



BEAUFORT COUNTY  
STORMWATER MANAGEMENT UTILITY BOARD AGENDA  
Wednesday, May 17, 2017  
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 – April 19, 2017 ([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 – Eric Larson, P.E. ([backup](#))
  - I. Maintenance Projects Report – David Wilhelm ([backup](#))
  - J. Financial Report – Carolyn Wallace ([backup](#))
5. UNFINISHED BUSINESS
6. NEW BUSINESS
  - A. Special Presentation: Boundary Street Project – Neil Pugliese
  - B. Discussion to Consider Reviewing Rate Structure Related to Agriculture and Sivilculture
  - C. MS4 Resolution by Permit ([backup](#))
  - D. SC170 Drainage Issues
  - E. Stormwater MOA for Monitoring and IDDE ([backup](#))
  - F. Voting for Stormwater Management Utility Board Chairman and Vice Chairman
7. PUBLIC COMMENT
8. EXECUTIVE SESSION
  - A. Receipt of Legal Advice Incident to Potential Litigation - Project PP Continuation
9. MATTERS ARISING OUT OF EXECUTIVE SESSION



Stormwater Management Utility Board Agenda

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10. NEXT MEETING AGENDA

A. June 21, 2017 ([backup](#))

11. ADJOURNMENT

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

April 19, 2017 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 04/24/2017

### Board Members

#### Present

Don Smith  
Patrick Mitchell  
William Bruggeman  
Marc Feinberg  
Allyn Schneider

#### Absent

Larry Meisner  
James Fargher

### Ex-Officio Members

#### Present

Andy Kinghorn  
Kim Jones

#### Absent

Scott Liggett  
Van Willis

### Beaufort County Staff

Tom Keaveny  
Rebecca Baker  
Melissa Allen  
Carolyn Wallace  
Chad Stanley  
John Miller  
Eric Larson (Via Teleconference)

### Visitors

Joe Mina, Applied Technology & Management  
Keith Readling, Raftelis Financial Consultants  
Ellen Comeau, Clemson Extension  
Ernie Wiggers, Nemours Wildlife Foundation  
Danielle Mickel, USCB WQL  
Mike Monday, USCB WQL  
York Glover, Council Member

#### 1. Meeting called to order – Don Smith

- A. Agenda – Approved.
- B. March 15, 2017 - Approved.

#### 2. Introductions – Completed.

#### 3. Public Comment(s) – None.

#### 4. Reports – Mr. Eric Larson and Mr. David Wilhelm 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/2017/041917.pdf>

##### A. Utility Update – Eric Larson

Please reference the report which is included in the posted agenda. No additional updates.

##### B. Monitoring Update – Eric Larson

Please reference the report which is included in the posted agenda. No additional updates.

- C. Stormwater Implementation Committee (SWIC) Report** – Eric Larson  
Please reference the report which is included in the posted agenda. No additional updates.
- D. Stormwater Related Projects** – Eric Larson  
Please reference the report which is included in the posted agenda. No additional updates.
- E. Professional Contracts Report** – Eric Larson  
Please reference the report which is included in the posted agenda. No additional updates.
- F. Regional Coordination** – Eric Larson  
Please reference the report which is included in the posted agenda. No additional updates.
- G. Municipal Reports** – Eric Larson  
Please reference the report which is included in the posted agenda. No additional updates.
- H. Municipal Separate Storm Sewer System (MS4 Update)** – Eric Larson  
Please reference the report which is included in the posted agenda. No additional updates.
- I. Maintenance Projects Report** – David Wilhelm  
Please reference the report which is included in the posted agenda. No additional updates.

**5. Unfinished Business –**

*A. Hearing on Stormwater Fee Appeal – Nemours Plantation* – Mr. Joe Mina with Applied Technology & Management (ATM) presented a report that was prepared for the County analyzing the current percent impervious surface factor that is applied to calculate stormwater fees for silviculture. ATM provided a silviculture hydrology review and the assumptions and methodology utilized to create their analysis. The TR-55 method was used for measuring runoff and a table was provided showing the progression of the curve numbers through the lifecycle of a model timber harvest site, based on four soil types. Based on their analysis, they determined that the current 5% impervious surface factor that is applied to calculate stormwater fees is supported.

Mr. Ernie Wiggers asked if the assumptions used in the report have been tested for Beaufort County. Mr. Mina indicated yes, they have been tested throughout the nation. He mentioned that you would see this type of standard analysis used for any type of site being developed from a new Wal-Mart site to single family homes.

Lengthy discussion took place and included the following:

- If the 5% impervious factor was continuous for the lifetime.
- The impact of agriculture use land.
- Silviculture having an impervious impact.
- History of the 5% impervious surface factor and the new County rate structure.
- Law S453 that was imposed in 2009, freezing the rates that could be charged on agriculture exempt land.
- Requests for waivers on specific properties analyzing their affect could be prepared by the owner and presented to the board (this would be a burden of property owner to prepare).
- Gross area charge on undeveloped land versus agriculture exempt land.
- Cropland vs silviculture and the difference in how the fees are calculated.

- Relief given to those with conservation easements through the credit application approval process (applied to qualifying marshland and timber).

Mr. Keith Readling with Raftelis Financial Consultants presented a report that was prepared for the County that evaluated the stormwater fee revenue impacts that would be associated with possible changes to agriculture exempt silviculture runoff factors and how the shortfall in revenue could be made up. The County's current rate structure has three components: administration charge, impervious area charge and gross area charge. Raftelis developed four different financial models by revising the assumed impervious to be 4% down to 1% (in whole increments) and modeled three different scenarios for recovering lost revenue for each of those financial models.

Lengthy discussion took place and included the following:

- Cropland vs silviculture fees.
- Billings can vary year to year based on the fact that lands deemed eligible for Ag Use Exemption can fluctuate.
- Timberland with conservation easements being calculated at the lower rate.
- Nemours Plantation having parcels under conservation easement (3,500 acres not).
- History of the .001 run off factor and how it was vetted through the workshops.
- Disturbance of tomato farming (cropland) vs what is created by active silviculture.
- The 2009 S543 law and effect on revenue.

After Mr. Readling, discussion continued:

- Options/direction for this appeal – recommend adjusting the rate structure or approving the appeal.
- County Council not being in favor of an increase in fees in the past.
- It was questioned why the property owners should be responsible for providing the evidence for an appeal.
- Concerns of opening up other issues by granting the appeal.
- How long the rate stays at .005 once identified as disturbed.

It was clarified that the appeal made by Nemour's Plantation was in reference to the staff's decision to classify the land as disturbed, which changed the rate factor from .001 to .005, causing an increase in stormwater fees.

A motion was made to ask Mr. Wiggers to provide the data necessary to justify the request. No second.

The Board took no action.

[The reports prepared by ATM and Raftelis Financial Consultants are attached to the minutes.](#)

## **6. New Business**

**A. Proposed Budget for FY2018** – Mrs. Carolyn Wallace provided a brief overview of the proposed budget, highlighting components of the projected revenue and expenditures. She noted regulatory is now fully staffed as is the infrastructure staff. And the County is looking to add a few capital improvement projects. She mentioned the County is on schedule for most projects in the 10 year plan.

A motion was made to accept the budget as presented. Discussion took place about whether or not this issue was time sensitive or could it be delayed a month. Mr. Eric Larson explained that County Council is trying to approve budgets during two meetings in April. There were concerns about the possible financial impact that the Nemour's appeal may have that might not be incorporated into the budget. Mrs. Wallace mentioned that the budget would need to be approved prior to when the appeal may be settled. Mr. Larson pointed out the contingency budget could be adjusted if needed based on future action on the Nemour's appeal. The Board unanimously (5:0) approved to recommend the budget as presented.

**7. Public Comment(s) – None.**

**8. Executive Session**

A motion was made to go into Execution Session. The Board unanimously (5:0) approved to go into Executive Session.

**9. Matters Arising Out of Executive Session – None.**

**10. Next Meeting Agenda – Approved with additions.**

Additions for May 17<sup>th</sup> under New Business

- Discussion regarding consideration of reviewing the rate structure study related to agriculture and silviculture
- SC170 Drainage Issues
- Voting for Stormwater Management Utility Board Chairman and Vice Chairman

Addition for May 17<sup>th</sup> – Executive Session

- Project PP Continuation

**11. Meeting Adjourned**



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[www.appliedtm.com](http://www.appliedtm.com)

April 17, 2017

Eric W. Larson, P.E., AICP  
Director, Environmental Engineering & Land Management  
Director, Disaster Recovery Task Force  
Manager, Stormwater Utility  
120 Shanklin Road  
Beaufort, S.C. 29906

Re: Silviculture Hydrology review and recommendation for Percent Impervious factor.

Dear Eric:

ATM was retained by Beaufort County to perform an analysis of the current stormwater fee rule which applies a 5% impervious surface assumption for the calculation of Stormwater fees to properties being used for Silvicultural purposes. ATM performed this analysis by starting with the TR-55 method for measuring runoff, which is the professional standard for these types of calculations. ATM consulted the SC Forestry Commission for information on current Forestry and Timber harvesting practices, and reviewed aerial photography of the county to determine some of the historical coverages and how they are affected by timber harvesting through the years. ATM reviewed significant literature and publicly available internet information on forestry to determine assumptions and methods used to create this analysis.

ATM's Assumptions are as follows:

1. Land coverage can be modeled using TR-55's Curve Number (CN) to determine runoff factors for the properties.
2. CN can be weighted over the lifetime of a normal silviculture and timber harvesting operations.
3. Operations ranging from a 5-year harvest to a 25-year harvest were considered.
4. Weighted CN can be converted to a percent impervious value by comparing the weighted CN for the yearly values to a wooded cover and Impervious cover model.
5. The use of standard SC BMP's to control runoff and water quality as prescribed by the SC Forestry Commission will mitigate any disturbance such as logging trails, thinning and other maintenance uses prior to harvest, and will create the ability to apply a "Good" Hydraulic Condition for CN analysis.
6. The analysis applied either a wooded cover, or a fallow – Crop Residue(CR) condition to provide the most favorable conditions to the landowner in reviewing cover conditions.
7. A regrowth period of five (5) years was assumed from harvest (fallow field) condition to full canopy and restoration of normal wooded cover. This is a hydrologic assumption, and

while cover may be visually restored in a shorter timeframe, the hydrologic performance of a site will take longer to re-establish.

8. During the regrowth period, the CN was weighted to apply a 25% per year growth factor.
9. Site size was not considered, and this analysis is not site specific. It addresses simple percentages of cover to come up with a model of what relative impervious surface percentage is appropriate to apply to a silvicultural site when approximating runoff quantity and quality.

ANALYSIS:

The following tables dictate the Curve Numbers used for analysis (from TR-55)

		Soil Type			
		A	B	C	D
Wooded	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30	55	70	77

NOTE: Poor = Forest litter, understory, and brush are destroyed by heavy grazing or regular burning  
 Fair = Woods are grazed but not burned, and some forest litter covers the soil  
 Good = Woods are protected from grazing, and litter and brush adequately cover the soil

Fallow-Bare	---	77	86	91	94
Fallow-Crop Residue Cover(CR)	Poor	76	85	90	93
	Good	74	83	88	90

NOTE: Poor = Factors impair infiltration, and tend to increase runoff  
 Good = Factors encourage runoff and better than average infiltration and tend to decrease runoff

Note that curve number is highly dependent on the soil type. A type soils have better infiltration and water retention properties, and D type soils are less able to infiltrate and have more natural runoff. As an example, a sandy well drained soil would be considered A, and a swamp or wetland soil or clay soil would be considered a D soil. Analysis was performed for all four soil types for comparison.

The following table shows the progression of the curve numbers through the lifecycle of a model timber harvest site.

CN Values by soils\*

Year	Condition	A	B	C	D
1	Cut and seedlings planted	74	83	88	90
2	25% Growth	63	76	84	87
3	50% Growth	52	69	79	84
4	75% Growth	41	62	75	80
5	100% Growth	30	55	70	77
6	Mature	30	55	70	77
7	Mature	30	55	70	77
8	Mature	30	55	70	77
9	Mature	30	55	70	77
10	Mature	30	55	70	77
11	Mature	30	55	70	77
12	Mature	30	55	70	77
13	Mature	30	55	70	77
14	Mature	30	55	70	77
15	Mature	30	55	70	77
16	Mature	30	55	70	77
17	Mature	30	55	70	77
18	Mature	30	55	70	77
19	Mature	30	55	70	77
20	Mature	30	55	70	77
21	Mature	30	55	70	77
22	Mature	30	55	70	77
23	Mature	30	55	70	77
24	Mature	30	55	70	77
25	Mature	30	55	70	77
5 Year Weighted Average CN		48	67	78	82
15 Year Weighted Average CN		37	60	73	79
20 Year Weighted Average CN		36	59	72	79
25 Year Weighted Average CN		34	58	72	78

\* CN Values assume Good Hydrologic Condition

The following sample calculation is provided for the 25 year harvest condition. To determine relative percent impervious coverage, it is assumed that every year would have a certain percentage of wooded and impervious to approximate the same weighted CN from the above table.

FOR A SOILS

	A
94% Wooded	30
6% Impervious	98
Weighted Avg CN	34

FOR B SOILS

93% Wooded	55
7% Impervious	98
Weighted Avg CN	58

FOR C SOILS

93% Wooded	70
7% Impervious	98
Weighted Avg CN	72

FOR D SOILS

95% Wooded	77
5% Impervious	98
Weighted Avg CN	78

Using the same method for each year, the following table was developed:

Equivalent % Impervious vs. length of time until harvest  
 Soil type.

Years	A	B	C	D
5	27%	28%	29%	24%
15	10%	11%	11%	10%
20	9%	9%	7%	10%
25	6%	7%	7%	5%

Eric W. Larson, P.E., AICP  
April 17, 2017  
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Based on the above analysis, ATM has determined that the current 5% impervious surface used is supported by the Hydrologic analysis methodology currently utilized by the professional community.

Please feel free to contact ATM if you would like to discuss the results presented. Thank you!

Sincerely,  
**APPLIED TECHNOLOGY & MANAGEMENT, INC.**

A handwritten signature in blue ink that reads "Joseph A. Mina." The signature is written in a cursive style and is positioned above the typed name and title.

Joseph A. Mina, P.E.  
Sr. Engineer



April 17, 2017

Eric W Larson, PE, AICP  
Director, Environmental Engineering & Land Management  
Director, Disaster Recovery Task Force  
Manager, Stormwater Utility  
120 Shanklin Road  
Beaufort, S.C. 29906

**Subject: Financial Implications of Changing Silviculture Runoff Coefficients for Agricultural Use Exemption-Eligible Land Stormwater Fees Within Unincorporated Beaufort County**

Dear Eric:

As a subconsultant to Applied Technologies and Management (ATM), Raftelis Financial Consultants (RFC) was retained by Beaufort County to evaluate the stormwater fee revenue implications of possible changes to the silviculture runoff factors used in determining stormwater fees for certain properties and/or portions of properties falling within the unincorporated area of Beaufort County and eligible for the Agricultural Use Exemption (established by law S453 in 2009) as described on the County's website at <http://www.bcgov.net/departments/Engineering-and-Infrastructure/stormwater-management/stormwater-fees.php>.

As the website explains, silvicultural land eligible for the Agricultural Use Exemption and within the unincorporated County is billed at 1/10 of the 2009 SFU stormwater rate as if it were 5% impervious. The 2009 SFU rate was \$50 and an SFU is 4,906 square feet of impervious area. Thus, an acre of land under these conditions is currently billed  $(43,560)/(4,906) \times (0.05) \times (0.1) \times (50)$  or about \$2.22 per acre per year. S453 does not allow the stormwater fees for properties that remain eligible for the Agricultural Use Exemption to increase in future years.

RFC was asked how much the stormwater rates for all properties that are not eligible for the Agricultural Use Exemption within unincorporated Beaufort County would have to be increased to maintain the current stormwater fee revenues if the imperviousness of the silvicultural use land were assumed to be some value less than 5%. We developed a financial model that determined revenue losses for four cases, ranging from a revised assumed imperviousness of 1%, to 2%, to 3%, to 4%. Since the new stormwater rate structure includes fees for both impervious area and for gross area, we modeled three different scenarios for recovering the lost revenues: (a) recovery through an impervious area rate increase (only), (b) recovery through a gross area rate increase (only), and (c) recovery through increase to both rates such that about 80% of the recovery is from impervious area charges and about 20% is from gross area charges.

The unincorporated County total stormwater billings for Tax Year 2016 were about \$4,762,500 and of this, billings for silvicultural use lands eligible for the Agricultural Use Exemption and billed at the 5% imperviousness factor were about \$135,800. The tables on the following pages show the rate increases that would be needed to make up losses of various portions of the approximate \$135,800 using each of the three revenue loss recovery options as described above. Note that the current annual rate for impervious area is \$65 per unit and for gross area is \$10 per unit. There is also a fixed charge of \$12 for each account, for a total fee of \$87 per year for a typical home on a lot smaller than 2 acres.

**OPTION 1 -- SILVICULTURE IA ASSUMED AT 4% INSTEAD OF 5%**

5%	Current Percent Impervious for Silviculture
4%	Assumed Change to Percent Impervious for Silviculture
<b>\$27,150</b>	<b>Annual Revenue Loss from Assumed Change</b>

<b>\$65.57</b>	<b>Impervious Area Rate Required on Others</b>
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<b>\$10.29</b>	<b>Gross Area Rate Required on Others</b>
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<b>\$65.46</b>	<b>Impervious Area</b>	<b>Rate Increases Required on Others</b>
<b>\$10.06</b>	<b>Gross Area</b>	<b>if 80/20 ratio share (both rates go up)</b>

**OPTION 2 -- SILVICULTURE IA ASSUMED AT 3% INSTEAD OF 5%**

5%	Current Percent Impervious for Silviculture
3%	Assumed Change to Percent Impervious for Silviculture
<b>\$54,301</b>	<b>Annual Revenue Loss from Assumed Change</b>

<b>\$66.14</b>	<b>Impervious Area Rate Required on Others</b>
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<b>\$10.58</b>	<b>Gross Area Rate Required on Others</b>
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<b>\$65.91</b>	<b>Impervious Area</b>	<b>Rate Increases Required on Others</b>
<b>\$10.12</b>	<b>Gross Area</b>	<b>if 80/20 ratio share (both rates go up)</b>

**OPTION 3 -- SILVICULTURE IA ASSUMED AT 2% INSTEAD OF 5%**

5%	Current Percent Impervious for Silviculture
2%	Assumed Change to Percent Impervious for Silviculture
<b>\$81,452</b>	<b>Annual Revenue Loss from Assumed Change</b>

<b>\$66.71</b>	<b>Impervious Area Rate Required on Others</b>
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<b>\$10.87</b>	<b>Gross Area Rate Required on Others</b>
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<b>\$66.37</b>	<b>Impervious Area</b>	<b>Rate Increases Required on Others</b>
<b>\$10.17</b>	<b>Gross Area</b>	<b>if 80/20 ratio share (both rates go up)</b>

**OPTION 4 -- SILVICULTURE IA ASSUMED AT 1% INSTEAD OF 5%**

5%	Current Percent Impervious for Silviculture
1%	Assumed Change to Percent Impervious for Silviculture
<b>\$108,602</b>	<b>Annual Revenue Loss from Assumed Change</b>

<b>\$67.28</b>	<b>Impervious Area Rate Required on Others</b>
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<b>\$11.16</b>	<b>Gross Area Rate Required on Others</b>
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<b>\$66.82</b>	<b>Impervious Area</b>	<b>Rate Increases Required on Others</b>
<b>\$10.23</b>	<b>Gross Area</b>	<b>if 80/20 ratio share (both rates go up)</b>

As an explanatory note, taking Option 4 as an example, the revenue loss from changing the impervious percentage from the current percentage of 5% to a new percentage of 1% is about \$108,602 per year. If all of that loss were to be made up by raising the impervious area rates on ratepayers who pay them, the rates would need to increase to \$67.28. A typical single family home would see their annual stormwater fee go from \$87.00 to \$89.28. Similarly, if all of the shortfall were to be made up by raising the gross area rates on ratepayers who pay them, that rate would need to increase to \$11.16 and a typical single family home on a lot smaller than two acres would see their annual stormwater fee go from \$87.00 to \$88.16. If the shortfall were made up with a combination of impervious and gross area rate increases following the revenue allocation schema embodied by the current rate structure, impervious area rates would rise to \$66.82 and gross area rates would rise to \$10.23 such that a typical single family home on a lot smaller than two acres would see their annual stormwater fee go from \$87.00 to \$89.05.

The impacts of these potential rate increases vary with the choice of how the shortfall is made up. When the shortfall is made up entirely with the impervious area rate, properties that are undeveloped are not impacted and those that are highly impervious are most impacted. Similarly, large lightly developed or undeveloped tracts are impacted most by the choice to make up the shortfall with a gross area rate increase. The third option of allocating the makeup of the shortfall roughly 80% to impervious area and 20% to gross area strikes a middle ground.

Thank you for the opportunity to present these findings to Beaufort County. As is always the case, billings can vary from year to year and the lands deemed eligible for the Agricultural Use Exemption could fluctuate. For these reasons, although the analyses we performed were based on actual data provided by the County, the rate implications represented in this letter should be considered approximate.

Please contact me to discuss any of the above further.

Sincerely,

***RAFTELIS FINANCIAL CONSULTANTS, INC.***



Keith Readling, PE  
Executive Vice President and  
Director of Stormwater Management Consulting



**BEAUFORT COUNTY  
STORMWATER UTILITY  
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Beaufort, South Carolina 29906  
Voice (843) 255-2805 Facsimile (843) 255-9436**



May 17, 2017

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

Utility Update

1. Hurricane Matthew Response and Recovery – Our work under the Emergency Watershed Protection (EWP) program to clear the debris along our system is complete. The project was under budget (currently \$292,866. Grant was based on \$742,803)
2. FY 18 SWU Management fee – Town of Hilton Head Island's approval is pending. The deadline to approve the budget was April 1, 2017. Hilton Head's delay in approval is in part to ongoing decision making related to switching the "Option E" from the 2015 Rate Study recommendation in FY 18. If they switch, the management fee will be calculated differently.
3. FY 18 Budget – The proposed County Stormwater Department FY 17-18 budget will be presented to the County Council Finance Committee on May 22, 2017. The Council will have three readings on the budget in late May and June. This is a new process for the budget in that it was not heard separately by the County Council in the past. The Council has asked to review and approve all Enterprise Fund budgets this year.
4. Staff attended the Town of Bluffton's monthly May River Watershed Action Plan Committee meeting. There was no quorum and no new business was discussed. Two new members to the committee were introduced and the time was spent given a series of presentations on Town activities related to Stormwater, including updates on their major capital projects.
5. Eric Larson attended training on May 16<sup>th</sup> in Charleston, SC at the annual International Erosion Control Association Region 1 conference.

Monitoring Update

1. Lab Update (From Dr. Alan Warren and Lab Manager Danielle Mickel) – County staff met with Lab staff in April to review the first quarter sampling activity. We discussed how to amend the monitoring locations and sampling methods for better results in future sampling events. This will prompt a minor revision to the adopted monitoring plan. The lab staff is working to make improvements to sampling sites to improve access for monitoring.
2. Battery Creek 319 Grant project – The first quarter sampling event raised some possible construction related issues with the pond. See Regional Coordination.
3. MOA with the Town of Bluffton to share monitoring and to address coordinated IDDE work – County staff has submitted a revised draft for the Town to consider. This MOA is on the agenda under New Business. [See attached MOA.](#)

## Stormwater Implementation Committee (SWIC) Report

1. The SWIC committee has not met in the last month.

## Stormwater Related Projects

1. Okatie West / SC 170 Widening Retrofit (Design and Construction = \$915,000 Budget) – Nothing new to report.
2. Easements – Staff is working on numerous easement requests. High priority projects are in County Council districts 1(Sheldon/Dale/Burton) and 3 (St. Helena). Easements for Project PP will be discussed in Executive Session.

## Professional Contracts Report

1. Stormwater Management Plan (Master Plan) Update – (\$475,000 Budget; \$239,542 County portion) – The Modeling is complete and once the municipalities have determined that the model is in agreement with the areas of concern, the model will be updated. It was discovered that the 2006 data from the original SWP was incomplete so additional inventory will be needed to finish the model. ATM is in the process of preparing a list of recommendations of areas of concern and will begin formulating and updating the CIP while continuing to update the existing inventory.
2. FY 17 CIP projects – There were numerous CIP projects that were supposed to be began to be designed for FY 17. Hurricane Matthew has limited the Staff time needed to prepare the RFPs and begin the consultant selection process. Those projects will be moved to FY 18.
3. Clemson Extension services to Beaufort County – In addition to Carolina Clear, the Clemson University Extension Service offers many other stormwater related services. The statewide water resources engineer for Extension recently met with County Staff to discuss these services and look for opportunities to provide internal and external training, demonstration project development ideas, etc. In the future, the County will try to find partnering opportunities with Clemson Extension to complement our MS4 program.

## Regional Coordination

1. Factory Creek Watershed Regional Detention Basin “Phase II” (Design Cost = \$63,390, Tree Mitigation Cost is pending, Construction Cost by the Developer) – Nothing new to report.
2. Battery Creek Watershed Pond retrofit / EPA 319 grant project – Staff from the County and City met to develop a O&M manual for the recently completed project, fulfilling a joint maintenance commitment made in the MOA for the project. Staff will be investigating potential problems with the numerous stormwater structures on

- the site to assure proper function. Monitoring observed unusual water levels in the pond and bypassing of the pond via the weir.
3. Design Standards for varying jurisdictions in Beaufort and Jasper Counties – Staff recently prepared a chart comparing the Stormwater Standards for each political body in Beaufort and Jasper County. The chart and a map showing each jurisdiction is provided in the packet for information only.

#### Municipal Reports

1. Town of Hilton Head Island (From Jeff Netzinger, Stormwater Manager)
  - i. No information was available at the time of this report.
2. Town of Bluffton (From Kim Jones, Watershed Management Division Director)
  - i. [Please reference the attached report from Town of Bluffton.](#)
3. City of Beaufort (From Neil Desai, Asst. Public Works Director)
  - i. Improved the drainage system at the corner of Charles & Craven (southeast corner) in support of the CTC resurfacing efforts of Craven Street.
  - ii. Improved the drainage system at the corner of Charles & Craven (southeast corner) in support of the CTC resurfacing efforts of Craven Street.
4. Town of Port Royal (From Van Willis, Town Manager)
  - i. No information was available at the time of this report.

#### MS4 Report

1. Plan Review - There were 12 projects reviewed and 21 stormwater permits issued in late April and early May by Beaufort County Stormwater staff.

Projects Name	SRT Review Date	Review Type	Comments
Celadon Regulating Plan/ Ladys Island	4/5/2017	PreApp	Approved with conditions.
Grande Oaks	4/5/2017	Discussion	Use 1990 Ordinance
Greene Acres	4/5/2017	Discussion	Mining Permit requirements
Horseshoe Crab Nathan Pope	4/5/2017	Conceptual	Withdrawn
Harbor Island Lot 165	4/5/2017	River Buffer	Need revised plans silt fence.
Bridge Point Condos Phase III	4/12/2017	PreApp	Approved
DESC Warehouse Solar Array	4/12/2017	Conceptual	Deferred
Tanger Outlet 2	4/12/2017	Conceptual	Deferred
Dataw Island	4/19/2017	Bulkhead	Deferred
Ferguson Forest Products	4/26/2017	Conceptual	Approved with conditions.
Bluffton Dollar General	4/26/2017	Final	Deferred
206 May River	4/19/2017	Final	Approved

2. Inspection summary for April 8, 2017 to May 9, 2017

Number of active permits = 37

Number of inspections performed = 32

Number of drainage related complaints investigated = 3

Number of certificates of completion = 1

3. MS4 permit by rule – [See an attached resolution for County Council’s action](#). The resolution is self-explanatory. Given the County’s election to implement the newer MS4 and design requirements county-wide, the County is basically operating an MS4 program county-wide, which is the intent of “permit by rule”. The advantage to a county-wide “permit by rule” would be consistency for the development community when dealing with Beaufort County and DHEC. A disadvantage would be the additional effort and cost to regulate a larger area but this was already planned for and programmed with the Rate Increase and expanded program and staffing. Staff is agreeable to this change and recommends approval to the Board.
4. MS4 Program Inspections – Staff has working on or completed inspections of County facilities to evaluate stormwater best management practices on each site. This is part of Minimum Control Measure 6 on the MS4 permit.
5. Public Education – Carolina Clear is working on several initiatives towards public education and outreach, including a new website, logo, a fall pond conference, shoreline and rain garden workshops, a media campaign, rain barrel sales, and a volunteer stream monitoring program. Staff recently participated in Earth Day clean up events in Bluffton.
6. Upcoming Events:
  - Beaufort County Pond Conference is scheduled to be held in October.
7. DHEC NPDES permitting transition – A second coordination meeting was held on May 15, 2017. Numerous DHEC staff from the local office, Charleston District Office, and Columbia’s Central office attended along with Staff from the County, Town of Bluffton, Town of Hilton Head Island, and the City of Beaufort. We discussed the schedule for transitioning DHEC’s authority for full NPDES permitting review to the local MS4s. We also discussed the division of NPDES permit review duties between the local and state agencies.



**2. County's Right to Jointly Administer Town Stormwater Ordinance.** The Town hereby agrees and grants to the County and the County hereby acknowledges and accepts the non-exclusive right and authority to jointly administer the Town's duly adopted Unified Development Ordinance 2011-15, as amended, and any plans, programs, or corresponding ordinances adopted in accordance therewith, including but not limited to the Town's (i) Stormwater Management Plan, (ii) MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program, (iii) MCM 4: Construction Site Runoff Control Program, (iv) MCM 5: Post-Construction Runoff Control Program; and, (v) Monitoring Plan (herein, collectively "Town's Stormwater Ordinances"), on all properties located within the municipal limits of the Town.

a. Right of Entry. Included in the County's right to jointly administer the Town's Stormwater Ordinances within the corporate limits of the Town is the right and authority to enter onto such property located within the Town to perform water quality sampling, conduct inspections, investigate potential violations and take such other actions as permitted by the Town's Stormwater Ordinances to the fullest extent granted to the Town.

b. Notifications. The County agrees to notify the Town within twenty-four hours of detecting any potential violation of the Town's Stormwater Ordinances within the corporate limits of the Town. The notification should include the location of the potential violation, the time and date of the potential violation, the type of potential violation, and any additional information that would be necessary or prudent for the Town to have in order to carry out enforcement proceedings. The County agrees to provide the Town with any information required for enforcement action prosecution or other action permitted under the Town's Stormwater Ordinances within 14 days, and agrees to produce County personnel in court, as necessary and upon adequate notice.

c. Town Documentation. The Town agrees to provide the County with access to any documentation or records that could assist the County in its joint administration of the Town's Stormwater Ordinances.

**3. Town's Right to Jointly Administer County Stormwater Ordinance.** The County hereby agrees and grants to the Town and the Town hereby acknowledges and accepts the non-exclusive right and authority to jointly administer the County's duly adopted Stormwater Ordinance 2016/38, as amended, and any plans, programs, or corresponding ordinances adopted in accordance therewith, including but not limited to the County's (i) Stormwater Management Plan, (ii) MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program, (iii) MCM 4: Construction Site Runoff Control Program, (iv) MCM 5: Post-Construction Runoff Control Program; and, (v) Monitoring Plan (herein, collectively "County's Stormwater Ordinances"), on all properties located within the territorial jurisdiction of the County.

a. Right of Entry. Included in the Town's right to jointly administer the County's Stormwater Ordinances within the territorial jurisdiction of the County is the right and authority to enter onto such property located within the County to perform water quality sampling, conduct inspections, investigate potential violations and take such other actions as permitted by the County's Stormwater Ordinances to the fullest extent granted to the County.

b. Notifications. The Town agrees to notify the County within twenty-four hours of detecting any potential violation of the County's Stormwater Ordinances within the territorial jurisdiction of the County. The notification should include the location of the potential violation,

the time and date of the potential violation, the type of potential violation, and any additional information that would be necessary or prudent for the County to have in order to carry out enforcement proceedings. The Town agrees to provide the County with any information required for enforcement action prosecution or other action permitted under the County's Stormwater Ordinances within 14 days, and agrees to produce Town personnel in court, as necessary and upon adequate notice.

c. County Documentation. The County agrees to provide the Town with access to any documentation or records that could assist the Town in its joint administration of the County's Stormwater Ordinances.

**4. Joint Monitoring. Monitoring Components.** Both Parties will meet components of their Monitoring Plans, as established pursuant to their Stormwater Ordinances and policy documents, through this Agreement as follows:

a. Monitoring locations, parameters, and flow data collection locations will be determined by both Parties and samples will be collected in accordance with both Parties' Monitoring Plans. Every effort will be made to establish locations and parameters that align with both Parties' Monitoring Plans.

b. All analytical results, in-situ data, and flow monitoring data will be reported within thirty (30) days of sample receipt. A preliminary report of completed results prior to thirty (30) days can be issued to the County or Town. Analytical results for microbiological parameters are typically available forty-eight (48) hours after sample receipt and will be given to both parties thereafter. All water quality data will be conveyed to both Parties via email, unless otherwise requested in writing by the requesting Party.

c. Neither Party will incur any fees to the other in regards to this joint monitoring plan.

d. The Town will sample MRR02 in the May River Watershed (Cahill's outfall site located off of Highway 46) at the location and parameters outlined in the County's Monitoring and Assessment Plan for TMDL and Impaired Waters. This site will be sampled each quarter for one wet and one dry weather event to meet both the Town's and County's MS4 Monitoring and Assessment Program (as stated in subsection 4(a) above).

e. The County will sample the OKW3 in the Colleton River watershed at the locations and parameters outlined in the County's Monitoring and Assessment Plan for TMDL and Impaired Waters. These sites will be sampled each quarter for one wet weather and one dry weather event. This schedule and selection of parameters meet both the Town's and County's MS4 Monitoring and Assessment Programs (as stated in subsection 4(a) above).

f. The County will sample the NRW01 in the New River watershed at the locations outlined in the County's Monitoring and Assessment Plan for TMDL and Impaired Waters. The County will monitor for Enterococcus and Mercury, the current

impairments identified by SCDHEC on the New River. This site will be sampled each quarter for one wet weather and one dry weather event. This schedule and selection of parameters meet both the Town's and County's MS4 Monitoring and Assessment Programs (as stated in subsection 4(a) above).

g. All water quality data collected by either Party related to or for the New, May and Colleton Rivers watersheds will be shared.

**5. Miscellaneous.**

a. Waiver. In the event that any agreement contained herein should be breached by either party and thereafter waived by either party, such waiver shall be limited to the particular breach so waived and shall not be deemed to waive any other breach hereunder.

b. Amendments. Except as otherwise provided herein, this Agreement may not be amended, changed, modified or altered without the prior written consent of both Parties hereto.

c. Severability. In the event that any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provisions hereof.

d. Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

e. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of South Carolina.

f. Captions. The captions or headings herein are for convenience only and in no way define, limit or describe the scope or intent of any provision or sections of this Agreement.

g. No Partnership. The Parties hereto intend only to provide for the provision of the services described herein and affirmatively state that no master-servant, principal-agent, employer-employee relationship is created by this Agreement. No employee, volunteer, contractor, agent, or subagent, shall be considered an employee or agent of the other party for any purpose whatsoever, and none shall have any status, right or benefit of employment with the other.

h. No Third Party Beneficiaries. The Parties hereto affirmatively represent that this Agreement is made solely for the benefit of the County and the Town and is not for the benefit of any third party who is not a signature party hereto. No party other than the signature parties hereto shall have any enforceable rights hereunder, or have any right to the enforcement hereof, or any claim for damages as a result of any alleged breach hereof.

**6. Term.** The term of this Agreement shall be from the latest date of execution for three (3) years. The Agreement will be reviewed by the County and Town annually to determine funding availability for the upcoming year. This Agreement can be extended for additional cycles upon the mutual agreement of the Parties.

**7. Termination for Convenience.** The County and the Town shall have the right to terminate this Agreement for convenience upon 60 days written notice.

**8. Notice.** All notices required to be given under the terms of this Agreement shall be in writing and either (i) served personally during regular business hours; (ii) served by e-mail; or, (iii) served by certified or registered mail, return receipt requested, properly addressed with postage prepaid. Notices upon the Parties shall be served as follows:

TO THE TOWN:                      Town of Bluffton Engineering Department  
   Attn: Watershed Management Division Director  
   Post Office Box 386  
   Bluffton, South Carolina 29910  
   E-Mail: [kjones@townofbluffton.com](mailto:kjones@townofbluffton.com)

TO THE COUNTY:                      Beaufort County, South Carolina  
   Attn: Stormwater Manager  
   Post Office Drawer 1228  
   Beaufort, South Carolina 29902  
   E-Mail: [elarson@bcgov.net](mailto:elarson@bcgov.net)

*[Remainder of Page Intentionally Omitted. Signature Page(s) and Exhibit(s) to Follow.]*

**IN WITNESS WHEREOF**, the Parties hereto have affixed their signature hereto the date first written hereinabove.

**BEAUFORT COUNTY, SOUTH CAROLINA    TOWN OF BLUFFTON**

By: \_\_\_\_\_  
Name: Gary Kubic  
Its: County Administrator  
Date \_\_\_\_\_

By \_\_\_\_\_  
Name: Marc Orlando  
Its: Town Manager  
Date \_\_\_\_\_

## SEWER & WATER

1. Buck Island-Simmons ville Sewer and Sidewalks (Phase 3): Complete
  - Sewer - Close out of sewer facilities is complete. Grant has been closed.
  - Sidewalk – Construction is complete.
  
2. Buck Island-Simmons ville Sewer (Phase 4): Construction Phase
  - Contractor is in the process of testing for the acceptance by BJWSA of the main line sewer.
  - As a result of the as-built review, contractor was required to remove and reinstall the service line at the end of Possum Point Lane.
  - As-builts have been revised and were resubmitted on 4/20/17.
  - Next Steps:
    - o Obtain Permit to Operate from DHEC for mainline, which will allow us to connect the homes to the sewer.
  
3. Buck Island-Simmons ville Sewer (Phases 5): Engineered Design Phase
  - Received verbal approval from OCRM on revised Notice of Intent
  - Requested plans and original signatures on application to finalize permit.
  - Received DHEC permit to construct for water and sewer on 3/24/17.
  - Received SCDOT Encroachment Permit 3/27/17.
  - Received and reviewing easement plats.
  - Next Steps:
    - Contract to be executed with Appraiser.
      - o Appraisals of Easements.
      - o Resolution of Just Compensation for acquisition of easements to Town Council in June.
      - o Schedule stakeholders meeting.
      - o Finalize the home connection process.
  
4. Jason Street Sanitary Sewer: Engineered Design Phase
  - SCDOT issued the encroachment permit on 4/3/17.
  - Plans were revised to reflect earlier discussion with SCDOT. Primary change was to shift mainline in Whispering Pines.
  - All hands construction meeting held at BJWSA on 4/6/17 to address items in the encroachment permit.
  - On 4/12/17 Staff distributed flyers to all residents in Spanish and English to notify them of the upcoming construction.
  - Held erosion control preconstruction meeting at 1264 MRR with Watershed Management, BJWSA, and contractor.
  - Construction started on 4/14/17 at the intersection of Able St. and Whispering Pines.
  - Met with or talked to owners of five of the six properties on Kerby Lane. They are all willing to work with us to provide easements for construction.
  - Next Steps:
    - o Finalize easement acquisition on Kerby Lane
    - o Finalize the home connection process.

WATERSHED MANAGEMENT - Projects

1. Stoney Creek Wetlands Restoration: Preliminary Design Phase
  - Final Summary Memo including conceptual design options are complete.
  - Staff, design consultant and property owners met onsite to review the conceptual designs on 1/13/17.
  - Property owners have released Staff to move forward with preliminary design which will be complete by 5/30/17.
  - Next Steps:
    - o Obtain easement based on preliminary design.
  
2. 319 Grant Phase 2 (Pine Ridge) - Closeout Phase
  - Staff received a 319 Grant amendment to extend the grant deadline to 1/30/17 and reallocate unspent funds. The remaining 319 Grant Phase 2 funds were reallocated to purchase engineered bacteria removal media filter socks to be installed in the wetland ditch downstream from the New Riverside Pond to maintain bacteria removal efficiency, and to install floating wetlands within New Riverside Pond.
  - Pine Ridge reuse irrigation BMP retrofit complete.
  - Grant period closed and final invoice submitted.
  - 319 Grant Final Technical Report and Closeout Budget Report submitted to SCDHEC.
  - Next Steps:
    - o Install engineered bacteria removal filter socks.
    - o Install floating island wetlands in New Riverside Pond scheduled 5/18/17.
    - o Provide floating island wetlands and aid in planting and installation to interested communities within the May River watershed.
  
3. 319 Grant Phase 3 (May River Preserve Pond)
  - SCDHEC notified staff that the EPA has approved the grant application and the grant of \$231,350 has been awarded.
  - After receiving property access approval, pre-project water quality and flow monitoring has commenced.
  - The grant contract has been approved by the EPA and executed by the Town.
  - Staff obtained verbal agreement from adjacent parcel property owner for a construction and maintenance easement.
  - Request for Qualifications for design, permitting and construction services submittals received 3/7/17. Seven firms submitted, four were short listed and interviews are complete.
  - Next Steps:
    - o Contract(s) with Engineering consulting firm(s) for project design and permitting anticipated in early May.
    - o Obtain easements for construction and maintenance from property owner and adjacent parcel property owner once preliminary design is complete.
    - o Public Education/Outreach Session held with May River Preserve property owners on 4/24/17.

Watershed Management - Activities

- April Data Collection –
  - o Eighteen in-stream flow/velocity measurements collected at sampling locations in the May River Watershed.
  - o Pre-project monitoring for multiple parameters conducted bi-monthly at four sites associated with the 319 Grant Phase 3 - May River Preserve Project.
  - o Staff has completed GPS collections of the stormwater infrastructure data throughout Old Town Bluffton.
  - o Watershed Management Division Staff continued to conduct water quality sampling in drainages leading to the May River.
- Microbial Source Tracking
  - o Watershed Management Division Staff pulled 31 Microbial Source Tracking (MST) samples throughout Old Town Bluffton and the Headwaters of the May River. Town staff has coordinated with SCDHEC to pull MST samples at the same time as the state's routine shellfish harvesting water quality sampling. Staff will continue to pull MST samples on a monthly basis. Watershed Management Division Staff has continued to communicate with partners, distribute advertising, assist the PIO with press information, and answer volunteer inquiries for the April 22nd May River Cleanup.
- Watershed Management Division Staff provided educational programs for all kindergarten classes at River Ridge Academy on 4/21/17.
- Watershed Management Division Staff attended the monthly Keep Beaufort County Beautiful meeting on 4/6/17.
- Watershed Management Division Staff is developing an IGA with Beaufort County to meet MS4 permit requirements and updating the MOU with the University of South Carolina Beaufort (USCB) in support of the Water Quality Monitoring Laboratory.

**RESOLUTION 2017 / \_\_\_\_**

**A RESOLUTION AUTHORIZING THE BEAUFORT COUNTY ADMINISTRATOR AND BEAUFORT COUNTY STORM WATER UTILITY STAFF TO PREPARE AND SUBMIT AN AMENDMENT TO AN APPLICATION FOR NPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM REGULATED SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

**WHEREAS**, the Beaufort County Stormwater Utility was created in 2001 with the mission to address the stormwater needs of the County while protecting its water resources; and

**WHEREAS**, the United States Environmental Protection Agency (hereinafter, "EPA") promulgated the Clean Water Act, 33 U.S.C. Section 1251 et. seq., in 1972 (hereinafter, "CWA"), amended by the Water Quality Act, P.L. 100-4 and subsequent regulations of 1987, creating the National Pollutant Discharge Elimination System (hereinafter, "NPDES"); and

**WHEREAS**, the State of South Carolina Department of Health and Environmental Control (hereinafter, "DHEC") promulgated the South Carolina Pollution Control Act, S.C. Code Sections 48-1-10 et. seq., in 1976 in response to the CWA, creating the NPDES General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems (hereinafter, "MSM4"); and

**WHEREAS**, DHEC Bureau of Water has promulgated the NPDES General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems (MSM4), SCR030000; and

**WHEREAS**, on June 4, 2014, in accordance with the South Carolina Water Pollution Control Permits Regulations 61-9 Section 122.32 (a)(1), DHEC designated Beaufort County, South Carolina as a small MS4 for permitting; and

**WHEREAS**, S.C.R. 61-9 requires the owners and operators of MS4 obtain a NPDES permit and develop and implement a program to minimize the discharge of pollutants through and from the MS4 into waters of the United States; and

**WHEREAS**, on November 19, 2014, the County submitted a Notice of Intent (hereinafter, "NOI") to be covered by General permit SCR030000 and a Stormwater Management Program (hereinafter, "SWMP") to DHEC; and

**WHEREAS**, on December 1, 2015, the County's MS4 permit became effective for the Urbanized Area defined by the U.S. Census and DHEC and illustrated within the NOI; and

**WHEREAS**, on April 3, 2017, following a meeting with DHEC and the County to define an implementation schedule for the MS4 permit, DHEC recommended to the County that the NOI be amended to "permit by rule", meaning that the County would be permitted for all

unincorporated areas of Beaufort County's political jurisdiction, to align with local ordinances and programs that have been created to implement the MS4 program county-wide; and

**WHEREAS**, the County, which desires to implement these new ordinances and programs county-wide with the goal of protecting our waters, improving water quality, and being good stewards of the environment, is agreeable to the "permit by rule" option.

**NOW THEREFORE, BE IT RESOLVED** that Beaufort County Council, duly assembled, hereby authorizes the County Administrator and Stormwater Utility Staff to prepare and submit such an amendment consistent with this resolution of the NOI to South Carolina Department of Health and Environmental Control Bureau of Water.

Adopted this 26th day of June, 2017.

**BEAUFORT COUNTY COUNCIL**

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D. Paul Sommerville, Chairman

**APPROVED AS TO FORM:**

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Thomas Keaveny, County Attorney

**ATTEST:**

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Ashley Bennett, Clerk to Council



## MEMORANDUM

Date: May 17, 2017

To: Stormwater Management Utility Board

From: David Wilhelm, P. E., Public Works Director

Re: **Maintenance Project Report**

This report will cover four minor projects. The Project Summary Reports are attached.

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

- **Royal Pines Boulevard – Lady’s Island (SWUD 7):** This project consisted of installing 180 L.F. of channel pipe, strawmat, rip rap and hydroseeding for erosion control. The total cost was **\$11,871.90**.
- **Marsh Drive – Lady’s Island (SWUD 7):** This project improved 160 feet of drainage system. The project scope included clearing 154 feet of workshelf, cleaning out 1 catch basin, 154 feet of channel, jetting 154 feet of channel pipe and hydroseeding for erosion control. The total cost was **\$5,156.84**.
- **Lake Linden Drive – Bluffton (SWUD 9):** This project consisted of repairing a sinkhole. The total cost of this effort was **\$4,594.60**.
- **Oakhurst Road – Sheldon (SWUD 5):** This project improved 1,470 feet. This project consisted of cleaning out 1,470 feet of channel. The total cost was **\$4,001.64**.



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

**Project Summary:** Royal Pines Boulevard

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Duration:** 1/31/17 - 2/14/17

Project improved 180 L.F. of drainage system. Installed 180 L.F. of channel pipe, strawmat, rip rap and hydroseeded for erosion control. Jetted (1) crossline pipe.

<b>2017-005 / Royal Pines Boulevard</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	\$818.40	\$164.29	\$44.55	\$0.00	\$498.60	\$1,525.84
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
BKFILL / Back Fill	15.0	\$336.25	\$88.74	\$11.88	\$0.00	\$214.65	\$651.52
CLPJT / Crossline Pipe - Jetted	4.0	\$89.12	\$17.36	\$8.52	\$0.00	\$57.36	\$172.36
CPI / Channel Pipe - Installation	40.0	\$871.10	\$135.08	\$1,252.81	\$0.00	\$429.30	\$2,688.29
DLO / Ditch Layout	20.0	\$441.55	\$47.10	\$16.29	\$0.00	\$280.80	\$785.74
HAUL / Hauling	57.0	\$1,224.54	\$536.94	\$925.03	\$0.00	\$605.64	\$3,292.15
HYDR / Hydroseeding	20.0	\$439.50	\$30.44	\$370.70	\$0.00	\$199.30	\$1,039.94
STAGING / Staging Materials/Equipment	6.0	\$134.50	\$7.20	\$7.92	\$0.00	\$85.86	\$235.48
UTLOC / Utility locates	1.0	\$24.70	\$0.00	\$0.00	\$0.00	\$13.23	\$37.93
WSDR / Workshelf - Dressed	30.0	\$672.50	\$223.45	\$99.04	\$0.00	\$429.30	\$1,424.29
<b>2017-005 / Royal Pines Boulevard</b>	<b>233.5</b>	<b>\$5,063.91</b>	<b>\$1,250.60</b>	<b>\$2,736.74</b>	<b>\$0.00</b>	<b>\$2,820.65</b>	<b>\$11,871.90</b>
<b>Sub Total</b>							
<b>Grand Total</b>	<b>233.5</b>	<b>\$5,063.91</b>	<b>\$1,250.60</b>	<b>\$2,736.74</b>	<b>\$0.00</b>	<b>\$2,820.65</b>	<b>\$11,871.90</b>

Before



During



After





Project: Royal Pines Boulevard

Activity: Routine/ Preventive Maintenance

Project #: 2017-005

Township/SW Dist: Ladys Island/7

Completed: February 2017

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 = 420 feet



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

**Project Summary:** Marsh Drive

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 154 L.F. of drainage system. Grubbed and cleared 75 L.F. of workshelf. Cleaned out (1) catch basin and 154 L.F. of channel. Jetted 154 L.F. of channel pipe. Hydroseeded for erosion control.

**Duration:** 2/27/17 - 3/1/17

<b>2017-535 / Marsh Drive</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
CBCO / Catch basin - clean out	12.0	\$267.36	\$52.08	\$15.00	\$0.00	\$172.08	\$506.52
CCO / Channel - cleaned out	70.0	\$1,667.64	\$325.62	\$171.24	\$0.00	\$988.02	\$3,152.52
HAUL / Hauling	21.0	\$467.67	\$197.82	\$352.59	\$0.00	\$302.82	\$1,320.90
PRRECON / Project Reconnaissance	4.0	\$90.08	\$7.20	\$7.92	\$0.00	\$53.34	\$158.54
<b>2017-535 / Marsh Drive Sub Total</b>	<b>107.5</b>	<b>\$2,504.50</b>	<b>\$582.72</b>	<b>\$546.75</b>	<b>\$0.00</b>	<b>\$1,522.87</b>	<b>\$5,156.84</b>
<b>Grand Total</b>	<b>107.5</b>	<b>\$2,504.50</b>	<b>\$582.72</b>	<b>\$546.75</b>	<b>\$0.00</b>	<b>\$1,522.87</b>	<b>\$5,156.84</b>

Before

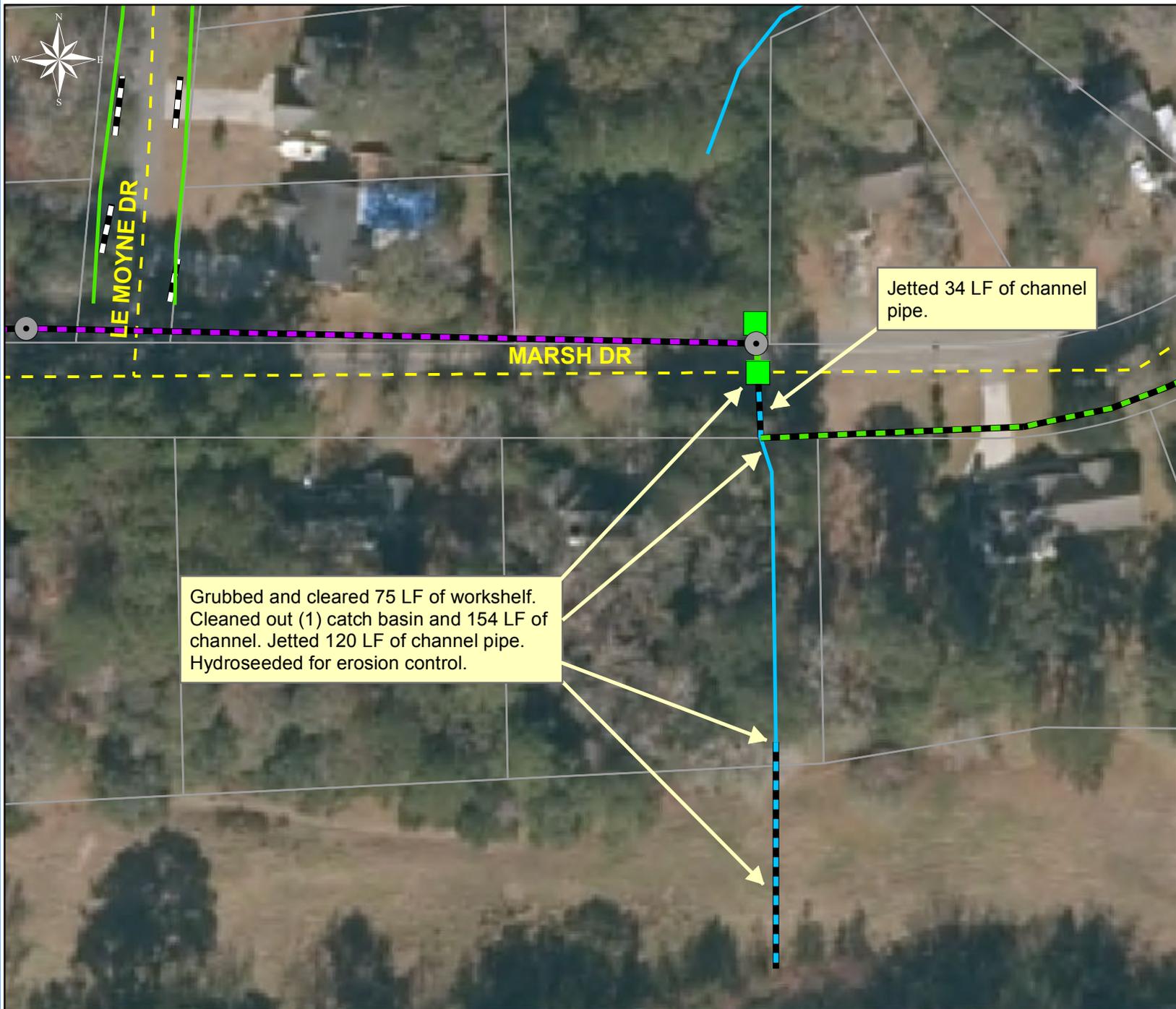


During



After





Project: Marsh Drive

Activity: Routine/ Preventive Maintenance

Project #: 2017-535

Township/SW Dist: Ladys Island/7

Completed: March 2017

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 = 73 feet



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

**Project Summary:** Lake Linden Drive

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Repaired sinkhole.

**Duration:** 2/16/17 - 2/27/17

<b>2017-534 / Lake Linden Drive</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>
APREP / Asphalt Preparation	30.0	\$656.30	\$392.88	\$40.99	\$0.00	\$419.10	\$1,509.27
AUDIT / Audit Project	0.5	\$11.75	\$0.00	\$0.00	\$0.00	\$6.62	\$18.36
HAUL / Hauling	10.0	\$247.00	\$94.20	\$248.31	\$0.00	\$164.70	\$754.21
SD / Soft Digging	14.0	\$311.92	\$60.76	\$40.81	\$0.00	\$200.76	\$614.25
SR / Sinkhole repair	28.0	\$674.31	\$46.40	\$561.32	\$0.00	\$397.53	\$1,679.56
UTLOC / Utility locates	0.5	\$12.35	\$0.00	\$0.00	\$0.00	\$6.62	\$18.97
<b>2017-534 / Lake Linden Drive Sub Total</b>	<b>83.0</b>	<b>\$1,913.63</b>	<b>\$594.24</b>	<b>\$891.42</b>	<b>\$0.00</b>	<b>\$1,195.32</b>	<b>\$4,594.60</b>
<b>Grand Total</b>	<b>83.0</b>	<b>\$1,913.63</b>	<b>\$594.24</b>	<b>\$891.42</b>	<b>\$0.00</b>	<b>\$1,195.32</b>	<b>\$4,594.60</b>

Before



During



After





Project: Lake Linden Drive

Activity: Routine/  
Preventive  
Maintenance

Project #:  
2017-534

Township/SW Dist:  
Bluffton/9

Completed:  
February 2017

**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: 04/26/17  
File: C:\project summaries map\Lake Linden Drive\_2017-534



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

**Project Summary:** Oakhurst Road Channel #1

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Duration:** 3/6/17 - 3/7/17

Project improved 1,470 L.F. of drainage system. Cleaned out 1,470 L.F. of channel.

**2017-539 / Oakhurst Road Channel #1**

	<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	70.0	\$1,710.80	\$301.04	\$63.95	\$0.00	\$999.30	\$3,075.09
HAUL / Hauling	18.0	\$400.86	\$169.56	\$78.21	\$0.00	\$259.56	\$908.19
<b>2017-539 / Oakhurst Road Channel #1 Sub Total</b>	<b>88.5</b>	<b>\$2,123.41</b>	<b>\$470.60</b>	<b>\$142.16</b>	<b>\$0.00</b>	<b>\$1,265.48</b>	<b>\$4,001.64</b>
 <b>Grand Total</b>	 <b>88.5</b>	 <b>\$2,123.41</b>	 <b>\$470.60</b>	 <b>\$142.16</b>	 <b>\$0.00</b>	 <b>\$1,265.48</b>	 <b>\$4,001.64</b>

Before



During



After



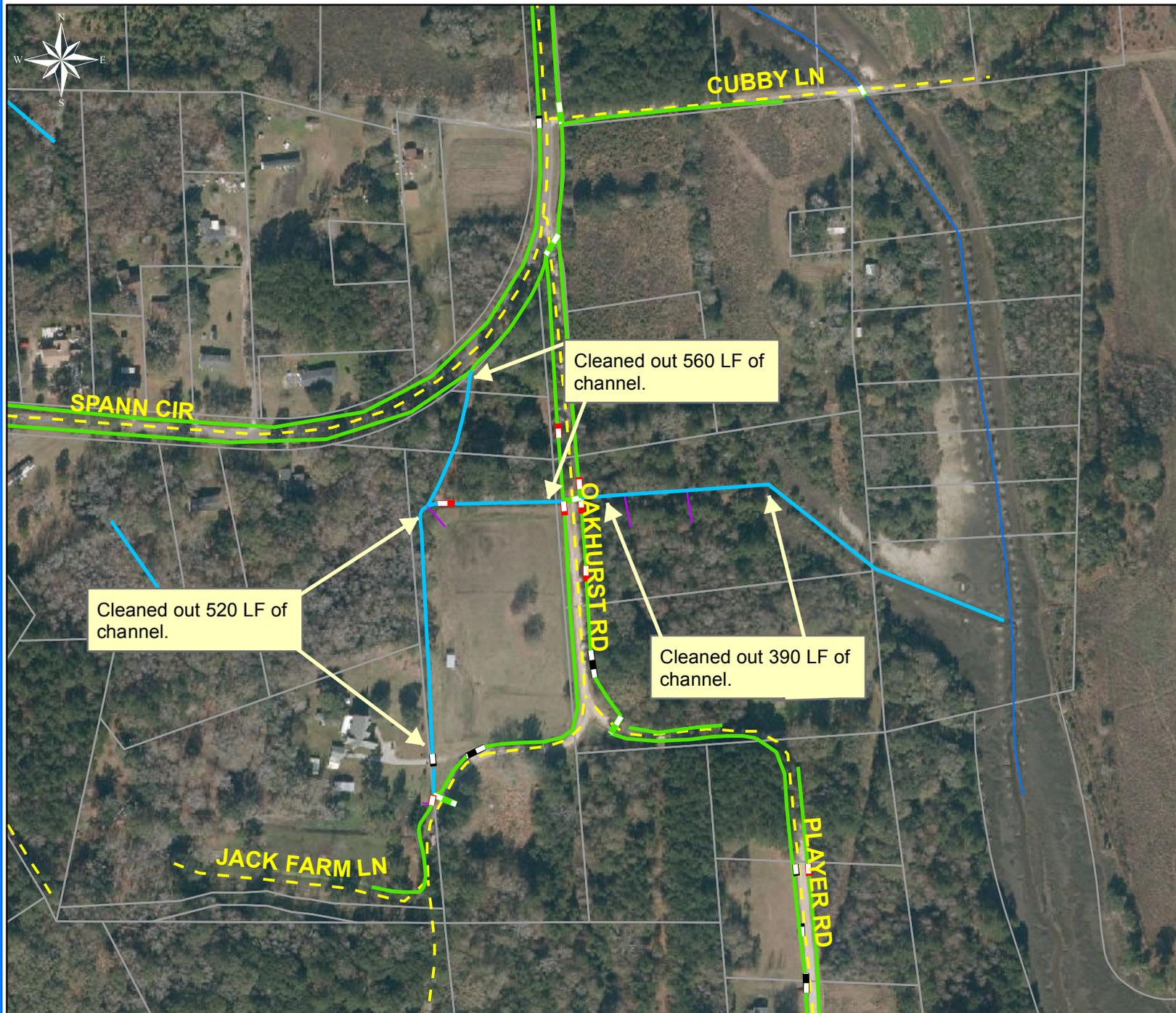
Project: Oakhurst Road Channel #1

Activity: Routine/  
Preventive  
Maintenance

Project #:  
2017-539

Township/SW Dist:  
Sheldon/5

Completed:  
March 2017



### 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 70 140 280 420 560  
Feet

1 inch = 290 feet

Prepared By: BC Stormwater Management Utility

Date Print: 04/26/17

File: C:\project summaries map\Oakhurst Road Channel #1\_2017-539

# Beaufort County Public Works' Stormwater Utility

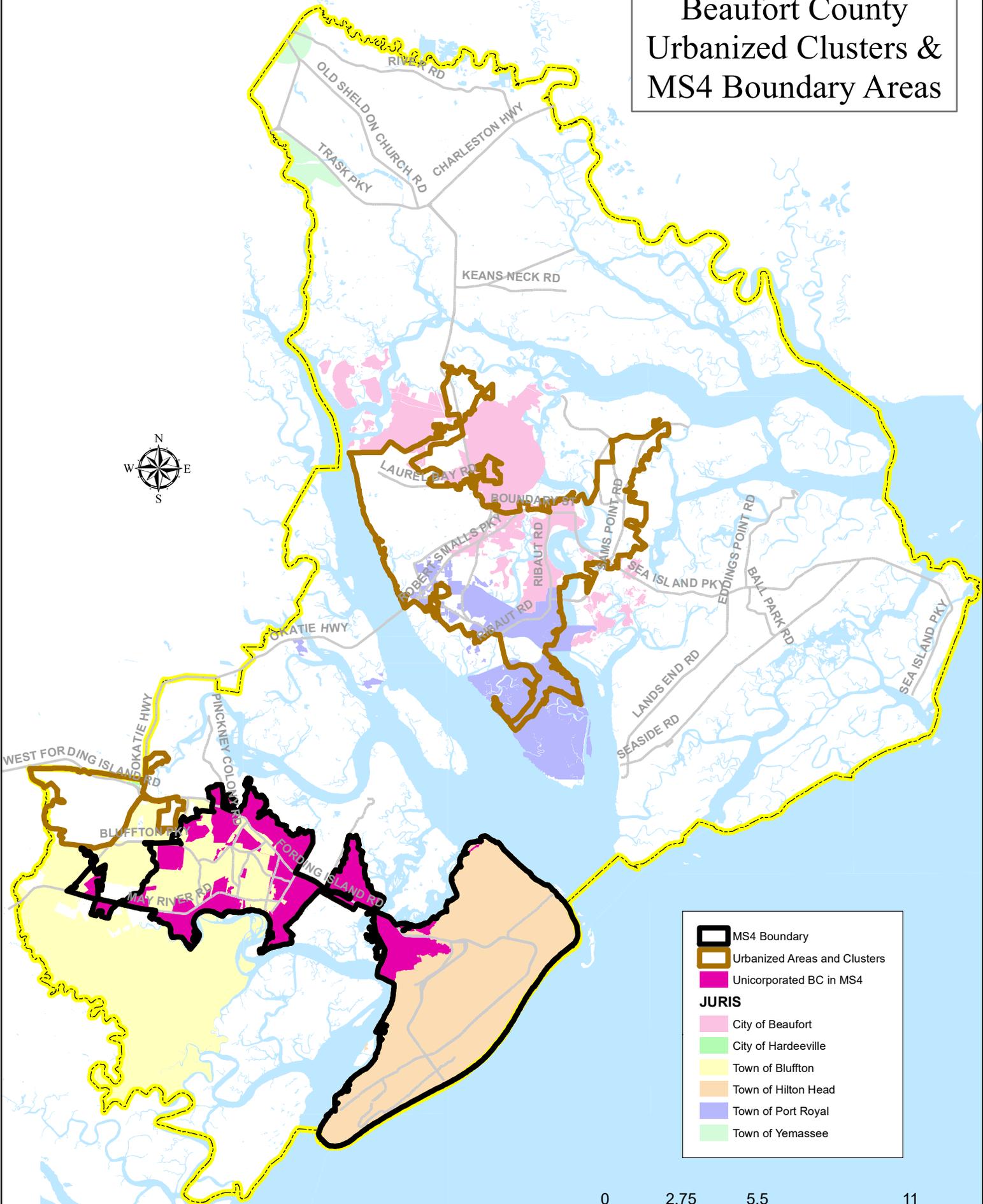
## FY 2016 Actuals

### Revenue/Reserve Utilization

March 17, 2017

	FY 2015 Audited Actuals	Approved Budget	FY 2016 Unaudited Actuals	Variance	
<b>Revenue</b>					
Admin SWU Fees	\$ 316,363	\$ 357,244	\$ 376,261	\$ 19,017	\$383,529 - collected for TY2015 per municipalities recon as of 103016
Utility Activities SWU Fees	2,809,244	5,197,786	5,015,410	(182,376)	1st year of new rate structure. Effort to clean up source data.
<b>Total Revenue from SWU Fees</b>	<b>3,125,606</b>	<b>5,555,030</b>	<b>5,391,671</b>	<b>(163,359)</b>	\$5,477,586 - collected for TY2015 per municipalities recon as of 103016
Reimbursable Projects	21,607	2,500	-	(2,500)	\$6,585 - TCL Causeway invoiced in FY16 but collected in FY17
Interest	864	2,771	8,576	5,805	
Other	1,079	-	1,995	1,995	
Cost-Share for Joint Efforts	85,286	273,351	1,492	(271,859)	\$175,590 invoiced in FY16 but collected in FY17
<b>Reserve Utilization</b>					
Capital Improvement Fund	12,365	394,809	104,000	(290,809)	
	<b>\$ 2,679,178</b>	<b>\$ 6,228,461</b>	<b>\$ 5,507,733</b>	<b>\$ (720,728)</b>	
<b>Efforts (Expenditures)</b>					
	FY 2015		FY 2016		
Admin	\$ 311,733	\$ 360,495	\$ 410,377	\$ 49,882	\$22,081 - Professional Services (Billing data edits rollover remaining balance)
<b>Regulation</b>					\$22,750 - Aerial Photos (12,500 budgeted the previous year)
UA/Control Reg	176,209	445,242	249,237	(196,006)	\$39,877 - Personnel allocations correction
UA/WQ Monitoring	135,971	105,000	95,543	(9,457)	\$358K - Net
UA/Public Information/Outreach	16,678	70,000	48,589	(21,411)	
<i>Utility Activities Subtotal</i>	328,858	620,242	393,369	(226,873)	\$90K - USCB Lab service \$5,543 - USCB bacteria testing
<b>Utility Activities</b>					
UA/Annual Maintenance	1,510,488	2,908,833	2,458,195	(450,638)	-\$2,770 - Revenue from pond conf
UA/Drainage Enhancement	3,765	39,000	25,200	(13,800)	\$30.5K - BSWCD \$20K - Clemson Ext
UA/Additional Studies	97,363	545,000	298,485	(246,515)	
<i>Utility Activities Subtotal</i>	1,611,616	3,492,833	2,781,880	(710,954)	\$9,573 - Mint Farm \$10,151 - Turtle Lane \$3,750 - Salem Drive East
<b>Capital Improvement Fund</b>					
Okatie East Retrofit	5,723	-	1,726	1,726	\$20,000 - Salinity Study
Hwy 278 Retrofit	64,052	143,945	60,734	(83,211)	\$65,577 - Rate Study
Okatie West/SC 170 Retrofit	37,715	315,000	31,538	(283,462)	\$23,594 - Billing Support
Battery Creek Upper Retrofit	7,367	117,604	26,712	(90,892)	\$25,626 - Credit Policy
Buckingham Plantation	9,865	400,000	-	(400,000)	\$31,081 - BMP Manual
Factory Creek Phase I	-	-	9,671	9,671	\$108,811 - SMMP Update
Factory Creek Phase II	-	-	9,888	9,888	\$23,796 - Plantation Business Park
<i>Reserve Utilization Subtotal</i>	426,971	986,049	120,710	(865,340)	50250011
<b>Capital Improvement Fund</b>					50250011
Surplus (Deficit)		-	104,000	104,000	50250011
<b>Utility Operating Fund</b>					
Reserve Fund		-	250,000	250,000	<b>Regualtion</b> \$31,212 - New SUV
Surplus (Deficit)		768,841	610,684	(158,157)	<b>Infrastructure</b> Land Acquisition \$164,619 - New Leaf
<b>Efforts Total</b>	<b>\$ 2,679,178</b>	<b>\$ 6,228,461</b>	<b>\$ 5,507,733</b>	<b>\$ (720,728)</b>	\$155,694 - Lowcountry Evergreen \$85,000 - Trailer Mounted CCTV \$304,170 - (2) Replacement Dump Trucks \$65,812 - (2) Replacement Pickup Trucks \$30,207 - New Pickup Truck ***** \$45K - capital equip purchase cost savings
<b>Change in Capital Assets On Balance Sheet</b>					
	FY 2015		FY 2016		
Capital Assets Additions	161,015	611,290	836,714	225,424	
Depreciation	(187,973)	248,481	177,626	(70,855)	
	<b>\$ (26,958)</b>				

# Beaufort County Urbanized Clusters & MS4 Boundary Areas



	MS4 Boundary
	Urbanized Areas and Clusters
	Unincorporated BC in MS4
<b>JURIS</b>	
	City of Beaufort
	City of Hardeeville
	Town of Bluffton
	Town of Hilton Head
	Town of Port Royal
	Town of Yemassee



Comparison of Stormwater Management Design Standards in Beaufort and Jasper Counties

Tuesday, November 01, 2016

	Peak Control	Water Quality Control	Runoff Volume Control	Area of Disturbance Threshold	Impervious Cover Control	Redevelopment
County	25 yr Storm	Nit., Phos., Bacteria	1.95" retention	All projects, regardless of size (including single-family) "All proposed development and redevelopment shall comply with stormwater volume and pollution control requirements"	10% effective area	Redevelopment treated the same as new development. Redeveloped sites that do not have existing detention/retention facilities must retrofit entire site to meet current performance standards.
ToHHI	25 yr Storm	No std. <sup>1</sup>	1" retention <sup>2</sup>	0.5 acres	No Std.* (Planning/Zoning regulations limit max impervious surface)	Redevelopment treated the same as new development, accounting for existing facilities.
ToB <sup>3</sup>	2, 10, 25 yr Storm	Phos. Only (under 20 acres) <sup>10</sup> . Sites over 20 acres must model pre and post development & identify pollutants of concern based on land use.	1" infiltration <sup>3</sup> ; pre-development volume = post-development volume but return period not defined.	All projects, regardless of size.	No Std., (Disconnect impervious to max extent practicable)	Redevelopment treated the same as new development
CoB	25 yr Storm	Nit., Phos., Bacteria <sup>4</sup>	1.95" retention <sup>5</sup>	All projects, regardless of size (including single-family) "All proposed development and redevelopment shall comply with stormwater volume and pollution control requirements"	No Std.	Lesser standards if less than a 20% increase in impervious cover.
Jasper	2, 10, 25 yr Storm 100year accommodated with no harm	80% TSS, 30% TN, 60%Bacteria load reduction	85th percentile event	Same as DHEC	No Std.	No specific rules
Hardeeville <sup>11</sup>	2, 25, 50 & 100 yr Storm pre-post	Says see Storm Drainage and Design Standards (Multiple attempts to obtain data from City staff were unsuccessful.)	Not mentioned. May be in Storm Drainage and Design Standards. (Multiple attempts to obtain data from City staff were unsuccessful.)	All Projects. "...any construction or development affecting the quantity and/or quality of stormwater runoff shall be in accordance with a Stormwater Management Plan approved by the city"	Not mentioned	No specific rules
Ridgeland	No Std.	No Std.	No Std.	No Std.	No Std.	No Std.
ToPR	25 yr Storm	Nit., Phos., Bacteria	1.95" retention <sup>9</sup>	All projects, regardless of size (including single-family) "All proposed development and redevelopment shall comply with stormwater volume and pollution control requirements"	No Std.	Redevelopment must address runoff volume increases to match pre-development volumes only
DHEC <sup>6,7</sup>	2- and 10-year, 24-hour storm	No std.	½ inch of runoff from the entire site. First ½" from the entire site or the first 1" from the built upon area, whichever is greater. Projects within 1000' of shellfish beds retain the first 1.5"	1 acre, if not within 1/2 mile of coastal water body  All projects, regardless of size, within ½ mile of a receiving water body in the coastal zone	No Std.	No specific rules on redevelopment. In general considers "pre-development" to mean pre-1992 (when state regs were adopted)

<sup>1</sup> Reference to the County's BMP manual suggests the water quality standard is the same if a BMP is used on a project.

<sup>2</sup> Retention volume dissipated by infiltration, evaporation, or other methods.

<sup>3</sup> 1" infiltration required for Class A and B soils only.

<sup>4</sup> Pollutant removal is exempt in residential zones and historic areas

<sup>5</sup> Redevelopment must address runoff volume increases from new impervious surfaces only

<sup>6</sup> For the purpose of redevelopment, DHEC has typically considered 'pre-development' to be the state of the site prior to 1992 (when state regs kicked in). DHEC requirements apply to all redevelopment where initial development occurred after 1992.

<sup>7</sup> NPDES MS4 permit imposes requirement MS4s to improve pre-development hydrology on redeveloped sites.

<sup>8</sup> Bluffton mandates all projects must have minimum of 3 BMPs: 1 wet detention, 1 vegetative, and 1 filter/infiltration

<sup>9</sup> Redevelopment must address runoff volume increases to match pre-development volumes only

<sup>10</sup> Assumes all other pollutants met with phos. Control

<sup>11</sup> Taken from Municipal Zoning and Development Ordinance, 3/20/08 for Hardeeville SC



BEAUFORT COUNTY  
STORMWATER MANAGEMENT UTILITY BOARD AGENDA  
Wednesday, June 21, 2017  
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 – May 17, 2017 ([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 – Eric Larson, P.E. ([backup](#))
  - I. Maintenance Projects Report – David Wilhelm ([backup](#))
  - J. Financial Report – Chanel Lewis ([backup](#))
5. UNFINISHED BUSINESS
6. NEW BUSINESS
  - A. Special Presentation: Town of HHI – EWP Efforts
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
  - A. July 19, 2017 ([backup](#))
9. ADJOURNMENT