Beaufort County Stormwater Management Utility Board (SWMU Board)
Meeting Minutes

November 5, 2014 at 2:00 p.m. in Beaufort Industrial Village Building #3 Conference Room
Draft as of November 20, 2014

Board Members		Ex-Officio Members	
Present	**Absent**	**Present**	**Absent**
Don Smith		Andy Kinghorn	Scott Liggett
Allyn Schneider		Kimberly Jones	
William Bruggeman		Van Willis	
Patrick Mitchell			
James Fargher			

Beaufort County Staff	Visitors
Eric Larson	Cynthia Bensch, Beaufort County Council
Eddie Bellamy	Tony Maglione, ATM
Carolyn Wallace	Denise Parsick, Bft Soil & Water Conservation Dist
Danny Polk	Larry Meisner, Citizen
Kevin Pitts	Jeremy Ritchie, Town of Bluffton
Allison Coppage	

1. Meeting called to order – Don Smith
- **A.** Agenda – Approved.
- **B.** October 1, 2014 Minutes – Approved.

2. Introductions – Completed.

3. Public Comment(s) – None.

4. Reports – (Mr. Larson submitted his written report in advance. Please see attachment.)
- **A. Utility Update –** Eric Larson
  Board Vacancies – County Council's Natural Resources Committee recommended a representative for district 6 and district 9 to fill the vacant seats on the SWMU board. County Council members will vote at the upcoming council meeting on Monday. One of the candidates, Mr. Larry Meisner, was present at the board meeting.
  Training Opportunity - Beaufort County is partnering with the US EPA to host training on Post Construction Best Management Practices. It is tentatively scheduled for December 12, 2014 at the Sonesta Resort on Hilton Head Island. More information will be made available at a future date. Mr. Larson mentioned that they are working with Denis Parsick and others to come up with a list to send special invitations to. The Town of Bluffton also has a facebook page and website to help disseminate the information.
- **B. MS4 Update –** Eric Larson
  Stormwater Workshop for County Council – There will be a half day workshop on MS4 on January 22nd from 12pm to 5pm for the County Council. The agenda will include a summary of the background of the MS4 program regulations, a presentation of the current planning activities the Utility is performing, a look at needs in future years, and a review of the stormwater department's

funding needs. It will be open to the board members and to the public as well. Mr. Larson will provide a preview of the financial analysis at the January board meeting.

C. **Monitoring Update –** Eric Larson
Please see attached written report.

D. **Stormwater Implementation Committee (SWIC) Report –** Eric Larson
Webinar - The SWIC is hosting a webinar on Stormwater Pond Retrofits being presented by the Center for Watershed Protection. It is will held November 12th at the Bluffton Town Hall, 20 Bridge St. from 1pm to 3pm. The public is invited and we are encouraging engineers, developers, POA managers, etc. to attend.

E. **Stormwater Related Projects** – Eric Larson
US 278 Retrofit Ponds – Bids are being solicited for hauling and clearing/grubbing. The project is on track to start in January.
County Administration Complex Retrofit – Construction of the parking lot retrofit project began today.

F. **Professional Contracts Report –** Eric Larson
Please see attached written report.

G. **Regional Coordination -** Eric Larson
Town of Bluffton's Staff Changes – Ms. Kimberly Jones announced that Jeremy Ritchie has been promoted to the Director of the Town's Stormwater Management Division and she has been promoted to the Director of Engineering and Public Works for the town.

H. **Financial Report** – Alan Eisenman
Copies of the September financials were provided.

I. **Maintenance Projects Report** – Mr. Eddie Bellamy submitted his written report in advance (please see attachment) on one major and eleven minor or routine projects. Mr. Smith asked was the staff expending that level of effort, just to provide the documents to the board members. Mr. Bellamy explained capturing the cost is required and creating the map display wasn't necessary but the exercise served other purposes.

5. **Unfinished Business**
Final MS4Application – Mr. Larson provided the latest draft of the Notice of Intent (NOI) application that now include the following: all code references, maps, charts, etc. have been added; monitoring program added as a best management practice for Minimum Control Measure (MCM) 3; clarified the MS4 jurisdiction versus the permitted area since they are going to have a countywide MS4 program but only the portion previously identified will be permitted; updated the impaired waters list to include only permitted MS4 area only; updated the county's facilities list; added asset management to the storm sewer system as a best management practice; and shifted the milestones from year to year. The application has been vetted through County Council's Natural Resources Committee and will be presented at the County Council meeting next Monday with the committee's recommendation for approval.

6. **New Business –** Eric Larson
2015 SWMU Board Meeting Schedule – The proposed schedule was approved (please see attachment).

7. **Public Comment(s)** – None.

8. **Next Meeting Agenda –** Approved.

9. **Meeting Adjourned.**

BEAUFORT COUNTY STORMWATER UTILITY
120 Shanklin Road
Beaufort, South Carolina 29906
Voice (843) 255-2801 Facsimile (843) 255-9478

November 5, 2014

Stormwater Manager's Report for the Stormwater Utility Board Meeting

Utility Update

1. TY 2014 tax run – Carolyn Wallace has been working diligently to review property changes in 2014 in preparation for the 2014 tax bills that will go out in November.
2. Board vacancies – We have received two applications for the District 9 seat. I have also received inquiries for the District 6 seat but no applications at this time.
3. Danny Polk, Kevin Pitts, Seth Stanbery, and Eric Larson attended the annual Southeast Stormwater Association Conference in Charleston, SC. Topics were varied but the common theme of the conference was the cost of implementation of MS4 program and Best Management Practices maintenance.
4. Eric Larson attended the South Carolina Water Resources Conference in Columbia, SC. The conference had several advanced topics on stormwater management research. There were also several presentations on best management practices maintenance.
5. Eric Larson was one of the guests for the October edition of Coastline on The County Channel. You can watch the episode by following this link:

   http://beaufort.granicus.com/MediaPlayer.php?view_id=3&clip_id=1806

6. Eric Larson and Danny Polk attended training on the newly published South Carolina Coastal Low Impact Development (LID) manual. Eric was part of a discussion panel on successes using LID.
7. Beaufort County is partnering with the US EPA to host training on Post Construction Best Management Practices. This is one of three sessions nationwide being held. The session will be taped for a webinar series in 2015. It is tentatively scheduled for December 12, 2014 at the Sonesta Resort on Hilton Head Island. More information will be made available at a future date.
8. Mr. Kubic asked all department heads to summarize their department's top 5 achievements in 2013-2014. Stormwater's top 5 are attached. Engineering included one stormwater project.

MS4 Update

1. MS4 permit application – A final draft version of the permit application is attached. Staff recommends endorsement for approval to be sent to the County Council at the November 10, 2014 meeting.
2. Stormwater Workshop for County Council – Eric Larson will be presenting a half day workshop in January for the County Council. The agenda will include a summary of the

background of the MS4 program regulations, a presentation of the current planning activities the Utility is performing, a look at needs in future years, and a review of the stormwater department's funding needs. At the end of the workshop, the staff hopes to receive feedback from the Council so that the program can implement the recommendations from the meeting. The date and location will be announced at a later date.

3. Eric Larson attended the annual Hilton Head Island and Bluffton area Chamber of Commerce lunch. Chairman Sommerville mentioned the pending MS4 permit in his remarks.

Monitoring Update

1. USCB Lab – Nothing new to report. The lab continues to assist our staff weekly with field monitoring and sampling. Certification of the lab procedures is ongoing. DHEC has responded to the Lab's application for certification and asked for additional parameters to be added to their standard operating procedures. These parameters are related to "in-situ" tests performed in the field at the sampling location. Once submitted, the application should be approved within 30 days.
2. Monitoring data – Kevin Pitts is in the process of building a Microsoft Access database of our past data. This will help with trend analysis as well as organize the data so that we can access it quickly.

Stormwater Implementation Committee (SWIC) Report

1. The next meeting is scheduled for November 12th. It is being held in conjunction with a webinar from the Center for Watershed Protection. The SWIC will be reviewing draft NOI applications for the MS4 permits.
2. The SWIC is hosting a webinar on Stormwater Pond retrofits being presented by the center for Watershed Protection. It is will held November 12th at the Bluffton Town Hall, 20 Bridge St. from 1pm to 3pm. The public is invited and we are encouraging engineers, developers, POA managers, etc. to attend. A flyer for the event is attached.

Stormwater Related Projects

1. Okatie West Concept Study – The work on this study was completed prior to 2014. It is being revisited as part of the SC 170 widening and stormwater conceptual study. A further update will be provided to the Board during Executive Session.
2. US 278 retrofit ponds ($356,000 budget) – The project is moving forward. Bids are being solicited for hauling and clearing/grubbing and are due Nov. 14th. Recommendation will go to County Council on December 8th. Clearing should begin late December or early January.
3. County Admin. Complex Retrofit Project ($327,768 budget) – Construction on the project will begin November 5th. It should be completed mid-February 2015.
4. Buckingham Plantation Innovation District – Stormwater has been partnering with the Planning Department to prepare a concept plan and engage the public in a charrette to solicit feedback on the plan. The goal is to invest in needed infrastructure improvements to revitalize the area for redevelopment.

Professional Contracts Report

1. Financial Analysis of the Stormwater Utility – ATM has been provided a task order to begin a review of the fee structure for the Utility. Staff has also been working on various funding models to go with ATM's work. Findings will be presented to the County Council in January. This will assist us in the preparation of the FY 16 budget.
2. SC 170 widening and stormwater ($14,000 budget) – The conceptual design study has been accepted. It contains several potential projects along the SC 170 corridor. Due to the nature of the recommendations of the report, it is considered confidential at this time. Copies of the report will be shared with the Board in Executive Session.

Regional Coordination

1. Battery Creek Pond funded by an EPA 319 grant ($132,609 budget – county portion) – On going. County and City staff are continuing to work with the property owner to negotiate an easement. (Lamar Taylor may also report)
2. May River Watershed Action Plan – Kim Jones and Jeremy Ritchie recently presented updates on the Plan to the South Carolina Water Resources Conference in Columbia. The Town of Bluffton staff are in the process of evaluating the results of the first few years of implementation and measuring the success of the first BMP project built with 319 Grant funds in the New Riverside area. They have begun monitoring flow at the Pine Ridge Subdivision outfalls where they plan on a second 319 Grant project to build a water re-use system. (Kim Jones may also report).
3. Salinity Study ($25,000 budget – county portion) - On going. A final report is expected in the upcoming months.
4. Sea Level Rise and future planning – On going. The Sea Grant staff is continuing work on the final report.
5. Drainage issue on H.E. McCracken Circle in Bluffton – On going. I am still reviewing the data provided by the Town of Bluffton. The additional field work has revealed that some of the earlier conceptual designs to solve the localized flooding problem may not work.
6. Eric Larson has been asked to serve on a technical committee for stormwater pond maintenance. This project is being led by SC Sea Grant and the goal is to create guidance materials and training opportunities for municipal stormwater managers and private development managers in coastal South Carolina.
7. Stormwater / Water Quality segment for The County Channel – The first of the series of water quality videos produced in conjunction with Water Quality Protection Week was published by the County Channel in October. This link will take you to the County's You Tube channel to view it.

https://www.youtube.com/watch?v=3BIbTyNvv1w&list=UUeFvudNHgf7avPwlpqvu6FA

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Stormwater Utility Management
Eric W. Larson, Stormwater Manager
3 management positions, 2 regulatory staff, and
30 crew in Stormwater Infrastructure Operations

Achievement #1 – Okatie East wetland restoration and Stormwater retrofit

Section 1: Department Overview

Please provide a short overview (1-2 paragraphs) of programs and services.

The Stormwater Utility is made of three distinct areas: Management, Regulatory, and Operations. Management staff guide the utility is the Vision and Mission statements along with the oversight of the Utility fee billing and collection. Regulatory staff oversee capital projects and are evolving into the role of MS4 compliance. The Infrastructure operations crew oversee maintenance and construction of small to medium sized capital reconstruction projects. The Department is funded solely by the Stormwater Utility Enterprise Fund.

Vision Statement

Efficient Utility Addressing the Stormwater Needs of the County, while Protecting its Water Resources.

Mission Statement

Dedicated to the management, construction, maintenance, protections, control, regulation, use, and enhancement of stormwater systems and programs in Beaufort County in concert with other water resource management programs.

Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

Achievement #1 – Okatie East wetland restoration and Stormwater retrofit

This project, located off of the Hampton Lakes Parkway adjacent to the Island West Development near Bluffton, is the first of many water quality improvements and wetland restoration projects the County and its municipal partners plan to complete to combat pollution in our rivers and restore the estuaries to their intended use. The project involved replacement of a failed culvert pipe and restoration of a roadway embankment that historically served to restrict flow of stormwater runoff into the Okatie River. Upstream of this culvert there exists a natural wetland area that had been inadvertently drained by the culvert failure. Restoration of the pipe, embankment, and wetland creates an opportunity to treat stormwater quality and volume via the wetland system.

Construction was completed in the spring of 2014 with a total cost in design of $ $46,736 with construction costs of $102,342. The project was funded from the Stormwater Utility Fund.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

From the onset of completion of the project, the Stormwater Infrastructure crew has been dealing with excessive stormwater flows bypassing the new culvert and overflowing the embankment spillway. In discussions with the design engineer, actual runoff volumes are greater than predicted by the design model. The lesson learned is that inadequate planning can lead to undesirable results. For this project, we think a more in-depth study of existing conditions was needed prior to completing the design.

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

This is the first large scale stormwater retrofit capital project constructed by the Stormwater Infrastructure crew. Expertise in the crew is needed to be developed and matured. While the results of the project are acceptable, the time commitment to construct a project of this size is significant and will delay much needed ongoing maintenance and operations work performed daily by the crew. Consideration of staff and equipment expansion is needed if we are to continue to provide this level of activity in-house.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

The next step in this project is to verify that we are getting the stormwater runoff volume reduction and pollutant removal that was envisioned. The design engineer has begun a second phase of the project to collect flow data and to collect water samples to compare volume and pollutant concentrations to the design model. The value of this next phase is $9,750.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Stormwater Utility Management
Eric W. Larson, Stormwater Manager
3 management positions, 2 regulatory staff, and
30 crew in Stormwater Infrastructure Operations

Achievement #2 – Administration Building Campus Stormwater retrofit

Section 1: Department Overview

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Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

Achievement #2 – Administration Building Campus Stormwater retrofit

This project is the second large scale stormwater retrofit to go into the construction phase. Located on the main County Administration campus off of Ribaut Road in the City of Beaufort, the site is a highly visible location that receives foot traffic from citizens all over the county. The goal of the project is to demonstrate numerous Low Impact Development, or Green Infrastructure, practices that are designed to reduce stormwater runoff and provide pollutant removal from stormwater. A portion of the parking lot will be replaced with porous clay pavers and rain gardens, both providing opportunities for infiltration and filtering of stormwater before being discharged into the Battery Creek. The project also involved routine stormwater pond maintenance.

Construction will begin in November 2014 and continue for approximately 120 days. Total cost in design is $32,800 with construction costs are $299,653. The pond maintenance was provided by the Infrastructure crew at a cost of $64,863 and was completed in September 2014. The project was funded from the Stormwater Utility Fund.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

This project spent a significant amount of time in design and bidding. Having the goal of being a demonstration site for multiple low impact development best management practices for stormwater, the site was designed using multiple materials, such as porous asphalt, pervious concrete, and porous pavers, in small areas. Due to these complexities, the development community was hesitant to bid on the project. Scaling back the project in scope and easing the constructability of the project was needed to gain interest from bidders.

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

Another project issue was coordination of the schedule. The parking lot is fully utilized by staff, county vehicle parking, and the public conducting business at the Administration Building and the County Courthouse. At times, county vehicles and staff are asked to park offsite to make room for jury pool parking, etc. Feedback from bidders was that the complexity of the phasing of the project would extend the project time and cost. Scaling back the project has made the project more realistic.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

The maintenance of the stormwater ponds will continue to be a challenge. The aesthetics of a properly functioning pond may not be desirable to the average visiting citizen or staff working on the campus. Stabilization of the pond bank with mature vegetation, creating a buffer, is needed but can distract the view of the water and will attract certain wildlife. A mowed edge can attract undesirable water fowl, increase pollutant loading, and erode the banks due to lack of structure. In addition, some algal growth can be expected yet it may appear to be unhealthy to the untrained eye. To combat these issues, a combination of education and minimal chemical treatment may be needed.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Stormwater Utility Management
Eric W. Larson, Stormwater Manager
3 management positions, 2 regulatory staff, and
30 crew in Stormwater Infrastructure Operations

Achievement #3 – MS4 Stormwater Permit Program Development

Section 1: Department Overview

Please provide a short overview (1-2 paragraphs) of programs and services.

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Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

Achievement #3 – MS4 Stormwater Permit Program Development

During 2013 and continuing into 2014 and beyond, the County will be implementing the Municipal Separate Stormsewer System (MS4) program. The program is mandated by the US EPA and consists of 6 minimum control measures:

1) Public Education and Outreach
2) Public Involvement and Participation
3) Illicit Discharge Detection and Elimination
4) Construction Runoff Program
5) Post Construction Best Management Practices
6) Pollution Prevention in Municipal Operations

Development and implementation of the program is funded by the Stormwater Utility Enterprise Fund. Direct spending in fiscal year 2015 is estimated at $50,000 with an additional $90,000 to $100,000 to be allocated in additional staff and equipment. Spending in future years will be comparable and will likely increase over time.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

Population and Development growth can lead to unforeseen consequences. With the announcement that areas of Beaufort County were designated as an Urban Area by the 2010 U.S. Census, the requirements of the US EPA Clean Water Act must now be implemented in Beaufort County. Most notably, a Municipal Separate Stormsewer System (MS4) permit will be issued by DHEC to the County in the upcoming months. This will result in increased local regulatory authority and acquiring the resources needed to comply with the MS4 permit.

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

This program is implemented via a permit issued by DHEC. Work must begin now to reach program compliance deadlines set forth in the approved permit. Deadlines are as early as 12 months away and will involve extensive work to create work plans and update county regulations. Educating the elected officials is as critical as public education to prevent roadblocks in approvals which could result in fines for violation of the permit.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

The initial MS4 permit is 5 years in duration. At the end of the permit cycle, full compliance with all the program elements is expected. However, that is just the beginning. The permit will be re-issued in 5 year increments. Each permit cycle will likely increase requirements and evolve as the science of water quality continues to grow our understanding of urban stormwater runoff pollution.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Stormwater Utility Management
Eric W. Larson, Stormwater Manager
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Achievement #4 – Battery Creek (Burton Hill M2) Stormwater pond retrofit

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Please provide a short overview (1-2 paragraphs) of programs and services.

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Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

Achievement #4 – Battery Creek (Burton Hill M2) Stormwater pond retrofit

The Burton Hill M2 watershed discharges stormwater runoff into the Battery Creek at Old Jericho Road near the intersection of Robert Smalls Parkway and Parris Island Gateway. Urban runoff pollution has been long cited as a cause for impairments to water bodies such as those found in Battery Creek. The project will address a pollution problem resulting from development within this watershed. During the course of the project, public education and involvement will provide opportunities for educating on the proper construction and maintenance of stormwater retention facilities.

Construction will begin in the spring of 2015. The project is jointly funded by the County and the City of Beaufort with 60% of the funding coming from a US EPA Clean Water Act Section 319 grant. The County share of the total cost for design and construction is $132,609 coming from the Stormwater Utility Fund.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

This project is an example of partnering with other governmental bodies for the successful achievement of a goal. The City of Beaufort is the lead agency for a grant application to fund the design and construction of the project. The partnering was prompted by a growing water quality impairment on the Battery Creek which was contributed to by stormwater runoff from both the City and County jurisdictions.

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

One aspect of the project involves the retrofitting of a privately owned oxidation pond into a stormwater wet detention pond. Negotiating an easement for the site has involved developing a design that meets the project goals as well as meeting the expectations of the property owner. The challenge for this project has, and continues to be, keeping expectations realistic and within the project grant scope and budget.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

Projects funded by grants can create additional paperwork and time constraints. Delays in the project, such as collecting field survey data, can push the project deadline and result in additional submittals and approvals from the funding agency. For this project, communicating those delays in a timely manner to DHEC and adjusting the schedule to reduce the impact were keys to moving the project forward.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Stormwater Utility Management
Eric W. Larson, Stormwater Manager
3 management positions, 2 regulatory staff, and
30 crew in Stormwater Infrastructure Operations

Achievement #5 – Establishing the USCB Water Quality Lab

Section 1: Department Overview

Please provide a short overview (1-2 paragraphs) of programs and services.

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Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

Achievement #5 – Establishing the USCB Water Quality Lab

This task involved the joint effort with the University of South Carolina, Beaufort to create a Water Quality Laboratory on their Bluffton Campus. Establishing a local lab provides the community multiple benefits, including quicker response to sampling and testing needs, improved focus on client service, and keeping utility revenues local via employment of local staff and utilizing local resources.

The Stormwater Utility funded the initial set up of the lab in the amount of $250,000. The County has currently budget an additional $90,000 annually for services to be provided by the lab.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

Water quality is an important aspect to the community's environment and economy. With the implementation of the Municipal Separate Stormsewer System (MS4) permit, the County's efforts in water quality sampling and testing will evolve and grow. The key to success is investing in the community to provide the services needed using local facilities and staff and spending the Stormwater Utility funding in the community to continue to invest in the local economy.

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

Setting up a laboratory that is capable of meeting our stormwater testing needs involved numerous approvals and certifications from DHEC. The lab had to be set up with new equipment, new staff had to be hired, and the two had to be combined to produce quality data to be submitted for regulatory compliance. The process is ongoing and expected to continue into the spring of 2015. Once complete, the lab will be able to fulfill all of our program needs and we will no longer be dependent on costly out of town private consultant labs.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

The Town of Port Royal and the City of Beaufort, through a cost share and partnering agreement with the County, and the Town of Bluffton are utilizing the lab to the maximum extent practicable. The labs services can be expanded to the Town of Hilton Head Island, the military, and potentially private industry. Growing the lab's capacity through experience and additional resources is the next phase of this project.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Beaufort County Engineering Department
Department Head - Rob McFee
Number of Staff = 4

1 of 5 Achievements

Section 1: Department Overview

Please provide a short overview (1-2 paragraphs) of programs and services.

Provide effective, efficient, and quality management, engineering, and construction management and oversight of $250 million 1cent Sales Tax Program.

Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

The construction of $250 million in various new road construction or roadway improvements in Beaufort County. These projects included construction of the Bluffton Parkway and the widening of Buckwalter Parkway funded principably by 1 cent Sales Tax and Traffic Impact Fees.

Construction completed on the 14-mile Bluffton Parkway from SC 170 to Buckingham Plantation Drive (Phases 1 thru 5A, Segment 1). The Bluffton/Buckwalter Parkways are 4-lane divided roadways with pathways.

Construction of a new $49 million Beaufort River Bridge and widening to 4-lanes 5.5 miles of SC 128 (Savannah Hwy) and US 21 (Lady's Island Dr.) at $14 million funded by 1 cent sales tax.

Construction of Phase 5 Bluffton Parkway $82 million

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

Communication is essential to the development and successful outcome of construction projects. These projects were planned based on the demonstrated need for public transportation improvements. The implementation of the projects was accomplished within time and financial resources but more effective communication between Engineering & Finance is being pursued.

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

Project estimates for design-bid-build projects must include engineering, permitting to effectively manage expectations regarding ROW and construction costs. Reduced staffing levels create oversight challenges.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

Regular meetings with finance staff have been established. Project delivery methods such as design-build are being implemented on a broader scope to reduce project delivery directions.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Beaufort County Engineering Department
Department Head - Rob McFee
Number of Staff = 4

2 of 5 Achievements

Section 1: Department Overview

Please provide a short overview (1-2 paragraphs) of programs and services.

Provide effective, efficient, and quality management, engineering, and construction management of the County Dirt Road Program.

Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

Completion of the current 4-year County dirt road paving program was started in 2009 which when completed will add another 17 miles of paved roads from dirt roads. Since 1994, Beaufort County and the Beaufort County transportation Committee have implemented 5, 4-year County dirt road paving programs which result in the improvements to over 100 miles of County maintained dirt roads. Construction cost per mile was approximately $400,000.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

The Beaufort County Transportation Committee and Beaufort County Council started a County Dirt Road Paving Program in 1993. Cooperation and communication between the County and Beaufort County transportation Committee was and is a key to the continued success of this program. In addition the establishment of a priority system using objective criteria is a key to the continued success of program.

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

Funding for the dirt road paving program is from state gas tax funds and County vehicle user fees (Tag Fees). Funding for the program has always been positive but there will be funding issues for the program in the future if support is diverted or the Tag Fees are not adjusted for inflation.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

The Beaufort County transportation Committee has adapted to the new ROW process necessary for roadway improvement going forward and policies and procedures are now in place to address this.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Beaufort County Engineering Department
Department Head - Rob McFee
Number of Staff = 4

3 of 5 Achievements

Section 1: Department Overview

Please provide a short overview (1-2 paragraphs) of programs and services.

Provide effective, efficient, and quality management, engineering, and construction management of all capital improvements projects.

Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

The renovation/construction of 3 new large facilities for Beaufort County
St. Helena Library -23,500 sqft Contract Award $5.7 million
County Courthouse – 61,797 sqft Contract $14.1 Million
Coroner's office – 6,300 sqft Contract Award $953 Thousand
Funded by County CIP funds, impact fees, CDBG grants, USDA Grants/Loans

The Construction of a new Regional County Park
Buckwalter Regional Park, Phase II, 33,000 sqft expansion totals $6.1 million Funded by County impact fees.

Continued Phase Improvements to Burton Wells Regional Park
Phase 2 construction included pedestrian trails, development of existing pond, dock installation, terraced lawn amphitheatre, amenities and recreation center. Contract totals $2.4 million. Funded by County CIP funds.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

These projects were planned and approved based on the demonstrated need for public facility improvements. Proper fiscal allocations to include appropriate contingency amounts, open and timely communications with finance team is key to accomplishing this outcome.

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

The construction of additional county facilities must be properly co-ordinated with increased staffing requirements.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

None envisioned at this time.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Beaufort County Engineering Department
Department Head - Rob McFee
Number of Staff = 4

4 of 5 Achievements

Section 1: Department Overview

Please provide a short overview (1-2 paragraphs) of programs and services.

Provide effective, efficient, and quality management, engineering, and construction management of implementation of US 278 stormwater mitigation ponds.

Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

Construction of the County's Best Management Practices for Stormwater along US 278 meets the high protection standards for the waters of Beaufort Count and reduces the amount of stormwater flow into the Okatie River.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

The material excavated from these ponds will be used to construct fields at the Buckwalter recreation Center and this action will save Beaufort County approximately $300,000.00

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

Full implementation costs of stormwater mitigation plans along US 278.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

None envisioned at this time.

BEAUFORT COUNTY GOVERNMENT

Department "Top 5" Achievement Report 2013-2014

Beaufort County Engineering Department
Department Head - Rob McFee
Number of Staff = 4

5 of 5 Achievements

Section 1: Department Overview

Please provide a short overview (1-2 paragraphs) of programs and services.

To improve water access by efficient, and quality management, engineering, and coordination of public access boat ramps and associated facilities.

Section 2: Summary of Activities and Progress

Describe awards and/or achievements, including project name and location, funding source, end cost, and reinvestment back into the community.

Recent completion of over $5 million in construction improvements and renovations to County Boat Landings and docks. Improvements at various landings and docks thru out the County which included the installation of courtesy floating docks, access ramp improvements, fishing pier construction, dredging, stabilization, amenities installation, parking improvements. Also integrated fishing accommodations on Spanish Moss Trail trestles over water. Underway are improvements and the re-opening of the Fort Fredrick boat ramp in Port Royal.

Section 3: Outcomes

Outline any emerging outcomes or lessons that could be passed on to other departments.

These projects were planned based on the demonstrated need for improved public access for water recreation and the projects were accomplished within time and financial resources, and close coordination and partnership with SCDNR is vital to this successful outcome

Section 4: Risks, Issues and Challenges

Provide brief details of progress in terms of the development and implementation of the project evaluation plan. Detail any interesting findings or emerging evaluation issues of interest.

Greater competition for the limited funding for these type improvements will likely be an issue in the future.

Section 5: Evaluation and Next Steps

Report on any issues or problems that have impacted on the development and implementation of the project. Detail what impact any issues may have on the achievement of project targets, and set out how you plan to tackle these issues. Report on any unexpected project achievements.

None envisioned at this time.

Small Municipal Separate Storm Sewer Systems (SMS4) Notice of Intent (NOI) for authorization to discharge Storm Water from Regulated SMS4 under SC NPDES Phase II General Permit (SCR030000)

Prepared For:

Beaufort County, SC

Prepared By:

Applied Technology & Management, Inc.

Date: October 2014

South Carolina Department of Health and Environmental Control
Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201-1708

Small Municipal Separate Storm Sewer Systems (SMS4) Notice of Intent (NOI) Template for authorization to discharge Storm Water from Regulated SMS4 under SC NPDES Phase II General Permit (SCR030000)

FOR OFFICE USE ONLY	
DATE RECEIVED	
DATE REVIEW COMPLETE	
REVIEWED BY	

PURPOSE

The purpose of the SMS4 Notice of Intent (NOI) is for a Regulated Small Municipal Separate Storm Sewer System located partly, or wholly, in the State of South Carolina to seek authorization to discharge stormwater runoff under SC Phase II NPDES General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems, SCR030000

INSTRUCTIONS

The following information must be provided to the Bureau of Water, Stormwater Permitting Section as application material. Application questions are intended to highlight the SWMP requirements under the SMS4 permit. Each element not currently performed must be implemented by the date required in the permit.

NOTE: The proposed stormwater quality management program should provide a forum and a structure by which to encourage, or to allow, the public to participate. There may be specific ways the public might be involved, based on a program's particular needs. For instance, you may want stream watch groups to be organized. As such, the proposed program should describe how this will be accomplished, and the time schedule. Each SWMP will be reviewed by the Department to ensure it is the functional equivalent of the permit under which the SMS4 is seeking coverage.

This application is divided into five Parts (I thru V) and seven subsequent Sections (1 thru 7). Each must be completed in their entirety. Attached at the end this SMS4 NOI, there are three tables listed as addenda to sections 1 thru 6 to list BMP Measurable Goals and Implementation Milestones for each MCM. Complete each addendum, providing more details on the goals and milestones for each BMP outlined in this NOI as required in the permit and attach them to this NOI.

In Table 1, you must list by name and description the Best Management Practices (BMP) that will be implemented in each area (based on a set of priorities identified in the area). In Table 2, provide the administrative information to complete those identified BMP as explained below. In Table 3, provide more details on the goals and milestones for each BMP outlined in this NOI as required in the permit. Timely submission of this properly completed NOI template satisfies the requirements of SC Water Pollution Control Permits Regulation 61-9 122.1(b), 122.6(1), 122.21(c), (d) & (e), 122.22(a)(3), (b), (c) & (d), 122.26(a)(9) &(f)(5), 122.28(b)(2)(ii), (iii) & (iv), 122.33, 122.34(d) & (e) and 124.52(c) as appropriate

ADMINISTRATIVE INFORMATION	
Primary Contact and Position/Title	The person in your organization serving as the primary contact.
Other Department and Roles	Other departments within your organization involved in the project and how their role is identified.
Other Government Entity and Roles	Identification of other government entities responsible for implementing one or more of the BMP. Include a copy of the interlocutory agreement, or contract, or proposed agreement with execution schedule.
Other Institutions and Roles	Identification of partnerships with another MS4 operator or institution (e.g., Chamber of Commerce, environmental interest organizations, civic groups) to achieve the BMP.
Equipment Needs (if applicable)	What are these needs?
Target Groups (if applicable)	Specific kinds of groups that will be targeted, such as service industries (i.e., carpet cleaning), civic groups, schools, and church groups, etc.

PART 1
ADMINISTRATIVE INFORMATION

Name of municipal entity / tribe / state agency / federal agency / or public institution that owns / operates a small MS4:

Beaufort County	**N/A**
MS4	NPDES Small MS4 Permit Coverage Number
Gary Kubic	**County Administrator**
Responsible Elected Official or Officer	Title

100 Ribaut Road	**Beaufort**	**SC**	**29902**
Street Address	City	State	Zip Code

Indicate whether the SMS4 is a:
- ☒ Municipal Entity
- ☐ Tribe
- ☐ State Agency
- ☐ Federal Agency
- ☐ Other Public Institution: _____.

PROGRAM CONTACT	TECHNICAL CONTACT
Eric Larson	**Michael Klink**
Name	Name
elarson@bcgov.net	**mklink@appliedtm.com**
Email Address	Email Address
(843) 255-2805	**(843) 298-2369**
Phone Number	Phone Number

☒ Attach an organizational chart that shows the different departments involved in stormwater management.

☐ Indicate whether or not the SMS4 is relying on another entity to satisfy one or more of its permit obligations. If checked, the entities and the elements being implemented must be listed below with copy of all written documentation required under Section 4.4 attached to this NOI.

_____

_

☐ Indicate whether or not the SMS4 is a co-permittee partnering with other SMS4 to develop and implement the SWMP. If checked, SMS4 may jointly submit an NOI with one or more SMS4 in it. Each SMS4 in the NOI must obtain authorization to discharge under SCR030000. The SWMP description must clearly indicate the joint permittees responsibility. Each and every element being implemented must be discussed in the written documentation pertinent to Section 2.4 attached to this SMS4 NOI.

PART II
SMS4 INFORMATION

ITEM A
MS4 SYSTEM

Urbanized Area (UA), or Core Municipality (if the SMS4 is not located in an UA)	**Beaufort County, SC**
Latitude and Longitude of the center of the SMS4	**32º 14' 50" N, 80º 50' 19"W**
Jurisdiction in square miles within current corporate boundaries:	**≈ 71 sq miles (Black Outline)**
Area of additional urban growth boundary:	**≈ 51 sq miles (Magenta Outline)**

The permit will be used to regulate the:

☐ Entire Jurisdiction

Total Area: _____

☒ UA portions, as follows (Counties only):

Unincorporated Area	**≈ 596 sq miles**
Unincorporated, Urbanized Area	**≈ 71 sq miles (Black Outline)**

ITEM B
STORM DRAINAGE INFRASTRUCTURE

Give figures for the following features of stormwater drainage infrastructure. For a county government, indicate whether the figures represent the entire county or only the urbanized area. Figures for length and number of culverts and catch basins may be rough estimates. **Figures represent the entire County**

Entire Jurisdiction	**≈ 732 sq miles (Beaufort County)**	Urbanized Area(s)	**≈ 71 sq miles**	COUNTIES ONLY
Storm Sewers	**≈ 528,000 Feet**	Open Ditches	**≈ 10,560,000 Feet**	
Culverts	**Included in Storm Sewers**	Catch Basins	**≈ 12,000**	

Retention and / or Detention Basins **≈ 1,000**

ITEM C
STATE THE FOLLOWING, INCLUDE ITEMS IN A COPY OF THE SMS4 MOST CURRENT MAP AS POSSIBLE

Zoned areas for commercial or industrial activity	See Map 1	State vocational, technical, college or universities	5, See Map 1
Actual areas of commercial or industrial activity	See Map 1	Federal vocational, technical, college or universities	N/A
Other municipally owned/operated industrial activities	See Map 1	City Roads	See Map 1
Municipal or County Wastewater Treatment Plants	4, See Map 1	County Roads	See Map 1
Vehicle Fleet Maintenance Centers	1, See Map 1	Perennial and intermittent streams	See Map 2
Power Plants	N/A	Topography or Drainage Patterns	See Map 2
Airports	2, See Map 1	Landfills (Garbage Convenience Stations)	N/A (12)
Military Installations	2, See Map 1	Indian Country lands, if any	N/A
		Drainage Pipe and Structures	See Map 3

ITEM D IDENTIFYING IMPAIRED STREAMS AND ALL SENSITIVE WATER BODIES

Identify water bodies (located throughout the SMS4 jurisdiction, or extending one mile beyond the SMS4 service boundaries if cost effective) listed in Part 3 of the permit. Impairments, indicating the nature of pollution (cause) and their sources should be listed below. Visit: http://www.scdhec.gov/tmdl

STREAM NAME	WQMS	Impairment(s)
See attached list of water bodies on the 2012 303(d) List for Beaufort County		

ITEM E HAS THE STATE OR EPA ISSUED A TDML FOR ANY STREAMS LOCATED THROUGHOUT THE SMS4 JURISDICTION OR EXTENDING ONE MILE BEYOND THE SMS4 SERVICE BOUNDARY?

Yes ☒ No ☐ If yes, list stream, WQMS, and parameter(s) of concern, visit: http://www.scdhec.gov/tmdl:

STREAM	WQMS and PARAMETERS OF CONCERN
Okatie River (2012 303(d) List)	**Shellfish Sites: 18-07, 18-08, 18-16, 18-17; Fecal Coliform**

PART III EXISTING LEGAL AUTHORITY TO CONTROL STORMMWATER DISCHARGES TO MS4

Review ordinances applicable to the control of pollution that might enter the SMS4. Extract the portions of the ordinances that apply to the control of the storm sewer system and attach a copy of those portions to this NOI. Ordinances dealing with stormwater issues might be found, for example, in conjunction with litter control, prohibition of dumping, clean up of spills, grading/building permits, sewer connection ordinances, erosion and sediment practices, subdivision regulations or other land use/development ordinances. Ensure that all legal authority necessary to enable the SMS4 to carry out all provisions of the permit are obtained.

The portions of the existing ordinance that relate to stormwater are attached to the permit (Part II - Chapter 99; Part II Chapter 106, Article XIII - Division 4; and Part II – Chapter 106, Article VII – Division 3). Beaufort County is proposing to create a stand-alone document of the stormwater ordinance as part of their MS4 Program.

PART IV PROPOSED STORMWATER MANAGEMENT PROGRAM

This NOI requires SMS4 seeking coverage to provide a description of existing and planned activities as well as Best Management Practices (BMP) for a SWMP. The following sections correspond to the six minimum control measures MCM to be included in the SWMP required in part 4.2 of the permit. If another MS4 will be responsible for implementing any or all portions of any or all following six minimum measures, attach the inter local agreement (ILA) and the proposed schedule of implementation. The NOI must be completed by answering all pertinent questions for the six MCM.

See the attached six MCMs.

PART V
SIGNATURE OF RESPONSIBLE CORPORATE OFFICER

This NOI must be signed as follows: For a municipality, state, federal, other public agency, and/or co-permittees by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes one of the following:

i. The chief executive officer of the agency.

ii. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

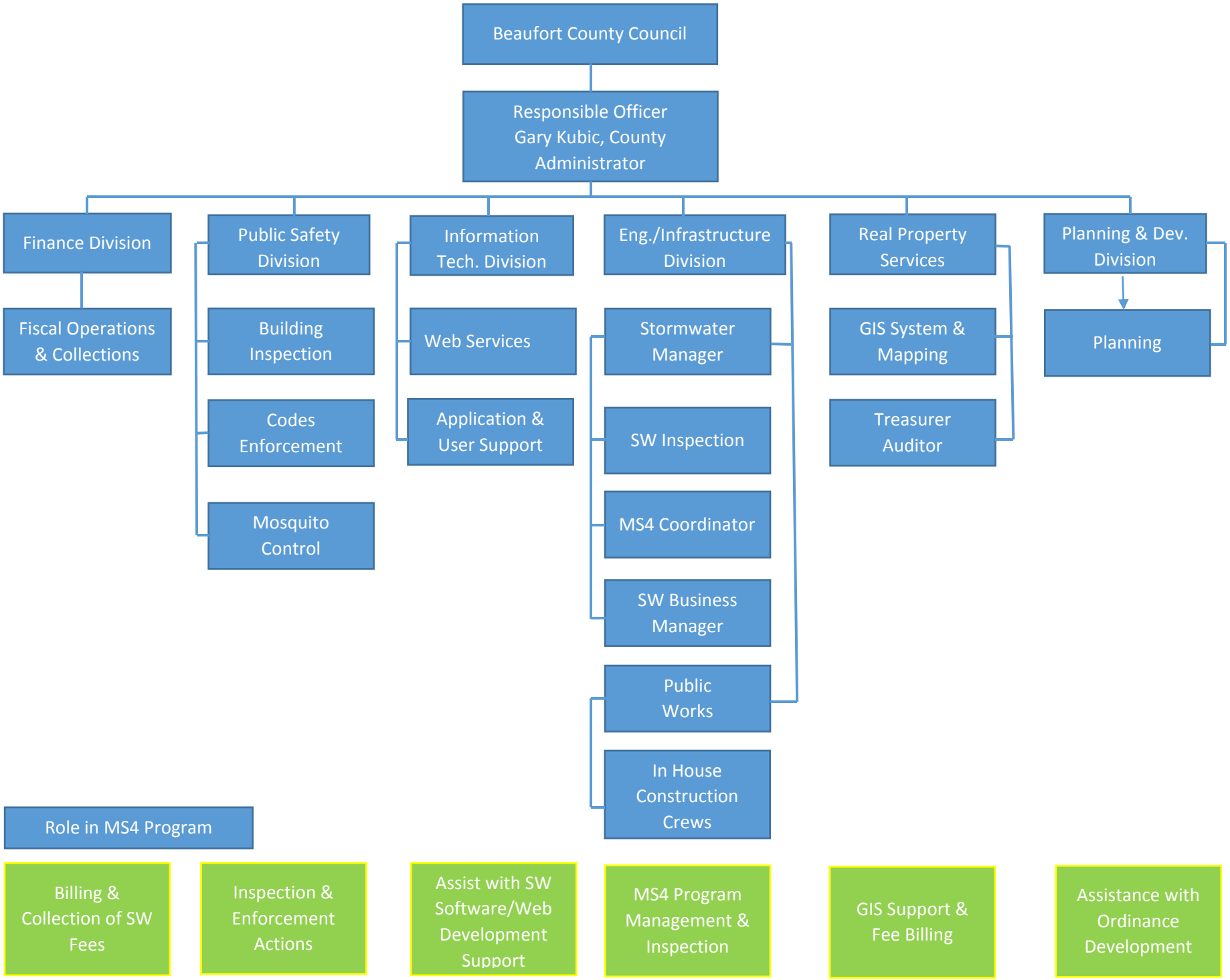
"*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*"

	County Administrator	
Signature	Title/MS4	Date

Part I

Administrative Information

Beaufort County Stormwater Management Organization Chart


Beaufort County Council
Responsible Officer
Gary Kubic, County
Administrator
Finance Division
Fiscal Operations
& Collections
Public Safety
Division
Building
Inspection
Codes
Enforcement
Mosquito
Control
Information
Tech. Division
Web Services
Application &
User Support
Eng./Infrastructure
Division
Stormwater
Manager
SW Inspection
MS4 Coordinator
SW Business
Manager
Public
Works
In House
Construction
Crews
Real Property
Services
GIS System &
Mapping
Treasurer
Auditor
Planning & Dev.
Division
Planning
Role in MS4 Program
Billing &
Collection of SW
Fees
Inspection &
Enforcement
Actions
Assist with SW
Software/Web
Development
Support
MS4 Program
Management &
Inspection
GIS Support &
Fee Billing
Assistance with
Ordinance
Development

Part II

SMS4 Information

Beaufort County Stormwater Management

Supporting Maps

N
W E
S

Coosaw River
Morgan River
Broad River
Chechessee River
Beaufort River
Okatee River
Port Royal Sound
Skull Creek
Atlantic Ocean
May River
Calibogue Sound
Cooper River
21
170
278

0 1.25 2.5 5 7.5 10 Miles

Legend

- Waste Water Treatment Plants (4)
- Garbage Convenience Centers (12)
- Detention Center (1)
- Mosquito Control (1)
- Construction Debris (1)
- Education (5)
- Military (2)
- Airports (2)

Public Works

- Fuel Station (1)
- North (1)
- South (1)

- Beaufort County County Limits
- MS4 Jurisdiction Urbanized Area
- MS4 Additional Urban Growth Area
- County Owned Parcels

Zoned Areas

- Industrial
- Commercial

Road Types

- Municipal
- Town
- County
- State
- Interstate

Beaufort County MS4 Map 1

October 2014

DISCLAIMER: This map is for reference and discussion purposes only. Data provided are derived from multiple sources with varying levels of accuracy. The information shown hereon is not intended for site specific use or design.

APPLIED TECHNOLOGY & MANAGEMENT, INC.

N
W E
S

Coosaw River
Morgan River
21
170
Chechessee River
Broad River
Beaufort River
Okatee River
Port Royal Sound
Skull Creek
278
May River
Calibogue Sound
Cooper River
Atlantic Ocean

Legend

- Beaufort County County Limits
- MS4 Jurisdiction Urbanized Area
- MS4 Additional Urban Growth Area
- County Owned Parcels

ELEVATION

- < 5 ft
- 10 ft
- 15 ft
- 20 ft
- 25 ft
- 30 ft
- > 35 ft

Miles
0 1.25 2.5 5 7.5 10

Beaufort County MS4 Map 2

October 2014

DISCLAIMER: This map is for reference and discussion purposes only. Data provided are derived from multiple sources with varying levels of accuracy. The information shown hereon is not intended for site specific use or design.

APPLIED TECHNOLOGY & MANAGEMENT, INC.

N
W E
S

Coosaw River
Morgan River
21
170
Chechessee River
Broad River
Beaufort River
Okatee River
Port Royal Sound
Skull Creek
278
May River
Calibogue Sound
Cooper River
Atlantic Ocean

0 1.25 2.5 5 7.5 10 Miles

Legend

- County Limits
- MS4 Jurisdiction Urbanized Area
- MS4 Additional Urban Growth Area
- County Owned Parcels

WaterCollectionPoints

- Drainage Structures

Drainage

- Pipe
- Ditch/Channel

Beaufort County MS4 Map 3

October 2014

DISCLAIMER: This map is for reference and discussion purposes only. Data provided are derived from multiple sources with varying levels of accuracy. The information shown hereon is not intended for site specific use or design.

APPLIED TECHNOLOGY & MANAGEMENT, INC.

Water Bodies Located in Beaufort County on the 2012 303(d) List

BASIN	HUC_12	COUNTY	STATION	DESCRIPTION	USE	CAUSE
SALKEHATCHIE	030502070704	BEAUFORT	CSTL-098	COMBAHEE RVR AT US 17 10 MI ESE YEMASSEE	AL	DO
SALKEHATCHIE	030502070704	BEAUFORT	CSTL-098	COMBAHEE RVR AT US 17 10 MI ESE YEMASSEE	FISH	HG
SALKEHATCHIE	030502070706	Beaufort	MD-252	COMBAHEE RVR OFF FIELDS POINT LANDING OFF END OF S-15-161	AL	TURB
SALKEHATCHIE	030502071101	BEAUFORT	RO-02005	COOSAW RVR NEAR MOUTH OF BULL RVR	AL	CU
SALKEHATCHIE	030502071101	BEAUFORT	RO-02005	COOSAW RVR NEAR MOUTH OF BULL RVR	AL	TURB
SALKEHATCHIE	030502071101	BEAUFORT	RO-036037	WIMBEE CK 0.7 MI SE OF MOUTH OF S WIMBEE CK	AL	TURB
SALKEHATCHIE	030502071101	Beaufort	RO-09367	BULL RIVER WHERE WILLIMAN CREEK AND WIMBEE CREEK MEET WITH THE BULL RIVER BETWEEN CHISOLM AND BUZZARD ISLANDS CLOSE TO THE CHISOLM ISLAND SIDE OF BULL RIVER.	AL	TURB
SALKEHATCHIE	030502071101	BEAUFORT	RT-01643	TRIBUTARY TO BULL RIVER, 7.5 M NE OF BEAUFORT	AL	TURB
SALKEHATCHIE	030502071102	Beaufort	16A-33	LUCY POINT CREEK APPROX. 0.75 MI NE OF CONFL ROCK SPRINGS CK	SHELLFISH	FCB
SALKEHATCHIE	030502071102	BEAUFORT	RT-02015	TIDAL CK NEAR CONFL OF COOSAW AND BULL RVRS CHISOLM ISL	AL	CU
SALKEHATCHIE	030502071102	BEAUFORT	RT-02015	TIDAL CK NEAR CONFL OF COOSAW AND BULL RVRS CHISOLM ISL	AL	TURB
SALKEHATCHIE	030502071103	BEAUFORT	16A-18	EDDING CREEK AT SHRIMP DOCK	SHELLFISH	FCB
SALKEHATCHIE	030502071103	Beaufort	16A-19	ROCK SPRINGS CREEK,UPPER REACHES	SHELLFISH	FCB
SALKEHATCHIE	030502071103	Beaufort	16A-23	EDDING CR AT SMALL TRIBUTARY BETWEEN STATIONS 9 AND 18	SHELLFISH	FCB
SALKEHATCHIE	030502071103	Beaufort	16A-25	JENKINS CREEK AT SMALL UNNAMED TRIBUTARY NORTH SIDE OF WARSAW ISLAND	SHELLFISH	FCB
SALKEHATCHIE	030502071103	Beaufort	16A-27	COFFIN CREEK MOUTH AT MORGAN RIVER	SHELLFISH	FCB
SALKEHATCHIE	030502071103	BEAUFORT	16A-28	COFFIN CREEK, HEADWATERS AT SHRIMP DOCKS	SHELLFISH	FCB
SALKEHATCHIE	030502071103	BEAUFORT	16A-30	JENKINS CREEK, 500FT. NORTH OF STORMWATER AT DAWTAW ISLAND GOLF COURSE,	SHELLFISH	FCB
SALKEHATCHIE	030502071103	Beaufort	16A-36	JENKINS CREEK APPROX. 1.0 MI SE CONFL WARSAW FLATS	SHELLFISH	FCB
SALKEHATCHIE	030502071103	Beaufort	16A-37	JENKINS CREEK AT POLOWANA ISLAND	SHELLFISH	FCB
SALKEHATCHIE	030502071103	Beaufort	16A-38	PINE ISLAND CREEK NEAR CONFL VILLAGE CREEK	SHELLFISH	FCB
SALKEHATCHIE	030502071103	BEAUFORT	RT-02027	TRIB TO SPARROW NEST CK NEAR DATHA ISLAND	AL	CU
SALKEHATCHIE	030502071103	BEAUFORT	RT-032033	COFFIN CK 0.7 MI SE OF CONFL W/ MORGAN RVR	AL	TURB
SALKEHATCHIE	030502071104	Beaufort	MD-281	PARROT CREEK AND COOSAW RIVER MARKER #1 SHELLFISH 14-10	AL	TURB
SALKEHATCHIE	030502071104	BEAUFORT	RO-01163	SAINT HELENA SOUND, 7 M SW OF EDISTO BEACH	AL	TURB
SALKEHATCHIE	030502071104	BEAUFORT	RO-02001	COOSAW RVR NEAR MOUTH OF COMBAHEE RVR	AL	TURB
SALKEHATCHIE	030502080501	Beaufort	15-19	BATTERY CREEK 1000 FEET BELOW RABBIT ISLAND	SHELLFISH	FCB
SALKEHATCHIE	030502080501	Beaufort	15-25	BATTERY CREEK - DOWLINGWOOD TRIBUTARY (C6-97)	SHELLFISH	FCB
SALKEHATCHIE	030502080503	Beaufort	15-20	CAPERS CR SSG AT PENN COMMUNITY SRVCS RETREAT CTR	SHELLFISH	FCB
SALKEHATCHIE	030502080601	BEAUFORT	MD-007	POCOTALIGO RVR AT US 17 AT POCOTALIGO	REC	FC
SALKEHATCHIE	030502080601	BEAUFORT	MD-007	POCOTALIGO RVR AT US 17 AT POCOTALIGO	AL	TURB
SALKEHATCHIE	030502080602	Beaufort	14-14	HUSPAH CREEK AT RAILROAD TRESTLE	SHELLFISH	FCB
SALKEHATCHIE	030502080602	Beaufort	14-18	HUSPAH CREEK AT BULL POINT - WHALE BRANCH POG	SHELLFISH	FCB
SALKEHATCHIE	030502080605	Beaufort	17-16A	HABERSHAM CREEK ABOVE STATION #16, FIRST SPLIT	SHELLFISH	FCB
SALKEHATCHIE	030502080606	Beaufort	18-09	CHECHESSEE CREEK FIRST UNNAMED TRIBUTARY FROM COLLETON RIVER	SHELLFISH	FCB
SALKEHATCHIE	030502080606	BEAUFORT	RO-01125	COLLETON RIVER AT MOUTH OF CALLAWASSIE CREEK, 4.5 M N OF BLUFFTON	AL	DO
SALKEHATCHIE	030502080607	Beaufort	18-10	CHECHESSEE CREEK SECOND BRIDGE TO CALLAWASSIE ISLAND	SHELLFISH	FCB
SALKEHATCHIE	030502080607	Beaufort	18-11	CHECHESSEE CREEK FIRST BRIDGE TO CALLAWASSIE ISLAND	SHELLFISH	FCB
SALKEHATCHIE	030502080607	BEAUFORT	RO-01146	CHECHESEE RIVER, 6.5 M WEST OF PORT ROYAL	AL	DO
SALKEHATCHIE	030502080607	BEAUFORT	RO-036032	CHECHESSEE RVR 1.4 MI SE CONFL W/ COLLETON RVR	AL	DO
SALKEHATCHIE	030502080608	BEAUFORT	RO-036034	PORT ROYAL SOUND 1.8 MI SW OF TIP OF PARRIS ISLAND	AL	CU
SALKEHATCHIE	030502100101	Beaufort	RT-10115	JOHNSON CK WEST OF HARBOR ISLAND 1.75MI SW OF WEST END OF US 21 BRIDGE OVER JOHNSON CK	AL	TURB
SAVANNAH	030502080608	BEAUFORT	20-27	FISH HAUL CREEK AT PORT ROYAL SOUND	SHELLFISH	FCB
SAVANNAH	030601100202	BEAUFORT	RT-06021	NEW RIVER 3.4 MI SSE OF SC 170 BRIDGE OVER NEW RIVER	REC	FC
SAVANNAH	030601100301	Beaufort	19-19	MAY RIVER AT FIRST DOCK IN HEADWATERS PAST BLUFF	SHELLFISH	FCB
SAVANNAH	030601100301	Beaufort	19-19A	UNNAMED TRIBUTARY NEAR SW CORNER OF CASCIOGNE BLUFF	SHELLFISH	FCB
SAVANNAH	030601100301	Beaufort	19-19B	BEND IN MAY RIVER NEAREST HIGH BLUFF OF PALMETTO BLUFF	SHELLFISH	FCB
SAVANNAH	030601100301	Beaufort	19-19C	FIRST UNNAMED TRIBUTARY LEADING FROM GASCIOGNE BLUFF	SHELLFISH	FCB
SAVANNAH	030601100302	Beaufort	20-16	CREEK BEHIND LYNN SMITH'S OYSTER PLANT AT BROAD CREEK	SHELLFISH	FCB

Supporting Documentation of Water Bodies Located in Beaufort County SMS4 Jurisdiction with an Approved TMDL

Appendix B: SC Waters With an Approved TMDL

BASIN	12-DIGIT HUC	DESCRIPTION	STATION	COUNTY	USE	CAUSE	USE SUPPORT	TMDL*	DHEC_TECH REPORT	APPROVAL DATE
PEEDEE	030402040506	LITTLE PEE DEE RVR BELOW JCT WITH MAPLE SWP	PD-030A	DILLON	REC	FC	Fully Supported	InTMDL	029-05	9/11/05
PEEDEE	030402040701	CHINNERS SWAMP AT GUNTERS ISLAND RD OFF S-26-99	PD-352	HORRY	REC	FC	Not Supported	InTMDL	029-05	9/11/05
PEEDEE	030402040803	WHITE OAK CK AT S-34-31	PD-037	MARION	REC	FC	Not Supported	InTMDL	029-05	9/11/05
PEEDEE	030402050302	NASTY BR AT S-43-251 7.5 MI SW OF SUMTER	PD-239	SUMTER	REC	FC	Not Supported	InTMDL	029-05	9/11/05
PEEDEE	030402050401	TURKEY CREEK	PD-040	SUMTER	REC	FC	Not Supported	InTMDL	029-05	9/11/05
PEEDEE	030402050401	TURKEY CK AT LIBERTY ST IN SUMTER ABOVE SANTEE PRINT WORKS	PD-098	SUMTER	REC	FC	Not Supported	InTMDL	029-05	9/11/05
PEEDEE	030402020202	HANGING ROCK CK AT S-29-764 1.6 MI S OF KERSHAW	PD-328	LANCASTER	REC	FC	Not Supported	InTMDL	06-03	8/6/03
PEEDEE	030402020202	LICK CK AT S-29-13 ABOVE KERSHAW PT	PD-329	LANCASTER	REC	FC	Not Supported	InTMDL	06-03	8/6/03
PEEDEE	030402020405	SPARROW SWAMP AT S-16-697 2.5 E OF LAMAR	PD-072	DARLINGTON	REC	FC	Not Supported	InTMDL	9S20-11	9/6/11
SALKEHATCHIE	030502080401	SANDERS BR AT S-25-50	CSTL-011	HAMPTON	AL	DO	Fully Supported	InTMDL	007-98	8/19/98
SALKEHATCHIE	030502080404	COOSAWHATCHIE RVR AT S-25-27 2.5 MI SW CUMMINGS	CSTL-109	HAMPTON	AL	DO	Not Supporting	InTMDL	007-98	8/19/98
SALKEHATCHIE	030502070103	LAKE EDGAR BROWN IN FOREBAY NEAR DAM	CL-064	BARNWELL	AL	PH	Not Supported	InTMDL	011-01	9/21/01
SALKEHATCHIE	030502070103	LAKE EDGAR BROWN IN FOREBAY NEAR DAM	CL-064	BARNWELL	AL	TP	Not Supported	InTMDL	011-01	9/21/01
SALKEHATCHIE	030502080606	OKATIE RIVER AT INDIGO PLANTATION	18-07	BEAUFORT	SHELLFISH	FC	Fully Supported	InTMDL	012D-19	12/9/10
SALKEHATCHIE	030502080606	OKATIE RIVER AT DOCK WITHOUT HOUSE	18-08	BEAUFORT	SHELLFISH	FC	Not Supported	InTMDL	012D-19	12/9/10
SALKEHATCHIE	030502080606	OKATIE RV AT CONFLUENCE OF PINKNEY COLONY TRIBU. (C10-97)	18-16	BEAUFORT	SHELLFISH	FC	Not Supported	InTMDL	012D-19	12/9/10
SALKEHATCHIE	030502080606	OKATIE RV AT CONFLUENCE OF CHERRY POINT TRIBU. (C6-97)	18-17	BEAUFORT	SHELLFISH	FC	Fully Supported	InTMDL	012D-19	12/9/10
SALKEHATCHIE	030502080502	BEAUFORT RVR AB BEAUFORT AT CHANNEL MARKER 231	MD-001	BEAUFORT	AL	DO	Not Supporting	InTMDL	014-06	4/14/06
SALKEHATCHIE	030502080502	BEAUFORT RVR AT DRAWBRDG ON US 21	MD-002	BEAUFORT	AL	DO	Not Supported	InTMDL	014-06	4/14/06
SALKEHATCHIE	030502080502	BEAUFORT RVR BL BEAUFORT AT CHANNEL MARKER 244	MD-003	BEAUFORT	AL	DO	Not Supported	InTMDL	014-06	4/14/06
SALKEHATCHIE	030502080502	BEAUFORT RVR NEAR SPANISH POINT	RO-02003	BEAUFORT	AL	DO	Not Supported	InTMDL	014-06	4/14/06
SALKEHATCHIE	030502080502	BEAUFORT RVR AB BEAUFORT AT CHANNEL MARKER 231	RO-07338	BEAUFORT	AL	DO	Fully Supporting	InTMDL	014-06	4/14/06
SALKEHATCHIE	030502080502	FACTORY CK 0.7 MI E WHITE HALL LANDING	RT-032039	BEAUFORT	AL	DO	Not Supported	WnTMDL	014-06	4/14/06

Part III

Existing Legal Authority to Control Stormwater Discharges to MS4

Chapter 99 - STORMWATER MANAGEMENT UTILITY

FOOTNOTE(S):

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Editor's note— Section 20 of Ord. No. 2005/33 (), adopted Aug. 22, 2005, repealed ch. 99 which contained §§ 99-1—99-155 and derived from Ord. No. 2001-22, adopted Aug. 27, 2001; Ord. No. 2001-23, adopted Sept. 10, 2001 and Ord. No. 2002-3, adopted Feb. 11, 2002. Sections 1—8, 10—17 of said ordinance enacted new provisions to read as herein set out.

ARTICLE I. - IN GENERAL

ARTICLE II. - STORMWATER MANAGEMENT UTILITY

Sec. 99-101. - Findings of fact.

The County Council of Beaufort County, South Carolina, makes the following findings of fact:

(a) The professional engineering and financial analyses conducted on behalf of and submitted to the county properly assesses and defines the stormwater management problems, needs, goals, program priorities, costs of service, need for interlocal cooperation, and funding opportunities of the county.

(b) Given the problems, needs, goals, program priorities, costs of service, needs for interlocal cooperation, and funding opportunities identified in the professional engineering and financial analyses submitted to the county, it is appropriate to authorize the establishment of a separate enterprise accounting unit which shall be dedicated specifically to the management, construction, maintenance, protection, control, regulation, use, and enhancement of stormwater systems and programs in Beaufort County in concert with other water resource management programs.

(c) Stormwater management is applicable and needed throughout the unincorporated portions of Beaufort County, but interlocal cooperation between the county and the incorporated cities and towns within the county is also essential to the efficient provision of stormwater programs, services, systems, and facilities. Intense urban development in some portions of the county has radically altered the natural hydrology of the area and the hydraulics of stormwater systems, with many natural elements having been replaced or augmented by man-made facilities. Other areas of the county remain very rural in character, with natural stormwater systems predominating except along roads where ditches and culverts have been installed. As a result, the specific program, service, system, and facility demands differ from area to area in the county. While the county manages, operates, and improves stormwater programs, services, systems and facilities in the rural as well as urban areas, the need for improved stormwater management is greatest in the urban areas and nearby, including areas within incorporated cities and towns. Therefore, a stormwater utility service area subject to stormwater service fees should encompass, in so far as possible through interlocal

agreements, the entirety of Beaufort County and the stormwater management utility service fee rate structure should reflect the amount of impervious area on individual properties and the runoff impact from water quantity and water quality.

(d) The stormwater needs in Beaufort County include but are not limited to protecting the public health, safety, and welfare. Provision of stormwater management programs, services, systems, and facilities therefore renders and/or results in both service and benefit to individual properties, property owners, citizens, and residents of the county and to properties, property owners, citizens, and residents of the county concurrently in a variety of ways as identified in the professional engineering and financial analyses.

(e) The service and benefit rendered or resulting from the provision of stormwater management programs, services, systems, and facilities may differ over time depending on many factors and considerations, including but not limited to location, demands and impacts imposed on the stormwater programs, systems, and facilities, and risk exposure. It is not practical to allocate the cost of the county's stormwater management programs, services, systems, and facilities in direct and precise relationship to the services or benefits rendered to or received by individual properties or persons over a brief span of time, but it is both practical and equitable to allocate the cost of stormwater management among properties and persons in proportion to the long-term demands they impose on the county's stormwater programs, services, systems, and facilities which render or result in services and benefits.

(f) Beaufort County presently owns and operates stormwater management systems and facilities that have been developed, installed, and acquired through various mechanisms over many years. The future usefulness and value of the existing stormwater systems and facilities owned and operated by Beaufort County, and of future additions and improvements thereto, rests on the ability of the county to effectively manage, construct, protect, operate, maintain, control, regulate, use, and enhance the stormwater systems and facilities in the county, in concert with the management of other water resources in the county and in cooperation with the incorporated cities and towns. In order to do so, the county must have adequate and stable funding for its stormwater management program operating and capital investment needs.

(g) The county council finds, concludes, and determines that a stormwater management utility provides the most practical and appropriate means of properly delivering stormwater management services and benefits throughout the county, and the most equitable means to fund stormwater services in the county through stormwater service fees and other mechanisms as described in the professional engineering and financial analyses prepared for the county.

(h) The county council finds, concludes, and determines that a schedule of stormwater utility service fees be levied upon and collected from the owners of all lots, parcels of real estate, and buildings that discharge stormwater or subsurface waters, directly or indirectly, to the county stormwater management system and that the proceeds of such charges so derived be used for the stormwater management system.

(i) The county council finds that adjustments and credits against stormwater utility service fees are an appropriate means to grant properties providing stormwater management program services that would otherwise be provided by the county and will afford Beaufort County cost savings. These

reductions will be developed by the Beaufort County engineer and will be reviewed on an annual basis to allow for any modifications to practices required by Beaufort County.

The county council finds that the total impervious area on each property is the most important factor influencing the cost of stormwater management in Beaufort County and, the runoff impact from water quantity and water quality. In determining the basis for a stormwater management utility fee, the county council finds that it is appropriate to remove the amount of land area on each property that is designated as river or marsh as these areas are vital portions of the county's stormwater management program.

(Ord. No. 2005/33, § 1, 8-22-2005 ())

Sec. 99-102. - Establishment of a stormwater management utility and a utility enterprise fund.

There is hereby established within the Public Works Department of Beaufort County a stormwater management utility for the purpose of conducting the county's stormwater management program. The county administrator shall establish and maintain a stormwater management utility enterprise fund in the county budget and accounting system, which shall be and remain separate from other funds. All revenues of the utility shall be placed into the stormwater management utility enterprise fund and all expenses of the utility shall be paid from the fund, except that other revenues, receipts, and resources not accounted for in the stormwater management utility enterprise fund may be applied to stormwater management programs, services, systems, and facilities as deemed appropriate by the Beaufort County Council. The county administrator may designate within the stormwater management utility enterprise fund such sub-units as necessary for the purpose of accounting for the geographical generation of revenues and allocation of expenditures pursuant to interlocal governmental agreements with the cities and towns of Beaufort County.

(Ord. No. 2005/33, § 2, 8-22-2005 ())

Sec. 99-103. - Purpose and responsibility of the utility.

The Beaufort County Stormwater Management Utility is established for the purpose of managing, acquiring, constructing, protecting, operating, maintaining, enhancing, controlling, and regulating the use of stormwater drainage systems in the county. The utility shall, on behalf of the county and the citizens of the county: administer the stormwater management program; perform studies and analyses as required; collect service fees; system development fees, in-lieu of construction fees and other funding as allowed by law, and obtain and administer grants and loans as authorized by the county council; prepare capital improvement plans and designs; perform routine maintenance and remedial repair of the stormwater systems; acquire, construct, and improve stormwater systems; acquire necessary lands, easements, rights-of-way, rights-of-entry and use, and other means of access to properties to perform its duties; regulate the on-site control, conveyance, and discharge of stormwater from properties; obtain federal and state permits required to carry out its purpose; enter into operating agreements with other agencies; educate and inform the public about stormwater management; and perform, without limitation except by law, any stormwater management functions and activities necessary to ensure the public safety, protect private and public properties and habitat, and enhance the natural environment and waters of the county.

(Ord. No. 2005/33, § 3, 8-22-2005 ())

Sec. 99-104. - Limitation of scope of responsibility.

The purpose and responsibility of the stormwater management utility shall be limited by the following legal and practical considerations.

(a)

Beaufort County owns or has legal access for purposes of operation, maintenance, and improvement only to those stormwater systems and facilities which:

(1) Are located within public streets, other rights-of-way, and easements;

(2) Are subject to easements, rights-of-entry, rights-of-access, rights-of-use, or other permanent provisions for adequate access for operation, maintenance, monitoring, and/or improvement of systems and facilities; or

(3) Are located on public lands to which the county has adequate access for operation, maintenance, and/or improvement of systems and facilities.

(b) Operation, maintenance, and/or improvement of stormwater systems and facilities which are located on private property or public property not owned by Beaufort County and for which there has been no public dedication of such systems and facilities for operation, maintenance, monitoring, and/or improvement of the systems and facilities shall be and remain the legal responsibility of the property owner, except as that responsibility may be otherwise affected by the laws of the State of South Carolina and the United States of America.

(c) It is the express intent of this article to protect the public health, safety, and welfare of all properties and persons in general, but not to create any special duty or relationship with any individual person or to any specific property within or outside the boundaries of the county. Beaufort County expressly reserves the right to assert all available immunities and defenses in any action seeking to impose monetary damages upon the county, its officers, employees and agents arising out of any alleged failure or breach of duty or relationship as may now exist or hereafter be created.

(d) To the extent any permit, plan approval, inspection or similar act is required by the county as a condition precedent to any activity or change upon property not owned by the county, pursuant to this or any other regulatory ordinance, regulation, or rule of the county or under federal or state law, the issuance of such permit, plan approval, or inspection shall not be deemed to constitute a warranty, express or implied, nor shall it afford the basis for any action, including any action based on failure to permit or negligent issuance of a permit, seeking the imposition of money damages against the county, its officers, employees, or agents.

(Ord. No. 2005/33, § 4, 8-22-2005 ())

Sec. 99-105. - Boundaries and jurisdiction.

The boundaries and jurisdiction of the stormwater management utility shall encompass all those portions of unincorporated Beaufort County, as they may exist from time to time and such additional areas lying inside the corporate limits of those cities and towns in Beaufort County as shall be subject to interlocal agreements for stormwater management as approved by county council and participating municipal councils.

(Ord. No. 2005/33, § 5, 8-22-2005 ())

Sec. 99-106. - Definitions.

Unless the context specifically indicates otherwise, the meaning of words and terms used in this article shall be as set forth in S.C. Code § 48-14-20, and 26 S.C. Code Regulation 72-301, mutatis mutandis.

Abatement. Any action deemed necessary by the county or its officers or agents to remedy, correct, control, or eliminate a condition within, associated with, or impacting a stormwater drainage system or the water quality of receiving waters shall be deemed an abatement action.

Adjustments. Adjustments shall mean a change in the amount of a stormwater service fee predicated upon the determination reached by the Beaufort County engineer and referenced to the Adjustments and Credit Manual.

Customers of the stormwater management utility. Customers of the stormwater management utility shall be broadly defined to include all persons, properties, and entities served by and/or benefiting, directly and indirectly, from the utility's acquisition, management, construction, improvement, operation, maintenance, extension, and enhancement of the stormwater management programs, services, systems, and facilities in the county, and by its control and regulation of public and private stormwater systems, facilities, and activities related thereto.

Developed land. Developed land shall mean property altered from its natural state by construction or installation of improvements such as buildings, structures, or other impervious surfaces, or by other alteration of the property that results in a meaningful change in the hydrology of the property during and following rainfall events.

Exemption. Exemption shall mean not applying to or removing the application of the stormwater management utility service fee from a property. No permanent exemption shall be granted based on taxable or non-taxable status or economic status of the property owner.

Hydrologic response. The hydrologic response of a property is the manner whereby stormwater collects, remains, infiltrates, and is conveyed from a property. It is dependent on several factors including but not limited to the size and overall intensity of development of each property, its impervious area, shape, topographic, vegetative, and geologic conditions, antecedent moisture conditions, and groundwater conditions and the nature of precipitation events. Extremely large undeveloped properties naturally attenuate but do not eliminate entirely the discharge of stormwater during and following rainfall events.

Impervious surfaces. Impervious surfaces shall be a consideration in the determination of the development intensity factor. Impervious surfaces are those areas that prevent or impede the infiltration of stormwater into the soil as it entered in natural conditions prior to development. Common impervious surfaces include, but are not limited to, rooftops, sidewalks, walkways, patio areas, driveways, parking lots, storage areas, compacted gravel and soil surfaces, awnings and other fabric or plastic coverings, and other surfaces that prevent or impede the natural infiltration of stormwater runoff that existed prior to development.

Nonresidential properties. Properties developed for uses other than permanent residential dwelling units and designated by the assigned land use code in the Beaufort County tax data system.

Other developed lands. Other developed lands shall mean, but not be limited to, mobile home parks, commercial and office buildings, public buildings and structures, industrial and manufacturing buildings, storage buildings and storage areas covered with impervious surfaces, parking lots, parks, recreation properties, public and private schools and universities, research facilities and stations, hospitals and convalescent centers, airports, agricultural uses covered by impervious surfaces, water and wastewater

treatment plants, and lands in other uses which alter the hydrology of the property from that which would exist in a natural state. Properties that are used for other than single family residential use shall be deemed other developed lands for the purpose of calculating stormwater service fees.

Residential dwelling classifications. The following categories will identify the appropriate dwelling unit classifications to be utilized in applying the stormwater utility fee structure to the designations contained in the Beaufort County tax data system:

Single-family

Apartments

Townhouses

Condominiums

Mobile home parks

Mobile home lots

River areas. River areas shall be those areas of Beaufort County that have been delineated as rivers on the most current digital mapping on file in the Beaufort County Engineering Department. Where applicable, these areas shall be deducted from a property's total land area in determining its stormwater service fee.

Stormwater management programs, services, systems and facilities. Stormwater management programs, services, systems and facilities are those administrative, engineering, operational, regulatory, and capital improvement activities and functions performed in the course of managing the stormwater systems of the county, plus all other activities and functions necessary to support the provision of such programs and services. Stormwater management systems and facilities are those natural and man-made channels, swales, ditches, swamps, rivers, streams, creeks, branches, reservoirs, ponds, drainage ways, inlets, catch basins, pipes, head walls, storm sewers, lakes, and other physical works, properties, and improvements which transfer, control, convey or otherwise influence the movement of stormwater runoff and its discharge to and impact upon receiving waters.

Stormwater service fees. Stormwater service fees shall mean the service fee imposed pursuant to this article for the purpose of funding costs related to stormwater programs, services, systems, and facilities. These fees will be calculated based upon the residential category for a parcel and/or the nonresidential parcel's impervious area and/or the vacant/undeveloped land category.

Stormwater service fee; single-family unit (SFU). The single-family unit shall be defined as the impervious area measurements obtained from a statistically representative sample of all detached single-family structures within Beaufort County. The representative value will be 4,906 square feet.

Stormwater service fee categories. The appropriate categories for determining SFUs will be as follows:

	SFU Calculation (SFUs equal)
Single-family <2,521 square feet	Dwelling units x 0.5
Single-family	Dwelling units x 1

Single-family >7,266 square feet	Dwelling units x 1.5
Apartments	Dwelling units x 0.39
Townhouses	Dwelling units x 0.60
Condominiums	Dwelling units x 0.27
Mobile home parks	Dwelling units x 0.36
Mobile home lots	Dwelling units x 0.59
Nonresidential	Impervious area ° 4,906 sq. ft.
Residential/nonresidential vacant	Parcel area × SFU corrected factor

Vacant/undeveloped land. All parcels containing no impervious area and not being defined as exempt will have the corrected SFUs calculated for the following property classification system (PCS) codes:

PCS 29

PCS 33

PCS 91

PCS 92

PCS 99 ()

PCS 81

PCS 82 ()

PCS 83

PCS 84

PCS 89

PCS 74 ()

PCS 76

Appropriate residential PCS category

(Ord. No. 2005/33, § 6, 8-22-2005 ())

Sec. 99-107. - Requirements for on-site stormwater systems: enforcement, methods and inspections.

(a) All property owners and developers of real property to be developed within the unincorporated portions of Beaufort County shall provide, manage, maintain, and operate on-site stormwater systems and facilities sufficient to collect, convey, detain, control, and discharge stormwater in a safe manner

consistent with all county development regulations and the laws of the State of South Carolina and the United States of America, except in cases when the property is located within an incorporated city or town subject to an interlocal governmental agreement with the county for stormwater management and the city or town has regulations that are more stringent than the county, in which case the city's or town's development regulations shall apply. Any failure to meet this obligation shall constitute a nuisance and be subject to an abatement action filed by the county in a court of competent jurisdiction. In the event a public nuisance is found by the court to exist, which the owner fails to properly abate within such reasonable time as allowed by the court, the county may enter upon the property and cause such work as is reasonably necessary to be performed, with the actual cost thereof charged to the owner in the same manner as a stormwater service fee as provided for in this article.

(b) In the event that the county shall file an action pursuant to subsection 99-107 ()(a), from the date of filing such action the county shall have all rights of judgment and collection through a court of competent jurisdiction as may be perfected by action.

(c) The county shall have the right, pursuant to the authority of this article, for its designated officers and employees to enter upon private property and public property owned by other than the county, upon reasonable notice to the owner thereof, to inspect the property and conduct surveys and engineering tests thereon in order to assure compliance with any order or judgment entered pursuant to this section.

(Ord. No. 2005/33, § 7, 8-22-2005 ())

Sec. 99-108. - General funding policy.

(a) It shall be the policy of Beaufort County that funding for the stormwater management utility program, services, systems, and facilities shall be equitably derived through methods which have a demonstrable relationship to the varied demands and impacts imposed on the stormwater program, services, systems, and facilities by individual properties or persons and/or the level of service rendered by or resulting from the provision of stormwater programs, systems and facilities. Stormwater service fee rates shall be structured so as to be fair and reasonable, and the resultant service fees shall bear a substantial relationship to the cost of providing services and facilities throughout the county. Similarly situated properties shall be charged similar rentals, rates, fees, or licenses. Service fee rates shall be structured to be consistent in their application and shall be coordinated with the use of any other funding methods employed for stormwater management within the county, whether wholly or partially within the unincorporated portions of the county or within the cities and towns. Plan review and inspection fees, special fees for services, fees in-lieu of regulatory requirements, impact fees, system development fees, special assessments, general obligation and revenue bonding, and other funding methods and mechanisms available to the county may be used in concert with stormwater service fees and shall be coordinated with such fees in their application to ensure a fair and reasonable service fee rate structure and overall allocation of the cost of services and facilities.

(b) The cost of stormwater management programs, systems, and facilities subject to stormwater service fees may include operating, capital investment, and non-operating expenses, prudent operational and emergency reserve expenses, and stormwater quality as well as stormwater quantity management programs, needs, and requirements.

(c) To the extent practicable, adjustments to the stormwater service fees will be calculated by the Beaufort County engineer in accordance with the standards and procedures adopted by the engineer's office.

(d) The stormwater service fee rate may be determined and modified from time to time by the Beaufort County Council so that the total revenue generated by said fees and any other sources of revenues or other resources allocated to stormwater management by the county council to the stormwater management utility shall be sufficient to meet the cost of stormwater management services, systems, and facilities, including, but not limited to, the payment of principle and interest on debt obligations, operating expense, capital outlays, nonoperating expense, provisions for prudent reserves, and other costs as deemed appropriate by the county council. Each jurisdiction may have a different fee predicated upon the individual jurisdiction's revenue needs. The following stormwater service fee rates shall apply:

Jurisdiction	Annual Stormwater Service Fee ($/SFU/year)
City of Beaufort	$65.00
Town of Bluffton	98.00
Town of Hilton Head Island	108.70
Town of Port Royal	50.00
Unincorporated Beaufort County	50.00

(Ord. No. 2005/33, § 8, 8-22-2005 () ; Ord. No. 2008/29, 8-11-2008 () ; Ord. No. 2011/2, 1-24-2011 ())

Sec. 99-109. - Exemptions and credits applicable to stormwater service fees.

Except as provided in this section, no public or private property shall be exempt from stormwater utility service fees. No exemption, credit, offset, or other reduction in stormwater service fees shall be granted based on the age, tax, or economic status, race, or religion of the customer, or other condition unrelated to the stormwater management utility's cost of providing stormwater programs, services, systems, and facilities. A stormwater management utility service fee credit manual shall be prepared by the county engineer specifying the design and performance standards of on-site stormwater services, systems, facilities, and activities that qualify for application of a service fee credit, and how such credits shall be calculated.

(a) *Credits.* The following types of credits against stormwater service fees shall be available:

(1) Freshwater wetlands. All properties except those classified as detached single-family dwelling units may receive a credit against the stormwater service fee applicable to the property based on granting and dedicating a perpetual conservation easement on those portions of the property that are classified as freshwater wetlands and as detailed in the stormwater management utility service fee credit manual. The conservation easement shall remove that portion of the subject property from any future development. Once this credit has been granted to a particular property, that portion of the property will be treated similar to the river and

marsh areas and shall be deducted from the property's total land area in computing its stormwater service fee. This credit shall remain in effect as long as the conditions of the conservation easement are met.

(2) Those properties that apply for consideration of an adjustment shall satisfy the requirements established by the Beaufort County engineer and approved reduced stormwater service fee.

(b) *Exemptions.* The following exemptions from the stormwater service fees shall be allowed:

(1) Improved public road rights-of-way that have been conveyed to and accepted for maintenance by the state department of transportation and are available for use in common for vehicular transportation by the general public.

(2) Improved public road rights-of-way that have been conveyed to and accepted for maintenance by Beaufort County and are available for use in common for vehicular transportation by the general public.

(3) Improved private roadways that are shown as a separate parcel of land on the most current Beaufort County tax maps and are used by more than one property owner to access their property.

(4) Railroad tracks shall be exempt from stormwater service fees. However, railroad stations, maintenance buildings, or other developed land used for railroad purposes shall not be exempt from stormwater service fees.

(5) Condominium boat slips shall be exempt from stormwater service fees.

(Ord. No. 2005/33, § 10, 8-22-2005 ())

Sec. 99-110. - Stormwater service fee billing, delinquencies and collections.

(a) *Method of billing.* A stormwater service fee bill may be attached as a separate line item to the county's property tax billing or may be sent through the United States mail or by alternative means, notifying the customer of the amount of the bill, the date the fee is due (January 15), and the date when past due (March 17 - see Title 12, Section 45-180 of the South Carolina State Code). The stormwater service fee bill may be billed and collected along with other fees, including but not limited to the Beaufort County property tax billing, other Beaufort County utility bills, or assessments as deemed most effective and efficient by the Beaufort County Council. Failure to receive a bill is not justification for non-payment. Regardless of the party to whom the bill is initially directed, the owner of each parcel of land shall be ultimately obligated to pay such fees and any associated fines or penalties, including, but not limited to, interest on delinquent service fees. If a customer is under-billed or if no bill is sent for a particular property, Beaufort County may retroactively bill for a period of up to one-year, but shall not assess penalties for any delinquency during that previous unbilled period.

(b) *Declaration of delinquency.* A stormwater service fee shall be declared delinquent if not paid within 60 days of the date of billing or upon the date (March 17) of delinquency of the annual property tax billing if the stormwater service fee is placed upon the annual property tax billing or enclosed with or attached to the annual property tax billing.

(Ord. No. 2005/33, § 11, 8-22-2005 ())

Sec. 99-111. - Appeals.

Any customer who believes the provisions of this article have been applied in error may appeal in the following manner and sequence.

(a) An appeal of a stormwater service fee must be filed in writing with the Beaufort County public works director or his/her designee within 30 days of the fee being mailed or delivered to the property owner and stating the reasons for the appeal. In the case of stormwater service fee appeals, the appeal shall include a survey prepared by a registered land surveyor or professional engineer containing information on the impervious surface area and any other feature or conditions that influence the development of the property and its hydrologic response to rainfall events.

(b) Using information provided by the appellant, the county public works director (or his or her designee) shall conduct a technical review of the conditions on the property and respond to the appeal in writing within 30 days. In response to an appeal, the county public works director may adjust the stormwater service fee applicable to the property in conformance with the general purposes and intent of this article.

(c) A decision of the county public works director that is adverse to an appellant may be further appealed to the county administrator or his designee within 30 days of the adverse decision. The appellant, stating the grounds for further appeal, shall deliver notice of the appeal to the county administrator or his designee. The county administrator or his designee shall issue a written decision on the appeal within 30 days. All decisions by the county administrator or his designee shall be served on the customer personally or by registered or certified mail, sent to the billing address of the customer. All decisions of the county administrator or his designee shall be final.

(d) The appeal process contained in this section shall be a condition precedent to an aggrieved customer seeking judicial relief. Any decisions of the county administrator or his designee may be reviewed upon application for writ of certiorari before a court of competent jurisdiction, filed within 30 days of the date of the service of the decision.

(Ord. No. 2005/33, § 12, 8-22-2005 ())

Sec. 99-112. - No suspension of due date.

No provision of this article allowing for an administrative appeal shall be deemed to suspend the due date of the service fee with payment in full. Any adjustment in the service fee for the person pursuing an appeal shall be made by refund of the amount due.

(Ord. No. 2005/33, § 13, 8-22-2005 ())

Sec. 99-113. - Enforcement and penalties.

Any person who violates any provision of this article may be subject to a civil penalty of not more than $1,000.00, or such additional maximum amount as may become authorized by state law, provided the owner or other person deemed to be in violation has been notified of a violation. Notice shall be deemed achieved when sent by regular United States mail to the last known address reflected on the county tax records, or such other address as has been provided by the person to the county. Each day of a continuing violation may be deemed a separate violation. If payment is not received or equitable settlement reached within 30 days after demand for payment is made, a civil action may be filed on behalf of the county in the circuit court to recover the full amount of the penalty. This provision on penalties shall be in addition to and not in lieu of other provisions on penalties, civil or criminal, remedies and enforcement that may otherwise apply.

(Ord. No. 2005/33, § 14, 8-22-2005 ())

Sec. 99-114. - Investment and reinvestment of funds and borrowing.

Funds generated for the stormwater management utility from service fees, fees, rentals, rates, bond issues, other borrowing, grants, loans, and other sources shall be utilized only for those purposes for which the utility has been established as specified in this article, including but not limited to: regulation; planning; acquisition of interests in land, including easements; design and construction of facilities; maintenance of the stormwater system; billing and administration; water quantity and water quality management, including monitoring, surveillance, private maintenance inspection, construction inspection; public information and education, and other activities which are reasonably required. such funds shall be invested and reinvested pursuant to the same procedures and practices established by Title 12, Section 45-70 of the South Carolina State Code for investment and reinvestment of funds. County council may use any form of borrowing authorized by the laws of the State of South Carolina to fund capital acquisitions or expenditures for the stormwater management utility. County council, in its discretion and pursuant to standard budgetary procedures, may supplement such funds with amounts from the general fund.

(Ord. No. 2005/33, § 15, 8-22-2005 ())

Sec. 99-115. - Initial study priorities for the stormwater management utility.

During the first three-year period of the county stormwater management utility, the utility shall perform adequate studies throughout the area served by the utility to determine the following:

(1) Baseline study of water quality in the receiving waters;

(2) Identification of pollutants carried by stormwater runoff into the receiving waters;

(3) Recommended mitigation efforts to address pollutants carried by stormwater runoff into the receiving waters;

(4) Inventory of the existing drainage system;

(5) Recommended maintenance practices and standards of the existing drainage system;

(6) Identification of capital improvements to the system to include construction or installation of appropriate BMPs.

The proposed five-year spending plan shall be appropriately revised to reflect this priority and timetable for completion.

(Ord. No. 2005/33, § 16, 8-22-2005 ())

Sec. 99-116. - Stormwater utility management board.

(1) *Purpose.* In compliance with and under authority of Beaufort County Ordinance 2001/23, the Beaufort County Council hereby establishes the stormwater management utility board (hereinafter referred to as the "SWU board") to advise the council as follows:

(a) To determine appropriate levels of public stormwater management services for residential, commercial, industrial and governmental entities within Beaufort County;

(b) To recommend appropriate funding levels for provision of services in the aforementioned sectors;

(c) To advise the staff of the stormwater management utility on master planning efforts and cost of service/rate studies; and

(d) To support and promote sound stormwater management practices that mitigates non-point source pollution and enhances area drainage within Beaufort County.

Municipal councils are encouraged to organize similar boards to advise them on stormwater management programs and priorities within their boundaries.

In keeping with discussions held during the formation of the stormwater utility, it is anticipated that the municipalities will appoint staff professionals as their representative on the advisory board.

(2) *Stormwater districts.* Stormwater districts are hereby established as follows:

District 1 - City of Beaufort

District 2 - Town of Port Royal

District 3 - Town of Hilton Head Island

District 4 - Town of Bluffton

District 5 - Unincorporated Sheldon Township

District 6 - Unincorporated Port Royal Island

District 7 - Unincorporated Lady's Island

District 8 - Unincorporated St. Helena Island Islands East

District 9 - Unincorporated Bluffton Township and Daufuskie Island

(3) *Membership.*

(a) The SWU board is formed in accordance with Beaufort County Ordinance 92-28 and shall consist of a total of seven voting representatives from each of the following districts as noted below:

No. of Reps.	Stormwater District	Area
1	5	Unincorporated Sheldon Township
1	6	Unincorporated Port Royal Island
1	7	Unincorporated Lady's Island
1	8	Unincorporated St. Helena Island Islands East
2	9	Unincorporated Bluffton Township and Daufuskie Island
1	—	"At large"

All members of the SWU board will be appointed by county council and shall be residents of those districts or "at large" members from unincorporated Beaufort County.

(b) The SWU board shall also consist of one nonvoting (ex officio) representative from the following districts:

Stormwater District	Municipality
1	City of Beaufort
2	Town of Port Royal
3	Town of Hilton Head Island
4	Town of Bluffton

All ex officio members from municipalities shall be appointed by their respective municipal councils for four-year terms.

(c) All citizen members shall be appointed for a term of four years. The terms shall be staggered with one or two members appointed each year.

(d) While no other eligibility criteria is established, it is recommended that members possess experience in one or more of the following areas: Stormwater management (drainage and water quality) issues, strategic planning, budget and finance issues or established professional qualifications in engineering, construction, civil engineering, architectural experience, commercial contractor or similar professions.

(4) *Officers.*

(a) *Officers.* Selection of officers and their duties as follows:

1. *Chairperson and vice-chair.* At an annual organizational meeting, the members of the SWU board shall elect a chairperson and vice-chairperson from among its members. The chair's and vice-chair's terms shall be for one year with eligibility for reelection. The chair shall be in charge of all procedures before the SWU board, may administer oaths, may compel the attendance of witnesses, and shall take such action as shall be necessary to preserve order and the integrity of all proceedings before the SWU board. In the absence of the chair, the vice-chair shall act as chairperson.

2. *Secretary.* The county professional staff member shall appoint a secretary for the SWU board. The secretary shall keep minutes of all proceedings. The minutes shall contain a summary of all proceedings before the SWU board, which include the vote of all members upon every question, and its recommendations, resolutions, findings and determinations, and shall be attested to by the secretary. The minutes shall be approved by a majority of the SWU board members voting. In addition, the secretary shall maintain a public record of SWU board meetings, hearings, proceedings, and correspondence.

3. *Staff.* The public works director shall be the SWU board's professional staff.

(b) *Quorum and voting.* Four SWU board members shall constitute a quorum of the SWU board necessary to take action and transact business. All actions shall require a simple majority of the number of SWU board members present.

(c) *Removal from office.* The county council, by a simple majority vote, shall terminate the appointment of any member of the SWU board and appoint a new member for the following reasons:

1. Absent from more than one-third of the SWU board meetings per annum, whether excused or unexcused;
2. Is no longer a resident of the county;
3. Is convicted of a felony; or
4. Violated conflict of interest rules according to the county-adopted template ordinance.

Moreover, a member shall be removed automatically for failing to attend any three consecutive regular meetings.

(d) *Vacancy.* Whenever a vacancy occurs on the SWU board, the county council shall appoint a new member within 60 days of the vacancy, subject to the provisions of this section. A new member shall serve out the former member's term.

(e) *Compensation.* The SWU board members shall serve without compensation, but may be reimbursed for such travel, mileage and/or per diem expenses as may be authorized by the SWU board-approved budget.

(5) *Responsibilities and duties.*

(a) Review and recommend to the county council for approval, a comprehensive Beaufort County Stormwater Management Master Plan and appropriate utility rate study which is in accordance with the South Carolina Stormwater Management and Sediment Reduction Act; and

(b) Review and comment to the county administrator on the annual stormwater management utility enterprise fund budget; and

(c) Cooperate with the South Carolina Department of Health and Environmental Control (DHEC), Office of Coastal Resource Management (OCRM), the Oversight Committee of the Special Area Management Plan (SAMP), the Beaufort County Clean Water Task Force as well as other public and private agencies having programs directed toward stormwater management programs; and

(d) Review and make recommendations concerning development of a multiyear stormwater management capital improvement project (CIP) plan; and

(e) Review and advise on proposed stormwater management plans and procurement procedures; and

(f) Provide review and recommendations on studies conducted and/or funded by the utility; and

(g) Review and advise on actions and programs to comply with regulatory requirements, including permits issued under the State of South Carolina National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems (MS4).

(6) *Meetings.* Meetings of the SWU board shall be held as established by the SWU board on a monthly basis and a calendar will be prepared giving the date, time and location of such meetings. Additionally, meetings may be called by the chairperson or at the request of four SWU board members. The location of all SWU board meetings shall be held in a public building in a place accessible to the public. The following shall apply to the conduct of all meetings:

(a) *Meeting records.* The SWU board shall keep a record of meetings, resolutions, findings, and determinations. The SWU board may provide for transcription of such hearings and proceedings, or portions of hearings and proceedings, as may be deemed necessary.

(b) *Open to public.* All meetings and public hearings of the SWU board shall be open to the public.

(c) *Recommendations or decisions.* All recommendations shall be by show of hands of all members present. A tie vote or failure to take action shall constitute a denial recommendation. All recommendations shall be accompanied by a written summary of the action and recommendations.

(d) *Notice and agenda.* The SWU board must give written public notice of regular meetings at the beginning of each calendar year. The SWU board must post regular meeting agendas at the meeting place 24 hours before any meeting. Notices and agenda for call, special or rescheduled meetings must be posted at least 24 hours before such meetings. The SWU board must notify any persons, organizations and news media that request such notification of meetings.

(Ord. No. 2005/33, § 17, 8-22-2005 () ; Ord. No. 2009/21, §§ I—VI, 5-26-2009 ())

DIVISION 3. - NATURAL RESOURCE PROTECTION STANDARDS

Sec. 106-1841. - Scope.

This division contains performance standards and mitigation requirements for the various types of protected natural resources found in the county. Only certain uses are permitted in protected resource areas. Table 106-1876 () lists use permissions for each type of resource.

(Ord. No. 99-12, § 1 (div. 05.200), 4-26-1999)

Sec. 106-1842. - Tidal wetlands.

Water dependent facilities shall be the only use permitted in tidal wetland areas according to the following additional standards:

(1) All proposals for this use shall require the approval of a special use permit.

(2) An environmental impact assessment shall be submitted by the applicant that indicates the design: (i) minimizes the impact on the wetlands, and (ii) is such that there is the maximum sharing of the facility to avoid having every property in the area seek a similar request. This may mean shared facilities for the entire development or facilities that can serve several adjoining properties.

(3) Approval by the Army Corps of Engineers and OCRM shall be required.

(Ord. No. 99-12, § 1 (05.210), 4-26-1999)

Sec. 106-1843. - Nontidal wetlands.

(a) Farm ponds of less than three acres shall not be considered wetlands by the county and may be filled, provided their stormwater capacity is preserved at another location on the same stream, subject to Army Corps of Engineers' and/or OCRM approval.

(b) Where structures are necessary to a permitted use and cannot be located outside the wetland, the structure shall be located on piles. Where needed, access shall be provided on structures such as boardwalks.

(c) Cases may exist where protection is not a reasonable alternative and mitigation is an acceptable solution. Mitigation is permitted only under the following conditions:

(1) In the U, CR, CS, LI, IP and RD districts, the use intensity is so high that retained wetlands of less than one acre have increased potential to become degraded habitats or, if the retention of the wetland would be isolated, difficult to adequately provide proper water levels to preserve existing vegetation, subject to invasive, nonnative species, would have a greatly reduced habitat value, or serve no significant stormwater or water quality benefit, and subject to the following requirements when such areas are to be filled or severely disturbed:

a. A mitigation plan has been approved, designating the area in which the site is located as a mitigation area; or

b.

Mitigation will actually provide larger, more easily protected and managed on-site wetland areas. This permits consolidating many small wetlands into a single wetland management unit. If the county and SCDHEC/OCRM develop a mitigation bank or the U.S. Army Corps of Engineers and other agencies establish a fee-based mitigation program, the county in consultation with SCDHEC/OCRM will permit off-site mitigation when the county finds that the mitigation meets all other standards of this chapter and the site cannot be developed to permitted development intensities without the mitigation, or would be an undesirable development without the off-site mitigation; and

c. The wetlands to be mitigated are not, and cannot, easily become part of an interconnected area that provides drainage and flood storage; and

d. The wetland area to be filled is not more than one acre or 20 percent of the mitigation area, whichever is less.

(2) In all districts where, due to parcel shape and interaction with topography, reshaping the wetland boundary is necessary to provide a reasonable building site, minor filling is permitted provided that:

a. Less than ten percent of the wetland area or less than two acres, whichever is less, is disturbed; and

b. High quality wetland areas and wetlands containing rookeries are avoided.

(3) In all districts where the wetlands are less than one-quarter acre and not connected to a stream or drainage corridor.

(4) All fill and mitigation shall meet this chapter's requirements or U.S. Army Corps of Engineers' permit requirements, whichever are more stringent. In either case, a permit shall be required.

(5) The current drainage pattern shall be submitted for all subdivisions or land developments containing a wetland. The stormwater management system shall ensure an adequate flow of water to maintain the wetland. OCRM shall sign off on the adequacy of the drainage before a final plat is approved.

(Ord. No. 99-12, § 1 (05.220), 4-26-1999)

Sec. 106-1844. - Beach-dune.

(a) *Applicability.* The standards of this section shall apply to site design and development in the beach-dune area.

(b) *Preservation of sand dunes.* No primary dune shall be leveled, breached, altered, or undermined in any way, nor shall vegetation on the primary dune be disturbed or destroyed, with the exception of construction of boardwalks or similar beach accesses. Such pedestrian accesses shall be designed and oriented to have minimal effect on the natural features or vegetation of the dune. The county may require shared accesses by elevated walkways.

(c) *Public beach access required.* Public beach access shall be provided by the developer for any development including more than 1,000 feet of beach frontage, according to subsection (d) of this section.

(d)

Option to purchase beach access. Upon filing of a preliminary application for an oceanfront development plan with the department, the county shall have an option to purchase reasonable beach access as deemed necessary for the benefit of the public. The county's option to purchase beach access shall run from the date of first submission of plans to the department to the date of the second regular county council meeting following the proposed permit issue date of the DRT, but in no case shall the option period be more than 90 days from the date of first submission of plans. The department shall review all proposed oceanfront development as to the need for public beach access and shall recommend to the county council what action it feels the county should take with regards to public beach access areas in the best interest of the general public. The county council shall notify the developer of its intentions on the option by the end of the specified option period and shall, if electing to purchase the beach access area, have a period of 30 days and one extension period of 30 days from the end of the option period to negotiate the terms of the purchase with the developer. The county council may require an appraisal of the required beach access area by a board of at least three independent appraisers in order to establish the basis for a purchase offer to the developer for the beach access area.

(e) *Beach development setbacks.* No development shall be undertaken except in compliance with this section. Furthermore, the requirements of this section shall be included as covenants and restrictions for all subdivision development that contains beach-dune areas located on the seaward side only of the barrier islands (i.e., Bay Point, Capers, Daufuskie, Fripp, Harbor, Hilton Head, Hunting, Pritchards and St. Phillips Islands).

(1) No building or other structure shall be located or constructed in such a manner as to destroy, undermine, or alter any primary sand dune or disturb primary dune vegetation.

(2) At a minimum, no structure, septic tank, or tile field shall be constructed within 50 feet landward of the OCRM baseline, except for beach cabanas of 144 square feet or less in size. No cabana with a permanent roof shall be permitted seaward of the baseline. Shore perpendicular beach boardwalks shall also be permitted per section 106-1911 ()(b) Beach-dune; however, no further encroachment towards the sea shall be permitted.

(f) *Additional studies/reports.* A beach protection plan shall be submitted as part of the required environmental impact assessment and will indicate how the developer plans to preserve sand dunes and shore vegetation.

(g) *Barrier island beach-dune lighting standard.*

The Beaufort County Council finds that the barrier island beaches of Beaufort County serve as nesting habitat for endangered and threatened sea turtles. Coastal development threatens the long-term survival of turtle hatchlings since evidence directly implicating lighting on barrier island beaches and reduced sea turtle nesting has been documented by numerous studies (Witherington 1992b). Artificial lighting near the nesting of sea turtles resulted in dramatic decreases in nesting attempts by sea turtles, including habitat loss, disorientation and eventual death (Raymond 1984a, Witherington and Martin 1996). The Endangered Species Act of 1973 prohibits all killing, harming and harassment of six species of sea turtles (including the Loggerhead). Therefore all lighting for parcels abutting barrier island beaches and dunes shall adhere to the following standards: Existing development abutting barrier island beaches and dunes shall be required to retrofit all lighting fixtures to conform to the following standards by May 1, 2002, in order to ensure that no light is visible from the barrier island beaches or dunes.

(1)

Pole lighting shall be bollard louver lighting five feet tall or less that blocks the light source from view and contains illumination within an area of three to less than 73 degrees on the seaward side of the pole (refer to Figure 106-1743 for types of luminaries). Outdoor lighting shall be held to the minimum necessary and, where possible, shall be low pressure sodium for security and convenience.

(2) Bollard lighting shall be used in parking lots and shall be positioned so that no light is visible from the barrier island beaches or dunes.

(3) Lights mounted on walls, steps and balconies shall be fitted with louvers or hoods and at a height from the floor of three feet or less in order that the lights illuminate only the balcony and will not be visible from the barrier island beach or dunes.

(4) Tinted or filmed glass or solar screens and drapes shall be used in windows facing the barrier island beaches or dunes during the period indicated by subparagraph (g)(7).

(5) All lighting illuminating buildings or associated grounds for decorative or recreational purposes shall be shielded or screened such that it is not visible from any barrier island beaches or dune during the period of May 1 to October 31 of every year.

(6) Additional landscaping shall be required when necessary mitigate impacts from development on nesting areas.

(7) This section shall be in effect from dusk to dawn during the sea turtle nesting and hatchling period of May 1 to October 31 of every year.

(8) All other lighting must be shielded so that it is not visible from any barrier island beaches or dunes during the period of May 1 to October 31 of every year.

(Ord. No. 99-12, § 1 (05.230), 4-26-1999; Ord. No. 2001-15, 6-11-2001; Ord. No. 2005/7, 2-28-2005 ())

Cross reference— Public beaches, § 90-61 et seq.

Sec. 106-1845. - River buffer.

The river buffer extends inland 50 feet from all tidal waters and wetlands beginning at the OCRM critical line. The following standards are required for all development affecting the river buffer:

(1) *Drainage.* The county engineer shall require BMPs according to the latest version of the county manual for stormwater BMPs in the design of drainage and detention basins. Additional special engineering may be required where the county engineer requires it to protect the nearby waters or wetlands. All drainage shall be diverted away from the OCRM critical line, and through a county-approved stormwater system employing BMPs. The lots adjoining the river buffer shall be designed and engineered to prevent direct discharge from impervious surfaces across the river buffer. All discharges shall be diverted into the development's stormwater system and treated as required by this chapter. Existing agricultural uses are exempt from this subsection, but are strongly urged to utilize BMPs. New agricultural uses shall comply.

(2) *Bulkheads, rip-rap and erosion control devices.* All bulkheads, rip-rap or other erosion control devices in the river buffer are limited uses, subject to the required standards below.

a. A permit to construct the bulkhead, rip-rap or erosion control device must have been issued by OCRM.

b. Application for a permit for the installation of a bulkhead, rip-rap or other erosion control device more than 48 inches in total vertical height from the existing ground elevation must submit design plans, including certification from a South Carolina registered professional engineer as to the adequacy of the design standards included to prevent collapse or other failure.

c. The provisions of subsection 106-1846 ()(b), tree protection and specimen trees, must be met.

d. Any disturbance of shoreline within the river buffer landward of the SC critical line shall require submission of a revegetation plan. A principal objective of the plan is to preserve and replace as much of the on-site preconstruction native vegetation to the extent possible. Other acceptable landscaping plants are found in the SC DHEC publication entitled "Backyard Buffers", publication CR-003206 (11/00). Such plantings shall be in the quantities set forth in Table 106-1680 ()(e) for a maritime forest on a disturbed area prorated acre basis, i.e., a one-tenth of an acre disturbance requires one-tenth of the bufferyard planting, unless soil conditions are unfavorable to establish this type of forestation, in which case a revegetation plan more suitable for the type of soil conditions will be accepted.

e. Revegetation of areas landward of the critical line, having sloping topography in excess of 1:3 slope, shall also include slope stabilization measures in compliance with SCDOT standards, as set forth in section 205, Embankment Construction, of the SCDOT Standard Specifications for Highway Construction, Edition of 2000.

f. Landscaping and construction design plans will be submitted to the zoning development administrator (ZDA), who shall issue a development permit for construction and land disturbance if these criteria are satisfied. Inspection of the construction and landscaping shall be done by the Beaufort County Building Inspection Department as provided for building permits.

(3) *View corridor.* The landowner may provide a view corridor through the river buffer. The following standards shall apply:

a. Such a view corridor shall not extend for more than 75 feet or one-third of the lot width, whichever is less.

b. The view corridor shall generally involve only pruning to provide views. However, a landowner may submit a selective clearing and selective landscaping program for the view corridor. This shall only be approved by the DRT if the net result provides both ample screening of the shoreline and filtering of runoff from lawns on the lots.

(4) *Setbacks.* The following setbacks from the OCRM critical line shall apply to all new development:

a. Single-family detached and duplex buildings shall be set back 50 feet.

b. All other residential buildings shall be set back 100 feet.

c. Nonresidential buildings, parking lots, and drives shall be set back 100 feet.

d. Tile fields or septic tanks are prohibited in the river buffer, and shall not be placed within 100 feet of the OCRM critical line.

e. Agricultural uses and golf courses shall be set back 150 feet.

(5)

Waiver. Where existing conforming or nonconforming lots are so small that a single-family house cannot be built to meet the required critical line setbacks, the DRT may grant a waiver with strict adherence to following standards:

a. The test of whether a waiver can be granted shall be based on the average size of homes within five lots on either side of the proposed house. If there are no homes within this area, a floor area ratio on the lot of three-tenths or maximum building footprint (liveable area) of 15 percent of the total lot, whichever is less, shall guide the need for a waiver.

b. New homes shall be designed so that they do not encroach into the critical line setback area. Applicants for waivers shall prove to the DRT that design alternatives such as adding a second or third story, adjusting house dimensions, reducing overall house size, etc., would still render the noncritical line setback area as unbuildable.

c. The DRT shall be empowered to reduce the street or front yard setback by 30 percent in order to avoid the need for a waiver. In developments that are largely unbuilt, with lots still in common ownership, the county shall require the developer to revise covenants to grant reduced street setbacks. The street setback reduction shall be the minimum possible.

d. The critical line setback shall not be reduced to less than a 35-foot setback, except in areas where homes already existing on nearby lots are located closer than 35 feet. In those cases, the average critical line setback of adjoining lots shall be used, provided that in no case shall a setback of less than 20 feet be granted, unless the setback is to preserve a specimen tree, historic resource, or to prevent a lot from becoming unbuildable with comparable houses as described in subsection (4)a of this section.

e. If the house and lot do not drain to a stormwater management system that uses BMPs pursuant to subsection (1) of this section, the DRT shall require the individual landowner to provide the necessary stormwater management on the lot.

f. The DRT shall also be empowered to grant a waiver in order to protect specimen trees and historic resources or to prevent a lot from becoming unbuildable with comparable houses as described in a., above. In such cases, the DRT shall approve a building envelope that will optimize the protection of all resources.

(6) *Buffer disturbance.* There shall be no disturbance of the river buffer, except as allowed for bulkheads, rip-rap and erosion control devices, view corridors, and other allowable disturbances authorized under article VII, division 4, outlined in this ordinance. A buffer disturbance violation shall require a revegetation plan prepared by a landscape designer or landscape architect to be submitted for review and approval by the natural resource planner. The plant back requirements shall minimally meet those requirements outlined in subsection (2)d., above. Removal of trees shall require plant back inch for inch of trees removed. If it is determined by the natural resource planner that all tree inches cannot be planted back on site due to site constraints, the remaining tree inches shall be subject to a general forestation fee.

(Ord. No. 99-12, § 1 (05.250), 4-26-1999; Ord. No. 99-21, 8-23-1999; Ord. No. 2000-6, 2-14-2000; Ord. No. 2002-34, 12-9-2002 () ; Ord. No. 2009-42, 12-12-2009 () ; Ord. No. 2011/35, 10-24-2011 ())

Sec. 106-1846. - Forests.

(a) *Standards for cutting over large area.* In residential developments, forests may be cut over a greater area than permitted in table 106-1782 () only if mitigation is provided and the following standards are met:

(1) The mitigation shall be required due to unique conditions on the site that make it impossible to meet the protection standards due to site size, shape, utilities, or other elements that are unique to the property.

(2) A tree survey (see subsection (c) of this section) of the site's forest is conducted. The best forests, in terms of percentage of climax vegetation, tree size, tree health, and habitat value, shall be preserved.

(3) The protection level given forests shall not be less than 80 percent of that required in table 106-1782 (). Thus, a forest with a protection level of 40 percent could be reduced to 32 percent.

(4) The land on which the mitigation is to occur may be on site where adequate land is available to achieve the required mitigation level. The land on which mitigation is to occur may be off site, if within an approved mitigation bank area only in the urban district where existing lots are too small to permit preservation. All land used for mitigation shall be preserved as permanent open space.

(5) Mitigation shall include planting 1.25 acres of new woodland of comparable species for every one acre of disturbed mature or young forest for which mitigation is required.

(6) The plant material in the mitigation area shall be determined based on a tree survey of the disturbed area in total inches dbh. The mitigation shall be 1.25 times the total inches of dbh and consist of similar species of trees. All trees shall be a minimum of 2.5 inches caliper.

(7) The plant species used in mitigation shall be similar in percentage to those destroyed.

(b) *Tree protection and specimen trees.* In areas of forest that are not protected per section 106-1782 (), or areas that are not classified as forests, all trees shall be protected as indicated in this subsection. Prior to any clearing or development approval, except bona fide forestry management, the applicant shall provide a tree survey (see subsection (c) of this section) of the areas in which building or construction activities are planned. Areas that are to be preserved as protected forest need not be surveyed. A tree survey shall be made of all trees greater than eight inches dbh and all specimen trees (see appendix E). If feasible, all trees greater than eight inches and all specimen trees shall be preserved through careful site planning. Furthermore, on any individual single-family residential lot, where an existing dwelling unit is already present, a homeowner may remove any type of tree excluding specimen live oak (*Quercus virginiana*) trees in any zoning district. For purposes of this section, a specimen live oak (*Quercus virginiana*) tree shall be classified as a live oak (*Quercus virginiana*) tree greater than 12 inches dbh. The Beaufort County Codes Enforcement Officers shall be required through permitting to inspect to insure compliance. Nothing in this section shall be construed to allow the removal of trees from a required buffer.

(1) All trees covered by this subsection shall be protected unless the landowner can demonstrate that:

a. The site plan has used clustering to the maximum extent allowed to preserve trees.

b. The trees sought to be cut cannot be saved by modifying setbacks or construction envelopes in accordance with article XIV (Modulation of Standards).

c.

The trees are in the rights-of-way of roads and small adjustments of individual lots cannot be made to the site plan to save the trees without losing lots or floor area.

(2) Conspicuous barrier fencing must be erected around a tree or group of trees to be preserved and protected from encroachment prior to site work or construction commencing and remaining in place until the certificate of compliance is issued (see section 106-1648 ()). The tree protection zone shall be a circle with a radius of one foot for every one inch of dbh or five feet, whichever is greater. The DRT may approve an alternate tree protection zone, if it can be determined by a certified forester that a specific design or protection will not injure any tree under consideration. In no case shall the circle of protection be less than one half of the total diameter required by the formula in this subsection (b)(2).

(3) Excluding single-family homeowners as set forth in subsection 106-1846 ()(b) above, tree removal shall be accomplished upon written certification only by a certified arborist or forester, stating that tagged trees are diseased and can be removed. The priority for preservation shall be healthy trees, as follows:

a. Highest priority: specimen trees over 24 inches dbh.

b. High priority: other trees over 24 inches dbh and specimen tree species over 12 inches dbh.

c. Medium priority: any tree over eight inches dbh and any specimen tree not meeting the requirements of the higher priorities.

d. Low priority: all other trees.

(4) Where individual trees over 24 inches dbh or specimen trees over 16 inches dbh are to be cut, the developer shall plant sufficient trees having a caliper in excess of 2.5 inches each so as to exceed the dbh of the tree or total trees lost. Such trees shall be of the same species as those cut unless the DRT requires other species to enhance the diversity to that similar to the native forest areas. All mitigation trees shall be planted within the disturbed area of the site.

(5) The saving of existing non-specimen trees is encouraged and may be utilized in some cases to meet the requirements of subsection (4) above pertaining to replacement of trees that are approved for removal. Existing trees used for mitigation must be located within the disturbed area of the site.

(6) Easements and rights-of-way. Removal of specimen trees during the construction or maintenance of easements or rights-of-way for water, sanitary sewer, electricity, telephone, natural gas, cable, storm drainage, telephone, or other service lines, shall be exempt from the requirements of this section provided that the applicable company or agency has executed an agreement with the county that:

a. Recognizes the need to minimize trimming of hardwood overstory trees that do not significantly interfere with the intended purpose of construction or maintenance;

b. Establishes, to the extent practicable, design guidelines for construction and maintenance which identifies the saving of hardwood overstory trees as a factor to be considered in the design process;

c.

Establishes guidelines to avoid topping, or severe pruning of trees whenever reasonably practicable, and where it is unavoidable, to do so in the manner which is most aesthetically and ecologically acceptable to the county;

d. Provides for a consultation process with the planning department, including, when necessary, review by a certified arborist approved by the county, prior to the commencement of major construction or maintenance or the removal of any hardwood tree over 16 inches DBH;

e. Provides for submittal of annual line clearing plans to the planning department for review;

f. Provides that a breach of such agreement constitutes a violation of this subsection and thus a loss of exemption from the tree protection provisions of this article; and

g. Provides that appeals of administrative decisions made pursuant to such agreement shall be to the ZBOA in accordance with the procedures set forth in section 106-787 ()

(7) Where the DRT determines that the required replacement of trees is not feasible or not desirable due to the size and shape of property and/or structures, crowding of the trees to where thinning will be required, other design limitations, or other viable site constraints, such reduction shall be subject to a general forestation fee. This fee shall be the actual and verified cost of the required tree replacement eliminated per tree reduced and shall be paid to the county treasurer before final approval is given for the development plan. The funds collected through this forestation fee shall be used by the county to plant trees and other landscaping in highway medians, along roads, to provide plants for affordable housing projects or on other public properties as deemed appropriate.

(8) Trees that are used as rookeries (even in nonwetland areas) shall not be cut.

(c) *Tree surveys.* Detailed tree surveys shall be required for any land development that is not exempt from the standards of this chapter. Tree surveys shall be required in all nonforested areas as indicated in subsection (b) of this section and consist of the following:

(1) Tree surveys shall include all trees eight inches dbh and larger, and dogwoods (*Cornus spp.)*, magnolias (*Magnolia spp.)* and redbuds (*Cercis canadensis)* 4 inches dbh and larger.

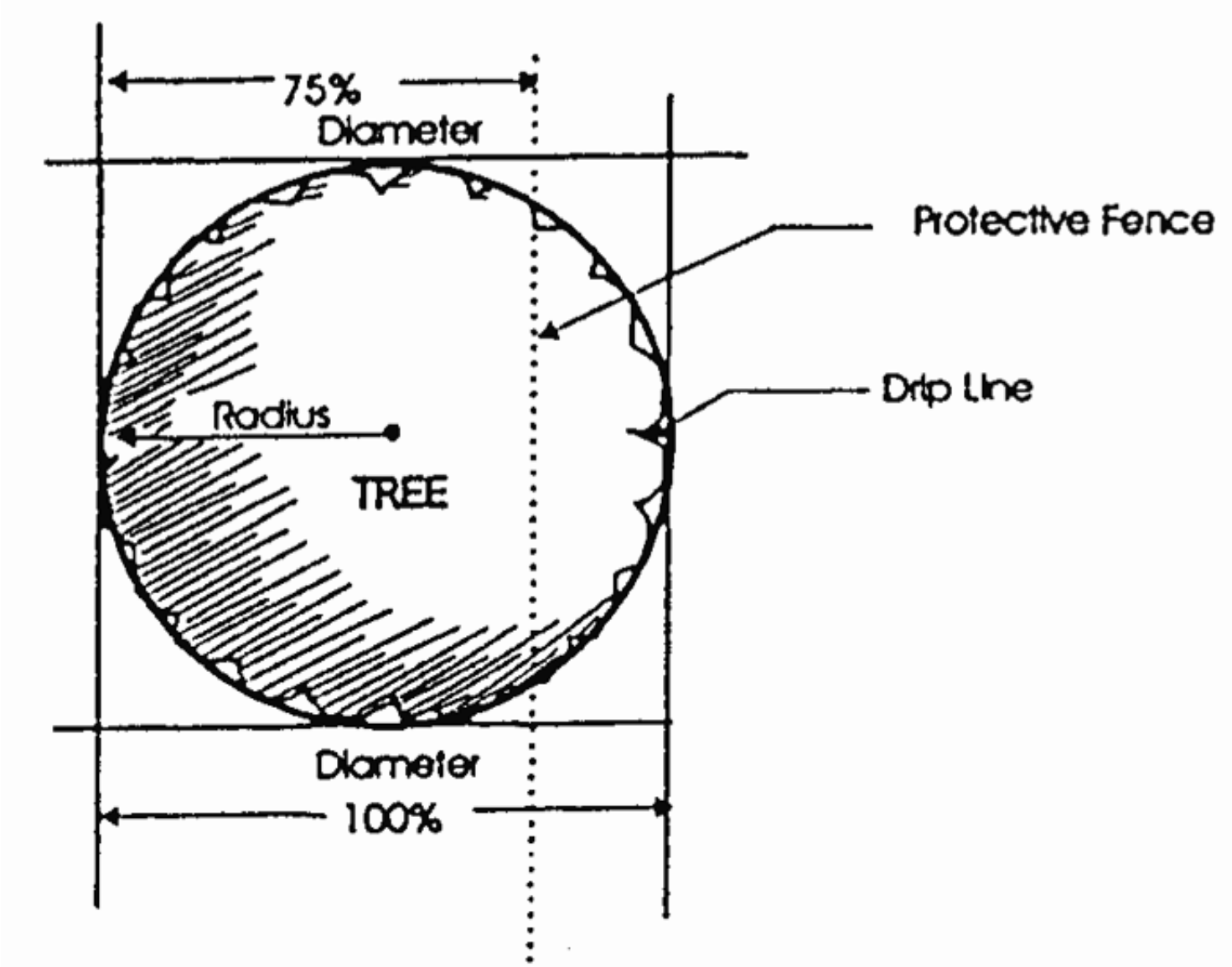
(2) In all forested areas, tree surveys shall first identify areas of forest by the various categories of forest listed in table 106-1782 (), and any endangered species area. A detailed tree survey locating individual trees shall be required only where areas of the forest are to be cut.

(3) The tree survey shall be conducted for 75 feet on either side of the tree protection line. This will permit accurate determination of the actual area of protection. The tree survey shall provide size and drip line for all trees in the area where cutting will occur. The actual protection line shall be drawn so that only trees having more than 75 percent of the diameter of their canopy outside the protection fence line may be counted as preserved (see figure 106-1846 ()(c)).

(4) The tree survey may be conducted by a certified arborist, forester, wetland scientist, botanist or registered landscape architect or surveyor. All tree surveys shall be certified by a registered land surveyor. Each tree surveyed shall be referenced in the required report, including the type, size, and condition of the tree, and submitted as part of the application for development.

(5)

A tree survey shall be less than five years old beginning from the application submission date for which the survey pertains. The ZDA or DRT shall require that a new tree survey be undertaken, at the applicant's expense, when it has been determined that a tree survey is invalid.



(https://www.municode.com/Api/CD/StaticCodeContent?productId=10400&fileName=106-1846-c.png)
Figure 106-1846(c) TREE PROTECTION LINE

(Ord. No. 99-12, § 1 (05.260), 4-26-1999; Ord. No. 99-21, 8-23-1999; Ord. No. 2000-11, 2-28-2000; Ord. No. 2000-26, 6-12-2000; Ord. No. 2001-5, 3-12-2001; Ord. No. 2007/9, 2-12-2007 ())

Sec. 106-1847. - Endangered species.

(a) The protection needs of endangered species are, in part, dependent on the type of species.

(b) The county shall maintain endangered species maps of the areas identified as having endangered species. Applicants shall refer to these maps and united states fish and wildlife service (USFWS) data to determine whether there are endangered species on a proposed development site. All endangered species areas shall be given 100-percent protection. In addition, secondary protection areas may be established. No development shall take place in these areas.

(c)

Any site or development that contains an endangered species area or affects a nearby property containing endangered species shall require an endangered species protection plan for approval by USFWS, prior to approval of a plat of subdivision or land development plan by the DRT. The actual species location, primary protection area, and secondary protection areas shall be protected as an endangered species area in the site capacity analysis calculations, beginning with table 106-1814 ()

(Ord. No. 99-12, § 1 (05.270), 4-26-1999)

Sec. 106-1848. - Flood hazard area.

(a) *Applicability.* All standards in this section shall apply to site design and development undertaken within the flood hazard area.

(b) *Flood hazard design standards.* Flood hazard design standards shall be as follows:

(1) All requirements of the county building codes related to construction in flood hazard areas shall be met.

(2) Engineering plans and specifications shall be submitted showing that adequate design has been incorporated to ensure to the maximum extent possible that:

a. Water supply systems will be constructed to preclude infiltration by floodwaters;

b. Wastewater disposal systems, including septic tanks, will be constructed to preclude infiltration by floodwaters; and

c. Types and construction of fill materials used for building foundations are such so as to minimize settlement, slope erosion, siltation and facilities drainage of potential surrounding floodwaters.

(c) *Indication of flood hazard areas.* The 100-year flood elevation, as shown on official county floodplain maps, shall clearly delineate the flood hazard area on the preliminary and final plat. The line shall be determined by field measurement of the elevation on the site.

(d) *Protective deed restrictions required.* Covenant or deed restrictions shall be placed in the deeds to all lots of a development lying within a flood hazard area stipulating to the owner that:

(1) Construction on lots within what is defined and designated as "Coastal High Hazard Areas: Velocity Zones" shall be elevated and securely anchored to well-anchored piles or columns and shall have the level of the bottom of the lowest horizontal support member one foot or more above the level of the 100-year flood. Space below the level of the first floor level shall be free of obstruction or covered by breakaway facade material capable of producing free obstruction for the impact of abnormally high tides or wind-driven water. Residential structures on existing lots shall have a maximum floor area of 2,200 square feet per lot. A larger home may be built only by acquiring additional lots. In new developments, a maximum floor area ratio of one-tenth shall be required.

(2) All other requirements of the county building codes related to construction in flood hazard areas must be met.

(e) *Disclosure statement required.* On all plats of subdivision and land development plans for which lots, sites, or structures are to be sold or leased, the following statement shall be clearly affixed to the plats or plans and readily visible:

"The areas indicated on this plat/plan as flood hazard areas have been identified as having at least a one percent chance of being flooded in any given year by rising tidal waters associated with extreme wind and storm surge. Local regulations require that certain flood hazard protective measures be incorporated in the design and construction of structures in these designated areas."

Reference shall be made to the development covenants and restrictions of this development and requirements of the county building codes department. In addition, some agencies may require mandatory purchase of flood insurance as a prerequisite to mortgage financing in these designated flood hazard areas.

(Ord. No. 99-12, § 1 (05.280), 4-26-1999)

Cross reference— Floods, ch. 78.

DIVISION 4. - STORMWATER MANAGEMENT STANDARDS

Sec. 106-2856. - Purpose.

(a) 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.

(b) All development and redevelopment shall provide adequate drainage, peak rate, volume and stormwater pollution control in conformance with this division.

(c) All development and redevelopment shall provide adequate stormwater runoff water treatment and volume control in accordance with the latest version of the county's manual for stormwater Best Management Practices (BMPs).

(d) To the maximum extent technically feasible, no development or redevelopment shall cause postdevelopment stormwater rates, quality or volume to increase above predevelopment levels or to cause an adverse increase in the surface runoff reaching adjacent or surrounding property or receiving waters. Surface runoff rate and volume shall be dissipated by detention or retention on the development parcel, percolation into the soil, evaporation, transpiration, reuse or by transport by natural or manmade drainageway or conduit (protected by legal easement) to a county-approved point of discharge.

(e) Where private drainage systems and easements have been previously approved as private facilities, prior to the effective date of the ordinance from which this chapter derives, as well as all new development and redevelopment, and have not been accepted by the county, such facilities shall not become county responsibility, and are to be so noted on any plat of subdivision or land development plan, as well as in the respective covenants and agreements which control or follow the property.

(f) Additionally, the county has the right to enter, enforce maintenance and/or cause maintenance of any stormwater management facility, either privately or publicly owned.

(g) As the requirements set forth above and elsewhere in Division 4 will require stormwater management to become a vital aspect of all development and redevelopment projects within the county, planning for stormwater management, in accordance with this division, shall commence at the time of initial project inception and presentation to the development review team (DRT). Review of stormwater management for development and redevelopment projects will be undertaken during all phases of the development review process.

(Ord. No. 99-12, § 1 (14.310), 4-26-1999; Ord. No. 2009/40, 10-26-2009 ())

Sec. 106-2857. - Exemptions from site runoff control and drainage planning/design.

(a) Exemptions from site runoff control and drainage planning/design are as follows:

(1)

Any maintenance, alteration, renewal use or improvement to an existing drainage structure as approved by the county engineer which does not create adverse environmental or water quality impacts and does not increase the temperature, rate, quality, or volume or location of stormwater runoff discharge;

(2) Developments where adequate drainage exists for four or fewer residential dwelling units that are not part of a phase of a larger development, not involving a main drainage canal, however, homes in these areas will meet on-site requirements under this exemption;

(3) Site work on existing one-acre sites or less where impervious area is increased by less than two percent;

(4) Site work on existing one-acre sites or less where impervious area is increased by less than two percent, and any earthwork that does not increase runoff and/or eliminate detention/retention facilities and/or stormwater storage or alter stormwater flow rates or discharge location(s);

(5) Agricultural activity not involving relocation of drainage canals; or

(6) Work by agencies or property owners required to mitigate emergency flooding conditions. If possible, emergency work should be approved by the duly appointed officials in charge of emergency preparedness or emergency relief. Property owners performing emergency work will be responsible for any damage or injury to persons or property caused by their unauthorized actions. Property owners will restore the site of the emergency work to its approximate pre-emergency condition within a period of 60 days following the end of the emergency period.

(b) Golf courses are required to comply with the latest version of the county's manual for stormwater BMPs and all site runoff volume and water quality control and drainage planning and design requirements; however, both golf courses and private lagoons shall be exempt from the flood control requirements of section 106-2859 () subject to clear demonstration by the design engineer that no damaging flooding will occur during the 100-year/24-hour storm and that all other safety concerns are addressed.

(Ord. No. 99-12, § 1 (14.315), 4-26-1999; Ord. No. 2009/40, 10-26-2009 () ; Ord. No. 2011/17, 6-13-2011 ())

Sec. 106-2858. - Drainage easements.

(a) *Purpose; required.* Drainage easements are utilized to provide for the protection and legal maintenance of drainage systems not within a right-of-way. Drainage easements shall be required in subdivisions over any portion of a drainage system not within a right-of-way and necessary for the functioning of the system. Drainage easements for all facilities must be shown on construction drawings and approved by the county engineer. The easements shall be designated prior to issuance of a development permit and recorded in public records. The minimum allowable width of drainage easements shall be as follows:

TABLE 106-2858 (). DRAINAGE EASEMENTS

Drainage Systems	Minimum Easement Width
Closed drainage systems	(diameter + 4 feet + 2D)*
Open drainage systems	

Bottom width 20 feet or less	15 feet + BW + 2SD (30 feet minimum)**
Bottom width 20 feet to 40 feet	30 feet + BW + 2SD**
Bottom width greater than 40 feet	40 feet + BW + 2SD**
*Where:	
D = Depth from grade to pipe invert (20-foot minimum)	
**Where:	
BW = Bottom width	
S = Side slope	
D = Depth of opening	
Note: The minimum required width of drainage easements may be increased if deemed necessary by the county engineer, only for justifiable reasons.	

(b) *Location of drainage easements.* Location of drainage easements shall be as follows:

(1) *Platted subdivisions (greater than ten acres).* Drainage easements which are required within a platted subdivision shall be clearly identified on the face of the plat and included in the dedication of rights-of-way and easements. Retention/detention ponds within platted subdivisions shall be protected and platted as a separate tract of land dedicated to the entity responsible for its maintenance. If it is desired to place all or a portion of a detention/retention pond on a buildable lot, not more than 50 percent of the buildable lot can be used for this purpose, and the detention/retention pond shall be clearly marked on the recordable survey or plat of the lot indicating the location of the 25-year and 100-year storm. Additionally detention/retention ponds may be placed within the open space as permitted by this chapter. Public drainage facilities, which are located within a private subdivision, shall be granted a drainage easement by conveyance recorded in the official record books of the county.

(2) *Unplatted land.* Developments may contain drainage systems which traverse property not included in the plat. These may be adjacent lands which were not platted, future phases of the development to be platted at a later date, or may be part of an overall master plan. The drainage systems must be provided with an easement granted by conveyance recorded in the official record books of the county.

(3) *Off-site.* Developments may require off-site drainage improvements in order to ensure the proper functioning of the on-site system. Such off-site improvements shall be provided with a drainage easement granted by conveyance and recorded in the official record books of the county.

(Ord. No. 99-12, § 1 (14.320), 4-26-1999)

Sec. 106-2859. - Flood control design criteria.

(a) *Minimum standards.* The minimum standard for the design of stormwater facilities shall be as follows:

TABLE 106-2859 (). FLOOD CONTROL DESIGN STORM FACILITIES (MINIMUM)

Facility	Design Storm
Retention/detention ponds (with positive outfall)	25-year/24-hour
Retention/detention ponds (landlocked, w/o positive outfall)	100-year/24-hour total retention
Collector, local streets and closed drainage systems	25-year/24-hour hydraulic gradient line 1.0 feet below gutter line
Roadside swales	25-year/24-hour
Canals, major ditches	25-year/24-hour
Bridges	100-year

As an alternative to providing for the 100-year/24-hour storm, if the design engineer can clearly demonstrate that the 100-year/24-hour storm causes no flooding that is damaging within the subdivision upstream and/or downstream of the subdivision, the county engineer, at his discretion, may approve such a drainage system if it meets the intent of this chapter.

(b) *Hydrologic models.* The two accepted hydrological methods for computing surface runoff are the rational method and USDA SCS TR-55. Other methods approved by the county engineer are allowable. The rational method may only be utilized for developments up to 50 acres. TR-55 or other approved method can be used to model developments of any size. Proposed development design shall consider the hydrological features within the total watershed including the development site, upstream and downstream areas.

(c) Compliance with this section does not supersede compliance with section 106-2860 (), general planning and design requirements.

(Ord. No. 99-12, § 1 (14.330), 4-26-1999; Ord. No. 2009/40, 10-26-2009 ())

Cross reference— Floods, ch. 78.

Sec. 106-2860. - General planning and design requirements.

(a) *Standards.* General planning and design requirements for stormwater management are as follows:

(1)

Stormwater discharges from development including streets, parking areas, rooftops, and lawn surfaces may adversely impact water quality in county streams, lakes and tidal water bodies. Therefore, all proposed development and redevelopment shall comply with the stormwater volume and pollution control requirements in the latest version of the county's manual for stormwater BMPs.

(2) Priority wetlands or other significant wetlands identified on the official county conservation district maps, or the federal National Wetlands Inventory, U.S. Department of Commerce, should not be adversely impacted by the construction of detention ponds in or near them, which deprives them of required runoff or lowers their normal water table elevations. Adjacent detention ponds that benefit retention of normal wetland water table elevations are acceptable. If the retention or detention pond's proposed location is near a priority wetland, the applicant must provide data showing that impacts will not be detrimental to the wetland hydrology.

(3) Detention and retention ponds shall be designed with relatively flat side slopes along the shoreline, and with meandering shorelines where possible to increase the length of shoreline, thus offering more space for the growth of littoral vegetation for pollution control purposes.

(4) Detention and retention ponds shall be designed to provide at a minimum one foot of vertical detention storage volume for runoff above the proposed design elevation. Major drainage canals shall not be used for storage where this may impact the storm hydrology upstream and downstream. Use of rectangular weir outlets will be allowed only where this weir will provide better outlet control needed for a given situation than that provided by a V-notched weir. V-shaped or V-notched weir outlets are recommended to achieve detention storage. Use of innovative outlet structures, such as pipe/culvert combinations, perforated riser pipe, or special graduated opening outlet control boxes, is encouraged as ways of reproducing predevelopment runoff conditions. Initial concepts for the design of the stormwater management system (including methods for stormwater retention) shall be submitted with the first submittal of a project to the DRT. Subsequent more detailed design data for storage volume and detention outlet and retention requirements shall be submitted and approved by the county engineer prior to final plan approval, with the design of the stormwater pollution control components to be based on the latest version of the county's manual for stormwater BMPs.

(5) Where cleared site conditions exist around detention or retention areas, the banks shall be sloped to the proposed dry weather water surface elevation and planted for stabilization purposes. Where slopes are not practical or desired, other methods of bank stabilization will be used and noted on plans submitted for final approval.

(b) *Direct stormwater discharge.* Planning and design requirements for direct stormwater discharge are as follows:

(1) Channeling runoff directly into natural water bodies from swales, pipes, curbs, lined channels, hoses, impervious surfaces, rooftops or similar methods shall not be approved for new development or redevelopment unless the county engineer has approved a stormwater pollution control plan which does not allow stormwater runoff to exceed predevelopment levels and complies with the latest version of the county's manual for stormwater BMPs.

(2)

Where specific site hardships require a modification to allow direct discharge into tidal areas without adequate stormwater pollution controls, prior approval by OCRM, DHEC, county engineer, corps of engineers (COE) and water resources commission approval is required. Granting of a modification by the county engineer will be based upon unique site hardships and the use of best available technology to reduce the water quality impacts of stormwater discharges.

(3) Dredging, clearing, deepening, widening, straightening, stabilizing or otherwise altering natural water bodies or canals may be permitted by the county engineer only when a positive benefit can be demonstrated. Such approval by the county does not obviate the need for state or federal agency approvals where applicable.

(4) Vegetative strips shall be retained or created along the banks or edges of all freshwater wetlands as part of the required setback distance. The following minimum setbacks shall be established (unless already established by OCRM Charleston, S.C. District, whichever is greater) for construction from the edge of all wetlands:

a. Single-family residential: 20 feet.

b. Multifamily residential: 50 feet.

c. Commercial or industrial: 50 feet.

d. Impervious parking areas: 30 feet.

Vegetative strips are areas completely pervious to the ground in nature and are intended to prevent polluted runoff from entering fragile wetland systems. For this purpose, they shall be a minimum of 15 feet in width and contain living plant material including but not limited to trees, shrubs, vines, ferns, mosses, flowers, grasses, herbs and ground cover. Slatted lawn furniture, accessories and decks are permitted in the vegetative strips.

A modification may be granted by the county engineer if the specific project design provides for the drainage or channeling of runoff away from natural watercourses, marshes, wetlands or tidal areas and if such runoff is filtered through a vegetated strip. Vegetative strips shall be retained or created in a natural vegetated or grassed condition to allow for periodic flooding, provide drainage access to the water body, and to act as filter to trap sediment and other stormwater pollution.

(5) No new stormwater discharge shall be permitted onto any beaches/shorelines.

(6) Final landscape designs and plantings shall not adversely impact the stormwater runoff, volume and quality controls and drainage concepts approved as part of the development permit approval process. Landscape design and plantings should enhance opportunities for percolation, retention, detention, filtration and plant absorption of site-generated stormwater runoff. Irrigation systems must first make use of all available surface runoff or other retained or detained stormwater as the water supply source. No groundwater wells or use of potable water for irrigation of any kind will be permitted in developments or redevelopments unless it can be demonstrated that alternative sources of irrigation water will not exceed predevelopment conditions and must be approved by the County Engineer. In addition, no irrigation system shall be placed within 50 feet of a natural creek, marsh or estuary where soils and/or grade will allow such irrigation water to flow or migrate to such a natural creek, marsh or estuary.

(7)

The developer shall provide adequate outfall ditches, pipes and easements downstream from his proposed discharge if adequate public or private drainage facilities do not exist to carry the proposed discharge. If the outfall ditches, pipes and easements required for adequate drainage are larger than those needed to carry the additional proposed discharge from the development sought by the applicant, the county may bear those incremental costs which are greater than those properly allocable to the development. The county shall have the authority, however, to condition use of such expanded system by subsequent users on contributions by such users for allocable portions of the cost borne by the county.

(c) *Water surface elevations.* Planning and design requirements for water surface elevations are as follows:

(1) No developer will be permitted to construct, establish, maintain or alter the surface water elevation of any water body or wetland in such a way as to adversely affect the natural drainage from any upstream or to any downstream areas of the drainage basin on a permanent basis.

(2) The county engineer shall review and approve any water surface elevations proposed for lagoons or water bodies. The developer will submit sufficient groundwater and topographic elevation data around the proposed water body site to assist in establishing the water surface elevations and seasonal groundwater levels.

(3) It may be required as a condition of drainage plan approval that adjustments be made to existing or approved water surface elevations if upstream or downstream areas require such adjustments to provide required drainage flows. The county may assist the developer in negotiating with the affected parties on an equitable distribution of cost under such conditions and, if necessary, initiate condemnation proceedings if the county council so deems appropriate and the developer pays all costs associated with any condemnation proceedings.

(Ord. No. 99-12, § 1 (14.340), 4-26-1999; Ord. No. 2009/40, 10-26-2009 ())

Sec. 106-2861. - Retention/detention facilities.

(a) *Design criteria for developments.* Retention/detention facility design criteria for developments are as follows:

(1) *Peak attenuation.* The peak discharge as computed from the design storm for postdevelopment shall not exceed the peak discharge for the design storm for predevelopment or existing conditions.

(2) *Total retention.* Developments which are unable to secure a positive outfall for discharge shall retain all runoff resulting from the design storm as computed for the developed condition. As an alternate, the design engineer can comply with section 106-2859 ()

(3) *Water quality control.* All proposed development and redevelopment shall comply with the latest version of the county's manual for stormwater BMPs.

(4) *Total volume control.* Facility design criteria will control and retain total volume by retention and other methods so stormwater runoff levels will not exceed predevelopment levels. On-site volume controls, where applicable, will be applied as stated in section 106-2865 ()

(b) *Design criteria for redeveloped sites.* Redevelopment which has no increase or a net decrease in impervious area yet lacks evidence of a functioning retention/detention facility will be required by the county engineer to retrofit the site to current county standards for peak attenuation and stormwater volume and water quality controls.

(c) *Design based on soils.* Design based on soils is as follows:

(1) The design of stormwater management facilities should be based upon soil conditions. In areas where soils have been classified under the Soil Conservation Service (SCS) Hydrologic Soil Classification System as type A or B (pervious), the overall stormwater management strategy should be that of on-site retention and infiltration into the ground or other BMPs as outlined in the BMP Manual. Information documenting the permeability of these soils as well as the groundwater table elevations shall be provided as part of the design of the stormwater management system.

(2) In areas where the soils have been classified under the SCS Hydrologic Soils Classification as types C and D (impervious) or A/D, B/D, and C/D (high groundwater table areas), the overall stormwater management system shall make use of retention/detention basins or other BMPs as outlined in the BMP Manual to attenuate peak and retain excess volume from the contributory drainage area and to settle solids washed off or eroded therefrom. Information documenting the permeability of these soils as well as the groundwater table elevations shall be provided as part of the design of the stormwater management system.

(3) Other standards are as follows:

a. Detention ponds shall be designed to attenuate peak outflows to predevelopment rates and to comply with the water quality control requirements in the latest version of the county's manual for stormwater BMPs.

b. Retention ponds are intended to attenuate postdevelopment stormwater volume and shall be designed to provide retention of runoff volume over and above the runoff volume which existed prior to development. Stored stormwater will be used in reuse systems and other volume reduction measures, and will comply with the water quantity and quality control requirements in the latest version of the county's manual for stormwater BMPs.

c. Exfiltration systems intended to attenuate postdevelopment peak outflows shall be designed to store and exfiltrate over the duration of the storm the difference in runoff volume between predevelopment and postdevelopment. Exfiltration systems shall be designed with a safety factor 1.5 (design using 75 percent of the permeability rate or 75 percent of the time for drawdown), and to comply with the water quality control requirements in the latest version of the county's manual for stormwater BMPs.

(d) *Outfall.* Unless otherwise approved by the county engineer, outfall structures shall be as simple as possible and shall employ fixed control elevations (i.e., no valves, removable weirs, etc.). Design criteria are as follows:

(1) Detention ponds shall be required to have an outfall structure to limit peak off-site discharges to predevelopment rates. To achieve water quality control, the location of the structure and the shape of the pond shall be designed to comply with the water quality control requirements in the latest version of the county's manual for stormwater BMPs.

(2) Retention ponds may be required to provide outfall structures where deemed necessary by the county engineer and as may be needed to prevent flooding during storm events above the design standard. In all cases retention ponds shall be designed considering the event of a possible overflow. A path for such overflow shall be determined, and no structures in the development can be situated such that flood damage can occur either on site or off site.

(3) Exfiltration systems may be required to connect to an outfall system as deemed necessary by the county engineer. In all cases, exfiltration systems shall be designed considering the event of a system surcharge. A pathway for excess runoff shall be determined and structures in the development shall be situated such that no flood damage shall occur either on-site or off-site.

(Ord. No. 99-12, § 1 (14.350), 4-26-1999; Ord. No. 2009/40, 10-26-2009 () ; Ord. No. 2011/17, 6-13-2011 ())

Sec. 106-2862. - Open drainage systems ditches and ponds.

(a) *Access easement.* An access easement shall be provided to all drainage ponds and ditches.

(b) *Maintenance access.* Maintenance access shall be built and protected by drainage easements, as follows:

TABLE 106-2862 ()(b). DITCH AND CANAL MINIMUM ACCESS

Ditch or Canal Width	Minimum Unobstructed Access
20 feet or less	15 feet, one side
20 to 40 feet	15 feet, both sides
Greater than 40 feet	20 feet, both sides
Ponds, with fencing	20 feet around pond
Ponds, without fencing	15 feet around pond
The cross slopes of maintenance berms shall be 15:1	

(c) *Grading.* Areas adjacent to open drainageways and ponds shall be graded to preclude the entrance of stormwater except at planned locations.

(d) *Side slopes without fencing.* Maximum side slopes permitted without fencing shall be allowed as follows:

TABLE 106-2862 ()(d) MAXIMUM SIDE SLOPES WITHOUT FENCING

Open Drainageways	Side Slopes
Swale, ditch, or canal	3:1
Ponds (normally dry)	3:1
Ponds (normally wet)	4:1 (to 3 feet below the normal water level) 2:1 (from 3 feet to pond bottom)
Minimum bottom width for ditches or canals shall be two feet.	

(e) *Slope protection.* The disturbed areas in and around the ponds and ditches shall be revegetated as follows:

(1) Side slopes and berms: sod or hydroseed with maintenance bond.

(2) Bottom (dry ponds): grass seeded.

(f) *Fencing requirements if necessary for safety.* The following fencing recommendations are not required; however, the design engineer shall carefully take into account the following fencing criteria and determine or render a professional opinion as to the necessity of fencing as discussed:

(1) Canals will not be approved which, along easements or rights-of-way, do not meet the provisions of subsection (d) of this section.

(2) Ponds, which present a hazard, should have a six-foot chainlink fence or other accessproof fence to prevent entry to the facilities. Fences will be required for retention/detention areas where one or more of the following conditions exist:

a. Rapid stage changes that would make escape practically impossible for small children.

b. Dry bottom ponds where side slopes are steeper than 4:1 and the design high water elevation exceeds two feet.

c. Wet bottom ponds where the side slopes are steeper than 4:1 (to three feet below the normal water level and 2:1 to pond bottom).

(g) *Freeboard.* Open drainageways and ponds shall have a one-foot minimum freeboard above design high water elevation except retention ponds with positive outfall depending upon the design of the outfall structure.

(h) *Berms constructed on fill.* Where fill berms are proposed, calculations supporting the stability of the fill berms are to be submitted by the design engineer. Where excess seepage may be expected through the berm, a clay core may be required.

(Ord. No. 99-12, § 1 (14.360), 4-26-1999)

Sec. 106-2863. - Roadway drainage planning and design standards.

Good roadway drainage design consists of the proper selection of grades, cross slopes, curb types, inlet location, etc., to remove the design storm rainfall from the pavement in a cost effective manner while preserving the safety, traffic capacity and integrity of the highway and street system. These factors are generally considered to be satisfied, provided that excessive spreads of the water are removed from the vehicular traveled way and that siltation at pavement low points is not allowed to occur. All proposed development shall comply with the following standards:

(1) *Roadway grade.* The minimum allowable centerline grade for all streets shall be 0.5 percent, unless otherwise approved by the county engineer only under extenuating circumstances.

(2) *Minimum centerline elevation.* Minimum centerline elevation shall be 7.5 feet NGVD. (NGVD is very close to MSL; however it is a more accurate measurement.)

(3) *Minimum cross slope.* Minimum cross slope for all streets shall be one-quarter inch per foot. All streets shall drain from the road centerline to curb and gutter or drainage ditches. Inverted crown roads shall not be permitted for roads intended for county acceptance and/or maintenance.

(4) *Drainage structures.* All drainage structures, unless specifically detailed in these guidelines, shall conform to the latest edition of the SCDOT standards or designed in conformance with good engineering practices and shall require approval by the county engineer.

(5) *Design criteria for underdrains.* All new streets shall be designed to provide a minimum clearance of one foot between the bottom of the base and the estimated seasonal high water table, or the artificial water table induced by an underdrain system. The following requirements and limitations apply to the design of underdrains:

a. The underdrain trench bottom should not be placed below the seasonal low water table elevation.

b. The distance between the bottom of the underdrain trench and the bottom of the roadway base shall not be less than 24 inches.

c. The bottom of the base course of underdrains shall be placed more than 24 inches below the seasonal high water table elevation.

d. The developer's design engineer shall provide the following design certification:

This is to certify that the underdrain design for _____ road, extending from station _____ to station _____ has been designed such that the separation between the bottom of the base and the artificially induced wet season water table is no less than one foot for the entire width of pavement.

e. The installation shall be inspected by the project design engineer who shall then certify that the underdrain installation procedures and materials are in accordance with the approved plans.

f. The stormwater facilities shall be designed to accommodate expected flow contributed by the underdrain system.

g. The county shall inspect the underdrain system for compliance prior to the issuance of final approval.

(6) *Roadside swales.* Swale drainage will be permitted only when the wet season water table is a minimum of one foot below the invert of the swale. Where roadside swales are required, a positive outfall for the drainage may be required depending on the soil classification and topography. Roadside swales used for water quality control shall comply with the latest version of the county's manual for stormwater BMPs.

(7) *Curbs and gutters.* All roadway drainage not considered suitable for swale and/or ditch type drainage shall be designed as one of the following:

a. Mountable curb and gutter section: maximum 600 feet run between inlets.

b. Standard curb and gutter section: maximum 1,200 feet run between inlets.

c. Any modification to the runs in subsection (7)a or b of this section must be substantiated with calculations.

d. The width of curb and gutter shall be a minimum of 18 inches and shall be either standard or mountable (subdivisions only) curb and gutter, depending upon flow to be handled.

e. There shall be stabilized subgrade beneath all curbs and gutter for one foot beyond the back of curb.

f. No new water valve boxes, meters, portions of manholes, or other appurtenances of any kind relating to any underground utilities shall be located in any portion of a curb and gutter section.

g. The minimum allowable flow line grade of curbs and gutter shall be 0.5 percent, except in intersections where flatter grades shall be allowable. The tolerance for ponded water in curb construction is one-fourth inch maximum; if exceeded, the section of curb shall be removed and reconstructed to grade.

h. Plastering shall not be permitted on the face of the curb. Joints shall be sawed, unless an alternate method is used, at intervals of ten feet, except where shorter intervals are required for closures, but in no case less than four feet.

i. After concrete has set sufficiently, but in no case later than three days after construction, the curbs shall be backfilled.

j. All cross-street valley gutters shall be constructed of concrete.

(8) *Runoff determination.* The peak rates of runoff for which the pavement drainage system must be designed shall be determined by the rational method. The time of concentration, individual drainage areas and rainfall intensity amount shall be submitted as part of the drainage plans. A separate rational runoff coefficient (C) shall be determined for the specific contributing area to each inlet/catchbasin within the proposed storm sewer system. A composite C value shall be computed for each contributing area based on an individual C value of 0.9 for the estimated impervious portion of the actual area and an individual C value of 0.2 for the remaining pervious (grassed) portion of the actual area.

(9) *Stormwater spread into traveled lane.* Inlets shall be spaced at all low points, intersections and along continuous grades so as to prevent the spread of water from exceeding tolerable limits. The acceptable tolerable limits for collector roadways is defined as approximately one-half the traveled lane width. Acceptable tolerable limits for interior subdivision roadway are defined as a maximum of one inch above the crown of the road.

(10) *Low point inlets.* All inlets at low points (sumps) shall be designed to intercept 100 percent of the design flow without exceeding the allowable spread of water onto the traveled lanes as defined in subsection (9) of this section. On collector roadways, in order to prevent siltation and to provide for a safety factor against clogging of single inlet in a sump location, it is required to consider constructing multiple inlets at all sump locations or provide for other safety factors against clogging. Preferably two inlets should be constructed on each side of the roadway. Open bottom inlets are encourage in effective recharge areas.

(Ord. No. 99-12, § 1 (14.370), 4-26-1999)

Sec. 106-2864. - Storm sewer design standards.

(a) *Generally.* Storm sewer design standards shall be as follows:

(1) *Design discharge.* Storm sewer system design is to be based upon a 25-year frequency event. The system shall be designed to handle the flows from the contributory area within the proposed subdivision. Then, the system shall be analyzed a second time to ensure that any off-site flows can also be accommodated. This second analysis shall consider the relative timing of the on-site and off-site flows in determining the adequacy of the designed system.

(2) *Minimum pipe size.* The minimum size of pipe to be used in storm sewer systems is 15 inches or equivalent elliptical. Unless otherwise approved by the county engineer, designs shall be based upon six-inch increments in sizes above 18 inches.

(3) *Pipe grade.* All storm sewers shall be designed and constructed to produce a minimum velocity of 2.0 () fps when flowing full, unless site conditions do not allow. No storm sewer system or portion thereof will be designed to produce velocities in excess of ten fps.

(4) *Pipe clearance.* Unless otherwise authorized by the county engineer, the minimum clearance for all storm pipes shall be as follows:

a. From bottom of roadway base to outside crown of pipe: 1.0 foot.

b. Utility crossing, outside edge to outside edge: 0.5 foot.

(5) *Roadway cross pipes.* All pipes crossing arterials and collectors shall be reinforced concrete pipe.

(6) *Interference manholes.* Interference manholes shall be used only when there is no reasonable alternative design. Where it is necessary to allow a sanitary line or other utility to pass through a manhole, inlet or junction box, the utility shall be ductile iron or another suitable material. A minimum of one foot vertical clearance shall be required between the bottom of the manhole and face of utility pipe. Interference manholes shall be oversized to accommodate the decreased maneuverability inside the structure and flow retardant.

(7) *Maximum lengths of pipe.* The following maximum runs of pipe shall be used when spacing access structures of any types:

TABLE 106-2864 ()(a)(7). PIPE SIZE AND RUN

Pipe Size (inches)	Maximum Run of Pipe (feet)
15	300
18	300
24 to 36	400
42 and larger	500

(8)

Design tailwater. All storm sewer systems shall be designed taking into consideration the tailwater of the receiving facility. When the detention pond is the receiving facility, the design tailwater level can be estimated from the information generated by routing through the pond the hydrograph resulting from a 25-year frequency storm of duration equal to that used in designing the pond. Then the design tailwater level can be assumed to be the 25-year pond level corresponding to the time at which peak inflow occurs from the storm sewer into the pond. In lieu of the detailed analysis, however, a simpler design tailwater estimate can be obtained by averaging the established 25-year design high water elevation for the pond and the pond bottom elevation for dry bottom ponds or the normal water elevation for wet bottom ponds.

(9) *Hydraulic gradient line computations.* The hydraulic gradient line for the storm sewer system shall be computed taking into consideration the design tailwater on the system and the energy losses associated with entrance into and exit from the system, friction through the system, and turbulence in the individual manholes/catchbasins/junctions with the system. The energy losses associated with the turbulence in the individual manholes are minor for an open channel or gravity storm sewer system and can typically be overcome by adjusting (increasing) the upstream pipe invert elevations in a manhole by a small amount. However, manholes can be significant for a pressure or surcharged storm sewer system and must be accounted for in establishing a reasonable hydraulic gradient line. Acceptable head loss coefficients (K) for various types of surcharged manholes/catch basins/junctions shall be used.

(b) *Culvert design.* Culvert design standards are as follows:

(1) *Minimum size.* Minimum size shall be as follows:

a. *Pipe.* The minimum size of pipes to be used for culvert installations under roadways shall be 18 inches. The minimum size of pipes to be used for driveway crossings shall be 12 inches or equivalent elliptical.

b. *Box.* Unless otherwise approved by the county engineer, box culverts shall be three feet by three feet minimum. Unless otherwise approved by the county engineer, increments of one foot in height or width should be used above this minimum.

(2) *Maximum pipe grade.* The maximum slope allowable shall be a slope that produces ten fps velocity within the culvert barrel. Erosion protection and/or energy dissipaters shall be required to properly control entrance and outlet velocities.

(3) *Maximum lengths of structure.* The maximum length of a culvert conveyance structure without access shall be as allowed in table 106-2864 ()(a)(7). Note: For box culverts use 500 feet maximum.

(4) *Design tailwater.* All culvert installation shall be designed taking into consideration the tailwater of the receiving facility.

(5) *Allowable headwater.* The allowable headwater of a culvert installation should be set by the designer for an economical installation. When endwalls are used, the headwater should not exceed the top of the endwall at the entrance. If the top of the endwall is inundated, special protection of the roadway embankment and/or ditch slope may be necessary for erosion protection.

(6) *Design procedure.* The determination of the required size of a culvert installation can be accomplished by mathematical analysis or by the use of design nomographs.

(c) *Material specifications.* Material specifications for storm sewers are as follow:

(1) *Pipe.* Reinforced concrete pipe shall conform to the latest edition of the SCDOT Standard Specifications for Highway Construction. Corrugated aluminum pipe shall conform to AASHTO M-196, M-197, and federal spec. WW 442-C. Corrugated polyethylene pipe shall conform to AASHTO M-252, M-294, type S. All pipe shall have a minimum cover so as not to pose structural damage to pipe and as per the manufacturer's technical specifications and recommendation.

(2) *Inlets, manholes and junction boxes.* All materials used in the construction of inlets, manholes and junction boxes shall conform to the latest editions of the SCDOT Standard Specifications for Highway Construction.

(3) *Underdrains/exfiltration systems.* All materials used in the construction of underdrains shall conform to the latest edition of the SCDOT Standard Specifications for Highway Construction. The following is a list of underdrain materials acceptable for use in the county:

a. *Perforated corrugated tubing.* Corrugated, polyethylene tubing perforated throughout and meeting the requirements of AASHTO M-252 or M-294.

b. *Perforated PVC pipe.* Polyvinyl chloride pipe conforming to the requirements of ASTM D-3033. The perforations shall meet the requirements of ASTM C-508.

c. *Exfiltration pipe.* The following is a list of pipe materials acceptable for use in exfiltration systems:

1. Aluminum pipe perforated 360°, meeting the requirements of AASHTO M-196.

2. Perforated class III reinforced concrete pipe with perforations meeting the requirements of ASTM C-444.

3. Polyvinyl chloride pipe perforated 360°, meeting the requirements of ASTM D-3033.

d. *Coarse aggregate.* Clean stone containing no friable materials and a gradation equivalent to size number 56 or 57.

(4) *Drainage structures.* All materials used in the construction of drainage structures shall conform to the latest editions of the SCDOT Standard Specifications for Highway Construction. Riprap is not an acceptable material for drainage structure, but can be used for erosion control.

(5) *Fencing.* Unless otherwise approved by the county engineer, all fencing shall be six-foot chainlink or accessproof fence with a minimum 15-foot-wide double gate opening conforming to the SCDOT specifications.

(6) *Sod, seed, hydroseed and mulch.* All sod, seed, hydroseed and mulch materials and installation shall conform to the latest edition of the SCDOT Standard Specifications for Highway Construction. See article VI of this chapter.

(7) *Modification of specifications.* The materials specifications can be modified by the county engineer based on new and/or proven technology.

(Ord. No. 99-12, § 1 (14.380), 4-26-1999)

Sec. 106-2865. - On-site single-family lot, best management practices (BMP).

(a) Where stormwater runoff is not addressed in an approved community runoff volume control system, construction of new or single-family homes that are renovated in excess of 50 percent of their taxable appraised value, will need to employ and utilize on-site stormwater runoff volume control BMPs.

(b) The actual BMPs to be utilized can be either determined from stormwater utility's on-lot volume program (attachment in BMP manual and Web-based program) or other volume practices as described in Beaufort County Best Management Practice Manual. Both manual and Web-based program will be available on the county's Web site.

(c) Required practices will be sized based on impervious surface on the property and can be reduced by employing practices that reduce impervious surface like:

(1) Pervious driveways.

(2) Pervious walkways.

(3) Smaller roof surface.

(d) In no case will the imposition of stormwater volume controls for lots of record result in the lots becoming unbuildable. The zoning administration shall be empowered to make this determination at his or her discretion without recourse to the zoning board of appeals for hardship.

(Ord. No. 2011/17, 6-13-2011 ())

Part IV

Proposed Stormwater Management Program

SECTION 1
PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS

1. Are (or will, within the first year of permit coverage,) the goals and objectives of the program based on at least three high priority, community-wide issues (e.g. reduction of the POC in discharges from the MS4, promoting pervious techniques used in the MS4) defined?

Yes ☒
No ☐

Improvement of Water Quality in Estuaries & Rivers, Reduction in SW Pollutant Loading, SW volume reduction

2. Are (or will, within the first year of permit coverage) the pollutant(s) of concern identified and the audience(s) targeted?

Yes ☒
No ☐

If no, explain

3. Have (or will, during permit coverage,) appropriate message(s) based on targeted residential issues and on targeted industrial/commercial issues and / or from issues deemed more appropriate to the MS4 been created?

Yes ☒
No ☐

If no, explain

4. Have (or will, during permit coverage,) appropriate educational materials (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, radio advertisements, television advertisements, websites) been developed?

Yes ☒
No ☐

If no, explain

5. Is (or will during permit coverage) public input (e.g., the opportunity for public comment, or public meetings) being utilized in the development of the SWMP?

Yes ☒
No ☐

If no, explain

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION ONE

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Identify Target Pollutants & Audience Messages	Identify target pollutants in MS4 areas. Identify audiences and messages to educate to reduce discharge of target pollutants.
B.	Brochures	Create and distribute target audience based brochures on SW management & pollution protection
C.	Website	Create a standalone SW Website that provided all audiences with quick access to SW pollution prevention information. Update current “SW Kiosks”
D.	Event Participation	Trained staff will attend local events (e.g. Water Festival), will have a display station for face to face contact with public on SW quality goals and objectives and will have information for distribution
E.	School SW Programs	Develop various school curriculum for Elementary, Middle and High School level science programs that can be presented by teachers and/or County SW staff
F.	Community Surveys	Conduct Community wide surveys to gauge the public’s knowledge of Stormwater issues
G.	Public Input	Provide opportunities via website or public meetings to citizen input on Stormwater issues

TABLE 2: ADMINISTRATIVE INFORMATION	
PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager

OTHER DEPARTMENT	ROLE

BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary Responsible Party

OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Primary provider of Public Education services as a contractor to the County

EQUIPMENT NEEDS (IF APPLICABLE)
Portable Display Booth

GROUP	TARGET DESCRIPTION
Beaufort County SW Utility	Create a SW Education Booth for use at public events and in school programs
Beaufort County Soil & Conservation District	Enviroscape Educational Unit materials

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION ONE

TABLE 3: BEST MANAGEMENT PRACTICES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	Identify Target Pollutants & Audience Messages
Milestone Year 1	Using available data from existing water quality sampling program (provided by USCB) determine target pollutants for each area of the MS4. Develop target audiences to reach with stormwater pollution messages and educational materials.
Milestone Year 2	Begin to identify possible causes and sources of pollutants.
Milestone Year 3	Continue to identify possible causes and sources of pollutants and develop target audiences to reach with stormwater pollution messages and educational materials
Milestone Year 4	Continue to identify possible causes and sources of pollutants and develop target audiences to reach with stormwater pollution messages and educational materials
Milestone Year 5	Continue to identify possible causes and sources of pollutants and develop target audiences to reach with stormwater pollution messages and educational materials – Review and assess success of program and modify as needed

BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Distribution of SW Pollution Prevention Brochures to the public
Milestone Year 1	Create SW Pollution Prevention target audience brochures (e.g. general public, sportsmen, etc.). Develop a portable SW display booth
Milestone Year 2	Participate as a partner when possible at public events (festivals, etc.), set up booth and man, distribute audience specific brochures- Goal to reach 1,000 people with SW education
Milestone Year 3	Continue year 2 goals, add more events participation as opportunities become available, Goal – to reach 2,000 people per year
Milestone Year 4	Continue program Goal – Reach 4,000 people per year
Milestone Year 5	Continue program Goal – Reach 5,000 people per year – Assess BMP results and adjust program as necessary

BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Create and interactive Website, with standalone citizen report and complaint link and continue use the existing stormwater educational kiosks
Milestone Year 1	Create standalone Stormwater Information and Education Website, with links to other programs (both public and private) that promote water quality and preservation practices
Milestone Year 2	Update Website based on customer input, availability of new information and input from both the development and environmental community
Milestone Year 3	Update Website based on customer input, availability of new information and input from both the development and environmental community
Milestone Year 4	Update Website based on customer input, availability of new information and input from both the development and environmental community
Milestone Year 5	Update Website based on customer input, availability of new information and input from both the development and environmental community

BMP D	MEASURABLE GOALS AND MILESTONES
Goals	Event Participation
Milestone Year 1	Create a portable SW display and train staff to man the display for major local events. Goal – Have ready for 2015 Beaufort Water Festival.
Milestone Year 2	Identify local events where the SW display can be set up and manned Goal - Participate in three or more events
Milestone Year 3	Gain input on the effectiveness of the SW display program, adjust as needed and modify. Goal – Participate in five or more events
Milestone Year 4	Continue program and update information as needed Goal – Participate in six or more events, become

	"regulars" at major events.
Milestone Year 5	Continue program and update information as needed Goal – Participate in six or more events, become "regulars" at major events.

BMP E	**MEASURABLE GOALS AND MILESTONES**
Goals	School Stormwater Programs
Milestone Year 1	Working with local groups **and** Beaufort County Schools, develop three educational units for use in local school science programs (7th Grade) – Goal – Complete final programs in first year.
Milestone Year 2	Train County staff, and if possible science teachers, in use of the educational unit and "test" educational unit in trial schools, adjust program as necessary – Goal – by end of year two have program ready for release to all 7th grade classes
Milestone Year 3	Implement educational unit program in middle schools – Goal – five participating 7th grade classes
Milestone Year 4	Implement educational unit program in middle schools – Goal – five participating middle schools and adjust program to reach elementary schools (4th grade)
Milestone Year 5	Implement educational unit program in five additional middle schools and trial elementary school program in two 4th grade classes. Begin planning to expand program to high school level classes.
BMP F	**MEASURABLE GOALS AND MILESTONES**
Goals	Community Surveys
Milestone Year 1	Develop a community wide stormwater public knowledge on line survey to integrate into SW website
Milestone Year 2	Implement, via website, first stormwater public knowledge survey, gather and correlate results to create measurable baseline data to gauge the public's knowledge of stormwater issues
Milestone Year 3	None
Milestone Year 4	Implement second stormwater public knowledge survey, gather and correlate results to compare to measurable baseline data to gauge the public's increase in knowledge of stormwater issues
Milestone Year 5	Assess two survey results and adjust survey program based upon survey results
BMP G	**MEASURABLE GOALS AND MILESTONES**
Goals	Public Input Opportunities
Milestone Year 1	Develop a program for conducting public meetings in various areas of the County to discuss the County Stormwater Management Program and to receive public input on stormwater related issues
Milestone Year 2	Conduct first public meeting in a selected area of the County. Compare results to input received from surveys
Milestone Year 3	Conduct second public meeting in a selected area of the County. Compare results to input received from surveys
Milestone Year 4	Conduct third public meeting in a selected area of the County. Compare results to input received from surveys
Milestone Year 5	Conduct fourth public meeting in a selected area of the County. Compare results to input received from surveys – review program and adjust as may be necessary

SECTION 2 PUBLIC INVOLVEMENT AND PUBLIC PARTICIPATION

1. Have (or will, within the first year of permit coverage,) the public been invited to participate in the development and implementation of all parts of the community's SWMP?

Yes ☒ No ☐ | If no, explain

2. Are (or will, during the permit term) opportunities created for citizens to participate in the implementation of stormwater controls (e.g., stream clean-ups, storm drain stenciling, volunteer monitoring, and educational activities)?

Yes ☒ No ☐ | If no, explain

3. Has the permittee (or will, during the permit term,) ensured that the public can easily find information about the SMS4 SWMP? If available in the web, provide link

Yes ☒ No ☐ | If no, explain

4. Are (or will) written procedures for implementing the **Public Involvement / Participation** MCM incorporated into the SWMP?

Yes ☒ No ☐ | If no, explain

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 2 tables to this NOI.

ADDENDUM

TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)

BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION TWO

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Storm Drain Stenciling	Update the previous Stormwater Drain medallion program
B.	Public Meetings/Citizen Panels	Set up formal advertised meetings in various areas of the County to that the County can present SW information and gain citizen input and can raise concerns and/or problems
C.	Community Clean Ups	Set up formal community clean up days for cleaning trash and debris for roadsides, ditches, etc. in the watershed areas
D.	Volunteer Speakers	Create a Speakers Bureau of trained County staff who can provide SW Pollution Prevention talks to service clubs, churches and other groups that may be in need of speakers.

TABLE 2: ADMINISTRATIVE INFORMATION

PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager

OTHER DEPARTMENT	ROLE
Beaufort County Soil & Conservation District	Primary provider of Public Involvement services as a contractor to the County

BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary responsible party

OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Primary provider of Public Involvement services as a contractor to the County

EQUIPMENT NEEDS (IF APPLICABLE)
Storm drain markings

GROUP	TARGET DESCRIPTION
Beaufort County SW Utility	Identify speakers, provide equipment for cleanup days, organize, promote and conduct area public meetings
Beaufort County Soil & Conservation District	Develop speaker's information, identify speakers, train speakers. Organize cleanup day programs
Beaufort County Soil & Conservation District	Organize and promote marker installation events

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION TWO

TABLE 3: BEST MANAGEMENT PRACTICES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	**MEASURABLE GOALS AND MILESTONES**
Goals	Storm Drain Marker Program
Milestone Year 1	Order 1,500 storm drain markers (or stencil) to be placed on all stormwater boxes that flow to receiving streams or wetlands. Identify all stormwater structures that need marking via the County GIS/Mosquito control program stormwater structure data base
Milestone Year 2	Identify groups (e.g. Boy & Girl Scouts, Service clubs, etc.) that can provide volunteers to place markers on SW structures. Goal – Complete 25% of SW structures in the County
Milestone Year 3	Continue program and cover another 25% of SW structures
Milestone Year 4	Continue program and cover another 25% of SW structures
Milestone Year 5	Complete remaining 25% of SW structures

BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Public Meeting Citizen Participation Panels
Milestone Year 1	Establish and document procedures for advertising Citizen Input meeting, conduction such meeting, areas to be targeted, program for such event Goal – Conduct first event
Milestone Year 2	Conduct four additional SW Citizen Input meetings in various areas of the County
Milestone Year 3	Conduct four additional SW Citizen Input meetings in various areas of the County
Milestone Year 4	Conduct four additional SW Citizen Input meetings in various areas of the County. Evaluate effectiveness of the program, adjust program as may be needed.
Milestone Year 5	Conduct four additional SW Citizen Input Meetings in various areas of the County.

BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Community Clean Up Days
Milestone Year 1	Create and document a Community Cleanup program, identify liabilities and responsibilities, insurance requirement, areas to be targeted, traffic and pedestrian protection procedures, collection and disposal of bags, etc. Goal – Written program in year one.
Milestone Year 2	Organize teams in targeted areas, advertise and promote cleanup days, provide on-site program management, arrange for collection and disposal, etc. Goal – two cleanup program trials, assess results and modify program as may be necessary.
Milestone Year 3	Continue to identify cleanup areas, organize teams and advertise programs Goal – Four cleanup programs
Milestone Year 4	Continue to identify cleanup areas, organize teams and advertise programs Goal – Four cleanup programs
Milestone Year 5	Continue to identify cleanup areas, organize teams and advertise programs Goal – Four cleanup programs

BMP D	MEASURABLE GOALS AND MILESTONES
Goals	Volunteer Speakers
Milestone Year 1	Develop 15 min. SW Education PowerPoint presentation, develop speaker's outline, identify speakers, trial two speaking events, gauge results and modify program as needed.
Milestone Year 2	Continue to recruit speakers and create a "Speakers Bureau". Link request for a speaker to the Website, advertise to service groups, churches, etc. availability of speakers. Goal – 3 speaking engagements
Milestone Year 3	Continue program, evaluate and update as needed. Recruit speakers – Goal 6 speaking engagements
Milestone Year 4	Continue program, evaluate and update as needed. Recruit speakers – Goal 9 speaking engagements
Milestone Year 5	Continue program, evaluate and update as needed. Recruit speakers – Goal 12 speaking engagement's

SECTION 3
ILLICIT DISCHARGE DETECTION AND ELIMINATION

The following are common sources of illicit discharges to an MS4:

- Sanitary Wastewater
- Car wash wastewaters
- Radiator flushing disposal
- Spills from roadway accidents
- Carpet cleaning wastewaters
- Effluent from septic tanks
- Improper oil disposal
- Laundry Wastewaters/gray water
- Improper disposal of auto and household toxics

STORM SEWER SYSTEM MAP

Does the MS4 currently have a storm sewer system map completed for the entire regulated municipal separate storm sewer system? The map must depict, at a minimum: city streets, topography or drainage patterns, streams, and outfalls (points where the city or county-operated MS4 discharges into the streams or adjacent MS4s).

Yes ☒ No ☐ If no, explain

Beaufort County has a working map that has storm structures identified. The map requires update to require all parameters mentioned above.

PRIORITY AREAS, FIELD SCREENING, TRACING AND ELIMINATION OF ILLICIT DISCHARGES

Has (or will, within the first year of permit coverage,) the MS4 identified priority areas documenting its basis for the selection?

Yes ☒ No ☐ If no, explain

Not currently in place, this will be completed within 12 months of the effective date of coverage.

Does the MS4 currently have (or will have) written field screening and analytical protocol to detect and eliminate illicit discharges to the MS4 within one year from the effective date of coverage?

Yes ☒ No ☐ If no, explain

Not currently in place, this will be completed within 12 months of the effective date of coverage.

Does the MS4 currently have procedures for tracing the source of an illicit discharge?

Yes ☐ No ☒ If no, explain

Beaufort County will develop a procedure for tracing the source of an illicit discharge along with determining a written field screening and analytical protocol to detect and eliminate illicit discharge within 12 months from the effective date of coverage.

INSPECTION/SCREENING AND ENFORCEMENT PROCEDURES

1. Does the MS4 presently have personnel and procedures in place for inspection and/or screening for non-stormwater discharges? If yes, please describe and indicated percentage of system inspected and/or screened.

Yes ☐ No ☒

2. Does the MS4 presently have procedures and personnel in place for enforcement of violations of the illicit discharge ordinance? If yes, please describe.

Yes ☐
No ☒

3. How are enforcement actions documented?

Enforcement actions are not currently documented. This will be determined within 24 months from the effective date of coverage.

4. Has the MS4 defined "hot spots" for non-stormwater discharge screening and inspections? If yes, please describe and provide a map

of illicit discharge screening priority areas.

Yes ☐ No ☒

PUBLIC INPUT AND COMPLAINTS

1. Does the MS4 presently have procedures in place to receive and consider information and complaints about non-stormwater discharges that are submitted by the public? If so, provide brief description: responsible departments, personnel, steps followed.

Yes ☐
No ☒

Refer to Section 1 in regards to input of complaints.

EDUCATION

1. Has the MS4 educated the public and businesses including, but not limited to, auto parts supply, auto repair shop and restaurants, regarding ways to detect, prevent and eliminate illicit discharges? If yes, briefly describe the educational materials, including media used (e.g., written brochures, public service announcements, etc.), the topic(s) covered, intended target audience(s), and the distribution method.

Yes ☐
No ☒

Please refer to Sections 1 and 2 of this form for more details.

ILLICIT DISCHARGE ORDINANCES

1. Does the MS4 currently have an ordinance or regulatory mechanism that prohibits non-stormwater discharges into the storm sewer system? If yes, please attach a copy of the ordinance and give page number(s) of this section of ordinance. If No, proceed to the next section (inspections and enforcement).

Yes ☐ No ☒ _____ Page Number _____ Ordinance Section Number

2. Does the ordinance or regulatory mechanism clearly define non-stormwater discharges, either through a written description of a non-stormwater discharge or through a listing of unallowable or allowable non-stormwater discharges?

N/A

Yes ☐ No ☐ If no, explain

3. Does the ordinance or regulatory mechanism allow right-of-entry on private property for inspection of suspected discharges?

N/A

Yes ☐ No ☐ If no, explain

4. Does the ordinance or regulatory mechanism prohibit dumping?

N/A

Yes ☐ No ☐ If no, explain

5. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to eliminate non-stormwater discharges in the event of violations? If yes, please note page number and paragraph number.

N/A

Yes ☐ No ☐ _____ Page Number _____ Paragraph Number

6. What is maximum penalty in ordinance or regulatory? Please note maximum penalty, page number and paragraph number.

N/A

Yes ☐ No ☐ _____ Max. Penalty _____ Page Number _____ Paragraph Number

7. Does the MS4 have ordinance or other regulatory mechanism that prohibits contamination of stormwater runoff from "hot spots" including industrial and commercial properties, restaurants, auto repair shops, auto supply shops, and large commercial parking areas?

N/A

Yes ☐ No ☐ If no, explain

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM

TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)

BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION THREE

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Adequate Legal Authorities	Develop an ordinance, or other regulatory mechanism, adequate legal authorities to meet the objectives of the Illicit Discharge Stormwater Management Program. Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Illicit Discharge Stormwater Management Program. Establish the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater illicit discharges to determine whether there is compliance of the Illicit Discharge Stormwater Management Program. Establish the authority to issue violations to determined establishments and/or owners when illicit discharges and/or non-storm water discharges are determined.
B.	Develop Outfall Inventory Map	Develop procedures for field data collection activities and administration tasks for new development. Implement inventory collection of County owned stormwater structures and outfalls. Complete overall inventory map and continue to update map as construction plans are approved and developments are constructed.
C.	Outfall Screening for Illicit Discharges	Determine a list of significant illicit discharges. Develop and implement procedures for conducting outfall screening with scheduled visits of all outfalls to locate the problem, determine the source of the problem, remove/correct the illicit discharge, organize data collected, and report illicit discharges determined.
D.	Prioritize Other Potential Illicit Discharges and Non-storm Water Discharges	Determine a list of other potential illicit discharges, non-storm water discharges and incidental non-storm water discharges. Prioritize and establish procedures to evaluate the list of other potential illicit discharges and non-storm water discharges.
E.	Education on Illicit Discharges	Establish education and training to staff and the public on illicit discharges.
F.	Enforcement	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.
G.	Monitoring Plan	Measure pollutant levels discharged from identified outfalls to water bodies subject to TMDL.

TABLE 2: ADMINISTRATIVE INFORMATION

PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager

OTHER DEPARTMENT	ROLE
Code Enforcement	Provide enforcement assistance

BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)

GOVERNMENT ENTITY	ROLE

Beaufort County SW Utility	Primary responsible party

OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Training Assistance

EQUIPMENT NEEDS (IF APPLICABLE)
Sampling Equipment

GROUP	TARGET DESCRIPTION
Beaufort County Stormwater Utility	Equipment necessary for sampling
USCB	Lab services

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION THREE

TABLE 3: BEST MANAGEMENT PRACTICES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	Develop an ordinance, or other regulatory mechanism, adequate legal authorities to meet the objectives of the Illicit Discharge Stormwater Management Program. Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Illicit Discharge Stormwater Management Program. Establish the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater illicit discharges to determine whether there is compliance of the Illicit Discharge Stormwater Management Program. Establish the authority to issue violations to determined establishments and/or owners when illicit discharges and/or non-storm water discharges are determined.
Milestone Year 1	Begin development of ordinance setting forth the illicit discharge program, requiring implementation and continued maintenance of outfall inventory data collection. The ordinance will include all necessary authorities for determining illicit discharges and non-storm water discharges, outfall screening, authority to enter public or private property with outfalls, trace illicit discharges to source, and enforcement.
Milestone Year 2	Complete development of ordinance setting forth the illicit discharge program, requiring implementation and continued maintenance of outfall inventory data collection.
Milestone Year 3	Implement ordinance setting forth the illicit discharge program, requiring implementation and continued

	maintenance of outfall inventory data collection.
Milestone Year 4	Continue implementation of ordinance setting forth the illicit discharge program, requiring implementation and continued maintenance of outfall inventory data collection.
Milestone Year 5	Review and reassess ordinance setting forth the illicit discharge program, requiring implementation and continued maintenance of outfall inventory data collection.
BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Develop procedures for field data collection activities and administration tasks for new development. Implement inventory collection of County owned stormwater structures and outfalls. Complete overall inventory map and continue to update map as construction plans are approved and developments are constructed.
Milestone Year 1	Develop procedures for field data collection activities and administration tasks for data collection of new development.
Milestone Year 2	Implement inventory of 25% of County owned outfalls.
Milestone Year 3	Implement inventory of another 25% of County owned outfalls.
Milestone Year 4	Implement inventory of another 25% of County owned outfalls. Continue to update map as new development and/or changes occur.
Milestone Year 5	Complete inventory map by implementing inventory of remaining 25% of County owned outfalls.
BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Determine a list of significant illicit discharges. Develop and implement procedures for conducting outfall screening with scheduled visits of all outfalls to locate the problem, determine the source of the problem, remove/correct the illicit discharge, organize data collected, and report illicit discharges determined.
Milestone Year 1	Determine list of significant illicit discharges. Determine procedures for conducting outfall screening with scheduled visits of all outfalls. Report illicit discharges in annual report.
Milestone Year 2	Implement conducting outfall screening and determine source of illicit discharge.
Milestone Year 3	Continue to implement conducting outfall screening and determine source of illicit discharge.
Milestone Year 4	Continue to implement conducting outfall screening and determine source of illicit discharge.
Milestone Year 5	(60 months) Conduct outfall screening with a schedule to visit all outfalls during the permit term. Maintain records of all data collected.
BMP D	**MEASURABLE GOALS AND MILESTONES**
Goals	Determine a list of other potential illicit discharges, non-storm water discharges and incidental non-storm water discharges. Prioritize and establish procedures to evaluate the list of other potential illicit discharges and non-storm water discharges.
Milestone Year 1	Establish procedures for determining list of other potential illicit discharges, non-storm water discharges and incidental non-storm water discharges.
Milestone Year 2	Implement procedures for determining list of other potential illicit discharges, non-storm water discharges and incidental non-storm water discharges.
Milestone Year 3	Prioritize investigations for the other potential illicit discharges, non-storm water discharges, and incidental non-storm water discharges.
Milestone Year 4	Begin investigating for other potential illicit discharges, non-storm water discharges, and incidental non-storm water discharges.
Milestone Year 5	Continue investigating for other potential illicit discharges, non-storm water discharges, and incidental non-storm water discharges.
BMP E	**MEASURABLE GOALS AND MILESTONES**
Goals	Establish education and training to the public on illicit discharges.

Milestone Year 1	Determine necessary education and training that can be offered to the public.
Milestone Year 2	Continue education and training to the public.
Milestone Year 3	Continue education and training to the public.
Milestone Year 4	Continue education and training to the public.
Milestone Year 5	Continue education and training to the public.
BMP F	**MEASURABLE GOALS AND MILESTONES**
Goals	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.
Milestone Year 1	Determine procedures for issuing violations and enforcement actions and develop database for tracking illicit discharge locations and violators.
Milestone Year 2	Begin to track issuance of notices of violations and enforcement actions.
Milestone Year 3	Continue to track issuance of notices of violations and enforcement actions.
Milestone Year 4	Continue to track issuance of notices of violations and enforcement actions.
Milestone Year 5	Review and reassess procedures and database.
BMP G	**MEASURABLE GOALS AND MILESTONES**
Goals	Measure pollutant levels discharged from identified outfalls to water bodies subject to TMDL.
Milestone Year 1	Identify discharges of concern located in the TMDL watershed draining to impaired WQMS.
Milestone Year 2	Develop a TMDL Monitoring and Assessment Plan for discharges of concern located in the TMDL watershed draining to impaired WQMS.
Milestone Year 3	Determine a schedule for implementing the developed TMDL Monitoring and Assessment Plan. Develop procedures for implementation of water quality monitoring and monitoring database and implement procedures (30 months).
Milestone Year 4	Continue to implement monitoring schedule and database. Report data and findings of water quality monitoring to DHEC.
Milestone Year 5	Continue to implement monitoring schedule and database. Report data and findings of water quality monitoring to DHEC.

SECTION 4
CONSTRUCTION SITE RUNOFF PROGRAM

CONSTRUCTION SITE RUNOFF ORDINANCES

1. Do the current ordinances/regulations for the municipal stormwater management program comply with Local, State and Federal public notice requirements? If yes, describe how the public is notified.

Yes ☐
No ☒

2. Do you currently have an erosion prevention and sediment control - or similar - ordinance or regulatory mechanism? If yes, include a copy and reference the page number(s). If No, proceed to the next set of questions below about construction site plans review.

Yes ☒ No ☐ **Sec. 106 – 2856 (c) Page 2-26 in the BC BMP Manual & Sec. 106 – 2929 a. (17)** Page Number

3. Does the ordinance or regulatory mechanism require that site operators implement erosion prevention, sediment control, soil stabilization practices and other controls for land disturbance activities?

Yes ☒ No ☐ If no, explain

4. Does the ordinance/regulatory mechanism require (explicitly or implicitly) that controls be implemented for any land disturbances greater than or equal to one acre, or less than one acre if part of a large common plan of development or sale that would disturb one acre or more? If yes, note the page number and paragraph number where this is defined.

Yes ☒ No ☐ **Sec. 106-2929** Page Number **a. (17)** Paragraph Number

5. Does the ordinance or regulatory mechanism contain or reference technical standards for erosion and sediment control? If yes, note the page number and paragraph number where this is defined.

Yes ☐ No ☒ Page Number Paragraph Number

Ordinance states (Sec. 106-2929 a. (17)) in accordance with State and/or Federal laws concerning erosion control, not specific to a set of technical standards.

6. Do those technical standards meet with or exceed the current SC DHEC construction general permit sections 3.5 and 4.4?

N/A

Yes ☐ No ☐

7. Do technical standards require that construction activities maintain temporary water quality buffers during construction?

N/A

Yes ☐ No ☐

8. Does the ordinance or regulatory mechanism clearly define the criteria - primarily who must submit - for submitting erosion and sediment control information or plans? If yes, note page number and paragraph number

Yes ☒ No ☐ **Sec. 106 – 2856 (c) Page 2-26 in the BC BMP Manual** Page Number Paragraph Number

9. Does the ordinance or regulatory mechanism require approval by the local government prior to commencement of land disturbance activities? If yes, note page number and paragraph number.

Yes ☒ No ☐ **Sec. 106-2929** Page Number **a. (17)** Paragraph Number

10. Does the ordinance or regulatory mechanism require re-submittal of erosion and sediment control information or plans if site plans or conditions change during land disturbance activities? If yes, note page number and paragraph number.

Yes ☐ No ☒ Page Number Paragraph Number

11. Does the ordinance or regulatory mechanism allow right-of-entry for government officials onto construction sites for inspections? If yes, note page number and paragraph number.

Yes ☒ No ☐ **Sec. 99-107** Page Number **(c)** Paragraph Number

12. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to STOP WORK in the event of non-compliance violations? If yes, note page number and paragraph number.

Yes ☒ No ☐ **Sec. 106 – 2856 (c) Page 2-26 in the BC** Page Number Paragraph Number

BMP Manual _____ _____

13. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to effectively prohibit the discharge of pollutants in wash waters, from washouts, in stormwater runoff and from leaks and spills? If yes, note page number and paragraph number.

Yes ☐ No ☒ _____ Page Number _____ Paragraph Number

CONSTRUCTION SITE PLANS REVIEW

1. Does the MS4 presently have in place a technical review process with approval conditioned to meeting all requirements contained in parts 4.2.4 & 5 of the permit (i.e. engineering department, planning department, zoning board) that evaluates new development and redevelopment construction for construction site runoff?

Yes ☒ No ☐ If no, explain

2. Does the technical review process require an erosion prevention and sediment control plan to protect water quality with appropriate BMP rationale?

Yes ☒ No ☐ If no, explain

3. Does the review process include a requirement for pre-construction meeting between the MS4 and site developer, for priority construction sites, including at a minimum those construction activities discharging directly into, or immediately upstream of, waters the state recognizes as impaired or high quality?

Yes ☐ No ☒ If no, explain

A pre-construction meeting is required with the Zoning and Planning Department, the County does not currently discuss the above construction activities discharges.

4. If there is a review process, provide a brief narrative or a flow chart of the process, describing the process steps, responsible personnel qualifications (by department, title and contact person), and criteria used for evaluation of information or plans that are submitted.

Yes ☒ No ☐ If no, explain

The review process starts with the Zoning Department with Hillary Austin, Zoning Administrator. Ms. Austin distributes engineering related items such as stormwater construction plans and calculations to the Stormwater Engineering Department with Eric Larson, Stormwater Manager who coordinates with the professional engineer of record for questions and comments on the submitted design.

RESPONDING TO PUBLIC INPUT AND COMPLAINTS

1. Does the MS4 presently have procedures in place for receipt and consideration of information and complaints submitted by the public?

Yes ☒ No ☐

If Yes, please provide a brief narrative of the receipt process and procedures, describing process steps, responsible departments, and personnel (by title). If available, provide information on complaint tracking, documentation, etc:

Before development and permit approval, the public input and complaints are received by the Planning and Zoning Department from the public calling the number on the public notice. There is not a procedure in place for complaints during construction. After construction, complaints are differed to the Stormwater Utility Department which will resolve the problem by involving the necessary department, Engineering and/or Public Works. A website (Citizengram) has been created for the public to notify the County of concerns in the area.

ENFORCEMENT AND INSPECTION PROCEDURES

1. Does the MS4 presently have personnel and procedures in place for construction site runoff inspection?

Yes ☐ No ☒ If no, explain

The BC BMP Manual, which is required to be followed per the ordinance states that an erosion control form for new development is required for new development to be completed by a professional (engineer, land surveyor or landscape architect). Beaufort County personnel and procedures are not in place currently to review and enforce form to be completed by property owners and/or conduct site inspections.

2. Does the program provide for monthly inspection of priority sites?

Yes ☐ No ☒ If no, explain

Same explanation as above.

3. Does the MS4 presently have procedures and personnel in place for enforcement to the maximum extend for violations of construction site requirements?

Yes ☐ No ☒ If no, explain

Same explanation as above.

4. Does the MS4 use a STOP WORK order to enforce non-compliance with construction site policies and requirements?

Yes ☒ No ☐ If no, explain

5. How are enforcement actions documented?

The building department enforcement action is by a stop work form.

The engineering department enforcement action is by an enforcement letter.

TRAINING AND EDUCATION

1. Does the MS4 presently make construction site runoff control training/information available to the public, developers, engineers, and contractors? (Clemson University periodically provides training through its Certified Erosion Prevention & Sediment Control Inspection (CEPSCI) course. Local governments are encouraged to refer developers and contractors to these classes.)

Yes ☒ No ☐ If no, explain

2. Has MS4 staff completed states approved training, such as the Clemson CEPSCI program? Enter the number either way

Yes ☒ If yes, how many? No ☐

7 County staff

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM

TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)

BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION FOUR

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Revise Stormwater Management Ordinance/ Adequate Legal Authority	Revise stormwater management ordinance, or other regulatory mechanism, to adequate and clearly state the legal authorities to meet the objectives of the construction site runoff requirements for the Stormwater Management Program. Establish the legal authority to review designs and proposals for new development

		and redevelopment to determine whether adequate stormwater runoff control measures will be installed, implemented, and maintained during construction. Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Construction Site Runoff Stormwater Management Program. Establish the authority to enter private and public property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to construction sites with devices to control erosion and sediment control and other waste at site.
B.	Erosion and Sediment and Other Waste at the Site Control Requirements	Determine requirements for the implementation of appropriate BMPs on a construction site to control erosion and sediment and other waste at the site.
C.	Revise Plan Review Procedures	Develop plan review procedures to determine if the construction site is in compliance with erosion control requirements determined by the County. Set requirements and procedures for a pre-construction meeting and tracking of current construction activities for the County and the public.
D.	Revise Site Inspection Procedures and Penalties	To ensure that all erosion control measures meet the County's performance standards to control erosion and sediment and other waste at site. The County shall develop and implement a written inspection program for construction site controls installed pursuant to the County's construction site runoff control program. Document and maintain records of inspections, findings and enforcement actions and make them available for review by the permitting authority.
E.	Receipt of Public Inquires	Develop procedures for receiving and consideration of public inquires, concerns, and information submitted regarding local construction activities.

TABLE 2: ADMINISTRATIVE INFORMATION	
PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager

OTHER DEPARTMENT	ROLE
Zoning and Planning	Ordinance development
Legal	Ordinance development
Building and Code Enforcement	Ordinance development and enforcement

BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary responsible party

OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Training assistance

EQUIPMENT NEEDS (IF APPLICABLE)
N/A

GROUP	TARGET DESCRIPTION
N/A	N/A

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION FOUR

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For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	Revise stormwater management ordinance, or other regulatory mechanism, to adequate and clearly state the legal authorities to meet the objectives of the construction site runoff requirements for the Stormwater Management Program. Establish the authority to review designs and proposals for new development and redevelopment to determine whether adequate stormwater runoff control measures will be installed, implemented, and maintained during construction. Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Construction Site Runoff Stormwater Management Program. Establish the authority to enter private and public property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to construction sites with devices to control erosion and sediment control and other waste at site.
Milestone Year 1	Begin development of ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project. The ordinance will include all necessary authorities for design review and approval, inspection, and monitoring.
Milestone Year 2	Complete development of ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project.
Milestone Year 3	Implement ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project.
Milestone Year 4	Continue implementation of ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project.
Milestone Year 5	Review and reassess ordinance setting forth construction site runoff criteria, requiring implementation and continued maintenance of pre-construction BMPs until close out of project.

BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Determine requirements for the implementation of appropriate BMPs on a construction site to control erosion and sediment and other waste at the site.
Milestone Year 1	Begin establishing standards for construction site runoff control.
Milestone Year 2	Complete the development of standards for construction site runoff control.
Milestone Year 3	Implement construction site runoff control standards.
Milestone Year 4	Continue to implement construction site runoff control standards.
Milestone Year 5	Review and reassess construction site runoff control standards.

BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Develop plan review procedures to determine if the construction site is in compliance with erosion control

	requirements determined by the County. Set requirements and procedures for a pre-construction meeting and tracking of current construction activities for the County and the public.
Milestone Year 1	Begin to develop plan review procedures and requirements for construction site compliance, pre-construction meetings, and tracking of current construction activities for erosion and sediment control.
Milestone Year 2	Complete plan review procedures and requirements for construction site compliance, pre-construction meetings, and tracking of current construction activities for erosion and sediment control.
Milestone Year 3	Educate County staff of construction site runoff control standards and plan requirements.
Milestone Year 4	Implement procedures and requirements for construction site compliance, pre-construction meetings, and tracking of current construction activities for erosion and sediment control.
Milestone Year 5	Review and reassess procedures and requirements.

BMP D	**MEASURABLE GOALS AND MILESTONES**
Goals	To ensure that all erosion control measures meet the County's performance standards to control erosion and sediment and other waste at site. The County shall develop and implement a written inspection program for construction site controls installed pursuant to the County's construction site runoff control program. Document and maintain records of inspections, findings and enforcement actions and make them available for review by the permitting authority.
Milestone Year 1	Begin to develop a stormwater ordinance that references a written inspection program; including issuing infractions, development of a database for tracking and inspecting pre-construction control devices, and a draft written inspection program.
Milestone Year 2	Complete stormwater ordinance and written inspection program.
Milestone Year 3	Implement the stormwater ordinance and inspection program, including to update the database with inspection records, findings and enforcement actions.
Milestone Year 4	Continue to implement the stormwater ordinance and inspection program, including to update the database with inspection records, findings and enforcement actions.
Milestone Year 5	Review and reassess the ordinance and inspection program.

BMP E	**MEASURABLE GOALS AND MILESTONES**
Goals	Develop procedures for receiving and consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 1	Begin to develop procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 2	Complete procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 3	Implement procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 4	Continue to implement procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.
Milestone Year 5	Review and reassess procedures for receiving and distributing to key staff for consideration of public inquires, concerns, and information submitted regarding local construction activities.

SECTION 5
POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT OR PERMANENT / LONG TERM STORM WATER POLLUTION CONTROL MEASURES

POST-CONSTRUCTION STORMWATER MANAGEMENT PROGRAM

1. Will the Post-Construction Stormwater Management Program require that controls are in place to meet the site performance standards in Part 4.2.5.2 to the MEP and to protect water quality?

Yes ☒ No ☐ If no, explain

2. Does the MS4 currently have in place mechanisms or strategies to address permanent stormwater runoff management from new development or redevelopment projects that result in land disturbance of one acre or more? For example, land use planning requirements, zoning directives, site-based local controls such as riparian buffer zone protection; storage or detention of stormwater prior to release to streams; practices to cause stormwater to percolate the soil rather than runoff immediately; vegetative practices.

Yes ☒ No ☐

If Yes, please provide a brief narrative of - and/or references to - the structural and non-structural strategies, describing strategies implemented, Best Management Practices allowed, technical guidance, responsible departments, and personnel (by title).

Under Division II.106.XIII.4 of the County's Code of Ordinances, all development and redevelopment shall provide adequate drainage, peak rate, volume and stormwater pollution control to match predevelopment conditions as deemed feasible by the stormwater administrator (Eric Larson, Stormwater Manager). Fulfilment of these requirements is to be based on the latest version of the county's manual for stormwater BMPs.

SITE PERFORMANCE STANDARDS

1. Has the permittee established, implemented and enforced a requirement that owners or operators of new development and redeveloped sites discharging to the MS4, which disturb greater than or equal to one acre (including projects that disturb less than one acre that are part of a larger common plan of development or sale), design, install, implement, and maintain stormwater control measures that maintain pre-development conditions and protect water quality to the MEP?

Yes ☒ No ☐ **Sec. 106- 2856** Page Number **(d)** Paragraph Number

PERMANENT STORMWATER CONTROLS SITE MANAGEMENT ORDINANCE

1. Do you currently have an ordinance or regulatory mechanism that addresses permanent stormwater runoff management from new development and redevelopment projects? If yes, reference the page number in your ordinance. If No, proceed to the next section on permanent stormwater management plans review.

Yes ☒ No ☐ **Sec. 106- 2856** Page Number **(d)** Paragraph Number

2. Does the ordinance or regulatory mechanism require controls to mitigate pollutants in stormwater runoff? If yes, note page number and paragraph number.

Yes ☒ No ☐ **Sec. 106 – 2856** Page Number **(c)** Paragraph Number

3. Does the ordinance or regulatory mechanism require (explicitly or implicitly) that controls be implemented for any new development or redevelopment projects greater than or equal to one acre, including projects less than one acre that are part of a large common plan of development or sale, that discharge into your small MS4? If yes, note page number and paragraph number.

Yes ☒ No ☐ **Sec. 106- 2857** Page Number **(a) (2) & (3)** Paragraph Number

4. Does the ordinance or regulatory mechanism contain or reference technical standards for water quality controls (e.g., design of detention basins)? If yes, note page number and paragraph number.

Yes ☒ No ☐ **Sec. 106- 2861** Page Number **(a) (3)** Paragraph Number

5. Does the ordinance or regulatory mechanism clearly define the criteria for submittal -who must submit - of permanent stormwater management design information or plans? If yes, note page number and paragraph number.

Yes ☒ No ☐ **Sec. 106- 2929** Page Number **(f) (1)** Paragraph Number

6. Does the ordinance or regulatory mechanism require approval prior to construction of permanent stormwater management controls? If yes, note page number and paragraph number.

Yes ☒ No ☐ **Sec. 106-2929** Page Number **a. (17)** Paragraph Number

7. Does the ordinance or regulatory mechanism require re-submittal of permanent stormwater management design information or plans if site plans change after the initial design has been approved? If yes, please note page number and paragraph number.

Yes ☐ No ☒ _____ Page Number _____ Paragraph Number

8. Does the ordinance or regulatory mechanism give the MS4 owner/operator the authority to penalize the owner of permanent stormwater management controls for violations? If yes, note page number and paragraph number.

Yes ☐ No ☒ _____ Page Number _____ Paragraph Number

9. Does the ordinance or regulatory mechanism allow the MS4 right-of-entry on property where permanent stormwater management controls are installed for inspections? If yes, please note page number and paragraph number.

Yes ☒ No ☐ **Sec. 106- 2856** Page Number **(f)** Paragraph Number

10. Does the ordinance or regulatory mechanism require that permanent stormwater management controls have adequate and long-term operation and maintenance? If yes, please note page number and paragraph number. If no, how does the MS4 owner/operator maintain permanent stormwater management controls?

Yes ☒
No ☐

Sec. 106 – 2856 (c) Page 2-26 in the BC BMP Manual

11. Does the ordinance or regulatory mechanism require establishment and maintenance of water quality buffers in areas of new development and redevelopment?

Yes ☒ No ☐ If no, explain

Sec. 106- 1845 (4) (d.)

PERMANENT STORMWATER MANAGEMENT PLANS REVIEW

1. Does the MS4 presently have in place a technical review process (i.e. engineering department, planning department, zoning board) that evaluates new development and redevelopment with regard to the impact that permanent stormwater runoff will have on receiving streams? Plan review must specifically address site performance standards and ensure long term maintenance.

Yes ☒ No ☐

If Yes, provide a brief narrative or a flow chart of the review process, describing the process steps, responsible personnel (by department, title and contact person), and criteria used for evaluation of information or plans that are submitted.

The review process starts with the Zoning Department with Hillary Austin, Zoning Administrator. Ms. Austin distributes engineering related items such as stormwater construction plans and calculations to the Stormwater Engineering Department with Eric Larson, Stormwater Manager who coordinates with the professional engineer of record for questions and comments on the submitted design.

2. Does the MS4 presently have in place a requirement for submittal of 'as-built' certifications at project completion to ensure that site performance standards and long term maintenance requirements are met?.

Yes ☐ No ☒ If no, explain

There are no long-term maintenance requirements at this time. This will become a part of the new stormwater management program.

3. Does the MS4 presently include measures for effective water quality protection in its watersheds?

Yes ☒ No ☐ If no, explain

4. Does the MS4 track Post-Construction Stormwater Control measures?.

Yes ☐ No ☒ If no, explain

Many post-construction control measures have been inventoried by the County but are not required to be tracked. This will become a part of the new stormwater management program.

5. Does the MS4 conduct inspection of permanent storm water controls and document all findings and enforcement actions?

Yes ☐ No ☒ If no, explain

The County has established permission to inspect SCMs but does not do so regularly. This will become a part of the new stormwater management program.

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM

TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)

BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION FIVE

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	Adequate legal authorities	Maintain through an ordinance, or other regulatory mechanism, adequate legal authorities to meet the objectives of the Post-Construction Site Runoff Controls program. Establish the authority to review designs and proposals for new development and redevelopment to determine whether adequate stormwater control measures will be installed, implemented, and maintained. Establish the authority to request information such as stormwater plans, inspection reports, monitoring results, and other information deemed necessary to evaluate compliance with the Post-Construction Stormwater Management Program. Establish the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater discharges to determine whether there is compliance the Post-Construction Stormwater Management Program.
B.	Determine BMPs	Review and revise (as necessary) the current Beaufort County Stormwater Manual to include the latest BMPs (non-structural, structural, infiltration, and vegetation).
C.	Plan reviews	Conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre (including sites that disturb less than one acre that are part of a larger common plan of development or sale). The site plan review shall address how the project applicant meets the performance standards and how the project will ensure long-term maintenance.
D.	Provide a mechanism to require long-term operation and maintenance of structural BMPs	Implement or require an operation and maintenance plan for the long-term operation of the structural BMPs required by the program. The operation and maintenance plan shall require the owner of each structural BMP to perform and maintain a record of annual inspections of each structural BMP. Annual inspection of permitted structural BMPs shall be performed by a qualified professional.
E.	Inspections of Structural Stormwater Control Measures	To ensure that all stormwater control measures meet the County's performance standards and are being maintained pursuant to the maintenance agreement, the County shall develop and implement a written inspection program for structural stormwater controls installed pursuant to the County's post-construction program. Document and maintain records of inspections, findings and enforcement actions and make them available for review by the permitting authority.
F.	Enforcement	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.

TABLE 2: ADMINISTRATIVE INFORMATION	
PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager

OTHER DEPARTMENT	ROLE
Planning and Zoning	Ordinance assistance
Legal	Ordinance assistance
Building and Code Enforcement	Ordinance assistance and enforcement

BEST MANAGEMENT PRACTICES (BMPs) MEASURABLE GOALS AND IMPLEMENTATION MILESTONES (Continued)	
GOVERNMENT ENTITY	ROLE
Beaufort County SW Utility	Primary responsible party

OTHER INSTITUTION	ROLE
Beaufort County Soil & Conservation District	Training assistance

EQUIPMENT NEEDS (IF APPLICABLE)
N/A

GROUP	TARGET DESCRIPTION
N/A	N/A

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION FIVE

TABLE 3: BEST MANAGEMENT PRACTICES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	Maintain through an ordinance, or other regulatory mechanism, adequate legal authorities to meet the objectives of the Post-Construction Site Runoff Controls program. The County shall have the authority to review designs and proposals for new development and redevelopment to determine whether adequate stormwater control measures will be installed, implemented, and maintained. The County shall have the authority to request information such as stormwater plans, inspection reports,

	monitoring results, and other information deemed necessary to evaluate compliance with the Post-Construction Stormwater Management Program. The County shall have the authority to enter private property for the purpose of inspecting at reasonable times any facilities, equipment, practices, or operations related to stormwater discharges to determine whether there is compliance the Post-Construction Stormwater Management Program.
Milestone Year 1	Begin to develop ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs. The ordinance will include all necessary authorities for design review and approval, inspection, and monitoring.
Milestone Year 2	Complete development of ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs.
Milestone Year 3	Implement ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs.
Milestone Year 4	Continue implementation of ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs.
Milestone Year 5	Review and reassess ordinance setting forth design criteria, requiring implementation and continued maintenance of post-construction BMPs.

BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Review and revise (as necessary) the current Beaufort County Stormwater BMP Manual to include the latest BMPs (non-structural, structural, infiltration, and vegetation).
Milestone Year 1	Begin to review and revise (as necessary) the Beaufort County Stormwater BMP Manual.
Milestone Year 2	Complete review and updates of the Beaufort County Stormwater BMP Manual as necessary to implement desired BMPs.
Milestone Year 3	Implement the Beaufort County Stormwater BMP Manual.
Milestone Year 4	Continue to implement the Beaufort County Stormwater BMP Manual.
Milestone Year 5	Review and reassess the Beaufort County Stormwater BMP Manual.

BMP C	MEASURABLE GOALS AND MILESTONES
Goals	The County shall conduct site plan reviews of all new development and redeveloped sites that disturb greater than or equal to one acre (including sites that disturb less than one acre that are part of a larger common plan of development). The site plan review shall address how the project applicant meets the performance standards and how the project will ensure long-term maintenance.
Milestone Year 1	Begin to redefine plans review process and procedures in conjunction with developing the stormwater ordinance, including review and clearly stating criteria for stormwater treatment and design standards.
Milestone Year 2	Complete plans review process and procedures in conjunction with developing the stormwater ordinance.
Milestone Year 3	Implement plans review process and procedures.
Milestone Year 4	Continue to implement the plans review process and procedures.
Milestone Year 5	Review and reassess the plans review process and procedures.

BMP D	**MEASURABLE GOALS AND MILESTONES**
Goals	The County shall implement or require an operation and maintenance plan for the long-term operation of the structural BMPs required by the program. The operation and maintenance plan shall require the owner of each structural BMP to perform and maintain a record of annual inspections of each structural BMP. Annual inspection of permitted structural BMPs shall be performed by a qualified professional.
Milestone Year 1	Begin to develop procedures to require an operation and maintenance plan for the long-term operation of the structural BMPs required by the program.
Milestone Year 2	Complete procedures to require an operation and maintenance plan for the long-term operation of the structural BMPs required by the program. Make available stormwater control measure (SCM) maintenance plan templates.
Milestone Year 3	Educate SCM operators of maintenance plan requirements. Begin to obtain maintenance plan for each

	SCM and enter appropriate data into SCM database (see BMPs E and F).
Milestone Year 4	Continue to implement maintenance plan for each SCM and enter appropriate data into SCM database.
Milestone Year 5	Complete maintenance plan for all current SCMs and enter appropriate data into SCM database.

BMP E	**MEASURABLE GOALS AND MILESTONES**
Goals	To ensure that all stormwater control measures meet the County's performance standards and are being maintained pursuant to the maintenance agreement, the County shall develop and implement a written inspection program for structural stormwater controls installed pursuant to the County's post-construction program. The County shall document and maintain records of inspections, findings and enforcement actions and make them available for review by the permitting authority.
Milestone Year 1	Begin to create a draft of the written inspection program and start to develop stormwater ordinance that references the written inspection program. Begin to setup database for tracking and inspecting post-construction stormwater control measures.
Milestone Year 2	Complete the written inspection program and stormwater ordinance that references the written inspection program. Complete the setup of a database for tracking and inspecting post-construction stormwater control measures.
Milestone Year 3	Implement routine inspections.
Milestone Year 4	Continue to implement routine inspections.
Milestone Year 5	Complete inspection of every post-construction SCM and documented inspections, findings and enforcement actions in the database.
BMP F	MEASURABLE GOALS AND MILESTONES
Goals	Track the issuance of notices of violation and enforcement actions. This mechanism shall include the ability to identify chronic violators for initiation of actions to reduce noncompliance.
Milestone Year 1	Begin to develop procedures and database for tracking post-construction stormwater control measures violations.
Milestone Year 2	Complete procedures and database for tracking post-construction stormwater control measures violations.
Milestone Year 3	Identify and input SCMs violations in database.
Milestone Year 4	Continue to identify and input SCMs violations in database.
Milestone Year 5	Complete inventory of county-wide inspections of current SCMs and corresponding violation(s).

SECTION 6
POLLUTION PREVENTION / GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

MUNICIPAL FACILITIES AND STORMWATER CONTROL INVENTORY

1. Has the MS4 owner/operator obtained a SC Industrial Stormwater General Permit coverage or a no-exposure waiver for all qualifying municipal industrial activities? If yes, please give permit numbers or copy of the No-Exposure Certification form.

Yes ☐ No ☒ _____ _____ _____ Permit Numbers(s)

List municipally-owned or operated facilities that have a notable potential for contaminating runoff: for example - vehicle maintenance garages; waste transfer operations; golf courses; salt or other materials storage; landfill. If more than one facility for a given type of operation; give the number of such facilities. Indicate if any of these are covered by an NPDES permit. Is there a documented pollution prevention plan in place for these facilities?

FACILITY OR TYPE OF OPERATION	NUMBER	IS ACTIVITY COVERED BY NPDES PERMIT?	IS A POLLUTION PREVENTION PLAN IN EFFECT?
Mosquito Control Facility	**1**	Yes ☒ No ☐	Yes ☒ No ☐
Detention Facility	**1**	Yes ☐ No ☒	Yes ☐ No ☒
Public Works (North and South)	**2**	Yes ☐ No ☒	Yes ☐ No ☒
Garbage Convenience Stations	**12**	Yes ☐ No ☒	Yes ☐ No ☒
Airports	**2**	Yes ☒ No ☐	Yes ☒ No ☐

In addition to considering industrial-type operations, you must also consider municipal infrastructure, and related maintenance activities, maintenance schedules and long-term inspection procedures for structural controls and the proper disposal of waste from storm sewers/catch basins, etc. Also included in this program area is discharge of pollutants from roads and parking lots. See Part 4.2.6.1

MUNICIPAL OPERATIONS POLLUTION PREVENTION

1. Does the MS4's operations and maintenance program have policies and procedures in place that address pollution prevention? If yes, please describe procedures. Consider the following in your response: Municipally owned or operated facility assessment (4.2.6.2), Facility specific stormwater management SOP and facility stormwater controls (4.2.6.3), Storm sewer system maintenance activities-MS4 Maintenance (4.2.6.4), Flood management projects, (4.2.6.5), Pesticide, herbicide and fertilizer application and management in landscape maintenance (4.2.6.6). You may want to incorporate maintenance activities, maintenance schedules; long term inspection procedures for structural and non-structural stormwater controls to reduce floatables and other pollutants; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways; controls for reducing or eliminating pollutants from municipal parking lots, maintenance and storage yards, fleet or maintenance areas with outdoor storage areas, salt/sand storage areas, snow disposal areas, waste transfer stations; disposal of waste removed from storm sewers and the areas listed above; and assessment of impacts on water quality from all of the above.

Yes ☐
No ☒

If no, explain **There is not yet a formalized operation and maintenance program for pollution prevention activities. One will be developed as part of the new stormwater management plan.**

STAFF EDUCATION AND TRAINING

1. Does the MS4's current operation and maintenance program provide annual training for staff on preventing and reducing stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and stormwater system maintenance?

Yes ☐

No ☒ If no, explain

There is not yet a formalized operation and maintenance program for pollution prevention activities. One will be developed as part of the new stormwater management plan.

2. Are training activities documented? If yes, please describe training and method of record-keeping.

Yes	☐	
No	☒	If no, explain **Training activities are not currently documented, but will be in accordance with measurable goals described below.**

REQUIREMENTS FOR CONTRACTORS OVERSIGHT

1. Are contractors hired by the permittee to perform municipal maintenance activities required to comply with all municipal operations control measures?

Yes ☐ No ☒ If no, explain

County operations control measures are not currently documented but will be under the new stormwater management plan.

2. Are oversight procedures documented? If yes, please describe SOP.

Yes	☐
No	☒

Complete Tables 1, 2, and 3 (BMP Measurable Goals and Milestones) in the addendum of this NOI. Identify and outline measurable goals and milestones. Attach completed Section 1 tables to this NOI.

ADDENDUM

TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)

BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES

These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION SIX

TABLE 1: BMP MEASURABLE GOALS AND IMPLEMENTATION MILESTONES

	Name	DESCRIPTION
A.	SPCC Plans	Develop spill prevention and control plans for County facilities.
B.	Training programs	Provide training program for grounds maintenance, landscaping crews, and roadway and drainage staff.
C.	Parking Lot and Street Cleaning	Prioritize and improve street and parking lot cleaning practices to reduce the amount of debris and solids in runoff.
D.	Asset Management	Asset management of facilities and high priority areas.

TABLE 2: ADMINISTRATIVE INFORMATION

PRIMARY CONTACT	POSITION OR TITLE
Eric Larson, PE	Stormwater Manager

OTHER DEPARTMENT	ROLE
Public Works (includes solid waste)	SPCC implementation
Mosquito Control	SPCC implementation
Airports	SPCC implementation
GOVERNMENT ENTITY	**ROLE**
Beaufort County SW Utility	Primary responsible party
Sheriff	SPCC Detention Facility implementation

OTHER INSTITUTION	ROLE
N/A	N/A

EQUIPMENT NEEDS (IF APPLICABLE)
SPCC Plans

GROUP	TARGET DESCRIPTION
County facility staff	Staff at County facilities subject to stormwater good housekeeping measures.

ADDENDUM
TO SMALL MS4 NPDES PERMIT NOTICE OF INTENT (SMS4-NOI)
BEST MANAGEMENT PRACTICES (BMP) MEASURABLE GOALS AND MILESTONES
These tables must be completed and attached for each of Sections 1 thru 6 of this Notice of Intent (NOI)

SECTION SIX

TABLE 3: BEST MANAGEMENT PRACTICES

The purpose of this addendum is to record the measurable goals for each BMP, and the dates (month and year) by which interim actions are to be accomplished. Space is given for four BMPs for each of the six minimum measures.

Measurable goals are BMP design objectives, or goals that will quantify the progress of implementing the actions or performance of a BMP. They are ways to measure activities or effects of a BMP. For each of the six minimum measures and for each BMP, define the measurable goal you will use to monitor effectiveness of this BMP.

For each BMP, establish milestones for implementation. These tables are set up for once/year milestones. You may change the milestone dates to time frames less than one year. Also, certain BMPs - e.g., an ordinance - should be put in place within one year.

BMP A	MEASURABLE GOALS AND MILESTONES
Goals	SPCC Plans
Milestone Year 1	Identify list of facilities and determine high priority areas.
Milestone Year 2	Evaluate all county-owned or operated facilities to determine whether an SPCC or separate stormwater permit is necessary. Evaluate new facilities as they are obtained.
Milestone Year 3	Develop a SWPP that may be used for the identified facilities. Conduct first annual inspections.
Milestone Year 4	Continue to conduct annual inspections of facilities and high priority areas.
Milestone Year 5	Continue to conduct annual inspections of facilities and high priority areas.

BMP B	MEASURABLE GOALS AND MILESTONES
Goals	Provide training program for grounds maintenance, landscaping crews, and roadway and drainage staff.
Milestone Year 1	
Milestone Year 2	Develop procedures for training program for grounds maintenance, landscaping crews, and roadway and drainage staff.
Milestone Year 3	Develop a pollution prevention workshop for all municipal employees responsible for grounds maintenance, landscaping crews, and roadway and drainage staff.
Milestone Year 4	Implement annual workshop for new employees and crew managers.
Milestone Year 5	Review and reassess procedures and training.

BMP C	MEASURABLE GOALS AND MILESTONES
Goals	Parking Lot and Street Cleaning
Milestone Year 1	Inventory and prioritize roads for cleaning.
Milestone Year 2	Quantify debris collected from street sweeping.
Milestone Year 3	Achieve a determined percentage reduction in solids levels in runoff.
Milestone Year 4	Continue to achieve and measure determined percentage reduction in solids level in runoff.
Milestone Year 5	Continue to achieve and measure determined percentage reduction in solids level in runoff.

BMP D	**MEASURABLE GOALS AND MILESTONES**
Goals	Asset management of facilities and high priority areas.
Milestone Year 1	Develop procedures for asset management of facilities and high priority areas.
Milestone Year 2	Identify high priority areas, 25% of stormwater management system.
Milestone Year 3	Identify high priority areas, another 25% of stormwater management system.
Milestone Year 4	Identify high priority areas, another 25% of stormwater management system.
Milestone Year 5	Complete identification of high priority areas, remaining 25% of stormwater management system.

Stormwater Webcast:
Retrofitting Existing Stormwater Ponds & Basins
By the Center for Watershed Protection

November 12, 2014 Time: 1:00 – 3:00pm

Bluffton Town Hall
20 Bridge Street
Bluffton, SC 29910

Credits: 2 PDHs (equivalent to 0.2 CEUs)

- *Speakers: Greg Hoffmann, P.E.,Program Director, Practices, Center for Watershed Protection, Inc. (Ellicott City, MD)*
- *Joe Battiata, P.E., Senior Water Resources Engineer, Center for Watershed Protection, Inc. (Richmond, VA)*
- *Matthew Meyers, Project Manager, Fairfax County Department of Public Works and Environmental Services, Stormwater Planning Division (Fairfax, VA)*

Many communities seek solutions to improve water quality, green the community, and comply with permit conditions and numerical standards in TMDLs. One of the most efficient means to achieve multiple benefits is to retrofit a community's existing stormwater infrastructure, consisting of older detention basins and ponds, among other practices. This webcast will highlight a systematic and effective way to inventory existing practices, develop concept plans, prioritize retrofits based on pollutant removal, cost and other factors, and construct the retrofits.

Please RSVP to Beaufort Conservation District by Friday, November 7th.
shelby.berry@sc.nacdnet.net or call 842-522-8100.

Brought to you by Neighbors for Clean Water,
Beaufort County Stormwater Implementation Committee (SWIC)
& Beaufort County Stormwater Utility

*There is no charge, but we need participants to sign up
to accommodate seating for everyone.*

MEMORANDUM

Date: November 5, 2014

To: Stormwater Management Utility Board

From: Eddie Bellamy, Public Works Director

Re: **Maintenance Project Report for November 2014**

This report will cover one major and eleven minor or routine projects. The Project Summary Reports are attached.

1. Major Project

   A. **White Sands Circle**, completed in July on St. Helena Island, District 8; we bush hogged 4,835 feet of channel, cleaned 2,500 feet of channel and 75 feet of roadside ditch, and jetted two access pipes and four crossline pipes. Total cost of project was **$16,054**.

2. Minor or Routine Projects

   A. **Port Royal Island Valley Drains,** completed in April on Port Royal Island, District 6; we cleaned 13,791 feet of valley drains on four different roads.
   B. **Port Royal Island Tree Removals,** completed in April on Port Royal Island, District 6; we removed four fallen trees from two different workshelves.
   C. **Pleasant Point Drive channel,** completed in June on Lady's Island, District 7; we bush hogged 1,719 feet of workshelf and cleaned 473 of channel.
   D. **Buckingham Plantation Drive**, completed in August in Bluffton Township, District 9; we lowered the level of a detention pond to prevent flooding by installing 28 feet of channel pipe for overflow.
   E. **Capehart Circle Subdivision,** completed in July on Port Royal Island, District 6; we removed blockage by hand from 100 feet of roadside ditch and cleaned 550 feet of roadside ditch and 240 feet of channel.
   F. **Nanny Cove Road,** completed in August in Bluffton Township, District 9; we cleaned a catch basin, repaired the catch basin and channel pipe, replaced the lid, and jetted 18 feet of channel pipe and 496 feet of roadside pipe.
   G. **Fort Fremont Road,** completed in August in the Land's End area of St. Helena Island, District 8; we removed an unauthorized pipe that was restricting flow.
   H. **Colleton Drive,** completed in August in the Grays Hill area of Port Royal Island, District 5; we replaced a driveway pipe.
   I. **Paige Point Bluff**, completed in August in Sheldon Township, District 5, we cleaned 560 feet of channel and jetted one crossline pipe.

J. **St. Helena Island Bush Hogging,** completed in September in District 8; we bush hogged 101,365 feet of channel and associated workshelves. Total cost of the effort was **$68,689**, or **$.68/foot.**

K. **Coastal Seafood Road,** completed in September on St. Helena Island, District 8; we replaced one crossline pipe.

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: White Sands Circle

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: Jul-14

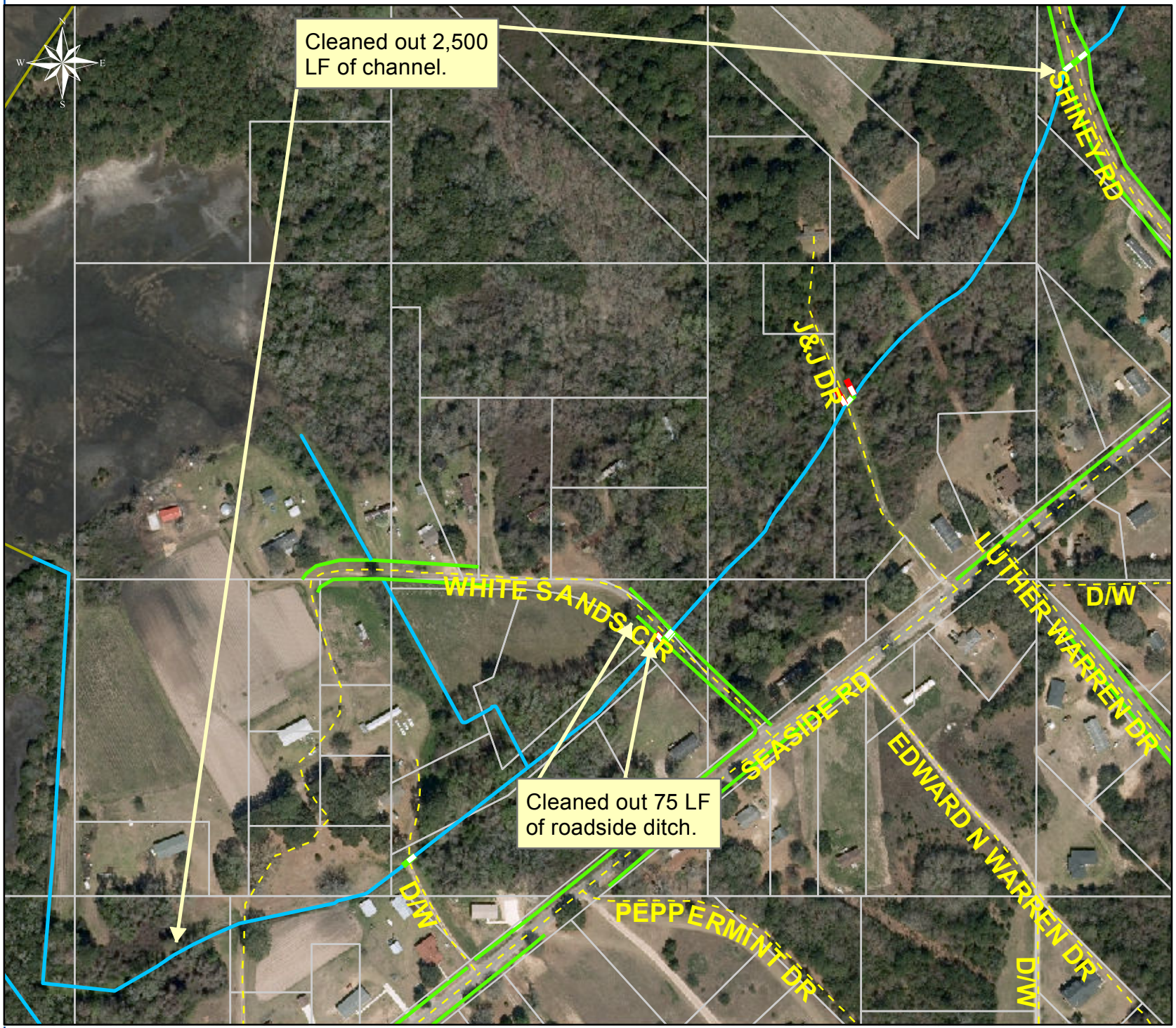
Project improved 7,410 L.F. of drainage system. Bush hogged 4,835 L.F. of channel. Cleaned out 2,500 L.F. channel and 75 L.F. of roadside dtich. Jetted (2) access pipes and (4) crossline pipes.

2015-504 / White Sands Circle Channel #1	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
BW / Bobcat Work	3.0	$67.24	$25.62	$16.14	$0.00	$45.14	$154.14
CLPJT / Crossline Pipe - Jetted	34.0	$759.49	$265.92	$169.26	$0.00	$508.47	$1,703.14
HAUL / Hauling	54.0	$1,168.02	$577.80	$298.37	$0.00	$712.38	$2,756.57
ODBH / Channel- bushhogged	64.0	$1,384.23	$399.65	$0.00	$0.00	$918.88	$2,702.76
ODCO / Channel - cleaned out	167.5	$3,957.92	$578.65	$281.08	$0.00	$2,699.32	$7,516.97
ONJV / Onsite Job Visit	17.0	$623.92	$61.54	$57.60	$0.00	$460.45	$1,203.51
2015-504 / White Sands Circle Channel #1 Sub Total	**340.0**	**$7,971.04**	**$1,909.18**	**$822.45**	**$0.00**	**$5,351.26**	**$16,053.94**
Grand Total	**340.0**	**$7,971.04**	**$1,909.18**	**$822.45**	**$0.00**	**$5,351.26**	**$16,053.94**

Before

During

After



Project: White Sands Circle Map 1

Activity: Routine/ Preventive Maintenance

Project #: 2015-504

Township: St. Helena Island

Completed: July 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 70 140 280 420 560 Feet

1 inch = 281 feet

Prepared By: BC Stormwater Management Utility
Date Print: 9/3/14
File:C:/sethdata/projects/projectmaps/White Sands Cir 2015-504 Map1

Project: White Sands Circle Map 2

Activity: Vacuum Truck

Project #: 2015-504

Township: St. Helena Island

Completed: July 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 20 40 80 120 160 Feet

1 inch = 86 feet

Prepared By: BC Stormwater Management Utility
Date Print: 9/4/14
File:C:/sethdata/projects/projectmaps/White Sands Cir 2015-504 Map2

Project: Shiney Road Map 3

Activity: Vacuum Truck

Project #: 2015-504

Township: St. Helena Island

Completed: July 2014

Legend

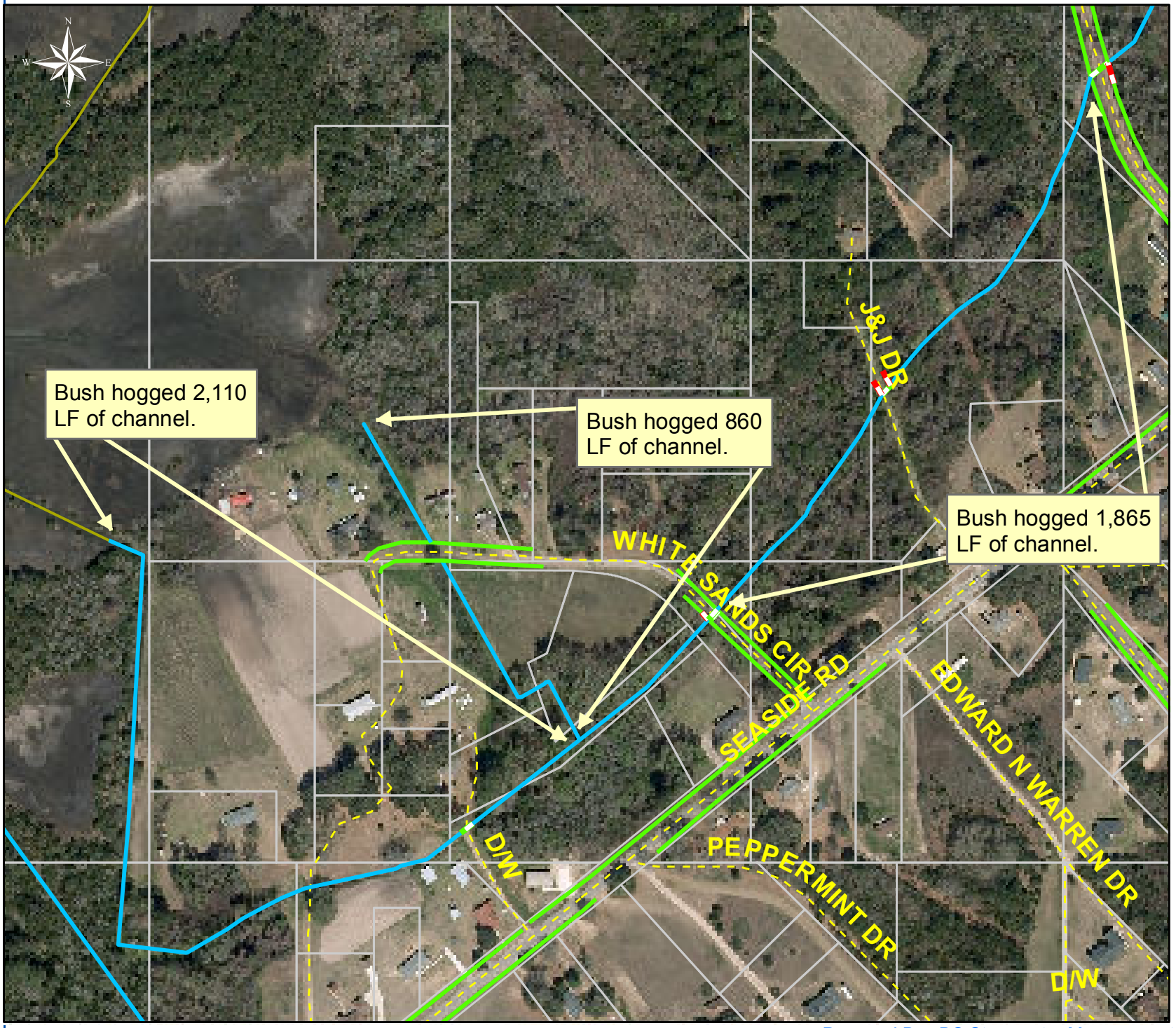
TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 25 50 100 150 200 Feet

1 inch = 100 feet

Prepared By: BC Stormwater Management Utility
Date Print: 9/4/14
File:C:/sethdata/projects/projectmaps/Vac/Shiney Rd 2015-504



Project: White Sands Circle Map 4

Activity: Bush Hog

Project #: 2015-504

Township: St. Helena Island

Completed: August 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 75 150 300 450 600 Feet

1 inch = 295 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/6/14
File:C:/sethdata/projects/projectmaps/BH/White Sands Cir 2015-504 Map4

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Port Royal Island Valley Drains

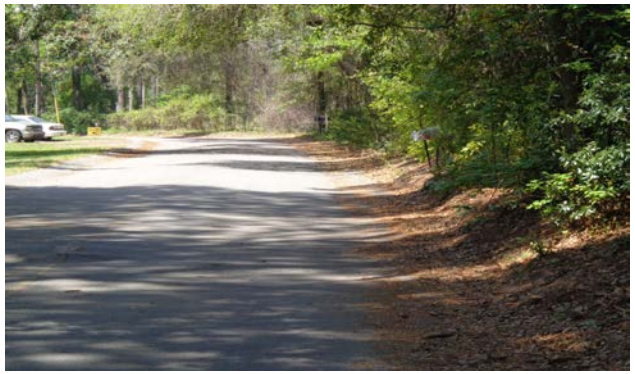
Activity: Routine/Preventive Maintenance

Narrative Description of Project:
Project improved 13,791 L.F. of drainage system. Cleaned out 13,791 L.F. of valley drain. This project consisted of the following areas: Mulrain Road (865 L.F.), Blackburn Pierce Drive (1,290 L.F.), Roseida Road Extension (3,666 L.F.) and Murray Drive (7,970 L.F.)

Completion: Apr-14

2014-313 / Port Royal Island Valley Drains	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	1.0	$20.46	$0.00	$0.00	$0.00	$13.23	$33.69
COVD / Cleaned Out Valley Drains	131.0	$2,794.94	$395.34	$243.47	$0.00	$1,820.37	$5,254.12
HAUL / Hauling	32.0	$713.36	$449.40	$126.14	$0.00	$490.14	$1,779.04
ONJV / Onsite Job Visit	13.0	$404.62	$47.06	$39.91	$0.00	$268.19	$759.78
PRRECON / Project Reconnaissance	10.0	$242.40	$36.20	$42.98	$0.00	$166.80	$488.38
2014-313 / Port Royal Island Valley Drains Sub Total	**187.0**	**$4,175.78**	**$928.00**	**$452.50**	**$0.00**	**$2,758.73**	**$8,315.01**
Grand Total	**187.0**	**$4,175.78**	**$928.00**	**$452.50**	**$0.00**	**$2,758.73**	**$8,315.01**

Before



During

After

Project: Blackburn Pierce Drive

Activity: Routine/ Preventive Maintenance

Project #: 2014-313

Township: Port Royal Island

Completed: April 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 40 80 160 240 320 Feet

1 inch = 167 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/7/14
File:C:/sethdata/projects/projectmaps/Blackburn Pierce 2014-313

Project: Mulrain Road

Activity: Routine/ Preventive Maintenance

Project #: 2014-313

Township: Port Royal Island

Completed: April 2014

Legend

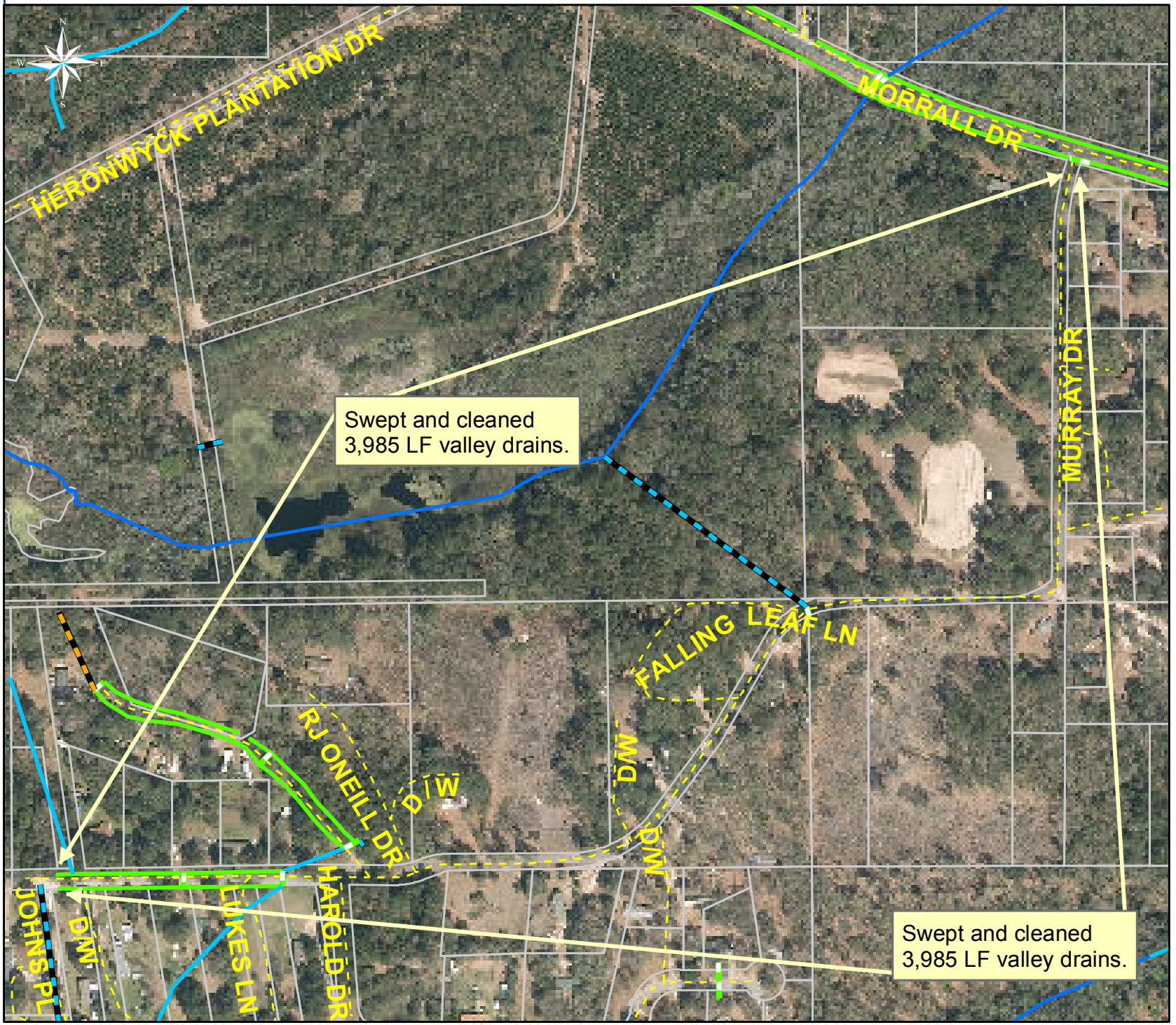
TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 35 70 140 210 280 Feet

1 inch = 141 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/7/14
File:C:/sethdata/projects/projectmaps/Mulrain Rd 2014-313



Project: Murray Drive

Activity: Routine/ Preventive Maintenance

Project #: 2014-313

Township: Port Royal Island

Completed: April 2014

Legend

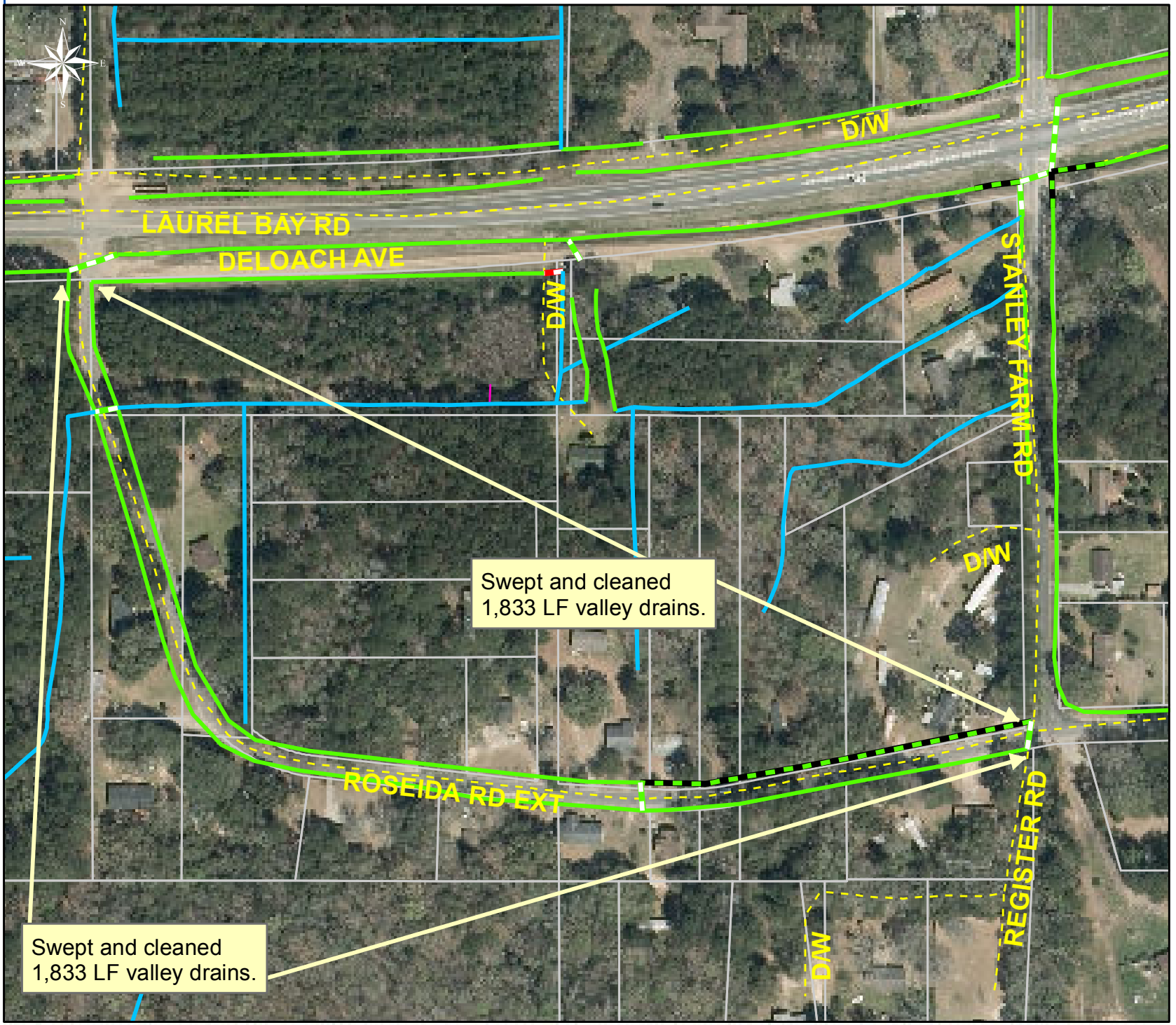
TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 87.5175 350 525 700 Feet

1 inch = 333 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/7/14
File:C:/sethdata/projects/projectmaps/Murray Dr 2014-313



Project: Roseida Road Ext.

Activity: Routine/ Preventive Maintenance

Project #: 2014-313

Township: Port Royal Island

Completed: April 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 50 100 200 300 400 Feet

1 inch = 191 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/7/14
File:C:/sethdata/projects/projectmaps/Roseida Rd Ext 2014-313

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Port Royal Island Tree Removal - Poppy Hill Road Channel #1 and County Shed Road Channel #1

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Removed fallen trees.

Completion: Apr-14

2014-502A / Port Royal Island Tree Removal	**Labor Hours**	**Labor Cost**	**Equipment Cost**	**Material Cost**	**Contractor Cost**	**Indirect Labor**	**Total Cost**
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
HAUL / Hauling	3.0	$64.89	$32.10	$70.82	$0.00	$43.26	$211.07
ONJV / Onsite Job Visit	2.0	$59.68	$7.24	$3.07	$0.00	$36.46	$106.45
RMTRD / Remove trees - Ditch	12.0	$251.15	$32.76	$13.60	$0.00	$169.12	$466.63
RMTRW / Remove trees - Workshelf	9.0	$198.96	$50.62	$27.20	$0.00	$142.20	$418.98
2014-502A / Port Royal Island Tree Removal Sub Total	**26.5**	**$584.91**	**$122.72**	**$114.69**	**$0.00**	**$397.66**	**$1,219.98**
Grand Total	**26.5**	**$584.91**	**$122.72**	**$114.69**	**$0.00**	**$397.66**	**$1,219.98**

Before

During

After

Project: Poppy Hill Road Channel # 1 Tree Removal

Activity: Routine/ Preventive Maintenance

Project #: 2014-502A

Township: Port Royal Island

Completed: April 2014

Legend

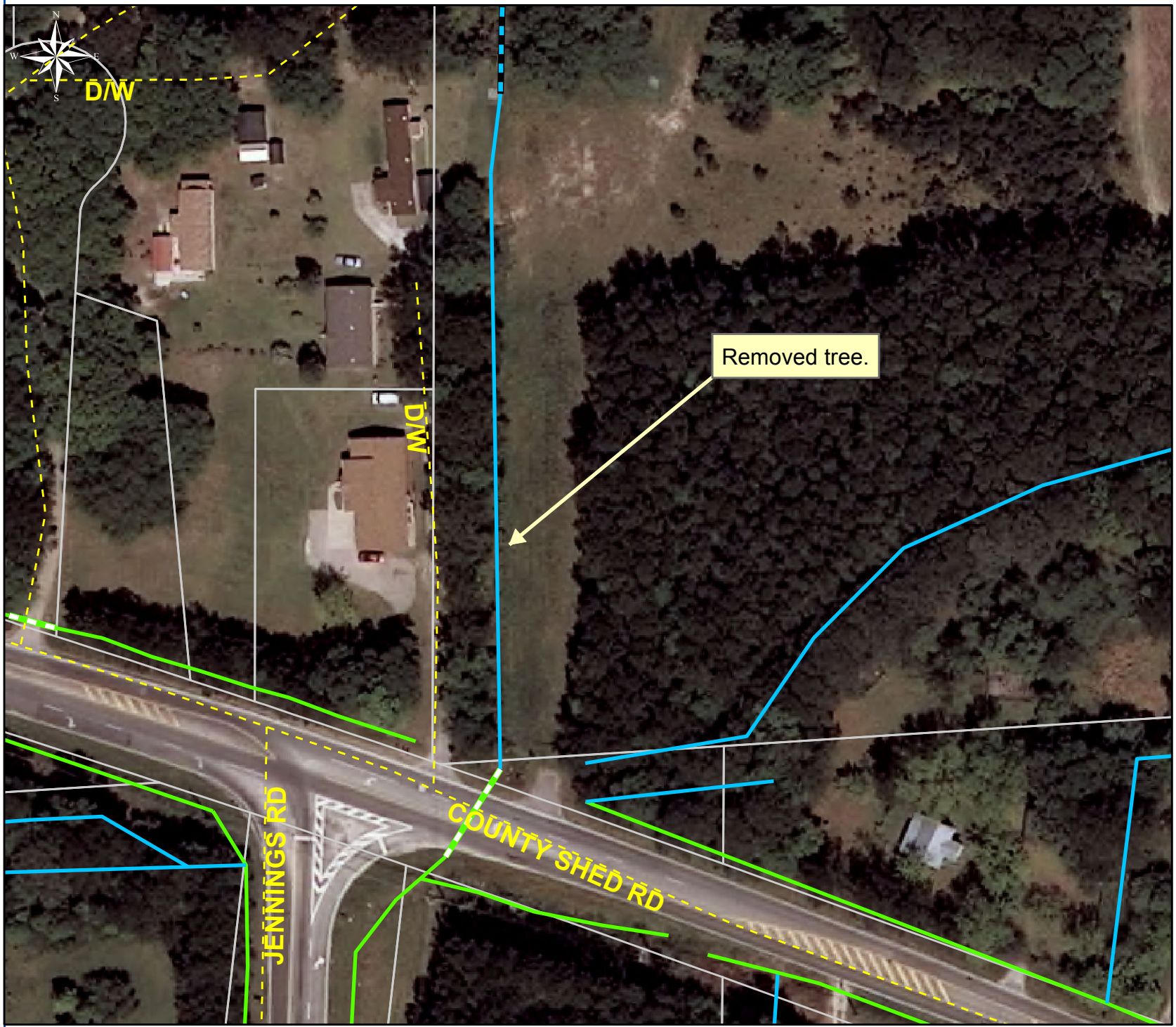
TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 55 110 220 330 440 Feet

1 inch = 208 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/16/14
File:C:/sethdata/projects/projectmaps/Poppy Hill Rd Ch1 Tree Removal 2014-502A



Project: County Shed Road Channel # 1 Tree Removal

Activity: Routine/ Preventive Maintenance

Project #: 2014-502A

Township: Port Royal Island

Completed: April 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 20 40 80 120 160 Feet

1 inch = 83 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/16/14
File:C:/sethdata/projects/projectmaps/County Shed Ch1 Tree Removal 2014-502A

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Pleasant Point Drive Channel

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: June-14

Project improved 1,719 L.F. of drainage system. Bush hogged 1,719 L.F. of workshelf. Cleaned out 473 L.F. of channel.

2014-634 / Pleasant Point Drive Channel	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
HAUL / Hauling	13.5	$292.01	$144.45	$104.64	$0.00	$194.67	$735.77
ODCO / Outfall ditch - cleaned out	24.0	$575.52	$128.74	$37.21	$0.00	$370.96	$1,112.43
ONJV / Onsite Job Visit	6.0	$179.04	$21.72	$12.76	$0.00	$109.38	$322.90
WSBH / Workshelf - Bush Hogged	38.0	$873.75	$192.25	$97.04	$0.00	$569.18	$1,732.22
2014-634 / Pleasant Point Drive Channel Sub Total	**82.0**	**$1,930.55**	**$487.16**	**$251.64**	**$0.00**	**$1,250.81**	**$3,920.16**
Grand Total	**82.0**	**$1,930.55**	**$487.16**	**$251.64**	**$0.00**	**$1,250.81**	**$3,920.16**

Before

During

Project: Pleasant Point Drive

Activity: Routine/ Preventive Maintenance

Project #: 2014-634

Township: Lady's Island

Completed: June 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 55 110 220 330 440 Feet

1 inch = 208 feet

Prepared By: BC Stormwater Management Utility
Date Print: 9/3/14
File:C:/sethdata/projects/projectmaps/Pleasant Pt Dr 2014-634

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Buckingham Plantation Drive

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: Aug-14

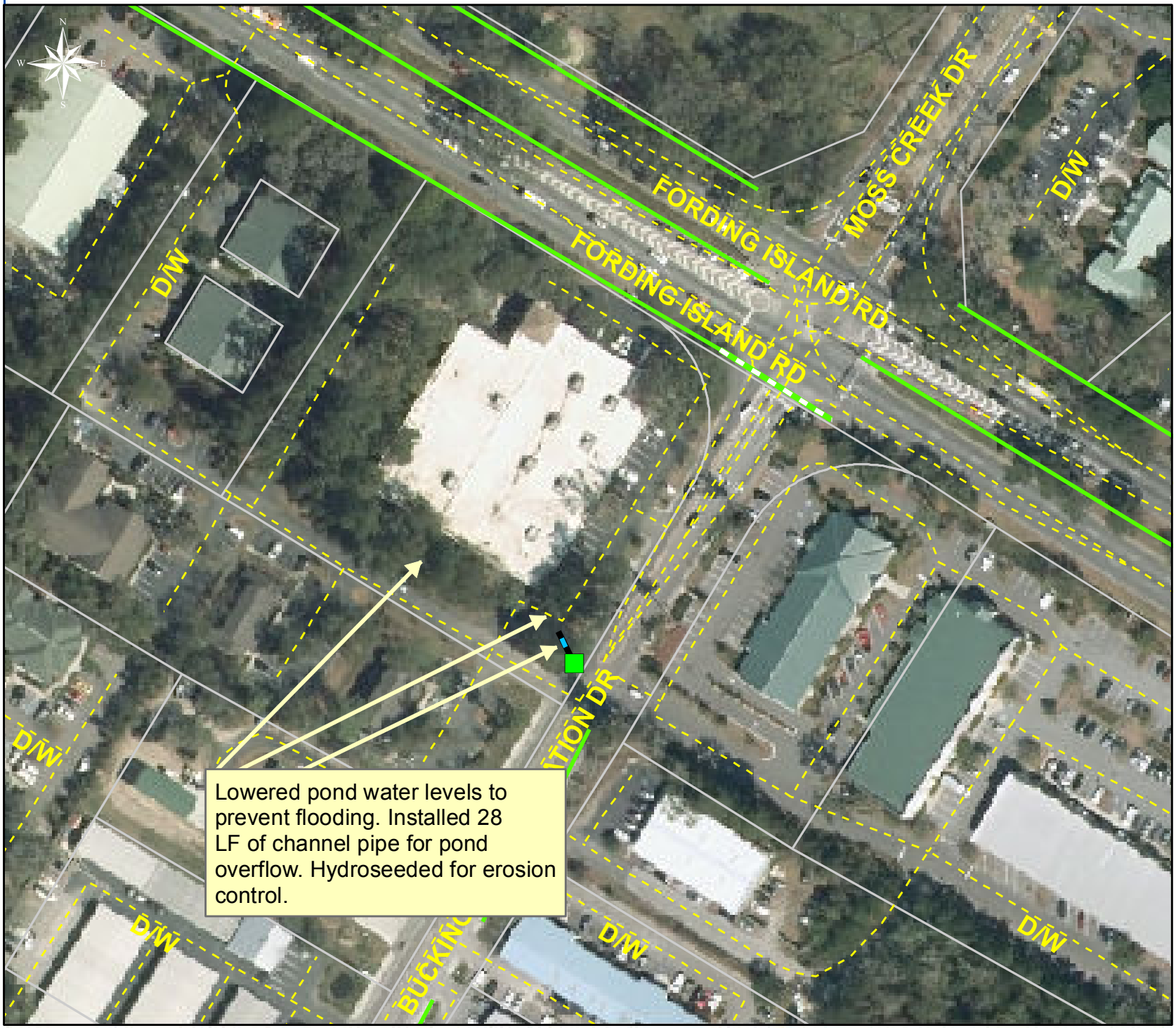
Lowered pond water level to prevent flooding. Installed 28 L.F. of channel pipe for pond overflow. Hydroseeded for erosion control.

2015-003 / Buckingham Plantation Drive	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
DWP / Dewatered Pond	10.0	$210.45	$18.10	$30.91	$0.00	$138.25	$397.71
HAUL / Hauling	23.0	$497.49	$246.10	$163.38	$0.00	$331.66	$1,238.63
HYDR / Hydroseeding	40.0	$856.10	$60.33	$116.36	$0.00	$433.10	$1,465.89
OFPI / Channel Pipe - Installation	50.0	$1,072.40	$69.46	$388.12	$0.00	$577.30	$2,107.28
ONJV / Onsite Job Visit	18.0	$537.12	$65.16	$42.42	$0.00	$328.14	$972.84
PI / Project Inspection	2.0	$88.54	$7.24	$9.09	$0.00	$67.92	$172.79
PRRECON / Project Reconnaissance	20.5	$534.77	$43.44	$46.76	$0.00	$348.96	$973.93
SD / Soft Digging	20.0	$456.06	$221.60	$80.60	$0.00	$308.90	$1,067.16
TC / Traffic Control - Jobsite	12.0	$268.06	$132.96	$31.98	$0.00	$179.46	$612.46
2015-003 / Buckingham Plantation Drive Sub Total	**196.0**	**$4,531.22**	**$864.39**	**$909.62**	**$0.00**	**$2,720.30**	**$9,025.53**
Grand Total	**196.0**	**$4,531.22**	**$864.39**	**$909.62**	**$0.00**	**$2,720.30**	**$9,025.53**

Before

During

After



Project: Buckingham Plantation Drive

Activity: Routine/ Preventive Maintenance

Project #: 2015-003

Township: Bluffton

Completed: August 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 30 60 120 180 240 Feet

1 inch = 119 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/6/14
File:C:/sethdata/projects/projectmaps/Buckingham Plant. Dr. 2015-003

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Capehart Circle Subdivision

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

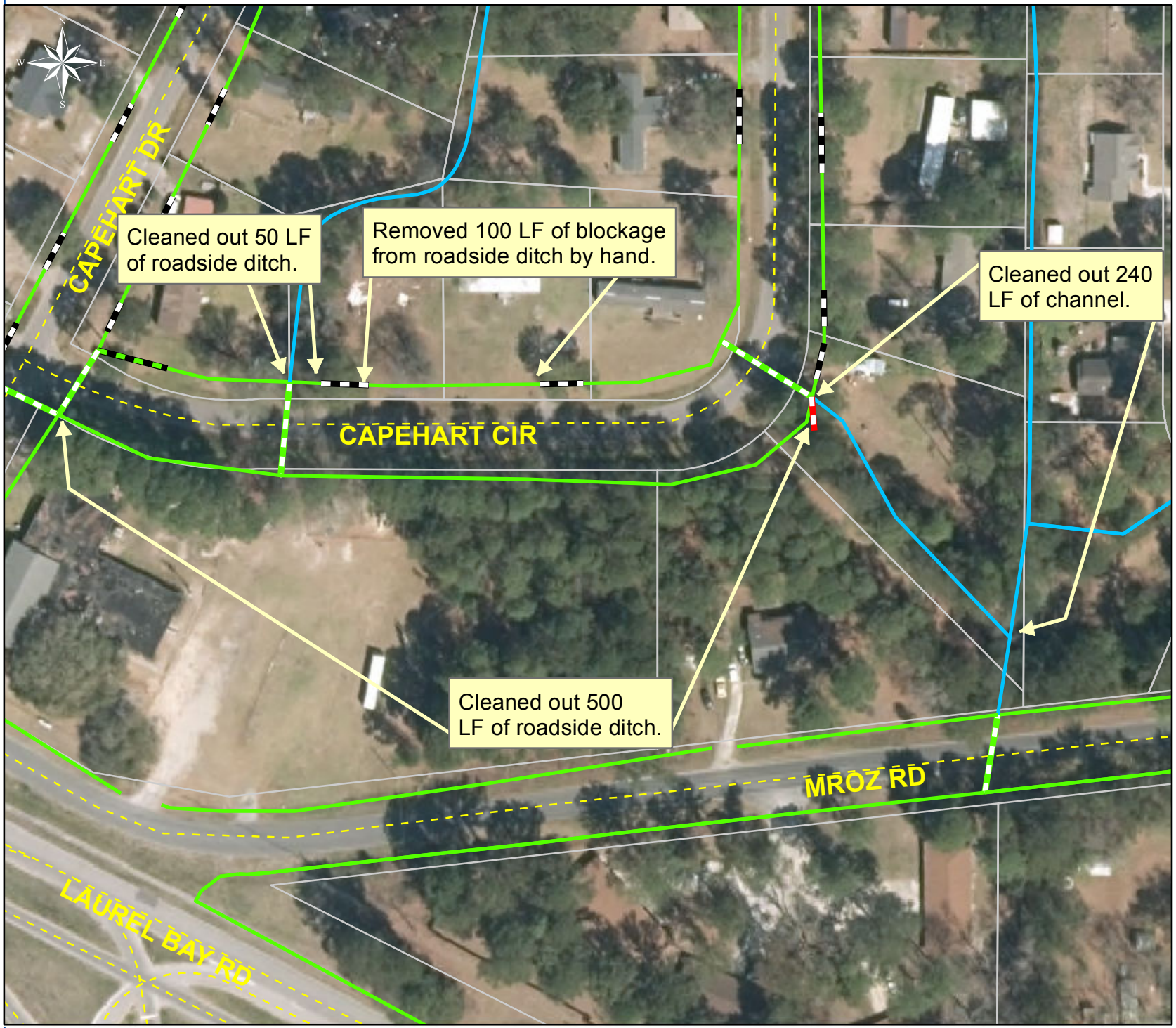
Completion: Jul-14

Project improved 890 L.F. of drainage system. Removed 100 L.F. of blockage from roadside ditch by hand. Cleaned out 550 L.F. of roadside ditch and 240 L.F. of channel.

2015-505 / Capehart Circle Subdivision	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
HAUL / Hauling	12.0	$259.56	$128.40	$42.51	$0.00	$150.94	$581.41
ODCO / Outfall ditch - cleaned out	36.0	$868.09	$235.00	$52.32	$0.00	$596.39	$1,751.80
ONJV / Onsite Job Visit	3.0	$132.81	$10.86	$6.40	$0.00	$101.88	$251.95
RB / Remove blockage from flowline	6.0	$137.36	$7.24	$9.60	$0.00	$84.66	$238.86
2015-505 / Capehart Circle Subdivision Sub Total	**57.5**	**$1,408.05**	**$381.50**	**$110.83**	**$0.00**	**$940.49**	**$2,840.87**
Grand Total	**57.5**	**$1,408.05**	**$381.50**	**$110.83**	**$0.00**	**$940.49**	**$2,840.87**

Before

After



Project: Capehart Circle

Activity: Routine/ Preventive Maintenance

Project #: 2015-505

Township: Port Royal Island

Completed: July 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 25 50 100 150 200 Feet

1 inch = 96 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/29/14
File:C:/sethdata/projects/projectmaps/Capehart Cir 2015-505

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Nanny Cove Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

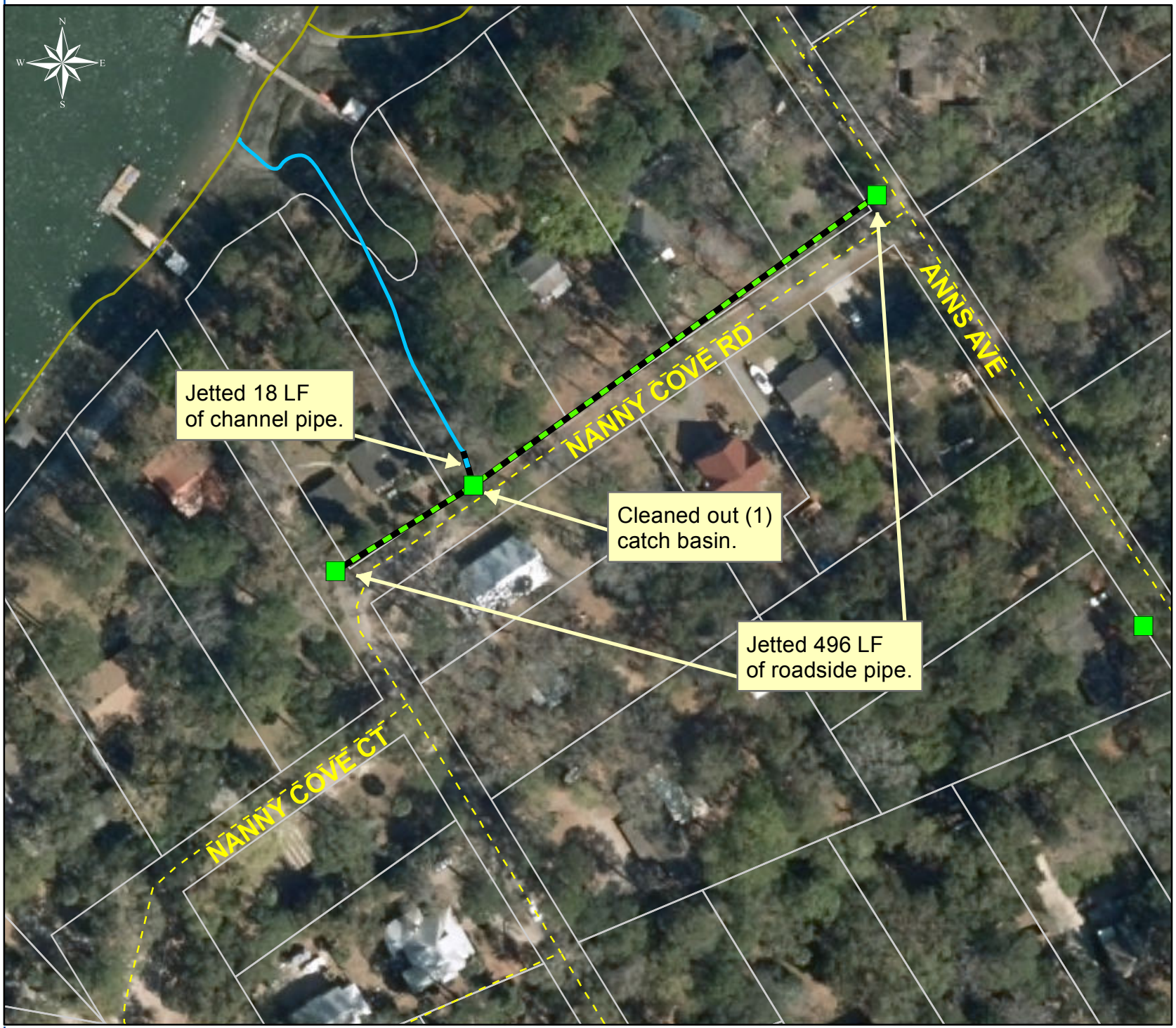
Completion: Aug-14

Project improved 514 L.F. of drainage system. Cleaned out (1) catch basin. Repaired (1) catch basin and channel pipe. Replaced (1) catch basin lid. Jetted 18 L.F. of channel pipe and 496 L.F. of roadside pipe.

2015-513 / Nanny Cove Road	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
CBCO / Catch basin - clean out	20.0	$446.76	$221.60	$88.88	$0.00	$299.10	$1,056.34
CBLR / Catch Basin Lid - Replaced	30.0	$625.51	$72.70	$576.16	$0.00	$398.60	$1,672.96
OFPJ / Channel Pipe - Jetted	20.0	$446.76	$221.60	$127.00	$0.00	$299.10	$1,094.46
OFPR / Channel Pipe - Repaired	30.0	$625.51	$108.90	$191.52	$0.00	$398.60	$1,324.52
ONJV / Onsite Job Visit	20.0	$663.60	$72.40	$42.42	$0.00	$489.40	$1,267.82
PRRECON / Project Reconnaissance	2.0	$66.36	$7.24	$9.09	$0.00	$48.94	$131.63
RSPJ / Roadside Pipe - Jetted	10.0	$223.38	$110.80	$47.80	$0.00	$149.55	$531.53
2015-513 / Nanny Cove Road Sub Total	**132.5**	**$3,108.10**	**$815.24**	**$1,082.86**	**$0.00**	**$2,089.91**	**$7,096.11**
Grand Total	**132.5**	**$3,108.10**	**$815.24**	**$1,082.86**	**$0.00**	**$2,089.91**	**$7,096.11**

Before

After



Project: Nanny Cove Road Map 1

Activity: Vacuum Truck

Project #: 2015-513

Township: Bluffton

Completed: August 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 25 50 100 150 200 Feet

1 inch = 100 feet

Prepared By: BC Stormwater Management Utility
Date Print: 9/4/14
File:C:/sethdata/projects/projectmaps/Vac/Nanny Cove 2015-513 Map1

Project: Nanny Cove Road Map 2

Activity: Routine/ Preventive Maintenance

Project #: 2015-513

Township: Bluffton

Completed: August 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 25 50 100 150 200 Feet

1 inch = 100 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/29/14
File:C:/sethdata/projects/projectmaps/Nanny Cove 2015-513 Map2

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Fort Fremont Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:
Removed restrictive pipe.

Completion: Aug-14

2015-515 / Fort Fremont Road	**Labor Hours**	**Labor Cost**	**Equipment Cost**	**Material Cost**	**Contractor Cost**	**Indirect Labor**	**Total Cost**
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
ONJV / Onsite Job Visit	2.0	$66.36	$7.24	$12.12	$0.00	$48.94	$134.66
RB / Remove blockage from flowline	15.0	$306.85	$54.66	$51.73	$0.00	$199.30	$612.54
2015-515 / Fort Fremont Road Sub Total	**17.5**	**$383.44**	**$61.90**	**$63.85**	**$0.00**	**$254.85**	**$764.04**
Grand Total	**17.5**	**$383.44**	**$61.90**	**$63.85**	**$0.00**	**$254.85**	**$764.04**

Before

After

Project: Fort Fremont Road

Activity: Routine/ Preventive Maintenance

Project #: 2015-515

Township: St. Helena Island

Completed: August 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 25 50 100 150 200 Feet

1 inch = 101 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/29/14
File:C:/sethdata/projects/projectmaps/Fort Fremont Rd 2015-515

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Colleton Drive

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: Aug-14

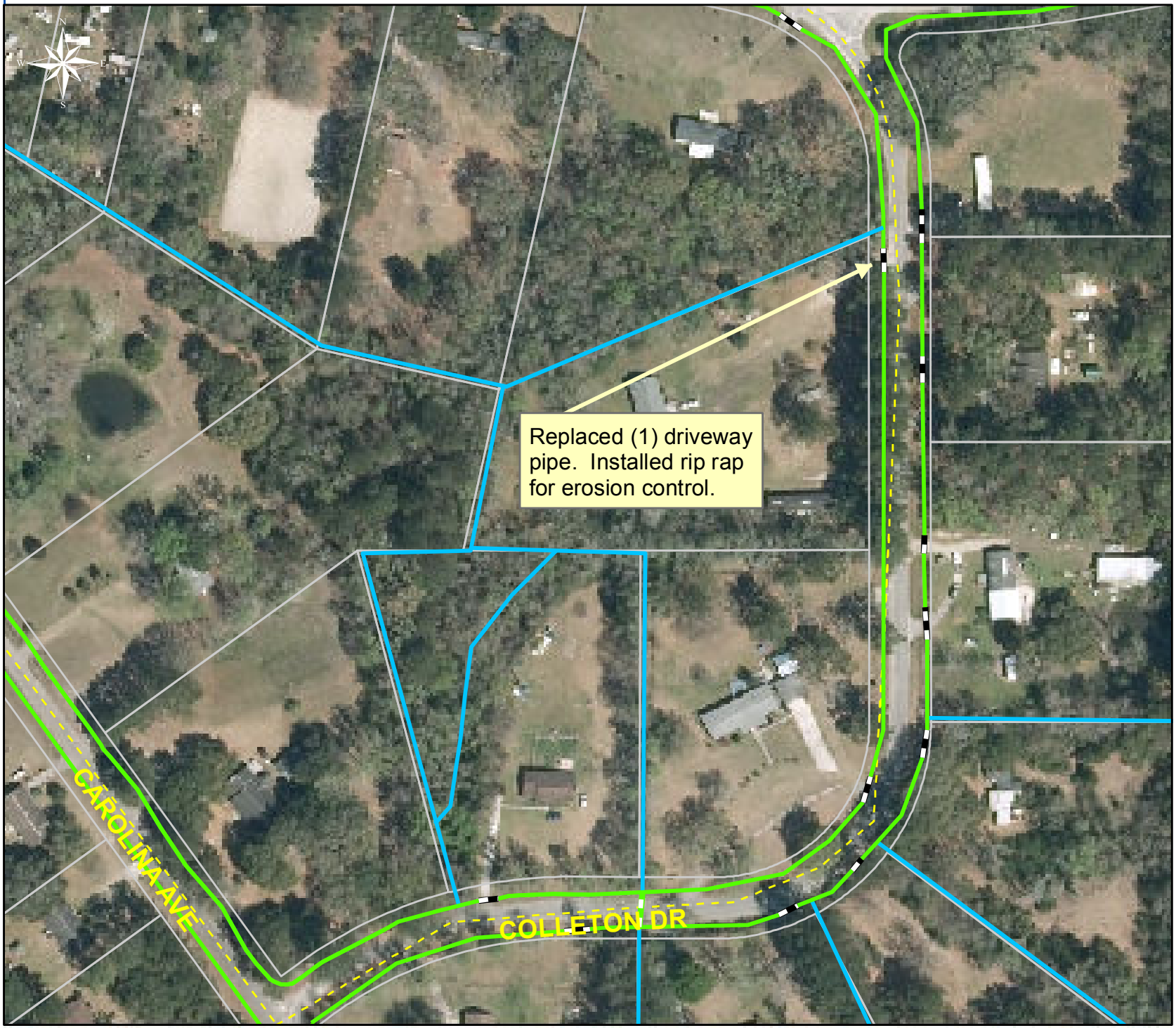
Replaced (1) driveway pipe. Installed rip rap for erosion control.

2015-520 / Colleton Drive	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
BKFILL / Back Fill	18.5	$368.48	$80.20	$29.25	$0.00	$236.09	$714.02
DPRPL / Driveway Pipe - Replaced	50.0	$1,095.90	$135.98	$360.99	$0.00	$567.50	$2,160.37
DWASPH / Driveway - Asphalt	15.0	$336.20	$18.10	$9.09	$0.00	$225.70	$589.09
HAUL / Hauling	15.0	$324.45	$160.50	$490.11	$0.00	$216.30	$1,191.36
ONJV / Onsite Job Visit	8.0	$276.53	$28.96	$24.24	$0.00	$205.25	$534.98
PROFS / Professional Services	0.0	$0.00	$0.00	$0.00	$197.64	$0.00	$197.64
2015-520 / Colleton Drive Sub Total	**107.0**	**$2,411.79**	**$423.74**	**$913.68**	**$197.64**	**$1,457.45**	**$5,404.30**
Grand Total	**107.0**	**$2,411.79**	**$423.74**	**$913.68**	**$197.64**	**$1,457.45**	**$5,404.30**

Before

During

After



Project: Colleton Drive

Activity: Routine/ Preventive Maintenance

Project #: 2015-520

Township: Port Royal Island

Completed: August 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 37.5 75 150 225 300 Feet

1 inch = 145 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/6/14
File:C:/sethdata/projects/projectmaps/Colleton Dr 2015-520

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Paige Point Bluff

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: Aug-14

Project improved 560 L.F. of drainage system. Cleaned out 560 L.F. of channel. Jetted (1) crossline pipe.

2015-525 / Paige Point Bluff	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
CLPJT / Crossline Pipe - Jetted	4.0	$89.36	$44.32	$43.00	$0.00	$59.82	$236.50
HAUL / Hauling	15.0	$324.45	$160.50	$84.53	$0.00	$216.30	$785.78
ODCO / Channel - cleaned out	20.0	$456.10	$102.72	$43.56	$0.00	$307.20	$909.58
ONJV / Onsite Job Visit	2.0	$88.54	$7.24	$6.06	$0.00	$67.92	$169.76
2015-525 / Paige Point Bluff Sub Total	**41.5**	**$968.68**	**$314.78**	**$177.15**	**$0.00**	**$657.86**	**$2,118.47**
Grand Total	**41.5**	**$968.68**	**$314.78**	**$177.15**	**$0.00**	**$657.86**	**$2,118.47**

Before

During

After

Project: Paige Point Bluff Map 1

Activity: Routine/ Preventive Maintenance

Project #: 2015-525

Township: Sheldon

Completed: August 2014

Legend

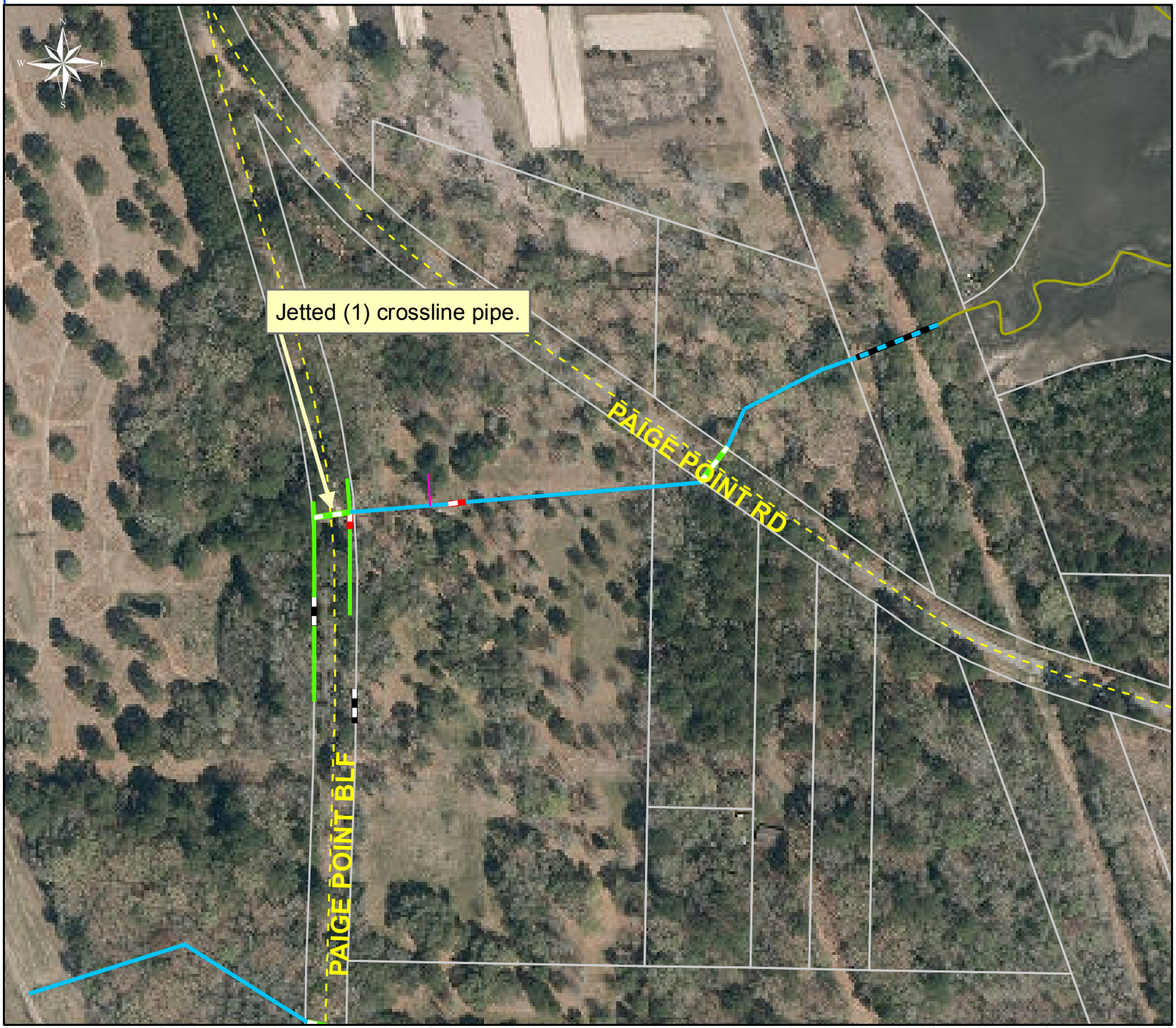
TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 55 110 220 330 440 Feet

1 inch = 216 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/6/14
File:C:/sethdata/projects/projectmaps/Paige Pt Blf 2015-525 Map1



Project: Paige Point Bluff Map 2

Activity: Vacuum Truck

Project #: 2015-525

Township: Sheldon

Completed: August 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 55 110 220 330 440 Feet

1 inch = 216 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/6/14
File:C:/sethdata/projects/projectmaps/Vac/Paige Pt Blf 2015-525 Map2

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: St. Helena Island Bush Hog

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: Sep-14

First rotation from May 2014 to September 2014. Project improved 101,365 L.F. of channel. Bush hogged 101,365 L.F. of channel. This project consisted of the following areas:
Faith Memorial Church (1,540 L.F.), Orange Grove Road (4,913 L.F.), James D. Washington Road (1,227 L.F.), Sycamore Hill Drive (2,301 L.F.), Hunter Grove Road (442 L.F.),
David Green Road (962 L.F.), Capers Island Circle (543 L.F.), Jack Johnson Drive (1,470 L.F.), Candy Johnson Drive (640 L.F.), Scott Hill Road (6,787 L.F.), Peach Hill Circle (7,659 L.F.),
No Man Land (1,013 L.F.), Adam Street (716 L.F.), Toomer Road (4,093 L.F.), Tombee Road (1,704 L.F.), Archer Fields Lane (1,352 L.F.), Kelis Lane (6,427 L.F.), Ephraim Road (2,132 L.F.),
Luther Warren Drive (682 L.F.), Tropicana Road (909 L.F.), Folly Road (4,275 L.F.), Nathan Pope Road (6,063 L.F.), Cee Cee Road (2,759 L.F.), Shed Road (3,230 L.F.), Simmons Road (2,324 L.F.)
John Fripp Circle (820 L.F.), Dulamo Road (274 L.F.), Hickory Hill Road (1,660 L.F.), Bible Camp Road (3,832 L.F), Halifax Drive (790 L.F.), Halifax Road (4,350 L.F.), Warsaw Island Road (5,143 L.F.),
Ball Park Road (3,094 L.F.), Gardner Drive (507 L.F.), JB Lane (961 L.F.), Patchwork Lane (877 L.F.), Major Road (2,327 L.F.), Ernest Drive (2,982 L.F.), James Grant Road (668 L.F.), Sea Island Pkwy Ch#1 (617 L.F.),
Mattis Drive (1,556 L.F.), St Helena Island Drop Off Center (1,864 L.F.), Queens Road (890 L.F.), Polowana Road (1,666 L.F.) and Sanders Packing Shed (324 L.F.)

2015-300 / St. Helena Island Bush Hog	**Labor Hours**	**Labor Cost**	**Equipment Cost**	**Material Cost**	**Contractor Cost**	**Indirect Labor**	**Total Cost**
AUDIT / Audit Project	2.5	$51.15	$0.00	$0.00	$0.00	$33.08	$84.23
ODBH / Channel- bushhogged	1,347.5	$28,846.90	$11,959.64	$4,208.23	$0.00	$17,965.00	$62,979.77
ODCO / Channel - cleaned out	24.0	$536.11	$156.08	$84.16	$0.00	$358.92	$1,135.27
ONJV / Onsite Job Visit	65.5	$2,208.70	$240.73	$303.68	$0.00	$1,612.80	$4,365.91
STBY / Stand By	2.8	$62.41	$7.24	$11.68	$0.00	$42.10	$123.43
2015-300 / St. Helena Island Bush Hog Sub Total	**1,442.3**	**$31,705.28**	**$12,363.69**	**$4,607.75**	**$0.00**	**$20,011.89**	**$68,688.60**
Grand Total	**1,442.3**	**$31,705.28**	**$12,363.69**	**$4,607.75**	**$0.00**	**$20,011.89**	**$68,688.60**

Before

During

After

Beaufort County
Public Works
Stormwater Infrastructure
Project Summary

Project Summary: Coastal Seafood Road

Activity: Routine/Preventive Maintenance

Narrative Description of Project:

Completion: Sep-14

Replaced (1) crossline pipe. Installed rip rap for erosion control.

2015-519 / Coastal Seafood Road	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
CLPI / Crossline Pipe - Installation	40.0	$900.46	$86.09	$372.57	$0.00	$604.20	$1,963.32
CLPJT / Crossline Pipe - Jetted	12.0	$273.64	$132.96	$56.70	$0.00	$185.34	$648.64
HAUL / Hauling	11.0	$270.83	$117.70	$311.73	$0.00	$187.25	$887.51
ONJV / Onsite Job Visit	7.0	$232.26	$25.34	$42.42	$0.00	$171.29	$471.31
PRRECON / Project Reconnaissance	10.0	$263.94	$14.48	$20.60	$0.00	$188.76	$487.78
STAGING / Staging Materials	16.0	$343.71	$54.58	$69.77	$0.00	$227.22	$695.28
UTLOC / Utility locates	0.5	$10.23	$0.00	$0.00	$0.00	$6.62	$16.85
2015-519 / Coastal Seafood Road Sub Total	**97.0**	**$2,305.30**	**$431.15**	**$873.79**	**$0.00**	**$1,577.29**	**$5,187.52**
Grand Total	**97.0**	**$2,305.30**	**$431.15**	**$873.79**	**$0.00**	**$1,577.29**	**$5,187.52**

Before

During

After

Project: Coastal Seafood Road Map 1

Activity: Routine/ Preventive Maintenance

Project #: 2015-519

Township: St. Helena Island

Completed: September 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 30 60 120 180 240 Feet

1 inch = 127 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/6/14
File:C:/sethdata/projects/projectmaps/Coastal Seafood Rd 2015-519Map1

Project: Coastal Seafood Road Map 2

Activity: Vacuum Truck

Project #: 2015-519

Township: St. Helena Island

Completed: September 2014

Legend

TYPE

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe

0 30 60 120 180 240 Feet

1 inch = 127 feet

Prepared By: BC Stormwater Management Utility
Date Print: 10/6/14
File:C:/sethdata/projects/projectmaps/Vac/Coastal Seafood Rd 2015-519Map2

2015
Stormwater Management Utility Board

Draft

Date	Time	Location
January 7, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
February 4, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
March 4, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
April 1, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
May 6, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
June 3, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
July 1, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
August 5, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
September 2, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
October 7, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
November 4, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC
December 2, 2015	2:00 p.m.	Beaufort Industrial Village, Building 3 Conference Room 104 Industrial Village Road, Beaufort, SC