.

Section 8-34.5 - 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. Recreational vehicles placed on sites shall either be on site for fewer than 180 consecutive days and be fully licensed and ready for highway use, or meet the requirements of Sections 8-32 (and its subsections) and 8-34 (and its subsections).

Section 8-34.6 - Elevated Buildings. New construction and 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 space and be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters.

> **Section 8-34.6.1 -** Designs for complying with this requirement must either be certified by a SC Professional Engineer or Architect or meet the following minimum criteria:
>
> > **Section 8-34.6.1.1 -** Provide a minimum of two openings on different walls having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;

Section 8-34.6.1.2 - The bottom of each opening must be no more than one foot above the higher of the interior or exterior grade immediately under the opening.

Section 8-34.6.1.3 - Only the portions of openings that are below the base flood elevation (BFE) may be counted towards the required net open area.

Section 8-34.6.1.4 - Openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic flow of floodwaters in both directions; and,

Section 8-34.6.1.5 - Fill placed around foundation walls must be graded so that the grade inside the enclosed area is equal to or higher than the adjacent grade outside the building on at least one side of the building.

Section 8-34.6.2 - Hazardous Velocities. Hydrodynamic pressure must be considered in the design of any foundation system where velocity waters or the potential for debris flow exists. If flood velocities are excessive (greater than five (5) feet per second), foundation systems must be designed by a registered professional engineer.

Section 8-34.6.3 - 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).

Section 8-34.6.4 - The interior portion of such enclosed area shall not be partitioned or finished into separate rooms, except to enclose a single storage area and must be void of utilities except for essential lighting as required, and cannot be temperature controlled. One wet location switch and/or outlet connected to a ground fault interrupt breaker may be installed below the required lowest floor elevation specified in Sections 8-33.1, 8-33.2, 8-34 (and its subsections).

Section 8-34.6.5 - All construction materials below the required lowest floor elevation specified in Sections 8-33.1, 8-33.2, 8-34 (and its subsections) shall be of flood resistant materials.

Section 8-35 Roads, Bridges and Culverts.

Section 8-35.1 - New Construction. All roadways constructed within or adjacent to the Area of Special Flood Hazard shall be constructed so that the centerline elevation of the finished road surface is no less than two (2) feet higher than the base flood elevation. Bridges located in the Area of Special Flood Hazard shall meet the requirements of Section 8-38.6.

Section 8-35.2 - Replacement of Bridges and Culverts. Replacement bridges and culverts shall meet the requirements of Section 8-38.6. Efforts shall be made during replacement of bridges and culverts to elevate this infrastructure above the base flood elevation whenever possible.

Section 8-36 - Accessory Structures. A detached accessory structure or garage with a project valuation greater than $3,000 that is placed in the Area of Special Flood Hazard must be elevated in accordance with Section 8-33.2 and comply with the elevated building requirements of Section 8-34.6.

Accessory structures with a project valuation of $3,000 or less shall meet the following wet floodproofing criteria:

Section 8-36.1 - Accessory structures shall not be used for any uses other than the parking of vehicles and storage;

Section 8-36.2 - Accessory structures shall be designed to have low flood damage potential;

Section 8-36.3 - Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters;

Section 8-36.4 - Accessory structures shall be firmly anchored to prevent flotation, collapse, or lateral movement of the structure;

Section 8-36.5 - Service facilities such as electrical and heating equipment shall be installed in accordance with Section 8-32.4 and:

Section 8-36.6 - Openings to relieve hydrostatic pressure during a flood shall be provided below base flood elevation in conformance with Section 8-34.6.

Section 8-36.7 - Accessory structures shall be built with flood resistant materials in accordance with Technical Bulletin 2, Flood Damage Resistant Materials Requirements, dated 8/08 and available from the Federal Emergency Management Agency. Class 4 and 5 materials, referenced therein, are acceptable flood resistant materials.

Section 8-37 - Floodways. Located within Areas of Special Flood Hazard established in Section 8-24, are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of floodwaters which carry debris and potential projectiles. The following provisions shall apply within such areas:

Section 8-37.1 - No encroachments, including fill, new construction, substantial improvements, additions, and other developments shall be permitted.

Section 8-37.2 - Stream crossings for any temporary purpose (i.e., timber harvesting operations), shall be permitted in accordance with Section 8-29.1. Otherwise, the development shall comply with all applicable flood hazard reduction provisions of Article IV. Water, sewer, electrical and telecommunication lines may be located within the floodway; however, they must be placed no lower than four (4) feet above the Base Flood Elevation, or constructed utilizing floodproofing methods that prevent the intrusion of flood waters, and causes no adverse effect on the floodway.

Section 8-37.3 - No Manufactured homes shall be permitted.

Section 8-37.4 - Permissible uses within floodways may include: general farming, pasture, outdoor plant nurseries, horticulture, forestry, wildlife sanctuary, game farm, and other similar agricultural, wildlife, and related uses. Also, lawns, gardens, play areas, picnic grounds, and hiking and horseback riding trails are acceptable uses, provided that they do not employ structures or fill. The uses listed in this subsection are permissible only if it causes no adverse effect on the floodway.

Section 8-38 - Fill. Fill is discouraged because storage capacity is removed from floodplains. Elevating buildings by other methods must be considered. An applicant shall demonstrate that fill is the only alternative to raising the building to at least four (4) feet above the base flood elevation, and that the amount of fill used will not affect the flood storage capacity or adversely affect adjacent properties. The following provisions shall apply to all fill placed in the special flood hazard area:

Section 8-38.1 - Fill may not be placed in the Area of Special Flood Hazard except in accordance with the provisions of Section 8-38.6.

Section 8-38.2 - Fill may not be placed in tidal or non-tidal wetlands without the required State and Federal permits;

Section 8-38.3 - Fill must consist of soil and rock materials only. Dredged material may be used as fill only upon certification of suitability by a Registered Professional Geotechnical Engineer. Landfills, rubble fills, dumps, and sanitary fills are not permitted in the floodplain.

Section 8-38.4 - Fill used to support structures must comply with ASTM Standard D-698, as amended and its suitability to support structures certified by a SC Registered Professional Engineer;

Section 8-38.5 - Fill slopes shall be no greater than two horizontal to one vertical. Flatter slopes may be required where velocities may result in erosion; and,

Section 8-38.6 - No encroachment/development, including fill, shall be permitted within the Area of Special Flood Hazard unless certification with supporting technical data, prepared by a SC Registered Engineer, is provided to demonstrate that the encroachment will not result in adverse

impact to the floodplain. Adverse impact includes, but is not limited to, any increase in base flood elevation, floodway elevation and floodway width. The demonstration shall include hydrologic and hydraulic analyses performed in accordance with standard engineering practice that meets the requirements of the NFIP. Compensatory storage at hydraulically equivalent sites within the proposed project area may be used as part of the required demonstration with prior approval of the local Administrator.

If the encroachment results in adverse impact to the floodplain, the applicant shall submit to DHS-FEMA a Conditional Letter of Map Revision (CLOMR) or other appropriate map change application. Within 60 calendar days of completion of construction activities, the applicant shall apply to DHS-FEMA for a Letter of Map Revision (LOMR). The floodplain development permit will not be issued until DHS-FEMA has issued the CLOMR. The applicant is responsible for all technical submissions and fees required to obtain the CLOMR/LOMR (See Section 8-29.1.9).

Section 8-39 - Standards for Streams

Section 8-39.1 - Standards for Streams Without Established Base Flood Elevations And/Or Floodways. Located within the Areas of Special Flood Hazard established in Section 8-24, are small streams where no base flood data has been provided or where no floodways have been identified (Flood Zone A). The following provisions apply within such areas:

Section 8-39.1.2 - No encroachments, including fill, new construction, substantial improvements or new development shall be permitted within 100 feet of the stream bank unless certification with supporting technical data by a S.C. 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.

Section 8-39.1.3 - If Section 8-39.1.2 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, and shall be elevated or floodproofed to the elevations established in accordance with Section 8-30.2. Data from preliminary, draft and final flood insurance studies constitutes best available data. Refer to FEMA Floodplain Management Technical Bulletin 1-98 *Use of Flood Insurance Study (FIS) Data as Available Data*. If an appeal is pending on the study in accordance with 44 CFR Ch. 1, Part 67.5 and 67.6, the data does not have to be used.

Section 8-39.1.4 - When base flood elevation data is not available from a Federal, State, or other source, one of the following methods may be used to determine a BFE, subject to approval by the local administrator. For further information regarding the methods for determining BFEs listed below refer to FEMA's manual *Managing Floodplain Development in Approximate Zone A Areas*. See Section 8-30.2 and Section 8-40.3 for specific flood study requirements.

Section 8-39.1.4.1 - Contour Interpolation

A) Superimpose approximate Zone A boundaries onto a topographic map and estimate a preliminary BFE and;

B) Add one-half of the contour interval of the topographic map to determine the final BFE.

Section 8-39.1.4.2 - Data Extrapolation - A BFE can be determined if a site is located within 500 feet upstream of a stream reach for which a 100-year profile has been computed by detailed methods, and the floodplain and channel bottom slope characteristics are relatively similar to the downstream reaches. No hydraulic structures shall be present.

Section 8-39.1.4.3 - Hydrologic and Hydraulic Calculations - Perform hydrologic and hydraulic calculations to determine BFEs using FEMA approved methods and software.

Section 8-39.1.5 - In all areas of special flood hazard where base flood elevation data are not available, the applicant shall provide a hydrologic and hydraulic engineering analysis that generates base flood elevations for all subdivision proposals and other proposed developments containing at least 30 lots or 3 acres, whichever is less.

Section 8-39.2 - Standards for streams with established base flood elevations, but without floodways. Along rivers and streams where base flood elevation (BFE) data is provided but no floodway is identified for Special Flood Hazard Area on the FIRM or in the FIS, the following provisions apply within such areas:

Section 8-39.2.1 - No encroachments including fill, new construction, substantial improvements, or other development shall be permitted unless a flood study is provided with supporting technical data by a SC registered professional engineer identifying the floodway boundary. Refer to Section 8-37 for floodway restrictions.

Section 8-40 - Standards for Subdivision Proposals.

Section 8-40.1 - All subdivision proposals and other proposed development shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood infiltration damage. Access roads, bridges and culverts located in or adjacent to the Area of Special Flood Hazard shall meet the requirements of Section 8-35.

Section 8-40.2 - All subdivision proposals and other proposed development shall have adequate drainage provided to reduce exposure to flood hazards.

Section 8-40.3 - Base flood elevation data shall be provided for subdivision proposals. The base flood elevation data shall be obtained in accordance with Section 8-24, or if the proposed subdivision area is unstudied (Zone A), then a flood analysis study shall be prepared in accordance with Section 8-30.2.

Section 8-40.4 - All building lots containing Areas of Special Flood Hazard or immediately adjacent to these areas shall have the proposed lowest floor elevation for each structure, in accordance with Section 8-33.1, noted on the preliminary and final plans.

V. VARIANCE PROCEDURES

Section 8-41 - Establishment of Appeal Board. The Greenville County Construction Board of Adjustments and Appeals (Board) as established by the County of Greenville shall hear and decide requests for variances from the requirements of this ordinance. The application for a variance shall be filed on a form obtained from the local administrator.

Section 8-41.1 - Limitations on Authority. An application for appeal shall be based on a claim that the true intent of this ordinance or the rules legally adopted there under have been incorrectly interpreted; the provisions of this ordinance do not fully apply; or, an equally good or better form of construction is proposed.

Section 8-41.2 - Functionally Dependent Uses – Variances may also be issued for development necessary for the conduct of a functionally dependant use, provided the criteria of this section are met, no reasonable alternative exists, and the development is protected by methods that minimize flood damage and create no additional threat to public safety.

Section 8-42 - Right to Appeal. Any person aggrieved by the decision of the appeal board or any taxpayer may appeal such decision to the Circuit Court within thirty (30) days of the decision of the Board.

Section 8-43 - Historic Structures. 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.

Section 8-44 - Agricultural Structures. Variances may be issued to wet floodproof an agricultural structure provided it is used solely for agricultural purposes. In order to minimize flood damages during the base flood and the threat to public health and safety, the structure must meet all of the conditions and considerations of Section 8-47, this section, and the following standards:

Section 8-44.1 - use of the structure must be limited to agricultural purposes as listed below:

Section 8-44.1.1 - pole frame buildings with open or closed sides used exclusively for the storage of farm machinery and equipment;

Section 8-44.1.2 - steel grain bins and steel frame corn cribs;

Section 8-44.1.3 - general-purpose barns for the temporary feeding of livestock which are open on at least one side;

Section 8-44.1.4 - for livestock confinement buildings, poultry houses, dairy operations, and similar livestock operations, variances may not be issued for structures, which were substantially damaged. New construction or substantial improvement of such structures must meet the elevation requirements of Section 8-33.2 of this ordinance; and,

Section 8-44.2 - The agricultural structure must be built or rebuilt, in the case of an existing building which is substantially damaged, with flood-resistant materials for the exterior and interior building components and elements below the base flood elevation.

Section 8-44.3 - The agricultural structure must be adequately anchored to prevent flotation, collapse, or lateral movement. All of the structure's components must be capable of resisting specific flood-related forces including hydrostatic, buoyancy, hydrodynamic, and debris impact forces. Where flood velocities exceed 5 feet per second, fast-flowing floodwaters can exert considerable pressure on the building's enclosure walls or foundation walls.

Section 8-44.4 - The agricultural structure must meet the venting requirement of Section 8-34.6.1 of this ordinance.

Section 8-44.5 - Any mechanical, electrical, or other utility equipment must be located four (4) feet above the base flood elevation or may be contained within a watertight, floodproofed enclosure, which is capable of resisting damage during flood conditions.

Section 8-44.6 - The agricultural structure must comply with the floodway encroachment provisions of Section 8-37 of this ordinance; and,

Section 8-44.7 - Major equipment, machinery, or other contents must be protected. Such protection may include protective watertight floodproofed areas within the building, the use of equipment hoists for readily elevating contents, permanently elevating contents on pedestals or shelves above the base flood elevation, or determining that property owners can safely remove contents without risk to lives and that the contents will be located to a specified site out of the floodplain.

Section 8-45 - Considerations. In passing upon such applications, the Board shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this ordinance, and:

Section 8-45.1 - The danger that materials may be swept onto other lands to the injury of others.

Section 8-45.2 - The danger to life and property due to flooding or erosion damage, and the safety of access to the property in times of flood for ordinary and emergency vehicles.

Section 8-45.3 - The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.

Section 8-45.4 - The importance of the services provided by the proposed facility to the community.

Section 8-45.5 - The necessity to the facility of a waterfront location, where applicable.

Section 8-45.6 - The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.

Section 8-45.7 - The compatibility of the proposed use with existing and anticipated development, and the relationship of the proposed use to the comprehensive plan and floodplain management program for that area.

Section 8-45.8 - The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site.

Section 8-45.9 - 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; and,

Section 8-45.10 - Agricultural structures must be located in wide, expansive floodplain areas, where no other alternative location for the agricultural structure exists. The applicant must demonstrate that the entire farm acreage, consisting of a contiguous parcel of land on which the structure is to be located, must be in the Special Flood Hazard Area and no other alternative locations for the structure are available.

Section 8-46 - Findings. Findings listed above shall be submitted to either the Board or the Building Official or the Floodplain Administrator, in writing, and included in the application for a variance. Additionally, comments from the Department of Natural Resources, Land, Water and Conservation Division, State Coordinator's Office, must be taken into account and included in the permit file.

Section 8-47 - Floodway Variance. Floodway variances can only be issued by the Board. Variances shall not be issued within any floodway identified in Section 8-24 if any increase in flood levels during the base flood discharge would result, unless a CLOMR is obtained prior to issuance of the variance. In order to ensure the project is built in compliance with the CLOMR for which the variance is granted the applicant must provide a bond for 100% of the cost to perform the development.

Section 8-48 - Conditions. - 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. The following conditions shall apply to all variances:

Section 8-48.1 - Variances may not be issued when the variance will make the structure in violation of other Federal, State, or local laws, regulations, or ordinances.

Section 8-48.2 - Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.

Section 8-48.3 - Variances shall only be issued upon a showing of good and sufficient cause, a determination that failure to grant the variance would result in exceptional hardship, and a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.

Section 8-48.4 - Any applicant to whom a variance is granted shall be given written notice specifying the difference between the base flood elevation and the elevation to which the structure is to be built and a written statement that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation. Such notification shall be maintained with a record of all variance actions.

Section 8-48.5 - The local administrator shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency upon request.

Section 8-48.6 - Variances shall not be issued for unpermitted development or other development that is not in compliance with the provisions of this ordinance. Violations must be corrected in accordance with Section 8-31.5 of this ordinance.

VI. LEGAL STATUS PROVISIONS

Section 8-49 - 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 County of Greenville, South Carolina Flood Damage Prevention Ordinance enacted June 17, 2014, 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 that has been brought by Greenville County.

Section 8-50 - 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 County.

Section 8-51 - 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 Greenville County or by any officer or employee thereof for any flood damages that result from reliance on this ordinance or any administrative decision lawfully made hereunder.

Section 8-52 - Severability.
Should any word, phrase clause or provision of this ordinance be declared invalid or unconstitutional by a court of competent jurisdiction, such determination shall not affect this ordinance as a whole or any part hereof except that specific provision declared by such court to be invalid or unconstitutional. If any part of this Ordinance is declared invalid, the remainder of the Ordinance shall not be affected and shall remain in force.

Section 8-53 - Penalties for Violation. Any person, firm corporation or agent, who shall violate the provisions of this ordinance or fails to comply with any of the requirements thereof, shall be guilty of a misdemeanor, punished within the jurisdictional limits of magistrate's court. Each such person, firm, corporation or agent shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this ordinance is committed, or continued.

All ordinances or parts of ordinances in conflict with this ordinance or inconsistent with its provisions, are hereby repealed or superseded to the extent necessary to give this ordinance full force and effect.

Section 8-54 - Repeal. All provisions of the Flood Damage Prevention Ordinance of Greenville County, S.C., enacted on June 17, 2014, as amended, which are not reenacted herein, are repealed.

Section 8-55 - Effective Date. This ordinance shall take effect upon adoption.

Done in Regular Meeting this 6th day of November, 2018.

GREENVILLE COUNTY COUNCIL

Herman G. Kirven Jr., Chairman
Greenville County Council

ATTEST:

Regina McCaskill
Clerk to Council

Joseph M. Kernell
County Administrator