

Beaufort County Stormwater



Level of Service Plan (LOS)

June 8, 2016

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Level of Service: Executive Summary

The Beaufort County Stormwater Ordinance Chapter 99 requires the Beaufort County Stormwater Utility (**BCSWU**) to develop and enforce a stormwater management program (SWMP). The Beaufort County Code of Ordinances Chapter 106, Community Development Code, require new development to implement the best management practices (BMPs) which reduce pollutants prior to their discharge into the storm sewer system.

Beaufort County's SWMP is administered by the BCSWU and is funded by the Stormwater Utility Fee. Operations and Maintenance of the County's Stormwater Infrastructure is performed by the Beaufort County Public Works Department Stormwater Operations and Maintenance Section (**PWO**). For clarity, the BCSWU is the funding source for the PWO.

The purpose of this document is to describe the Level of Service (**LOS**) to be carried out by the Beaufort County Stormwater Department (BCSWD) and the PWO. BCSWD staff perform the administrative functions of the BCSWU. This level of service is defined as a set of standards and services that the community can expect from its stormwater management program.

The goals of this LOS are:

- To provide a set of consistent, equitable standards of service to the citizens of Beaufort County
- To provide an appropriate level of service to maintain the County's stormwater system and ensure it remains serviceable and has minimal negative impact on receiving waters
- To comply with regulatory requirements set forth by the South Carolina DHEC

Furthermore, this document is intended to be a tool to guide the staff of BCSWD and PWO to ensure that they meet the unincorporated County's stormwater management needs while serving the public with a high level of professionalism and consistency. The primary functions of the Departments are addressed in this document. While this document is not intended to be all inclusive, it is the intent that this document should provide guidance for most of the routine situations that the Departments staff encounter. Situations not addressed in this document will and do arise; those will be addressed appropriately on a case by case basis.

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Level of Service: Inspection Programs

I. Initial Inventory & Mapping

1. Background

BCSWU is tasked with the operations and maintenance of the drainage system for unincorporated Beaufort County. Prior to the creation of BCSWU, installation of drainage infrastructure was not tracked on a county-wide basis. Knowing the extent and location of the drainage system is critical to monitoring its serviceability, identifying impacts on receiving waters, and allocating resources to maintain and improve the system.

2. Purpose

To locate, describe, assess, and map all structural components of the drainage system. The goal is to produce a comprehensive GIS layer of all drainage infrastructures in Beaufort County to be used for:

- Allocating maintenance and replacement resources
- Pollution source tracing
- Setting routine inspection and maintenance schedules
- Compliance with State and Federal regulations

3. Service Level

- *Locating*

PWO will actively seek out all man-made drainage networks within unincorporated Beaufort County and as requested by municipalities for inclusion in the drainage system layer. BCSWD staff will coordinate similar efforts with the other political jurisdictions served by the BCSWU.

- *Inventory*

Components are inventoried and described in the drainage system GIS Database. Drainage networks are inventoried from the first (i.e. upstream) man-made conveyance to the outfall. Items included are both public and private. Inclusion in the inventory map does not obligate the County to maintain any particular item.

- *Assessment*

As components are entered into the inventory, they will be assessed for structural and functional integrity. Items in need of maintenance will be entered as Service Requests in the Maintenance database for further investigation and/or placement in the maintenance queue.

- *Mapping*

All items inventoried in the field will be incorporated in the drainage system GIS Geo-Database. Stormwater structures in new developments will be included in the map at the time the digital 'as-built' is submitted.

4. Responsible Party

The BCSWU GIS/MS4 Data/Easement Manager supported by other BCSWD staff

5. References

Beaufort County Stormwater Management Plan, February 2006

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance Chapter 99

II. Asset Management Inspections

1. Background

Periodic asset management inspections are necessary to assess the serviceability of components of the drainage system and to identify items that need maintenance performed.

Components and structures have a finite service life and degrade over time. Without timely maintenance, portions of the drainage system will fail, impacting water quality and causing flooding, stream degradation, damage to property, and threaten public safety.

2. Purpose

1. To maintain and extend the serviceability of the County's drainage infrastructure by proactively inspecting and periodically assessing structural components of the drainage system.
2. To protect public safety and water quality by proactively identifying elements of the drainage system in need of maintenance.
3. Comply with state and federal regulations.

3. Service Level

Continue to update potential choke points (where blockage can lead to damage to structures) in the drainage system.

At a minimum, PWO's goal is to inspect the structural components of identified drainage system choke points on a quarterly basis.

PWO's goal is to also inspect 20% of the structural components of the drainage system annually exclusive of structures within the County or State roadway right-of-way. All structural components will be inspected at least once every five years.

In the course of the inspection the following will be noted:

- Structures that require routine/preventive maintenance
- Conditions within the drainage system that may negatively impact public health, safety, or nearby property

For structures within the PWO's EOS, the inspector will enter any deficient item into the maintenance master list.

For structures outside the PWO's Extent of Service (EOS), the utility will notify the responsible agency and/or property owner. This notification will be documented and kept on file.

The South Carolina Department of Transportation (SCDOT) is responsible for inspecting and maintaining drainage structures within their respective rights of way.

4. Responsible Party

Superintendent, Stormwater Regulatory Section

5. References

Beaufort County Stormwater BMP manual, 2016

Beaufort County Stormwater Management Plan, 2006

Beaufort County Code of Ordinances Chapter 106, Community Development Code

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance

Chapter 99 .

Community Rating System, Activity 540 Stormwater Maintenance, FEMA

SC DHEC OCRM requirements

III. Service Request

1. Background

Problems with stormwater runoff and/or the performance of the drainage system are often identified by the general public; often the problems directly impact their property. The public may request service from PWO directly, by entering a service request with the PWO or BCSWD.

2. Purpose

To address specific problems brought to the County by the public involving stormwater drainage, by identifying the cause and working with the property owners, County staff, and others to identify a workable solution that is legal, equitable, and cost effective.

3. Service Level

Service requests come from a variety of sources - called into the BCSWD or PWO, entered through the SW website or mobile applications, referrals from other County departments, or “walk-ins” from the public.

Service requests will be:

- Documented in the work order system
- If a service request is referred to another agency and/or department, this will be recorded and communicated to the party making the service request
- Identified by stormwater staff from onsite field inspection
- If maintenance (routine or corrective) is appropriate, the service request will be entered into the project/maintenance master list

4. Responsible Party

Administrative Assistant, Infrastructure Section
Administrative Assistant, Regulatory Section

5. References

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance Chapter 99

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Level of Service: Operations & Maintenance

I. Routine/Preventive Maintenance Program

1. Background

The County's drainage infrastructure requires a minimal amount of periodic maintenance to function as designed. Failure to do so will eventually cause the components of the drainage system to deteriorate, negatively impacting public health and safety, property values, and the environment. As it is more cost effective to proactively maintain the drainage system than to reactively repair failing components and mitigate the damage that these failures may cause, PWO will perform preventive maintenance on publicly owned and/or maintained portions of the drainage system on a systematic recurring basis.

2. Purpose

To preserve the serviceability and extend the service life of publicly-maintained critical components of the drainage system through a system of recurring preventive maintenance.

3. Service Level

Detention and retention structures will receive routine maintenance on a recurring, set schedule approved by the Stormwater Manager. Conveyances both open and closed, in the drainage system needing routine maintenance will be identified through a recurring program of periodic asset management inspections. The highest priority of the routine maintenance program is maintaining the serviceability of structures and protecting public health and safety. Maintenance of an aesthetic only nature will be the lowest priority.

i. Detention & Retention Structures (wet & dry ponds)

Detention and retention structures will be maintained to function as designed.

Periodic maintenance will include:

- Mowing of embankments
- Removal of undesirable vegetation, especially woody vegetation
- Removal of debris
- Removal of excessive sedimentation
- Repair of embankment erosion
- Repair/replacement of riprap apron

ii. Open Conveyances (channels, swales, and ditches)

Open conveyances within the drainage system will be maintained to function as designed and in a manner that will allow them to convey stormwater effectively. Periodic maintenance will include:

- Mowing
- Removal of debris
- Removal of excessive sedimentation
- Repair/stabilization of channel erosion
- Removal of any obstructions that blocks designed flow.

iii. Closed Conveyances (pipes, inlets, junction boxes, outlets)

Closed conveyances within the drainage system will be maintained to function as designed, with particular attention paid to maintaining both the structural integrity of the conveyances and ability to pass stormwater effectively.

- Removal of obstructions and debris
- Removal of sedimentation
- Repair/replacement of rip rap apron as required

4. Responsible Party

Stormwater Superintendent, Public Works Stormwater Maintenance and Operations Section

5. References

Beaufort County Stormwater BMP manual, 2016

Beaufort County Stormwater Management Plan, 2006

Beaufort County Code of Ordinances Chapter 106, Community Development Code

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance

Chapter 99.

SC Stormwater Management and Sediment Control Handbook for Land Disturbance Activities
August 2003

II. Corrective Maintenance Program

1. Background

The components of the County's drainage infrastructure have a limited life expectancy due to numerous factors including erosive flows, corrosion, blockages, etc. Failure of these components can pose a significant threat to public health and safety. Long term problems like flooding, severe erosion, severe sedimentation and environmental degradation may result if components of the drainage system are not repaired and/or replaced in a timely manner. Beaufort County's Stormwater Management Plan (SWMP) identified over 100 modeled road overtoppings and these will be addressed in this program as part of related maintenance program.

2. Purpose

To maintain the serviceability of the County's drainage infrastructure by correcting damaged, degraded, and/or failing components of the publicly-maintained portions drainage system.

3. Service Level

To repair or replace any non-serviceable component of the publicly-maintained portions of the drainage system, thereby returning it to a serviceable condition. Prioritization will be given to corrective maintenance projects that address issues posing a threat to public health and safety or pose a significant risk to damaging receiving waters. PWO will try to maintain open conveyances for water quality whenever possible.

4. Responsible Party

Stormwater Superintendent, Public Works Stormwater Operations and Maintenance Section

5. References

Beaufort County Stormwater BMP manual, 2016

Beaufort County Stormwater Management Plan, 2006

Beaufort County Code of Ordinances Chapter 106, Community Development Code

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance

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III. Retrofit Program

1. Background

Retrofits are structural stormwater management measures for developed watersheds designed to help minimize accelerated channel erosion, reduce peak flows, reduce pollutant loads, and promote conditions for improved aquatic habitat. These best management practices are inserted in an urban/suburban landscape where little or no prior stormwater controls existed.

2. Purpose

The overall objective of retrofitting is to stabilize and repair areas and receiving waters negatively impacted by the effects of stormwater runoff, as well as protect downstream receiving waters that may still be stable and healthy.

3. Service Level

Various control facilities will be evaluated for feasibility of water quality retrofitting prior to any corrective maintenance being performed. If deemed feasible, these facilities, generally ponds, will be added as water quality features corrective maintenance project.

Other retrofits will be examined on a case-by-case basis, considering the following criteria:

- Feasibility
- Ability to reduce volume
- Benefit to the community
- Impact on the receiving waters
- Integration with other watershed improvement activities (i.e. pollutant reductions for larger resources, stream bank stabilization, habitat restoration, etc.)

4. Responsible Party

Stormwater Manager

5. References

Beaufort County Stormwater BMP manual, 2016

Beaufort County Stormwater Management Plan, 2006

Beaufort County Code of Ordinances Chapter 106, Community Development Code

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance

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Illicit Discharge Detection & Elimination

1. Background

In 2015, the County was issued a Municipal Separate Stormsewer System (MS4) permit from the South Carolina Department for Health and Environmental Control (DHEC). Minimum Control Measure 3 (MCM3) of the permit pertains to Illicit Discharge Detection & Elimination. County standards and operating procedures are found in the Beaufort County Stormwater Best Management Practices Manual (BMP Manual.)

BCSWD staff will report any observed illicit discharges not within the County's jurisdiction to the respective municipal jurisdiction and/or regional SC DHEC office.

2. Responsible Party

Superintendent, Stormwater Regulatory Section

3. References

Beaufort County Stormwater BMP manual, 2016

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Public Education & Outreach

1. Background

Public Education and Outreach are two of the six minimum control measures formulated to address the impact of stormwater run-off that are required in the Beaufort County Municipal Separate Stormwater System (MS4) stormwater permit. The objective of this control measure is to focus on water problem areas within Beaufort County jurisdictions, educate the general public and increase pollution prevention awareness. This measure also encourages community participation in both the development and implementation of the stormwater management practices.

2. Purpose

To increase awareness of water resource protection issues with the goal of building public support of local stormwater management programs and to increase public awareness of the general public's role in pollution prevention. BCSWU coordinates programs with the BCSWD and local political jurisdictions in a unified campaign. BCSWU will work and/or contract with local and state partners to utilize various media, especially web based educational workshops and printed material, to communicate relevant water quality messages, while encouraging public involvement and participation on effective best management practices as required and mandated by state and federal requirements.

3. Service Level

BCSWU will actively implement, at minimum, educational and public participation activities. These include:

- Distribution of printed stormwater-related educational materials
- Providing periodic press releases on stormwater management efforts
- Maintenance of a Stormwater education / outreach website
- Monthly meetings with a Beaufort County Management Implementation Committee (SWIC) and Stormwater Management Utility Board (SWUB)
- Supporting annual volunteer events like river clean-up and storm drain marking events
-

In addition to these ongoing activities, BCSWU will also:

- Conduct educational presentations to school, church, and/or civic groups
- Make use of public service announcements, direct mailings, and/or other media to promote water quality awareness, as appropriate.

4. Responsible Party

Stormwater Manager

5. References

Beaufort County Stormwater BMP manual, 2016

Beaufort County Stormwater Management Plan, 2006

Beaufort County Code of Ordinances Chapter 106, Community Development Code

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance

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Post Development Programs

I. Development Plan Review

1. Background

The County's Zoning Department's Staff Review Team (SRT) is tasked with reviewing the Stormwater Management Plans for new development and re-development in Beaufort County. Staff from the BCSWD are assigned to the SRT for this role. The plans detail how a given development will address post development stormwater runoff quality and volume impacts resulting from the permanent alteration of the character and hydrology of the land surface, as well as the nonpoint source pollution from land use activities. The majority of technical criteria and standards are adopted by reference through the use of the Beaufort County Stormwater Best Management Practices Manual (BMP).

2. Purpose

Ensure that development plans submitted meet the requirements outlined in the Community Development Code and BMP Manual. The Code and Manual are designed to protect public health and safety, public and private property and infrastructure, and the environment.

These policies have a purpose of:

“All development and redevelopment, including highways, shall use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow”

3. Service Level

BCSWD will work collaboratively with site developers to ensure site Stormwater Management Plans are consistent with local, state, and federal regulations, as they relate to stormwater management requirements, prior to approval.

It will be the responsibility of the BCSWD to ensure that stormwater infrastructure on a building site is built to the approved plans prior to bond release.

4. Responsible Party

Stormwater Manager & MS4 Coordinator

5. References

Beaufort County Stormwater BMP manual, 2016

Beaufort County Stormwater Management Plan, 2006

Beaufort County Code of Ordinances Chapter 106, Community Development Code

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance

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II. Floodplain Management

1. Background

Development, particularly in a floodplain, alters the hydrology on a given site. If this altered hydrology is not taken into account, floodplains downstream will be affected, potentially causing increased flooding and flood damage. Structures downstream that have not previously experienced flooding may be included in the newly-widened floodplains, putting them at an elevated risk of flooding and requiring property owners to purchase flood insurance at considerable cost.

The BCSWU coordinates with all political jurisdictions and works closely with the County Building Inspection Department to assist in developing credits for the Community Rating System under National Flood Insurance Program. By gearing the BCSWD and municipal inspection programs to FEMA criteria it is hoped that the utility will help to improve the County's classification rating which will result in all flood insurance policy holders receiving reduced premiums.

2. Purpose

The purpose of BCSWU's ongoing efforts in this area will be to earn credits in the following activities:

- Activity 441 – Elevation Reference mark
- Activity 450 – Stormwater Management
- Activity 540 – Stormwater Maintenance

3. Service Level

The BCSWU will provide the following service level in support of floodplain management:

- Stormwater Management Regulations
- Stormwater Management Master Plan
- Erosion and sedimentation control regulations
- Water quality regulations
- Channel and Basin Debris removal
- Stream Dumping regulations
- Choke point inspections

4. Responsible Party

Stormwater Manager, Stormwater Inspection Superintendent and Director of Building Codes

5. References

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance

Chapter 99 Community Rating System, FEMA

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III. Water Quality Monitoring

1. Background

The Beaufort County Stormwater Management Plan called for monitoring efforts by BCSWU. BCSWU also has developed a coordination arrangement with University of South Carolina to support monitoring in the County and invested in the creation of a Water Quality Lab on the USCB campus.

2. Purpose

The purpose of the monitoring program proposed in the management plan was:

- **Track water quality trends** in areas of the county expecting large increases in impervious surfaces (development). This long-term effort (10 years or longer) will be to determine if the current Best Management Practices (BMP) are protecting our water resources.
- **Establish Baseline Water Quality** – Most of the current water quality impairments are due to Stormwater from development that occurred before the County and Municipalities required BMPs on new development. The Plan identified a number of potential sites to construct regional water quality control facilities. (See retrofit section). Sites were identified to monitor water quality to prioritize sites and establish a baseline to compare with monitoring to be done after construction of water quality control facilities. This data will be collected for 2 to 3 years to establish a baseline. This baseline will be compared to additional monitoring after completion of retrofit projects.
- **Develop Data to Support Water Quality Modeling** – The Stormwater Management Plan used a number of models to predict pollutant loading from existing and future development. It identified monitoring recommendations to validate the planning level modeling. This data will also be collected for approximately 3 years to improve future water quality model runs.
- **Determine Effectiveness of BMPs** - Current County requirements specify the BMP and sizes needed to mitigate new development. These requirements assume a certain level of effectiveness for these BMP's. One of the most widely used BMPs is wet detention ponds. Infiltration and reuse practices are emerging trends. The plan recommended monitoring on a rotating basis wet detention ponds in the county. It is expected this type of monitoring would be for 1 to 2 years and then moved to another pond.

This has been supplemented with addition fecal coliform monitoring to identify hot spots for additional retrofit and evaluation of various corrective maintenance projects.

3. Service Level

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The BCSWD Regulatory staff perform monitoring and sampling activities on behalf of the County and the City of Beaufort and Town of Port Royal via MOAs. BCSWU coordinates BCSWD activities with the Town of Hilton Head Island and Town of Bluffton. BCSWD monitoring locations, frequencies, and parameters are defined in the USCB MOA and the County Monitoring Plan.

4. Responsible Party

Stormwater Inspection Superintendent

5. References

Beaufort County Stormwater BMP manual, 2016

Beaufort County Stormwater Management Plan, 2006

Stormwater Management Utility Ordinance, Beaufort County Code of Ordinance Chapter 99

Utility Administration

1. Background

On September 10, 2001, the Beaufort County Council adopted the Stormwater Management Utility Ordinance (current revision September 28, 2015, Ordinance No. 2015/24, Beaufort County Code of Ordinances Chapter 99). This ordinance established a “Stormwater Management Utility” for Beaufort County that includes stable, dedicated, and nondiscriminatory funding for its stormwater management responsibilities. The Ordinance was in response to local stormwater management interests to protect Beaufort County’s water resources.

The Stormwater Management Utility is primarily funded through a schedule of service charges (fees) upon properties that is directly related to the federally mandated stormwater management program requirements and the program costs imposed by properties throughout the county. Other sources of revenue are Development Agreement Funds, the cost-share initiatives between the county and the municipalities to implement the elements of the SMMP, and the reimbursement from municipalities of any services in kind (construction projects, drainage system maintenance, etc.) provided by the county within the municipality’s jurisdiction.

Staff of the BCSWU include the BCSWD’s Stormwater Manager, Business Manager, GIS / MS4 Data / Easement Manager, and a partially funded Administrative Support position. The Utility is also supported by several Departments at the County; all of their efforts are coordinated through the Beaufort County Stormwater Utility.

2. Purpose

To describe the responsibilities and service level for the different departments involved in the assessment, collection, management and distribution of the Utility fees, as well as to describe the customer service that the rate payers, County employees, and other citizens can expect to receive from the Beaufort County Stormwater Utility.

Furthermore, to document the manner in which BCSWU systematically account for materials, services, and production to ensure accountability to the citizens of Beaufort County and to maintain the necessary records to document Beaufort County’s stormwater management program’s compliance with state and federal regulatory requirements.

The BCSWU also oversees the periodic review of rate structures and fees to assure proper funding to all jurisdictions served by the Utility.

3. Service Level

The public can expect that the Utility will legally, ethically, efficiently, and equitably perform all tasks and services outlined in the Utility Ordinance in a courteous and professional manner. Beaufort County’s stormwater management program is designed to ensure that Beaufort County

meets all of its state and federally mandated stormwater obligations, while providing a high level of customer service for a minimal fee.

i. Utility Fund Management

The management of the stormwater users' fee is a collaborative effort, requiring interdepartmental efforts of multiple County departments. Responsibilities are broken down as follows:

1. Assessment

The BCSWU is responsible for determining the fee that each property parcel will be charged including parcels within the municipalities with interlocal agreements. The county and each municipality determine their own rate. In 2015, as a result of a comprehensive rate study, several of the participation jurisdictions adopted a new rate structure. In the older rate structure still in place in some jurisdictions, residential parcels receive one of three flat fees and non-residential parcels are charged based on the number of Single Family Unit (SFU) present on the property. Under the new rate structure, residential properties are still classed as before and the amount of impervious area is still measured and the SFU is determined. However, in addition to the impervious area charge (IA), the gross acreage of the parcel receives a fee as well (GA). Finally, a Per Account administrative charge covers expenses not directly related to the property's improvements. The three fees total the new charge annually. The County also charges a Countywide Infrastructure fee (CWI) to all parcels in the County, including those within municipal limits, for operations and maintenance of the Beaufort County Stormwater system. The BCSWU forwards the assessment data to the Beaufort County Auditor for inclusion on the annual property tax bill.

2. Credit Program

The Stormwater Utility Adjustment and Credit Manual establishes criteria and a process for the appropriate and effective adjustment of stormwater fees and to account for qualifying activities, practices, and property characteristics that reduce the county's cost of services related to stormwater management. Only non-residential properties are eligible to apply for credits. The BCSWU reviews all applications for credit to determine if they are in compliance with the Credit Manual and the Stormwater Manager makes a final determination of eligibility. The manual was updated in 2016 to align with the multiple rate structures adopted in 2015.

3. Collection

The Beaufort County Tax Commissioner is responsible for collecting the user fees. The fees are included on the annual property tax bill as a separate line item. Once collected the fees are deposited in the Stormwater Management Utility Enterprise Fund account. Any billing errors or adjustments are coordinated between the BCSWU staff and the Auditors staff as needed.

4. Enterprise Fund Management

The Beaufort County Finance Department manages and performs accounting procedures required for the Utility's Enterprise Fund.

5. Distribution

The Beaufort County Finance Department distributes revenues to the Beaufort County Stormwater Department (BCSWD) and Public Works Stormwater Operations and Maintenance Section (PWO) and Municipalities so that it can perform the services authorized in the

Stormwater Management Utility Ordinance and Interlocal agreements. Annually, the BCSWU staff determine the Management budget for the Utility and present it to the Beaufort County Management Implementation Committee (SWIC). In that presentation, the management fee per SFU of billable account is determined. The management fee is retained by the County for administering the fees and support. The remainder of the fees collected within the municipality are remitted to the municipality. The BCSWD develops its budget annually; it is reviewed by the Stormwater Management Utility Board in conjunction with the BCSWU budget and approved by the County Administrator in conjunction with the Finance Department.

ii. Data Management & Record Retention

Data management is crucial in effectively managing the BCSWD. All requests for service (i.e. citizen calls, Board/Commissioner calls, etc.) activities related to regulatory compliance, and routine maintenance activities within the BCSWD jurisdiction are entered into a database for quick reference and reporting. By tracking data and developing project summary reports, BCSWD can estimate production goals and report on cost of business on an annual basis.

BCSWD will make every effort to collect, manage, and maintain relevant information so that stormwater management activities may be completely and correctly tracked from inception to completion. The data management is important for the purposes of documenting regulatory compliance and to maintain fiscal accountability. At minimum, the following types of projects will be tracked and archived:

- Service requests
- Maintenance projects
- Routine inspections
- Public outreach activities
- Dry weather outfall screenings
- Drainage system inventory and mapping
- Correspondence with state and federal regulatory agencies
- Stormwater management plans reviewed

Wherever appropriate the above data will be maintained in an electronic format and stored in either the County server and/or an appropriate database.

4. Responsible Party

- Assessment – Stormwater Business Manager
- Credit program administration – Stormwater Manager
- Collection – Beaufort County Tax Commissioner
- Utility fund management – Stormwater Manager, Stormwater Business Manager, and Beaufort County CFO
- Internal data management/record retention- Utility Business Manager/ Stormwater Infrastructure Superintendent
- Easements/Drainage System Maps – Stormwater GIS / MS4 Data / Easement Manager

5. References

Stormwater Management Utility Ordinance, Beaufort County Code of
Ordinance Chapter 99

Interlocal Governmental Agreements, 2001 as modified 2005, 2011, 2012, and
2016

Level of Service: Glossary

Accidental discharge means a discharge prohibited by this division which occurs by chance and without planning or thought prior to occurrence.

Appeal means a request for a review of the Stormwater Manager or designee's interpretation of any provision of this article.

Applicant means a person submitting a post-development stormwater management application and plan for approval.

Area of special flood hazard is the land subject to a one (1) percent or greater chance of flooding in any given year. This includes all floodplain and flood prone areas at or below the base flood elevation (including A, A1-30, A-99, AE, AO, AH, and AR on the FHBM or the FIRM), all floodplain and flood prone areas at or below the future conditions flood elevation, and all other flood prone areas as referenced in subsection 3-6-106(d). All streams with a drainage area of one hundred (100) acres or greater shall have the area of special flood hazard delineated.

Base flood elevation means the highest water surface elevation anticipated at any given point during the base flood.

Base flood means the flood having a one (1) percent chance of being equaled or exceeded in any given year, also known as the 100-year flood.

Beaufort County's municipal separate storm sewer system (MS4) and Countywide Infrastructure (CWI) means any facility designed or used for collecting and/or conveying stormwater, including but not limited to any roads with drainage systems, highways, Beaufort County streets, curbs, gutters, inlets, catch basins, piped storm drains, pumping facilities, structural stormwater controls, ditches, swales, natural and manmade or altered drainage channels, reservoirs, and other drainage structures, and which is:

- (a) Owned or maintained by unincorporated Beaufort County;
- (b) Not a combined sewer; and
- (c) Not part of a publicly-owned treatment works.

Best Management Practice or *BMP* means that combination of conservation measures, structures, vegetation or management practices that reduces or avoids adverse impacts of development on adjoining site's land, water, or waterways and water bodies.

Buffer means, with respect to a stream, a natural or enhanced vegetated area lying adjacent to the stream.

Channel means a natural or artificial watercourse with a definite bed and banks that conducts continuously or periodically flowing water.

Clean Water Act means the Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Community Development Code (CDC): Adopted in 2014 and replaces the former Zoning Development and Subdivision Ordinance (ZDSO).

Construction activity means activities subject to the South Carolina Erosion and Sedimentation Control Act or NPDES General Construction Permits. These include construction projects resulting in land disturbance. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Control Measure refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to the waters of the State of South Carolina.

Credit: Credit shall mean a conditional reduction in the amount of a stormwater service charge to an individual property based on the provision and continuing presence of an effectively maintained and operational on-site stormwater system or facility or the provision of a service or activity by property owner, which system, facility, service, or activity reduces the stormwater management utility's cost of providing stormwater services and facilities.

Customers: Customers of the stormwater management utility shall include all persons, properties, and entities served by and/or benefiting from the utility's acquisition, management, maintenance, extension, and improvement of the public stormwater management systems and facilities and regulation of public and private stormwater management systems, facilities, and activities related thereto, and persons, properties, and entities which will ultimately be served or benefited as a result of the stormwater management program.

Detention facility means a detention basin or structure designed for the detention of stormwater runoff and gradual release of stored water at controlled rates.

Detention means the temporary storage of stormwater runoff in a stormwater management facility for the purpose of controlling the peak discharge.

Developer means a person seeking to build or develop as defined in CDC in Chapter 106 of the Beaufort County Code of Ordinances.

Development means any action covered by the CDC.

DHEC – means the South Carolina Department of Health and Environmental Control.

Discharge when used as a qualifier, refers to the “discharge of a pollutant”, as defined in

40 CFR Part 122.2.

Discharge related activities includes activities which cause, contribute to, or result in storm water point source pollutant discharge; and measures to control storm water discharges, including the siting, construction and operation of BMPs to control, reduce or prevent storm water pollution.

Drainage easement means an easement appurtenant or attached to a tract or parcel of land allowing the owner of adjacent tracts or other persons to discharge stormwater runoff onto the tract or parcel of land subject to the drainage easement.

EPA means the United States Environmental Protection Agency.

Erosion and sedimentation control plan means a plan that is designed to minimize the accelerated erosion and sediment runoff at a site during land disturbance activities.

FEMA means the Federal Emergency Management Agency.

Flood insurance rate map or *FIRM* means an official maps created and maintained by the by the Federal Insurance Administration dated May 16, 2006, delineating the areas of special flood hazard and/or risk premium zones applicable to the community. Such FIRM as relates to property located within Beaufort County is incorporated by this reference as if fully set forth herein.

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

- (a) The overflow of inland or tidal waters; or
- (b) The unusual and rapid accumulation or runoff of surface waters from any source.

Flooding means a volume of surface water that is too great to be confined within the banks or walls of a conveyance or stream channel and that overflows onto adjacent lands.

Floodplain means any land area susceptible to flooding, which would have at least a one (1) percent probability of flooding occurrence in any calendar year based on the basin being fully developed as shown on the current land use plan; i.e., the regulatory flood.

Future-conditions flood elevation means the flood standard equal to or higher than the base flood elevation. The future-conditions flood elevation is defined as the highest water surface anticipated at any given point during the future-conditions flood.

Future-conditions floodplain means any land area susceptible to flooding by the future conditions flood.

Future-conditions hydrology means the flood discharges associated with projected land use conditions based on a community's zoning map, comprehensive land-use plans, and/or watershed study projections, and without consideration of projected future construction of flood detention

structures or projected future hydraulic modifications within a stream or other waterway, such as bridge and culvert construction, fill, and excavation.

Green space or *open space* means permanently protected areas of the site that are preserved in a natural state.

Gross Area charge (GA): The 2015 Rate Study noted that fact that years of monitoring data indicated a trend of water pollution problems in receiving waters from runoff from undeveloped parcels as well as developed areas. This lead the BCSWU to the conclusion that all land, regardless of improvements upon it, contribute to water pollution, either from natural sources or man-made. Therefore, the Rate Study recommended a Gross Area component of the Stormwater utility fee.

Illegal connection means either of the following:

- (a) Any pipe, open channel, drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the storm drain system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, process wastewater, and wash water to enter the storm drain system, regardless of whether such pipe, open channel, drain or conveyance has been previously allowed, permitted, or approved by an authorized enforcement agency; or
- (b) Any pipe, open channel, drain or conveyance connected to Beaufort County's separate storm sewer system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Illicit Discharge is defined in 40 CFR Part 122.26(b)(2) and the BMP Manual as any discharge to a drainage system that is not entirely composed of storm water, except those discharges authorized under a NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire-fighting activities.

Impervious cover means a surface composed of any material that significantly impedes or prevents the natural infiltration of water into soil. Impervious surfaces include, but are not limited to, rooftops, buildings, streets and roads, and any concrete or asphalt surface.

Impervious unit (SFU) or Impervious Area Charge (IA): Given the direct and primary relationship between stormwater runoff and imperviousness, an impervious unit is defined to serve as one of two common variables for comparing various properties and attaining an equitable distribution of the cost of services and facilities through a stormwater management service charge. The impervious unit in Beaufort County has been determined through engineering analyses to be represented by the average area of imperviousness of the developed single-family residential parcels of record in 2005 in Beaufort County. The unit has been determined to be four thousand nine hundred six (4,906) square feet of impervious area. The unit of four thousand nine hundred six (4,906) square feet of impervious area is herein after referred to as the impervious unit (SFU) and is the metric that shall be used to determine and compute a portion of the service charge for all properties within Beaufort County.

Impervious: Impervious means not allowing the passage of water through the surface of the ground or ground covering or a substantial reduction in the capacity for water to pass through the surface of the ground or ground covering as it would under natural conditions. The following

types of surfaces will be considered "impervious" for purposes of this chapter: the vertical projected area of buildings; asphalt, concrete, brick or stone paved areas; improved vehicular drives and parking areas; compacted gravel surfaces; fabric or plastic coverings; and other surfaces that prevent or impede the natural infiltration of stormwater runoff or that change the hydrologic response of the property that existed prior to development.

Industrial activity means activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b) (14).

Industrial stormwater permit means a National Pollutant Discharge Elimination System (NPDES) permit issued to an industry or group of industries which regulates the pollutant levels associated with industrial stormwater discharges or specifies on-site pollution control strategies.

Infiltration means the passage or movement of water through the soil profile.

Jurisdictional wetland means an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

Land disturbance means any land or vegetation changes, including, but not limited to, clearing, grubbing, stripping, removal of vegetation, dredging, grading, excavating, transporting and filling of land, that do not involve construction, paving or any other installation of impervious cover.

Maximum Extent Practicable (MEP) means the reduction of the discharge of pollutants from a municipal separate storm sewer system using a combination of best management practices, control techniques, system design and engineering methods, and such other provisions as described in the Storm Water Management Program.

Maximum Extent Technically Feasible (METF) means the reduction of excess volume from all storms below the 95th percentile (1.95 inch) and that excess from a 1.95 inch storm when there are larger rainfall events.

MS4 means municipal separate storm sewer system – used in lieu of drainage system.

Municipal Separate Storm Sewer System or *MS4* means a conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels or storm drains, owned or operated by a municipality or other public body, designed or used for collecting or conveying stormwater runoff and is not a combined sewer or part of a Publicly Owned Treatment Works.

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit means a permit issued by the South Carolina DHEC under authority delegated pursuant to 33 USC § 1342(b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-stormwater discharge means any discharge to the storm drain system that is not composed entirely of stormwater.

Nonstructural stormwater management practice or nonstructural practice means any natural or planted vegetation or other nonstructural component of the stormwater management plan that provides for or enhances stormwater quantity and/or quality control or other stormwater management benefits, and includes, but is not limited to, riparian buffers, open and green space areas, overland flow filtration areas, natural depressions, and vegetated channels.

Notice of Intent (NOI or GANOI) is the mechanism used to register for coverage under a NPDES general permit.

NPDES or National Pollutant Discharge Elimination System is the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements under Sections 307, 402, 318, and 405 of the CWA.

Owner means the legal or beneficial owner of a site, including but not limited to, a mortgagee or vendee in possession, receiver, executor, trustee, lessee or other person, firm or corporation in control of the site.

Outfall means the point where a municipal separate storm sewer discharges to waters of the State.

Point Source means any discernible, confined and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged into the waters of the State of South Carolina. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

Pollutant means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; petroleum hydrocarbons; automotive fluids; cooking grease; detergents (biodegradable or otherwise); degreasers; cleaning chemicals; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; liquid and solid wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; concrete and cement; and noxious or offensive matter of any kind.

Pollution means the contamination or other alteration of any water's physical, chemical or biological properties by the addition of any constituent and includes but is not limited to, a change in temperature, taste, color, turbidity, or odor of such waters, or the discharge of any liquid, gaseous, solid, radioactive, or other substance into any such waters as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety, welfare, or environment, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses, or to livestock, wild animals, birds, fish or other aquatic life.

Post-development refers to the time period, or the conditions that may reasonably be expected or anticipated to exist, after completion of the land development activity on a site as the context may require.

Pre-development refers to the time period, or the conditions that exist, on a site prior to the commencement of a land development project and at the time that plans for the land development of a site are approved by the plan approving authority. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time prior to the first item being approved or permitted shall establish pre-development conditions.

Premises mean any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Program or *SWMP* means the Storm Water Management Program required to be developed under the terms and conditions of this permit to manage the quality of stormwater discharged from a MS4.

Protection area or *stream protection area* means, with respect to a stream, the combined areas of all required buffers and setbacks applicable to such stream.

Redevelopment means any expansion, addition or replacement of more than 5,000 square feet or 15 percent, whichever is less, of impervious surface area on an already developed site.

Regional stormwater management facility or *regional facility* means stormwater management facilities designed to control stormwater runoff from multiple properties, where the owners or developers of the individual properties may assist in the financing of the facility, and the requirement for on-site controls is either eliminated or reduced.

Riparian means belonging or related to the bank of a tidal water or wetland, stream, lake, pond or impoundment.

Service charges: Service charges shall mean the periodic rate, fee, or charge applicable to a parcel of land, which charge shall be reflective of the service provided by the Beaufort County Stormwater Management Utility (BCSWU). Service charges are based on measurable parameters which influence the stormwater management utility's cost of providing services and facilities, with one of the most important factor being the amount of impervious area on each parcel of land. The use of impervious area as a service charge rate parameter shall not preclude the use of other parameters, or the grouping of properties having similar characteristics through the use of ranges or rounding up or down to a consistent numerical interval, or the use of flat-rate charges for one or more classes of similarly-situated properties whose impact on the stormwater management utility's cost of providing stormwater management services and facilities is relatively consistent. In 2015, the Rate Study recommended a Gross Area charge (GA), and fixed administrative fee. Stormwater service charges may also include special charges to the owners of particular properties for services or facilities uniquely related to stormwater management of that property, including but not limited to charges for development plan review, inspection of development projects and on-site stormwater control systems, and enhanced level of stormwater services above those normally provided by the county.

Site means the parcel of land being developed, or the portion thereof on which the development project is located.

State waters see *Waters of the State*

Stormwater management systems means all stormwater control infrastructure within a development or redevelopment.

Stormwater runoff or stormwater means any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Storm Water Discharge Associated with Industrial Activity means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas of an industrial plant.

Stream bank means the sloping land that contains the stream channel and the normal flows of the stream.

Stream channel means the portion of a watercourse that contains the base flow of the stream.

Stream means any stream, beginning at:

- (1) The location of a spring, seep, or groundwater outflow that sustains stream flow; or
- (2) A point in the stream channel with a drainage area of twenty-five (25) acres or more; or
- (3) Where evidence indicates the presence of a stream in drainage area of other than twenty-five (25) acres, Beaufort County may require field studies to verify the existence of a stream.

Structural stormwater control means a structural stormwater management facility or device that controls stormwater runoff and changes the characteristics of that runoff including, but not limited to, the quantity and quality, the period of release or the velocity of flow.

Structure means a walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank.

Subdivision means the division or redivision of a lot, tract, or parcel of land, by any means, including by means of a plan or a description by metes and bounds, into two or more lots, tracts, parcels or other divisions of land, for the purpose, whether immediate or future, of lease, of the transfer of ownership or of building development.

Subdivision, major means a subdivision of land into five or more lots.

Subdivision, minor means a subdivision of four or fewer lots.

Subdivision regulations is defined in the Community Development Code (CDC) in Chapter 106 of the Beaufort County Code of Ordinances.

Subdivision, rural means a subdivision of land in the rural areas that allows a land owner to subdivide with less review than the standard subdivision process. Depending on the size of the land proposed for subdivision, and other requirements, a landowner is permitted up to four subdivisions, not including a residual lot. See the CDC.

Undeveloped land: Land in an unaltered natural state or land that has been modified to such minimal degree as to have a hydrologic response comparable to land in an unaltered natural state shall be deemed undeveloped. Undeveloped land shall have no pavement, asphalt, or compacted gravel surfaces or structures that create an impervious surface that would prevent infiltration of stormwater or cause stormwater to collect, concentrate, or flow in a manner materially different than that which would occur if the land was in an unaltered natural state.

Variance is a grant of relief from the requirements of this article which permits construction in a manner otherwise prohibited by this article.

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

Waters of the State means any and all rivers, streams, creeks, branches, lakes, reservoirs, ponds, drainage systems, springs, wells, wetlands, wet weather streams, and all other bodies of surface or subsurface water, including any waters which are subject to the ebb and flow of the ocean tides, natural or artificial, lying within or forming a part of the boundaries of the State which are not entirely confined and retained completely upon the property of a single individual, partnership, or corporation.

Watershed means the total or partial drainage area contributing stormwater runoff to a single point.