



BEAUFORT COUNTY  
STORMWATER MANAGEMENT UTILITY BOARD AGENDA

Wednesday, March 23, 2016

2:00 p.m.

Executive Conference Room, Administration Building  
Beaufort County Government Robert Smalls Complex  
100 Ribaut Road, Beaufort, South Carolina  
843.255.2805

In accordance with South Carolina Code of Laws, 1976, as amended, Section 30-4-80(d), all local media was duly notified of the time, date, place and agenda of this meeting.

1. CALL TO ORDER – 2:00 p.m.
  - A. Approval of Agenda
  - B. Approval of Minutes – February 24, 2016 ([backup](#))
2. INTRODUCTIONS
3. PUBLIC COMMENT
4. REPORTS
  - A. Utility Update – Eric Larson, P.E. ([backup](#))
  - B. Monitoring Update – Eric Larson, P.E. ([backup](#))
  - C. Stormwater Implementation Committee Report – Eric Larson, P.E. ([backup](#))
  - D. Stormwater Related Projects – Eric Larson, P.E. ([backup](#))
  - E. Upcoming Professional Contracts Report – Eric Larson, P.E. ([backup](#))
  - F. Regional Coordination – Eric Larson, P.E. ([backup](#))
  - G. Municipal Reports – Eric Larson, P.E. ([backup](#))
  - H. MS4 Update – Rebecca Baker ([backup](#))
  - I. Maintenance Projects Report – Eric Larson, Ezekial Miller ([backup](#))
  - J. Financial Report -
5. UNFINISHED BUSINESS
6. NEW BUSINESS
  - A. Credit Manual Update ([backup](#))
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
  - A. April 27, 2016 ([backup](#))
9. ADJOURNMENT



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

February 24, 2016 at 2:00 p.m. in Executive Conference Room, Administration Building, Beaufort County Government Robert Smalls Complex, 100 Ribaut Road, Beaufort, South Carolina  
Draft Minutes 03/03/2016

### Board Members

#### Present

James Fargher  
Marc Feinberg  
William Bruggeman  
Larry Meisner  
Patrick Mitchell

#### Absent

Don Smith  
Allyn Schneider

### Ex-Officio Members

#### Present

Andy Kinghorn  
Scott Liggett  
Jeremy Ritchie  
Van Wills

#### Absent

### Beaufort County Staff

Eric Larson  
Allison Coppage  
Carolyn Wallace  
Rebecca Baker  
Ezekiel Miller  
Daniel Morgan  
Robert Gecy  
Patricia Wilson

### Visitors

Tony Maglione, Applied Technology & Mgt.  
Alan Warren, USCB  
Reed Armstrong, Coastal Conservation League  
Jill Bolin, Academy Estates  
Patricia Dowling, Academy Estates  
Renée Murtagh, Academy Estates  
Joe Courtney, Academy Estates  
Susan Orlando, Academy Estates  
Marco Orlando, Academy Estates  
Robert Sample, Academy Park  
Alice Howard, Beaufort County Council  
Paul Moore, Ward Edwards Engineering

#### 1. Meeting called to order – James Fargher

- A. Agenda – Approved.
- B. January 27, 2016 Minutes - Approved.

#### 2. Introductions – Completed.

#### 3. Public Comment(s) – Mrs. Jill Bolin requested that Academy Estates’ residents be allowed to address the board about Factory Creek Watershed Site Phase I. The board agreed to let the residents speak during Unfinished Business.

#### 4. Reports – Mr. Eric Larson, Mr. David Wilhelm, and Mrs. Rebecca Baker provided a written report which is included in the posted agenda and can be accessed at:

<http://www.bcgov.net/departments/Administrative/beaufort-county-council/boards-and-commissions/council-appointed/board-list/stormwater-management-utility-board/agendas/2016/022416.pdf>

- A. **Utility Update** – Eric Larson

*Rate Increase and Rate Structure Change* – Mr. Eric Larson reported that staff had a significant increase of 42,000 requests, up from 27,000 in TY14, that staff had to review for corrections after tax notices were mailed out.

*Utility Rate Study* – The municipalities are finalizing their portion of the rate study process and a final report will likely be presented to the Board at the March 2016 meeting.

*Credit Manual Update* – The credit manual is being updated to include the current option E rate structure model that the County adopted as well as other possible rate structure options. The credit manual will also add additional credit opportunities to address unusual property conditions that caused large increases in fees. Mr. Larson believes the credit manual will be presented in draft form at the March SWMU board meeting.

*Stormwater Utility Funding for FY2017-* ([Backup](#)) Mr. Larson referenced a February 10, 2016 SWIC meeting presentation that was revised on February 11, 2016. He pointed out how the SFU cost share proportions are directly correlated to actual funds received for billable units. The Town of Hilton Head Island was slightly affected by Hilton Head Island Airport receiving Stormwater BMP credits. The County's billable units decreased due to annexation. Mr. Larson also pointed out the implications of jurisdictions selecting different rate structure options, which increases administrative fees due to having to model multiple options for the tax run. Mr. Larson informed the board that the new County Auditor (Mr. Jim Beckert) has moved the tax run up to July 1<sup>st</sup> in order to mail out tax notices by September 30<sup>th</sup>. This aligns with state law and allows more time for taxpayers to pay tax notices. This new deadline will affect the IGA (Inter Governmental Agreement) with municipalities by requiring earlier reporting periods to the County.

**B. Monitoring Update** – Eric Larson

*USCB and County MOU for the Lab Services* – Mr. Larson will present the revised draft Memorandum of Understanding (MOU) with USCB during Old Business of this agenda.

*Lab Update* – Mr. Larson was not able to get a lab report due to the short time span between meetings.

**C. Stormwater Implementation Committee (SWIC) Report** – Eric Larson

*SWIC Meeting February 10, 2016* – Mr. Larson presented the Utility Management Budget to SWIC and the minutes are included in the posted agenda.

**D. Stormwater Related Projects** – Eric Larson

*Turtle Lane Paving on Lady's Island (Stormwater Add-On) (\$8,940 Budget)* – Mr. Larson has received the results from the study but he has not had a chance to review them and share the results with the affected property owners. He will probably be able to give an updated report including the study results during the March Meeting.

*Okatie West / SC 170 Widening Retrofit Land Purchase* – Mr. Larson reported that closing of the land purchase is likely within the next week. Field work will begin once the closing is finalized.

*US 278 Retrofit Ponds (356,000Budget)* – Mr. Marc Feinberg questioned the term *retrofit*. Mr. Larson said that *retrofit* is used because stormwater crews are installing the retention ponds after the widening of the road was completed.

*Huspah Court South Ditch Easement / Mike Zara* – Mr. Larson stated that the County is submitting a revised proposal to Mr. Zara as a result of ongoing discussions.

**E. Professional Contracts Report – Eric Larson**

*Stormwater Management Plan (Master Plan) Update* – Mr. Larson updated the board that the Master Plan update has started with an estimated 18 month completion period. The last Master Plan was completed in 2006.

**F. Regional Coordination - Eric Larson**

*Factory Creek Watershed Regional Detention Basin & Academy Park Subdivision Proposal* – Will be addressed during Old Business.

*Factory Creek Watershed Regional Detention Basin “Phase II”* – Will be addressed during Old Business.

*Plantation Business Park Drainage Assessment* – Will be addressed during Old Business.

**G. Municipal Reports**

Town of Hilton Head Island – No report.

Town of Bluffton –

*Stoney Creek Project* - Mr. Jeremy Ritchie reported that the Town is in the process of collecting data on the Niver property.

*Pine Ridge Retrofit Project* – Mr. Ritchie stated that construction has been initiated with an estimated 90 day turn around completion date.

City of Beaufort –

*Battery Creek Pond Funded by an EPA 319 Grant (\$132,603 Budget)* - Mr. Andy Kinghorn reported that construction bids are due February 26, 2016.

Town of Port Royal Island – No report.

**H. Municipal Separate Storm Sewer System (MS4 Update) – Rebecca Baker**

*Public Education* - Mrs. Rebecca Baker commented that the work on the billboards is still in process.

*BMP Manual* – Applied Technology and Management’s (ATM’s) contract to assist with the modification of the technical portion of the BMP Manual and with public meetings was approved. Mrs. Baker displayed a user friendly sample fact sheet which will be part of the BMP Manual.

*Illicit Discharge* – (Backup) Mrs. Baker introduced Mr. Robert Gecy with Beaufort County Information Technology. Mr. Gecy demonstrated how the new County phone application can be used to help report illicit discharge and other stormwater issues. The app can be used for other County departments and will aid in data collection per MS4 requirements.

**I. Maintenance Projects Report**

Board members had no questions about the maintenance report included in the posted agenda, but Mr. James Fargher requested that the maintenance reports include district locations in the summary section of the project reports. Mr. Larry Meisner also requested a one-page map identifying the project locations.

**J. Financial Report – (Backup)**

Board members were emailed the financial report in advance. No questions were addressed during the meeting.

## 5. Unfinished Business –

*Factory Creek Watershed Site Phase I Discussion* – Mr. Eric Larson updated the board that after the Natural Resources Committee (NRC) Meeting on March 7, 2016, the NRC deferred discussion until both project developments (Factory Creek Watershed Site Phase I and Phase II) provided a design, estimated construction costs, and proof of bonding to the Stormwater Management Utility Board (SWMU). Actions of the NRC will depend on the outcome of the SWMU Board review and any change in recommendations. Some board members referred to data provided in an email from Mr. Richard Bolin citing Mr. Reed Armstrong’s presentation to the NRC. These board members agree that a retention site closer to the watershed would be more effective in Fecal Coliform contamination reduction. Mr. Larson explained that DHEC requires a 16% reduction to meet water quality standards, which was the focus of the 2006 Master Plan. Ideally, a site closer to the outfall would be best, however, the size of the facility would be much larger, more expensive, and leave bigger footprint acreage wise. A brief analysis to identify potential sites downstream of the phase II site resulted with no undeveloped sites large enough to meet the requirements. If phase I and phase II are constructed, then there are a half dozen smaller properties that could potentially host a small pond. Mr. Patrick Mitchell questioned whether or not the County could develop a site and sell the dirt to a developer. Mr. Larson responded by saying that the County would use a conservative estimate based on paying to dispose of the dirt. He also added that the County often uses the dirt on other County projects.

Mrs. Jill Bolin passed out handouts to the board. She briefly discussed covering the drainage ditch to restore the natural flow of water to the watershed. Mrs. Bolin referenced Mr. Reed Armstrong’s study (Coastal Conservation League) which refers to statistical data, not computer generated analysis. Mrs. Bolin (speaking on behalf of Academy Estates residents) feels the projects are being rushed and all data available should be used for final evaluations. Mr. Larry Meisner pointed out a conflict in opinions regarding open and closed ditches.

Mr. Reed Armstrong used lab data from The New River Site Pond in the Town of Bluffton and The Cypress Wetland’s Project in the Town of Port Royal and presented his finding to the NRC. He concluded that the retrofit pond projects are experiments and resulting data should be used when considering future pond designs. Mr. Ritchie commented on the results of the New River Site Pond. The pond is effective short range, but Fecal Coliform levels appear to increase prior to entering the river. He mentioned volume control is an area that needs to be considered when treating water.

Renée Murtagh commented on the planning process of the phase I pond and feels the residents of Academy Estates were misled. Joe Courtney, who lives on Faculty Drive, feels the Stormwater Management Utility Board should recommend development on the Phase II site and explore alternate pond locations.

Mr. Robert Sample (Academy Park) apologized to the board because he feels the Academy Estates residents are trying to stop the pond project because they are opposed to his development in their neighborhood. He stated that he plans on completing the development with or without the approval of the pond. He encouraged the Utility board to continue to support the project.

*USCB Lab MOU Update* – Mr. Larson and Dr. Alan Warren have been revising the MOU signed in 2013. The County is utilizing the USCB Lab for all sampling. Monitoring needs have changed as a result of MS4 requirements, so the monitoring plan has to be updated. The third whereas

clause was added to allow the City of Beaufort or The Town of Port Royal to use this MOU for additional sampling as part of the North of the Broad River Cost Share Agreement. Mr. Larson explained how \$90,000 has been budgeted in previous years, but has now been raised to \$120,000 to include professional services such as trend analysis, advise on changing monitoring plans, and other MS4 support data. Mr. Marc Feinberg questioned lab certification requirements and Mr. Larson referred him to paragraph 2a of the draft MOU “In the event SC DHEC certification for a water quality parameter(s) is not obtained by the time the County is required to be MS4 compliant, USCB shall be responsible to utilize a SC certified laboratory to conduct the analysis.” Mr. Larson added that pre-construction site sampling was not included in the previous MOU, but has been included in this MOU. The board approved 4:1 abstention (Marc Feinberg) to approve the USCB Lab Draft MOU to the Natural Resources Committee.

*Presentation of the Plantation Business Park Storm Sewer Assessment report* – Mr. Larson displayed a memo highlighting the findings of Ward Edwards Engineering. The memo and map are included in the posted agenda. The total estimated cost to repair the pipe is \$343,000. Mr. Gary Kubic added that due diligence will be part of all roadway acceptances in the future. Mr. Kubic has made a formal recommendation to County Council not to accept this road. He stated that the County will try to work with the private development to come up with a solution that is satisfactory to all parties.

**6. New Business** – None.

**7. Public Comment(s)** –

Mr. Joe Courtney stated that Mr. Sample does not own all the land that he needs to build the pond. Mr. Andy Kinghorn asked if Academy Estates would oppose the pond if there was not a development. Mr. Courtney responded that the residents would still be opposed to the pond even without the development. Mrs. Patricia Dowling mentioned that a family with small children moved into the neighborhood and she feels the pond would be a threat to their safety.

**8. Next Meeting Agenda** – Included in posted agenda.

**9. Meeting Adjourned**



# SW Utility Funding For FY2017

SWIC Meeting  
February 10, 2016  
(revised 2/11/16)



# Outline

- 2015 Accomplishments
- On-going Projects and Issues
- Major Challenges
- Total SW Fees Collected in TY2014
- How the Rate Study is changing fees
- Calculating the Single Family Units (SFUs)
- FY2017 Deliverables
- FY2017 Budget and Budget/SFUs
- FY2017 Cost-Shares
- Questions





# 2015-16 Accomplishments

- The Rate Study
- Audit and recalculation of Impervious Areas
- Audit of all Credit program and On-Lot Exemption program applicants
- Expanded SWM staff with Admin. Support
- MS4 permit development
  - Offers opportunity for more shared programs



# Initiatives In Progress

- Establishing new Stormwater Education and Outreach program
- Credit Manual update
- Rate Study database maintenance S.O.P.
- Implement rate study changes for Towns, City
- SW Mgt. Plan update / Implementation Guide
- MS4 permit implementation
  - County updating the BMP manual
- Education
  - Establish N4CW as Countywide effort



# Major Challenges

- MS4 permit(s)
  - Increase level of partnerships on Stormwater programs
- Future funding needs – Rate Study
  - Military fees & other non-paying customers
  - Credit program incentives that doesn't reduce revenue too much
- Evolve the role of the Utility Board (?)

# TY2014 Total Collected (as of Oct. 31, 2015)

	TY2013		TY2014
Port Royal	\$164,837	↑	\$168,686
Beaufort	849,237	↑	865,903
HHI	3,574,134	↓	3,558,645
Bluffton	1,132,868	↑	1,171,726
<u>Unincorp BC</u>	<u>2,817,041</u>	↑	<u>2,833,581</u>
Total Collected	\$8,538,118		\$8,598,541

# Single Family Unit Analysis (TY2014 as of Oct. 31, 2015)

<u>Jurisdiction</u>	<u>Collected</u>	<u>SFUs</u>	<u>SFU %</u>
Port Royal (50)	\$168,686	3,374	2.99%
Beaufort (105)	865,903	8,247	7.30%
HHI (108.7)	3,558,645	32,738	28.98%
Bluffton (98)	1,171,726	11,956	10.58%
<u>Unincorp BC(50)</u>	<u>2,833,581</u>	<u>56,672</u>	<u>50.16%</u>
Total Billing	\$8,598,541	112,987	100.00%

# TY 2013 v. TY2014 SFU (as of Oct. 31, 2015)

	TY2013		TY2014
Port Royal	3,297	↑	3,374
Beaufort	8,088	↑	8,247
HHI	32,881	↓	32,738
Bluffton	11,550	↑	11,956
<u>Unincorp BC</u>	<u>56,341</u>	↑	<u>56,672</u>
Total Collected	112,166		112,987



# County Division of Duties

- 2 different units w/ 4 functions
  - BC SW Utility
    - Management
  - BC SW Department
    - Activities (Infrastructure)
    - Regulatory
    - Capital Projects



# FY2017 Deliverables

- Coordination on all levels
  - Meetings/presentations/conference calls
- Public Education / Outreach
  - Contract management, webcasts, presentations, educational materials, etc.





# FY2017 Deliverables Con't

- Fee Collection/Distribution
  - Reconciliation & reporting, monthly distributions, tax sale costs, identifying & pursuing delinquent fees
- Fee Determination/Rate Increase
  - 6,596 parcel change reviews, 42,327 (up from 26,997 in TY14) reviewed from requested exception reports, SFU rate change, incorporating ordinance change if necessary



# FY2017 Deliverables Con't

- Credits
  - Respond to implemented changes to the Credit and Adjustment Manual
- Fee Inquiries
  - 235 inquiries, 191 fee modifications
- Fiscal Requirements
  - Annual budget, budget reconciliation, presentations (SWIC, SW Board), contract reviews



# FY2017 Deliverables Con't

- Admin Support to SW Board
    - Agenda, presentation development, minutes, broadcast & recording
  - Maintaining BC SW Utility Website
    - Posting documents, updating information, review of usage
- DRAFT

# FY 2017 SWM budget (option 1)

- Salaries and Fringe \* \$335,881
- Studies, Professional Services \$12,850
- Office Mgt. \$27,091
- Cost Shares separately

Total \$375,822

\* Changes in GASB 68 reporting of state pension, Increase in OPEB (retiree ins. Benefits), Compensation study impacts

# FY2017 SWM fee (option 1)

**Requested Budget: \$375,822**

**Requested Budget/SFU: \$3.33**

Port Royal (50)	\$11,222	2.99%
Beaufort (105)	27,431	7.30%
HHI (108.7)	108,896	28.98%
Bluffton (98)	39,770	10.58%
<u>Unincorp BC(12+65+10)</u>	<u>188,504</u>	<u>50.16%</u>
Total	\$375,822	100.00%



# Cost Share Proposals for FY2017

- Public Education / Outreach
- Water Quality Monitoring (No. of Broad)
- SWM Implementation Guide
- Tax Run Assistance to implement rate structure changes

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# FY2017 Cost-Share Estimate

## Public Education/Outreach: \$70,000

Port Royal	\$2,090
Beaufort	5,109
HHI	20,283
Bluffton	7,407
Unincorp Beaufort	<u>35,110</u>
	\$70,000

# FY2017 Cost-Share Estimate

**WQ Monitoring North of the Broad:  
\$72,000**

Port Royal	\$5,940
Beaufort	\$14,575
Unincorp Beaufort	\$51,485
BC So. Broad	\$48,000
	\$120,000



# FY2017 Cost-Share Estimate (Budgeted in FY 2016)

## SWM Implementation Guide: \$475,000

Port Royal	\$14,345
Beaufort	34,058
HHI	139,412
Bluffton	47,643
Unincorp Beaufort	239,542
	\$475,000

# FY2017 Cost-Share Estimate

**Tax Run Assistance: \$30,000**

Port Royal	\$896
Beaufort	\$2,190
HHI	\$8,693
Bluffton	\$3,175
Unincorp Beaufort	\$15,047
	\$30,000

# FY 2017 SWM budget (option 2)

- Salaries and Fringe \* \$335,881
- Studies, Professional Services \$112,850
  - Includes Tax Run assistance, PE/PO
  - Does not include Monitoring No. Broad
- Office Mgt. \$27,091
- Total \$475,822


\* Changes in GASB 68 reporting of state pension, Increase in OPEB (retiree ins. Benefits), Compensation study impacts

# FY2017 SWM fee (option 2)

**Requested Budget: \$475,822**

**Requested Budget/SFU: \$4.21**

Port Royal (50)	\$14,208	2.99%
Beaufort (105)	34,729	7.30%
HHI (108.7)	137,871	28.98%
Bluffton (98)	50,352	10.58%
<u>Unincorp BC(12+65+10)</u>	<u>238,662</u>	<u>50.16%</u>
Total	\$475,822	100.00%



# FY 2017 SWM budget (Rate Study Option A)

- Salaries and Fringe \* \$335,881
- Studies, Professional Services \$12,850
- Office Mgt. \$27,091
- Cost Shares separately

Total \$375,822

\* Changes in GASB 68 reporting of state pension, Increase in OPEB (retiree ins. Benefits), Compensation study impacts

# TY 2014 v. TY2015 IA units (as of Nov. 10, 2015)

	TY2014		TY2015	
Port Royal	3,374	↑	7,635	6.1%
Beaufort	8,247	↑	14,473	11.5%
HHI	32,738	↑	36,822	29.2%
Bluffton	11,956	↑	16,426	13.0%
<u>Unincorp BC</u>	<u>56,672</u>	↓	<u>50,763</u>	<u>40.2%</u>
Total Collected	112,987		126,119	

# FY2017 SWM fee (Option A)

**Requested Budget: \$375,822**

**Requested Budget/SFU: \$2.98**

Port Royal (50)	\$22,752	6.1%
Beaufort (105)	43,128	11.5%
HHI (108.7)	109,725	29.2%
Bluffton (98)	48,948	13.0%
<u>Unincorp BC(12+65+10)</u>	<u>151,268</u>	<u>40.2%</u>
Total	\$375,822	100.00%

# FY2017 Cost-Share Estimate\*

## Public Education/Outreach: \$70,000

Port Royal	\$4,238
Beaufort	8,033
HHI	20,437
Bluffton	9,117
Unincorp Beaufort	<u>28,175</u>
	\$70,000

\* Cost Share allocation based on TY15 IA distribution



## FY2017 Cost-Share Estimate\*

**WQ Monitoring North of the Broad:  
\$72,000**

Port Royal	\$12,573
Beaufort	\$23,833
Unincorp Beaufort	\$35,593
BC So. Broad	\$48,000
	\$120,000

\* Cost Share allocation based on TY15 IA distribution

# FY2017 Cost-Share Estimate\*

**Tax Run Assistance: \$30,000**

Port Royal	\$1,816
Beaufort	\$3,443
HHI	\$8,759
Bluffton	\$3,907
Unincorp Beaufort	\$12,075
	\$30,000

\* Cost Share allocation based on TY15 IA distribution

# FY 2017 SWM budget (Rate Study Option C/E)

- Salaries and Fringe \* \$335,881
  - Studies, Professional Services \$112,850
    - Includes Tax Run assistance, PE/PO
  - Office Mgt. \$27,091
  - Monitoring No. Broad (not included in Admin. Budget for S. Broad jurisdictions) \$45,000 + \$30,000
  - Eliminates the need to do cost share MOAs
  - Total \$520,822
- \* Changes in GASB 68 reporting of state pension, Increase in OPEB (retiree ins. Benefits), Compensation study impacts

# TY2015 Account units (as of Nov. 10, 2015)

	TY2015	
Port Royal	3,644	3.0%
Beaufort	6,313	5.2%
HHI	37,692	31.1%
Bluffton	10,897	9.0%
<u>Unincorp BC</u>	<u>62,643</u>	<u>51.7%</u>
Total Collected	121,189	100%

# FY2017 SWM fee (Option C/E)

**Requested Budget: \$595,822**

**Requested Budget/Acct: \$5.00**

Port Royal (?)	\$20,331
Beaufort (?)	35,221
HHI (?)	147,989
Bluffton (?)	42,784
<u>Unincorp BC(12+65+10)</u>	<u>349,496</u>
Total	\$595,822

# FY2017 SWM fee Options

	1	2	A	C/E
ToPR	\$20,148	\$20,148	\$41,379	\$20,331
CoB	49,304	49,304	78,437	35,221
ToHHI	137,871	137,871	138,922	147,989
ToB	50,352	50,352	61,972	42,784
<u>BC</u>	<u>338,147</u>	<u>338,147</u>	<u>275,112</u>	<u>349,496</u>
Total	595,822	595,822	595,822	595,822

# Implications of multiple rate structures

- If any one municipality remains with Option A or selects a different structure than the majority (eg. Option C/E), then SWU mgt. (admin.) fees go up
- To be fair to the others, the increase should be solely born by the minority
- Using our historic overtime and related cost increases for TY15 for the County's rate structure change, we have estimated the increased workload for each jurisdiction independent of the rest
- If two Towns or City select the same Option, different than the other three, these numbers can be adjusted

# FY 2017 “Add-On” costs

Port Royal	\$1,888
Beaufort	\$4,631
HHI	\$18,825
Bluffton	\$6,622
Unincorp BC	\$32,261



# SWU Manager Recommendation

- Option C or Option E method
  - Assumes all Towns and City take action on the Rate Study recommendations before June 30, 2016 and incorporates the new rate structure into their billing for TY 16.

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# Deadline Reminders

- Budget Numbers from Towns and City
  - Amount budgeted for County SWI to perform work within your jurisdictional boundary
  - Need ASAP – County budget due mid-March

# Deadline Reminders

- Per the IGA, written agreement with the proposed administrative fee is due back to the County by April 15th
- Report to the County the SWU fee rate for TY2016 by August 15th
- Report to the County on SWU fee expenditures for the previous fiscal year due Sept. 1st (for ToHHI, ToPR, and CoB; ToB upon request)

**BUT!!!!.....**

# Tax Auditor's Mandate

- As a result of his directive that tax bills mail out Sept. 30<sup>th</sup>, we need to update the IGAs and move up the timeline...
- Written agreement w/ the proposed admin. fee is due to the BC March 16 (or sooner)
- Report to BC the SWU fee rate for TY16 by June 30<sup>th</sup>



# Questions?

Eric W Larson

SW Manager

[elarson@bcgov.net](mailto:elarson@bcgov.net)

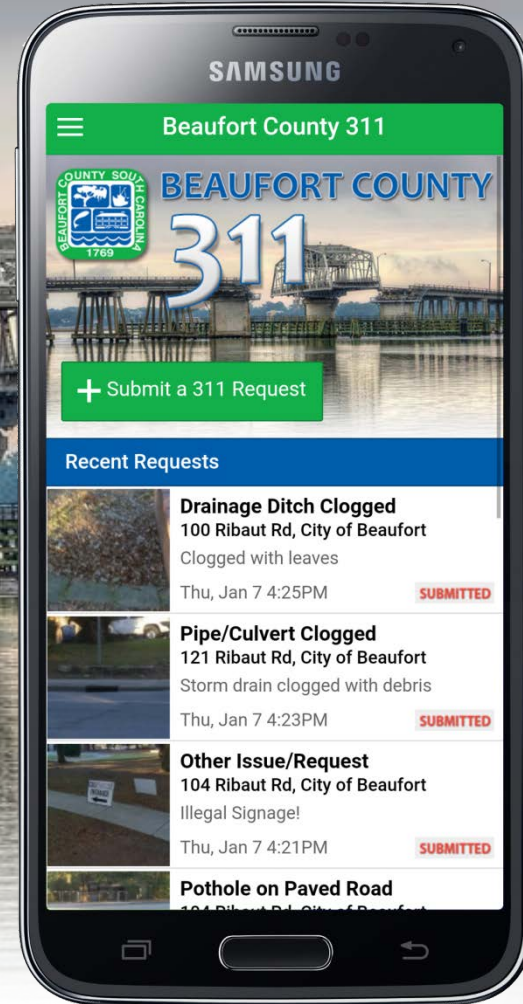
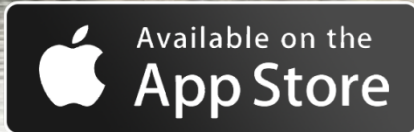
(843)255-2812

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# BEAUFORT COUNTY

# 311



# Mobile Reporting App



# BEAUFORT COUNTY

# 311

311 Users submit non-emergency requests or complaints to Beaufort County in real-time.

Backend web-based software allows for request tracking, communications and reporting by Department

Requests are routed to the appropriate department based on the type of request submitted.



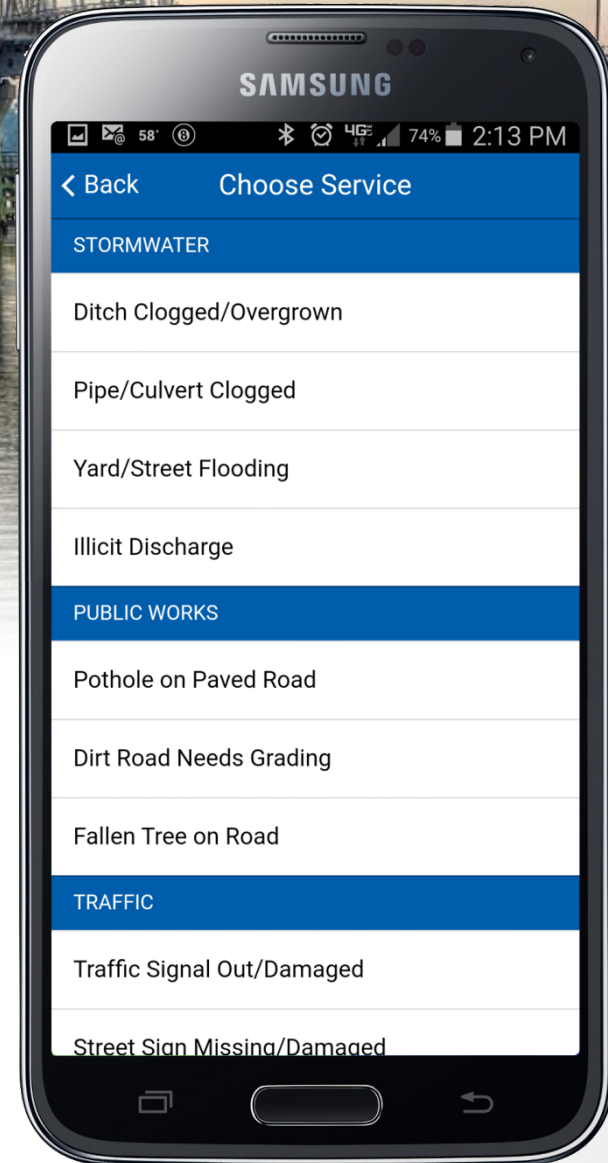


BEAUFORT COUNTY

311

# Stormwater

- Ditch Clogged or Overgrown
- Pipe or Culvert Clogged
- Yard or Street Flooding
- Illicit Discharge





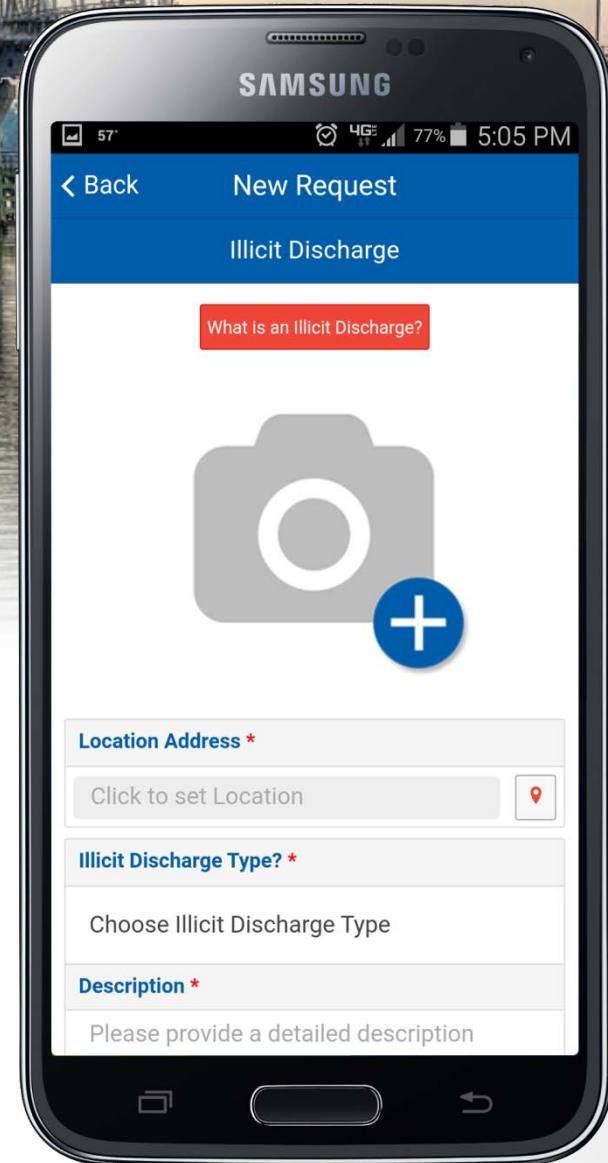


BEAUFORT COUNTY

311

Image  
attachment from  
the device  
camera or gallery

Address and user  
information is  
captured for each  
request



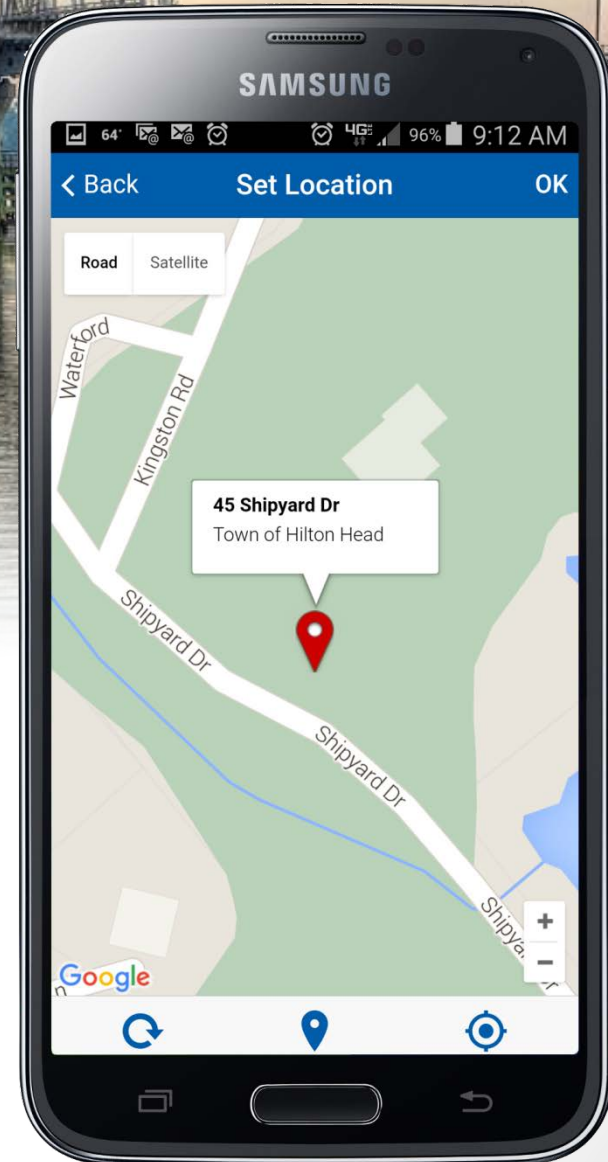


BEAUFORT COUNTY

311

Uses device GPS  
Location to obtain  
accurate position  
information

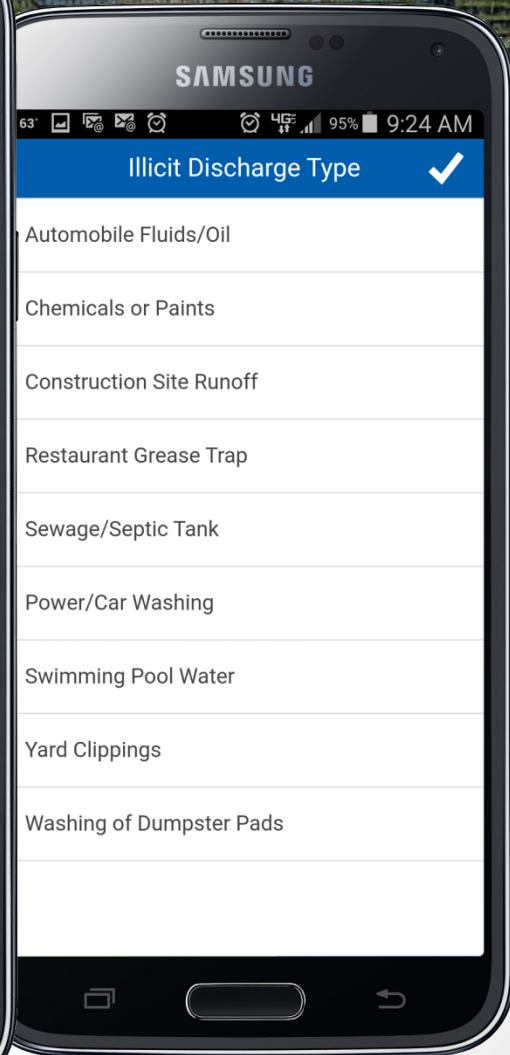
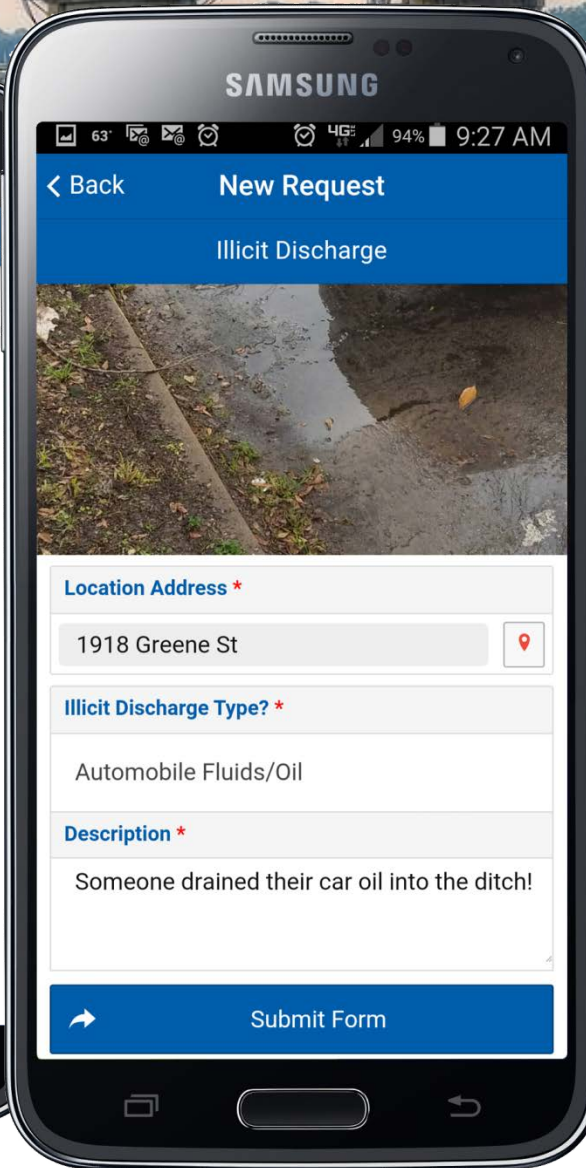
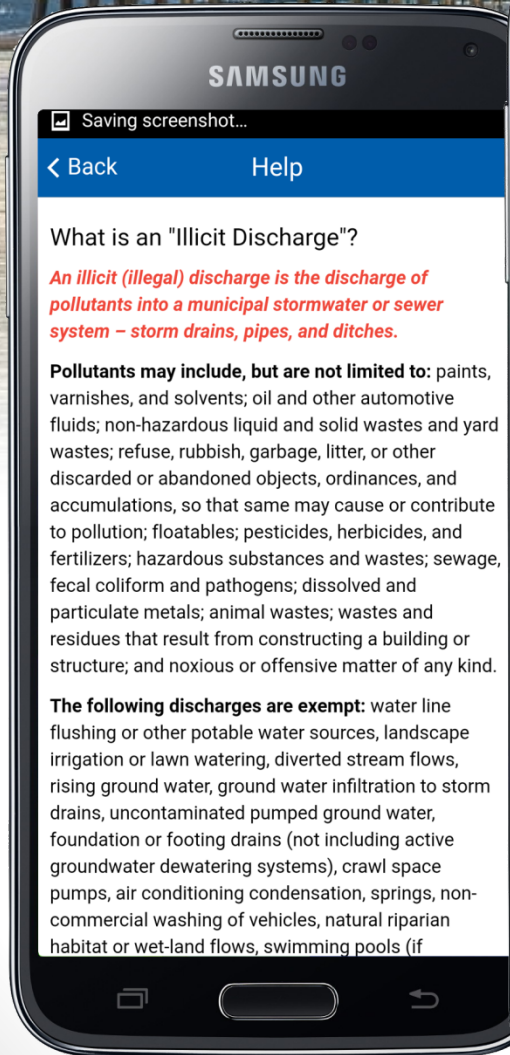
Address information  
is obtained from  
Beaufort County GIS  
Geolocation  
Services





# BEAUFORT COUNTY

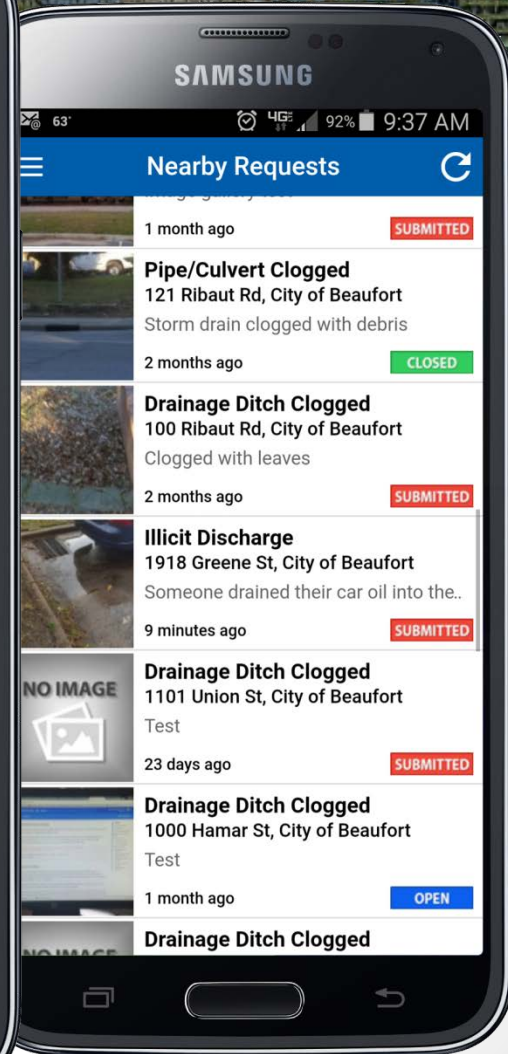
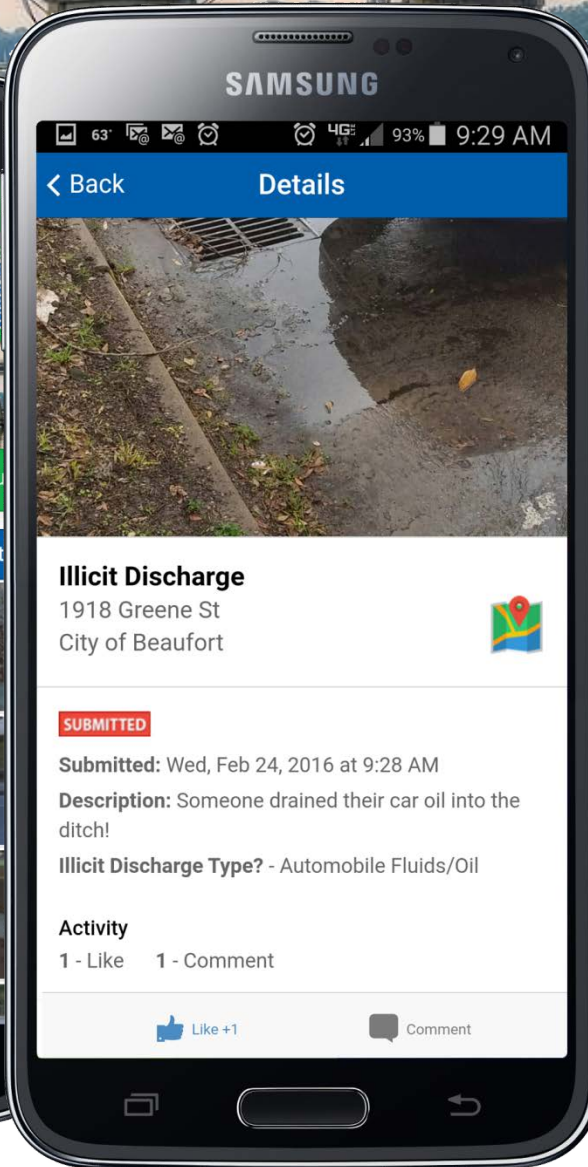
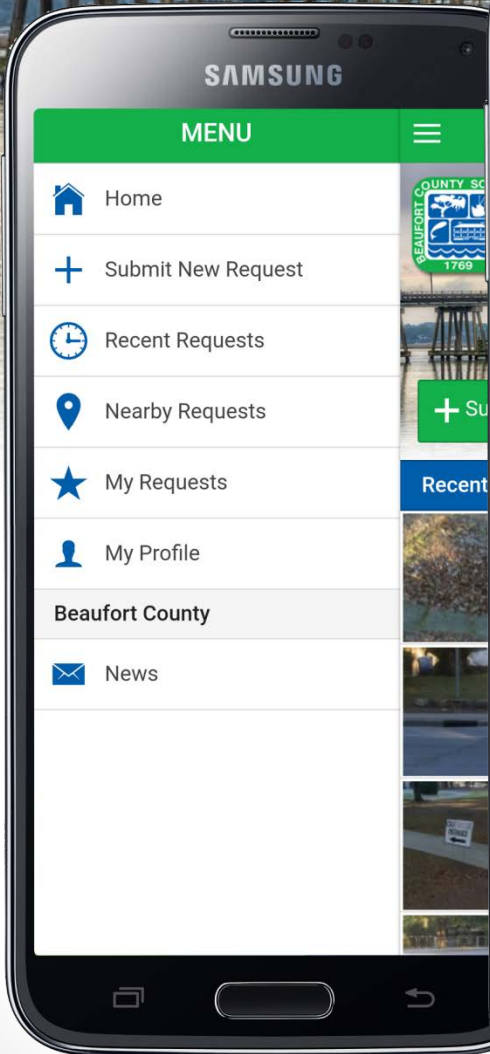
# 311





# BEAUFORT COUNTY

# 311





BEAUFORT COUNTY

311

Web-based Backend System with user login by Municipality and Department

Main View shows Requests List that can be filtered by Municipality, Department, Type, Status or User info

Map shows all the requests currently filtered and can be clicked on to bring up details



# BEAUFORT COUNTY

# 311

BC311 - Data Manager x Robert

bcbgov.net

## Beaufort County 311 - Admin Panel

Municipality: Beaufort County

Department: Stormwater






Request Type: Illicit Discharge

Date Range: Last 30 Days

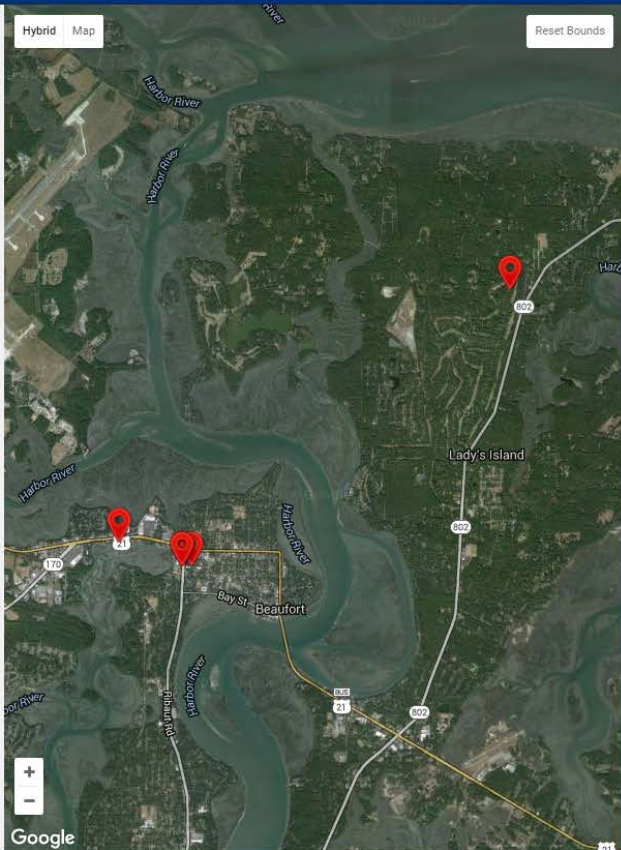
Status: Submitted

Search Filter: ?

Total Records: 5

	<b>Illicit Discharge</b> 1918 Greene St, City of Beaufort Someone drained their car oil into the ditch! <b>SUBMITTED</b> 1 - Like 1 - Comment 26 minutes ago
	<b>Illicit Discharge</b> 104 Ribaut Rd, City of Beaufort Description <b>SUBMITTED</b> 1 - Like 3 - Comments 19 days ago
	<b>Illicit Discharge</b> 2234 Boundary St, City of Beaufort Looks like something is draining from back of wendys on ribaut <b>SUBMITTED</b> 1 - Like 1 - Comment 23 days ago
	<b>Illicit Discharge</b> 104 Ribaut Rd, City of Beaufort test <b>SUBMITTED</b> 0 - Likes 0 - Comments 23 days ago
	<b>Illicit Discharge</b> 140 Wade Hampton Dr, Beaufort County Neighbor drained his pool into my ditch! <b>SUBMITTED</b> 0 - Likes 0 - Comments 1 month ago

Hybrid Map Reset Bounds



Google



BEAUFORT COUNTY

311

Detail Page shows request type, address, request details and description, images submitted, user information, and status

311 personnel communicate directly with the user in real-time through comments and status updates

An Internal Note field is available for status updates, last actions, etc. All actions are tracked by user and logged for each request.

Requests can be easily transferred between Departments and Municipalities



# BEAUFORT COUNTY

# 311

BC311 - Data Manager x

bcgov.net/

## Beaufort County 311 - Admin Panel

[Back](#)

[Change Status](#)

[Transfer Request](#)

[Add Comment](#)

[Add Note](#)

[View User Details](#)

### Illicit Discharge SUBMITTED

1918 Greene St  
City of Beaufort

**Robert Gecy** submitted 2/24/2016 9:28AM  
**Last Updated:** 2/24/2016 9:28AM

1 - Like 1 - Comment

#### DETAILS


**Description**  
Someone drained their car oil into the ditch!

**Illicit Discharge Type?**  
Automobile Fluids/Oil

#### COMMENTS

[Add Comment](#)

**Robert23** 24 minutes ago  
Test



#### INTERNAL NOTES ? [Add Note](#)

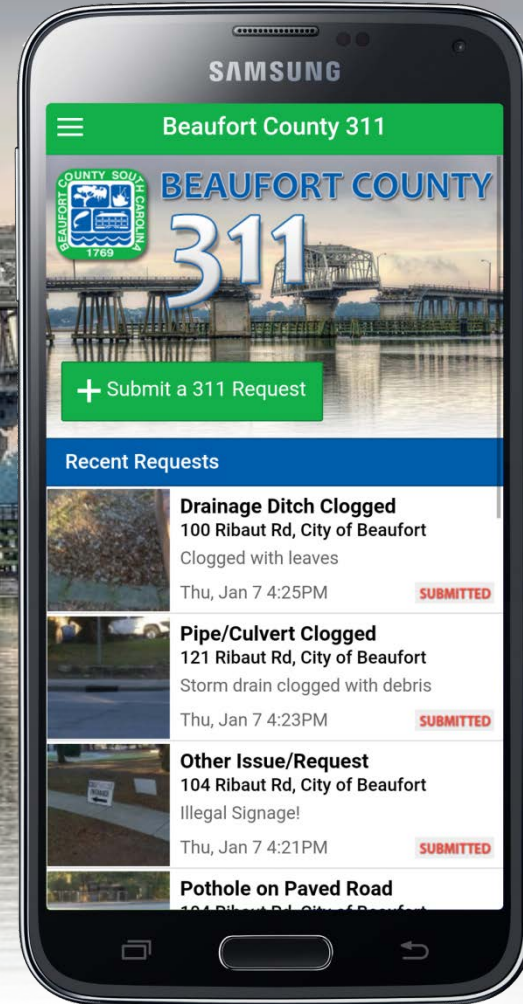
**BC311** 2/24/2016 9:31AM  
We have had multiple reports of this same person discharging oil into the storm drain.





# BEAUFORT COUNTY

# 311



# Mobile Reporting App

**UNAUDITED AND PRELIMINARY**  
**BEAUFORT COUNTY, SOUTH CAROLINA**  
**STATEMENT OF NET POSITION**  
Stormwater Utility and Capital Improvement Funds

	<u>Stormwater Utility Fund January 31, 2016</u>	<u>Capital Improvement Fund January 31, 2016</u>
<b><u>ASSETS</u></b>		
Current Assets		
Cash and Investments with Trustee	5,181,898	359,802
Receivables, Net	660	-
Inventories	73,741	-
Total Current Assets	<u>5,256,299</u>	<u>359,802</u>
Capital Assets		
Capital Assets	3,067,236	-
Accumulation Depreciation	<u>(2,247,961)</u>	<u>-</u>
Total Assets	<u>819,275</u>	<u>-</u>
	<u>6,075,574</u>	<u>359,802</u>
<b><u>DEFERRED OUTFLOWS OF RESOURCES</u></b>		
Contributions to pension plan	126,782	-
Pension experience differences	53,749	-
Total deferred outflows of resources	<u>180,531</u>	<u>-</u>
Total assets and deferred outflows of resources	<u>6,256,105</u>	<u>359,802</u>
<b><u>LIABILITIES</u></b>		
Liabilities		
Accounts Payable	49,458	25,745
Accrued Payroll	34,245	-
Accrued Compensated Absences	12,486	-
Total Current Liabilities	<u>96,189</u>	<u>25,745</u>
Long Term Liabilities		
Accrued Compensated Absences	74,919	-
Net Other Postemployment Benefit Obligation	17,770	-
Net Pension Liabilities	1,897,384	-
Total Long Term Liabilities	<u>1,990,073</u>	<u>-</u>
Total Liabilities	<u>2,086,262</u>	<u>25,745</u>
<b><u>DEFERRED INFLOWS OF RESOURCES</u></b>		
Net pension change in projected investment earnings	159,919	-
Total deferred inflows of resources	<u>159,919</u>	<u>-</u>
<b><u>NET POSITION</u></b>		
Invested in Capital Assets	819,275	-
Reserved for Encumbrances	298,083	107,091
Reserved for Capital Improvements	-	226,966
Unrestricted (Deficit)	<u>2,892,566</u>	<u>-</u>
Total Net Position	<u>4,009,924</u>	<u>334,057</u>
Total Liabilities, deferred inflows and net position	<u>6,256,105</u>	<u>359,802</u>

**UNAUDITED AND PRELIMINARY**  
**BEAUFORT COUNTY, SOUTH CAROLINA**  
**STATEMENT OF REVENUES, EXPENSES AND CHANGE NET ASSETS**  
**Stormwater Utility**  
**For the period ending January 31, 2016**

	Budget FY 2016	Actual	Budget to Actual	Percent of Budget
Operating Revenues				
Stormwater Utility Fees	\$ 5,058,882	\$ 4,454,744	(604,138)	88%
Countywide Infrastructure	273,351	267,149	(6,202)	98%
Stormwater Utility Project Billings	498,648	176,031	(322,617)	35%
Total Operating Revenues	<u>5,830,881</u>	<u>4,897,925</u>	<u>(932,956)</u>	<u>84%</u>
Operating Expenses				
Personnel	2,563,225	1,326,654	1,236,571	52%
Purchased Services	1,308,162	294,876	1,013,286	23%
Supplies	358,324	150,785	207,539	42%
Capital	611,290	-	611,290	0%
Depreciation	248,481	82,828	165,653	33%
Total Operating Expenses	<u>5,089,482</u>	<u>1,855,143</u>	<u>3,234,339</u>	<u>36%</u>
Operating Income (Loss)	741,399	3,042,782	2,301,383	410%
Non-Operating Revenues (Expenses)				
Interest Earned	2,771	-	(2,771)	100%
Total Non-Operating Revenues (Expenses)	<u>2,771</u>	<u>-</u>	<u>(2,771)</u>	<u>0%</u>
Transfers Out To Capital Improvement Fund	495,908	-	(495,908)	100%
Change in Net Position	248,262	3,042,782		
Net Position, Beginning	<u>967,142</u>	<u>967,142</u>		
Net Position, Ending	<u>\$ 1,215,404</u>	<u>\$ 4,009,924</u>		

**UNAUDITED AND PRELIMINARY**  
**BEAUFORT COUNTY, SOUTH CAROLINA**  
**STATEMENT OF REVENUES, EXPENSES AND CHANGE NET ASSETS**  
**Stormwater Utility**  
For the period ending January 31, 2016

	<u>Budget FY 2016</u>	<u>Actual</u>	<u>Budget to Actual</u>	<u>Percent of Budget</u>
Transfer in From Stormwater Utility Fund				
Administration Complex Parking Lot Retrofit	-	-	-	0%
Okatie East Retrofit	-	-	-	0%
Highway 278 Retrofit	-	-	-	0%
Okatie East Retrofit	-	-	-	0%
Buckingham Plantation Retrofit	400,000	-	(400,000)	0%
Upper Battery Creek Retrofit	95,908	-	(95,908)	0%
Brewer Memorial Park	-	-	-	0%
Total Transfers in	<u>495,908</u>	<u>-</u>	<u>(495,908)</u>	
Capital Improvement Expenses				
Administration Complex Parking Lot Retrofit	-	767	(767)	100%
Okatie East Retrofit	-	1,250	(1,250)	100%
Highway 278 Retrofit	47,590	54,199	(6,609)	114%
Okatie West Retrofit	315,000	-	315,000	0%
Buckingham Plantation Retrofit	400,000	-	400,000	0%
Upper Battery Creek Retrofit	117,604	3,513	114,091	3%
Brewer Memorial Park	9,500	-	9,500	0%
Total Operating Expenses	<u>889,694</u>	<u>59,729</u>	<u>838,591</u>	<u>7%</u>
Change in Net Assets by Project				
Administration Complex Parking Lot Retrofit		(767)		
Okatie East Retrofit		(1,250)		
Highway 278 Retrofit		(54,199)		
Okatie East Retrofit		-		
Buckingham Plantation Retrofit		-		
Upper Battery Creek Retrofit		(3,513)		
Brewer Memorial Park		-		
Total Change in Net Position by Project		<u>(59,729)</u>		
Net Position, Beginning				
Administration Complex Parking Lot Retrofit	24,919	24,919		
Okatie East Retrofit	35,169	35,169		
Highway 278 Retrofit	143,670	143,670		
Okatie East Retrofit	62,285	62,285		
Buckingham Plantation Retrofit	2,500	2,500		
Upper Battery Creek Retrofit	125,243	125,243		
Brewer Memorial Park	-	-		
Total Net Position, Beginning	<u>393,786</u>	<u>393,786</u>		
Net Position, Ending				
Administration Complex Parking Lot Retrofit		24,152		
Okatie East Retrofit		33,919		
Highway 278 Retrofit		89,471		
Okatie East Retrofit		62,285		
Buckingham Plantation Retrofit		2,500		
Upper Battery Creek Retrofit		121,730		
Brewer Memorial Park		-		
Total Net Position, Ending		<u><u>334,057</u></u>		



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



March 23, 2016

**Stormwater Manager's Report for the Stormwater Utility Board Meeting**

Utility Update

1. Annual Tax Run – Staff is still working on one appeal request.
2. Utility Rate Study – The portion of the rate study for the municipalities is still pending and will likely be presented to the Board at the April 2016 meeting.
3. Credit Manual Update – (\$33,995 budget) Staff and SWIC members reviewed a credit policy document developed to guide the content of the revised credit manual. A draft revised credit manual will be presented during New Business.
4. Intergovernmental Agreements for SWU – Revisions will be needed but are pending decisions on the rate study by all parties.
5. Stormwater Budget for FY 17 / Actuals for FY 16 – Staff have been working on the budget to present to the SWUB at the April meeting.
6. Presentation of Stormwater in Beaufort County to SCAPA – Eric Larson, Kim Jones, and Tony Maglione with ATM presented at the winter conference of the South Carolina Chapter of the American Planning Association, held in Beaufort March 18.



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March 23, 2016

**Stormwater Manager's Report for the Stormwater Utility Board Meeting**

Monitoring Update

1. USCB and County MOA for the Lab Services – The County Council approved the MOA at their March meeting.
2. Lab Update – (From USCB Environmental Program Director Alan Warren and USCB Lab Manager Danielle Mickel)

Certifications and Production

The Water Quality Laboratory has submitted certification for Total Suspended Solids to SCDHEC. We (Lab) have received our first response from them, which is the administrative review and requests. Once this review is completed, a technical review is performed and an on-site visit. Further, we have been collecting BECY sites on qualifying rain events, and analyzing BC and Town of Bluffton weekly samples.

Educational Efforts

We are going to be working with University students over the next two weeks introducing them to water collection and analyzation for “in-situ” parameters and microbiology. Every 1<sup>st</sup>-year Health Promotion major at USCB participated in a field and lab exercise in March under Danielle Mickel and Mike Monday’s supervision. One or more retention ponds on the USCB campus were examined for a host of in situ parameters and E. coli. Dr. Warren has already addressed the relevance of such measures to the Lowcountry in his Environmental Health class this semester. In addition, senior- level biology majors taking the Bacteriology class this semester will participate in a similar exercise on the 28<sup>th</sup> of March. They will be examining retention ponds on campus for fecal coliform with discussion of bacterial counts as a determinant of opening and closings of shellfish beds to harvesting.



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March 23, 2016

**Stormwater Manager's Report for the Stormwater Utility Board Meeting**

Stormwater Implementation Committee (SWIC) Report

1. The SWIC met on March 14, 2016. The focus of the meeting was on MS4 activities. The group discussed creation of sub-committees to allow detailed discussions on individual topics. The next meeting is scheduled for April 20, 2016. [See attached minutes of the March meeting.](#)

## DRAFT Minutes

March 14, 2016, 12:00 pm at Town of Hilton Head Island offices

Attendees:	Eric Larson, Bryan McIlwee, Jeff Buckalew, Rebecca Baker, Jeremy Ritchie, Kim Jones, Neil Desai, Van Willis
------------	---

1. 12pm-1pm - Webinar presented by ASCE - Underground BMPs
2. 1pm meeting call to order
3. Approval of February 10, 2016 meeting minutes
4. Public Education
  - a. Tanger Touch a Truck 4/2/16 - Only County likely to participate. Rebecca to work directly with Tanger if BSWCD hasn't coordinated it yet.
  - b. FY 17 consulting partner for Public Education – SWIC discussed contract for FY 17.
5. Utility Management Budget Status (Eric and all) - Eric noted he has not changed the Management budget as presented at the February meeting and that the additional management fees for differing rate structures are still good numbers as well. The Budget remains a draft until all parties finalize the rate study. See additional discussion in item #7 below.
6. Management Plan
  - a. Status (Eric) -  
ACTION: Eric to check with ATM on data collection needs. ToB and ToHHI to check staff on their end.  
Eric noted public outreach meeting pending within the next few months. ATM is compiling existing conditions and changes needed summary.
  - b. MOUs Status (Eric) - All four signed by the Towns and City. Eric getting them signed by Gary Kubic.
7. Rate Study
  - a. Credit Manual (Eric) - Eric noted work product memo from the March 2nd meeting and discussed the highlights of the proposed changes. ATM will have a final draft ready for the April SWUB and County Council meetings. Eric noted all parties will have to take action on the new manual to make it effective in their jurisdiction.
  - b. Status on County, Towns, & City Rate Studies
    - i. County - Done. Waiting on the Towns and City to finalize the document. The County staff will take the final report to SWUB as needed. (See #7.c. below)



- ii. Town of Port Royal - Adopted Option E. ATM finalizing their report.
  - iii. City of Beaufort - Pending. Eric spoke with staff last week and knows a decision is pending.
  - iv. Town of Bluffton - Email from Kim says they will not make a change (effectively adopting Option A). ToB is willing to pay the higher SWU management fee.
  - v. Town of HHI - Still working with ATM to finish the study but should be done soon.
  - c. SWUB Actions Needed? (All) - Bluffton needs recommendation. ToPR does not. CoB and ToHHI will let County staff know.
8. MS4
- a. Discussion: What parts of MS4 can be shared, assigned via MOA, etc. (Bryan and all) - ToHHI and BC considering Outfall inspections by BC for FY 17. North of Broad share monitoring. ToPR would like to share with BC for construction inspection. ToB has stand-alone construction inspection and doesn't need to delegate to others. ToHHI and ToB willing to accept doing BC construction inspections once they staff up if needed. BC has pipe camera and can assist with mapping, screening. BC has need to partner with street sweeping. Facility Management - BC willing to assist as this program language will be part of BMP manual. ACTION: Rebecca suggested a MS4 sub-committee to meet regularly. All agreed to assign staff to this function.
  - b. Discussion: Comparison of Ordinance language for MS4 compliance (Rebecca) - Rebecca notes she wanted to compare notes and see what others have in place, or need. Example is an IDDE ordinance. ToB and ToHHI have one. Same with Construction inspection ordinance. BC will likely "borrow" that language and can suggest additional language back to the Towns if deemed necessary.  
Rebecca noted there will be public meetings to review the BMP manual and solicited input from the SWIC.  
Rebecca asked about Enforcement. ToHHI says at this time, it is educating only. ToB uses Code Enforcement. Fines in ordinance. ToPR fines are infrequent and uses Code Enforcement department. Rebecca asked about fines and who charges what. Eric noted this is needed for consistency to prevent conflicts when enforcement is needed.
  - c. Discussion - Annual report template from DHEC - The recently issued DHEC report template was discussed at the SCASM meeting last week.

ACTION: Group consensus to get DHEC to come down and discuss the annual reporting. Either this summer or fall, closer to end of the first year. BC will set it up.

9. Monitoring

- a. Discussion: Sampling parameters and locations - Who is doing what? (Rebecca) - Eric noted another sub-committee is needed for this. Kim noted that in the past, when County had a GEL contract, there were these types of meeting. It was suggested to start these back up.

ACTION: All agreed to set up sub-committee.

10. Reports by each jurisdiction

- a. BC - Nothing. Discussion on Academy Estates and Eric's attempt to find research to support the design concept of the pond. Eric noted mixed results.

Rebecca noted desire to focus on septic tank maintenance and finding funding to help with maintenance. Eric noted the County is looking at a CDBG for a subdivision on Port Royal Island.

- b. ToHHI - Currently focused on budgeting to maintain private systems.
- c. ToB - Jeremy mentioned Pine Ridge project on schedule and will provide good volume reduction data once complete.

Kim Jones has reassumed the role of Stormwater Manager. Jeremy Ritchie is Asst. Director of Engineering. The role of Director that Kim once held is vacant.

- d. CoB - Nothing.
- e. ToPR - Starting to fix private systems as needs arise and funding allows.

11. Other items - Nothing

12. Next Meeting

- a. April 20, 2016 @ 1:30pm @ BJWSA, 6 Snake Road (editorial note: meeting start time adjusted to 12:00PM)

13. Adjourn at approx. 2:45 pm.



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March 23, 2016

**Stormwater Manager's Report for the Stormwater Utility Board Meeting**

Stormwater Related Projects

1. US 278 Retrofit Ponds (\$356,000 Budget) - Excavation of the third pond continues. Clearing on the fourth pond is pending due to wet conditions.
2. Turtle Lane Paving on Lady's Island (Stormwater Add-On) (\$8,940 Budget + \$4,964 C.O.) – Easements for the additional pipe are still pending. The Change Order report to address the flooding problem is completed. The results were mailed to the affected property owners. [The report and the County's letter to the property owners are attached to this report.](#)
3. Okatie West / SC 170 Widening Retrofit Land Purchase (Land Acquisition = \$160,415 Budget, Design and Construction = \$915,000 Budget) – Closing of the property is complete. Design work is ongoing. The first public meeting is being planned.
4. SC 170 Widening Pond #8 project (Land Acquisition = \$155,694 Budget, Design and Construction = \$630,840) – Closing of the property is complete. Nothing new to report.
5. Huspah Court South Ditch Easement / Mike Zara – A revised proposal for ditch maintenance and easement was sent to Mr. Zara in March. His acceptance of the agreement is still pending.
6. Extent of Service expansion – Staff committed to this as part of the SWU rate increase. Work has not begun on this at this time.
7. Easements – Staff is developing new internal policies to improve tracking of easement requests and communications with property owners. This is partially due to recent issues with lack of notification and understanding of the project need with affected owners.

ENGINEER'S REPORT  
TURTLE LANE & GATOR LANE DRAINAGE OUTFALL  
PROJECT 144008.02  
DATE: FEBRUARY 22, 2016

**EXISTING CONDITIONS AT THE DRAINAGE OUTFALL AND 4 & 6 TURTLE LANE:** The runoff from the Turtle Lane and Gator Lane neighborhood drains into a series of three lagoons on the Royal Pines golf course. These lagoons are identified on the enclosed Drainage Survey, from downstream to upstream, as #1, #2 and #3. Lagoons #1 and #2 are connected by a 12" PVC pipe across the golf course. The upstream invert elevation of this pipe is 18.35. Lagoon #2 and #3 are connected by a 24" RC pipe under Gator Lane. The upstream invert elevation of this pipe is 18.04.

Lagoon #3, the downstream lagoon, drains into the road side ditch along the western right-of-way of Thomas Sumter Street, a SCDOT roadway, for approximately 600'. Four driveways cross this 600' of ditch before it drains under Thomas Sumter Street. The four driveways cross the ditch with 15" and 18" RC pipe ranging in elevations from 18 to 18.5. The cross line pipe under Thomas Sumter Street is an 18" RC Pipe with an upstream invert elevation of 18.

The combination of the 600' of drainage ditch and driveway pipes along Thomas Sumter Street control the normal water elevation in the lagoons #1, #2, & #3. The normal water elevation in the three lagoons is 18.5.

The topography in the back yard of 6 Turtle Lane ranges from elevation 19.3 adjacent to the south east corner of the house, to a low area in the backyard at elevation 18.6, to the top bank of the lagoon #3 at elevation 18.6. A portion of 4 Turtle Lane is low with elevations in the 19.5 to 18.7 range.

During wet periods when the water table is high and the three lagoons are experiencing long periods with water levels at or near the normal water elevation of 18.5 the low areas of 4 & 6 Turtle Lane become saturated. During these wet periods the back yards of these two lots experience periods of standing water and soggy ground.

The 12" PVC pipe connecting lagoons #2 and #3 exacerbates the flooding that lots 4 & 6 Turtle Lane experience during wet periods by restricting the flow leaving lagoon #3, which temporarily raises the water level in lagoon #3. This temporary staging above the normal water level elevation 18.5 subsides once the rate of runoff decrease to the capacity of the 12" PVC pipe and the water drains from 4 and 6 Turtle Lane in to the lagoon.

**RECOMMENDATION TO IMPROVE THE DOWNSTREAM DRAINAGE OUTFALL:**

**LAGOONS:** Increasing in size and number the cross connections between the three lagoons will improve the flow through the lagoons, which minimizes the differential water surface elevations in the lagoons during rainfall events. This in turn will lessen the magnitude and time that the water surface in lagoon #3 will rise above the normal water elevation of 18.5.

We propose adding two – 24” RC pipes at the two locations shown on the Design Survey. The most southerly of these two locations is replacing the existing 12” PVC pipe. This upgrade improves the connection between lagoons #1 and #2. The northerly location provides a direct connection between lagoons #1 and #3. This second connector pipe directly linking lagoon #3 to lagoon #1 eliminates the dependency of lagoon #3 on the ditch from Gator Lane to lagoon #2 for access to lagoon #1. If the ditch is not maintained on a regular basis, then silt build-up will raise the elevation in lagoon #3, which in turn will flood 6 Turtle Lane.

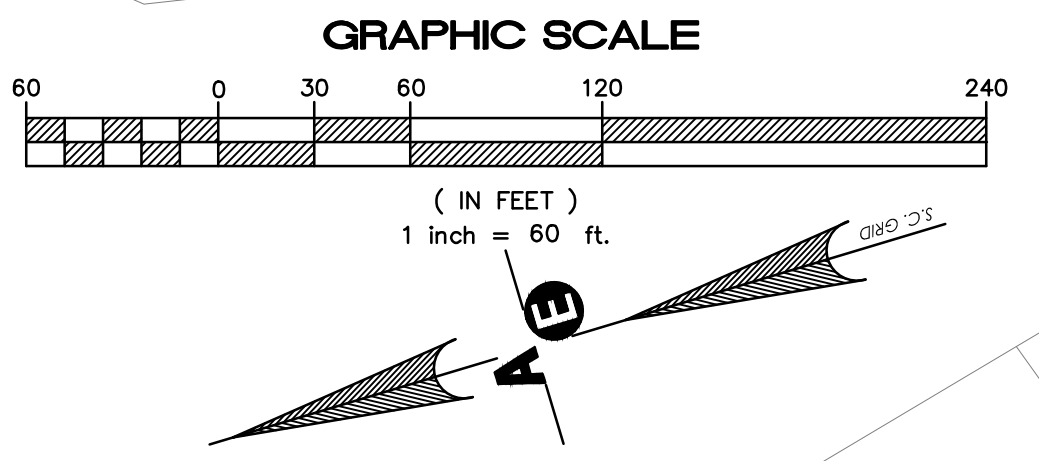
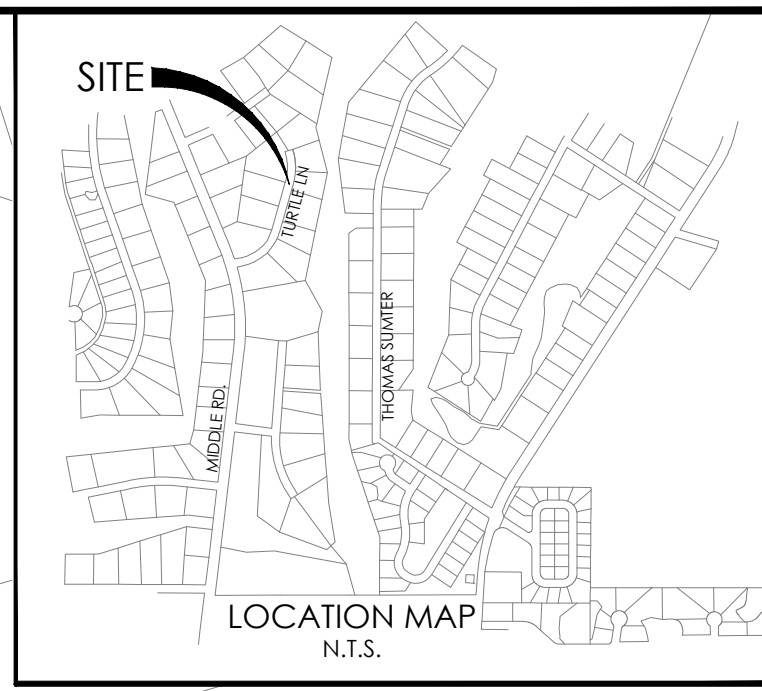
The invert elevations of the two proposed 24” connector pipes are set at 16.25 so that the full diameter of the pipe is below the normal water elevation of 18.5 to minimize the stage differences between the lagoons during rainfall events as runoff is routing through the lagoons.

4 & 6 TURTLE LANE: The flooding in the back yards of 4 and 6 Turtle Lane is caused by these lots, especially 6 Turtle Lane, being low in elevation. As mentioned in the above paragraphs describing the existing conditions the drainage ditch and pipes along Thomas Sumter Street dictate the normal water elevation of 18.5 in the lagoons. Lowering the ditch and driveway pipes in the 600’ along Thomas Sumter Street will not appreciably, if at all, change the wet and flooding condition at 4 and 6 Turtle Lane.

The remedy to the flooding and wet conditions in the back yards of 4 and 6 Turtle Lane is to raise the low portions of these lots. This may require placing fill under the house at 6 Turtle Lane to prevent storm water from flowing under the house. Sheet 3 of the attached drawings provides a grading plan for the back yards of 4 and 6 Turtle Lane.

The attachments included with this report are as follow:

1. Drainage Survey: A plan view of the Turtle/Gator Lane drainage outfall. The two proposed 24” RC connector pipes between the lagoons are shown along with the required drainage easements that must be secured for these pipes.
2. Drainage Profile: A profile of the drainage outfall beginning at the downstream Royal Pines golf course lagoon located 450’ east of Thomas Sumter Street, under the road crossing at Thomas Sumter Street, along the 600’ of ditch in the west right-of-way of Thomas Sumter Street, through the 3 lagoons adjacent the Turtle and Gator Lane neighborhood, ending at the storm sewer recently installed as part of the Turtle and Gator Lane paving improvements under contract #49. This profile graphically demonstrates that the ditch and pipes in the Thomas Sumter Street right-of-way set the normal water elevation in the lagoons at 18.5.
3. Grading Plan: A proposed plan to place fill in the low areas on 4 and 6 Turtle Lane to elevate these areas adequately above the 18.5 normal water elevation to provide positive drainage for these lots into the lagoon even during wet periods.



PLAN REVISIONS	
NO.	DESCRIPTION
1	
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 Beaufort, SC 29902  
 843.379.2222  
 Fax 843.379.2223

# Andrews Engineering & Surveying

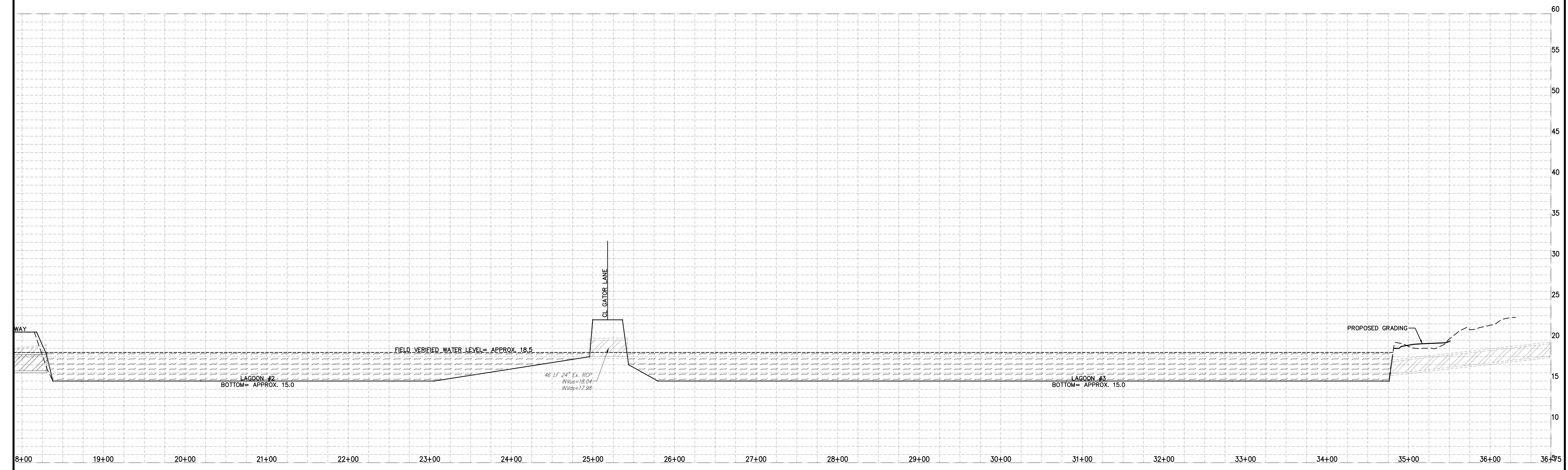
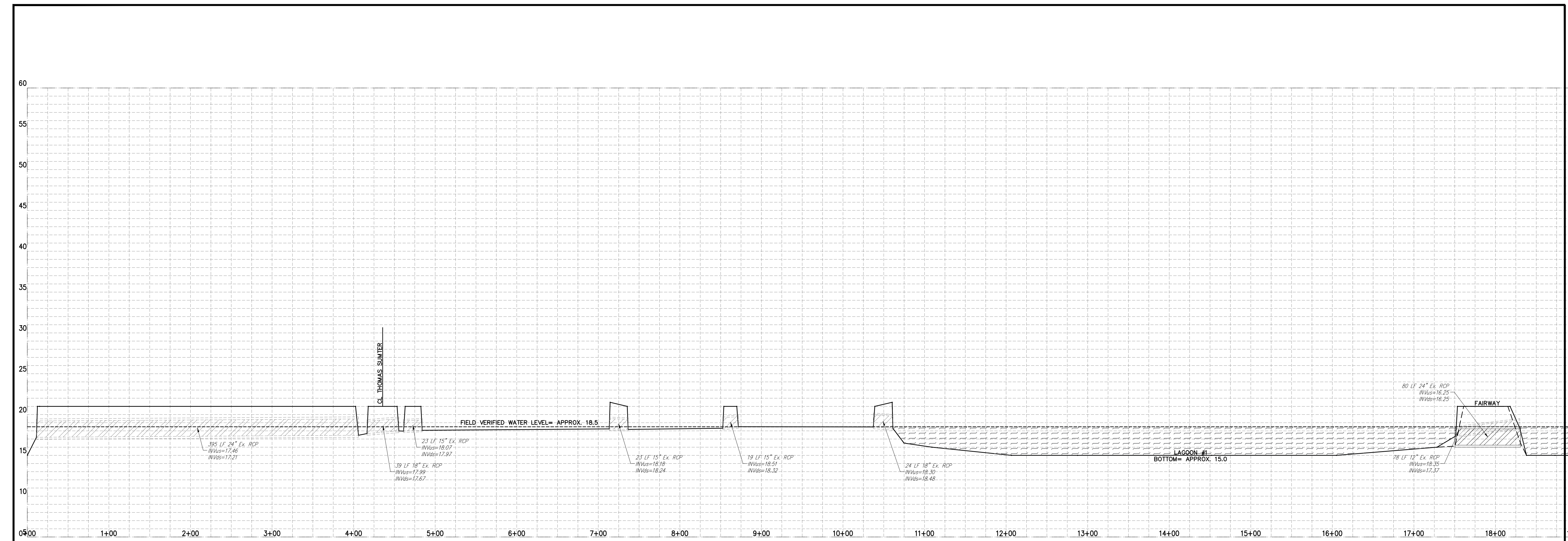
DRAINAGE SURVEY  
 Prepared for  
 Beaufort County  
 Stormwater Dept.

Royal Pines SD/  
 Turtle Lane  
 Lady's Island  
 Beaufort County  
 South Carolina

Date Drawn: 02/05/16  
 Last Revised: 02/22/16  
 Drawn By: B. Craig  
 Surveyor: J. Hayes

SHEET #:  
**1**

JOB: 144008.02



**PLAN REVISIONS**

NO.	DESCRIPTION:	DATE:	BY:
1	-	-	-
2	-	-	-
3	-	-	-
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# Andrews Engineering & Surveying

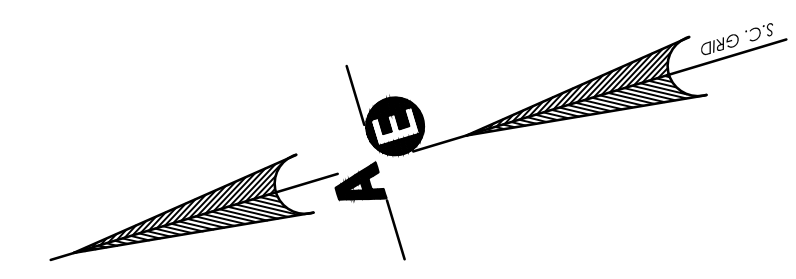
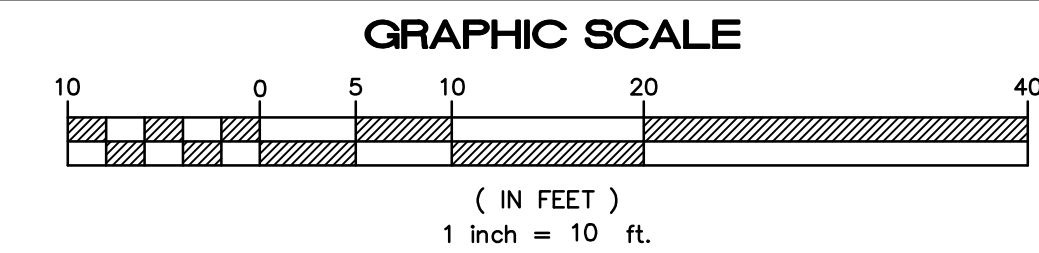
**DRAINAGE PROFILE**  
 Prepared for  
 Beaufort County  
 Stormwater Dept.

Royal Pines SD/  
 Turtle Lane  
 Lady's Island  
 Beaufort County  
 South Carolina

Date Drawn: 02/05/16  
 Last Revised: 02/22/16  
 Drawn By: B. Craig  
 Surveyor: J. Hayes

SHEET #:  
**2**

JOB: 144008.02



PLAN REVISIONS	
NO.	DESCRIPTION
1	
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843.379.2222  
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# Andrews Engineering & Surveying

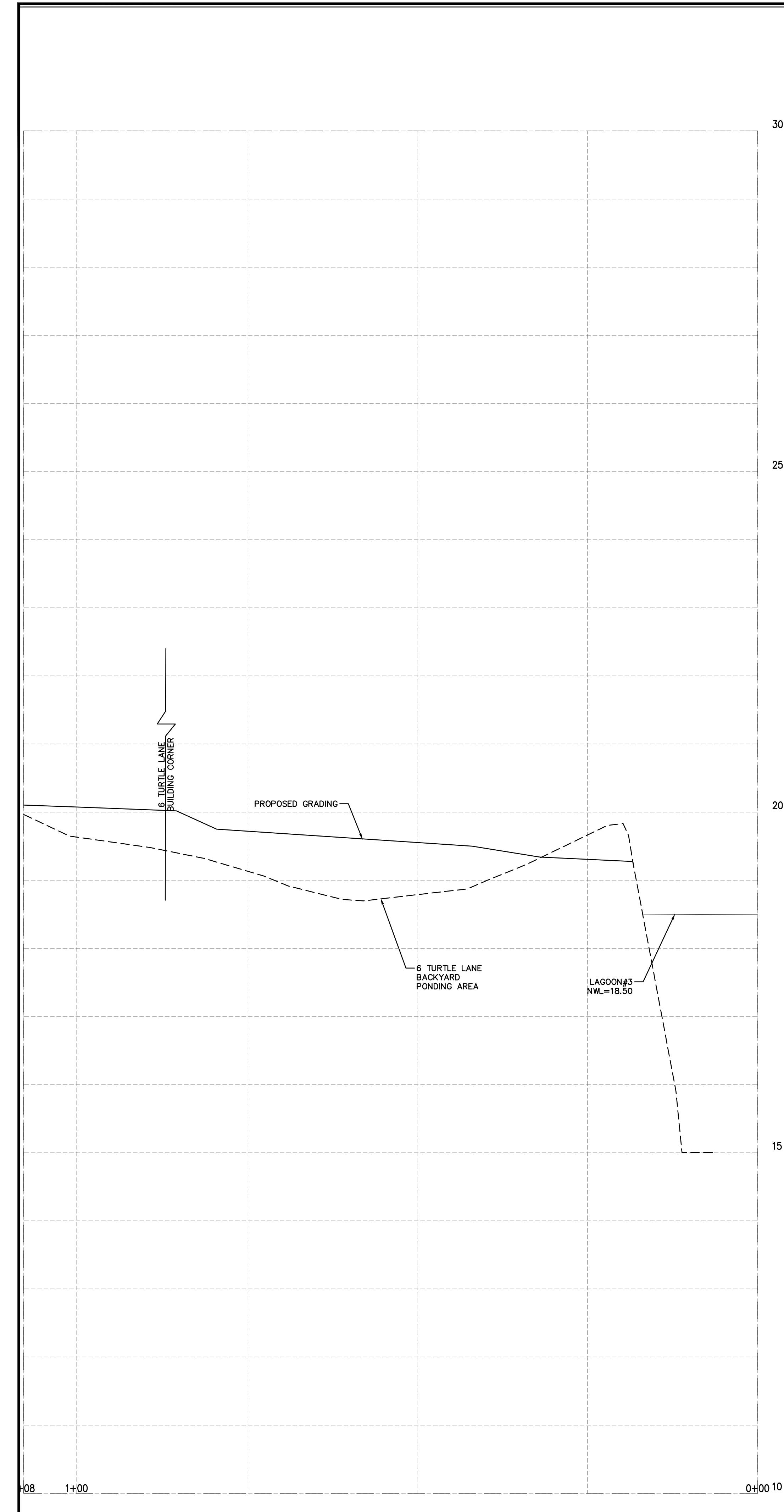
6 TURTLE LN  
GRADING PLAN  
Beaufort County  
Stormwater Dept.

Royal Pines SD/  
Turtle Lane  
Lady's Island  
Beaufort County  
South Carolina

Date Drawn: 02/05/16  
Last Revised: 02/22/16  
Drawn By: B. Craig  
Surveyor: J. Hayes

SHEET #:  
**3**

JOB: 144008.02







**BEAUFORT COUNTY STORMWATER UTILITY**  
**120 Shanklin Road**  
**Beaufort, South Carolina 29906**  
**Voice (843) 255-2805 Facsimile (843) 255-9478**



February 29, 2016

Daniel G. Putbrese  
8 Myrtle Bank Lane  
Hilton Head Island, SC 29926

RE: Flooding issues of 6 Turtle Lane, Lady's Island

Dear Mr. Putbrese,


I am in receipt of your letter dated January 10, 2016. I was aware of your issue even prior to receiving your communication. I have delayed responding since we were already in the process of preparing an engineering report of the situation. I have attached that report to this letter for your information.

As you clearly stated, the flooding problem at 6 Turtle Lane is a condition that existed before you purchased the property. At your own admission, you were aware of the repetitive losses on the property at the time of purchase. Our engineering report, prepared by a consultant at our expense, has concluded that the runoff from Turtle Lane right-of-way is not adversely affecting the flooding of your yard. Survey and engineering evaluation has concluded that the flooding in your yard is isolated and directly related to the low elevations of the property itself, not overflow from the lagoon.

The study did recommend two actions to be taken by the County. Shown on the drawings as two separate 20 ft. easements, an existing 80 ft. pipe is to be replaced and a new 200 ft. pipe is proposed. The County has already contacted the owner of the former golf course behind your property, Lady's Island LLC, and requested the said easements. They have granted the easement to replace the 80 ft. pipe but have indicated that they will not grant the easement for the second, new pipe. Since our study concludes that the road paving has not exacerbated the problem, we are not inclined to pursue the easement further and are confident that the pipe replacement will improve conveyance from the lagoon.

You will note the study also recommends placement of fill on 6 Turtle Lane as well as 4 Turtle Lane. The engineering report and a grading plan were prepared at the County's expense and are being offered to you and your neighbor at no cost. You are welcomed to pursue the procurement of a contractor to fill the lots at your expense. You will have to permit this work through the County's Zoning Department and other agencies.

If you have any questions, please contact me at (843) 255-2805 or [elarson@bcgov.net](mailto:elarson@bcgov.net).

Sincerely, 

Eric W. Larson, PE, CPSWQ, AICP, CFM  
Director of Environmental Engineering

cc: George Johnson (4 Turtle Lane owner), PO Box 620, St. Helena Island, SC 29920  
Robert McFee, Beaufort County Capital Projects Division Director  
Steve Andrews, Andrews Engineering  
file



**BEAUFORT COUNTY  
STORMWATER UTILITY**

**120 Shanklin**

**Road Beaufort,**

**South Carolina**

**29906**

**Voice (843) 255-2801 Facsimile (843) 255-  
9478**



March 23, 2016

**Stormwater Manager's Report for the Stormwater Utility Board Meeting**

Professional Contracts Report

1. Stormwater Management Plan (Master Plan) Update – (\$475,000 Budget; \$239,542 County portion) - ATM is compiling the needed files and GIS data to begin the modeling. They are creating a base line condition assessment of our watersheds. Public meetings will be held later this spring.
2. Mint Farm Basin B modification – (\$8,000 Budget) – Andrews Engineering is doing a small project to retrofit a failing stormwater Retention basin.
3. McTeer Drive Ditch – Staff is soliciting proposals for engineering and surveying to clean a ditch and acquire easements to address a localized flooding issue for multiple parcels served by a private system.



**BEAUFORT COUNTY  
STORMWATER UTILITY**

**120 Shanklin**

**Road Beaufort,**

**South Carolina**

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9478**



March 23, 2016

**Stormwater Manager's Report for the Stormwater Utility Board Meeting**

Regional Coordination

1. Buckingham Plantation Drive Innovation District Conceptual Design Study (\$25,000 Budget – SWU Portion) – No update to report.
2. Factory Creek Watershed Regional Detention Basin & Academy Park Subdivision Proposal – The Natural Resources Committee deferred action again on the agreement at the March 7, 2016 meeting. Staff was directed to revise the agreement and resubmit to the NRC for final action. This is different from the action taken February 1, 2016. Staff is soliciting a proposal for the design work. Contract negotiations with the developer are ongoing. The agreement goes back to NRC on March 22, 2016.
3. Factory Creek Watershed Regional Detention Basin “Phase II” – The Natural Resources Committee deferred action again on the agreement at the March 7, 2016 meeting. Staff was directed to revise the agreement and resubmit to the NRC for final action. This is different from the action taken February 1, 2016. Staff is soliciting a proposal for the design work. Contract negotiations with the developer are ongoing. The agreement goes back to NRC on March 22, 2016.
4. The Rural and Critical Lands Board held its annual retreat on March 10, 2016. Water quality is an ongoing focus of the committee and land preservation as a BMP was re-affirmed.
5. The County, BJWSA, and Lowcountry Council of Government (LCOG) are working together to submit a Community Development Block Grant (CDBG) application to extend sanitary sewer into the Bon Aire Subdivision off of Parris Island Gateway. The area drains to Battery Creek at station restricted for shellfish harvesting due to bacteria loading. Stormwater is supporting the endeavor but not contributing financially.



**BEAUFORT COUNTY  
STORMWATER UTILITY**

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9478**



March 23, 2016

**Stormwater Manager's Report for the Stormwater Utility Board Meeting**

**Municipal Reports**

1. Town of Hilton Head Island (From Bryan McIlwee, Asst. Town Engineer for Stormwater)
  - i. The Upper Broad Creek watershed plan we submitted to DHEC in February is probably the most unique item we've done. Synopsis below:

Watershed Plan for the Upper Broad Creek Watershed - This watershed plan was made possible by funding through the South Carolina Department of Health and Environmental Control 319 Grant Program, which administers the EPA's 319 Nonpoint Source Pollution Program on behalf of the state of South Carolina. The modeling work and technical analysis referenced in this report was performed by Woolpert, Inc.

*Note: At the time that the 319 grant funding this study was awarded in 2013, Broad Creek was listed on the 303(d) as having impairment for fecal coliform bacteria. However, that impairment was removed with the publication of the 2014 303(d) list. Although the impairment has been removed, this plan acts as though the impairment still exists.*

Broad Creek is a major tidal river that is generally considered to be the most important natural resource on Hilton Head Island. Broad Creek is used for shellfish harvesting, recreation, and also provides important marsh and aquatic habitat for many species. In the mid- 1990s, water quality in Broad Creek became a public issue following closings of multiple shellfish harvesting areas. Since those closures, water quality in Broad Creek has followed a general trend of improvement; however, as recently as 2012, there were water quality monitoring stations in the upper portions of Broad Creek that still had impairments due to bacteria levels.

This document takes a detailed look at water quality in the upper portion of the Broad Creek watershed. The plan examines potential sources and causes of impairment for three primary pollutants of concern: bacteria, nitrogen, and phosphorus. Water quality monitoring data and computer models were used to analyze these

pollutants and to estimate annual loadings. The Town reviewed opportunities for a variety of management measures, ultimately choosing ten proposed projects that could have a significant impact on pollutant loadings into Broad Creek.

- ii. Everything else has been routine maintenance or point repairs.
  - iii. Budgeting and rate study completion is evaluating the impact on O&M costs for private development system maintenance by the Town.
2. Town of Bluffton (From Kim Jones, Stormwater Manager)
    - i. May River Watershed Action Plan – No update to report.
    - ii. Stoney Creek Project – No update to report.
    - iii. Pine Ridge Retrofit Project – Project is on schedule. No issues.
  3. City of Beaufort (From Neil Desai, Asst. Public Works Director)
    - i. Battery Creek Pond Funded by an EPA 319 Grant (\$132,609 Budget – County Portion) – Bids were received and being evaluated. There is a potential issue with total project budget and City and County staff is reviewing the budget before awarding the contract.
    - ii. City of Beaufort and SCDOT Partnership Projects – The County staff is working with the City and SCDOT to cost share on improvements to Hamar St. Nothing new to report.
  4. Town of Port Royal (From Van Willis, Town Manager)
    - i. The Town beginning to maintain private systems as needs arise.



**BEAUFORT COUNTY STORMWATER UTILITY**  
**120 Shanklin Road**  
**Beaufort, South Carolina 29906**  
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March 23, 2106

**Stormwater Manager's Report for the Stormwater Utility Board Meeting**

MS4 Update

1. MS4 Annual Report –

- A. *MS4 Update* - Beaufort County and Hilton Head staff attended the quarterly SCASM meeting. DHEC provided a question and answer section for the new annual report. A few points of interest were deadlines, audits and monitoring report. The first report is due February 2017. Audits will be performed 2 or 3 months after report is received. DHEC does not currently have a time line when monitoring reports will be approved as this topic is still under discussion with DHEC.

**South Carolina Department of Health and Environmental Control**  
*Promoting and Protecting the Health of the Public and the Environment*

**Deadlines—New Permittees**

- **First Annual Report:** 14 months after permit coverage effective date
- **Subsequent Annual Reports:** Every 12 months after the first annual report is submitted

B. *MS4 Remand Proposed Rule* –

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing changes to the regulations governing small municipal separate storm sewer system (MS4) permits to respond to a remand from the United States Court of Appeals for the Ninth Circuit in *Environmental Defense Center, et al. v. EPA*, 344 F.3d 832 (9th Cir. 2003). In that decision, the court determined that the regulations for providing coverage under small MS4 general permits did not provide for adequate public notice and opportunity to request a hearing. Additionally, the court found that EPA failed to require permitting authority review of the Best Management Practices (BMPs) to be used at a particular MS4 to ensure that the small MS4 permittee reduces pollutants in

the discharge from their systems to the “Maximum Extent Practicable” (MEP), the standard established by the Clean Water Act for such permits. EPA’s proposal would revise the small MS4 regulations to ensure that the permitting authority determines the adequacy of BMPs and other requirements and provides public notice and the opportunity to request a public hearing on the requirements for each MS4. The proposal would not establish any new substantive requirements for small MS4s. Comments must be received on or before March 21, 2016.

C. DHEC Contact Person for Annual Report - Shakhlan Garane - (803) 898-3432  
The MS4 Committee will be requesting DHEC to come to Beaufort to discuss concerns regarding annual report and audits.

2. SWIC Meeting - DHEC encourages sharing the responsibilities of the MS4. The group decided to create two subcommittees to assist in this task. A MS4 Committee and a Stormwater Monitoring Committee will be created. A few of the items that are under discussion to share are the following:



**Sharing Responsibility**

- Verification that another entity is implementing MCMS as required
- Updates
  - New agreements (submit with annual report if not previously sent to DHEC)
  - Dissolved agreements



- Outfall Inspections
- Street Sweeping
- Construction Inspections
- Stormwater Asset Management Inventory(Videoing Storm Pipes)
- Inspection of Facility Management
- Monitoring and Sampling

- Public Education - Neighbors for Cleanwater and the SWIC continue to improve communication with the Public regarding pollution. You can now find a tab at [www.neighborsforcleanwater.org](http://www.neighborsforcleanwater.org) which shows upcoming calendar events. We are excited to participate in the first annual Touch A Truck on Saturday, April 2<sup>nd</sup> from 11:00 to 2:00 at Tanger Outlets.

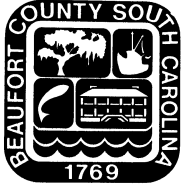
The screenshot shows the 'Neighbors for Clean Water' website. At the top, there is a navigation bar with links: Home, About Us, About the May River, Local Rivers, Beaufort County, Duffen, Hilton Head Island, Port Royal, City of Beaufort, Recycling Systems, Dog Waste, Managing Stormwater, Stormwater Quiz, and Stormwater PSA's. Below this is a 'Calendar of Events' section. The main content area is titled 'Neighbors for Clean Water Calendar of Events' and shows a calendar for March 2016. A specific event, 'Touch a Truck', is highlighted for Saturday, April 2, 2016. The event details are as follows:

- When:** Saturday, Apr 2, 2016
- Where:** Tanger Outlets, 1256 Fording Island Rd, Beaufort, NC 28520, United States (map)
- Description:** Calling kids of all ages! Tanger will host its first Touch-A-Truck event on Saturday, April 2 from 11 a.m. to 2 p.m. at the Tanger Center. Come drive, touch and explore a variety of trucks at over 100 cars. Stay the hour-long presentation, the Marine Corps Air Station Beaufort, Beaufort County, the airport, and Engineering. The giveaway will be ready for all attendees who make it to the event. Tickets are free. Inquiries to: [neighbors@ncswic.org](mailto:neighbors@ncswic.org) or call 252.733.2222. To support Beaufort County, please help us make our water clean. Water will be there, why not?

On the right side of the page, there is a 'TAKE THE PLEDGE' section with a photo of a woman and a 'TAKE THE PLEDGE' button. Below that is an 'ANNOUNCEMENT ARCHIVE' section with a dropdown menu. At the bottom right, there is a 'STAY IN TOUCH!' section with social media icons for Twitter and Facebook.



4. Status of BMP Manual – ATM has begun developing the Fact Sheets for the BMP manual. The new manual is 70% complete and will be delivered.
5. Stormwater Site Inspections - Stormwater staff has developed a process to track inspections for development projects. Once a project receives a permit, the stormwater staff uploads permit to the GIS system and schedules inspection. This process is very helpful in tracking violations, number of construction sites inspected, and various compliance issues that will need to be reported in the annual MS4 report.
6. Munis Update - The stormwater permit data base is in the final stage of design and we hope to have a test run next month.



## MEMORANDUM

Date: March 23, 2016

To: Stormwater Management Utility Board

From: David Wilhelm, Public Works Director

Re: **Maintenance Project Report**

This report will cover two major and fourteen minor or routine projects. The Project Summary Reports are attached. ([Stormwater Summary Map by District](#))

### **Major Projects – Storm Drainage System Improvements:**

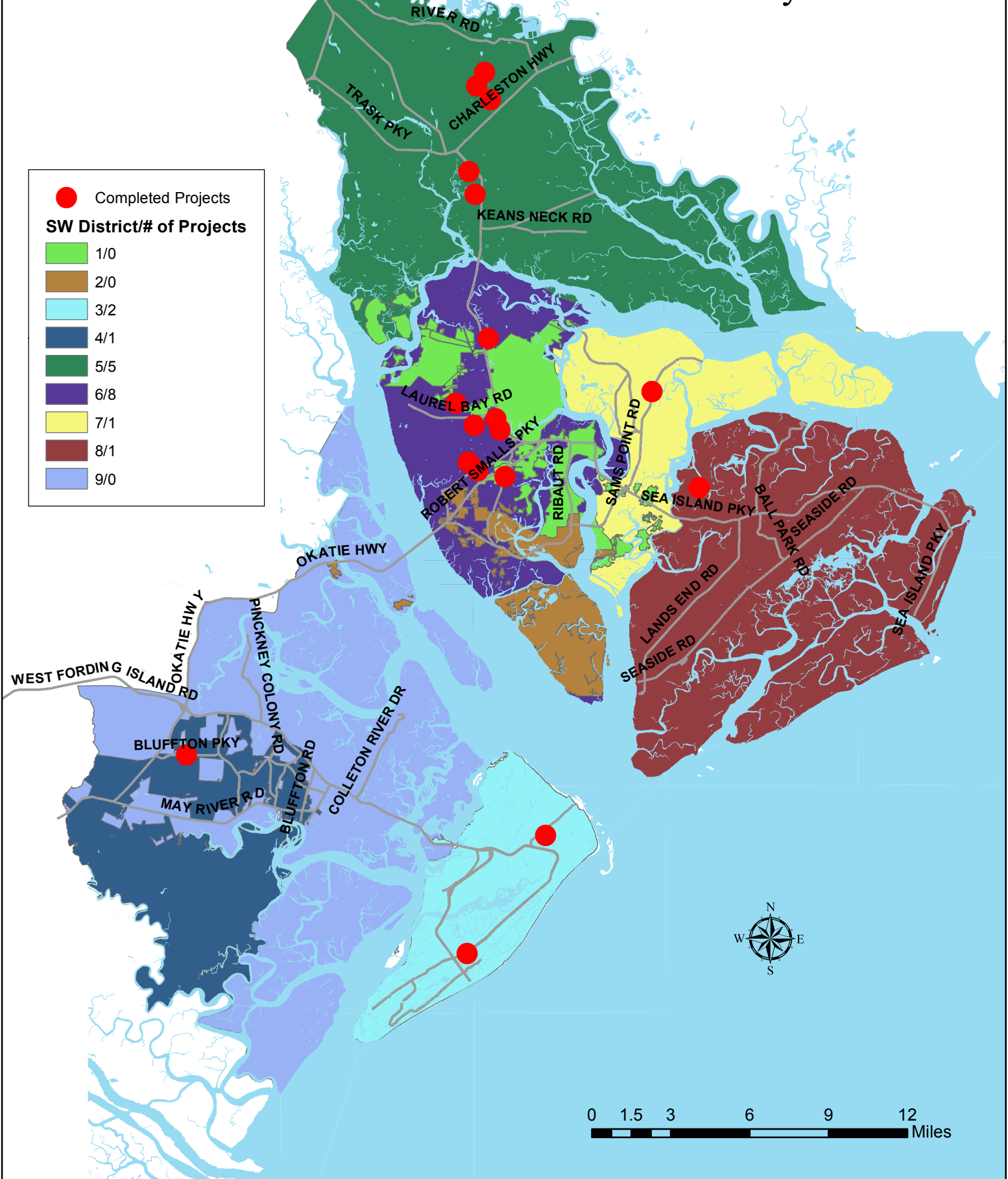
- **Palmetto Headlands Community – Stormwater Utility District (SWUD) 3:** This large project on Hilton Head Island took several months to complete. The scope of work included cleaning out 7,133 feet of roadside ditch, three catch basins, an existing stormwater detention pond, and jet cleaning various pipes. Work began October 29, 2015 and was completed January 28, 2016. The total cost of the project was **\$100,688.90**.
- **Moultrie Circle – SWUD 6:** Major items of work included shinn cutting, clearing, grubbing and reconstructing 680 feet of drainage channel. Work began January 19, 2016 and was completed March 3, 2016. The total cost of the project was **\$29,203.57**.

### **Minor or Routine Projects:**

- **St. Helena Island Bush Hog Clearing – SWUD 8:** A very extensive amount of bush hogging work was completed on St. Helena Island from August 2015 through February 2016. Over 18 miles (97,582 ft.) of channel was cleared. The total cost was **\$78,322.77**.
- **New Orleans Road – SWUD 3:** Project scope included 393 feet of roadside ditch and jet cleaning 7 pipes. The total cost was **\$11,494.69**.
- **Backache Acres – SWUD 5:** The project scope included cleaning out 800 feet of channel and repairing erosion damage. The total cost was **\$6,310.91**.
- **Big Estate Circle Channel #1 – SWUD 5:** Project scope included cleaning out 1,750 feet of drainage channel. The total cost was **\$5,028.95**.
- **Port Royal Tree Removal – SWUD 6:** Project scope included removing falling trees from channels and workshelves on Bay Pines Road, Possum Hill Road, Leo Green Road, and Powell Drive. The total cost was **\$4,479.63**.
- **Hodge Drive – SWUD 6:** The project scope included cleaning out 650 feet of drainage channel, a catch basin and jet cleaning 80 feet of pipe. The total cost was **\$4,303.54**.

- **African Baptist Church Road – SWUD 5:** The project scope included cleaning out 1,000 feet of channel and 984 feet of roadside ditch. The total cost was **\$4,144.69.**
- **Old Jericho Road – SWUD 1 and 6:** The project scope included cleaning out 834 feet of roadside ditch and jet cleaning two pipes. The total cost was **\$3,325.88.**
- **Salt Creek Drive West – SWUD 6:** Work included installing one access pipe and placing rip rap. The total cost was **\$2,467.00.**
- **Fields Road – SWUD 5:** The project scope included installing one driveway pipe. The total cost was **\$2,040.79.**
- **Bluffton Parkway – SWUD 4:** Crew responded to an emergency call to repair a pipe leak. Conducting a field inspection to determine the cause. BJWSA was contacted to complete the repair work. The total cost for this action was **\$1,415.17.**
- **Dean Hall Road – SWUD 5:** The project scope included cleaning out 284 feet of channel, a catch basin and jet cleaning two pipes. The total cost was **\$1,043.70.**
- **JB Lane – SWUD 8:** Crew removed blockages from flowline of existing flapgate. The total cost was **\$191.75.**
- **Royal Pines Boulevard – SWUD 7:** Work consisted of removing blockages from flowline of channel by hand. The total cost was **\$147.84.**

# Beaufort County Stormwater Completed Projects for February 2016





**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Palmetto Headlands Community

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Completion:** Jan-16

Project improved 7,237 L.F. of drainage system. Cleaned out pond, 7,133 L.F. of roadside ditch and (3) catch basins. Jetted (1) access pipe, (4) crossline pipes, (57) driveway pipes and 104 L.F. of channel pipe. Hydroseeded for erosion control.

<b>2016-548 / Palmetto Headlands Community</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	2.5	\$58.73	\$0.00	\$0.00	\$0.00	\$33.08	\$91.80
CBCO / Catch basin - clean out	36.0	\$823.68	\$156.24	\$116.28	\$0.00	\$534.60	\$1,630.80
CLPJT / Crossline Pipe - Jetted	19.0	\$436.54	\$86.80	\$75.85	\$0.00	\$283.77	\$882.96
DEBREM / Debris Removal - Jobsite	68.0	\$1,502.70	\$60.18	\$28.62	\$0.00	\$961.86	\$2,553.36
DLO / Ditch Layout	7.0	\$155.89	\$28.84	\$11.83	\$0.00	\$100.94	\$297.50
DPJT / Driveway Pipe - Jetted	182.0	\$4,164.16	\$841.96	\$493.96	\$0.00	\$2,702.70	\$8,202.78
HAUL / Hauling	431.5	\$9,614.59	\$3,281.62	\$1,747.83	\$0.00	\$6,223.33	\$20,867.36
HYDR / Hydroseeding	40.0	\$830.60	\$97.60	\$282.07	\$0.00	\$520.70	\$1,730.97
LM / Loading Materials	179.0	\$3,962.86	\$385.27	\$142.50	\$0.00	\$2,546.77	\$7,037.40
ONJV / Onsite Job Visit	84.0	\$2,939.64	\$297.84	\$189.21	\$0.00	\$2,112.42	\$5,539.11
PM / Ponds - Maintenance	40.0	\$879.00	\$126.63	\$12.72	\$0.00	\$561.60	\$1,579.95
PP / Project Preparation	9.0	\$189.60	\$10.62	\$15.90	\$0.00	\$119.58	\$335.70
PROFS / Professional Services	0.0	\$0.00	\$0.00	\$0.00	\$577.10	\$0.00	\$577.10
PRRECON / Project Reconnaissance	16.0	\$351.60	\$14.16	\$7.95	\$0.00	\$224.64	\$598.35
RSDCL / Roadside Ditch - Cleanout	1,118.0	\$24,036.78	\$4,501.70	\$802.02	\$0.00	\$15,253.86	\$44,594.36
STAGING / Staging Materials	15.0	\$340.20	\$17.70	\$229.33	\$0.00	\$219.75	\$806.98
TC / Traffic Control - Jobsite	82.0	\$1,832.89	\$240.93	\$83.55	\$0.00	\$1,186.09	\$3,343.46
UTLOC / Utility locates	0.5	\$12.35	\$0.00	\$0.00	\$0.00	\$6.62	\$18.97
<b>2016-548 / Palmetto Headlands Community Sub Total</b>	<b>2,329.5</b>	<b>\$52,131.80</b>	<b>\$10,148.09</b>	<b>\$4,239.62</b>	<b>\$577.10</b>	<b>\$33,592.30</b>	<b>\$100,688.90</b>
<b>Grand Total</b>	<b>2,329.5</b>	<b>\$52,131.80</b>	<b>\$10,148.09</b>	<b>\$4,239.62</b>	<b>\$577.10</b>	<b>\$33,592.30</b>	<b>\$100,688.90</b>

Before



During



After





Project: Palmetto Headlands Community Map1

Activity: Routine/ Preventive Maintenance

Project #: 2016-548

Township/SW Dist: ToHHI/3

Completed: January 2016

**Legend**

**Drainage Type**

- Access Pipe
- Bleeder Pipe
- Channel Pipe
- Channel
- Stream
- Crossline Pipe
- Driveway Pipe
- Lateral
- Lateral Pipe
- River
- Road Pipe
- Roadside
- Roadside Pipe

0 20 40 80 120 160 Feet

1 inch = 83 feet

Prepared By: BC Stormwater Management Utility

Date Print:3/8/2016

File:C:\project summaries map\Palmetto Headlands Community Map 1\_2016-548

Project: Palmetto Headlands Community Map 2

Activity: Routine/ Preventive Maintenance

Project #: 2016-548

Township/SW Dist: ToHHI/3

Completed: January 2016



Legend	
<b>Drainage Type</b>	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 250 feet

Prepared By: BC Stormwater Management Utility  
Date Print: 3/8/2016

File: C:\project summaries map\Palmetto Headlands Community Map 2\_2016-548



Project: Palmetto Headlands Community Map 3

Activity: Routine/ Preventive Maintenance

Project #: 2016-548

Township/SW Dist: ToHHI/3

Completed: January 2016

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe

Cleaned out 641 LF of roadside ditch.

Cleaned out 1,711 LF of roadside ditch. Jetted (1) acces pipe.

Cleaned out 691 LF of roadside ditch.

Jetted (36) driveway pipes.

Cleaned out 1,453 LF of roadside ditch. Jetted (2) crossline pipes.



1 inch = 420 feet

Prepared By: BC Stormwater Management Utility

Date Print: 3/8/2016

File: C:\project summaries map\Palmetto Headlands Community Map 3\_2016-548





**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Moultrie Circle

**Activity:** Drainage Improvement

**Narrative Description of Project:**

Project improved 680 L.F. of drainage system. Shinn cut, grubbed and reconstructed 680 L.F. of channel.  
 Constructed 680 L.F. of workshelf. Installed (1) access pipe, rip rap and hydroseeded for erosion control.

**Completion:** Mar-16

<b>2011-028 / Moultrie Circle</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
APINS / Access pipe - installed	40.0	\$905.90	\$503.38	\$592.74	\$0.00	\$565.40	\$2,567.42
AUDIT / Audit Project	1.0	\$23.49	\$0.00	\$0.00	\$0.00	\$13.23	\$36.72
CGRB / Channel - grubbed	41.5	\$1,028.87	\$580.75	\$54.34	\$0.00	\$655.98	\$2,319.94
CREC / Channel - reconstructed	30.0	\$695.30	\$434.31	\$61.85	\$0.00	\$433.10	\$1,624.56
CSHN / Channel - Shinn cut	50.0	\$1,260.47	\$623.45	\$55.77	\$0.00	\$806.80	\$2,746.49
DEBREM / Debris Removal - Jobsite	12.0	\$267.42	\$394.53	\$91.52	\$0.00	\$159.78	\$913.25
DITCHI / Ditch - Inspection	27.3	\$673.59	\$35.40	\$7.15	\$0.00	\$427.32	\$1,143.45
HAUL / Hauling	92.5	\$2,062.60	\$776.40	\$2,180.26	\$0.00	\$1,331.47	\$6,350.72
HYDR / Hydroseeding	26.0	\$618.48	\$152.34	\$321.58	\$0.00	\$407.11	\$1,499.51
LM / Loading Materials	9.0	\$204.90	\$61.55	\$8.58	\$0.00	\$132.48	\$407.51
ONJV / Onsite Job Visit	59.0	\$1,896.37	\$174.10	\$51.68	\$0.00	\$1,250.67	\$3,372.82
PI / Project Inspection	1.0	\$45.60	\$3.62	\$1.52	\$0.00	\$33.96	\$84.70
PL / Project Layout	4.0	\$182.40	\$14.48	\$4.56	\$0.00	\$135.84	\$337.28
PROFS / Professional Services	0.0	\$0.00	\$0.00	\$0.00	\$250.00	\$0.00	\$250.00
PRRECON / Project Reconnaissance	1.0	\$30.75	\$3.54	\$1.52	\$0.00	\$18.23	\$54.04
UTLOC / Utility locates	0.5	\$12.35	\$0.00	\$0.00	\$0.00	\$6.62	\$18.97
WSGRB / Workshelf - Grubbed	52.0	\$1,225.16	\$708.55	\$131.56	\$0.00	\$762.94	\$2,828.21
WSL / Workshelf - Level	40.0	\$918.10	\$309.99	\$68.17	\$0.00	\$577.30	\$1,873.56
WSREC / Workshelf - Reconstructed	14.0	\$347.69	\$177.57	\$31.46	\$0.00	\$217.70	\$774.42
<b>2011-028 / Moultrie Circle</b>	<b>500.8</b>	<b>\$12,399.43</b>	<b>\$4,953.96</b>	<b>\$3,664.26</b>	<b>\$250.00</b>	<b>\$7,935.92</b>	<b>\$29,203.57</b>
<b>Sub Total</b>							
<b>Grand Total</b>	<b>500.8</b>	<b>\$12,399.43</b>	<b>\$4,953.96</b>	<b>\$3,664.26</b>	<b>\$250.00</b>	<b>\$7,935.92</b>	<b>\$29,203.57</b>

Before

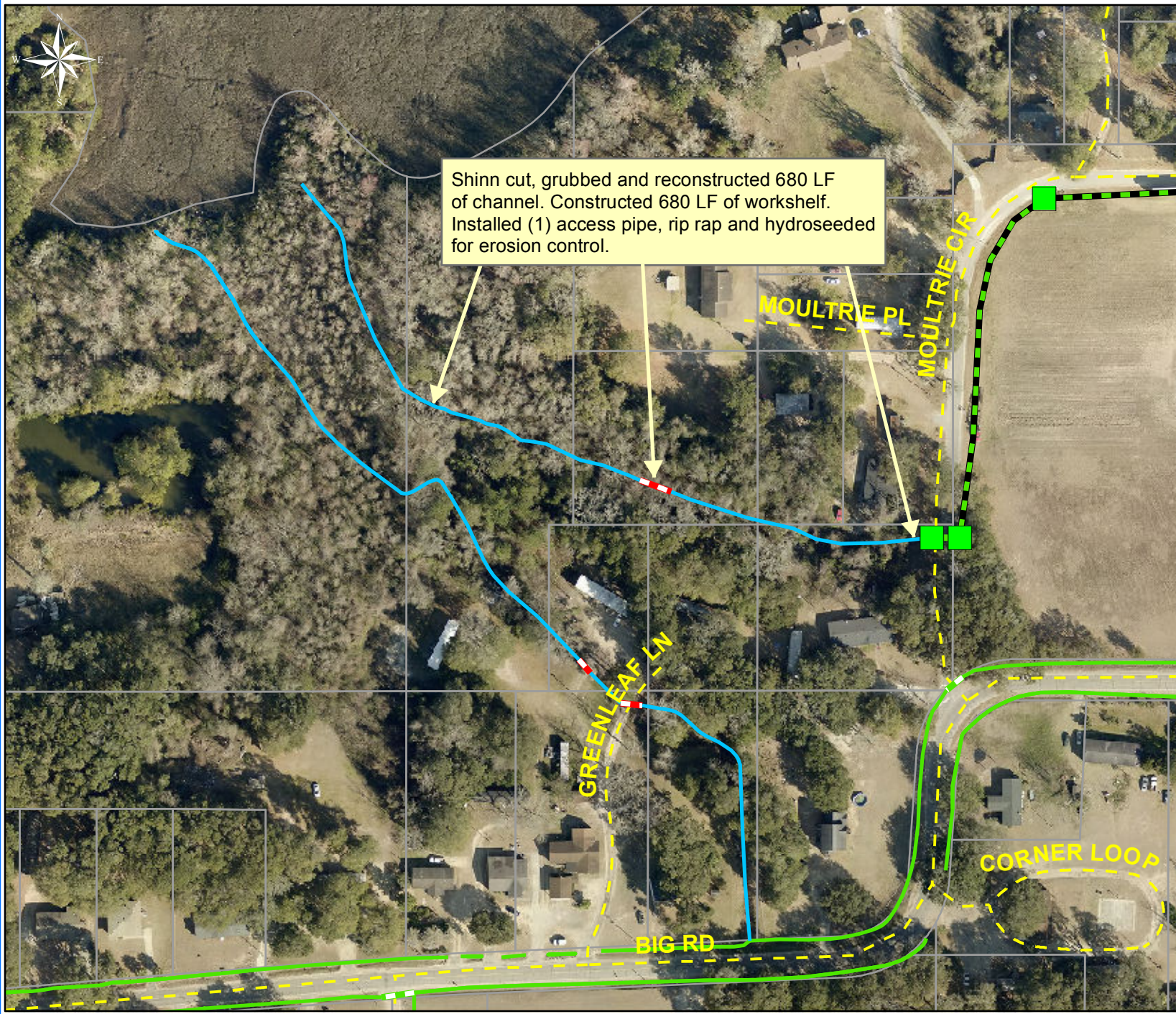


During



After





Shinn cut, grubbed and reconstructed 680 LF of channel. Constructed 680 LF of workshelf. Installed (1) access pipe, rip rap and hydroseeded for erosion control.

Project: Moultrie Circle

Activity: Drainage Improvement

Project #: 2011-028

Township/SW Dist: Sheldon/6

Completed: March 2016

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 170 feet



# Beaufort County Public Works Stormwater Infrastructure Project Summary

**Project Summary:** St. Helena Island Bush Hog

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Completion:** Feb-16

First Rotation from August 2015 to February 2016. Project improved 97,582 L.F. of drainage system.

Bush hogged 97,582 L.F. of channel. This project is consisted of the following areas: Jack Johnson (1,430 L.F.), Orange Grove Road (6,247 L.F.), Hunters Grove Road (1,015 L.F.), James D. Washington Road (401 L.F.), Bridgewood Road (806 L.F.), David Green Road (960 L.F.) Sycamore Hill Drive (2,286 L.F.), Capers Island Circle (550 L.F.), Capers Island Road (133 L.F.), Scott Hill Road Ballfield (4,345 L.F.), Candy Johnson Drive (660 L.F.), Peaches Hill Circle (9,465 L.F.), No Man Land Road (905 L.F.), Adam Church (216 L.F.), Toomer Road (3,456 L.F.), Wiggfall Road (310 L.F.), Tombee Road (1,920 L.F.), Cuffy Drop Off Center and Recycling Center (434 L.F.), Archer Fields Lane (1,341 L.F.), Kelis Lane (5,500 L.F.), Ephraim Road (1,700 L.F.), White Sands Circle (6,449 L.F.), Shiny Road (1,000 L.F.), Luther Warren Drive (700 L.F.), Tropicana Road (910 L.F.), Folly Road (4,010 L.F.), Simmons Road (2,430 L.F.), John Fripp Circle (840 L.F.), Nathan Pope Road (5,010 L.F.), Cee Cee Road (165 L.F.), Dulamo Road (300 L.F.), Bible Camp Road (6,016 L.F.), Eddings Point Road (930 L.F.), Halifax Drive (4,700 L.F.), Ernest Drive (2,600 L.F.), Queens Road (1,473 L.F.), BallPark Road (2,570 L.F.), Polowana Road (300 L.F.) St Helena Island Drop Off Center and Recycling Center (2,016 L.F.), Mattis Drive (1,673 L.F.), James Grant Road (720 L.F.), Major Road (2,621 L.F.), Warsaw Road (3,795 L.F.), Gardner Circle (396 L.F.), Patchwork Lane (760 L.F.) and JB Lane (1,118 L.F.)

2016-300 / St Helena Island Bush Hog	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	2.5	\$58.73	\$0.00	\$0.00	\$0.00	\$33.08	\$91.80
CBH / Channel- bushhogged	1,451.0	\$32,402.04	\$13,985.02	\$2,164.23	\$0.00	\$20,872.81	\$69,424.10
HAUL / Hauling	4.0	\$98.80	\$138.56	\$28.60	\$0.00	\$57.68	\$323.64
ONJV / Onsite Job Visit	106.0	\$3,660.73	\$375.72	\$247.76	\$0.00	\$2,594.60	\$6,878.81
PP / Project Preparation	20.0	\$457.65	\$35.40	\$12.16	\$0.00	\$297.00	\$802.21
STBY / Stand By	20.0	\$457.65	\$35.40	\$12.16	\$0.00	\$297.00	\$802.21
<b>2016-300 / St Helena Island Bush Hog</b>	<b>1,603.5</b>	<b>\$37,135.60</b>	<b>\$14,570.10</b>	<b>\$2,464.91</b>	<b>\$0.00</b>	<b>\$24,152.16</b>	<b>\$78,322.77</b>
<b>Sub Total</b>							
<b>Grand Total</b>	<b>1,603.5</b>	<b>\$37,135.60</b>	<b>\$14,570.10</b>	<b>\$2,464.91</b>	<b>\$0.00</b>	<b>\$24,152.16</b>	<b>\$78,322.77</b>

Before



During



After





**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** New Orleans Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 393 L.F. of drainage system. Cleaned out 393 L.F. of roadside ditch. Jetted (2) crossline pipes and (5) driveway pipes. Hydroseeded for erosion control..

**Completion:** Feb-16

<b>2016-587 / New Orleans Road</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
CLPJT / Crossline Pipe - Jetted	20.0	\$457.60	\$86.80	\$62.89	\$0.00	\$297.00	\$904.29
DPJT / Driveway Pipe - Jetted	20.0	\$457.60	\$86.80	\$69.34	\$0.00	\$297.00	\$910.74
HAUL / Hauling	40.0	\$890.80	\$319.60	\$160.88	\$0.00	\$576.80	\$1,948.08
HYDR / Hydroseeding	8.0	\$166.12	\$19.52	\$32.59	\$0.00	\$104.14	\$322.37
LM / Loading Materials	50.0	\$1,043.80	\$65.81	\$12.16	\$0.00	\$655.10	\$1,776.87
ONJV / Onsite Job Visit	6.0	\$227.92	\$21.40	\$16.72	\$0.00	\$165.80	\$431.84
PP / Project Preparation	40.0	\$830.60	\$35.40	\$15.20	\$0.00	\$520.70	\$1,401.90
RSDCL / Roadside Ditch - Cleanout	100.0	\$2,087.60	\$314.08	\$49.41	\$0.00	\$1,310.20	\$3,761.29
UTLOC / Utility locates	0.5	\$12.35	\$0.00	\$0.00	\$0.00	\$6.62	\$18.97
<b>2016-587 / New Orleans Road Sub Total</b>	<b>285.0</b>	<b>\$6,186.14</b>	<b>\$949.41</b>	<b>\$419.18</b>	<b>\$0.00</b>	<b>\$3,939.97</b>	<b>\$11,494.69</b>
<b>Grand Total</b>	<b>285.0</b>	<b>\$6,186.14</b>	<b>\$949.41</b>	<b>\$419.18</b>	<b>\$0.00</b>	<b>\$3,939.97</b>	<b>\$11,494.69</b>

Before



During



After





Cleaned out 393 LF of roadside ditch. Jetted (2) crossline pipes and (5) driveway pipes. Hydroseeded for erosion control.

Project: New Orleans Road

Activity: Routine/ Preventive Maintenance

Project #: 2016-587

Township/SW Dist: ToHHI/3

Completed: February 2016

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 120 feet



**Beaufort County  
Public Works  
Stormwater Infrastructure  
Project Summary**

**Project Summary:** Backache Acres

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 800 L.F. of drainage system. Cleaned out 800 L.F. of channel. Repaired washout.

**Completion:** Nov-15

<b>2016-564 / Backache Acres</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
CCO / Channel - cleaned out	30.0	\$680.40	\$114.92	\$46.40	\$0.00	\$439.50	\$1,281.22
DPR / Driveway Pipe - Repaired	12.0	\$287.80	\$14.16	\$5.43	\$0.00	\$181.40	\$488.79
HAUL / Hauling	26.0	\$579.02	\$207.74	\$1,986.85	\$0.00	\$374.92	\$3,148.53
ONJV / Onsite Job Visit	10.0	\$331.51	\$35.40	\$20.40	\$0.00	\$225.98	\$613.29
PI / Project Inspection	2.0	\$91.20	\$7.24	\$3.40	\$0.00	\$67.92	\$169.76
RPWO / Repaired Washout	11.0	\$279.50	\$82.82	\$45.39	\$0.00	\$183.25	\$590.96
<b>2016-564 / Backache Acres Sub Total</b>	<b>91.5</b>	<b>\$2,261.18</b>	<b>\$462.28</b>	<b>\$2,107.87</b>	<b>\$0.00</b>	<b>\$1,479.59</b>	<b>\$6,310.91</b>
 <b>Grand Total</b>	 <b>91.5</b>	 <b>\$2,261.18</b>	 <b>\$462.28</b>	 <b>\$2,107.87</b>	 <b>\$0.00</b>	 <b>\$1,479.59</b>	 <b>\$6,310.91</b>

Before



During



After





Project: Backache Acres

Activity: Routine/ Preventive Maintenance

Project #: 2016-564

Township/SW Dist: Sheldon/5

Completed: November 2015

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 250 feet



**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Big Estate Circle Channel #1

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 1,750 L.F. of drainage system. Cleaned out 1,750 L.F. of channel.

**Completion:** Jan-16

<b>2016-576 / Big Estate Circle Channel #1</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Cost</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
CCO / Channel - cleaned out	102.0	\$2,406.02	\$623.08	\$62.75	\$0.00	\$1,530.14	\$4,621.99
ONJV / Onsite Job Visit	6.0	\$214.20	\$21.40	\$12.16	\$0.00	\$140.84	\$388.60
<b>2016-576 / Big Estate Circle Channel #1 Sub Total</b>	<b>108.5</b>	<b>\$2,631.97</b>	<b>\$644.48</b>	<b>\$74.91</b>	<b>\$0.00</b>	<b>\$1,677.60</b>	<b>\$5,028.95</b>
<b>Grand Total</b>	<b>108.5</b>	<b>\$2,631.97</b>	<b>\$644.48</b>	<b>\$74.91</b>	<b>\$0.00</b>	<b>\$1,677.60</b>	<b>\$5,028.95</b>

Before



During



After





Project: Big Estate Circle Channel #1

Activity: Routine/  
Preventive  
Maintenance

Project #:  
2016-576














Township/SW Dist:  
Sheldon/5

Completed:  
January 2016



### Legend

#### Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 50 100 200 300 400  
Feet

1 inch = 210 feet

Prepared By: BC Stormwater Management Utility

Date Print:01/11/16

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**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Port Royal Island Tree Removal - Bay Pines Road, Possum Hill Road, Leo Green Road and Powell Drive

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Removed fallen trees from channel and workshelf.

**Completion:** Nov-15

<b>2016-502 / Port Royal Island Tree Removal</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
HAUL / Hauling	24.5	\$542.05	\$171.79	\$149.16	\$0.00	\$349.72	\$1,212.71
ONJV / Onsite Job Visit	2.0	\$61.50	\$7.08	\$1.70	\$0.00	\$36.46	\$106.74
RMTRD / Remove trees - Ditch	6.0	\$133.70	\$41.03	\$1.81	\$0.00	\$86.04	\$262.58
RMTRW / Remove trees - Workshelf	69.0	\$1,560.80	\$277.25	\$49.12	\$0.00	\$992.07	\$2,879.25
<b>2016-502 / Port Royal Island Tree Removal Sub Total</b>	<b>102.0</b>	<b>\$2,309.79</b>	<b>\$497.15</b>	<b>\$201.79</b>	<b>\$0.00</b>	<b>\$1,470.90</b>	<b>\$4,479.63</b>
<b>Grand Total</b>	<b>102.0</b>	<b>\$2,309.79</b>	<b>\$497.15</b>	<b>\$201.79</b>	<b>\$0.00</b>	<b>\$1,470.90</b>	<b>\$4,479.63</b>

Before



During



After





Project: PRI Tree Removal- Bay Pines Road

Activity: Routine/ Preventive Maintenance














Project #: 2016-502

Township/SW Dist: Port Royal Island/6

Completed: November 2015

**Legend**

**Drainage Type**

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 250 feet

Prepared By: BC Stormwater Management Utility

Date Print: 03/09/16

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Project: PRI Tree Removal- Leo Green Road

Activity: Routine/ Preventive Maintenance

Project #: 2016-502

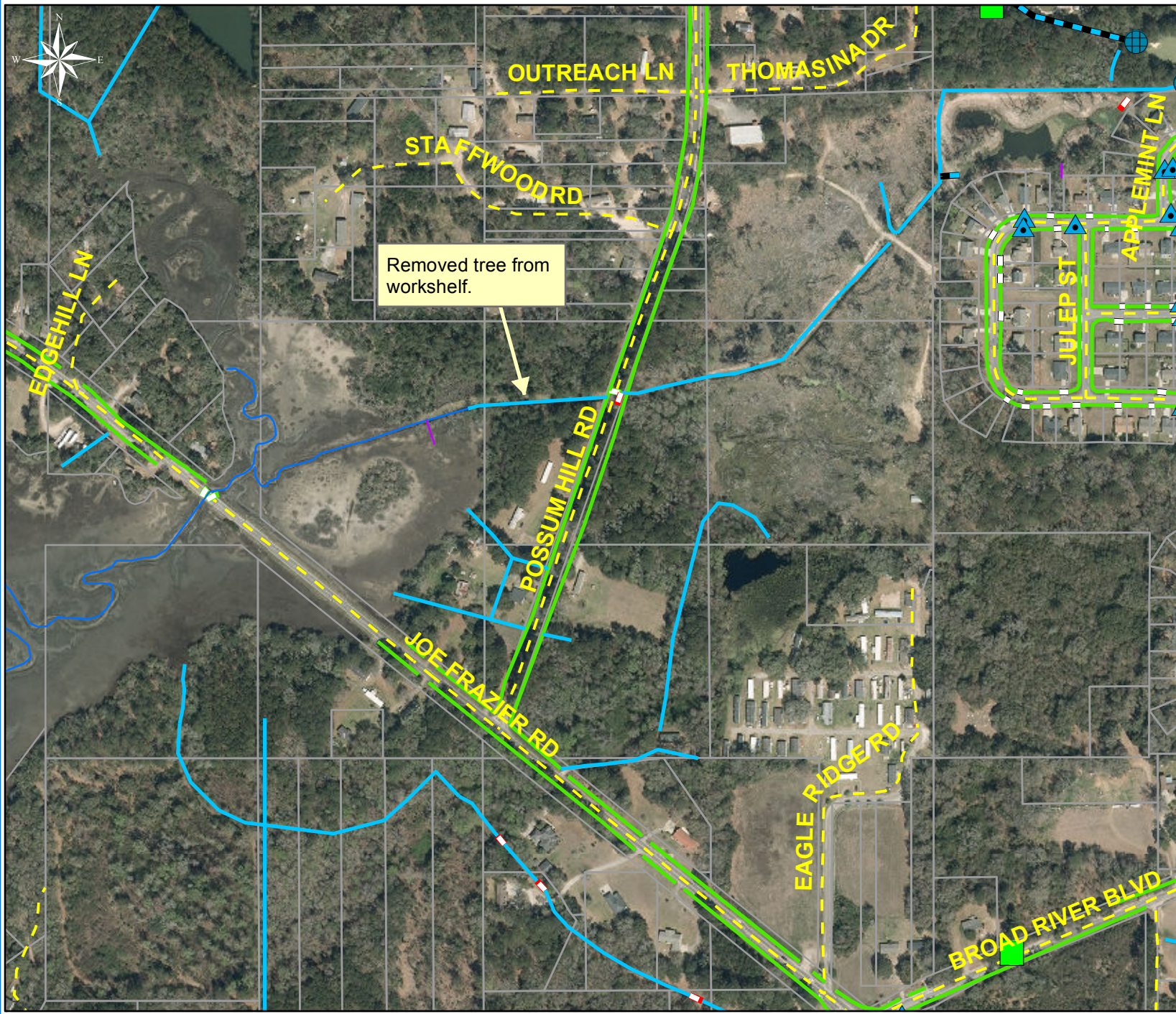
Township/SW Dist: Port Royal Island/6

Completed: November 2015

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 83 feet



Project: PRI Tree Removal- Possum Hill Road

Activity: Routine/ Preventive Maintenance

Project #: 2016-502

Township/SW Dist: Port Royal Island/6

Completed: November 2015

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 410 feet



Project: PRI Tree Removal- Powell Drive

Activity: Routine/ Preventive Maintenance














Project #: 2016-502

Township/SW Dist: Port Royal Island/6

Completed: November 2015

**Legend**

**Drainage Type**

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 100 feet

Prepared By: BC Stormwater Management Utility

Date Print: 03/09/16

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**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Hodge Drive

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 730 L.F. of drainage system. Cleaned out 650 L.F. of channel and (1) catch basin. Jetted 80 L.F. of channel pipe. Hydroseeded for erosion control.

**Completion:** Jan-16

**2016-578 / Hodge Drive**

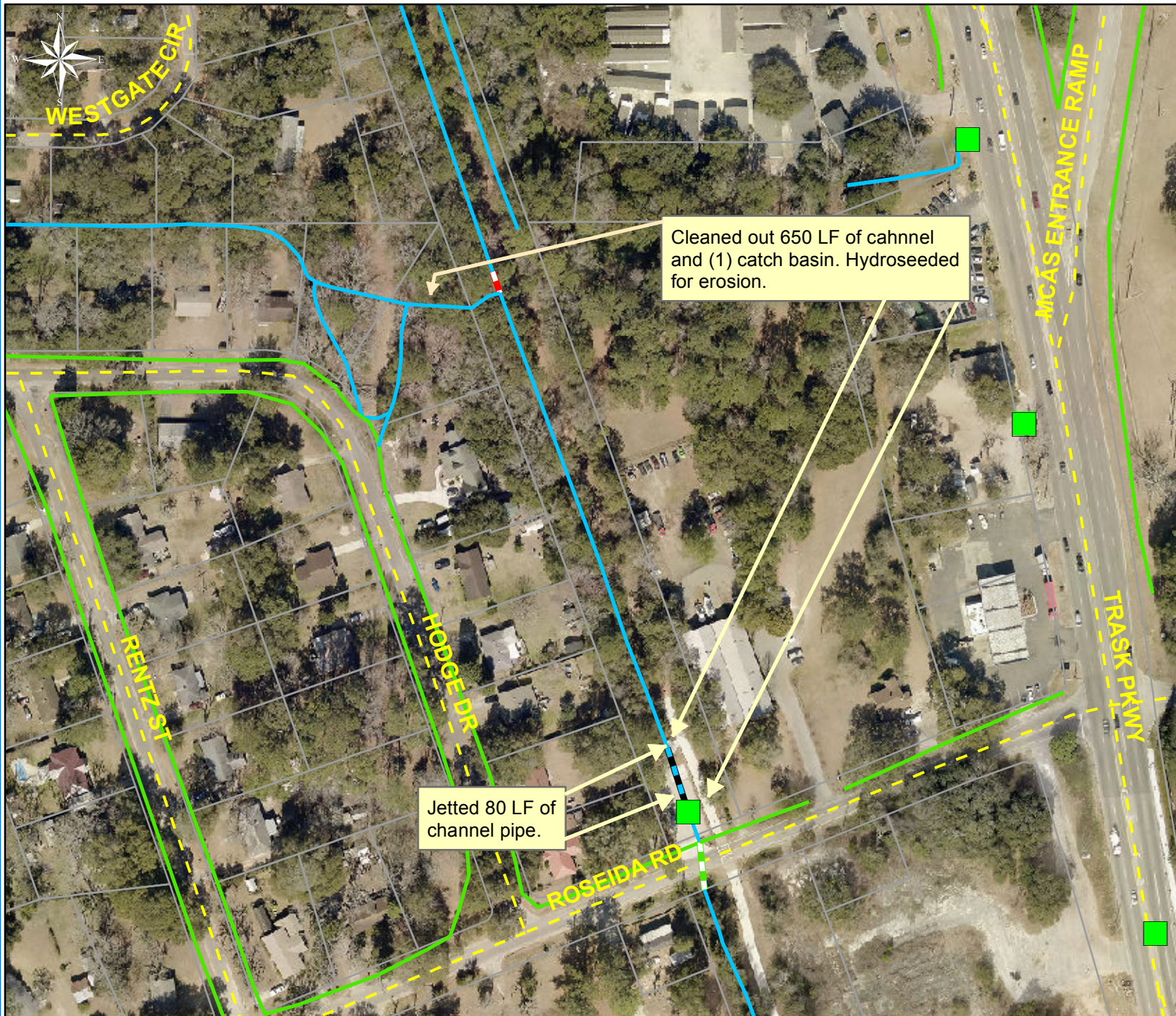
	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
CBCO / Catch basin - clean out	4.0	\$91.52	\$17.36	\$14.65	\$0.00	\$59.40	\$182.93
CCO / Channel - cleaned out	59.0	\$1,375.46	\$324.98	\$129.50	\$0.00	\$863.14	\$2,693.08
HAUL / Hauling	18.0	\$400.86	\$143.82	\$47.19	\$0.00	\$259.56	\$851.43
ONJV / Onsite Job Visit	6.0	\$205.08	\$21.24	\$15.20	\$0.00	\$146.82	\$388.34
PL / Project Layout	2.0	\$91.20	\$7.24	\$3.04	\$0.00	\$67.92	\$169.40
<b>2016-578 / Hodge Drive Sub Total</b>	<b>89.5</b>	<b>\$2,175.87</b>	<b>\$514.64</b>	<b>\$209.58</b>	<b>\$0.00</b>	<b>\$1,403.45</b>	<b>\$4,303.54</b>
<b>Grand Total</b>	<b>89.5</b>	<b>\$2,175.87</b>	<b>\$514.64</b>	<b>\$209.58</b>	<b>\$0.00</b>	<b>\$1,403.45</b>	<b>\$4,303.54</b>

Before



After





Project: Hodge Drive

Activity: Routine/ Preventive Maintenance














Project #: 2016-578

Township/SW Dist: Port Royal Island /6

Completed: January 2016

### Legend

#### Drainage Type

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe

0 40 80 160 240 320 Feet

1 inch = 170 feet

Prepared By: BC Stormwater Management Utility

Date Print: 03/14/16

File: C:\project summaries map\Hodge Drive\_2016-578





**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** African Baptist Church Road Channel #1

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 1,984 L.F. of drainage system. Cleaned out 1,000 L.F. of channel and 984 L.F. of roadside ditch.

**Completion:** Jan-16

<b>2016-575 / African Baptist Church Road Ch #1</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
CCO / Channel - cleaned out	40.0	\$893.60	\$154.68	\$38.61	\$0.00	\$573.90	\$1,660.79
HAUL / Hauling	25.0	\$568.90	\$199.75	\$57.20	\$0.00	\$360.50	\$1,186.35
ONJV / Onsite Job Visit	4.0	\$136.72	\$14.16	\$10.64	\$0.00	\$97.88	\$259.40
RSDCL / Roadside Ditch - Cleanout	20.0	\$484.40	\$194.44	\$21.45	\$0.00	\$319.50	\$1,019.79
<b>2016-575 / African Baptist Church Road Ch #1</b>	<b>89.5</b>	<b>\$2,095.37</b>	<b>\$563.03</b>	<b>\$127.90</b>	<b>\$0.00</b>	<b>\$1,358.40</b>	<b>\$4,144.69</b>
<b>Sub Total</b>							
<b>Grand Total</b>	<b>89.5</b>	<b>\$2,095.37</b>	<b>\$563.03</b>	<b>\$127.90</b>	<b>\$0.00</b>	<b>\$1,358.40</b>	<b>\$4,144.69</b>

Before



During



After





Project: African Baptist Church Road Channel #1

Activity: Routine/ Preventive Maintenance

Project #: 2016-575

Township/SW Dist: Sheldon /5

Completed: January 2016

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 250 feet



**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Old Jericho Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 834 L.F. of drainage system. Cleaned out 834 L.F. of roadside ditch. Jetted (1) access pipe and (1) crossline pipe.

**Completion:** Feb-16

<b>2016-572 / Old Jericho Road</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
CLPJT / Crossline Pipe - Jetted	8.0	\$183.04	\$34.72	\$15.37	\$0.00	\$118.80	\$351.93
HAUL / Hauling	20.0	\$445.40	\$159.80	\$70.07	\$0.00	\$288.40	\$963.67
ONJV / Onsite Job Visit	4.0	\$136.72	\$14.16	\$7.60	\$0.00	\$97.88	\$256.36
PRRECON / Project Reconnaissance	1.0	\$45.60	\$3.62	\$1.52	\$0.00	\$33.96	\$84.70
RSDCL / Roadside Ditch - Cleanout	40.0	\$854.80	\$217.86	\$15.83	\$0.00	\$542.80	\$1,631.29
UTLOC / Utility locates	1.0	\$24.70	\$0.00	\$0.00	\$0.00	\$13.23	\$37.93
<b>2016-572 / Old Jericho Road Sub Total</b>	<b>74.0</b>	<b>\$1,690.26</b>	<b>\$430.16</b>	<b>\$110.39</b>	<b>\$0.00</b>	<b>\$1,095.07</b>	<b>\$3,325.88</b>
 <b>Grand Total</b>	 <b>74.0</b>	 <b>\$1,690.26</b>	 <b>\$430.16</b>	 <b>\$110.39</b>	 <b>\$0.00</b>	 <b>\$1,095.07</b>	 <b>\$3,325.88</b>

Before



During



After





Project: Old Jericho Road

Activity: Routine/ Preventive Maintenance

Project #: 2016-572

Township/SW Dist: Port Royal Island/ 1&6

Completed: February 2016

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 170 feet



**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Salt Creek Drive West

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Installed (1) access pipe and rip rap for erosion control.

**Completion:** Dec-15

<b>2016-574 / Salt Creek Drive West</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
BKFILL / Back Fill	10.0	\$228.83	\$35.98	\$17.82	\$0.00	\$148.50	\$431.12
DPINS / Driveway Pipe - Installed	28.0	\$639.24	\$74.67	\$247.32	\$0.00	\$397.53	\$1,358.76
HAUL / Hauling	7.0	\$155.89	\$55.93	\$216.85	\$0.00	\$100.94	\$529.61
ONJV / Onsite Job Visit	2.0	\$68.36	\$7.08	\$4.77	\$0.00	\$48.94	\$129.15
<b>2016-574 / Salt Creek Drive West Sub Total</b>	<b>47.5</b>	<b>\$1,104.06</b>	<b>\$173.66</b>	<b>\$486.75</b>	<b>\$0.00</b>	<b>\$702.52</b>	<b>\$2,467.00</b>
<b>Grand Total</b>	<b>47.5</b>	<b>\$1,104.06</b>	<b>\$173.66</b>	<b>\$486.75</b>	<b>\$0.00</b>	<b>\$702.52</b>	<b>\$2,467.00</b>

Before



During



After





Project: Salt Creek Drive West

Activity: Routine/ Preventive Maintenance














Project #: 2016-574

Township/SW Dist: Port Royal Island/6

Completed: December 2015

**Legend**

**Drainage Type**

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 100 feet

Prepared By: BC Stormwater Management Utility

Date Print: 03/10/16

File: C:\project summaries map\Salt Creek Drive West\_2016-574



**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Fields Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Installed (1) driveway pipe.

**Completion:** Jan-16

**2016-579 / Fields Road**

	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
DPINS / Driveway Pipe - Installed	35.0	\$798.49	\$125.50	\$265.85	\$0.00	\$502.67	\$1,692.51
HAUL / Hauling	7.0	\$155.89	\$55.93	\$17.16	\$0.00	\$100.94	\$329.92
<b>2016-579 / Fields Road Sub Total</b>	<b>42.5</b>	<b>\$966.13</b>	<b>\$181.43</b>	<b>\$283.01</b>	<b>\$0.00</b>	<b>\$610.23</b>	<b>\$2,040.79</b>
<b>Grand Total</b>	<b>42.5</b>	<b>\$966.13</b>	<b>\$181.43</b>	<b>\$283.01</b>	<b>\$0.00</b>	<b>\$610.23</b>	<b>\$2,040.79</b>

Before



During



After





Project: Fields Road  
 Activity: Routine/ Preventive Maintenance  
 Project #: 2016-579  
 Township/SW Dist: Sheldon /5  
 Completed: January 2016

Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 120 feet





**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Bluffton Parkway Water Leak

**Activity:** Routine/Preventive Maintenance

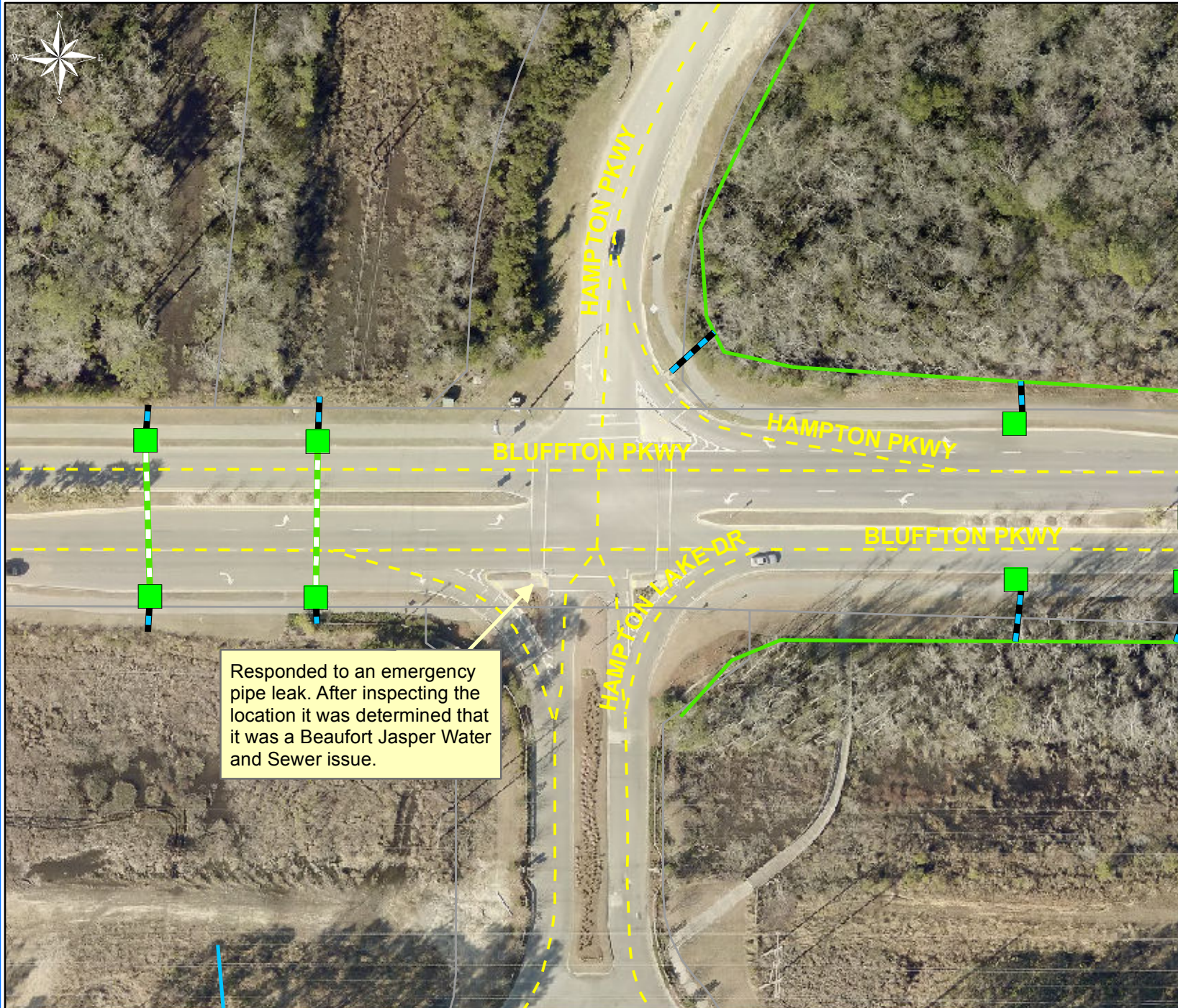
**Narrative Description of Project:**

**Completion:** Oct-15

Responded to an emergency pipe leak. After inspecting the location, it was determined that it was a Beaufort Jasper Water and Sewer issue.

<b>2016-553 / Bluffton Parkway Water Leak</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
PI / Project Inspection	28.0	\$695.00	\$163.94	\$63.08	\$0.00	\$455.83	\$1,377.85
UTLOC / Utility locates	0.5	\$12.35	\$0.00	\$0.00	\$0.00	\$6.62	\$18.97
<b>2016-553 / Bluffton Parkway Water Leak Sub Total</b>	<b>29.0</b>	<b>\$719.10</b>	<b>\$163.94</b>	<b>\$63.08</b>	<b>\$0.00</b>	<b>\$469.06</b>	<b>\$1,415.17</b>
<b>Grand Total</b>	<b>29.0</b>	<b>\$719.10</b>	<b>\$163.94</b>	<b>\$63.08</b>	<b>\$0.00</b>	<b>\$469.06</b>	<b>\$1,415.17</b>

(Pictures Not Available)



Project: Bluffton Parkway Water Leak

Activity: Routine/ Preventive Maintenance

Project #: 2016-553

Township/SW Dist: Bluffton/4

Completed: October 2015

Legend	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe

Responded to an emergency pipe leak. After inspecting the location it was determined that it was a Beaufort Jasper Water and Sewer issue.

0 20 40 80 120 160 Feet

1 inch = 83 feet

Prepared By: BC Stormwater Management Utility

Date Print: 10/28/2015

File: C:\project summaries map\Bluffton Parkway Water Leak\_2016-553



**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Dean Hall Road Channel #1

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 292 L.F. of drainage system. Cleaned out 284 L.F. of channel and (2) catch basins. Jetted (1) crossline pipe and 8 L.F of channel pipe.

**Completion:** Feb-16

<b>2016-592 / Dean Hall Road Channel #1</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
CBCO / Catch basin - clean out	12.0	\$274.56	\$52.08	\$17.87	\$0.00	\$178.20	\$522.70
CCO / Channel - cleaned out	8.0	\$166.12	\$67.90	\$10.19	\$0.00	\$104.14	\$348.35
HAUL / Hauling	2.0	\$44.54	\$15.98	\$15.02	\$0.00	\$28.84	\$104.38
ONJV / Onsite Job Visit	1.0	\$34.18	\$3.54	\$6.08	\$0.00	\$24.47	\$68.27
<b>2016-592 / Dean Hall Road Channel #1 Sub Total</b>	<b>23.0</b>	<b>\$519.40</b>	<b>\$139.50</b>	<b>\$49.15</b>	<b>\$0.00</b>	<b>\$335.65</b>	<b>\$1,043.70</b>
<b>Grand Total</b>	<b>23.0</b>	<b>\$519.40</b>	<b>\$139.50</b>	<b>\$49.15</b>	<b>\$0.00</b>	<b>\$335.65</b>	<b>\$1,043.70</b>

Before



During



After



Project: Dean Hall Road

Activity: Routine/  
Preventive  
Maintenance

Project #:  
2016-592

Township/SW Dist:  
Sheldon/5

Completed:  
February 2016



Legend	
Drainage Type	
	Access Pipe
	Bleeder Pipe
	Channel Pipe
	Channel
	Stream
	Crossline Pipe
	Driveway Pipe
	Lateral
	Lateral Pipe
	River
	Road Pipe
	Roadside
	Roadside Pipe



1 inch = 67 feet



**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** JB Lane Channel #1 - Rework

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Removed blockage from flowline.

**Completion:** Feb-16

<b>2016-542R / JB Lane Channel #1 - Rework</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
PRRECON / Project Reconnaissance	1.0	\$45.60	\$3.62	\$3.04	\$0.00	\$33.96	\$86.22
RB / Remove blockage from flowline	2.0	\$49.67	\$3.54	\$2.86	\$0.00	\$31.10	\$87.17
<b>2016-542R / JB Lane Channel #1 - Rework Sub Total</b>	<b>3.5</b>	<b>\$107.02</b>	<b>\$7.16</b>	<b>\$5.90</b>	<b>\$0.00</b>	<b>\$71.68</b>	<b>\$191.75</b>
<b>Grand Total</b>	<b>3.5</b>	<b>\$107.02</b>	<b>\$7.16</b>	<b>\$5.90</b>	<b>\$0.00</b>	<b>\$71.68</b>	<b>\$191.75</b>

(Pictures Not Available)



Project: JB Lane  
Channel #1-  
Rework

Activity: Routine/  
Preventive  
Maintenance














Project #:  
2016-542R

Township/SW Dist:  
St, Helena Island/8

Completed:  
February 2016

**Legend**

**Drainage Type**

-  Access Pipe
-  Bleeder Pipe
-  Channel Pipe
-  Channel
-  Stream
-  Crossline Pipe
-  Driveway Pipe
-  Lateral
-  Lateral Pipe
-  River
-  Road Pipe
-  Roadside
-  Roadside Pipe



1 inch = 83 feet

Prepared By: BC Stormwater Management Utility  
Date Print: 03/09/16  
File:C:\project summaries map\JB Lane\_2016-542R



**Beaufort County**  
**Public Works**  
**Stormwater Infrastructure**  
*Project Summary*

**Project Summary:** Royal Pines Boulevard

**Activity:** Routine/Preventive Maintenance

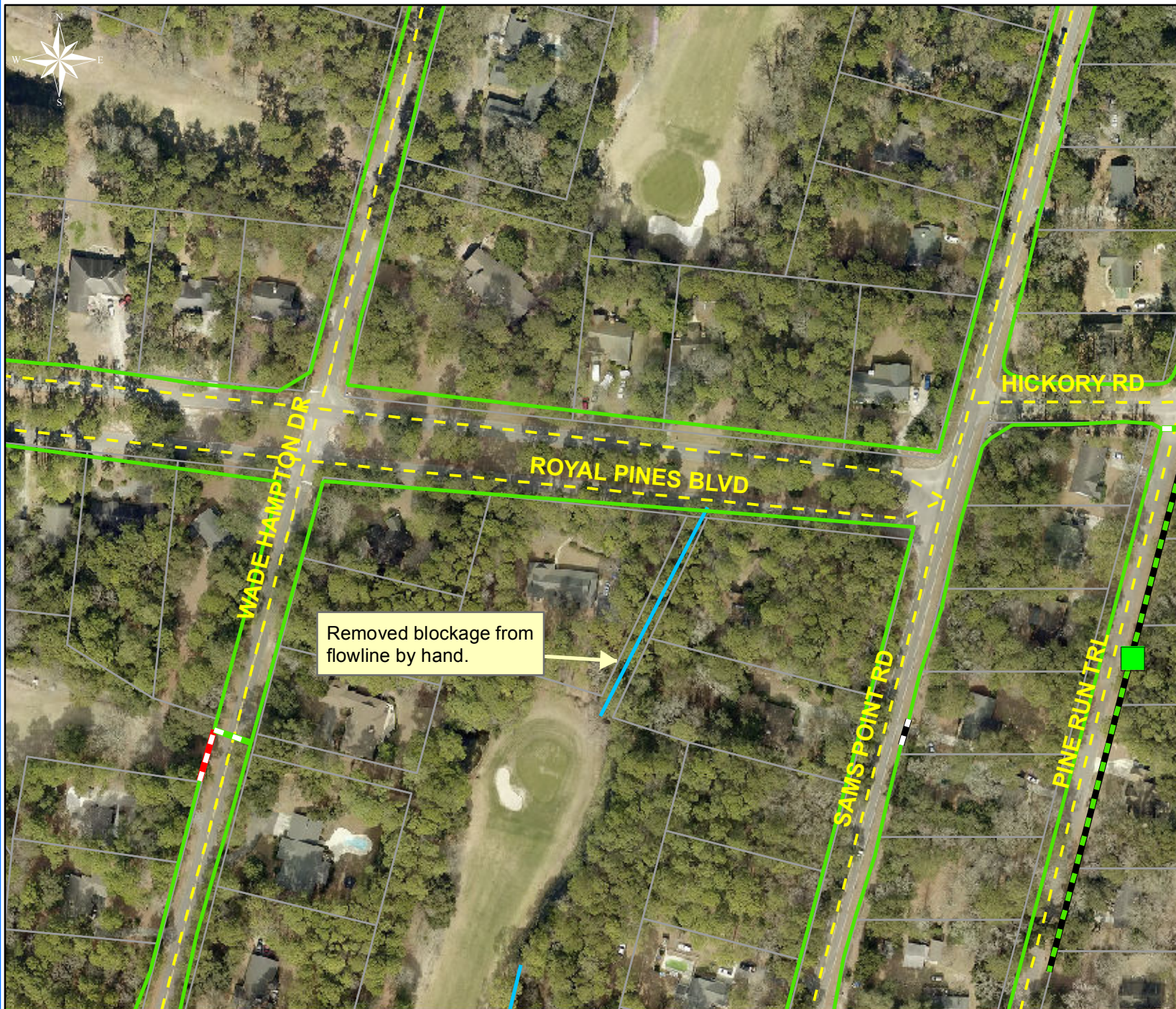
**Narrative Description of Project:**

Removed blockage from flowline by hand.

**Completion:** Nov-15

<b>2016-556 / Royal Pines Blvd</b>	<b>Labor Hours</b>	<b>Labor Cost</b>	<b>Equipment Cost</b>	<b>Material Cost</b>	<b>Contractor Cost</b>	<b>Indirect Labor</b>	<b>Total Cost</b>
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
RB / Remove blockage from flowline	2.0	\$68.36	\$7.08	\$5.10	\$0.00	\$48.94	\$129.48
<b>2016-556 / Royal Pines Blvd</b>	<b>2.5</b>	<b>\$80.11</b>	<b>\$7.08</b>	<b>\$5.10</b>	<b>\$0.00</b>	<b>\$55.56</b>	<b>\$147.84</b>
<b>Sub Total</b>							
<b>Grand Total</b>	<b>2.5</b>	<b>\$80.11</b>	<b>\$7.08</b>	<b>\$5.10</b>	<b>\$0.00</b>	<b>\$55.56</b>	<b>\$147.84</b>

(Pictures Not Available)



Project: Royal Pines Blvd

Activity: Routine/ Preventive Maintenance

Project #: 2016-556

Township/SW Dist: Ladys Island/7

Completed: November 2015

**Legend**

**Drainage Type**

- Access Pipe
- Bleeder Pipe
- Channel Pipe
- Channel
- Stream
- Crossline Pipe
- Driveway Pipe
- Lateral
- Lateral Pipe
- River
- Road Pipe
- Roadside
- Roadside Pipe



1 inch = 170 feet

Prepared By: BC Stormwater Management Utility  
 Date Print: 03/10/16  
 File: C:\project summaries map\Royal Pines Blvd\_2016-556



# ADJUSTMENT AND CREDIT MANUAL BEAUFORT COUNTY, SOUTH CAROLINA

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# **Introduction**

Beaufort County established a Stormwater Management Utility on September 10, 2001. The utility provides the County with the authorization to establish and collect just and equitable rates, fees, and charges for the services and facilities provided by the utility system. The County is further authorized by the South Carolina Statutes to construct, reconstruct, improve, and extend the Stormwater Management system.

The County's Stormwater Management Utility establishes a mechanism for billing the costs of operating and maintaining the County's stormwater management system, and financing the necessary repairs, replacements, improvements, and extensions. The County's ordinance provides the mechanisms for billing and payment, accounting for capital contributions, and establishing the Stormwater Utility Fund. This Adjustment and Credit Manual outlines the guidelines under which the County will grant adjustments and credits to stormwater user fees.

## **1.1 Credit Program Goals**

The County is not required to develop or employ a stormwater credit program. Doing so is a business decision intended to improve the County's relationship with its customers, allow the County to nimbly address changing circumstances on the ground, and incentivize or reward activities or measures that, in turn, reduce the County's costs to provide stormwater management services.

The County holds a National Pollutant Discharge Elimination System (NPDES) municipal separate storm system (MS4) permit, which will require certain control measures to improve the quality of water leaving the County and entering receiving water bodies. The permit requires some measures, such as public education, that can be at least partially supported through external activities and provide a non-structural way for utility customers to decrease the program's costs by providing a relevant service independently and reducing the need for the County to do so.

For these reasons, the credit program aligns stormwater management related costs and the extent to which those costs can be reduced, to the reduced fees passed on to some customers that are driving down the demand for service.

## **1.2 Nexus with Revised Rate Structure**

In 2015, the County completed a rate study that included a recommended revised rate structure. Unincorporated Beaufort County adopted this new structure. The County's revised rate structure is built upon three elements of cost recovery structure. First, there is a fixed fee component that includes County costs related mostly to stormwater utility business operations and some services (like outreach and water quality monitoring) that are related more to the number of utility customers than the characteristics of those customers or their properties. In addition to the fixed fee, other costs are recovered through variable charges for both a property's impervious area and a property's gross area. Costs are split between these two factors 80% and 20% respectively, a division determined in the rate structure analysis to provide for the optimal blend of reducing the impact of the rate structure change on sensitive customers,

providing continuity with the previous rate structure, and ensuring appropriate cost recovery from undeveloped lands still greatly served through the County's stormwater service provision.

Given the three elements of the underlying rate structure, the County's credit policy can provide a nexus between reduction in costs and reduction in a customer's fee. That is, depending on the particular type of credit, it may be appropriate to reduce one or more component(s) of the fee to reflect the actual cost type and level. The recommended credit policy elements are in the following sections, and each references the component of the charge recommended to be eligible for reduction.

Users of this Credit Manual will find references to older rate structure based solely on the Single Family Detached Unit (SFU) billable unit. These are included for the benefit of the jurisdictions that have elected to continue with the older rate structure.

### **1.3 Definitions**

The following definitions shall apply in the use of this Adjustment and credit Manual. Words used in the singular shall include the plural, and the plural, the singular; words used in the present tense shall include the future tense. The word "shall" is mandatory and not discretionary. The word "may" is permissive. Words not defined herein shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster's Dictionary.

**ADJUSTMENT.** The adjustment of the user fee assessed to a particular parcel based on the more detailed assessment of the impervious area on that parcel.

**APPEAL.** The process of filing a dispute with the fee determination, fee adjustment or fee credit as recognized by the County.

**APPLICANT.** Any person, or a duly designated representative applying for a permit or other type of county, federal, or state regulatory approval to proceed with a project.

**AQUIFER.** An underground formation, group of formations, or part of a formation that is permeable enough to transmit, store, or yield usable quantities of water.

**AS-BUILT PLANS.** The final plans amended to include all locations, dimensions, elevations, capacities, features and capabilities, as actually constructed and installed.

**BEST MANAGEMENT PRACTICES (BMP), Manual for Stormwater Best Management Practices, Current Edition.** County manual defining acceptable programs, technologies, processes, site layout techniques and criteria, operating methods, measures, or devices to maintain or restore pre-development hydrology with regard to rate, volume, quality, and duration of the water flow.

**CHANNEL.** A natural stream that conveys water. A ditch, or passageway, excavated to permit or accommodate the flow of water.

**CLEARING.** The removal of trees, brush, and other ground cover from all or a part of a tract of land, but shall not include mowing.

**CONCENTRATED STORM RUNOFF.** Surface runoff that converges and flows primarily through water

conveyance features such as swales, gullies, waterways, channels, or storm sewers and which exceeds the maximum specified flow rates of filters or perimeter controls intended to produce or control sheet flow.

**COUNCIL.** The County Council of Beaufort County, South Carolina.

**COUNTY.** Beaufort County, South Carolina and its authorized agents.

**CUSTOMER.** The owner of any parcel that is receiving a stormwater utility fee from Beaufort County, South Carolina.

**DETENTION or TO DETAIN.** The prevention of, or to prevent, the discharge, directly or indirectly, of a given volume of stormwater runoff into surface waters by providing temporary on-site storage.

**DEVELOPMENT or DEVELOPMENT ACTIVITY.** The alteration, construction, installation, demolition or removal of a structure, impervious surface, pipe, conduit, cable or line, above or below ground, or the clearing, scraping, grubbing, killing or otherwise removing the vegetation from a site; or adding, removing, exposing, excavating, leveling, grading, digging, burrowing, dumping, piling, dredging or otherwise significantly disturbing the soil, mud, sand or rock of a site.

**DIRECTLY CONNECTED IMPERVIOUS AREAS.** Those impervious areas which are directly connected to the County's drainage system by a ditch, storm sewer, channel, or other man-made device for the conveyance of stormwater runoff.

**DISCHARGE.** The flow of water from a project, site, aquifer, drainage basin, or other drainage facility.

**DITCH.** An artificial waterway for the purpose of irrigation or for stormwater conveyance.

**DRAINAGE SYSTEM.** All facilities used for the movement of stormwater through and from a drainage area including, but not limited to, any and all of the following:

- conduits, pipes and culverts, including appurtenant features such as catch basins, inlets, manholes, and headwalls,
- channels, ditches, flumes, curbs, streets and other paved areas, and
- all watercourses, standing or flowing bodies of water, and wetlands.

While some such facilities may be isolated in a given storm event, all are interconnected in a given drainage system for a storm event exceeding a certain magnitude.

**DWELLING UNIT.** Any building or portion thereof designed or used exclusively as the residence or sleeping place of one or more families, but not including a tent, cabin, trailer or trailer coach, boarding or rooming house, or hotel.

**EASEMENT.** A grant by a property owner for a specified use of all or a specified portion of land to a person or the public at large.

**EROSION.** The wearing or washing away of soil by the action of water.

**EQUIVALENT IMPERVIOUS COVER (EIC)** – Metric that measures how effectively impervious surface runoff is reduced relative to pre-development pervious surface runoff.

**EVAPOTRANSPIRATION** – Retention of stormwater in a manner that allows for the runoff to return to atmosphere.

**FACILITIES.** Various drainage works that may include inlets, conduits, manholes, energy dissipation structures, channels, outlets, retention/detention basins, and other structural components.

**FREEBOARD.** The space from the top of an embankment to the highest water elevation expected for the largest

design storm stored. The space is often required as a safety margin in a pond or detention basin.

**FREQUENCY YEAR STORM.** A rainfall event expressed as an exceedance probability with a specified chance of being equaled or exceeded in any given year, as follows:

One Year.....	100 percent
Two Year.....	50 percent
Ten Year.....	10 percent
Twenty-Five Year.....	4 percent
Fifty Year.....	2 percent
One-Hundred Year.....	1 percent

**GROUNDWATER.** Water below the surface of the ground, in known or defined natural channels, whether flowing or not.

**GROSS AREA.** The total area of a tax parcel as contained in the County’s geographic parcel data.

**HYDROGRAPH.** A graph of inflow and/or discharge versus time for a selected point in the drainage system.

**IMPERVIOUS AREA.** The surface area which has been compacted or covered with a layer of material so that it is resistant to infiltration by water, including semi-pervious surfaces such as compacted clay, most conventionally surfaced streets, roofs, sidewalks, parking lots, and other similar surfaces.

**INSPECTOR.** A person designated by the Stormwater Utility Manager who conducts the necessary inspection of stormwater related work to ensure conformance with the Approved Plan and the provisions of this chapter.

**INTENSITY.** The depth of accumulated rainfall per unit of time.

**MAINTENANCE.** The action taken to protect, preserve, or restore the as-built, functionality of any facility or system.

**NONRESIDENTIAL DEVELOPED PROPERTY.** A developed property that is not utilized for dwelling units with the County.

**NOTICE.** A written or printed communication conveying information or warning.

**OPEN CHANNEL.** An uncovered ditch, channel, or swale used to convey stormwater runoff.

**OWNER.** The person in whom the fee, ownership, dominion, or title of property (i.e., the proprietor) is vested. This term may also include a tenant, if chargeable under his lease for the maintenance of the property, and any agent of the owner or tenant including a developer.

**PARCEL or PARCEL OF LAND.** A tract, or contiguous tracts, of land in the possession of, owned by, or recorded as property of the same claimant person as of the effective date of the Stormwater Regulations.

**PEAK RATE OF FLOW.** The maximum rate of discharge resulting from a given storm event.

**PERMITTEE.** Any person who has been granted a permit to proceed with a project.

**PERSON.** Any individual, firm, corporation, governmental agency, business trust, estate, trust, partnership, association, two or more persons having a joint or common business interest, or any other legal entity.

**POA (PROPERTY OWNER’S ASSOCIATION).** The legally recognized, non-profit group or organization representing the interest of the property owners within a specified jurisdiction.

**POST-DEVELOPMENT.** The hydrologic and hydraulic condition of a project site immediately following

completion of the development for which a permit has been approved.

**PRE-DEVELOPMENT.** The hydrologic and hydraulic condition of a project site immediately before development or construction begins.

**PRIVATE.** Property or facilities owned by individuals, firms, entities, corporations, and other organizations and not by local, state or federal governments.

**PROFESSIONAL ENGINEER.** A professional engineer licensed by the State of South Carolina, skilled in the practice of civil engineering and the engineer of record for the project under consideration.

**PUBLIC.** Property or facilities owned by local, state or federal governments.

**RATE.** Volume of water, or other material, per unit of time.

**RECEIVING WATERS or WATER BODY.** Any water body, watercourse, or wetland into which surface water flows.

**RETENTION or TO RETAIN.** The prevention of, or to prevent, the discharge, directly or indirectly, of a given volume of stormwater runoff into surface waters by complete on-site storage.

**REUSE** – The retention of stormwater runoff to use for irrigation or other beneficial use.

**SEDIMENT.** Solid material, whether mineral or organic, that is in suspension, is being transported, or has been moved from its place of origin by water.

**SINGLE FAMILY DETACHED UNIT (SFU).** The statistical average estimated to be 4,906 square feet of impervious area for each single family detached residential dwelling unit within the County and as established by Ordinance.

**SITE.** Any tract, lot, or parcel of land or contiguous combination of tracts, lots, or parcels of land that is in one ownership, or contiguous and in diverse ownership, where development is to be performed as part of a unit, subdivision, or project.

**SOUTH CAROLINA STORMWATER MANAGEMENT AND SEDIMENT CONTROL HANDBOOK.** This handbook includes all existing South Carolina stormwater management regulations required for individuals to submit a stormwater management and sediment reduction permit application to the Department of Health and Environmental Control (SCDHEC).

**STORM EVENT.** A storm of a specific duration, intensity, and frequency.

**STORMWATER OR RUNOFF.** Refers to the flow of water which results from, and which occurs during and following a rainfall event.

**STORMWATER MANAGEMENT FEES AND CREDIT APPEALS BOARD.** The Stormwater Management Fees and credit Appeal Board will advise the County Administrator on appeals to decisions rendered by the Stormwater Utility Manager and will consist of three members.

**STORMWATER DESIGN STANDARDS.** The design standards presented in the Stormwater Regulations, and such other standards that may be adopted by the County from time to time.

**STORMWATER MANAGEMENT SYSTEM OR FACILITIES.** Refers to the existing, designed, and/or constructed features which collect, convey, channel, store, inhibit, or divert the movement of stormwater.

**STORMWATER MANAGEMENT PLAN.** The technical and policy manuals, plans, regulations and/or calculations, and any subsequent updates or amendments thereto, used by the Stormwater Utility Manager to

administer the stormwater regulations.

**STORMWATER UTILITY MANAGER.** Person responsible for daily operations of the Beaufort County Stormwater Management Utility and reporting to the County Administrator.

**STRUCTURE.** Anything constructed or installed with a fixed location on or in the ground.

**SWALE.** An artificial or natural waterway which may contain contiguous areas of standing or flowing water following a rainfall event. A swale may be planted with or otherwise contain vegetation suitable for soil stabilization, stormwater re-treatment, and/or nutrient uptake; or may be designed to accommodate or account for soil erodibility, soil percolation, slope, slope length, and contributing area, so as to prevent erosion and reduce the pollutant concentration of any discharge.

**UTILITY.** The stormwater management utility provided for in Chapter 99 of Beaufort Code of Ordinances.

**VACANT LAND.** A lot or parcel of land that is without any building, structure or improvement, including impervious surfaces, but does not include recreation, green or open space created around private or public facilities nor parcels connected or contiguous thereto for the same or similar uses.

**WATER BODY.** Any natural or artificial pond, lake, reservoir, or other area that ordinarily or intermittently contains water, and which has a discernible shoreline.

**WATERCOURSE.** Any natural or artificial stream, creek, channel, ditch, canal, waterway, gully, ravine, or wash in which water flows either continuously or intermittently, and which has a definite channel, bed, or banks.

**WATER QUALITY.** Those characteristics of stormwater runoff from a land disturbing activity that relate to the physical, chemical, biological or radiological integrity of water.

**WATER QUANTITY.** Those characteristics of stormwater runoff that relate to the rate and volume of the stormwater runoff to downstream areas resulting from land disturbing activities.

**WET DETENTION.** A detention basin that contains a permanent pool of water that will retain runoff for a minimum period of 14 days for an average summer rainfall, and which has a littoral zone over a substantial portion of the pond surface area.

**WETLAND.** An area that is inundated or saturated by surface or groundwater with a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

**WORKS.** All artificial, manmade structures, including, but not limited to, canals, ditches, swales, conduits, channels, culverts, pipes, and other construction that connects to, draws water from, drains water into, or is placed in or across the waters of the state.

## **Section 2. User Fee Adjustment and Credits**

The following procedures address both adjustments and credits for Stormwater user fees. The County grants user fee adjustments when customers identify incorrect information contained in the County's billing database. Adjustments typically occur when the County has incorrectly delineated the impervious area within a nonresidential property, or when residential customers are assigned an incorrect stormwater billing unit.

User Fee credits are associated with the construction, operation, and maintenance of privately owned stormwater facilities that provide beneficial use to the County in meeting the objectives for the Utility set by County Council. Both residential and nonresidential customers can qualify

for user fee adjustments; whereas only nonresidential customers and other stormwater facility operators such as Property Owner's Associations (POAs) qualify for user fee credits. **Appendix A** [note-not included in this draft - still working on it] contains Stormwater Management Utility Forms that are used as part of the adjustment and credit policy.

The Stormwater Utility Manager, or his designee, will review adjustment and credit requests made during the first fiscal year that the revised stormwater user fee is imposed and when customers implement a change to their existing stormwater facility. These requests will be reviewed within a 3-month period from the date of filing of the request.

## **2.1 User Fee Adjustments**

Requests for adjustment of the stormwater user fee shall be submitted through the Stormwater Utility Manager's office, which has authority to administer the procedures and standards, and review criteria for the adjustment of fees as established herein. All requests shall be judged on the basis of site characteristics.

The following procedures shall apply to all adjustment requests of the stormwater user fee:

- Any residential property owner who believes the impervious area or gross area components of his stormwater user fee to be incorrect may submit an adjustment request on a form supplied by the Stormwater Utility Manager, or his designee. Stormwater Management Utility Form No. 1 is for residential fee adjustments
- Any nonresidential property owner who believes the impervious area or gross area components of his stormwater user fee to be incorrect may submit an adjustment request on a form supplied by the Stormwater Utility Manager, or his designee. Stormwater Management Utility Form No. 2 is for nonresidential fee adjustments.
- The first step in the adjustment process will be a review of the County's calculation of the impervious and gross area. If resolution is not achieved, the County may request the customer to provide supplemental information to the Stormwater Utility Manager including, but not limited to, survey data prepared by a registered Professional Land Surveyor (P.L.S.) that represents the amount of impervious area on a parcel and/or engineering reports prepared by registered Professional Engineer (P.E.). Failure to provide such information may result in the denial of the adjustment request.
- The Stormwater Utility Manager shall respond in writing to all adjustment requests. The response shall provide an explanation of adjustment approval or denial as well as requests for additional information.

Adjustment denials may be appealed to the Stormwater Management Fees and credits Appeals Board as presented in Section 4.

### **2.1.1 Additional Stormwater Adjustments**

In addition to the requirements presented above, adjustments may also be given when an owner meets any of the following requirements:



- Owner demonstrates rainfall that occurs on an impervious area does not generate runoff (has no outlet), is completely watertight, and has at least 18 inches of freeboard. This adjustment is for unusual structures, such as swimming pools, hazardous material storage areas, etc. For these specific cases, a customer's SFUs will be adjusted by removing from the SFU calculation the amount of impervious area that does not generate runoff.
- Owner demonstrates that on-site gravel is not compacted, not used for vehicular traffic, and thus not impervious. The County may grant adjustments for non-compacted gravel areas used for landscaping or other purposes. The County considers all compacted gravel areas (drives, storage areas, etc.) as impervious areas, and as such, no adjustment will be granted. The Stormwater Utility Manager will make the decision regarding the intended purpose of gravel areas and the degree of imperviousness but will not allow more than 50% credit.

## **2.2 User Fee Credits**

Nonresidential customers and other privately owned stormwater facility operators may qualify for user fee credits when they can demonstrate that their existing or proposed stormwater facilities meet current stormwater standards and provide the County value in managing stormwater quantity, quality or auxiliary services. User fee credits provide incentive to the private facility operators to improve their facilities as County ordinances and standards are changed.

### **2.2.1 Restrictions**

- a. No public or private property shall receive credit to offset Fees for any condition or activity unrelated to the County's cost of providing stormwater management services.
  - c. Credits will not apply to Stormwater Pollution Prevention Plan (SWPPP) Review and Inspection fees attributable to new development or redevelopment projects.
  - d. Any BMP or portion(s) of the stormwater management within a permanent storm drainage easement maintained by the government (municipality, county or state), shall not be eligible for a fee credit.
1. Credit shall only be given to the property owner of record. If there are multiple owners in credit application, then the owner who is the applicant is responsible for submitting a cooperation agreement from other owners participating in application.

### **2.2.2 Terms**

- a. Credits will only be applied if requirements outlined in this Manual are met, including, but not limited to: maintaining compliance with stormwater standards at the time of initial credit, completion of on-going maintenance, guaranteed right-of-entry for inspections, and submittal of annual self-reports.
- b. Credits will be defined as percent (%) reductions applied as credit adjustment to components of the Fee, as described for each credit type.
- c. Some credits can be combined for an additive reduction. The following table describes these allowable scenarios.

	Structural BMP Credit	Integrated Non-Structural BMP Program Credit	Other BMPs	NPDES Industrial Stormwater Permit Credit	Education Credit	Inundated Property Credit	Permanently Undevelopable Land Credit
Structural BMP Credit		Only POAs	Considered	No	No	Yes	Yes
Integrated Non-Structural BMP Program Credit	Only POAs		Considered	No	No	Yes	Yes
Other BMPs	Considered	Considered		Considered	Considered	Considered	Considered
NPDES Industrial Stormwater Permit Credit	No	No	Considered		No	Yes	Yes
Education Credit	No	No	Considered	No		Yes	Yes
Inundated Property Credit	Yes	Yes	Considered	Yes	Yes		Only if applied to different areas
Permanently Undevelopable Land Credit	Yes	Yes	Considered	Yes	Yes	Only if applied to different areas	

- d. As long as the BMPs are functioning as approved (as demonstrated by self-certification reports and County inspections), the credit reduction will be applied to the Fee. If the approved practice is not functioning as approved or is terminated, the credit reduction will be cancelled and the Fee will return to the baseline calculation. Once the credit reduction has been cancelled, a customer may not reapply for credit for a period of 12 months and only then if the deficiency has been corrected, as determined by County inspection. (See Section 5 for more details).
- e. Stormwater utility customers seeking fee credit will be required to submit their credit application and supporting documents as of July 1 preceding the County's issuance of tax bills.
- f. Approved credit will be applied to each subsequent bill (as long as the credit is active) and will be retroactively applied to the current year's bill. Retroactive credits will be processed as an additional credit to the next year's stormwater fee. In the event a retroactive credit exceeds the calculated billed

amount for the next year's bill, a refund will be issued by the Beaufort County Treasurer upon approval of the credit.

- g. This credit manual is only applicable in jurisdictions that have adopted a rate structure consistent with a fixed fee, impervious area fee, and gross area fee as defined in the Beaufort County Rate Study completed in 2015. This is the rate structure consistent with that of the County. Jurisdictions that have not adopted this rate structure and continue to use a rate structure based solely on the SFU are eligible for stormwater fee credits in a manner similar to that under the prior Stormwater Fee Adjustment and credit Manual, dated December 2012. Each credit section below contains foot notes to define how SFU-based credit are to be calculated.

### **2.2.3 Structural BMP Credit – Water Quality, Peak Runoff, and Volume Controls**

Structural BMPs designed in accordance with the County BMP Manual will be eligible for a fee credit if flows generated on-site and from upstream areas greater than 0.5 sq. mi are directed through the BMP and provide reduction of target pollutants to acceptable levels in accordance with a 10% effective imperviousness site, control the peak runoff rate in accordance with the 25-year, 24-hour storm event, provide 100% retention, reuse, and/or reduction of the runoff volume in accordance with the 1.95", 24-hour storm event. Structural BMPs are eligible for credit only if all three controls are met. This credit will be based upon hydrologic data, water quality data, design specifications, and other pertinent data supplied by qualified, licensed professionals on behalf of property owners. In order to receive credit reduction as applied to the Fee calculation equation, property access, adequate and routine facility maintenance, and self-reporting must be provided by the property owner to the County to verify that the BMP structure is providing its intended benefit.

The Credit will be applied as a 50% reduction in the impervious area component of the fee.<sup>1</sup> For POAs, the flat structural BMP credit of 50% off the impervious area component of the fee may be added to the non-structural BMP credit of 25% for a maximum of 75% off the impervious area component of the fee. The property owner must complete and submit data that quantifies and demonstrates the achievement of water quality or volume control goals. This documentation must be prepared by a qualified, licensed professional engineer and be accompanied by one or combination of the following: testing, modeling, design, and/or construction data that substantiates the hydrologic peak flow reduction or volume control requirements obtained from the BMP Manual. All requests will be reviewed on an individual basis with findings of the review transmitted back to the customer within ninety (90) days of receipt of a completed application.

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<sup>1</sup> This credit calculation method is only applicable in jurisdictions that have adopted a rate structure consistent with a fixed fee, impervious area fee, and gross area fee as defined in the Beaufort County Rate Study completed in 2015. Jurisdictions that have not adopted this rate structure and continue to use a rate structure based solely on the SFU will be eligible for a flat Structural BMP credit of 10% of the stormwater fee for peak control and 35% of the stormwater fee for volume control. Water quality control is assumed met with volume control and no additional credit is provided.

Water quality and volume reduction BMPs that are eligible for credit include, but are not limited to, the following:

- Wet or dry detention basins
- Bioretention, rain gardens, and other devices, and
- Rooftop practices such as green roofs, evaporative cooling on flat roofs
- Pervious pavement<sup>2</sup>
- Runoff capture used for irrigation
- Disconnection of impervious areas
- Swales for runoff from highways and roadways.

In order to receive credit, property access, adequate and routine facility maintenance and self-reporting must be provided by the property owner to the County to verify that the BMP structure is providing its intended benefit.

Credit will be perpetual until such time that the property owner fails to demonstrate adequate BMP performance.

#### **2.2.4 Integrated Non-Structural BMP Program Credit**

Credits may be issued for a Site with ongoing implementation of an integrated suite of fundamental non-structural BMPs that will help the County meet its permit objectives. To receive a 25% credit adjustment as applied to the impervious area component of the fee<sup>3</sup>, documentation must be provided to verify that 6 of the 9 following BMPs have been met:

- BMP1: Educational Program
- BMP2: On-Site Refuse Control Program
- BMP3: On-Site Stormwater System Maintenance and Cleaning Program
- BMP4: Paved Area Sweeping Program
- BMP5: Used Motor Oil Recycling Program
- BMP6: Sanitary Sewer/Storm Sewer Cross-Connection Inventory
- BMP7: Landscaping for Run-Off Rate Control and Water Quality
- BMP8: Storm Drain Stenciling Program
- BMP9: Designated Vehicle Washing Area

Upon receipt of completed Stormwater credit Application, application approval, and satisfactory on-site inspection to insure that all criteria are being met, credit will be applied. All requests will be reviewed on an individual basis with findings of the review transmitted back to the customer within sixty (60) days of receipt of a completed application.

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<sup>2</sup> Pervious pavement, as a special category of structural BMP credit, will be credited as a 50% reduction in the impervious area charge for only the portion of the impervious area comprised of pervious pavement.

<sup>3</sup> This credit calculation method is only applicable in jurisdictions that have adopted a rate structure consistent with a fixed fee, impervious area fee, and gross area fee as defined in the Beaufort County Rate Study completed in 2015. Jurisdictions that have not adopted this rate structure and continue to use a rate structure based solely on the SFU will be eligible for a flat Integrated Non-Structural BMP Program credit of 10% of the stormwater fee.

### **2.2.4.1 Educational Program**

Nonresidential customers who wish to receive Fee credit for educating employees in the area of water quality awareness and protection must agree to the following minimum standards:

- a. Devote fifteen minutes per quarter (or an hour annually) to educating employees about water quality awareness and protection. Additionally, provide basic stormwater management information to new employees. Organizations will be required to submit programs or agendas to the County for environmental education sessions that will include information concerning number of attendees, time(s), place(s), and topic(s) covered during each session along with confirmation that a 50% employee participation goal was met. Pre- and post-session surveys are recommended. Topics must rotate on at least an annual basis.
- b. Post stormwater and water quality-specific educational information obtained from the County, state/federal environmental agencies, or from any other reputable educational resource center in employee frequented areas. Information posted must be clearly visible. Information topics must rotate on at least an annual basis. Copies of posted materials must be provided to the County.
- c. Distribute stormwater and water quality-specific literature obtained from the County, state/federal environmental agencies, or any other reputable educational resource center to all employees on a quarterly basis and provide copies to the County with the annual self-report. Literature topics must rotate on at least an annual basis.
- d. All materials to be used in presentations should be reviewed/approved by the County or representative before use in this program.

Nonresidential customers who wish to receive Fee credit for educating the County regional customer base in the area of water quality awareness and protection must agree to meet the following minimum standards:

- a. Disseminate stormwater and water quality-specific information obtained from the County, state/federal environmental agencies, or any other reputable educational resource center to customers on a quarterly basis using high traffic area kiosks, advertised special events, customer mailings, product label advertisements, public service announcements, ads, educational curricula, or other mass distribution techniques. Information topics must rotate on at least an annual basis. Copies of disseminated materials must be provided to the County along with estimates of the number of customers reached in each annual self-report.
- b. All materials to be used in presentations should be reviewed/approved by the County or representative before use in this program.

### **2.2.4.2 On-Site Refuse Control Program**

In order to receive credit for the On-Site Refuse Control Program, the following minimum criteria must be satisfied:

- a. Identify or develop the organization's on-site refuse control plan and submit a copy to the County.

- b. Initiate and maintain a solid waste recycling program that meets the County's minimum recycling requirements.
- c. Keep refuse containers covered to eliminate exposure to wind, rain, and snow and where possible, place refuse containers in areas that do not drain to storm sewers.

#### **2.2.4.3 On-Site Stormwater System Maintenance and Cleaning Program**

In order to receive credit for the On-Site Stormwater System Maintenance and Cleaning Program, a detailed management plan for maintaining on-site (nonpublic right-of-way) stormwater structures must be submitted along with documentation that the planned activities were completed. At a minimum, the management plan must address the following structures, where applicable:

- a. Building rain gutters/downspouts – must be directed to vegetated areas wherever possible and cleaned at least annually.
- b. Catch basins – must be cleaned of litter, debris, and sediment at least once per year.
- c. Stormwater outfalls to private ditches, ravines, or creeks on private land must be cleaned at least once per year.
- d. On-site drainage ditches or channels must be cleaned of any litter and debris and obstructive vegetation should be trimmed at least once per year.

#### **2.2.4.4 Paved Area Sweeping Program**

In order to receive credit for the Paved Area Sweeping Program, the following minimum criteria must be satisfied:

- a. Submit a detailed paved area sweeping plan to include definition of areas to be swept, frequency of sweeping (a minimum of twice per month), debris disposal method, and type of sweeper used.
- b. Provide documentation of plan implementation, such as copies of paid invoices or employee timesheets, or a certification of work accomplished prepared and signed by an officer of the company.

#### **2.2.4.5 Used Motor Oil Recycling Program**

In order to receive credit for the Used Motor Oil Recycling Program, the following minimum criteria must be satisfied:

- a. Provide documentation to confirm disposal of used motor oil at used oil recycling sites (i.e., waste oil generated on-site by the property owner).
- b. Display the County's current list of used oil recycling sites in clearly visible and publicly frequented locations.

#### **2.2.4.6 Sanitary Sewer/Storm Sewer Cross-Connection Inventory Program**

In order to receive credit for the Sanitary Sewer/Storm Sewer Cross-Connection Inventory Program, the following minimum criteria must be satisfied:

- a. Conduct a visual building and grounds survey to identify and inventory the locations of all sanitary and storm sewer connection points.
- b. Provide building and site plans to the County that document the locations of all sanitary sewer and storm sewer connection points and sanitary and storm sewer line locations on a parcel of property.
- c. If instances are found where sanitary sewage plumbing is connected to a storm sewer, the cross connection must be eliminated within thirty (30) days.
- d. If any discharges are in question, the owner should contact the County to determine if elimination for the discharge is required.

#### **2.2.4.7 Landscaping for Run-Off Rate Control and Water Quality Program**

In order to receive credit for the Landscaping and Run-Off Rate Control and Water Quality Program, the following minimum criteria must be satisfied:

- a. Develop a landscape maintenance plan for properties with landscaped areas, utilizing lawn and garden practices that reduce stormwater run-off rates and protect water quality, including, but not limited to, the following recommended practices:
  - i. Unless otherwise indicated by current soil tests, use phosphorus free fertilizer.
  - ii. Apply all yard and garden chemicals sparingly, using the correct rates and recommended times, and not before a rainstorm.
  - iii. Direct sprinklers to vegetated areas and not overlap onto impervious surfaces.
  - iv. Where turf is considered necessary, maintain it by mowing grass to a height of 2-3". If necessary, seed in the spring and fall, and aerate and de-thatch in the fall. Leave grass clippings on the lawn as a natural fertilizer.
  - v. Select hardy plants most suited to this climate and, where possible, reduce the amount of maintained turf and increase naturalized areas.
  - vi. Mulch flowerbeds, shrubs and trees to retain water on-site.
  - vii. Keep lawn and garden chemicals, garden debris, lawn clippings, and leaves off hard surfaces.

If appropriate to site conditions, the following practices are also recommended:

- viii. Landscapes should be designed to eliminate or at least minimize directly-connected impervious areas.
  - ix. Maintain a 15' to 25' filter strip of tall grass or plantings along water bodies.
  - x. Plant rain gardens in depressions that otherwise have standing water or to receive roof run-off.
- b. Provide a copy of the landscape management plan to the County along with documentation of employee training for landscape management or landscape contracts that include the above provisions.

#### **2.2.4.8 Storm Drain Stenciling Program**

In order to receive credit for the Storm Drain Stenciling Program, the following minimum criteria must be satisfied:

- a. The County will provide suggestions to any owner/group interested in providing the labor.
- b. Post decals or stencil all storm drain inlets with information identifying that it drains to a local water resource. For example, “drains to river” or “drains to creek”.
- c. Provide the County with number and location of storm drains on subject parcel.
- d. Provide the County with plan for maintaining stencils/decals.

#### **2.2.4.9 Designated Vehicle Washing Area**

In order to receive credit for the Designated Vehicle Washing Area, the following minimum criteria must be satisfied:

- a. Provide area for vehicles to be washed away from stormwater drains and water resources.
- b. Use environmentally sensitive cleaning materials.
- c. Post location of vehicle washing area.
- d. Provide the County with plan for location of vehicle washing area.

#### **2.2.5 Other BMPs**

Nonresidential customers that implement BMPs or provide services above and beyond the basic structural or non-structural BMPs described above may be eligible for additional credit. Examples of BMPs creditable at a higher level include: structural control measures that effectively receive and treat runoff from other properties, educational activities well in excess of the required minimums (described below), more than six non-structural BMPs, or a combination of structural and non-structural BMPs benefitting the same property or region.

The County will evaluate requests for additional credit on a case-by-case basis.

#### **2.2.6 NPDES Industrial Stormwater Permit Credit**

The South Carolina Department of Health and Environmental Control, on behalf of the USEPA, requires certain types of industry to obtain and comply with an NPDES Industrial Stormwater Permit to manage and monitor stormwater runoff from industrial sites. When an NPDES Stormwater Permit issued to a nonresidential customer requires the specified industry to conduct water quality monitoring, they may be eligible for a 10% credit on the impervious area component of the permitted property's fee<sup>4</sup>, if:

- a. Water quality testing results are consistently at least 10% below their permit required discharge limits during each sampling event,

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<sup>4</sup> This credit calculation method is only applicable in jurisdictions that have adopted a rate structure consistent with a fixed fee, impervious area fee, and gross area fee as defined in the Beaufort County Rate Study completed in 2015. Jurisdictions that have not adopted this rate structure and continue to use a rate structure based solely on the SFU will be eligible for a flat NPDES Industrial Stormwater Permit credit of 5% of the stormwater fee.



- b. Copies of the water quality test results are provided to the County, and
- c. Industry is in compliance with all permit requirements.

## 2.2.7 Education Credit

Those schools, public or private, wishing to receive Fee credit for educating students and employees in the area of water quality awareness and protection must agree to the following minimum standards:

- a. Devote two hours per half (four hours annually) to educating one grade level of students (or split between two grade levels) about water quality awareness and protection. Educational institutions will be required to submit programs or agendas to the County for environmental education sessions that will include information concerning number of attendees, time(s), place(s), and topic(s) covered during each session. The County will assist with providing materials for the education program. Pre- and post-session surveys are recommended. Topics must rotate on at least an annual basis, or become part of the curriculum for the same grade level each year.
- b. Devote fifteen minutes per quarter (or an hour annually) to educating employees about water quality awareness and protection. Additionally, provide basic stormwater management information to new employees. Topics must rotate on at least an annual basis.
- c. Post stormwater and water quality-specific educational information obtained from the County, state/federal environmental agencies, or from any other reputable educational resource center student and employee frequented areas. Information posted must be clearly visible. Topics must rotate on at least an annual basis. Provide copies of posted materials to the County.
- d. Distribute stormwater and water quality-specific literature obtained from the County, state/federal environmental agencies, or any other reputable educational resource center to target students and all employees on an annual basis and provide copies to the County with the annual self-report. Topics must rotate on at least an annual basis.

Credit for this category is applied as 30% off the impervious area component of the fee for the property(ies) where educational activities take place.<sup>5</sup>

## 2.2.8 Inundated Property Credit

All along the coast, there are deeded parcels of land that have, since the time of their establishment, become inundated and have (in whole or in part) ceased to be functional properties. The County keeps these properties on the tax roll but does not levy a tax on the inundated portion of these properties as they have no value (at present). Because they exist as tax parcels, their stormwater fee is calculated using the same three-component structure, so the resulting fee includes fixed, gross area, and impervious area elements. In the case of entirely inundated properties, impervious area is nonexistent, so the fee in effect only includes the other

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<sup>5</sup> This credit calculation method is only applicable in jurisdictions that have adopted a rate structure consistent with a fixed fee, impervious area fee, and gross area fee as defined in the Beaufort County Rate Study completed in 2015. Jurisdictions that have not adopted this rate structure and continue to use a rate structure based solely on the SFU will be eligible for a flat Education credit of 5% of the stormwater fee.

two components. Given the circumstances of these properties, it is appropriate to exempt the inundated portion from the gross area portion of the charge. Even properties that are entirely inundated will still be charged for the fixed portion, which covers administration of the utility. This reflects the fact that utility costs are not entirely negated by the property being inundated. Rather, that property still has to be considered with all others extant land parcels as far as how fees are administered.

Deeded parcels of land that are categorized by the County Assessor's office as marginal water will receive a 100% credit on the gross area component of their stormwater fee for the proportion of the property that is inundated.<sup>6</sup>

### **2.2.9 Permanently Undevelopable Land Credit**

Maintaining lands in a permanently undevelopable state reduces the County's burden to maintain infrastructure and policies intended to preserve future developability. As such, land in this state is entitled to a fee credit. Saltwater marshlands that will remain in that state fall under this category of permanently undevelopable land, as do portion of properties with a conservation easement requiring no development. The credit for these areas is 100% on the gross area component of the charge for the portion of the property included.<sup>7</sup>

To qualify for this credit, a customer must submit documentation of their intention to retain a property's undeveloped state, such as a conservation easement or notification of saltwater marshland status documented by the County Assessor.

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<sup>6</sup> This credit calculation method is only applicable in jurisdictions that have adopted a rate structure consistent with a fixed fee, impervious area fee, and gross area fee as defined in the Beaufort County Rate Study completed in 2015. Jurisdictions that have not adopted this rate structure and continue to use a rate structure based solely on the SFU will be eligible for an Inundated Property credit of up to 100% of the stormwater fee, proportional to the percent of property that is inundated.

<sup>7</sup> This credit calculation method is only applicable in jurisdictions that have adopted a rate structure consistent with a fixed fee, impervious area fee, and gross area fee as defined in the Beaufort County Rate Study completed in 2015. Jurisdictions that have not adopted this rate structure and continue to use a rate structure based solely on the SFU will be eligible for a Permanently Undevelopable Land credit of up to 100% of the stormwater fee, proportional to the percent of property that is deemed permanently undevelopable.

### 2.2.10 Fee credit Calculation – Example 1

As an example of how a Fee credit would be applied to a POA that is responsible for stormwater management facilities and provides additional non-structural BMPs within its community:

1. Structural BMP credit	50% off impervious area component of fee
2. Non-Structural BMP credit	25% off impervious area component of fee
Total	
	75% off impervious area component of fee

To determine the example fee, assume the parcel has 30,500 square feet of impervious area on 2 acres of land. The baseline fee and credit calculations would be as follows:

Fee Component	Rate	Units	Original Fee	Credit	Final Fee
Fixed	\$12.00	1	\$12.00		\$12.00
Gross Area	\$10.00	1	\$10.00		\$10.00
Impervious Area	\$65.00	7 <sup>#</sup>	\$455.00	75%	\$113.75
			\$477.00		\$135.75

# Impervious area calculated as 30,500 sq.ft. / 4,906 sq.ft. per SFU = 6.21 SFU, rounded up to 7 SFU.

For the original fee, the fixed charge in the County is \$12, the gross area charge is \$10 per equivalent unit (2 acres is unit), and the impervious area charge is \$65 per 4,906 square feet or a portion thereof. The original fee is \$477.00.

The credit is applied to the impervious area portion of the charge, resulting in a final fee of \$135.75.

### 2.2.11 Fee credit Calculation – Example 2

Consider a property of 30 acres with one Tier 2 single family home and which 25 acres are placed under a conservation easement rendering them perpetually undevelopable. This would proportionally reduce the gross area component of the charge as follows:

Fee Component	Rate	Units	Original Fee	Credit	Final Fee
Fixed	\$12.00	1	\$12.00		\$12.00
Gross Area*			\$130.00	83%	\$21.67
Impervious Area	\$65.00	1	\$65.00		\$65.00
			\$207.00		\$98.67

\* Gross area determined by a declining block: \$10 for first 2 acres, then \$5 per acre up to 10 acres, then \$4 per acre up to 100 acres, and then \$3 per acre above 100 acres. In this example,  $\$10 + (\$5 \times 8 \text{ acres}) + (\$4 \times 20 \text{ acres}) = \$130.00$

The original fee of \$207.00 is reduced to \$98.67 when the gross area component of the charge is reduced by 5/6 (or 83%).

### 2.2.12 Fee credit Calculation - Example 3

A POA represents a type of customer uniquely able to implement both structural and non-structural BMPs to achieve a greater beneficial impact to the stormwater impact. In the case of a POA property of 10 acres with 20,000 square feet of impervious area and a structural BMP, where six of the nine non-structural BMP requirements are satisfied, the credit is additive.

Fee Component	Rate	Units	Original Fee	Credit	Final Fee
Fixed	\$12.00	1	\$12.00		\$12.00
Gross Area*			\$50.00		\$50.00
Impervious Area	\$65.00	5 <sup>#</sup>	\$325.00	75%	\$81.25
			\$387.00		\$143.25

\* Gross area determined by a declining block: \$10 for first 2 acres, then \$5 per acre up to 10 acres, then \$4 per acre up to 100 acres, and then \$3 per acre above 100 acres. In this example,  $\$10 + (\$5 \times 8 \text{ acres}) = \$50.00$  # Impervious area calculated as 20,000 sq.ft. / 4,906 sq.ft. per SFU = 4.07 SFU, rounded up to 5 SFU.

This POA property can reduce its overall fee from \$357.00 to \$143.25 with the approval of both types of credit.

### 2.2.13 Fee credit Calculation - Example 4

A property that is both partially inundated (resulting in a gross area credit) and the holder of an NPDES Industrial Stormwater Permit would receive both credits in conjunction. The credit calculation would be as follows for a 20 acre property with 20,000 square feet of impervious area and where 10 acres are inundated:

Fee Component	Rate	Units	Original Fee	Credit	Final Fee
Fixed	\$12.00	1	\$12.00		\$12.00
Gross Area*			\$90.00	50%	\$45.00
Impervious Area	\$65.00	5 <sup>#</sup>	\$325.00	10%	\$292.50
			\$427.00		\$349.50

\* Gross area determined by a declining block: \$10 for first 2 acres, then \$5 per acre up to 10 acres, then \$4 per acre up to 100 acres, and then \$3 per acre above 100 acres. In this example,  $\$10 + (\$5 \times 8 \text{ acres}) + (\$4 \times 10 \text{ acres}) = \$90.00$

# Impervious area calculated as 20,000 sq.ft. / 4,906 sq.ft. per SFU = 4.07 SFU, rounded up to 5 SFU.

The resulting fee is reduced from \$427.00 to \$349.50 when the credits are combined.

## **Section 3. Application Procedures**

A property owner seeking a Fee credit must comply with the procedures outlined in this Manual and must submit a Fee credit application (provided in Appendix A). It is recommended that a pre-application meeting with the Beaufort Stormwater Utility Department be held. All information necessary for the Stormwater Utility Manager to make a determination must be supplied as outlined in the Manual and the credit application. Failure to comply with the procedures outlined in the Manual will result in a denial of the credit application.

In cases requiring a hydrologic analysis, a qualified professional engineer registered in the State of South Carolina must prepare and certify the documentation provided to verify the hydrologic benefit.

## **Section 4. Appeals**

### **4.1 Process**

Any person disagreeing with the interpretation or application of a provision in this manual, or the related laws or ordinances pertaining to Stormwater Management in Beaufort County, may appeal in writing by using Stormwater Management Utility Form No. 5.

All appeals will be processed first through Stormwater Utility Manager and then the Stormwater Management Fees and credits Appeals Board, for a recommendation, and then to the Beaufort County, County Administrator for final decision.

Any person still aggrieved may appeal the County Administrators decision to a court of competent jurisdiction.

### **4.2 Stormwater Management Fees and credits Appeals Board**

The Fees and credits Appeals Board exists for the purpose of advising the County Administrator on appeals to decisions rendered by the Stormwater Utility Manager, or his designee, in the determination of the correct amount of impervious surface located on a person's property and the proper application of the adopted mathematical calculation to determine the required stormwater fee and/or any adjustments to that fee provided for in Section 2.2 of this manual.

The Board shall also advise the County Administrator on appeals to decisions rendered by the Stormwater Utility Manager on applications for User Fee credits provided for in Section 2.2 of this manual.

The Board shall consist of three members (two primary and one designated third member) from the Stormwater Utility Board members who are appointed by County Council for two year terms. If the appeals board feels that they need technical support on a case the Utility will supply contracted technical support. On appeals involving fees in municipal jurisdictions, the ex-officio board member for that jurisdiction will be replacing the third board member.

## Section 5. Enforcement Policy

The County reserves the right to review the application for accuracy and/or inspect and review documentation confirming the provision of the BMPs at any time. If, after its review or inspection, the County finds the application to be inaccurate or the projected level of service is not being provided or continued, the customer will be notified in writing and given 45 days to correct the deficiency. The property owner must provide written documentation to the Stormwater Utility Manager within 45 days of the original notice by the Stormwater Utility Manager that the BMP is being provided or continued as agreed in addition to such evidence as the Stormwater Utility Manager reasonably requires showing that the deficiency has been corrected. If, in the opinion of the Stormwater Utility Manager, the deficiency is not satisfactorily corrected, the Fee credit attributable to the deficiency will be terminated on the following billing cycle and will remain in effect for a minimum of 12 months. Reapplication for Fee credit will not be reviewed until the delinquent BMP has been adequately reinstated for three continuous months and evidence of the corrections has been provided with the reapplication.

**Annual self-reports will be required every July 31<sup>st</sup> to document service provision for the preceding calendar year. If the self-reports are incomplete or are not submitted to the County by the required date, the property shall be considered to be in non-compliance with the credit Program requirements. Non-compliant properties will lose the credit benefit and the Fee credit suspension will remain in effect for a minimum of 3 months and will not be reinstated until the complete annual report is received with documentation that the program is being implemented as intended.**

Once the credit reduction has been canceled, a customer may not reapply for that particular credit for a period of 12 months and then only if the deficiency has been corrected, as determined by the County inspection. It will be the responsibility of the customer to prove the stormwater management goals are met prior to the credit being reissued.

All structural water quality control systems that are not listed in the BMP Manual may require, at the request of the County and at no cost to the County, periodic certified laboratory water quality sampling and reporting to insure that the water quality standards are being met.



BEAUFORT COUNTY  
STORMWATER MANAGEMENT UTILITY BOARD AGENDA  
Wednesday, April 27, 2016  
2:00 p.m.  
Executive Conference Room, Administration Building  
Beaufort County Government Robert Smalls Complex  
100 Ribaut Road, Beaufort, South Carolina  
843.255.2805

In accordance with South Carolina Code of Laws, 1976, as amended, Section 30-4-80(d), all local media was duly notified of the time, date, place and agenda of this meeting.

1. CALL TO ORDER – 2:00 p.m.
  - A. Approval of Agenda
  - B. Approval of Minutes – March 23, 2016 ([backup](#))
2. INTRODUCTIONS
3. PUBLIC COMMENT
4. REPORTS
  - A. Utility Update – Eric Larson, P.E. ([backup](#))
  - B. Monitoring Update – Eric Larson, P.E. ([backup](#))
  - C. Stormwater Implementation Committee Report – Eric Larson, P.E. ([backup](#))
  - D. Stormwater Related Projects – Eric Larson, P.E. ([backup](#))
  - E. Upcoming Professional Contracts Report – Eric Larson, P.E. ([backup](#))
  - F. Regional Coordination – Eric Larson, P.E. ([backup](#))
  - G. Municipal Reports – Eric Larson, P.E. ([backup](#))
  - H. MS4 Update – Rebecca Baker ([backup](#))
  - I. Maintenance Projects Report – David Wilhelm ([backup](#))
  - J. Financial Report ([backup](#))
5. UNFINISHED BUSINESS
  - A. Rate Study Final Report/Update on Municipalities ([backup](#))
6. NEW BUSINESS
  - A. Fiscal Year 2015 (FY15) Actuals – Carolyn Wallace
  - B. Fiscal Year 2017 Budget (FY17) – Carolyn Wallace/Eric Larson
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
  - A. May 25, 2016 ([backup](#))
9. ADJOURNMENT