

8 NATURAL RESOURCES PROTECTION – DRAFT 9.2.16 WITH PROPOSED EDITS 10.3.16

8.1 GENERAL

8.1.1 AUTHORITY AND ENACTMENT

A. FLOOD DAMAGE PREVENTION

The legislature of the State of South Carolina has in SC Code of Laws, Title 4, Chapters 9 (Article 1), 25, and 27, and amendments thereto, delegated the responsibility to local governmental units to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry.

B. STORMWATER MANAGEMENT AND SEDIMENT AND EROSION CONTROL

This article may be cited as the "Stormwater Management Ordinance of Lancaster County" and is adopted pursuant to S.C. Code 1976, § 48-14-10 et seq., S.C. Code 1976, § 5-7-30, and South Carolina Land Resources Conservation Commission Regulations 72-300 through 72-316.

8.1.2 FINDINGS OF FACT

A. FLOOD DAMAGE PREVENTION

The Special Flood Hazard Areas within the jurisdiction of Lancaster County are subject to periodic inundation which may result 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.

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 prone areas by uses vulnerable to floods or hazardous to other lands which are inadequately elevated, floodproofed, or otherwise unprotected from flood damages.

B. STORMWATER MANAGEMENT AND SEDIMENT AND EROSION CONTROL

The South Carolina Department of Health and Environmental Control (SCDHEC) has issued regulations entitled "National Pollutant Discharge Elimination System Permit Program (South Carolina Code of Laws Title 48). These regulations are in accordance with the Clean Water Act requirement that SCDHEC issues permits for all construction projects over 1 acre; many industrial sites; and all regulated Municipal Separate Storm Sewer Systems (MS4s) to prevent, identify, and remove illegal discharges and to implement a stormwater public education program.

8.1.3 ORDINANCE ENFORCEMENT

A. DUTIES

One of the primary duties of the Administrator or designee shall be to review all stormwater applications and issue permits for those projects that are in compliance with the provisions of this article. The Administrator or designee shall be responsible for the administration and enforcement of this chapter.

B. INTERGOVERNMENTAL RELATIONSHIPS

Included as part of this chapter is a delineation of requirements and duties required of and accepted by the Administrator or designee. Certain requirements or duties specified by FEMA and the South Carolina Department of Health and Environmental Control (SCDHEC) relate only to the intergovernmental relationship between a community and FEMA, the South Carolina Department of Natural Resources (SCDNR), or SCDHEC for the purposes of that community

obtaining or maintaining eligibility for the National Flood Insurance Program (NFIP) and Qualified Local Program Status.

The following agencies should be consulted and permits obtained when applicable:

- United States Army Corps of Engineers (ACOE)
- South Carolina Department of Transportation (SCDOT)
- South Carolina Department of Health and Environmental Control (SCDHEC)
- South Carolina Department of Natural Resources (SCDNR)
- Lancaster County Building Permits
- State Historical Preservation Agency
- United States Fish and Wildlife Service
- Federal Emergency Management Agency (FEMA)

8.1.4 PURPOSE

A. FLOOD DAMAGE PREVENTION

- 1.** It is the purpose of the flood damage prevention provisions of this chapter 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:
 - a.** Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
 - b.** Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which increase flood heights, velocities, or erosion;
 - c.** Controlling the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
 - d.** Controlling filling, grading, dredging, and all other development which may increase erosion or flood damage; and
 - e.** Preventing or regulating the construction of flood barriers which will unnaturally divert floodwaters or which may increase flood hazards to other lands.
- 2.** Specific objectives of the flood damage prevention provisions are as follows:
 - a.** To protect human life and health;
 - b.** To help maintain a stable tax base by providing for the sound use and development of flood prone areas in such a manner as to minimize flood blight areas;
 - c.** To insure that potential homebuyers are notified that property is in a special flood hazard area;
 - d.** To minimize damage to public facilities and utilities (i.e. water and gas mains; electric, telephone, and sewer lines; streets; and bridges) that are located in the floodplain;
 - e.** To minimize prolonged business interruptions; and
 - f.** To minimize expenditure of public money for costly flood control projects and rescue and relief efforts associated with flooding.
- 3.** 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, especially floodways and stream channels, should be the result of careful planning processes that evaluate resource conditions and human needs.

B. STORMWATER MANAGEMENT AND SEDIMENT AND EROSION CONTROL

1. The stormwater management provisions of this chapter are intended to protect water quality for present and future residents of the County and surrounding regions by limiting the amount of pollutants including, but not limited to, nitrogen in stormwater runoff that makes its way into the County's stormwater drainage system. Specific objectives include protection of riparian buffers, control of nitrogen export from development, control of peak stormwater runoff, and the use of best management practices. The stormwater management provisions of this chapter are further intended to provide for the enforcement of the County's stormwater management program; to prohibit non-stormwater discharges to the County stormwater drainage system, require the removal of illicit connections to the County stormwater drainage system and prevent improper disposal of materials that degrade water quality.
2. The erosion and sedimentation control provisions of this ordinance are adopted for the purposes of regulating certain land-disturbing activity to control accelerated erosion and sedimentation in order to prevent the pollution of water and other damage to lakes, watercourses, and other public and private property by sedimentation.

8.1.5 PERMITS REQUIRED

A. FLOODPLAIN DEVELOPMENT PERMIT

A Development Permit shall be required in conformance with the provisions of this ordinance prior to the commencement of any development activities. No structure or land shall hereafter be located, extended, converted, or structurally altered without full compliance with the terms of this ordinance and other applicable regulations.

B. STORMWATER MANAGEMENT PERMIT

No person shall construct, repair or alter the stormwater drainage system for the purpose of draining water from any land or premises, or commence any development activities before receiving a Stormwater Management Permit according to the provisions of this chapter.

C. GRADING (EROSION AND SEDIMENTATION CONTROL) PERMIT

No person shall undertake any land-disturbing activity as specified by the erosion and sedimentation control provisions of this chapter and SCDHEC and EPA requirements until plans for controlling erosion associated with the activity have been reviewed and approved by either SCDHEC or Lancaster County as required by this ordinance.

8.1.6 REQUIRED CONFORMANCE TO THE LANCASTER COUNTY SPECIFICATIONS MANUAL

The Lancaster County Manual of Specifications, Standards and Design (MSSD) is herein incorporated as Appendix C and by reference. Conformance to the Manual of Specifications, Standards and Design is required in addition to the provisions in this ordinance.

8.1.7 APPLICABILITY

A. FLOOD DAMAGE PREVENTION

These regulations shall apply to all areas of special flood hazard within the jurisdiction of Lancaster County as identified by the Federal Emergency Management

Agency (FEMA) in its Flood Insurance Study, dated (insert date) with the accompanying maps and other supporting data that are hereby adopted by reference and declared to be a part of this ordinance.

1. **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.
 2. **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 Lancaster 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.
- B. The various erosion control, flood damage prevention, stormwater management and watershed protection provisions of this chapter apply according to the table below:

Regulation Type	Geographic Applicability	Applicable Subsections
Flood Damage Prevention Regulations	All Districts	Section 8.2
Stormwater Management Regulations	All Districts	Sections 8.3 and 8.7
Erosion and Sedimentation Control Regulations	All Districts	Sections 8.4, 8.5 and 8.6

8.2 PROVISIONS FOR FLOOD HAZARD REDUCTION

8.2.1 GENERAL STANDARDS

Development may not occur in the Special Flood Hazard Area (SFHA) 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 SFHA and that encroachments onto the SFHA are minimized. In all areas of special flood hazard the following provisions are required:

A. ANCHORING

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

B. FLOOD RESISTANT MATERIALS AND EQUIPMENT

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 August 2008, and available from the Federal Emergency Management Agency.

C. MINIMIZE FLOOD DAMAGE

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

D. CRITICAL DEVELOPMENT

Critical development shall be elevated to the 500 year flood elevation or be elevated to the highest known historical flood elevation (where records are available), whichever is greater. If no data exists establishing the 500 year flood elevation or the highest known historical flood elevation, the applicant shall provide a hydrologic and hydraulic engineering analysis that generates 500 year flood elevation data.

E. UTILITIES

Electrical, ventilation, plumbing, heating and air conditioning equipment (including ductwork), 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 the 100 year base flood plus 2 feet (freeboard).

F. WATER SUPPLY SYSTEMS

All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.

G. SANITARY SEWAGE SYSTEMS

New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the systems and discharges from the systems into floodwaters. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.

H. GAS OR LIQUID STORAGE TANKS

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

I. ALTERATION, REPAIR, RECONSTRUCTION, OR IMPROVEMENTS

Any alteration, repair, reconstruction, or improvement to a structure that is in compliance with the provisions of this ordinance, shall meet the requirements of "new construction" as contained in this ordinance. This includes post-FIRM development and structures.

J. NON-CONFORMING BUILDINGS OR USES

Non-conforming buildings or uses may not be enlarged, replaced, or rebuilt unless such enlargement or reconstruction is accomplished in conformance with the provisions of this ordinance. Provided, however, nothing in this ordinance shall prevent the repair, reconstruction, or replacement of an existing building or structure located totally or partially within the floodway, provided that the bulk of the building or structure below base flood elevation in the floodway is not increased and provided that such repair, reconstruction, or replacement meets all of the other requirements of this ordinance.

K. AMERICAN WITH DISABILITIES ACT (ADA)

A building must meet the specific standards for floodplain construction outlined in Section 8.2.2, as well as any applicable ADA requirements. The ADA is not justification for issuing a variance or otherwise waiving these requirements. Also, the cost of improvements required to meet the ADA provisions shall be included in the costs of the improvements for calculating substantial improvement.

8.2.2 SPECIFIC STANDARDS

In all areas of special flood hazard (Zones A, AE, AH, AO, A1-30, V, and VE) where base flood elevation data has been provided, the following provisions are required:

A. RESIDENTIAL CONSTRUCTION

New construction of any residential structure (including manufactured homes) shall have the lowest surrounding grade elevated no lower than 2 feet above the 100 year base flood elevation.

Substantial improvement of any residential structure (including manufactured homes) shall have the lowest floor elevated no lower than 2 feet above the 100 year base flood elevation no basements are permitted. Should solid foundation perimeter walls be used to elevate an existing structure, flood openings sufficient to automatically equalize hydrostatic flood forces, shall be provided in accordance with the elevated buildings requirements in Section 8.2.2.D.

B. NON-RESIDENTIAL CONSTRUCTION

1. New construction of any commercial, industrial, or non-residential structure (including manufactured homes) shall have the lowest surrounding grade elevated no lower than 2 feet above the 100 year base flood elevation. Substantial improvement of any commercial, industrial, or non-residential structure (including manufactured homes) shall have the lowest floor elevated no lower than 2 feet above the level of the 100 year base flood elevation. Should solid foundation perimeter walls be used to elevate an existing structure, flood openings sufficient to automatically equalize hydrostatic flood forces, shall be provided in accordance with the elevated buildings requirements in Section 8.2.2.D. No basements are permitted. Structures located in A-zones 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.
2. A registered, professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certifications shall be provided to the official as set forth in the floodproofing certification requirements in Section [9.2.8.C.b.i](#). A variance may be considered for wet-floodproofing agricultural structures in accordance with the criteria outlined in Section [9.2.12.C.2.b.vi](#) of this ordinance. Agricultural structures not meeting the criteria of Section [9.2.12.C.2.b.vi](#) must meet the non-residential construction standards and all other applicable provisions of this ordinance. Structures that are floodproofed are required to have an approved maintenance plan with an annual exercise. The local floodplain administrator must approve the maintenance plan and notification of the annual exercise shall be provided to it.

C. MANUFACTURED HOMES

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 of the manufactured home is elevated no lower than 2 feet above the 100 year base flood elevation and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.
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 for residential construction in Section 8.2.2.A of this ordinance must be elevated so that the lowest floor of the manufactured home is elevated no lower 2 feet than above the 100 year base flood elevation, and be securely anchored to an adequately anchored foundation to resist flotation, collapse, and lateral movement.
3. Manufactured homes shall be anchored to prevent flotation, collapse, and lateral movement. For the purpose of this requirement, manufactured homes must be anchored to resist flotation, collapse, and lateral movement in accordance with Section 40-29-10 of the *South Carolina Manufactured Housing Board Regulations*, as amended. Additionally, when the elevation requirement would be met by an elevation of the chassis 36 inches or less above the grade at the site, the chassis shall be supported by reinforced piers or engineered foundation. When the elevation of the chassis is above 36 inches in height an engineering certification is

required.

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 floodplain administrator and the local Emergency Preparedness Coordinator.

D. ELEVATED BUILDINGS

New construction and substantial improvements of elevated buildings that include fully enclosed areas below the lowest floor that are usable solely for the parking of vehicles, building access, or limited 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.

1. Designs for complying with this requirement must either be certified by a professional engineer or architect or meet or exceed all of the following minimum criteria:
 - a. 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.
 - b. The bottom of each opening must be no more than 1 foot above the higher of the interior or exterior grade immediately under the opening,
 - c. Only the portions of openings that are below the 100 year base flood elevation (BFE) can be counted towards the required net open area.
 - d. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
 - e. 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.
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 5 feet per second), foundation systems other than solid foundations walls should be considered so that obstructions to damaging flood flows are minimized.
3. Enclosures Below Lowest Floor
 - a. 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).
 - b. The interior portion of such enclosed area shall not be finished or partitioned into separate rooms, must be void of utilities except for essential lighting as required for safety, and cannot be temperature controlled.
 - c. 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 the specific standards outlined in Section 8.2.2.A, B, and C.
 - d. All construction materials below the required lowest floor elevation specified in the specific standards outlined in Section 8.2.2.A, B, C, and D should be of flood resistant materials.

E. FLOODWAYS

The floodway is an extremely hazardous area due to the velocity of floodwaters that carry debris and potential projectiles and has erosion potential. The following provisions shall apply within such areas:

1. No encroachments, including fill, new construction, substantial improvements, additions, and other developments shall be permitted unless:
 - a. It has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in the flood levels during the occurrence of the 100 year base flood. Such certification and technical data shall be presented to the local floodplain administrator.
 - b. A Conditional Letter of Map revision (CLOMR) has been approved by FEMA. A Letter of Map Revision must be obtained upon completion of the proposed development.
2. If Section 8.2.2.E.1.a is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 8.2.2.
3. No manufactured homes shall be permitted, except in an existing manufactured home park or subdivision. A replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring and the elevation standards of Section 8.2.2.C and the encroachment standards of Section 8.2.2.E.1.a are met.
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. Substantial development of a permissible use may require a no-impact certification. The uses listed in this subsection are permissible only if and to the extent that they do not cause any increase in base flood elevations or changes to the floodway configuration.

F. RECREATIONAL VEHICLES

1. A recreational vehicle is ready for highway use if it is:
 - a. On wheels or jacking system;
 - b. Attached to the site only by quick-disconnect type utilities and security devices; and
 - c. Has no permanently attached additions.
2. Recreational vehicles placed on sites shall either be:
 - a. On site for fewer than 180 consecutive days; or
 - b. Be fully licensed and ready for highway use, or *meet* the development permit and certification requirements of Section 9.2.8.C3.b, general standards outlined Section 8.2.2.

G. 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 accurately represent flooding conditions so appropriate floodplain management criteria are based on current data. The following map maintenance activities are identified:

1. Requirement to Submit New Technical Data
 - a. 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:

- i. Floodway encroachments that increase or decrease base flood elevations or alter floodway boundaries;
 - ii. Fill sites to be used for the placement of proposed structures where the applicant desires to remove the site from the special flood hazard area;
 - iii. Alteration of watercourses that result in a relocation or elimination of the special flood hazard area, including the placement of culverts; and
 - iv. Subdivision or large scale development proposals requiring the establishment of base flood elevations in accordance with Section 8.2.3.
- b. It is the responsibility of the applicant to have technical data, required in accordance with Section 8.2.2.G, 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.
 - c. The local floodplain administrator shall require a Conditional Letter of Map Revision prior to the issuance of a floodplain development permit for:
 - i. Proposed floodway encroachments that increase the base flood elevation; and
 - ii. Proposed development which increases the base flood elevation by more than one foot in areas where FEMA has provided base flood elevations but no floodway.
 - d. 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 8.2.2.G.
2. Right to Submit New Technical Data - The floodplain administrator may request changes to any of the information shown on an effective map that does not impact floodplain or floodway delineations or base flood elevations, such as labeling or plan metric details. Such a submission shall include appropriate supporting documentation made in writing by the local jurisdiction and may be submitted at any time.

H. ACCESSORY STRUCTURES

- 1. A detached accessory structure or garage, the cost of which is greater than \$3,000, must comply with the requirements as outlined in FEMA's Technical Bulletin 7-93 *Wet Floodproofing Requirements or be elevated in accordance with 8.2.2.A and D or dry floodproofed in accordance with Section 8.2.2.B.*
- 2. If accessory structures of \$3,000 or less are to be placed in the floodplain, the following criteria shall be met:
 - a. Accessory structures shall not be used for any uses other than the parking of vehicles and storage,
 - b. Accessory structures shall be designed to have low flood damage potential,
 - c. Accessory structures shall be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters,
 - d. Accessory structures shall be firmly anchored to prevent flotation, collapse and lateral movement of the structure,
 - e. Service facilities such as electrical and heating equipment shall be installed in accordance

with Section 8.2.1.A,

- f. Openings to relieve hydrostatic pressure during a flood shall be provided below base flood elevation in conformance with Section 8.2.2.D.1, and
- g. Accessory structures shall be built with flood resistance 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.

I. SWIMMING POOL UTILITY EQUIPMENT ROOMS

If the building cannot be built at or above the BFE, because of functionality of the equipment then a structure to house the utilities for the pool may be built below the BFE with the following provisions:

1. Meet the requirements for accessory structures in Section 8.2.2.H.
2. The utilities must be anchored to prevent flotation and shall be designed to prevent water from entering or accumulating within the components during conditions of the base flood.

J. ELEVATORS

1. Install a float switch system or another system that provides the same level of safety necessary for all elevators where there is a potential for the elevator cab to descend below the BFE during a flood per FEMA's Technical Bulletin 4-93 Elevator Installation for Buildings Located in Special Flood Hazard Areas.
2. All equipment that may have to be installed below the 100 year BFE such as counter weight roller guides, compensation cable and pulleys, and oil buffers for traction elevators and the jack assembly for a hydraulic elevator must be constructed using flood-resistant materials where possible per FEMA's Technical Bulletin 4-93 Elevator Installation for Buildings Located in Special Flood Hazard Areas.

K. FILL

An applicant shall demonstrate that fill is the only alternative to raising the building to meet the residential and non-residential construction requirements of Section 8.2.2.A or Section 8.2.2.B, 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:

1. Fill may not be placed in the floodway unless it is in accordance with the requirements in Section 8.2.2.E.
2. Fill may not be placed in tidal or non-tidal wetlands without the required state and federal permits.
3. Fill must consist of soil and rock materials only. A registered professional geotechnical engineer may use dredged material as fill only upon certification of suitability. Landfills, rubble fills, dumps, and sanitary fills are not permitted in the floodplain.
4. Fill used to support structures must comply with ASTM Standard D-698, and its suitability to support structures certified by a registered, professional engineer.
5. Fill slopes shall be no greater than two horizontal to one vertical. Flatter slopes may be required where velocities may result in erosion.
6. The use of fill shall not increase flooding or cause drainage problems on neighboring properties.
7. Fill may not be used for structural support in the coastal high hazard areas.

8. Will meet the requirements of FEMA Technical Bulletin 10-01, *Ensuring That Structures Built On Fill in or Near Special Flood Hazard Areas Are Reasonable Safe from Flooding*.

L. STANDARDS FOR SUBDIVISION PROPOSALS AND OTHER DEVELOPMENT

1. All subdivision proposals and other proposed new development shall be consistent with the need to minimize flood damage and are subject to all applicable standards in these regulations.
2. All subdivision proposals and other proposed new development shall have public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage.
3. All subdivision proposals and other proposed new development shall have adequate drainage provided to reduce exposure to flood damage.
4. The applicant shall meet the requirement to submit technical data to FEMA in 8.2.2.G when a hydrologic and hydraulic analysis is completed that generates base flood elevations.

8.2.3 STANDARDS FOR STREAMS WITHOUT ESTABLISHED BASE FLOOD ELEVATIONS AND FLOODWAYS

Located within the areas of special flood hazard (Zones A and V) established in Section 8.1.7.A are small streams where no base flood data has been provided and where no floodways have been identified. The following provisions apply within such areas:

A. HYDRAULIC AND HYDROLOGIC ENGINEERING ANALYSIS

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 50 lots or 5 acres, whichever is less.

B. NO ENCROACHMENTS, FILL, NEW CONSTRUCTION, OR SUBSTANTIAL IMPROVEMENTS

No encroachments, including fill, new construction, substantial improvements and new development shall be permitted within 100 feet of the stream bank unless certification with supporting technical data by a registered professional engineer is provided demonstrating that such encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.

C. APPLICABLE FLOOD HAZARD ORDINANCE PROVISIONS

If Section 8.2.3.A is satisfied and base flood elevation data is available from other sources, all new construction and substantial improvements within such areas shall comply with all applicable flood hazard ordinance provisions of Section 8.2.2 and shall be elevated or floodproofed in accordance with elevations established in accordance with Section 9.2.8.C.5.k.

D. BEST AVAILABLE DATA

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.

- E. When base flood elevation (BFE) data is not available from a federal, state, or other source one of the following methods may be used to determine a BFE For further information regarding the methods for determining BFEs listed below, refer to FEMA's manual *Managing Floodplain Development in Approximate Zone A Areas*:

1. Contour Interpolation
 - a. Superimpose approximate Zone A boundaries onto a topographic map and estimate a BFE.
 - b. Add one-half of the contour interval of the topographic map that is used to the BFE.
2. Data Extrapolation - A BFE can be determined if a site within 500 feet upstream of a reach 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.
3. Hydrologic and Hydraulic Calculations- Perform hydrologic and hydraulic calculations to determine BFEs using FEMA approved methods and software.

8.2.4 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 a Special Flood Hazard Area on the FIRM or in the FIS. The following provision shall apply within such areas:

No encroachments including fill, new construction, substantial improvements, or other development shall be permitted unless certification with supporting technical data by a registered professional engineer is provided demonstrating that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.

8.2.5 STANDARDS FOR AREAS OF SHALLOW FLOODING (AO ZONES)

Located within the areas of special flood hazard established in Section 8.1.7.A are areas designated as shallow flooding. The following provisions shall apply within such areas:

- A. All new construction and substantial improvements of residential structures shall have the lowest floor elevated to at least as high as 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 shall be elevated at least 3 feet above the highest adjacent grade.
- B. All new construction and substantial improvements of non-residential structures shall:
 1. Have the lowest floor elevated to at least as high as 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 shall be elevated at least 3 feet above the highest adjacent grade; or,
 2. Be completely flood-proofed together with attendant utility and sanitary facilities to or above that level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. Certification is required as stated in Section 9.2.8.C.4.g.
- C. All structures on slopes must have drainage paths around them to guide water away from the structures.

8.3 STORMWATER PERMITS - GENERAL

8.3.1 REGULATED DEVELOPMENT

No person, firm, corporation or governmental agency shall commence any development regulated by this chapter on any lot or parcel of land without first obtaining a stormwater permit from Lancaster

County. A permit shall be issued if the proposed development meets the requirements of this chapter. A final Certificate of Occupancy will not be issued until the performance standards of this chapter are met.

8.3.2 STORMWATER PERMIT FEE

For projects located within the designated MS-4, the Administrator or designee shall compile the requirements for the fees in an administrative manual. The manual shall be approved by the County Council and shall be made available to the public.

8.3.3 STORMWATER PERMIT CLASSIFICATION

The stormwater permit has been developed such that the level of permitting required matches the scope of work. One of the following permits shall be required:

A. MAJOR STORMWATER PERMIT

A major stormwater permit typically requires detention, stormwater quality and quantity control, preparation of a stormwater pollution prevention plan, and may include additional requirements for activities in special management areas. A major stormwater permit is required when a development:

1. Disturbs more than 2 acres;
2. Creates a new impervious surface greater than or equal to 0.25 acres;
3. Is located in a regulatory floodplain;
4. Modifies a riverine flood prone area where the tributary drainage area is greater than 40 acres;
5. Modifies a non-riverine flood prone area where the tributary drainage area is greater than 20 acres;
6. Is located in a depressional storage area which has a volume larger than 0.75 acre-foot;
7. Impacts a wetland or riparian environment of 1/10 acre or more within an area defined as waters of the U.S. or waters of the state; or
8. Public road or trail development that results in 1.5 acres or more of additional impervious surface per mile, for linear or nonlinear projects.

B. MINOR STORMWATER PERMIT

A minor stormwater permit typically requires stormwater quality and may include additional requirements for activities in special management areas. A minor stormwater permit is required when a development:

1. Disturbs more than one but less than 2 acres; or
2. Has a total impervious surface area ratio of 60 percent or greater and disturbs 50 percent or more of the parcel or larger common plan over a five year period.
3. Soil erosion and sediment control permit. A soil erosion and sediment control permit is required when a development disturbs 10,000 square feet or more but does not meet any of the thresholds listed above. A soil erosion and sediment control permit may include additional requirements for activities in special management areas.

8.3.4 LARGER COMMON PLAN

A. PHASED PROJECTS AND CONTIGUOUS LOTS OR PARCELS OF LAND

Larger common plans are defined as a) a construction activity that is completed in separate stages, separate phases, or in combination with other construction activities that ultimately

disturbs 10,000 square feet or more over a period of five years; or b) any proposed development activity that occurs on a lot or parcel of land that has contiguous lots or parcels of lands owned in whole, or in part, by the same property owner, then the criteria as defined in this chapter will be applied to the total land area compiled from aggregate ownership parcels.

B. EXPIRATION

A larger common plan expires five years after the site is stabilized in compliance with the requirements of this article, all proposed construction causing land-disturbing activities have been completed, and the notice of termination has been submitted and accepted by the state department of health and environmental control. Water quantity control shall not be required for modifications to these sites provided that the originally permitted curve number aligns with the proposed impervious surfaces. All other requirements of this article shall be met.

8.3.5 EXEMPTED DEVELOPMENT

All development shall meet the minimum state, federal and local regulations. Upon review and verification by the Administrator or designee, the following are exempt from specific ordinance requirements. However, no development is exempt from the floodplain, floodway, wetland, riparian environment, depressional storage, and soil erosion and sediment control provisions of this article.

- A.** Agricultural land management and agricultural practices, or the construction of on-farm buildings and structures less than one acre in size used in a farming operation.
- B.** Construction or land improvement of a single-family residence, a duplex dwelling, or their accessory structures which are separately built and are not part of a larger common plan.
- C.** Single-family residences or duplex dwellings not part of a larger common plan.
- D.** Single-family residences or duplex dwellings part of a larger common plan that are constructed in compliance with the approved stormwater permit for the larger common plan.
- E.** Maintenance of existing buildings, facilities, parking lot seal coating and resurfacing of roadways when the overall drainage pattern has not been significantly altered and will not cause impact to adjacent properties. The use of coal-tar based pavement sealcoat is prohibited.
- F.** Mining and mineral resource extraction operations conducted in accordance with a valid mining permit issued by the land and waste management division of the South Carolina department of health and environmental control.
- G.** Land-disturbing activities undertaken on forest land for the production and harvesting of timber and timber products regulated by the U.S. Forestry Service.
- H.** Emergency repairs of existing structures and facilities that require ground to be broken. Provided that the repairs are performed in a manner consistent with these regulations to the maximum extent feasible.
- I.** Construction activities of the state department of transportation conforming to the requirements of the latest edition of the South Carolina Standard Specifications for Highway Construction.
- J.** Activities relating to the routine maintenance and/or repair or rebuilding of the tracks, rights-of-way, bridges, communication facilities and any other related structures and facilities of a railroad company.
- K.** Land-disturbing activities that are conducted pursuant to, and are compliant with, another state or federal environmental permit, license or certification in which the state or federal permitting authority supersedes the County's authority as established by local ordinance and regulation.

- L. Certain activities undertaken by utility providers that are not substantial land-disturbing activities and therefore are not intended to be regulated by this section. Provided that the repairs are performed in a manner consistent with these regulations to the maximum extent feasible. These activities include, but are not limited to, the following:
 1. Installation of utilities on sites not part of larger common plan and which disturb less than 10,000 square feet.
 2. Land-disturbing activities conducted pursuant to a federal environmental permit, including permits issued under Section 404 of the Federal Clean Water Act, and including permits issued by the Federal Energy Regulatory Commission.
 3. Installation of utilities in a ditch section four feet or less in width.
 4. Installation of utility poles.
 5. Maintenance of easements and rights-of-way.
 6. Service connections, i.e., tapping main lines and/or setting meters, including installation of a manhole, bellhole, underground vault, valve box or fire hydrants.
- M. Projects for which an encroachment permit has been issued by the state department of transportation that are not part of a larger common plan and which disturb less than 10,000 square feet.
- N. Land-disturbing activities conducted by a utility provider filing environmental reports, assessments or impact statements with the United States Department of Agriculture, Rural Electrification Administration, in regard to a project.
- O. Any case in which a waiver or variance has been granted for the permit requirements upon a determination that the integrity of this section will not be violated by such action.
- P. Fence installation, pole placement, drilling or other minor auxiliary construction activity which does not affect stormwater runoff rates, patterns, or volumes.
- Q. Annexation agreements, if the stormwater management systems are installed, functioning and in compliance with all applicable stormwater regulations of the appropriate jurisdictional entity in effect at the time of construction. Water quantity control shall not be required for modifications to the site provided that the originally permitted curve number aligns with the proposed impervious surfaces. All other requirements of this article shall be met.
- R. Stormwater permits approved prior to January 1, 2008, if the stormwater management systems are installed and in general compliance with all applicable stormwater regulations then in effect.

8.3.6 PERMIT EXTENSIONS AND TERMINATIONS

Among the causes for terminating a permit during its term or for denying a permit extension include, but are not limited to, the following:

- A. Noncompliance with any condition of the permit; or
- B. The permittee's failure to disclose fully all relevant facts in the application process or the permittee's misrepresentation of any relevant facts at any time; or
- C. If the authorized work is not commenced within one year after issuance of the permit, or if the authorized work is suspended or abandoned for a period of 12 months after the time of commencing the work, unless an extension has been granted in writing by the Administrator or designee. The extension should be requested of the Administrator or designee in writing 30 days prior to the termination of the stormwater permit.

8.4 SEDIMENT AND EROSION CONTROL PERMITS WITHIN THE COUNTY'S

REGULATED MS-4

Effective November 1, 2017, the following performance standards, application requirements and other provisions apply to all development requiring a stormwater permit within the County's regulated MS-4. All the following application requirements shall be submitted when applicable to the development as determined by the Administrator or designee. Subsequent sections include additional provisions for development in special management areas.

8.4.1 SOIL EROSION AND SEDIMENT CONTROL PERMIT

A. APPLICATION REQUIREMENTS

The following requirements shall apply, at a minimum, for all development requiring a soil erosion and sediment control permit.

1. A soil erosion and sediment control permit and plans must be prepared, signed, and sealed by a professional engineer, Tier B land surveyor, architect or landscape architect. The person preparing the plans must have professional competence in the area of soil erosion and sediment. All licensees must be of the state.
2. A completed soil erosion and sediment control permit application signed by the applicant.
3. A report to include:
 - a. A written narrative description of the proposed phasing (construction sequencing) of development of the site, including stripping and clearing, rough grading and construction, and final grading and landscaping. Phasing should identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, and the sequence of installation of temporary sediment control measures (including perimeter controls), clearing and grading, installation of temporary soil stabilization measures, installation of storm drainage, paving streets and parking areas, final grading, establishment of permanent vegetative cover, and the removal of temporary measures. It shall be the responsibility of the applicant to notify the Administrator or designee of any significant changes that occur in the site development schedule after the initial soil erosion and sediment control plan has been approved.
 - b. A general description of the existing and proposed stormwater management system, including all discharge points, collection, conveyance, and storage facilities.
 - c. Supporting maps to include a FIRMette, USGS quadrangle map, and NRCS soils map.
 - d. A vicinity map identifying the parcel identification numbers of all parcels comprising the proposed development.
 - e. A capacity analysis of the stormwater management system components on-site. An off-site downstream capacity analysis may be required by the Administrator or designee when downstream flooding exists.
 - f. Design calculations for sediment and erosion control measures with the drainage area tributary to each sediment control measure delineated on an overall map.
 - g. Description of off-site fill or borrow volumes, locations, and methods of stabilization.
 - h. A color coded map depicting the existing impervious surfaces and total new impervious surfaces along with a summary table.
 - i. Any federal, state and local requirements, including, but not limited to, the applicable SCDHEC notice of intent, ACOE nationwide permit, FEMA letters of map change, jurisdictional wetland determination and endangered species permitting. Reference Appendix A for a partial list of additional permits that may be applicable.

4. A soil erosion and sediment control plan showing all measures appropriate for the development as approved by the Administrator or designee, to meet the objectives of this article throughout all phases of construction and permanently after completion of development of the site. Guidance regarding appropriate methods, procedures, controls measures, and implementation are included in the SCDHEC “Stormwater Management BMP Handbook”, latest edition, but shall, at a minimum, include:
 - a. Proposed and existing elevations tied to the North American Vertical Datum of 1988. Horizontal datum survey control shall be South Carolina State Plane NAD83 HARN International Feet coordinates.
 - b. Off-site and on-site drainage features, overland flow paths, stormwater management system components.
 - c. Existing and proposed utilities which may include septic systems and wells.
 - d. Regulatory floodplains, wetland boundaries, buffer areas.
 - e. Location and description, including standard details, of all sediment control measures, including, but not limited to, construction entrance, silt fence, inlet protection, dust control, stockpile areas management, concrete washout areas, and sediment basins/traps and corresponding outlet details.
 - f. Location and description of all soil stabilization and erosion control measures, including seeding mixtures and rates, types of sod or vegetation, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, kind and quantity of mulching for both temporary and permanent vegetative control measures, and types of non-vegetative stabilization measures.
 - g. Phased soil erosion and sediment control plans as required to meet the requirements of this article and to mitigate off-site soil migration and erosion throughout construction.
 - h. Adjoining lakes, streams, and other major drainage ways.

B. PERFORMANCE STANDARDS

The following requirements shall be met:

1. Soil disturbance shall be conducted in such a manner as to minimize erosion. Areas of the development site that are not to be graded shall be protected from construction traffic or other disturbance until final seeding is performed. Soil stabilization measures shall consider the time of year, site conditions, and the use of temporary and/or permanent measures.
2. Properties and channels adjoining development sites shall be protected from erosion and sedimentation. At points where concentrated flow leaves a development site, energy dissipation devices shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity of flow from the structure to the watercourse so that the natural physical and biological characteristics and functions are maintained and protected.
3. Soil erosion and sediment control features shall be constructed prior to the commencement of disturbance of upland areas.
4. Disturbed areas shall be stabilized with temporary or permanent measures within 14 calendar days following the end of active disturbance, or re-disturbance, consistent with the following criteria or using an appropriate measure as approved by the Administrator or designee:
 - a. Appropriate temporary or permanent stabilization measures shall include seeding, mulching, sodding, and/or non-vegetative measures.

- b. Areas or embankments having slopes greater than or equal to 3H:1V shall be stabilized with staked in place sod, mat, flexible growth medium or blanket in combination with seeding. Slopes with less than four-foot vertical rise shall not be required to meet the requirements of this subsection.
 - c. The 14-day stabilization requirement may be precluded where stabilization by the 14th day is prevented by snow cover or frozen ground conditions, in which case stabilization measures must be initiated as soon as practicable.
 - d. The site shall be considered permanently stabilized when all surface disturbing activities are complete and either of the two following criteria is met:
 - i. A uniform (e.g., evenly disturbed, without large bare areas) perennial vegetative cover with a density of 70 percent per square yard of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures; or
 - ii. Equivalent permanent stabilization measures (such as riprap, gabions, or geotextiles) have been employed.
5. Land-disturbance activities in streams shall be avoided, where possible. If disturbance activities are unavoidable, the following requirements shall be met:
- a. Approved permits from the ACOE will be submitted to the Administrator or designee.
 - b. Where stream construction crossings are necessary, temporary crossings shall be constructed of non-erosive material.
 - c. The time and area of disturbance of a stream shall be kept to a minimum. The stream, including bed and banks, shall be re-stabilized as soon as possible and ideally within 72 hours after channel disturbance is completed or interrupted.
6. Soil erosion and sediment control measures shall be appropriate with regard to the amount of tributary drainage area as follows:
- a. Disturbed areas draining greater than 1,000 square feet but less than one acre shall, at a minimum, be protected by a sediment barrier to control all off-site runoff. Sediment barriers may include silt fences meeting the applicable sections of the AASHTO Standard Specification M288 or ASTM Standard Specifications D6461 and D6462 or sediment tubes or other measures providing equivalent sediment control as demonstrated by ASTM D7351.
 - b. Disturbed areas draining more than one but fewer than five acres shall, at a minimum, be protected by a sediment trap with baffles or equivalent control measure at a point down slope of the disturbed area. Sediment traps shall be sized based on 1,800 cubic feet per acre of contributing area unless the site drains to an impaired waterbody which then requires 3,600 cubic feet per acre.
 - c. Disturbed areas draining more than 5 acres shall, at a minimum, be protected by a sediment basin with baffles and a surface outlet such as a skimmer, flashboard riser, or approved equal. For construction periods exceeding one year, the one-year sediment load and a sediment removal schedule shall be submitted. If the detention basin for the proposed development condition of the site is used for sediment basin, the above requirements will be explicitly met until the final site stabilization is complete.
 - d. For sites draining greater than five acres, soil erosion and sediment control measures shall, at a minimum, achieve an equivalent removal efficiency of 80 percent for suspended solids or 0.5 ML/L peak settleable solids concentration, whichever is less.

The efficiency shall be calculated for disturbed conditions for the 10-year 24-hour design event.

- e. For sites draining more than 5 acres, release rates for the 2-year and 10-year, 24-hour storm events during construction shall be less than the pre-developed discharge rates.
- 7. All drainage features that are or will be functioning during construction shall be protected by appropriate sediment control measure.
- 8. If dewatering services are used, adjoining properties and discharge locations shall be protected from erosion. Discharges shall be routed through an effective sediment control measure (e.g., sediment trap, sediment basin or other appropriate measure).
- 9. All temporary soil erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary measures are no longer needed. Trapped sediment shall be properly disposed.
- 10. A stabilized construction entrance consisting of aggregate underlain with nonwoven geotextile (or other appropriate measure) shall be located at any point where traffic will be entering or leaving a construction site to or from a public right-of-way, street, alley or parking area. Any sediment or soil reaching an improved public right-of-way, street, alley or parking area shall be removed by sweeping or vacuuming as accumulations warrant and transported to a controlled sediment disposal area. The Administrator or designee may require additional stabilized construction entrance methods.
- 11. Earthen embankments shall be constructed with appropriate stabilization and side slopes no steeper than 3H:1V. Steeper slopes may be constructed with appropriate stabilization as approved by the Administrator or designee.
- 12. Stormwater conveyance channels, including ditches, swales, and diversions, and the outlet of all channels and pipes shall be designed and constructed to withstand, at a minimum, the expected flow velocity from the 25-year frequency storm with minimal erosion. All constructed or modified channels shall be stabilized as soon as possible and no longer than 72 hours from disturbance.
- 13. Temporary diversions shall be constructed as needed during construction to protect areas from upslope runoff and/or to divert sediment laden water to appropriate traps or stable outlets.
- 14. Soil stockpiles shall not be located in a flood prone area or a designated buffer protecting waters of the United States or waters of the state. Soil stockpiles are defined as having greater than 100 cubic yards of soil and will remain in place for more than seven days. Soil stockpile locations shall be shown on the soil erosion and sediment control plan and shall have the appropriate measures installed at all times to prevent erosion of the stockpile.
- 15. Handbooks. Standards and specifications contained in The SCDHEC stormwater management BMP field manual and the stormwater technical reference manual, as amended, are referenced in this article as guidance for presenting soil erosion and sediment control plan specifications and delineating procedures and methods of operation under site development for soil erosion and sediment control. In the event of conflict between provisions of said manuals and this article, the stricter shall govern.
- 16. The applicant shall provide adequate receptacles for the deposition of all construction material debris generated during the development process. The applicant shall not cause or permit the dumping, depositing, dropping, throwing, discarding or leaving of construction material debris upon or into any development site, channel, waters of the United States or waters of the state.

17. Soil erosion and sediment control measures and stormwater management systems shall be functional before construction begins. Where development of a site is to proceed in phases, the soil erosion and sediment control measures and the stormwater management systems needed for each phase shall be functional before the construction of that phase begins.

C. EROSION CONTROL INSPECTION PROGRAM STANDARDS

1. Inspections must be conducted on all sites greater than one acre by qualified personnel as defined by SCDHEC.
2. An independent, third party erosion control inspector, hired by the applicant, is required for all development that exceeds ten acres of hydrologic disturbance or exceeds one acre of hydrologic disturbance and has a regulatory floodplain, waters of the United States or waters of the state on-site or on adjoining property.
3. The applicant shall submit the name of the erosion control inspector to the Administrator or designee at or before the pre-construction meeting or commencement of disturbance for the development.
4. The Administrator or designee shall be notified of a permanent change in the erosion control inspector within 14 days of the change.

8.4.2 MINOR STORMWATER PERMIT

In addition to the above requirements, the following requirements shall apply, at a minimum, for all development requiring a minor stormwater permit:

A. APPLICATION REQUIREMENTS

1. A minor stormwater permit and plans must be prepared, signed, and sealed by a professional engineer, Tier B land surveyor, or landscape architect. All licensees must be of the state.
2. A completed minor stormwater permit application signed by the applicant.
3. A report to include:
 - a. An area drainage plan locating the proposed development in the watershed.
 - b. An exhibit for review which displays all deed or plat restrictions of record or to be recorded for the stormwater management system.
 - c. A general description of the proposed low impact development (LID) or water quality features.
 - d. Calculations verifying that the proposed LID or water quality feature meets the treatment requirements as specified in the article.
 - e. Drainage map identifying contributing areas to each LID or water quality device.
 - f. Calculations verifying that the LID or water quality device has the appropriate total flow rate for which the associated pipe network has been designed. Total flow rate includes treated flow and bypass flow.
 - g. Fully executed maintenance agreement and plan for stormwater facilities.
 - h. Supporting documentation for method used to meet 50-percent hydrocarbon removal.
4. Minor stormwater permit plans shall show, at a minimum:
 - a. A survey grade topographic map of the existing conditions of the development site showing the location of all roads, all drainage ways, the boundaries of predominate soil

types, the boundaries of predominate vegetation, and the location of any drainage easements, detention or retention basins, including their inflow and outflow structures, if any. The map shall also include the location, size, and flow line elevations of all existing storm and other utility lines within the site. The map shall be prepared using a two-foot or less contour interval and shall be prepared at an appropriate scale for the type of project and shall include specifications and dimensions of any proposed stream channel modifications, location and orientation of cross-sections, if any, north arrow, and a graphic or numerical scale.

- b. The location and details of proposed LID and water quality devices.
5. Other items as specified on the application form.

B. PERFORMANCE STANDARDS

Water quality treatment is typically required for minor stormwater permits.

1. Water quality treatment is required when either:
 - a. The proposed development has a total impervious surface area ratio of 60 percent or greater and disturbs 50 percent or more of the parcel or larger common plan over a five year period; or
 - b. The proposed development creates a new impervious surface greater than or equal to 0.25 acres.
2. For those developments requiring water quality treatment, the following shall be met:
 - a. Water quality treatment shall be provided prior to discharging to waters of the United States or adjoining properties.
 - b. For developments disturbing 50 percent or more of the parcel, the water quality volume referenced below shall be over the entire parcel.
 - c. For developments disturbing 50 percent or more of the larger common plan over a five year period, the water quality volume referenced below shall be over the entire larger common plan.
 - d. For those developments adding more than 0.25 acres of new impervious, the water quality referenced below shall be over the entire disturbed area.
 - e. For dry detention, water quality treatment shall be provided for a volume equal to the first inch over the required treatment area as specified above with a release rate over a 24-hour period.
 - f. For alternate water quality methods (i.e., mechanical water quality), water quality treatment shall be provided for a volume equal to the first inch over the required treatment area as specified above.
 - g. For wet detention, water quality treatment shall be provided for a volume equal to 0.5 inches of runoff over the required treatment area as specified above with a release rate over a 24-hour period. A littoral zone shall be established for water quality treatment to enhance treatment effectiveness.
 - h. For permanent infiltration trenches, water quality treatment shall be provided for a volume equal to the first inch of runoff from all impervious surfaces. Infiltration trenches shall be designed to completely drain of water within 72 hours. Soil must have adequate permeability to allow water to infiltrate; infiltration practices are limited to soils having an infiltration rate of at least 0.30 inches per hour.

- i. For those sites using alternate water quality methods that treat water quality based on a flow rate, the treated flow rate shall be determined using the method for computing peak discharge for a water quality storm (adapted from Clayton and Schueler, 1996). This methodology relies on the volume of runoff computed using the Small Storm Hydrology Method (Pitt, 1994) and utilizes the NRCS, TR-55 Graphical Peak Discharge Method (USDA, 1986). A sample methodology is presented in the stormwater technical reference manual.
 - j. Hydrocarbon (e.g., oil and grease) removal technology shall be required for all areas accepting flow from parking/loading areas, and vehicle drive surfaces (e.g., roadways and driveways). The volume for hydrocarbon removal shall be based on 0.5 inch over the impervious surfaces described above to each treatment device. The hydrocarbon removal rate shall be a minimum 50 percent.
 - k. Waters of the state and waters of the U.S. shall not be used for permanent or temporary placement of water quality treatment devices.
3. Hydrocarbon (e.g., oil and grease) removal technology shall be required for the water quality volume or flow rate calculated above. Hydrocarbon removal rate shall be a minimum 50 percent. Hydrocarbon removal shall only be required for impervious surfaces drainage to each treatment device.
 4. For wet detention, water quality shall be provided for a volume equal to 0.5 inches of runoff. A littoral zone shall be established for water quality treatment to enhance treatment effectiveness.
 5. Waters of the state and waters of the United States shall not be used for permanent or temporary placement of water quality treatment devices.

8.4.3 MAJOR STORMWATER PERMIT

In addition to the above requirements, the following requirements shall apply at a minimum for all development requiring a major stormwater permit:

A. APPLICATION REQUIREMENTS

1. A major stormwater permit and plans must be prepared, signed, and sealed by a professional engineer registered in the state of South Carolina.
2. A report to include:
 - a. Discharge rate summary tables.
 - b. Pre-development and post-development summary tables to include curve numbers and impervious areas.
 - c. A pre-development drainage area map to include north arrow, graphical and numerical scale, the location of all existing conditions, contours, all drainage ways, flow arrows, watersheds, subwatersheds, runoff characteristic of each, curve number, time of concentration flow path, current aerial photography. The map shall be prepared at an appropriate legible scale for the type of project.
 - d. A post-development drainage area map to include north arrow, graphical and numerical scale, the location of all existing conditions, contours, all drainage ways, flow arrows, watersheds, subwatersheds, runoff characteristic of each, curve number, time of concentration flow path, current aerial photography. The map shall be prepared at an appropriate legible scale for the type of project.
 - e. A report describing the hydrologic and hydraulic analysis performed for the project. The report shall include the name of stream or body of water affected, a jurisdictional

determination approved by the U.S. Army Corps of Engineers, a statement of purpose of proposed activity, and a detailed determination of the runoff for the project site under existing and developed conditions. This includes documentation of the design volumes and rates of the proposed runoff for each portion of the watershed tributary to the stormwater management system and receiving channel and high water elevations. Runoff calculations shall include all discharges entering the site from upstream areas.

- f. For detention facilities, a section in the hydrologic and hydraulic analysis report that includes a plot or tabulation of storage volumes and water surface areas with corresponding water surface elevations, stage-discharge or outlet rating curves, and design hydrographs of inflow and outflow for the 2-year, 10-year, 25-year and 100-year, 24-hour storm events under existing and developed conditions.
 - g. A copy of a South Carolina dam safety permit or a letter stating that a dam safety permit is not required if the development includes a dam.
3. Major stormwater permit plans shall show, at a minimum:
- Cross-section details for the stormwater management facility showing existing and proposed conditions including principal dimensions of the work, and existing and proposed elevations, normal water and calculated base flood elevations, and overland flow depth and path. The elevations of lowest floor or lowest adjacent grade for structures shall be included on the development plan as applicable.
4. The applicant may be required by the Administrator to provide a performance bond or sureties or other such adequate security satisfactory to the Administrator in an amount deemed sufficient by the Administrator to cover all costs of the stormwater management system as minimally necessary to properly manage stormwater and establish permanent stabilization measures as required by the stormwater permit. If such performance bond or sureties or other such adequate security is required, the amount shall be equal to 100 percent for a traditional bond and up to 125 percent for other acceptable sureties or other adequate security. The amount shall be based on the estimated cost to complete construction of the stormwater management system and establish permanent stabilization measures. The estimated probable cost shall be approved by the Administrator. Sureties and bonds shall not be duplicated in relation to other bonds or sureties for the same project for the same work. Also, the total surety or bond may be reduced as work is completed and accepted by the Administrator.
5. The bond shall be in place prior to permit issuance and in place until the permit is closed out.
6. Upon completion of development, as-builts shall be provided for the detention system by the engineer of record. As-builts must be prepared by a land surveyor licensed in the state of South Carolina. Horizontal survey datum control shall be based upon, and referenced to, South Carolina State Plane, NAD83 HARN, International Feet coordinates. Vertical survey datum control shall be based upon, and referenced to, the North American Vertical Datum of 1988 (NAVD 88). As-builts shall include calculations showing the as-built volume of compensatory and site-runoff storage as well as the northing and easting of the stormwater discharge from the site. The engineer of record shall submit a statement certifying that the detention system was built per plans. If the detention basin deviates from the approved plans, the engineer of record shall provide updated design calculations.

B. PERFORMANCE STANDARDS

Detention is typically required for major stormwater permits.

- 1. Water quantity is required when the development creates more than 0.25 acres of new impervious surfaces.

2. For those developments requiring water quantity, the following requirements shall be met:
 - a. Runoff calculations, release rates and discharges.
 - i. Design runoff rates shall be calculated using a volume-based hydrograph, such as HEC-1, Hydraflow Hydrographs, etc.
 - ii. Rainfall data as presented in the SCDHEC “Stormwater Management BMP Handbook” shall be used for rainfall volume, storm distribution, return frequency and event duration.
 - iii. The detention volume required shall be calculated using a 24-hour storm event and release rates shall not exceed the 2-year, 10-year, and 25-year pre-development release rates unless more intense storms are required by the Administrator.
 - iv. Adopted basin plans and floodplain studies may be the basis for more specific regulations. These additional or more specific regulations will apply only in the specific study area of the basin plan or floodplain study and supersede those of this article only upon amendment to the stormwater ordinance and formal adoption of the basin plan or floodplain study by the County.
 - v. Extreme flood and public safety protection shall be provided by controlling and safely conveying the 100-year, 24-hour storm event such that flood velocities are not exacerbated and flood elevations are not increased to cause damage on adjacent properties.
 - vi. The design of stormwater management systems shall not result in the inter-basin transfer of drainage, unless no reasonable alternative exists. The Administrator or designee may also allow inter-basin transfers if the transfer relieves a known drainage hazard and there is adequate downstream stormwater capacity. In the event of an inter-basin transfer of drainage, detention shall be provided for 2-year, 10-year, 25-year and 100-year, 24-hour storm events.
 - vii. For determination of soil runoff characteristics, areas of the development that are disturbed and compacted shall be changed to that soil types' next highest runoff potential/soil group classification. Conversely, soil groups that are not disturbed will retain their current runoff characteristics.
 - viii. All concentrated stormwater discharges must be conveyed into an existing drainage outfall, including, but not limited to, pipes and ditches. No new discharges are permitted onto adjacent properties where there was not a discharge point previously, unless a recorded document is received in which the impacted property owner provides permission for such discharge. When the proposed stormwater discharge is near a property line where there is no existing outfall, a level spreader or equal is to be provided in addition to the outfall being situated 20 feet from the property line.
 - ix. Existing depressional storage volume shall be accounted for when determining the pre-developed runoff from each site. The function of any existing depressional storage shall be hydrologically modeled to determine the existing volume of storage and runoff reduction characteristics. The depressional storage shall be modeled as a pond whose outlet is a weir at an elevation where stormwater currently overflows the depressional storage area. Post-developed release rate for sites with depressional storage shall be for the 2-year, 10-year, and 25-year, 24-hour storm events.
 - b. Detention and retention facilities.

- i.** All stormwater facilities, when determined applicable by the Administrator or designee, shall be provided with:

 - An emergency overflow structure capable of passing the 100-year, 24-hour storm event without damages to downstream structures or property.
 - The top of the impounding structure shall be a minimum of 1 foot above the 100-year, 24-hour storm event peak stage.
 - Features to facilitate maintenance and emergency ingress and egress capability.
- ii.** Outlet pipe and orifice diameter shall be designed to prevent clogging and in compliance with the stormwater technical reference manual.
- iii.** Stormwater infiltration, retention and detention facilities required to meet a development's discharge requirements shall be designed to by-pass off-site tributary flow from streams and channels unless approved by the Administrator or designee.
- iv.** Low impact development measures, bioretention cells, infiltration, and other post-construction practices should be installed only after the drainage area to these practices has been stabilized unless approved by the Administrator or designee.
- v.** Any development involving the construction, modification or removal of a dam shall obtain from the South Carolina Department of Health and Environmental Control a dam safety permit or a letter stating no permit is required. Any permit from the U.S. Army Corps of Engineers is required prior to the start of such activity.
- vi.** Stormwater retention and detention facilities shall not be constructed in a regulatory floodplain unless approved by the Administrator or designee. If a retention or detention facility is constructed in a regulatory floodplain, it shall meet the special management area requirements of this article. The volume of detention storage required to meet the release rate requirements shall be in addition to the floodplain compensatory storage required for the development.
- vii.** Safety ledges must be constructed on the slopes of all wet detention with a permanent pool greater than three feet deep. Two ledges must be constructed, each four to 6 feet in width. The first or upper ledge must be located between 1½ feet above the permanent pool level. The second or lower ledge must be located approximately 2.5 feet below the permanent pool level. Alternative safety designs shall be considered by the Administrator but the littoral zone requirements shall be met at a minimum.
- viii.** Underground detention systems must provide the necessary volume through the design life of the structure. A typical design life is recognized as 50 years. The system is to account for lost volume due to sedimentation. The underground detention system is to be designed based on the number of total suspended solids (TSS) that will accumulate in the system over a 50-year design life.
- ix.** Impounding berms or walls for stormwater retention and detention facilities shall be designed and constructed to withstand all expected forces, including, but not limited to, erosion, pressure and uplift. The applicant shall submit material and compaction design specifications for earthen impoundments and provide as-built information verifying that the constructed condition meets the design requirements. Impounding berms or walls shall be represented on the design plans and signed and sealed by a professional engineer with competency in this area.

- x. All detention systems shall be located and described within a deed or plat restriction. Detention systems that service a single parcel of property may be excused from this requirement upon approval of the Administrator or designee. Modifications to a deed or plat restriction for the detention system shall be approved by the Administrator or designee.

8.5 SEDIMENT AND EROSION CONTROL PERMITS OUTSIDE THE COUNTY'S REGULATED MS-4

All development inside the County prior to November 1, 2017 and all development outside the County's regulated MS-4 shall meet the minimum of the requirements outlined in 8.4 or SCDHEC as outlined under the South Carolina Sediment and Erosion Control Act. SCDHEC will be the permitting authority for land disturbance in these areas. An approved N.O.I issued from SCDHEC is required prior to the issuance of permits from Lancaster County.

8.6 ENVIRONMENTALLY SENSITIVE LANDS

8.6.1 WETLAND PROVISIONS

All impacts to jurisdictional waters of the U.S. and waters of the state must be permitted in compliance with all federal and state standards.

A. WETLAND PERFORMANCE STANDARDS

1. The following hierarchy will be observed by all applicants:
 - a. The proposed project will avoid adverse impacts to the greatest extent possible based on consideration of hydrologic conditions, existing topography, vegetation and human activity as it relates to stormwater management.
 - b. The proposed project will minimize the adverse impacts to the greatest extent possible based on consideration of hydrology conditions, water quality, existing topography, vegetation, and human activity as it relates to stormwater management.
2. Wetlands may not be used for on-site stormwater detention and/or water quality.

B. SUBMITTAL REQUIREMENTS

1. The applicant shall delineate all wetland area boundaries in accordance with the current federal wetland determination methodology on the plans.
2. All federal and state permitting documents relating to wetlands shall be provided to the County along with all permits issued.
3. All federal and state wetland monitoring reports shall be provided to the County.

C. RESTRICTIONS

Preservation of wetlands shall be provided by deed or plat restrictions.

8.6.2 RIPARIAN ENVIRONMENT AND STREAM PROVISIONS

Stream systems are comprised of both the stream channel conveyance and the riparian environment adjacent to the conveyance channel. Stream systems shall be preserved to the greatest extent possible.

A. RIPARIAN ENVIRONMENTS

1. Riparian environments should be protected to maintain their functions as follows:

- a. Reduce flood flow rates, velocities, and volumes.
 - b. Prevent erosion and promotes bank stability of streams, lakes, ponds, or wetland shorelines.
 - c. Control sediment from upland areas thus reducing the impact of urbanization on stream habitat and water quality by filtering and assimilating nutrients discharged from surrounding uplands.
 - d. Insulate and moderate daily and seasonal stream temperature fluctuations by maintaining cooler in stream temperatures for areas with overhanging vegetation.
 - e. Serve as important sites for de-nitrification, which reduces development of algal blooms and subsequent depressed levels of dissolved oxygen in-stream.
 - f. Provide an effective mechanism for treatment of contaminated surface runoff.
 - g. Provide habitat corridors for both aquatic and terrestrial fauna and flora.
 - h. Provide recreational and aesthetics values for human use.
2. Any applicant proposing development in a riparian environment shall identify the boundaries as the vegetative areas along waterways within the limits of the regulatory floodplain.
 3. Tree-cutting and vegetation removal shall be minimized within riparian environments, and native revegetation of disturbed areas shall take place as soon as possible. Avoidance and minimization is not necessary for removal of invasive or problematic species.
 4. To the extent practicable, development in a riparian environment shall not, without mitigation:
 - a. Adversely change the quantity, quality, or temporal and areal distribution of flows entering any adjacent wetlands or waters;
 - b. Destroy or damage vegetation (unless part of a plan for removing non-native, invasive species) that overhangs, stabilizes, provides overland flow filtration, or shades stream channels, wetlands, or impoundments that normally contain water; nor
 - c. Adversely affect any groundwater infiltration functions.
 5. The length of any mitigated riparian environment shall be equal to or greater than the length of the disturbed area.
 6. Mitigation requirements for riparian environments shall meet the wetland mitigation requirements of this article.

B. STREAM CHANNEL CONVEYANCE

1. Clearing of channel vegetation shall be limited to that which is essential for construction of the channel.
2. If a stream meeting the definition of waters of the United States or water of the state is modified, an approved permit from the U.S. Army Corps of Engineers, in addition to a stream mitigation plan, shall be submitted for review and approval to the Administrator or designee. The plan shall show how the physical characteristics of the modified channel meet the existing channel length, cross-section, slope, sinuosity and carrying capacity of the original channel. The plan shall also provide specifications and details necessary to effectively re-establish vegetation within the stream channel modification. Native plants shall be used as the permanent vegetation in a re-vegetation plan.

3. All disturbed areas associated with a stream modification shall be seeded or otherwise stabilized immediately according to the requirements of this article.
4. An approved and effective means to reduce sedimentation and degradation of downstream water quality must be installed before excavation begins and must be maintained throughout construction until final stabilization is achieved.
5. New or relocated stream channels shall be built in the dry and all elements of construction, including vegetation, shall be completed prior to diversion of water into the new channel.
6. Streams channels shall be expected to withstand all storm events up to the base flood without increased erosion. The armoring of banks using bulkheads, rip-rap and other materials shall be avoided. Structural armoring shall only be used where erosion cannot be prevented in any other way. Preference shall be given to bio-engineering methods of stabilization. Armoring shall have minimal impact on other properties, and the existing land configuration.
7. Construction vehicles shall cross streams by the means of existing bridges or culverts. Where an existing crossing is not available, a temporary crossing shall be constructed in conformance with the following:
 - a. Water quality is maintained.
 - b. The approach roads will be 0.5 foot or less above natural grade within the 100 year floodplain.
 - c. The crossing will allow stream flow to pass without backing up the water above the streambank vegetation line or above any drainage tile or outfall.
 - d. ~~Any fill in the channel shall be non-erosive material such as rip-rap or aggregate.~~ Only elevated stream crossings will be permitted. No disturbance below the ordinary high water mark is permitted.
 - e. All disturbed streambanks will be seeded or otherwise stabilized as soon as possible in accordance with the provisions of this article upon installation and again upon removal of construction crossings.
 - f. The access road and temporary crossings will be removed within ninety (90) days after installation, unless an extension of time is granted by the Administrator or designee.

8.6.3 BUFFER AREAS

Undisturbed buffer areas shall be required for all waters of the United States or stream classified as waters of the state. Buffer areas are divided into two types, linear buffers and water body buffers.

- A. The terms "waters of the United States" and "waters of the state" are defined in Chapter 10 and refer to areas that are under the jurisdictional authority and regulated by the U.S. Army Corps of Engineers or the South Carolina department of health and environmental control, respectively.
 1. Linear buffers shall be designated along both sides of all channels meeting the definition of waters of the United States or waters of the state. The buffer width shall be determined as follows:
 - a. When the channel has a watershed greater than 20 acres but less than one square mile, the minimum buffer shall be 30 feet on each side of the channel.
 - b. When the channel has a watershed greater than one square mile, the minimum buffer shall be 50 feet on each side of the channel.

- 2.** Water body buffers shall encompass all nonlinear bodies of water meeting the definition of either waters of the United States or waters of the state. The buffer width shall be determined as follows:
 - a.** For all water bodies or wetlands with a total surface area greater than one-tenth acre but less than one acre, a minimum buffer width of 30 feet shall be established.
 - b.** For all water bodies or wetlands with a total surface area greater than or equal to one acre but less than 2.5 acres, a minimum buffer width of 40 feet shall be established.
 - c.** For all water bodies or wetlands with a total surface area greater than or equal to 2.5 acres, a minimum buffer width of 50 feet shall be established.
- 3.** Buffers along the Catawba River and Lynches River shall be 100 feet in width as measured from the top of bank.
- B.** In areas where state or federal threatened and endangered species are present in streams or wetland areas, buffer widths shall be a minimum of 100 feet except when a more stringent buffer is required in other sections of this ordinance. Buffer areas for water bodies meeting the definition of waters of the United States or waters of the state shall extend from the ordinary high water mark. Buffer areas for wetlands shall extend from the edge of the delineated wetland. A property may contain a buffer area that originates from waters of the United States or waters of the state on another property.
- C.** Features of the stormwater management system approved by the Administrator or designee may be within the buffer area of a development.
- D.** Access through buffer areas shall be provided, when necessary, for maintenance purposes.
- E.** All roadside drainage ditches, existing excavated detention facilities, existing borrow pits, existing quarries and improvements to existing public road or trail developments or alignments are exempt from buffer requirements.
- F.** Stormwater discharges that enter a buffer shall have appropriate energy dissipation measures to prevent erosion and scour.
- G.** All buffer areas shall be maintained as in-situ vegetation and free from development, including disturbance of the soil, dumping or filling, erection of structures and placement of impervious surfaces, except as follows:
 - 1.** A buffer area may be used for passive recreation (e.g., bird watching, walking, jogging, bicycling, horseback riding and picnicking) and it may contain pedestrian, bicycle or equestrian trails.
 - 2.** Structures and impervious surfaces (including trails, paths) may occupy a maximum of 20 percent of the buffer surface area provided the runoff from such facilities is diverted away from the waters of the United States or waters of the state or such runoff is directed to enter the buffer area as non-concentrated flow.
 - 3.** Utility maintenance and construction of utility facilities, as approved by the County and appropriate jurisdictional agencies, shall be allowed.
 - 4.** Buffer areas disturbed by allowing construction or as part of a re-vegetation plan shall be re-vegetated using native vegetation.
 - 5.** Removal of invasive species.
- H.** Construction buffers from the limits of the waters of the United States or waters of the state shall be required per SCDHEC requirements. The temporary construction buffer shall be marked by construction fencing and installed prior to the start of all other construction activities.

All other construction activities, including soil erosion and sediment control features, shall take place on the non-wetland side of the construction fencing.

- I. Buffer averaging. The buffer width for a development site may be varied to a minimum of one-half of the buffer width required, upon approval of the Administrator or designee, provided that the total buffer area required is achieved adjacent to the waters of the United States or waters of the state being buffered.
- J. Preservation of buffer areas shall be provided by deed or plat restrictions.
- K. The buffer area of a development site may be excluded in the determination of the water quality volume requirement.

8.7 STORMWATER CONVEYANCE SYSTEMS

8.7.1 STORM SEWERS AND SWALES

- A. The 25-year design storm (Rational Method) shall be used as a minimum for the design of storm sewers, swales and appurtenances. All runoff designed to be detained shall be conveyed to the detention facility for all storms up to the 25-year design storm event (Rational Method). The Administrator reserves the right to require conveyance of greater storm events when provisions are not included in the design to convey larger storm to permanent BMP's. Conveyance may be a combination of overland, channelized and pipe flow. Overland flow areas shall be stabilized to withstand anticipated velocities. Storm sewer design analysis shall be calculated under full flow conditions, unless prior approval from the Administrator or designee is received for an alternate flow condition (e.g., pressure flow).
- B. For major arterial and multi-lane collector roadways, the storm sewer shall be designed to contain and convey the peak runoff from the 50-year design storm (Rational Method). For minor roads and residential streets, the storm sewer shall be designed to contain and convey the peak runoff from the 25-year design storm (Rational Method). Rerouted off-site drainage shall be designed to contain and convey the peak runoff from the 50-year design storm (Rational Method). In no case shall storm sewers within the public right-of-way have an internal diameter less than 18 inches unless otherwise approved by the Administrator or designee.
- C. Development shall not connect to sanitary sewers as an outflow for the stormwater management system.
- D. All storm sewers not located in a public road right-of-way shall provide an easement of sufficient width for the maintenance or re-construction of the storm sewer. The easement is to be dedicated to the homeowners' association, property manager, or entity responsible for maintenance with provisions for access by Lancaster County to access and make repairs.
- E. All stormwater conveyance systems shall be designed and constructed to withstand the anticipated velocity from the 25-year design storm event with minimal erosion.
- F. Stabilization adequate to prevent erosion for the 25-year design storm event shall be provided at the outlets for all pipes and channel transitions except for detention outlet pipes which shall withstand the 50-year design storm event without erosion.
- G. Swales being used as part of the stormwater management system for a development shall be located within a deed or plat restricted area of sufficient size to maintain or reconstruct the swale.
- H. Surface outflows onto adjoining properties shall be designed to release as sheet flow using level spreader trenches, or equivalent, unless alternative designs are approved by the Administrator or designee.
- I. At the completion of storm sewer installation and prior to project closeout, the owner shall provide the County with an as-built location of the system and outfalls to any receiving

waterways. Horizontal survey datum control shall be based upon, and referenced to, South Carolina State Plane, NAD83 HARN, International Feet coordinates. Vertical survey datum control shall be based upon, and referenced to, the North American Vertical Datum of 1988 (NAVD 88).

8.7.2 OVERLAND FLOW PATHS

The following items are general performance standards for overland flow paths and do not excuse development from meeting all other requirements of this article:

A. ON-SITE TRIBUTARY DRAINAGE AREAS

1. The overland flow paths shall be protected from any activity, such as fencing, landscaping, or storage shed placement, which could impair its function.
2. All areas of development requiring stormwater permits must be provided with an overland flow path to the detention pond or stabilized discharge point that will pass the base flood flow without damage to structures or property.
3. For overland flow paths with less than 40 acres tributary drainage area, all structures in parcels containing or adjacent to an overland flow path or other high water level designation shall have a lowest adjacent grade a minimum of one foot above the design high water elevation.

B. OFF-SITE TRIBUTARY DRAINAGE AREAS

1. All areas of development requiring a stormwater permit must be provided with an overland flow path for off-site tributary drainage areas through the proposed development that will pass the base flood flow without damage to structures or property.
2. A deed or plat restriction shall be established for the flow paths conveying off-site tributary areas. The overland flow paths shall be protected from any activity, such as fencing, landscaping, or storage shed placement, which could impair its function.

C. FLOW RATE

The flow rate for a base flood shall be used to establish overland flow path limits, and it shall include all on-site and off-site tributary areas, runoff calculations, release rates and discharges.

D. OVERLAND FLOW PATHS

Overland flow paths with greater than 40 acres tributary drainage area are considered to be flood prone areas and are subject to the regulatory floodplain and regulatory floodway requirements

8.8 WAIVERS AND APPEALS

8.8.1 WAIVERS

For soil erosion and sediment control and stormwater conveyance system provisions, the Administrator or designee, upon application, may grant a waiver to these provisions as will not cause detriment to the public good, safety, or welfare, nor be contrary to the spirit, purpose, and intent of this article where, by reason of unique and exceptional physical circumstances or condition of a particular property, the literal enforcement of the provisions of this article would result in an unreasonable hardship. The conditions for granting a waiver shall be the same as those enumerated above for a variance.

8.8.2 APPEALS

Appeals to the decision of the Administrator or his designee as it relates to waivers shall be appealed to the Planning Commission as detailed in the variance process. A person having a substantial interest affected by a decision of the Planning Commission may appeal the decision to the circuit court of Lancaster County by filing with the clerk of the court a petition setting forth plainly, fully, and distinctly why the decision is contrary to law. The appeal shall be filed within 30 days after the written decision of the County Council is issued.

8.9 ACCESS AND INSPECTION

8.9.1 ACCESS

Representatives of the County and of any federal and state unit of government with regulatory authority are authorized to enter upon any land or water to inspect development activity, to verify the existing conditions of a development site that is currently under permit review, and to verify compliance with this article whenever the County deems necessary.

8.9.2 INSPECTION

Lancaster County adopts the inspections subsection of the most current SCDHEC construction general permit with amendments listed below:

- A. If at any stage of the grading of any development site the Administrator or designee determines that the nature of the site is such that further work authorized by an existing permit is likely to imperil any property, public way, stream, lake, wetland, or drainage structure, the Administrator or designee may require, as a condition of allowing the work to be done, that such reasonable special precautions be taken as is considered advisable to avoid the likelihood of such peril. Special precautions may include, but shall not be limited to, a more level exposed slope, construction of additional drainage facilities, berms, terracing, compaction, installation of plant materials for erosion control, and recommendations of a licensed soils engineer and/or engineering geologist which may be made requirements for further work.
- B. Where the Administrator or designee determines that storm damage may result or has resulted during development, work may be stopped and the permittee required to install temporary structures or take such other measures as may be required to protect adjoining property or the public safety. The Administrator or designee may require that the operations be conducted in specific stages so as to ensure completion of protective measures or devices prior to the advent of seasonal rains.

8.10 ILLICIT DISCHARGES, CONNECTIONS, SPILLS, AND NUISANCES

8.10.1 PURPOSE AND INTENT

The purpose and intent of this section is to provide for the health, safety and general welfare of the citizens of Lancaster County through the regulation of non-stormwater discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This section establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this article are:

- A. To regulate the contribution of pollutants to the municipal separate storm sewer system by stormwater discharges by any user;
- B. To prohibit illicit connections and discharges to the municipal separate storm sewer system;
- C. To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this article.

8.10.2 ILLICIT DISCHARGES

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than stormwater. Prohibited substances include, but are not limited to, oil, anti-freeze, chemicals, animal waste, paints, garbage, and litter. Dumping, depositing, dropping, throwing, discarding or leaving of litter, construction material debris, yard waste and all other illicit discharges into the stormwater management system are prohibited. Saltwater pools shall not be discharged to the stormwater management system. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

- A.** The following discharges are exempt from discharge prohibitions established by this article: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising groundwater, groundwater infiltration to storm drains, uncontaminated pumped groundwater, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air-conditioning condensation, springs, noncommercial washing of vehicles, commercial carwashes that are in compliance with the NPDES general permit for vehicle wash water discharges, natural riparian habitat or wetland flows, swimming pools or fountain drains (dechlorinated, less than 0.01 parts per million chlorine), firefighting activities, street wash water, and any other water source not containing pollutants.
- B.** Discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety.
- C.** Dye testing is an allowable discharge, but requires notification to the authorized enforcement agency prior to the time of the test.
- D.** The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency or SCDHEC, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

8.10.3 ILLICIT CONNECTIONS

Connections to a stormwater conveyance or stormwater conveyance system that allow the discharge of non-stormwater are unlawful. Prohibited connections include, but are not limited to: floor drains, wastewater from washing machines or sanitary sewers, and wastewater from septic systems. Where it is determined that said connection:

- A.** May result in the discharge of hazardous materials or may pose an immediate threat to health and safety, or is likely to result in immediate injury and harm to real or personal property, natural resources, wildlife, or habitat; or
- B.** Was made in violation of any applicable regulation or ordinance, other than this section; the Administrator or designee shall designate the time within which the connection shall be removed. In setting the time limit for compliance, the Administrator or designee shall take into consideration:
 - 1.** The quantity and complexity of the work,
 - 2.** The consequences of delay,
 - 3.** The potential harm to the environment, to the public health, and

4. The cost of remedying the damage.

8.10.4 SPILLS

Spills or leaks of polluting substances released, discharged to, or having the potential to be released or discharged to the stormwater conveyance system shall be contained, controlled, collected, and properly disposed. All affected areas shall be restored to their pre-existing condition. Persons in control of the polluting substances immediately prior to their release or discharge, and persons owning the property on which the substances were released or discharged, shall immediately notify the Lancaster County emergency management coordinator and the Public Works Department of the release or discharge, as well as making any required notifications under state and federal law. Notification shall not relieve any person of any expenses related to the restoration, loss, damage, or any other liability which may be incurred as a result of said spill or leak, nor shall such notification relieve any person from other liability which may be imposed by state or other law.

8.10.5 NUISANCES

Any condition caused or permitted to exist in violation of any of the provisions of this section is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

8.11 STORMWATER MANAGEMENT UTILITY ESTABLISHED; ADMINISTRATION; POWERS AND DUTIES – RESERVED