



BEAUFORT COUNTY  
STORMWATER MANAGEMENT UTILITY BOARD AGENDA  
Wednesday, February 24, 2016  
2:00 p.m.  
Executive Conference Room 170, 100 Ribaut Road, Beaufort, SC  
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 – January 27, 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, P.E. ([backup](#))
  - J. Financial Report
5. UNFINISHED BUSINESS
  - A. Factory Creek Watershed Site Phase I Discussion
  - B. USCB Lab MOU Update – Eric Larson, P.E. ([backup](#))
  - C. Presentation of the Plantation Business Park Storm Sewer Assessment Report – Eric Larson, P.E. ([backup](#))
6. NEW BUSINESS
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
  - A. March 23, 2016 ([backup](#))
9. ADJOURNMENT



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

January 27, 2016 at 2:00 p.m. in Executive Conference Room 170, 100 Ribaut Rd., Beaufort, SC  
Draft 02/05/2016

### Board Members

#### Present

Don Smith  
Allyn Schneider  
William Bruggeman  
Larry Meisner  
Patrick Mitchell

#### Absent

Marc Feinberg  
James Fargher

### Ex-Officio Members

#### Present

Andy Kinghorn  
Scott Liggett  
Jeremy Ritchie

#### Absent

Van Willis

### Beaufort County Staff

Eric Larson  
David Wilhelm  
Carolyn Wallace  
Danny Polk  
Kevin Pitts  
Robert O' Quinn  
Patricia Wilson  
Alicia Holland  
Joshua Gruber

### Visitors

Tony Maglione, Applied Technology & Mgt.  
Lamar Taylor, City of Beaufort  
Reed Armstrong, Coastal Conservation League  
Neil Desai, City of Beaufort  
Jill Bolin, Academy Estates  
Richard Bolin, Academy Estates  
Bill Weiss, Low County Institute  
Patricia Dowling, Academy Estates  
Steve Borgianini, USCB  
Denise Parsick, Bft. Soil and Water Conservation Dist.  
Al Stokes, Waddell Mariculture Center, SCDNR  
Alice Howard, Beaufort County Council  
Joe Courtney, Academy Estates  
Marco Orlando, Academy Estates  
Alan Warren, USCB  
Al Segar, SCNDR  
Susan Orlando, Academy Estates  
Renée Murtagh, Academy Estates  
Paul Moore, Ward Edwards Engineering

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

- A. Agenda – The Agenda was approved and later amended to move the Financial Report (Item 4I) before Utility Update (Item 4A).
- B. December 16, 2015 Minutes - Approved.

### 2. Introductions – Completed.

### 3. Public Comment(s) – Mr. Richard Bolin representing Academy Estates asked if he could address the board about Factory Creek Watershed Site Phase I. The board agreed to add this to Unfinished Business after Factory Creek Watershed Site Phase II.

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/2016/012716.pdf>

**I. Financial Report** – Alicia Holland ([Backup](#))

*Fiscal Year 2015 Actuals* – Mrs. Alicia Holland handed out a draft copy of Fiscal Year 2015 Financial Report from an excerpt out of the County’s Comprehensive Annual Financial Report. Mrs. Holland discussed GASB 68 (Governmental Accounting Standards Board Number 68). Mrs. Holland stated that this is a new accounting pronouncement required to be implemented in FY15 and has a substantial effect on the net position of the Stormwater Utility, which is one of the County’s proprietary funds. Mrs. Holland pointed out on page 206 that the **Net Position, beginning, as originally reported** began on June 30<sup>th</sup> the end of FY14. The next line item is **change in accounting principle for pensions**. Ms. Holland noted that the nearly 1.9 million dollar reduction shown is not a cash transaction, but the reporting of a pension liability placed on the financial statements. Mrs. Holland also said that the next Stormwater meeting would include an up to date financial report on Fiscal Year 2016.

**A. Utility Update** – Eric Larson

*Utility Rate Study* – Mr. Eric Larson referred to an email which was included in the posted agenda. Mr. Larson’s email points out that the Auditor’s office has moved up the dead line for mailing out tax notices. He included a timeline for the County and the Municipalities to use as a guideline for submitting necessary documents prior to the July 1<sup>st</sup> deadline for the tax run. Mr. Larson stated that the County’s portion of the rate study is complete, but some of the Municipalities still need to provide the necessary data to the consultant in order to provide a final report. The Municipalities will have to decide if changes will be made to their billing structure as a result of the rate study. The County’s governmental agreements may be affected by the decisions of each Municipality. Mr. Scott Liggett expressed a concern for the Municipalities and their governing bodies to be able to accomplish the necessary tasks to meet the County’s deadlines. Mr. Larson responded that the Municipalities’ staff needs to express the urgency of taking action to their elected officials, even if the action is to do nothing at this time. Fiscal Year 2017 budget forecasts are affected by the decision of each Municipality.

*Credit Manual Update* – Mr. Larson reported that staff has negotiated a scope of services with ATM (Applied Technology and Management) for an update to the credit manual to reflect needed changes as a result of the rate structure change. The proposal has been signed and a Notice to Proceed has been issued with an anticipated completion date of April 1, 2016. Mr. Don Smith asked if major changes were expected. Mr. Larson replied that most of the changes will provide a credit for open marsh, salt marsh, and lands that are completely or partially under water.

*Stormwater Infrastructure Inspection Technician* – Mr. Danny Polk

Mr. Danny Polk introduced Robbie O’ Quinn as the new Stormwater Infrastructure Inspection Technician. His main responsibilities will include inventorying the stormwater infrastructure assets and help with water quality monitoring. Robbie worked for SCDNR and was born and raised in Beaufort.

**B. Monitoring Update** – Eric Larson

*USCB and County MOU for the Lab Services* – Staff is in the final stage of the draft which needs to be reviewed by Administration for approval before it can be presented to the board. A final draft is scheduled to be presented to the Board at the March meeting.

*Lab Update* – Mr. Larson included a letter from Dr. Alan Warren to County Administrator Gary Kubic on a comprehensive update of the Lab status.

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

*SWIC Meeting January 20, 2016* – Mr. Larson reported that the focus of the meeting was on public education and outreach. More information will be provided by Mrs. Rebecca Baker during the MS4 report. The next SWIC meeting will be February 10<sup>th</sup>. Meeting minutes are included on the posted agenda.

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

*Turtle Lane Paving on Lady's Island (Stormwater Add-On) (\$8,940 Budget)* – Mr. Larson stated that the stormwater construction is complete but an adjacent property owner is claiming impact. The Utility has engaged Andrews Engineering to provide field work to determine if the road being paved and stormwater improvements are associated with the property owner's complaint.

*Okatie West / SC 170 Widening Retrofit Land Purchase* – Mr. Larson said that the Utility is under contract with Ward Edwards Engineering. The kick off meeting was last month and the first reporting period for the 319 Grant ended December 31<sup>st</sup>. The first quarter report is being prepared with zero percent progress, but the design work is in the process and the first public meeting is being scheduled per grant compliance.

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

*Stormwater Management Plan (Master Plan) Update* – Mr. Larson reported the contract with Applied Technology and Management (ATM) was approved recently and that a kick off meeting with the SWIC members is scheduled for February 4, 2016.

**F. Regional Coordination** - Eric Larson

*Battery Creek Pond Funded by an EPA 319 Grant (\$132,609 Budget – County Portion)* – Mr. Larson and Mr. Neil Desai (City of Beaufort) informed the board that the project went out for bid Monday, January 25, 2016 and bids are due February 19, 2016.

*Pine Ridge Retrofit Project* – Mr. Jeremy Ritchie stated that the project is very close to beginning and once it is started it will move very quickly.

*City of Beaufort and SCDOT Partnership Projects* – Mr. Larson clarified to the board that Ward Edwards Engineering is providing the design, the County is supplying equipment and labor, SCDOT is providing funding for material, and the city is providing project management and design fees. The county is supporting this project because of County-owned property and BMPs in the project area. Mr. David Wilhelm is managing the County's portion of the project.

*Plantation Business Park Drainage Assessment* – Mr. Larson stated that the project has been delayed due to weather conditions impeding camera operations. Mr. Donald Smith asked what firm was providing consulting services. Mr. Larson replied that Ward Edwards Engineering was providing the infrastructure evaluation of the private development prior to the County assuming maintenance responsibilities. Mr. Danny Polk updated the board that the camera work is complete and Ward Edwards Engineering is evaluating the results. A

report should be available for the February meeting. Mr. Larry Meisner questioned if the County assuming private development infrastructure maintenance was common practice. Mr. Larson replied it was not common practice, but documentation from the development supports the original intent of the County assuming maintenance.

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

*Public Education* - Mrs. Rebecca Baker referred to her Public Education/Outreach calendar which is included in the posted agenda. The Stormwater Implementation Committee (SWIC) and Beaufort Soil and Water Conservation District (BSWCD) are gearing up for upcoming educational events.

*Public Outreach and Involvement* - Mrs. Baker displayed map locations for 50 stormdrain markers to be placed at each municipality. She also informed the board that public service announcements will be used to inform citizens of upcoming events and other educational opportunities. Digital and Vinyl Billboards will be used to inform and educate the public.

*USCB Lab* – Mrs. Baker said that sampling will transition to a fee based charge.

*Best Management Practices (BMP) Manual* - Mrs. Baker will be working with ATM to update the BMP Manual and she will include the board on decisions as the manual progresses.

*Staff Plan Review* – Mrs. Baker reminded the board that DHEC put out a statement in 2008 that if the owner of the permit is the same owner, then the permit can be extended and a new permit does not have to be issued. Mrs. Baker added that Sommersett Phase II, Walmart, and Oyster Bluff had plans approved. Mr. Smith questioned, “When the County issues a Stormwater Permit does it expire?” Mrs. Baker and Mr. Larson stated that the County falls under the state law and the permit can be extended, however, in December 2016, that law reverts back to prior permit requirements.

**H. Maintenance Projects Report – Mr. David Wilhelm**

Mr. David Wilhelm pointed out St. Paul’s Church Road/Josephine Drive, Old Salem Road-Driveway, Old Salem Road-Roadside and Thomas Sumter Street and Gator Lane as the four major projects included in his report. All projects are included in the posted agenda. Mr. Larry Meisner asked if the County was performing work on Joe Frasier Road. Mr. Wilhelm believes the County is performing work on Joe Frasier Road, but he is not sure of the specific location.

**5. Unfinished Business –**

- A.** Factory Creek Watershed Site Phase I – Mr. Larson reminded the board that the 2006 Master Plan identified Factory Creek Watershed in the Rock Springs Creek sub watershed as a need for a 16 percent bacteria reduction. A 2011 Retrofit Study of the existing watershed report identified a possible site based on location and size with an estimated cost of \$1.7 Million. That project is on the 10 year capital plan awaiting action. In late 2015, a developer for Academy Park LLC approached the County about using a remaining tract of land for a stormwater retention pond. The board approved a feasibility study which determined that the Academy Park LLC Site (Factory Creek Watershed Site Phase I) was a viable site for 5.6 percent of needed bacteria reduction. The Stormwater Management Utility Board recommended pursuing this project to the Natural Resources Committee (NRC). The NRC will be reviewing this project Monday, February 1, 2016.
- B.** Factory Creek Watershed Site Phase II – Mr. Larson updated the board about the second Factory Creek Watershed Site known as Phase II. The board approved feasibility study found that a current 1 acre pond could be expanded to 4.3 acres approximately 3 to 7 feet deep

resulting in a 6.8 percent bacteria reduction. Mr. Larson added that this site is located in wetland area and would require OCRM (Ocean and Coastal Resource Management) permits. Mr. Larson concluded by saying both the sites combined total approximately 12.4 percent of the needed 16 percent bacteria reduction and the County would need additional sites for the remaining percent. Mr. Larson added that the property owner might be able to acquire the parcel adjacent to his parcel which would increase the pond 50 percent and bring the bacteria reduction close to the needed 16 percent. Mr. Larson fielded questions from board members by saying the two project agreements are similar with the developer/owner paying for construction, the County assisting with design costs, and assuming maintenance of pond sites. Mr. Larson also responded that the developer/owner of both sites have expressed a sense of urgency in beginning project construction due to a commitment of materials for an unrelated development.

- C. Academy Estates Response to Factory Creek Watershed Site Phase I –Mr. Richard Bolin passed around pictures for the board to view and Mrs. Jill Bolin displayed a map to accompany Mr. Bolin’s alternative solution for the needed 16 percent bacteria reduction for Rock Springs Creek Watershed. Mr. Bolin proposed doing away with multiple retention pond facilities and put one big retention pond facility closer to the lower end of the Rock Springs Creek Watershed. Mr. Bolin also suggested filling in the ditch that runs through Academy Estates because he feels the purpose of the ditch was an emergency fix for a one time flooding problem that may occur every 40 or 50 years. Mr. Bolin suggests laying a drain pipe with inlets to drain into the river. Mr. Bolin commented that the ditch is an eye sore and a safety hazard and would save the County maintenance costs. Mr. Bolin feels that by covering the ditch, the natural watershed flow will be restored and can be filtered through the wetlands into his proposed facility closer to the lower end of the Rock Springs Creek Watershed. Mr. Bolin also addressed what he considered to be deficiencies in the proposed Factory Creek Watershed Site Phase I contract. Mr. Bolin suggests performing an alternate feasibility study to include his proposed facility for a 50 year time frame and compare the costs to previous studies. Mr. Joe Courtney from Academy Estates added that the entire Academy Estates neighborhood is opposed to the proposed pond and development. Ms. Patricia Dowling pointed out that a kindergarten is located near the proposed pond and the pond would be a safety hazard for the students. She added that the Morgan River is fragile and diverting water away would be beneficial. She is also concerned that sawdust from downed trees could add to water contamination. At Mr. Bolin’s request to view ponds that divert into ditches, Mr. Larson suggested one pond at New River in Bluffton and two ponds off highway 278 as examples. Mr. Patrick Mitchell questioned if the property owners would still be against the pond construction if the development still proceeded and Mr. Bolin stated the owners would still oppose the pond. Mr. Donald Smith questioned if other sites had been pursued for the project. Ms. Patricia Dowling suggested a pond off of Big Ben Lane. Mr. Eric Larson explained that this project was scheduled for FY 2018 so land had not been pursued. This project was moved up due to land being offered that would save the County acquisition costs.

## **6. New Business –**

- A. Special Report – Kevin Pitts, Bill Weiss, Al Stokes, and Stephen Borgianini - Discussion of monitoring needs to measure impacts to local marine organisms.

Mr. Kevin Pitts introduced Stephen Borgianini with the University of South Carolina at Beaufort, Mr. Bill Weiss with Low Country Institute, and Mr. Al Stokes with Waddell

Mariculture Center part of SCDNR. All presentations were included in the posted agenda. These gentlemen gave presentations on how salinity fluctuation can affect embryonic development of marine organisms.

**7. Public Comment(s) – None.**

**8. Executive Session -**

*Discussion of Negotiations Incident to Proposed Contractual Arrangements and Proposed Purchase of Factory Creek Watershed Site Phase II*

- A. Mr. Don Smith recused himself due to a conflict of interest. Mr. Allyn Schneider took over as board chairman for the remainder of the meeting.

**9. Actions As A Result of Executive Session**

- A. As a result of the feasibility study, a motion was made and passed unanimously (4:0) to recommend Beaufort County Administrator to move forward with the discussion and negotiations incident to proposed contractual arrangements to proposed purchase of Factory Creek Watershed Site Phase II based on the developer being able to pass all regulatory requirements prior to construction beginning.

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

- A. Passed to include *Discussion of Proposed Purchase of Factory Creek Watershed Site Phase I* as Item 5A, Unfinished Business.

**11. Meeting Adjourned**

BEAUFORT COUNTY, SOUTH CAROLINA  
COMBINING STATEMENT OF NET POSITION  
NONMAJOR PROPRIETARY FUNDS  
June 30, 2015

	Business-Type Activities - Enterprise Funds				Internal
	Stormwater	Lady's Island	Hilton Head	Totals	Service Fund
	Utility	Airport	Airport		Garage
<b>ASSETS</b>					
Current Assets					
Cash and Cash Equivalents	\$ 2,515,285	\$ 250	\$ 200	\$ 2,515,735	\$ -
Receivables, Net	117,949	32,866	1,513,820	1,664,635	347,819
Inventories	73,741	73,784	-	147,525	-
Prepayments	22,259	7,296	26,233	55,788	1,434
Total Current Assets	2,729,234	114,196	1,540,253	4,383,683	349,253
Capital Assets					
	3,067,236	4,824,742	31,547,786	39,439,764	445,159
Accumulated Depreciation	(2,165,132)	(938,874)	(8,770,432)	(11,874,438)	(359,120)
	902,104	3,885,868	22,777,354	27,565,326	86,039
Total Assets	3,631,338	4,000,064	24,317,607	31,949,009	435,292
<b>DEFERRED OUTFLOWS OF RESOURCES</b>					
Contributions to pension plan	126,782	8,383	98,426	233,591	-
Pension experience differences	53,749	4,197	30,485	88,431	-
Total deferred outflows of resources	180,531	12,580	128,911	322,022	-
Total assets and deferred outflows of resources	\$ 3,811,869	\$ 4,012,644	\$ 24,446,518	\$ 32,271,031	\$ 435,292
<b>LIABILITIES</b>					
Current Liabilities					
Account Payable	\$ 245,957	\$ 76,238	\$ 267,026	\$ 589,221	\$ 400,852
Accrued Payroll	42,506	2,838	21,761	67,105	-
Accrued Compensated Absences	10,170	625	5,705	16,501	-
Due to General Fund	-	385,738	4,980,727	5,366,465	-
Current Portion of Due to Debt Service Fund	-	-	153,445	153,445	-
Total Current Liabilities	298,633	465,439	5,428,664	6,192,737	400,852
Noncurrent Liabilities					
Accrued Compensated Absences	77,235	4,746	43,326	125,306	-
Net Other Postemployment Benefits Obligation	17,770	2,962	17,770	38,502	-
Net Pension Liability	1,897,384	148,170	1,126,714	3,172,268	-
Due to Debt Service Fund	-	-	3,427,952	3,427,952	-
Total Noncurrent Liabilities	1,992,389	155,878	4,615,762	6,764,028	-
Total Liabilities	2,291,022	621,317	10,044,426	12,956,765	400,852
<b>DEFERRED INFLOWS OF RESOURCES</b>					
Net pension change in projected investment earnings	159,919	12,488	122,402	294,809	-
Total deferred inflows of resources	159,919	12,488	122,402	294,809	-
<b>NET POSITION</b>					
Net investment in capital assets	902,104	3,885,868	22,777,354	27,565,326	86,039
Unrestricted (Deficit)	458,824	(507,029)	(8,497,664)	(8,545,869)	(51,599)
Total Net Position	\$ 1,360,928	\$ 3,378,839	\$ 14,279,690	\$ 19,019,457	\$ 34,440
Total liabilities, deferred inflows of resources, and net position	\$ 3,811,869	\$ 4,012,644	\$ 24,446,518	\$ 32,271,031	\$ 435,292



BEAUFORT COUNTY, SOUTH CAROLINA  
 COMBINING STATEMENT OF REVENUES, EXPENSES AND CHANGES IN FUND NET POSITION  
 NONMAJOR PROPRIETARY FUNDS  
 For the Year Ended June 30, 2015

	Business-Type Activities - Enterprise Funds				Internal
	Stormwater	Lady's Island	Hilton Head	Totals	Service Fund
	Utility	Airport	Airport		Garage
<b>Operating Revenues</b>					
Garage Billings	\$ -	\$ -	\$ -	\$ -	\$ 2,050,842
Fuel and Oil Sales	-	407,747	-	407,747	2,180,875
Stormwater Utility Fees	3,125,606	-	-	3,125,606	-
Stormwater Utility Project Billings	106,893	-	-	106,893	-
Fixed Base Operator Revenue	-	-	315,923	315,923	-
Passenger Facility Charges	-	-	191,461	191,461	-
Operating Agreements/Commission Revenue	-	930	430,430	431,360	-
Concession Sales	-	4,096	-	4,096	-
Firefighting/Security Fees	-	-	281,731	281,731	-
Landing Fees	-	10,400	95,549	105,949	-
Parking/Taxi Fees	-	-	52,068	52,068	-
Rentals	-	-	189,646	189,646	-
Hangar Rentals	-	128,404	179,808	308,212	-
Other Charges	1,079	514	40,427	42,020	-
<b>Total Operating Revenues</b>	<b>3,233,578</b>	<b>552,091</b>	<b>1,777,043</b>	<b>5,562,712</b>	<b>4,231,717</b>
<b>Operating Expenses</b>					
Costs of Sales and Services	-	275,400	-	275,400	-
Personnel	1,050,413	91,061	703,714	1,845,188	(5,019)
Purchased Services	1,114,523	123,109	411,492	1,649,124	2,028,938
Supplies	311,976	6,582	57,624	376,182	2,181,511
Depreciation	189,901	60,470	549,338	799,709	20,934
<b>Total Operating Expenses</b>	<b>2,666,813</b>	<b>556,622</b>	<b>1,722,168</b>	<b>4,945,603</b>	<b>4,226,364</b>
<b>Operating Income (Loss)</b>	<b>566,765</b>	<b>(4,531)</b>	<b>54,875</b>	<b>617,109</b>	<b>5,353</b>
<b>Non-Operating Revenues (Expenses)</b>					
Operating grant - Transportation Security Administration	-	-	65,450	65,450	-
Non-Operating Grant Expenses	-	(112,021)	(2,388,426)	(2,500,447)	-
Interest Income	2,670	35	428	3,133	-
Interest Expense	-	-	(78,888)	(78,888)	-
<b>Total Non-Operating Revenues (Expenses)</b>	<b>2,670</b>	<b>(111,986)</b>	<b>(2,401,436)</b>	<b>(2,510,752)</b>	<b>-</b>
<b>Income (Loss) before capital contributions</b>	<b>569,435</b>	<b>(116,517)</b>	<b>(2,346,561)</b>	<b>(1,893,643)</b>	<b>5,353</b>
<b>Capital Contributions</b>					
Capital Grants - Federal Aviation Administration	-	-	1,285,908	1,285,908	-
Capital Grants - South Carolina Aeronautical Commission	-	14,116	176,168	190,284	-
<b>Total Capital Contributions</b>	<b>-</b>	<b>14,116</b>	<b>1,462,076</b>	<b>1,476,192</b>	<b>-</b>
<b>Change in Net Position</b>	<b>569,435</b>	<b>(102,401)</b>	<b>(884,485)</b>	<b>(417,451)</b>	<b>5,353</b>
<b>Net Position, Beginning, as originally reported</b>	<b>2,661,628</b>	<b>3,627,282</b>	<b>16,289,172</b>	<b>22,578,082</b>	<b>29,087</b>
<b>Change in accounting principle for pensions - see Note 14</b>	<b>(1,870,135)</b>	<b>(146,042)</b>	<b>(1,124,997)</b>	<b>(3,141,174)</b>	<b>-</b>
<b>Net Position, Beginning, as restated</b>	<b>791,493</b>	<b>3,481,240</b>	<b>15,164,175</b>	<b>19,436,908</b>	<b>29,087</b>
<b>Net Position, Ending</b>	<b>\$ 1,360,928</b>	<b>\$ 3,378,839</b>	<b>\$ 14,279,690</b>	<b>\$ 19,019,457</b>	<b>\$ 34,440</b>

BEAUFORT COUNTY, SOUTH CAROLINA  
COMBINING STATEMENT OF CASH FLOWS  
NONMAJOR PROPRIETARY FUNDS  
For the Year Ended June 30, 2015

	Business-Type Activities - Enterprise Funds				Internal
	Stormwater	Lady's Island	Hilton Head	Totals	Service Fund
	Utility	Airport	Airport		Garage
<b>Cash Flows from Operating Activities:</b>					
Cash Received from Customers and Users	\$ 3,276,548	\$ 569,020	\$ 1,482,069	\$ 5,327,637	\$ 4,148,775
Cash Paid to Employees	(1,905,881)	(124,830)	(1,042,687)	(3,073,398)	-
Cash Paid to Suppliers	(1,193,618)	(319,846)	3,102,892	1,589,428	(4,412,200)
<b>Total Provided By (Used For) Operating Activities</b>	<b>177,049</b>	<b>124,344</b>	<b>3,542,274</b>	<b>3,843,667</b>	<b>(263,425)</b>
<b>Cash Flows from Noncapital Financing Activities:</b>					
Operating Grant - TSA	-	-	65,450	65,450	-
Non-Operating Grant Expenses	-	(112,021)	(2,388,426)	(2,500,447)	-
Principal Payment on Note Payable	-	-	(129,229)	(129,229)	-
Interest Paid on Note Payable	-	-	(78,888)	(78,888)	-
<b>Total Used For Noncapital Financing Activities</b>	<b>-</b>	<b>(112,021)</b>	<b>(2,531,093)</b>	<b>(2,643,114)</b>	<b>-</b>
<b>Cash Flows from Capital and Related</b>					
<b>Financing Activities:</b>					
FAA Grants	-	-	1,285,908	1,285,908	-
SCAC Grants	-	14,116	176,168	190,284	-
Advance from Debt Service Fund	-	-	2,260,000	2,260,000	-
Purchase of Capital Assets	(285,517)	(26,474)	(4,733,685)	(5,045,676)	-
<b>Total Provided By (Used For) Capital and Related Activities</b>	<b>(285,517)</b>	<b>(12,358)</b>	<b>(1,011,609)</b>	<b>(1,309,484)</b>	<b>-</b>
<b>Cash Flows from Investing Activities:</b>					
Interest Earned	2,670	35	428	3,133	-
<b>Net Increase (Decrease) in Cash and Cash Equivalents</b>	<b>(105,798)</b>	<b>-</b>	<b>-</b>	<b>(105,798)</b>	<b>(263,425)</b>
Cash and Cash Equivalents, July 1, 2014	2,621,083	250	200	2,621,533	263,425
<b>Cash and Cash Equivalents, June 30, 2015</b>	<b>\$ 2,515,285</b>	<b>\$ 250</b>	<b>\$ 200</b>	<b>\$ 2,515,735</b>	<b>\$ -</b>

BEAUFORT COUNTY, SOUTH CAROLINA  
COMBINING STATEMENT OF CASH FLOWS  
NONMAJOR PROPRIETARY FUNDS  
For the Year Ended June 30, 2015

	Business-Type Activities - Enterprise Funds				Internal Service Fund
	Stormwater Utility	Lady's Island Airport	Hilton Head Airport	Totals	Garage
Reconciliation of Operating Income to Net Cash					
Flows Provided by (Used for) Operating Activities:					
Operating Loss	\$ 566,765	\$ (4,531)	\$ 54,875	\$ 617,109	\$ 5,353
Adjustments to Reconcile:					
Depreciation	189,901	60,470	549,338	799,709	20,934
Changes in Assets and Liabilities:					
(Increase) Decrease in Accounts Receivable	42,970	16,929	(294,974)	(235,075)	(82,942)
(Increase) Decrease in Inventories	40,109	(6,550)	-	33,559	-
(Increase) Decrease in Other Current Assets	(1,586)	(181)	12,073	10,306	-
Increase (Decrease) in Accounts Payable	194,358	53,658	(212,232)	35,784	(201,751)
Increase (Decrease) in Due to General Fund	-	38,318	3,772,167	3,810,485	-
Increase (Decrease) in Accrued Payroll	(8,487)	(1,014)	(9,657)	(19,158)	-
Increase (Decrease) in Accrued Compensated Absences	13,604	515	3,877	17,996	-
Increase (Decrease) in Net Other Postemployment Benefits Obligation	(867,222)	(35,306)	(328,401)	(1,230,929)	(5,019)
Increase (Decrease) in pension deferred inflows/outflows and liability	6,637	2,036	(4,792)	3,881	-
	(579,617)	68,405	2,938,061	2,426,849	(289,712)
Net Cash Flow Provided by (Used for)					
Operating Activities	\$ 177,049	\$ 124,344	\$ 3,542,274	\$ 3,843,667	\$ (263,425)



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



February 24, 2016

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

Utility Update

1. Rate Increase and Rate Structure Change – Staff continues to answer questions and make adjustments to bills as needed. Volume of calls has dropped off considerably. This past tax run, we had 6,596 parcel change reviews, 42,327 (up from 26,997 in TY14) reviews from requested exception reports created by the Tax Assessor's office due to reassessments needed due to the rate structure change. Staff has been responding to three official appeals filed by customers.
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 March 2016 meeting.
3. Credit Manual Update – ATM was retained to perform an update to the credit manual. The fee is \$33,995 and will revise the manual to match the new rate structure and it will add additional credit opportunities to deal with unusual property conditions that caused large increases in fees. It is anticipated that the credit manual will be presented in draft form at the March SWUB meeting.
4. Management Budget for FY 17 – Staff has been working on the budget to present to the SWIC at the February meeting.
5. County Council Annual Retreat – Eric Larson attended the retreat representing the Utility and the County's Environmental Engineering Division.



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



February 24, 2016

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

Monitoring Update

1. USCB and County MOU for the Lab Services – County and lab staff have been working on a revised agreement to provide more flexibility in monitoring needs as we update our program to meet MS4 permit requirements. The new agreement will be presented under Old Business with a recommendation for approval.
2. Lab Update – No report.



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



February 24, 2016

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

Stormwater Implementation Committee (SWIC) Report

1. The SWIC met on February 10, 2016. The focus of the meeting was on the Stormwater Utility Management budget for FY17. The group also revisited the public education program. The next meeting is scheduled for March 14, 2016. [See attached minutes of the February meeting.](#)

## DRAFT Minutes

February 10, 2016, 1:30 pm at BJWSA, 6 Snake Road, Okatie, SC

Attendees:	Eric Larson, Bryan McIllwee, Lamar Taylor, Shelby Berry, Denise Parsick, Rebecca Baker, Jeremy Ritchie, Bill Baugher, Tony Maglione, Carolyn Wallace, Van Willis
------------	--

1. Approval of January 20, 2016 meeting minutes (Eric) - approved by common consent.
2. Public Education
  - a. Report from BCSWCD
    - i. Tanger Touch a Truck 4/2/16. Everyone invited to attend and bring equipment. BC will be taking equipment from stormwater and setting up a tent to distribute N4CW literature.
    - ii. Touch a Truck by in Port Royal Nov 12, 2016 - N4CW should try to participate.
    - iii. N4CW campaign - The topic of changing the countywide "branding effort" from N4CW to a new slogan, logo, etc. was discussed. SWIC consensus to stay with N4CW and continue to work to update N4CW content to reflect a countywide effort.
    - iv. Report on recent activity (Shelby)
      1. Storm drain marking - Shelby pointed out schedule and asked to coordinate getting the markers from staff if they will not be able to attend.
      2. Survey - Looking into Survey Monkey - Getting advice to how to set it up. Little or no cost to use Survey Monkey.
      3. Adams Outdoor Advertising Partnership - Rebecca is working on content with vendor.
      4. Five Star Grant - We did not apply. Lack of time to prepare the application. In the future, will be asking for help from the BC Human Alliance, via T4B, for help.
      5. Essay / poster contest - Monica Spells and Rebecca working on a plan to announce and distribute contest details to the schools.
      6. Facebook Sponsored ads - Shelby is working with Beth Lewis to get this started.
      7. Website content updates - Shelby and Beth working to put information on the website in addition to Facebook. Discussion on migration of the blog site to a full website in the future. County MIS offered to host. Decision will be in the future.

8. 7th grade presentations - Getting several presentations scheduled this spring.
9. Other school presentations - Beth Lewis, Rebecca going to Beaufort High soon. Discussion about coordinating with everyone to make sure presentations and messages are compatible.
10. Several festivals in the spring that N4CW will be presenting at.
3. Utility Management Budget Presentation (Eric, Carolyn) - Eric presented the budget and four options to set the fee. Eric noted how the management budget presentation was re-formatted this year due to the completion and recommendations of the Rate Study. See attached Draft presentation. The Municipalities will be responding with agreement with the recommendation of the fee by mid-March.
4. Management Plan
  - a. Kick off meeting results (Tony) - Tony noted that they are beginning the process of gathering models, GIS mapping, and monitoring data. Scheduling public input and trying to coordinate the meeting with other public meeting needs, such as the County's BMP manual changes.
  - b. MOUs status (all) - Eric noted still need the MOU from ToHHI and ToPR. Holding the others already received to get Gary Kubic to sign all of them at once.
5. Rate Study
  - a. Discussion of timeline, impacts of recommendations, IGA revisions - This topic was discussed as part of the management budget presentation. Management fee decisions are subject to the completion of the Rate Study and action by each jurisdiction.
  - b. Credit Manual - Eric explained that ATM is in the process of updating the credit manual. There will be a meeting on March 2 to review the draft. Offered all SWIC to attend the meeting.
  - c. Status on Towns, City Rate Studies. (Tony) - ATM and staffs working on final drafts.
    - i. County - done. Waiting on others to finalize the report.
    - ii. Town of Port Royal - Still considering Option selection and fee.
    - iii. City of Beaufort - Still considering Option selection. Likely will try to adjust rates to be equivalent to old rate if structure is changed.
    - iv. Town of Bluffton - Still considering Option selection. Likely will try to adjust rates to be equivalent to old rate if structure is changed.
    - v. HHI - Still considering Option selection and budget needs.
  - d. SWUB actions needed? (All) - not discussed.
6. MS4



- a. Discussion: Comparison of Ordinance language for MS4 compliance (Rebecca) - Not discussed.
7. Monitoring
  - a. Discussion: Sampling parameters and locations - Who is doing what? (Rebecca) - Not discussed.
8. Reports by each jurisdiction
  - a. BC - No report.
  - b. ToHHI - No report.
  - c. ToB - No report.
  - d. CoB - No report.
  - e. ToPR - No report.
9. Other items - None.
10. Next Meeting
  - a. Next meeting  
March 14, 2016 @ ToHHI offices - 12p-1p Webinar on Underground BMPs (BYOL or pizza) and meeting 1 - 2:30pm to follow
11. Adjourn at approx. 3:20 pm.



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



February 24, 2016

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

Stormwater Related Projects

1. US 278 Retrofit Ponds (\$356,000 =Budget) – The second of the four ponds is complete. Excavation of the third pond has begun. 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.) – Staff has authorized an additional scope of services to survey the downstream receiving storm sewer system to verify that flooding problems of adjacent residents are not negatively affected by the road and storm sewer work. Results are still pending.
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 still pending. 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 still pending. Nothing new to report.
5. Huspah Court South Ditch Easement / Mike Zara – Mr. Zara's response is still pending.



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



February 24, 2016

Professional Contracts Report

1. Stormwater Management Plan (Master Plan) Update – The contract with Applied Technology and Management (ATM) was approved in December. A kick off meeting was held February 4, 2016. ATM is compiling the needed files and GIS data to begin the modeling.



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



February 24, 2016

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 on the agreement at the February 1, 2016 meeting. Several residents spoke against the project at the NRC meeting. The NRC took action to require the staff and developer to determine the design and construction cost of the project. In addition, the developer must provide proof that they can bond the project once the scope and cost is known. Finally, they directed staff to present the design, cost, and bonding issue to the SWUB for action before returning to the NRC for action. Staff is soliciting a proposal for the design work. Contract negotiations with the developer are ongoing.
3. Factory Creek Watershed Regional Detention Basin “Phase II” – The Natural Resources Committee deferred action on the agreement at the February 1, 2016 meeting. The NRC took action to require the staff and developer to determine the design and construction cost of the project. In addition, the developer must provide proof that they can bond the project once the scope and cost is known. Finally, they directed staff to present the design, cost, and bonding issue to the SWUB for action before returning to the NRC for action. Staff is soliciting a proposal for the design work. Contract negotiations with the developer are ongoing.
4. Plantation Business Park Drainage Assessment – Evaluation of the condition of the stormsewer system is complete. The report found the system to be in poor condition and recommended \$342,705 in needed repairs. Staff is sharing the study results with the POA and Town of Bluffton to further discussions about transfer of ownership and operation of the system. The Report will be presented under Old Business.



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



February 24, 2016

Municipal Reports

1. Town of Hilton Head Island – No report.
2. Town of Bluffton
  - i. May River Watershed Action Plan – No update to report. (Town of Bluffton staff may also report)
  - ii. Stoney Creek Project – No update to report. (Town of Bluffton staff may also report)
  - iii. Pine Ridge Retrofit Project – No update to report. (Town of Bluffton staff may also report)
3. City of Beaufort
  - i. Battery Creek Pond Funded by an EPA 319 Grant (\$132,609 Budget – County Portion) – Project is being advertised for bids for construction. (City of Beaufort staff may also report)
  - 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. (City of Beaufort staff may also report)
4. Town of Port Royal – No report.



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






February 24, 2016

**MS4 Coordinator's Report for the Stormwater Utility Board Meeting**

**1. Public Education – Upcoming Billboard**



2. BMP Manual- ATM request for services was approved to assist with the modification of the technical portion of the BMP manual and assist with public meetings.

	<b>Beaufort County, South Carolina Stormwater Best Management Practices (BMPs) Sediment Management Practices (SMPs)</b>	<b>SMP-02</b>																							
<b>PLANNING CONSIDERATIONS:</b>  <b>Design Life:</b> 6 months  <b>Acreage Needed:</b> Minimal  <b>Estimated Unit Cost:</b> Low  <b>Monthly Maintenance:</b> 100% of Installation	<b>Activity: Silt Fence (SF)</b>  		  <div style="border: 1px solid black; padding: 5px; display: inline-block;">SF</div>																						
<b>Target Pollutants</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Significant ♦</td> <td style="text-align: center;">Partial ◇</td> <td style="text-align: center;">Low or Unknown ◇</td> </tr> <tr> <td style="text-align: center;">Sediment ♦</td> <td style="text-align: center;">Heavy Metals ◇</td> <td style="text-align: center;">Nutrients ◇</td> </tr> <tr> <td style="text-align: center;">Oil &amp; Grease ◇</td> <td style="text-align: center;">Bacteria &amp; Viruses ◇</td> <td style="text-align: center;">Floatable Materials ◇</td> </tr> <tr> <td></td> <td style="text-align: center;">Oxygen Demanding Substances ◇</td> <td style="text-align: center;">Toxic Materials ◇</td> </tr> <tr> <td></td> <td style="text-align: center;">Construction Waste ◇</td> <td></td> </tr> </table>			Significant ♦	Partial ◇	Low or Unknown ◇	Sediment ♦	Heavy Metals ◇	Nutrients ◇	Oil & Grease ◇	Bacteria & Viruses ◇	Floatable Materials ◇		Oxygen Demanding Substances ◇	Toxic Materials ◇		Construction Waste ◇									
Significant ♦	Partial ◇	Low or Unknown ◇																							
Sediment ♦	Heavy Metals ◇	Nutrients ◇																							
Oil & Grease ◇	Bacteria & Viruses ◇	Floatable Materials ◇																							
	Oxygen Demanding Substances ◇	Toxic Materials ◇																							
	Construction Waste ◇																								
<b>Description</b>	To detain sediment-laden water, silt fences are used to promote silt deposition behind the fence. These fences are made of filter fabric that has been entrenched, attached to support poles and occasionally supported by a wire fence. Silt fence is intended as a temporary sediment barrier and requires routine maintenance.																								
<b>Suitable Applications</b>	<ul style="list-style-type: none"> <li>➤ Silt fence should be used in area accepting sheet flow conditions.</li> <li>➤ Silt fence should <b>not</b> be used in ditch lines, streams, or any areas of concentrated flows.</li> <li>➤ Silt fencing can be used along the downstream perimeter, below the toe of a cleared slope, upstream of sediment traps or basins, along streams and channels and around temporary spoil areas.</li> </ul>																								
<b>Approach</b>	<ul style="list-style-type: none"> <li>➤ <b>Light Duty Silt Fence (SF-LD)</b> Type A silt fence is 36" in height. This type silt fence can be used on project lasting 6 months or greater.</li> <li>➤ <b>Heavy Duty Silt Fence (SF-HD)</b> Type C silt fence is 36" in height and has wire reinforcement. This type silt fence should be used when high velocities are encountered. Table SPD-02-01 on pg. SMP-02-02.</li> </ul>																								
<b>Design Criteria</b>	The design criteria for silt fence is as follows: <ul style="list-style-type: none"> <li>➤ Silt fencing should be installed along the contour. It should not be installed up and down slopes unless accompanied by measures such as "J" Hooks or other methods.</li> <li>➤ The length of silt fence is determined by the amount of run-off area. The minimum area should not exceed 0.25 acre per 100 linear feet of silt fence.</li> <li>➤ Spacing of silt fence is variable depending on the slope of land draining to the fence. See <a href="#">Table SMP-02-01</a> for spacing requirements.</li> </ul>																								
<b>Table SMP-02-01 Silt Fence Spacing on Sloping Sites</b> <table border="1" style="margin: auto;"> <thead> <tr> <th rowspan="2">Slope Angle</th> <th colspan="3">Soil Type</th> </tr> <tr> <th>Silty</th> <th>Clays</th> <th>Sandy</th> </tr> </thead> <tbody> <tr> <td>Very Steep (1:1)</td> <td>50 ft.</td> <td>75 ft.</td> <td>100 ft.</td> </tr> <tr> <td>Steep (2:1)</td> <td>75 ft.</td> <td>100 ft.</td> <td>125 ft.</td> </tr> <tr> <td>Moderate (4:1)</td> <td>100 ft.</td> <td>125 ft.</td> <td>150 ft.</td> </tr> <tr> <td>Slight (10:1)</td> <td>125 ft.</td> <td>150 ft.</td> <td>200 ft.</td> </tr> </tbody> </table>			Slope Angle	Soil Type			Silty	Clays	Sandy	Very Steep (1:1)	50 ft.	75 ft.	100 ft.	Steep (2:1)	75 ft.	100 ft.	125 ft.	Moderate (4:1)	100 ft.	125 ft.	150 ft.	Slight (10:1)	125 ft.	150 ft.	200 ft.
Slope Angle	Soil Type																								
	Silty	Clays	Sandy																						
Very Steep (1:1)	50 ft.	75 ft.	100 ft.																						
Steep (2:1)	75 ft.	100 ft.	125 ft.																						
Moderate (4:1)	100 ft.	125 ft.	150 ft.																						
Slight (10:1)	125 ft.	150 ft.	200 ft.																						

3. Illicit Discharge UPCOMING COUNTY APP. CALL 311 to Report Pollutants
  - A. Presentation by Robert Gecy, Beaufort County IT Department



# Beaufort County 311



## BEAUFORT COUNTY

# 311

[+ Submit a 311 Request](#)





# Beaufort County 311



# BEAUFORT COUNTY

# 311

[+ Submit a 311 Request](#)

# MENU



Home



Submit New Request



Recent Requests



Nearby Requests



My Requests



My Profile

## Beaufort County



News



+ Submit

Recent Re





First Name:

Robert

Last Name:

Gecy

Phone:

(843)521-0036

Email:

robertgecy@gmail.com



Save Changes

*\*Contact information is for internal use only and will not be shared or displayed to the public.*

Change Password

Update email address



# Choose Service

## STORMWATER

Ditch Clogged/Overgrown

Pipe/Culvert Clogged

Yard/Street Flooding

## PUBLIC WORKS

Pothole on Paved Road

Dirt Road Needs Grading

Fallen Tree on Road

Boat Landing/Dock Needs Repair

Boat Landing Trash Removal

## TRAFFIC

Traffic Signal Out/Damaged

< Back

# New Request

## Illicit Discharge

What is an Illicit Discharge?



**Location Address \***

Click to set Location



**Illicit Discharge Type? \***

Choose Illicit Discharge Type

**Description \***

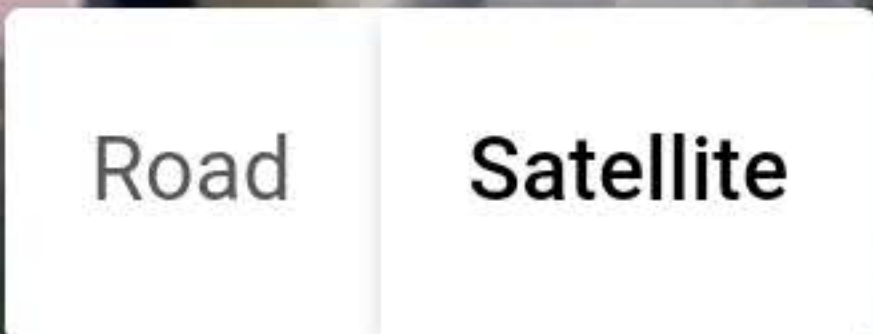
Please provide a detailed description

## What is an "Illicit Discharge"?

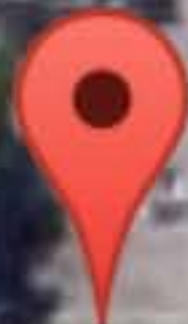
*An illicit (illegal) discharge is the discharge of pollutants into a municipal stormwater or sewer system – storm drains, pipes, and ditches.*

**Pollutants may include, but are not limited to:** paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

**The following discharges are exempt:** water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wet-land flows, swimming pools (if



**104 Ribaut Rd**  
City of Beaufort



< Back

# New Request

## Drainage Ditch Clogged



**Location Address \***

Click to set Location



**Description \***

Please provide a detailed description

**Is the Ditch Clogged/Overgrown/Eroded? \***

Clogged with Debris



[← Back](#)

## New Request

### Pipe/Culvert Clogged

#### Location Address \*

Click to set Location



#### Description \*

Please provide a detailed description

#### Pipe/Culvert Proximity to Location? \*

Choose Proximity to Location

#### Is the Pipe or Culvert Clogged/Broken? \*

Clogged with Debris

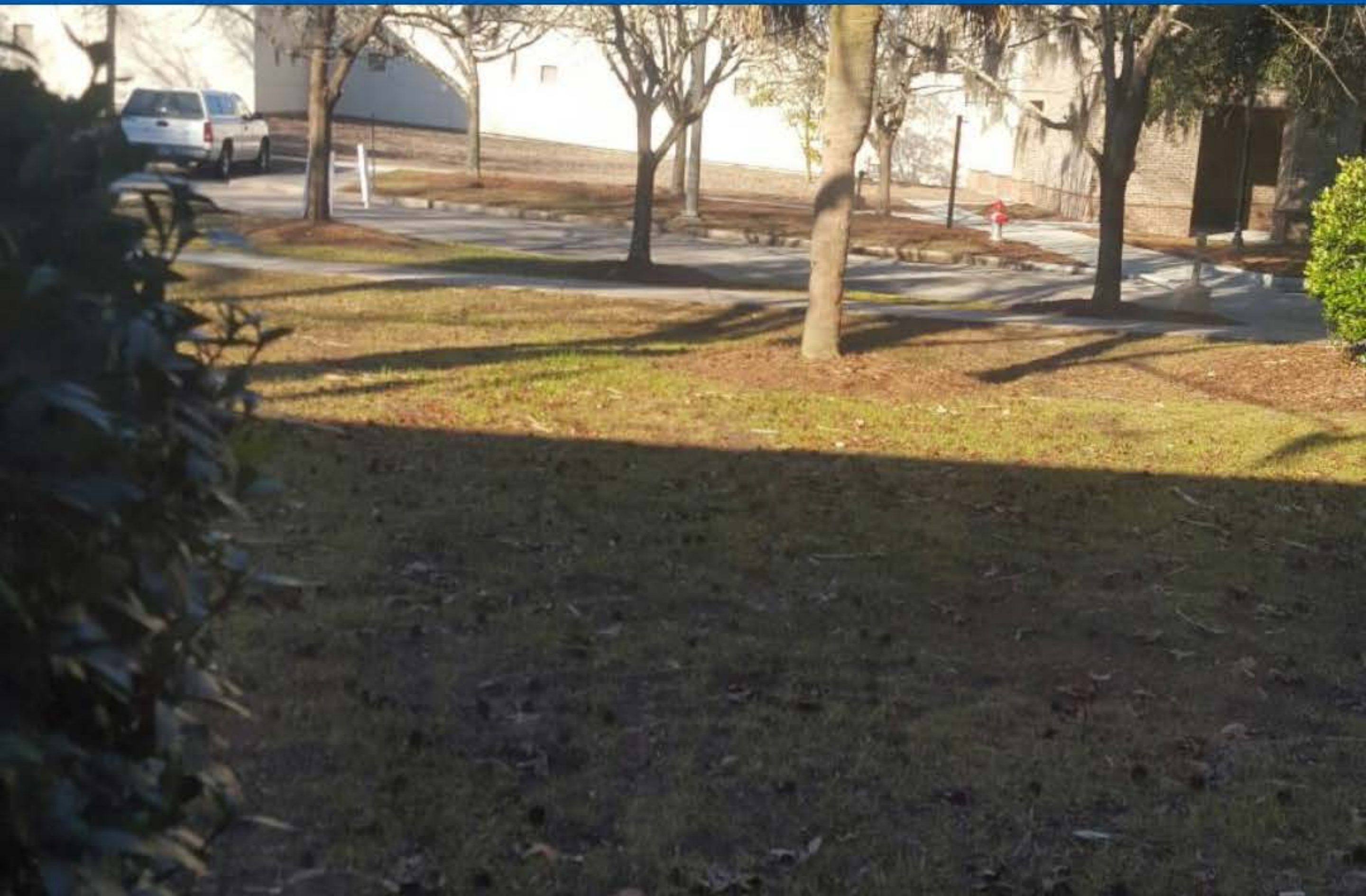
Collapsed or Broken



Submit Form

< Back

Details



# Illicit Discharge

104 Ribaut Rd  
City of Beaufort



**SUBMITTED**

**Submitted:** Fri, Feb 5, 2016 at 9:19 AM

**Description:** Description

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

## Activity

1 - Like    1 - Comment

 Like +1

 Comment

< Back

Details



## Other Issue/Request

104 Ribaut Rd  
City of Beaufort



**OPEN**

**Submitted:** Thu, Jan 7, 2016 at 4:21 PM

**Description:** Illegal Signage!

### Activity

2 - Likes    3 - Comments

 Like +1

 Comment



# Beaufort County 311 - Admin Panel

Municipality:

Beaufort County

Department:

Stormwater

Request Type:

Illicit Discharge

Date Range:

Last 30 Days

Status:

- View All -

Search Filter: ?

Total Records: 5



## Illicit Discharge

136 Wade Hampton Dr, Beaufort County  
Test

SUBMITTED

2/10/2016 11:05PM



## Illicit Discharge

104 Ribaut Rd, City of Beaufort  
Description

SUBMITTED

2/5/2016 9:19AM



## Illicit Discharge

2234 Boundary St, City of Beaufort  
Looks like something is draining from back

SUBMITTED

2/1/2016 1:23PM



## Illicit Discharge

104 Ribaut Rd, City of Beaufort  
test

SUBMITTED

2/1/2016 9:24AM

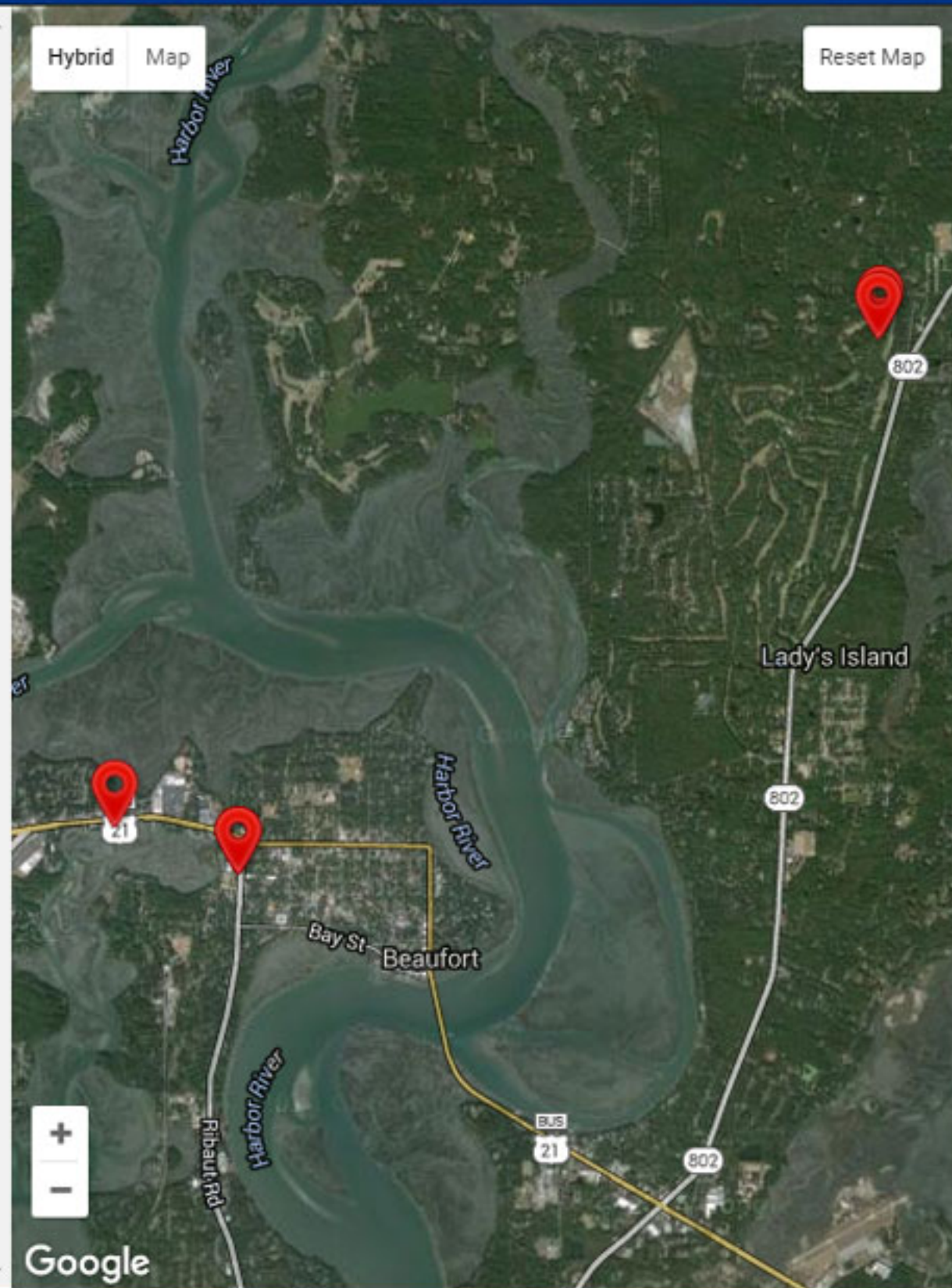


## Illicit Discharge

140 Wade Hampton Dr, Beaufort County  
Neighbor drained his pool into my ditch!

SUBMITTED

1/29/2016 5:45PM





## MEMORANDUM

Date: February 24, 2016

To: Stormwater Management Utility Board

From: Dave Wilhelm, Public Works Director

Re: **Maintenance Project Report**

This report will cover seven minor or routine projects. The Project Summary Reports are attached.

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

- **Riley Road** -The project scope included cleaning out 1,115 feet of roadside ditch and jet cleaning one crossline pipe and eight driveway pipes. The total cost was **\$7,734.94**.
- **Port Royal Island Valley Drains** - This project improved 20,547 feet of existing valley drain at seven different locations. The areas included within this project scope were Roseida Road Extension (3,652 lf), Rivers Hill Road (1,265 lf), Smalls Hill Road (580 lf), Harold Drive (3,140 lf) Murray Drive (7,884 lf), Grays Hill Acres (2,564 lf), and Blackburn Pierce Drive (1,462 lf). The total cost was **\$5,799.96**.
- **Irongate Subdivision** -The project scope included cleaning out and reconstructing 345 feet of channel and re-installing one access pipe to correct an elevation discrepancy. The total cost was **\$5,507.34**.
- **Cee Cee Road** -This project improved 5,210 feet drainage system by removing blockages and stone check dams from the roadside ditches. Crew also jet cleaned three crossline pipes and twelve driveway pipes. The total cost was **\$2,244.17**
- **Sheldon Tree Removal** - Crew removed large fallen tree that was blocking the work shelf. The total cost was **\$1,432.06**
- **Reeds Road / Peyton's Way** - Project scope included jet cleaning one access pipe and one crossline pipe. Also removed blockage from flowline by hand. The total cost was **\$681.14**.
- **St. Helena Island Tree Removal** - Crew removed one large fallen tree from work shelf. The total cost was **\$520.32**.



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

**Project Summary:** Riley Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 1,115 L.F. of drainage system. Cleaned out 1,115 L.F. of roadside ditch. Jetted (1) crossline pipe and (8) driveway pipes.

**Completion:** Dec-15

<b>2016-546 / Riley 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	\$43.24	\$0.00	\$297.00	\$884.64
HAUL / Hauling	32.0	\$712.64	\$362.08	\$76.02	\$0.00	\$461.44	\$1,612.18
ONJV / Onsite Job Visit	13.0	\$399.75	\$46.02	\$5.10	\$0.00	\$236.99	\$687.86
RSDCL / Roadside Ditch - Cleanout	110.0	\$2,526.40	\$339.02	\$59.25	\$0.00	\$1,569.30	\$4,493.97
UTLOC / Utility locates	1.0	\$24.70	\$0.00	\$0.00	\$0.00	\$13.23	\$37.93
<b>2016-546 / Riley Road</b>	<b>176.5</b>	<b>\$4,132.84</b>	<b>\$833.92</b>	<b>\$183.61</b>	<b>\$0.00</b>	<b>\$2,584.57</b>	<b>\$7,734.94</b>
<b>Sub Total</b>							
<b>Grand Total</b>	<b>176.5</b>	<b>\$4,132.84</b>	<b>\$833.92</b>	<b>\$183.61</b>	<b>\$0.00</b>	<b>\$2,584.57</b>	<b>\$7,734.94</b>

Before



During



After





Project: Riley Road

Activity: Routine/ Preventive Maintenance

Project #: 2016-546

Township: Port Royal Island

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 = 170 feet

Prepared By: BC Stormwater Management Utility  
 Date Print: 12/23/2015  
 File: C:\project summaries map\Riley Road\_2016-546



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

**Project Summary:** Port Royal Island Valley Drains - Roseida Road Extension, Rivers Hill Road, Smalls Hill Road, Harold Drive, Murray Drive, Grays Hill Acres and Blackburn Pierce Drive

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 20,547 L.F. of drainage system. Cleaned out 20,547 L.F. of valley drains. This project consisted of the following areas: Roseida Road Extension (3,652 L.F.), Rivers Hill Road (1,265 L.F.), Smalls Hill Road (580 L.F.), Harold Drive (3,140 L.F.), Murray Drive (7,884 L.F.), Grays Hill Acres (2,564 L.F.) and Blackburn Pierce Drive (1,462 L.F.)

**Completion:** Oct-15

<b>2016-313 / Port Royal Island Valley Drains</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	1.0	\$23.49	\$0.00	\$0.00	\$0.00	\$13.23	\$36.72
COVD / Cleaned Out Valley Drains	99.0	\$2,119.53	\$303.67	\$80.82	\$0.00	\$1,342.93	\$3,846.95
DEBREM / Debris Removal - Jobsite	6.0	\$137.34	\$28.28	\$5.43	\$0.00	\$96.84	\$267.89
HAUL / Hauling	26.0	\$579.20	\$207.74	\$101.36	\$0.00	\$374.92	\$1,263.22
ONJV / Onsite Job Visit	6.0	\$205.08	\$21.24	\$12.04	\$0.00	\$146.82	\$385.18
<b>2016-313 / Port Royal Island Valley Drains Sub Total</b>	<b>138.0</b>	<b>\$3,064.64</b>	<b>\$560.93</b>	<b>\$199.65</b>	<b>\$0.00</b>	<b>\$1,974.74</b>	<b>\$5,799.96</b>
 <b>Grand Total</b>	 <b>138.0</b>	 <b>\$3,064.64</b>	 <b>\$560.93</b>	 <b>\$199.65</b>	 <b>\$0.00</b>	 <b>\$1,974.74</b>	 <b>\$5,799.96</b>

Before



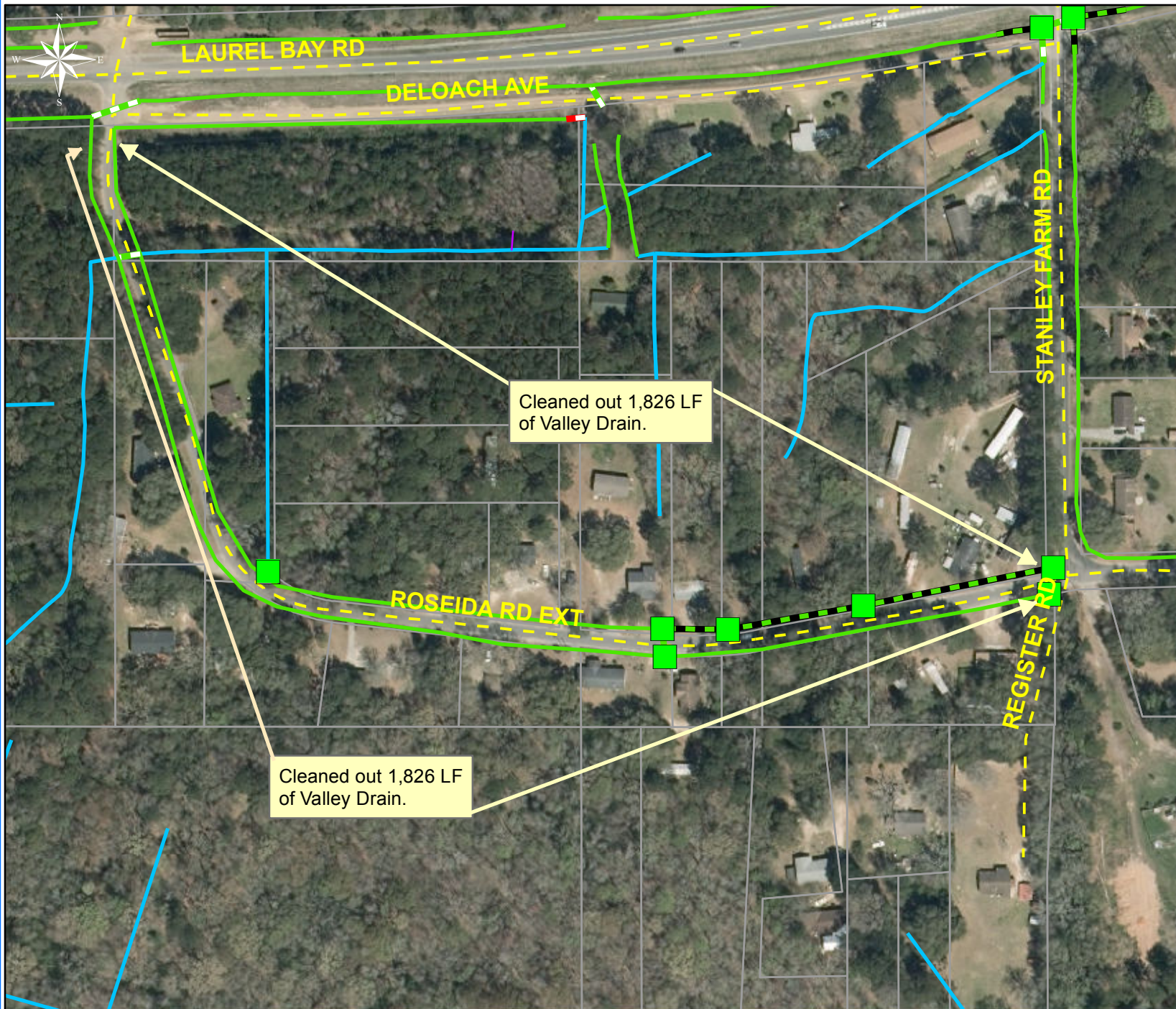
During



After







Project: PRI Valley Drains- Roseida Road EXT

Activity: Routine/ Preventive Maintenance

Project #: 2016-313

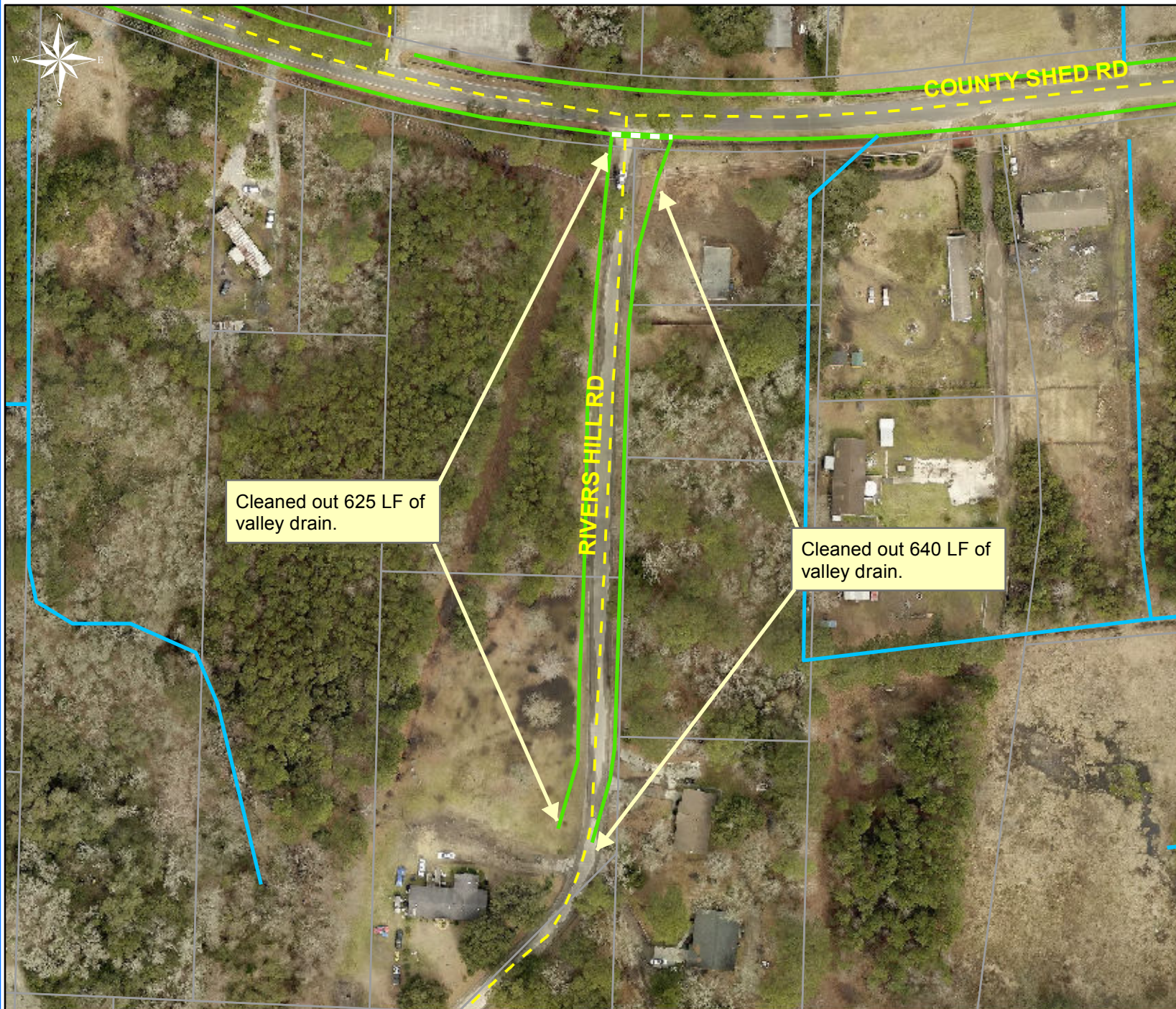
Township: Port Royal Island

Completed: October 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 = 200 feet



Project: Rivers Hill Road

Activity: Routine/ Preventive Maintenance

Project #: 2016-313

Township: Port Royal Island

Completed: October 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

Cleaned out 625 LF of valley drain.

Cleaned out 640 LF of valley drain.



1 inch = 130 feet



Project: PRI Valley Drains - Smalls Hill Road

Activity: Routine/ Preventive Maintenance

Project #: 2016-313














Township: Port Royal Island

Completed: October 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

0 15 30 60 90 120 Feet

1 inch = 67 feet

Prepared By: BC Stormwater Management Utility

Date Print: 10/14/15

File: C:\project summaries map\PRI Valley Drains -Smalls Hill Road\_2016-313

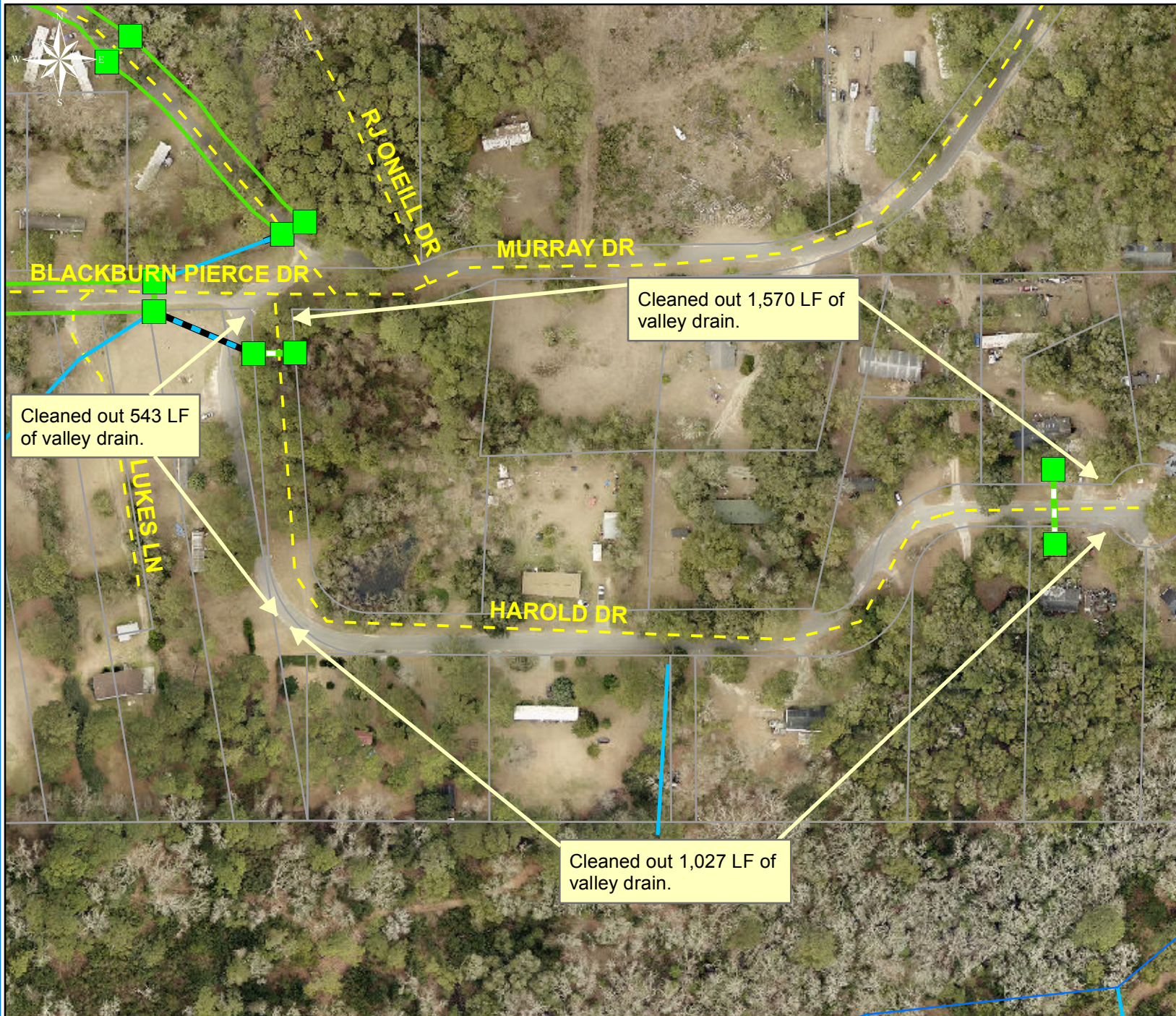
Project: PRI Valley Drains - Harold Drive

Activity: Routine/ Preventive Maintenance

Project #: 2016-313

Township: Port Royal Island

Completed: October 2015

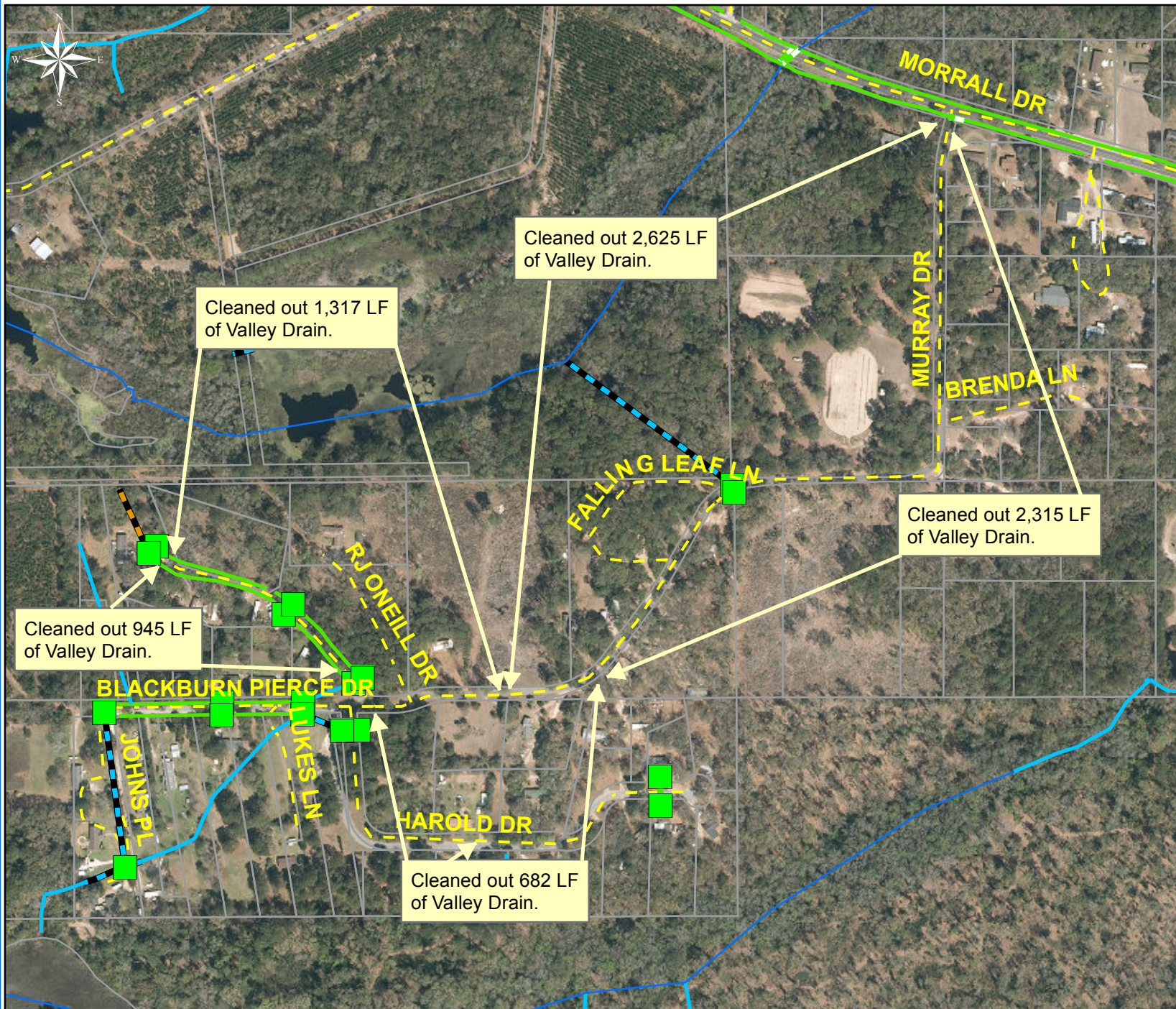


1 inch = 170 feet

Prepared By: BC Stormwater Management Utility

Date Print: 10/14/2015

File: C:\project summaries map\PRI Valley Drains Harold Road 2016-313



Project: PRI Valley Drains - Murray Drive

Activity: Routine/ Preventive Maintenance

Project #: 2016-313

Township: Port Royal Isand

Completed: October 2015

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 = 420 feet

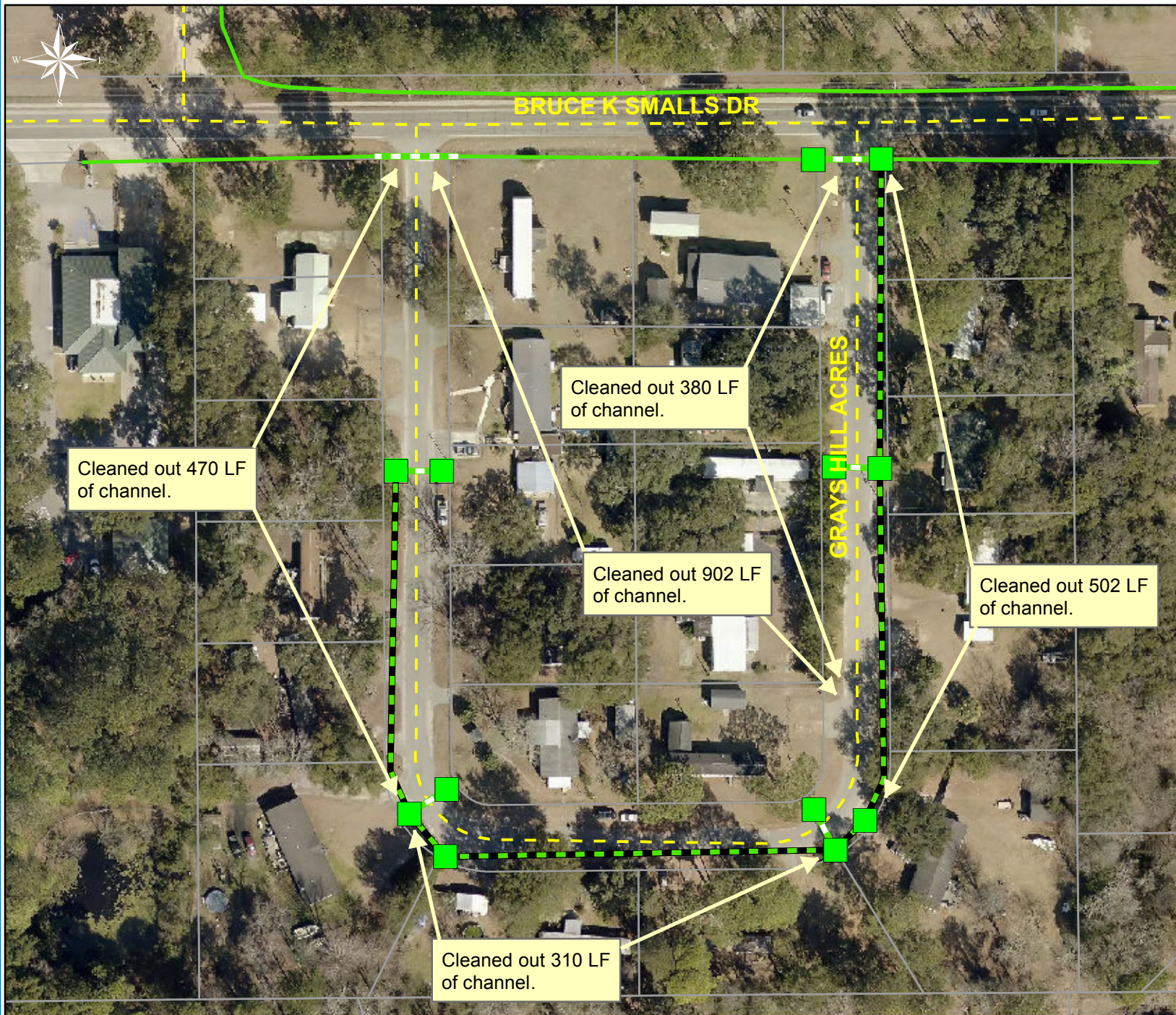
Project: PRI Valley  
Drains- Grays Hill  
Acres

Activity: Routine/  
Preventive  
Maintenance

Project #:  
2016-313

Township:  
Port Royal Island

Completed:  
October 2015



Cleaned out 470 LF  
of channel.

Cleaned out 380 LF  
of channel.














Cleaned out 902 LF  
of channel.

Cleaned out 502 LF  
of channel.

Cleaned out 310 LF  
of channel.

**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



Project: PRI Valley Drains - Blackburn Pierce Drive

Activity: Routine/ Preventive Maintenance

Project #: 2016-313

Township: Port Royal Isand

Completed: October 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



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

**Project Summary:** Irongate Subdivision - Rework

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 345 L.F. of drainage system. Reconstructed 345 L.F. of channel. Reinstalled (1) access pipe to correct elevation. Installed strawmat and hydroseeded for erosion control.

**Completion:** Nov-15

<b>2015-020B / Irongate Subdivision</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
CREC / Channel - reconstructed	15.0	\$359.75	\$136.98	\$28.23	\$0.00	\$226.75	\$751.71
HAUL / Hauling	17.0	\$378.59	\$135.83	\$81.60	\$0.00	\$245.14	\$841.16
HYDR / Hydroseeding	9.0	\$215.85	\$10.62	\$127.05	\$0.00	\$136.05	\$489.57
ONJV / Onsite Job Visit	17.0	\$648.41	\$60.82	\$30.71	\$0.00	\$448.23	\$1,188.17
PI / Project Inspection	3.0	\$136.80	\$10.86	\$5.10	\$0.00	\$101.88	\$254.64
PL / Project Layout	20.0	\$465.05	\$17.70	\$3.62	\$0.00	\$292.90	\$779.27
WSDR / Workshelf - Dressed	28.0	\$651.07	\$67.18	\$56.15	\$0.00	\$410.06	\$1,184.46
<b>2015-020B / Irongate Subdivision Sub Total</b>	<b>109.5</b>	<b>\$2,867.27</b>	<b>\$439.99</b>	<b>\$332.46</b>	<b>\$0.00</b>	<b>\$1,867.62</b>	<b>\$5,507.34</b>
<b>Grand Total</b>	<b>109.5</b>	<b>\$2,867.27</b>	<b>\$439.99</b>	<b>\$332.46</b>	<b>\$0.00</b>	<b>\$1,867.62</b>	<b>\$5,507.34</b>

Before



During



After







Project: Irongate Subdivision

Activity: Routine/ Preventive Maintenance

Project #: 2016-020B

Township: Port Royal Island

Completed: November 2015

Legend	
	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:** Cee Cee Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 5,210 L.F. of drainage system. Removed blockages and check dams from 5,210 L.F. of roadside ditch. Jetted (3) crossline pipes and (12) driveway pipes.

**Completion:** Nov-15

<b>2016-568 / Cee Cee 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	5.0	\$117.45	\$0.00	\$0.00	\$0.00	\$66.15	\$183.60
HAUL / Hauling	18.0	\$415.56	\$95.88	\$37.11	\$0.00	\$271.86	\$820.40
ONJV / Onsite Job Visit	6.0	\$187.93	\$21.24	\$8.50	\$0.00	\$115.62	\$333.29
PRRECON / Project Reconnaissance	2.0	\$91.20	\$7.24	\$5.10	\$0.00	\$67.92	\$171.46
RB / Remove blockage from flowline	18.0	\$395.28	\$71.13	\$16.29	\$0.00	\$252.72	\$735.42
<b>2016-568 / Cee Cee Road Sub Total</b>	<b>49.0</b>	<b>\$1,207.42</b>	<b>\$195.49</b>	<b>\$67.00</b>	<b>\$0.00</b>	<b>\$774.27</b>	<b>\$2,244.17</b>
<b>Grand Total</b>	<b>49.0</b>	<b>\$1,207.42</b>	<b>\$195.49</b>	<b>\$67.00</b>	<b>\$0.00</b>	<b>\$774.27</b>	<b>\$2,244.17</b>

Before



During



After



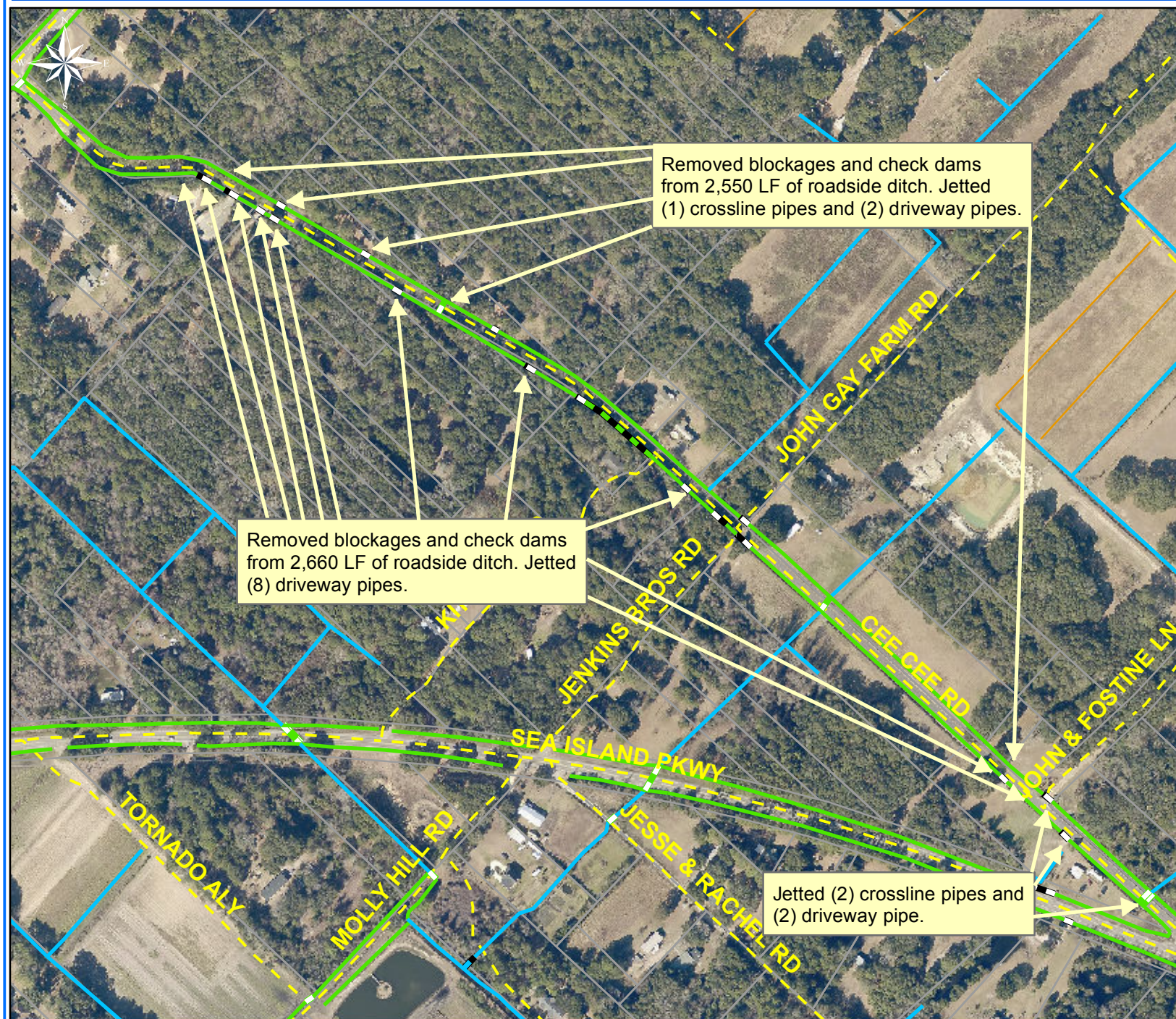
Project: Cee Cee Road

Activity: Routine/  
Preventive  
Maintenance

Project #:  
2016-568

Township:  
St Helena Island

Completed:  
November 2015



0 87.5175 350 525 700 Feet

1 inch = 360 feet

Prepared By: BC Stormwater Management Utility  
Date Print: 11/30/2015  
File: C:\project summaries map\CeeCee Road\_2016-568



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

**Project Summary:** Sheldon Tree Removal - Mount Pisgah Church Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Removed fallen tree from workshelf.

**Completion:** Oct-15

<b>2016-504 / Sheldon 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	8.0	\$178.16	\$63.92	\$114.65	\$0.00	\$115.36	\$472.09
ONJV / Onsite Job Visit	2.0	\$61.50	\$7.08	\$1.72	\$0.00	\$36.46	\$106.76
RMTRW / Remove trees - Workshelf	20.0	\$463.06	\$61.58	\$18.01	\$0.00	\$292.20	\$834.85
<b>2016-504 / Sheldon Tree Removal Sub Total</b>	<b>30.5</b>	<b>\$714.47</b>	<b>\$132.58</b>	<b>\$134.38</b>	<b>\$0.00</b>	<b>\$450.64</b>	<b>\$1,432.06</b>
<b>Grand Total</b>	<b>30.5</b>	<b>\$714.47</b>	<b>\$132.58</b>	<b>\$134.38</b>	<b>\$0.00</b>	<b>\$450.64</b>	<b>\$1,432.06</b>

Before



During



After





Project: Sheldon Tree Removal-Mount Pisgah Church Road

Activity: Routine/Preventive Maintenance

Project #: 2016-504

Township: Sheldon

Completed: October 2015

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

0 15 30 60 90 120 Feet

1 inch = 67 feet

Prepared By: BC Stormwater Management Utility  
Date Print: 10/14/2015

File: C:\project summaries map\Sheldon Tree Removal-Mount Pisgah Church Road\_2016-504



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

**Project Summary:** Reeds Road/Peytons Way

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Removed blockage from flowline by hand. Jetted (1) access pipe and (1) crossline pipe.

**Completion:** Oct-15

**2016-543 / Reeds Rd/Peytons Way**

	<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	6.0	\$137.28	\$26.04	\$18.29	\$0.00	\$89.10	\$270.71
RB / Remove blockage from flowline	10.0	\$225.74	\$14.16	\$10.59	\$0.00	\$141.58	\$392.07
<b>2016-543 / Reeds Rd/Peytons Way Sub Total</b>	<b>16.5</b>	<b>\$374.77</b>	<b>\$40.20</b>	<b>\$28.88</b>	<b>\$0.00</b>	<b>\$237.30</b>	<b>\$681.14</b>
<b>Grand Total</b>	<b>16.5</b>	<b>\$374.77</b>	<b>\$40.20</b>	<b>\$28.88</b>	<b>\$0.00</b>	<b>\$237.30</b>	<b>\$681.14</b>

Before

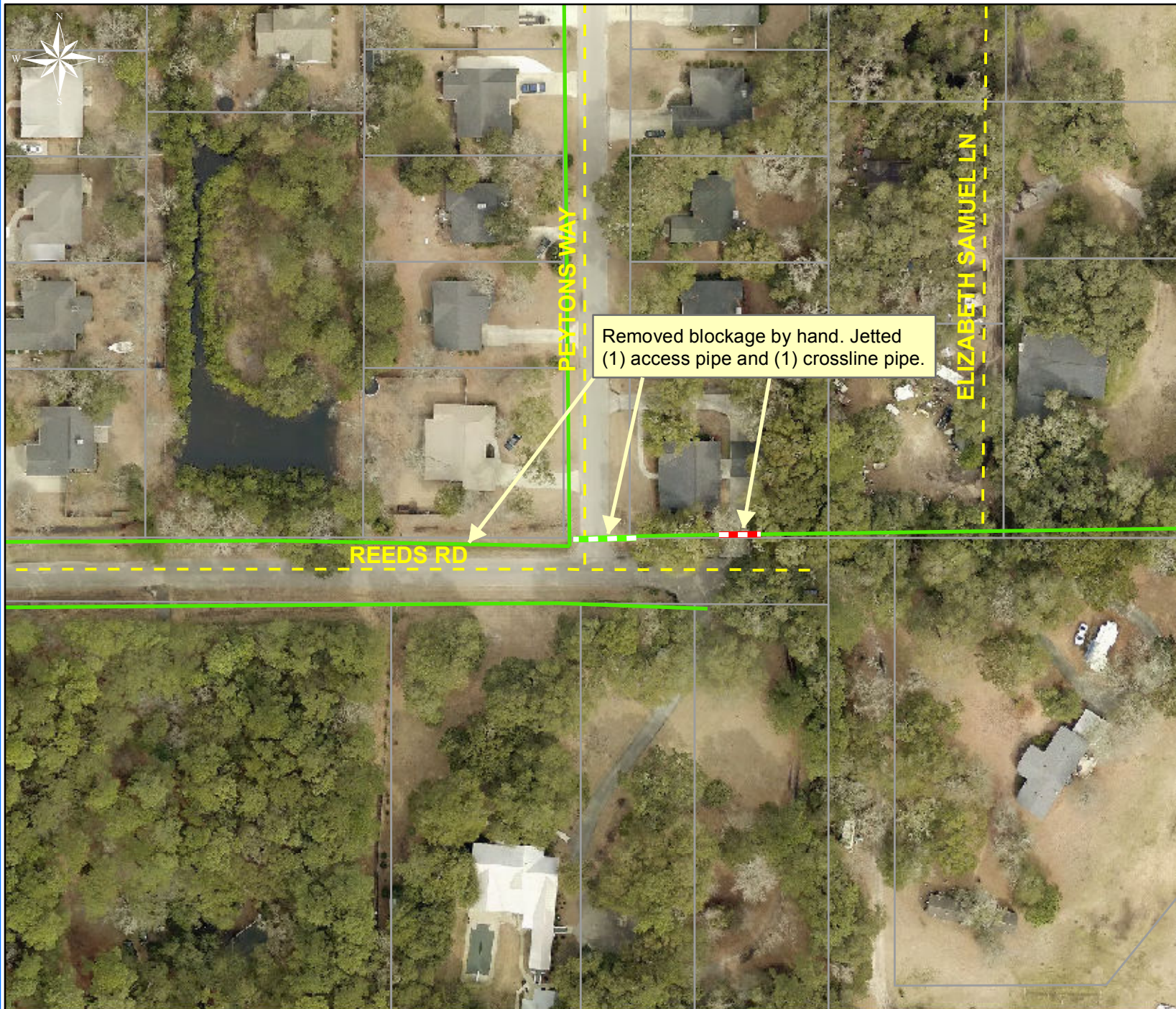


During



After





Project: Reeds Road and Peytons Way

Activity: Routine/ Preventive Maintenance














Project #: 2016-543

Township: Ladys Island

Completed: October 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

0 25 50 100 150 200 Feet

1 inch = 100 feet

Prepared By: BC Stormwater Management Utility

Date Print: 10/5/2015

File: C:\project summaries map\Reeds Road and Peytons Way\_2016-543



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

**Project Summary:** St Helena Island Tree Removal - Ephraim Road Channel #1

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Removal fallen tree from workshelf.

**Completion:** Oct-15

<b>2016-500 / St Helena 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	9.0	\$211.46	\$115.48	\$45.25	\$0.00	\$129.78	\$501.96
<b>2016-500 / St Helena Island Tree Removal Sub Total</b>	<b>9.5</b>	<b>\$223.20</b>	<b>\$115.48</b>	<b>\$45.25</b>	<b>\$0.00</b>	<b>\$136.40</b>	<b>\$520.32</b>
<b>Grand Total</b>	<b>9.5</b>	<b>\$223.20</b>	<b>\$115.48</b>	<b>\$45.25</b>	<b>\$0.00</b>	<b>\$136.40</b>	<b>\$520.32</b>

(Pictures Not Available)





Project: St. Helena Island Tree Removal- Ephraim Road Channel #1

Activity: Routine/ Preventive Maintenance














Project #: 2016-500

Township: St Helena Island

Completed: October 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 = 130 feet

Prepared By: BC Stormwater Management Utility

Date Print: 10/28/2015

File: C:\project summaries map\St. Helena Island Tree Removal- Ephraim Rd Channel #1 2016-500

STATE OF SOUTH CAROLINA )  
 )  
 COUNTY OF BEAUFORT )      **MEMORANDUM OF UNDERSTANDING**

Draft February 18, 2016

This Memorandum of Understanding (the “Memorandum”) is entered into by and between Beaufort County (hereinafter referred to as the “County”) and the University of South Carolina Beaufort (hereinafter referred to as “USCB”) regarding Water Quality Monitoring Services (hereinafter referred to as “monitoring services.”)

**WHEREAS**, USCB operates and manages a laboratory dedicated to assessing the water quality of the Lowcountry; and

**WHEREAS**, the County, in pursuit of its mission to protect our water resources and implement monitoring recommended by the Stormwater Management Plan and restoration initiatives, recognized the inherent value in USCB’s offer to partner with the County and provide monitoring services; and

**WHEREAS**, the County may enter into additional Memorandums of Understanding with other government bodies and that services provided by USCB may be to the benefit of those other government bodies and funded by the County via this MOU; and

**WHEREAS**, the original agreement entered into July 23, 2013 requires updating to properly reflect changing monitoring needs by the County and changing water quality monitoring capabilities by USCB; and

**WHEREAS**, the County and USCB, in order to efficiently analyze and monitor the water quality of the Lowcountry, hereby agree to the following terms and conditions;

**NOW, THEREFORE**, for and in consideration of the mutual promises, undertakings and covenants set forth herein, the receipt and sufficiency of which is acknowledged and affirmed by the County and USCB, the parties hereto agree as follows:

**1. Governing Document**

It is the intent of the parties that this Memorandum shall supersede any other agreements entered between the County and USCB regarding monitoring services.

**2. USCB**

- a. USCB shall continue to work to attain SC DHEC certification for all certifiable analyses reflected in the Assay summary herein (see Attachment 1). 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.
- b. USCB shall continue to operate and manage a laboratory able to receive and analyze the County’s samples during normal hours of operation of 8:00 AM to 4:00 PM, Monday

through Friday. If extenuating circumstances occur that require certain services, such as sample receipt, outside of normal operating hours, the County should inform Laboratory personnel in advance so that accommodations can be made. Samples requiring analysis for BOD5, Chlorophyll-a and/or microbiology, must be received by the Laboratory no later than noon on Thursday.

- c. All analytical results will be reported within 30 days of sample receipt. A preliminary report of completed results prior to 30 days can be issued to the County in the event of illicit discharge tracking, time sensitive projects, or when requested by the County and agreed upon by both parties. Analytical results for microbiological parameters are typically available 48 hours after sample receipt and can be conveyed to the County thereafter. Analytical results will be conveyed to the County via email, unless otherwise requested. Additional costs may be incurred for customized reporting and/or data interpretation.
- d. USCB laboratory staff will make a good faith effort to be responsive to unforeseen water quality needs as they arise.
- e. USCB will separately track monitoring services provided North and South of the Broad River and provide the County's accounting office with summary reports separating such services accordingly.
- f. USCB will submit to the County a summary of all monitoring activity conducted on its behalf, as well as related expenses, on January 1<sup>st</sup> and July 1<sup>st</sup> each year.
- g. USCB may provide laboratory services to entities other than the County, with just compensation for said services, provided doing so does not interfere with its monitoring responsibilities to the County.

### **3. The County**

- a. The County shall issue an annual purchase order for \$120,000 to USCB for sampling and analytical services and other tasks as described in Attachment 1. Payments of \$60,000 will be made bi-annually by the County on January 1<sup>st</sup> and July 1<sup>st</sup> each year.
- b. Any funds in excess of those required for the County's services will be spent at the discretion of USCB laboratory staff on local water quality projects, laboratory operations including obtaining and maintaining State certifications, and equipment upgrades, replacements, and service contracts.
- c. Prior to any sampling and analysis by USCB, an "Analytical Water Quality Service Request" form (see attachment 2) must be completed to ensure a mutual understanding of

requested services. Any modification to the requested services will require the completion of a new “Analytical Water Quality Service Request” form.

#### **4. General Requirements of the Agreement**

- a. The parties hereto intend that no master/servant, employer/employee, or principal/agent relationship will be created by this Agreement. Nothing contained herein creates any relationship between the County and USCB other than that which is expressly stated herein. The County is interested only in the results to be achieved under this Agreement, and the conduct and control of the agents and employees of USCB and the methods utilized by USCB in fulfilling its obligations hereunder shall lie solely and exclusively with USCB, and its agents and employees shall not be considered agents or employees of the County for any purpose. No person employed by USCB shall have any benefits, status, or right of employment with the County.
- b. This Agreement shall not be modified unless such modification is made by mutual consent of both parties at any time in writing and signed by both the County and USCB.
- c. USCB may not assign this Agreement to another organization without the prior written approval of the County.

#### **5. Default Remedies**

In the event USCB does not remedy such conditions that have been found in violation of this Agreement with 30 days after written notice to do so is given by the County, or if insufficient progress is being made toward the remedy within those 30 days, the County may use a portion, or all, of the allocated funds to remedy the conditions.

#### **6. Term**

The term of this Memorandum of Understanding shall be from the date of execution for five (5) years. The Memorandum will be reviewed by the County and USCB annually to determine funding availability for the upcoming year, as well as changes to the “Scope of Services” (see attachment 1).

#### **7. Termination for Convenience**

- a. In addition to any other rights to termination set forth in this Memorandum, in the event both parties mutually agree to terminate this Agreement prior to the expiration of the Term, the County shall be entitled to a pro-rata refund of the money set out in Paragraph 3a above.

- b. The County shall have the right to terminate this Agreement for convenience upon 60 days written notice to USCB. In the event the County terminates this Agreement for convenience, the County shall pay the Laboratory for services performed.

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

**COUNTY OF BEAUFORT**

**UNIVERSITY OF SOUTH CAROLINA  
BEAUFORT**

By \_\_\_\_\_  
Gary Kubic  
County Administrator

By \_\_\_\_\_  
Thomas A. Coggins  
Director, Sponsored Awards Management

Date \_\_\_\_\_

Date \_\_\_\_\_

Address:  
Beaufort County  
PO Drawer 1228  
Beaufort, SC 29901

Address:  
Sponsored Awards Management  
901 Sumter Street, 5<sup>th</sup> Floor  
Columbia, SC 29208

## Attachment 1

### SCOPE OF SERVICES

The Scope of Services in the MOU between Beaufort County and USCB includes those activities specified in sections A and B below.

#### **A. Sampling and Analysis Services**

1. Field collection, *in situ* analysis, and laboratory-based analysis of water samples at locations and frequencies agreed upon by both parties and as reflected in the “Analytical Water Quality Service Request” form.
2. USCB shall be responsible for maintenance and repair of analytical equipment, purchasing laboratory supplies, and supplying qualified personnel to provide sampling and analytical services.

#### **B. Stormwater Meeting Attendance, Input Into Monitoring Plan, and Annual Report Generation**

1. USCB Laboratory staff shall attend monthly stormwater coordination meetings in person or via conference call, as workload allows.
2. USCB Laboratory staff shall participate in the development and routine updates of the County’s water quality monitoring plan.
3. USCB Laboratory staff shall provide an annual report comprised of cumulative analytical water quality data results spanning a 12-month period. The report will provide analytical review and conclusions on the effectiveness of the monitoring program as well as offer advice on modifications of the plan. This report is to be presented to the County within 60 days following the end of each 12-month monitoring period.

#### **C. USCB Water Quality Laboratory Assays**

1. A comprehensive list of assays currently conducted by the USCB laboratory is shown below. Should the County request an assay not among those in USCB’s list of assays, USCB will attempt to find a laboratory capable of such analysis or at its discretion, develop the capability to perform the assay through the purchase of additional equipment and supplies and receipt of additional training, as needed. Both parties will evaluate each request beyond current laboratory capability and together, determine

which party will be responsible for funding. The funding mechanism will be mutually agreed upon and may come from the original **funding** supplied by the County (see paragraph 3a **of the Agreement**), additional County funds, or a combination of the two.

**2. Laboratory Contacts:**

<b><u>Title</u></b>	<b><u>Name</u></b>	<b><u>Contact</u></b>
Laboratory Director:	Dr. Alan Warren	Office: 843-208-8338 Mobile: 843-812-3887
Laboratory Manager:	Danielle Mickel	Office: 843-208-8193 ( WQL) Mobile: 843-298-1612
Water Quality Analyst:	Michael Monday	Office: 843-208-8193 (WQL) Mobile: 843-263-7952

<b>USCB Water Quality Laboratory Assays (effective February 2016)</b>
<b>IN-SITU PARAMETERS</b>
Ambient Air and Water Temperature, Turbidity, pH, Dissolved Oxygen, Salinity, Conductivity, Depth
<b>INORGANIC-NUTRIENTS</b>
Ammonia Nitrogen (NH <sub>3</sub> )
Total Kjeldahl Nitrogen (TKN)
Nitrate plus Nitrite Nitrogen (NO <sub>x</sub> )
Total Nitrogen (TN)
Total Phosphorus (TP)
<b>METALS</b>
Cadmium
Chromium
Copper
Iron
Lead
Manganese
Mercury
Nickel
Zinc
<b>INORGANIC-DEMAND</b>
Total Organic Carbon (TOC)
Biochemical Oxygen Demand (BOD <sub>5</sub> )
<b>INORGANIC-RESIDUE</b>
Total Suspended Solids
<b>BIOLOGICAL</b>
Chlorophyll- <i>a</i>
<b>MICROBIOLOGICAL</b>
Total Coliform + <i>E. coli</i>
Fecal Coliform
Enterococcus



Attachment 2

Analytical Water Quality Service Request																																																																	
USCB Laboratory (SC Cert.# 07568001) One University Blvd., Science & Technology Bldg. room 130, Bluffton, SC 29909 (843) 208-8193																																																																	
Date of Request: _____ Project/Client Name: _____ Period of Project (Dates): Beginning _____ Ending _____																																																																	
Water Quality Monitoring Plan ( estimated sample number and frequency, person(s) collecting samples, sample drop-off days, etc.): _____ _____ _____ _____ _____ _____ _____ _____																																																																	
Description of Project Area or Sampling Location (Lat/Long, County, State, Address): _____ _____ _____																																																																	
Additional Information /Comments: _____ _____ _____																																																																	
Water Type: <input type="checkbox"/> Fresh <input type="checkbox"/> Salt <input type="checkbox"/> Brackish <input type="checkbox"/> Chlorinated <input type="checkbox"/> Other _____																																																																	
<b>Requested Analyses</b> <table style="width: 100%; border: none;"> <tr> <td><input type="checkbox"/> In-Situ</td> <td><input type="checkbox"/> Microbial</td> <td><input type="checkbox"/> Nutrients</td> <td><input type="checkbox"/> Metals</td> <td><input type="checkbox"/> Solids</td> <td><input type="checkbox"/> Biota</td> </tr> <tr> <td><input type="checkbox"/> Air Temp</td> <td><input type="checkbox"/> Enterococcus</td> <td><input type="checkbox"/> TKN</td> <td><input type="checkbox"/> Cadmium</td> <td><input type="checkbox"/> TSS</td> <td><input type="checkbox"/> Chlorophyll-a</td> </tr> <tr> <td><input type="checkbox"/> Water Temp</td> <td><input type="checkbox"/> E. Coli/TC</td> <td><input type="checkbox"/> Ammonia</td> <td><input type="checkbox"/> Chromium</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> pH</td> <td><input type="checkbox"/> Fecal Coliform</td> <td><input type="checkbox"/> Nitrate/Nitrite</td> <td><input type="checkbox"/> Copper</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> DO</td> <td></td> <td><input type="checkbox"/> Total-Phosphorus</td> <td><input type="checkbox"/> Iron</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Salinity</td> <td></td> <td><input type="checkbox"/> BOD5</td> <td><input type="checkbox"/> Lead</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Conductivity</td> <td></td> <td><input type="checkbox"/> TOC</td> <td><input type="checkbox"/> Manganese</td> <td></td> <td></td> </tr> <tr> <td><input type="checkbox"/> Turbidity</td> <td></td> <td><input type="checkbox"/> Total-Nitrogen</td> <td><input type="checkbox"/> Nickel</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td><input type="checkbox"/> Zinc</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td><input type="checkbox"/> Mercury</td> <td></td> <td></td> </tr> </table>						<input type="checkbox"/> In-Situ	<input type="checkbox"/> Microbial	<input type="checkbox"/> Nutrients	<input type="checkbox"/> Metals	<input type="checkbox"/> Solids	<input type="checkbox"/> Biota	<input type="checkbox"/> Air Temp	<input type="checkbox"/> Enterococcus	<input type="checkbox"/> TKN	<input type="checkbox"/> Cadmium	<input type="checkbox"/> TSS	<input type="checkbox"/> Chlorophyll-a	<input type="checkbox"/> Water Temp	<input type="checkbox"/> E. Coli/TC	<input type="checkbox"/> Ammonia	<input type="checkbox"/> Chromium			<input type="checkbox"/> pH	<input type="checkbox"/> Fecal Coliform	<input type="checkbox"/> Nitrate/Nitrite	<input type="checkbox"/> Copper			<input type="checkbox"/> DO		<input type="checkbox"/> Total-Phosphorus	<input type="checkbox"/> Iron			<input type="checkbox"/> Salinity		<input type="checkbox"/> BOD5	<input type="checkbox"/> Lead			<input type="checkbox"/> Conductivity		<input type="checkbox"/> TOC	<input type="checkbox"/> Manganese			<input type="checkbox"/> Turbidity		<input type="checkbox"/> Total-Nitrogen	<input type="checkbox"/> Nickel						<input type="checkbox"/> Zinc						<input type="checkbox"/> Mercury		
<input type="checkbox"/> In-Situ	<input type="checkbox"/> Microbial	<input type="checkbox"/> Nutrients	<input type="checkbox"/> Metals	<input type="checkbox"/> Solids	<input type="checkbox"/> Biota																																																												
<input type="checkbox"/> Air Temp	<input type="checkbox"/> Enterococcus	<input type="checkbox"/> TKN	<input type="checkbox"/> Cadmium	<input type="checkbox"/> TSS	<input type="checkbox"/> Chlorophyll-a																																																												
<input type="checkbox"/> Water Temp	<input type="checkbox"/> E. Coli/TC	<input type="checkbox"/> Ammonia	<input type="checkbox"/> Chromium																																																														
<input type="checkbox"/> pH	<input type="checkbox"/> Fecal Coliform	<input type="checkbox"/> Nitrate/Nitrite	<input type="checkbox"/> Copper																																																														
<input type="checkbox"/> DO		<input type="checkbox"/> Total-Phosphorus	<input type="checkbox"/> Iron																																																														
<input type="checkbox"/> Salinity		<input type="checkbox"/> BOD5	<input type="checkbox"/> Lead																																																														
<input type="checkbox"/> Conductivity		<input type="checkbox"/> TOC	<input type="checkbox"/> Manganese																																																														
<input type="checkbox"/> Turbidity		<input type="checkbox"/> Total-Nitrogen	<input type="checkbox"/> Nickel																																																														
			<input type="checkbox"/> Zinc																																																														
			<input type="checkbox"/> Mercury																																																														
<b>Client/Contact Information:</b> Business/Individual Name: _____ Address: _____ Email: _____ Phone Number(s): Work: _____ Cell: _____																																																																	
This document is a request for services and not a binding contract between USCB and the client. Any changes to this document by the client require reasonable notification of the laboratory before changes can take effect.																																																																	
Signature (Client): _____ Signature (USCB): _____																																																																	

WQL Form 1001

Date: February 5, 2016

To: Danny Polk – Beaufort County Stormwater

From: Paul Moore

Subject : **Stormwater Inventory & Evaluation  
Plantation Business Park  
Project: 150251**

---

**Background:**

It is our understanding that County has been asked to take ownership of Plantation Business Park Drive and the associated stormwater infrastructure serving the commercial subdivision. The ownership and maintenance responsibilities for the drainage structures are uncertain, as the common infrastructure was never dedicated to the County as originally intended. The County's research into the original design and stormwater master plan didn't produced the documents needed to definitively determine the original intent, nor adequately map the drainage system. Ward Edwards was contracted by the County to help to research, map, inventory, and inspect the common infrastructure. As part of the services, the County also requested a summary of needed repairs and cost estimates for those repairs. The results will be used by the County to decide on whether or not to take ownership and maintenance of the common infrastructure; and any conditions required should the County decide to take ownership.

**Preliminary Research Results:**

Ward Edwards requested the original design documents from SCDHEC-OCRM through the Freedom of Information Act (FOIA) program. OCRM provided scanned copies of the original approved design documents, showing the stormwater infrastructure related to the stormwater master plan. The plans provided showed two separate storm sewer networks, one at each end of the original Plantation Park Drive. The western network collects runoff from the west dead-end portion of the subdivision road and conveys it to a detention pond located to the southwest. The eastern system collects runoff from the eastern dead-end road and conveys it to a ditch located to the southeast. The two original dead-ends are long longer terminated in cul-de-sacs; having since been extended to connect to other roads by Beaufort County. The original design plans indicate that reinforced concrete pipe is used within the road right-of-way and high density polyethylene pipe is used in the areas outside of the road right-of-way ( 2-ft wide drainage easements running in between subdivision lots).

**Inspection Procedures and Results:**

Ward Edwards applied numbering nomenclature to each structure and pipe deemed to be part of the original common infrastructure and created an exhibit with these labels. This exhibit was provided to JS Construction to direct them on which pipes and boxes to clean and inspect. Initial cleaning revealed that many of the pipes had accumulated sediment to occupy as much as 75% of the pipe cross sections. Although some sediment accumulation is expected, this amount far exceed expectations. The sediment accumulation in the downstream pond and ditch likely resulted in reduced flow within the pipe system and higher than normal sediment accumulation. High tailwater conditions in the downstream pond and ditches also resulted in the need to construct coffer dams to prevent water from flowing back into the

pipe system during inspection. All pipes and boxes within the system were eventually cleaned via vacuum trucks, with the material being hauled offsite for disposal. After cleaning was complete, a remote control wheeled camera system was used to video tape the full length of each pipe and to inspect the pipe joints. The following notes detail the findings for each pipe and structure.

**Structures:**

The structures and pipes were labeled based on the type of structure (junction box, curb inlet, etc...) and a number based on the order of inspection by the contractor.

Structure Labeling Nomenclature:

JB = Junction Box

CI = Curb Inlet

GI = Grate Inlet

FES = Flared End Section (type of pipe end)

JB-1- significant root intrusion. The intrusion appears to be coming from the seal, but has caused the entire side to crack. We would recommend immediate repairs. The roots are not only a structural risk, but could also be a conduit for sediment which could result in ground subsidence around the structure – high priority.

JB-2 – Appears to be in good condition. No action needed.

CI-3 – Appears an entire side was removed for a culvert connection and voids replaced with brick. Brick need to be resealed/relined to provide a better seal and prevent sediment intrusion.

CI-4 – The area surrounding the pipe connections needs to be better sealed to prevent sediment intrusion.

CI-5 – Pipe connection seals needs maintenance.

CI-6 - Culvert penetration needs to be sealed.



Figure 1 - Example of culvert penetration needing to be sealed with new grout.

GI-7 – Appears to be in good condition. No action needed.

CI-8 – Pipe connection seals need maintenance.

CI-9 - Appears to be in good condition. No action needed.

CI-10 - Appears to be in good condition. No action needed.

CI-11 – Sink holes are occurring outside of the box. Sediment appears to be infiltrating through the yard inlet pipe connection inside the box.

FES – The top of the flared end section is below the sediment elevation in drainage ditch. The ditch needs to be cleaned and re-graded to provide positive drainage to the next downstream structure. The FES structure appears to be in good condition.

Outlet ditch – The ditch is overgrown and has heavy sediment accumulation as indicated in the FES-12 comments. Ditch cleaning will require vegetation being cut/cleared and sediment being dredged

Detention Pond – Heavy sediment accumulation and significant vegetation growth has occurred in the pond. The pond will require dredging and cutting/clearing vegetation.

## Pipes:

JB1-JB2 HDPE Pipe: Significant root intrusion is occurring within multiple portions of the pipe. Severe deflection is occurring within other sections of the pipe, resulting in large, visible cracks in the inner wall. There are two noticeable punctures within the inner pipe walls as well. Significant root intrusion is occurring within multiple portions of the pipe. Visual estimation of the deflection shows typical vertical deflections around 3" (10%), far exceeding the maximum allowed 7.5% deflection. Per SCDOT inspection requirements, pipes with greater than 7.5% of deflection require removal and replacement. These conditions indicate improper handling and installation of the pipe during construction and likely would not be a result of long term settlement or poor maintenance.

JB1-FES HDPE Pipe: Severe deflection is occurring within some sections of the pipe, resulting in large, visible cracks in the inner wall. Deflection is also occurring at some joints, with noticeable gaps in the inner walls. There are frequent buckling occurring along the entire length, with the worst sections being near the flared end section. Visual estimation of the deflection shows typical vertical deflections around 2" (8%), exceeding the maximum allowed 7.5% deflection. Per SCDOT inspection requirements, pipes with greater than 7.5% of deflection require removal and replacement. Significant root intrusion is occurring within multiple portions of the pipe. These conditions indicate improper handling and installation of the pipe during construction and likely would not be a result of long term settlement or poor maintenance.

JB2-CI3 HDPE Pipe: This pipe is exhibiting severe deflection/compression, such that the pipe appear elliptical in the inspection video. Visual estimation of the deflection shows typical vertical deflections around 3" (10%), far exceeding the maximum allowed 7.5% deflection. Per SCDOT inspection requirements, pipes with greater than 7.5% of deflection require removal and replacement. Significant root intrusion is occurring within multiple portions of the pipe. Severe deflection is occurring within other sections of the pipe, resulting in large, visible cracks in the inner wall. There are two noticeable punctures within the inner pipe walls as well. These conditions indicate improper handling and installation of the pipe during construction and likely would not be a result of long term settlement or poor maintenance.



Figure 2 – Pipe JB2-C13: Pipe is experiencing sever deflection and joint separation/buckling

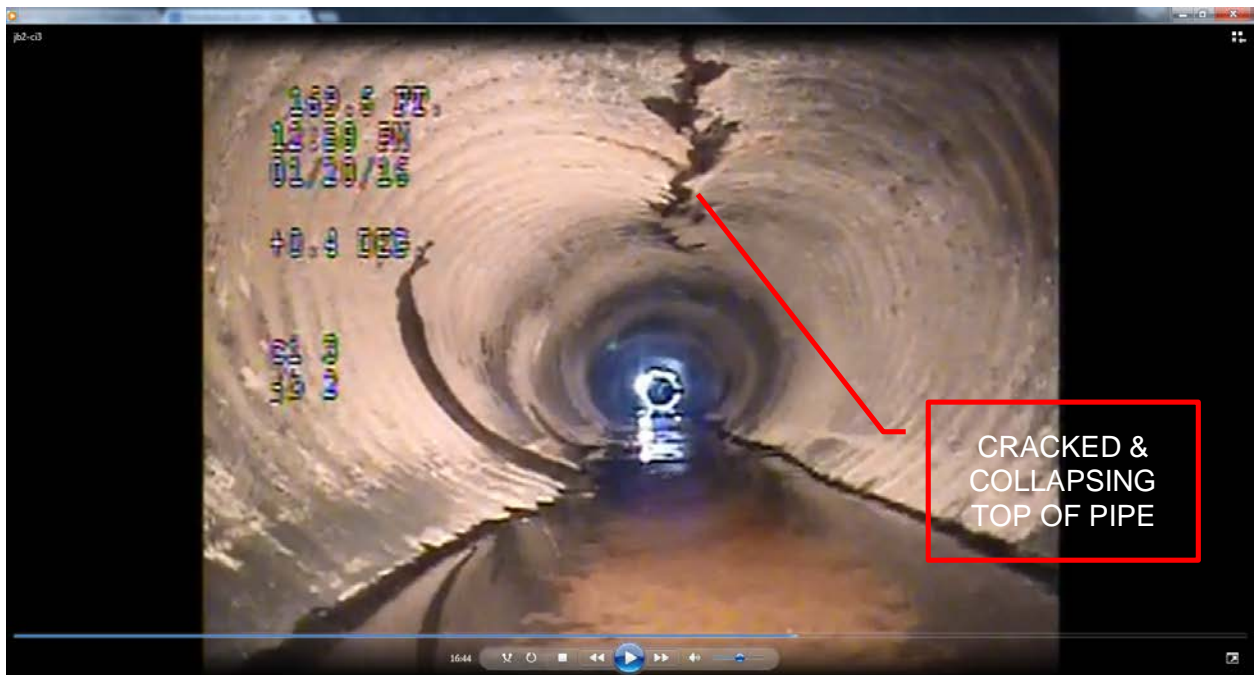


Figure 3 - Pipe JB2-C13: Deflection/buckling is resulting in cracking at the top of the pipe.



Figure 4 - Pipe JB2-CI3: Example of pipe joint failure with rubber gasket out of place.



Figure 5 - Pipe JB2-CI3: Large cracks with debris penetration.

CI4-CI3 Concrete Pipe: This pipe is generally in fair condition. The joints appear to be solid with no evidence of infiltration. Each pipe has a hole in the top of the pipe centered along the length of each joint. The holes are stuffed with what appears to be filter fabric. These holes were likely drilled by the contractor and used to hoist the pipes into place via and eye bolt through the hole. The holes were likely plugged with the filter fabric and grouted over on the outside. However, grout on the exterior of the holes can't be verified without excavating over the pipes.

CI5-CI6 Concrete Pipe: This pipe is generally in fair condition. The joints appear to be solid although there is evidence of infiltration at some joints. Each pipe has a hole in the top of the pipe centered along the length of each joint. The holes are stuffed with what appears to be filter fabric. These holes were likely drilled by the contractor and used to hoist the pipes into place via and eye bolt through the hole. The holes were likely plugged with the filter fabric and grouted over on the outside. However, grout on the exterior of the holes can't be verified without excavating over the pipes. A couple of the holes in this pipe show evidence of water seepage and soil infiltration.

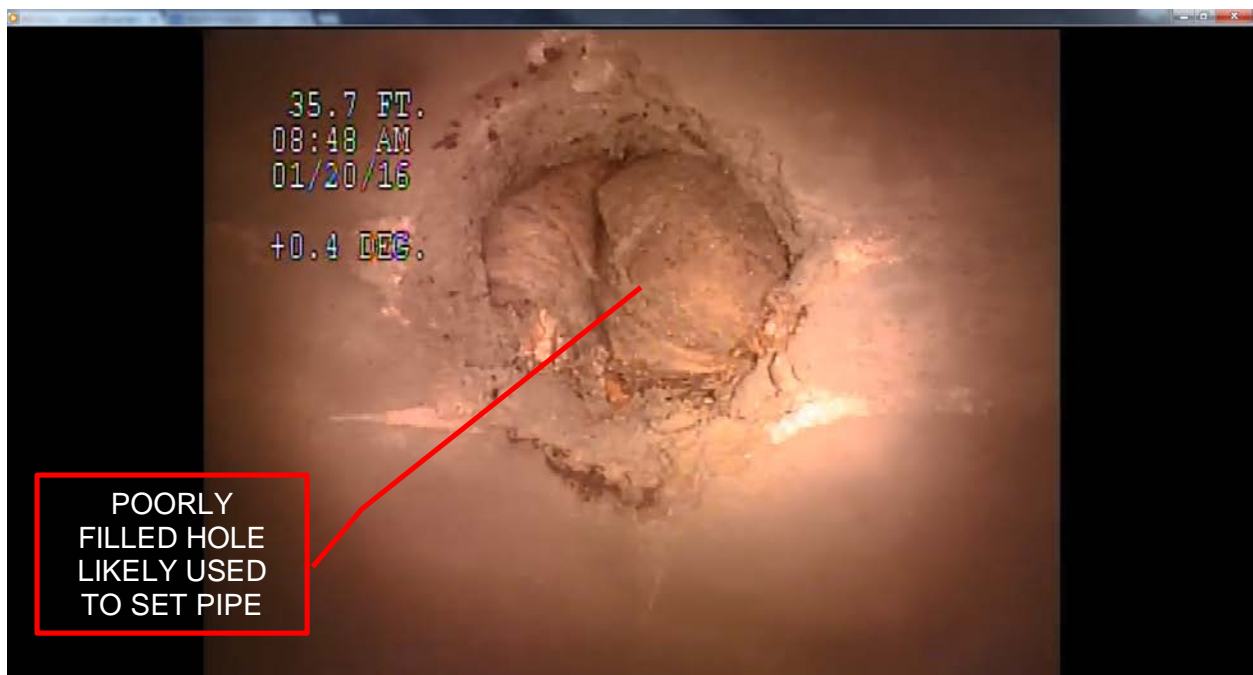


Figure 6 - Pipe CI5-CI6: Lifting eye holes plugged with fabric but not properly grouted.





*Figure 7 - Pipe C15-C16: Evidence of water infiltration through pipe joints*

C15-JB2 HDPE Pipe: This pipe is exhibiting severe deflection/compression, such that the pipe appear elliptical in the inspection video. Visual estimation of the deflection shows typical vertical deflections around 3" (10%), far exceeding the maximum allowed 7.5% deflection. Per SCDOT inspection requirements, pipes with greater than 7.5% of deflection require removal and replacement. Significant root intrusion is occurring within multiple portions of the pipe. Severe deflection is occurring within other sections of the pipe, resulting in large, visible cracks in the inner wall. Much of the deflection is occurring at the invert of the pipe section, creating an uneven flowline. These conditions indicate improper handling and installation of the pipe during construction and likely would not be a result of long term settlement or poor maintenance.



Figure 8 - Pipe CI5-JB2: Severe deflection and buckling beyond allowable limits

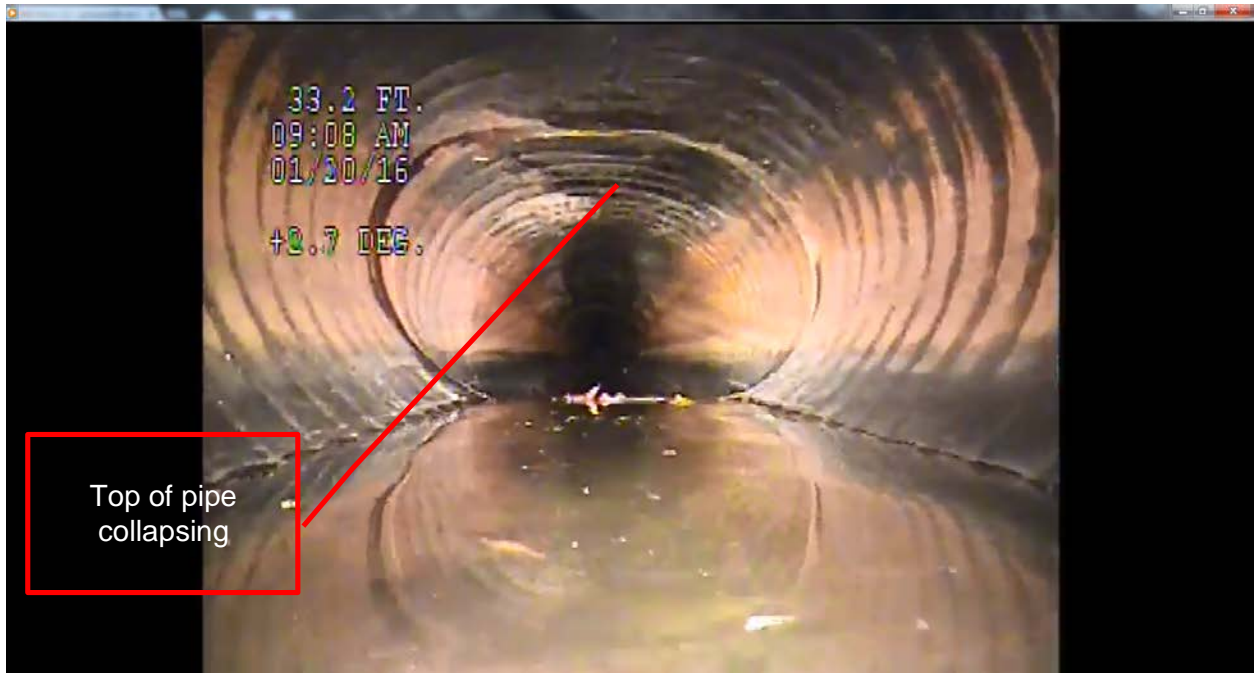


Figure 9: Pipe CI5-JB2: Severe deflection such that pipe is beginning to collapse.

G17-PONDEND HDPE Pipe: This pipe is in very poor condition. Severe deflection is occurring within some sections of the pipe, resulting in large, visible cracks in the inner wall. Deflection is also occurring at some joints, with noticeable gaps in the inner walls. There are frequent buckling occurring along the entire length. Visual estimation of the deflection shows typical vertical deflections around 2" (8%), exceeding the maximum allowed 7.5% deflection. Per SCDOT inspection requirements, pipes with greater than 7.5% of deflection require removal and replacement. These conditions indicate improper handling and installation of the pipe during construction and likely would not be a result of long term settlement or poor maintenance.



*Figure 10: Pipe G17-PONDEND: Severe joint deflection and damage likely resulting during improper installation.*

G17-G18 HDPE Pipe: This pipe is in very poor condition. There appears to be some sort of small utility (irrigation or electrical conduit) pipe drilled through the storm pipe. Severe deflection is occurring within some sections of the pipe, resulting in large, visible cracks in the inner wall. Deflection is also occurring at some joints, with noticeable gaps in the inner walls. There are frequent buckling occurring along the entire length, making the invert of the pipe uneven along the length. This would result in flow restriction within the pipe. Visual estimation of the deflection shows typical vertical deflections around 2" (8%), exceeding the maximum allowed 7.5% deflection. Per SCDOT inspection requirements, pipes with greater than 7.5% of deflection require removal and replacement. Significant root intrusion is occurring within multiple portions of the pipe. These conditions indicate improper handling and installation of the pipe during construction and likely would not be a result of long term settlement or poor maintenance.



Figure 11: Pipe GI7-GI8: Irrigation pipe or electrical conduit drilled through pipe.



Figure 12: Pipe GI7-GI8: Joint damage likely from improper installation.

CI9-CI8 Concrete Pipe: This pipe is generally in fair condition. The joints appear to be solid although there is evidence of infiltration at some joints. Some pipes have a hole in the top of the pipe centered along the length of each joint. The holes are stuffed with what appears to be filter fabric. These holes were likely drilled by the contractor and used to hoist the pipes into place via and eye bolt through the hole. The holes were likely plugged with the filter fabric and grouted over on the outside. However, grout on the exterior of the holes can't be verified without excavating over the pipes.

CI9-CI10 Concrete Pipe: This pipe is generally in fair condition. There is apparent soil and root infiltration at the majority of joints, with significant sediment buildup along the lower halves of the joints. This is a possible indication that the joints were not properly wrapped with filter fabric during installation. Some pipes have a hole in the top of the pipe centered along the length of each joint. The holes are stuffed with what appears to be filter fabric. These holes were likely drilled by the contractor and used to hoist the pipes into place via and eye bolt through the hole. The holes were likely plugged with the filter fabric and grouted over on the outside. However, grout on the exterior of the holes can't be verified without excavating over the pipes.



*Figure 13: Pipe CI9-CI10: Sediment accumulation at pipe joint likely from infiltration through joint.*

CI11-CI10 Concrete Pipe: This pipe is generally in good condition, without the root and soil infiltration that is occurring in the other runs of concrete pipe. Similar to the other concrete pipes, some pipes have a hole in the top of the pipe centered along the length of each joint, likely used to lift the pipes in place. The holes were likely plugged with the filter fabric and grouted over on the outside. However, grout on the exterior of the holes can't be verified without excavating over the pipes.

### **Recommendations:**

There are multiple indications that the pipe system was not installed to the County's standards typically required for infrastructure that is to be owned and maintained by the County. The following repairs/improvements are recommended to mitigate the observed problems.

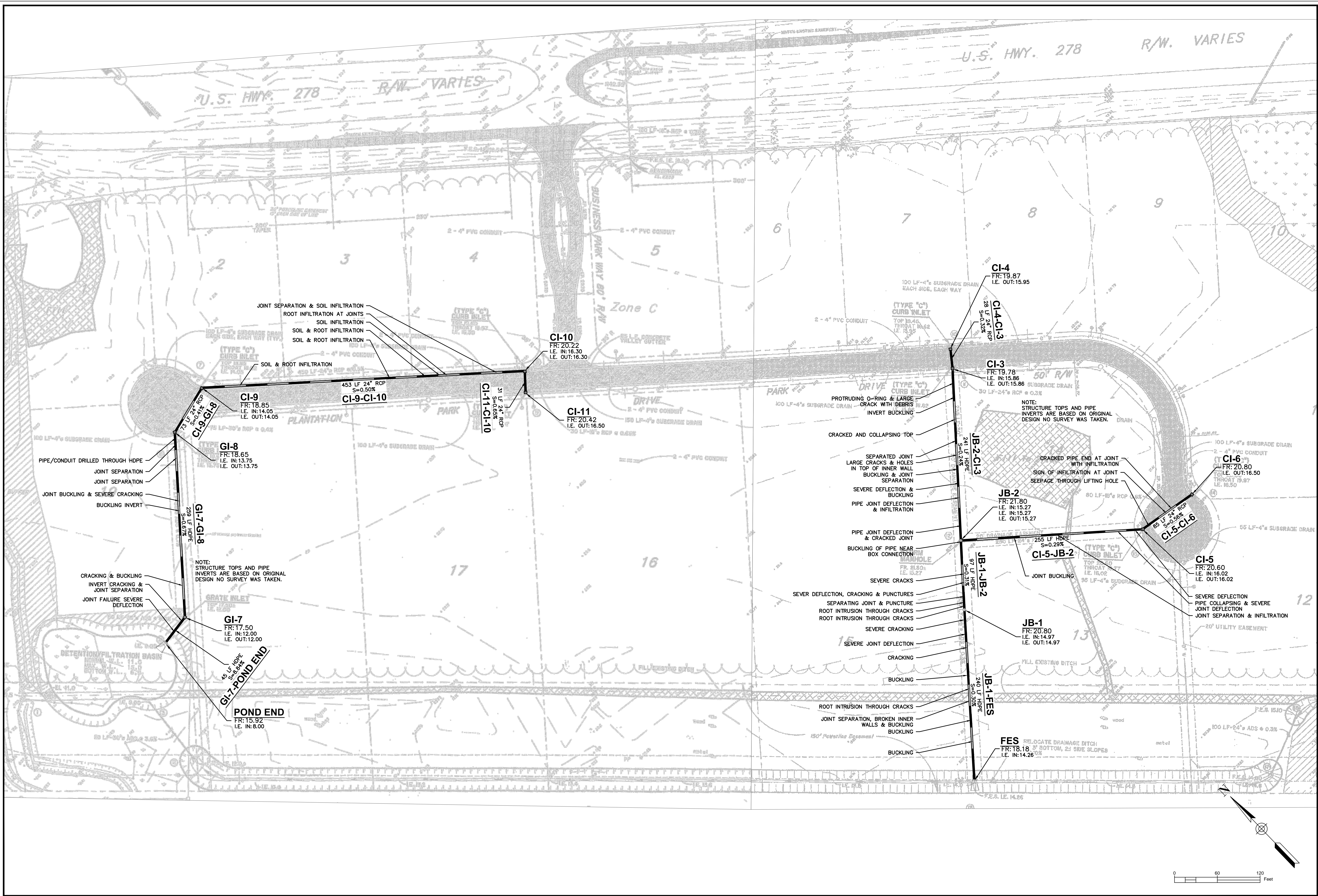
- The conditions of all of the HDPE pipe sections are so poor that they likely require removal and replacement. Given that the HDPE pipe is located within landscape areas and within drainage easements; excavation, removal, and replacement with new RCP is likely the best option.
- The concrete pipe sections are generally in fair condition, but there is evidence of some installation problems given the soil infiltration at some joints and some of the poorly plugged lifting eye holes. Structurally, the RCP pipes are functional, but the observed soil infiltration would require more frequent cleaning. Additionally, over time the soil infiltration will result in sink holes and pavement failure in the road. Given that the RCP is located under pavement, removal and replacement would be cost prohibitive. The RCP could be slip lined with a plastic pipe, but this would result in a decrease in the internal diameter and the flow capacity of the pipe. Slip lining 24" RCP would reduce the cross sectional area to the equivalent of an 18" RCP. This is not recommended because it could create upstream drainage problems. The better alternative is cured in place plastic (CIPP) lining. This is more expensive than slip lining but doesn't result in a reduction in flow capacity.
- The existing detention pond, outfall structures, and outfall ditches are all in need of routine maintenance. The pond should be cleaned back to the original design depths, removing all accumulated sediment and vegetation. The existing downstream outfall ditch needs to be cleaned and re-graded to reestablish positive drainage. The inundation condition in the downstream ditch resulted in high sediment accumulation in portions of the pipe system, with sediment clogging as much as 75% of the pipe sections. Although the pipes have now been cleaned for the purpose of this inspection, the ditch condition will result is quicker than normal accumulation of sediment in the pipes. The existing outfall structures and pipes should be cleaned and inspected as well. The pipes appear to be HDPE material, so it is possible they are in similar condition to the HDPE pipes inspected. There is no indications of drainage/maintenance easements along the existing outfall ditch, so easements may need to be acquired for the maintenance work to occur.

***It is recommended that the County not take ownership of the drainage system without first requiring repair/replacement of much of the infrastructure.*** Attached is as Engineer's Estimate of Probable Costs to implement the recommended repairs. The estimate result is approximately \$343,000, excluding the cost of acquiring any easements needed for the offsite ditch cleaning. Easement acquisition is beyond Ward Edwards' area of expertise.

**Plantation Business Park: Engineer's Estimate of Probable Cost**

No.	Description	Unit	Quantity	Unit Price	Total Price
<b>1</b>	<b>GENERAL</b>				
	Mobilization / Demobilization / Traffic Control / Management	LS	1	\$ 5,000.00	\$ 5,000.00
	Testing Services	LS	1	\$ 5,000.00	\$ 5,000.00
	Surveying (Layout & Asbuilts)	LS	1	\$ 3,500.00	\$ 3,500.00
	<b>General Subtotal</b>				<b>\$ 13,500.00</b>
<b>2</b>	<b>DEMOLITION &amp; CLEANING</b>				
	Clean existing Detention Pond	LS	1	\$ 90,000.00	\$ 90,000.00
	Clean Existing Ditch	LF	3000	\$ 5.00	\$ 15,000.00
	Demolition - Remove Existing Storm Drainage	LF	1120	\$ 10.00	\$ 11,200.00
	<b>Demolition Subtotal</b>				<b>\$ 116,200.00</b>
<b>3</b>	<b>EROSION CONTROL</b>				
	Erosion Control - Sediment Tube	EA	8	\$ 150.00	\$ 1,200.00
	Erosion Control - Silt Fence	LF	2400	\$ 3.50	\$ 8,400.00
	Erosion Control - Temporary Seeding	SY	4000	\$ 0.25	\$ 1,000.00
	Erosion Control - Permanent Seeding	SY	4000	\$ 0.50	\$ 2,000.00
	Erosion Control - Concrete Washout	EA	1	\$ 1,250.00	\$ 1,250.00
	<b>Erosion Control Subtotal</b>				<b>\$ 13,850.00</b>
<b>4</b>	<b>STORM DRAINAGE</b>				
	Replace HDPE with 24-inch Reinf. Conc. Pipe	LF	1120	\$ 50.00	\$ 56,000.00
	Cured In Place Plastic Lining of Existing Conc. Pipe	LF	670	\$ 100.00	\$ 67,000.00
	Storm Drain - Junction Box	EA	3	\$ 5,000.00	\$ 15,000.00
	<b>Storm Drainage Subtotal</b>				<b>\$ 138,000.00</b>
<b>5</b>	<b>SOFT COSTS</b>				
	Engineering, Surveying & Construction Inspection	LS	1	\$ 30,000.00	\$ 30,000.00
	<b>Soft Cost Subtotal</b>				<b>\$ 30,000.00</b>
	<b>SUMMARY</b>				
	GENERAL				\$ 13,500.00
	DEMO & CLEANING				\$ 116,200.00
	EROSION CONTROL				\$ 13,850.00
	STORM DRAINAGE				\$ 138,000.00
	SOFT COSTS				\$ 30,000.00
				<b>Sub-total</b>	<b>\$ 311,550.00</b>
				<b>10% Contingency</b>	<b>\$ 31,155.00</b>
				<b>Total</b>	<b>\$ 342,705.00</b>

THIS DOCUMENT AND ALL REPRODUCIBLE COPIES OF THIS DOCUMENT ARE THE PROPERTY OF WARD EDWARDS, INC. REPRODUCTION OR ALTERATIONS OF THIS DRAWING WITHOUT THE WRITTEN CONSENT OF WARD EDWARDS, INC. IS NOT PERMITTED.



NO.	DESCRIPTION	DATE
1		
2		
3		
4		
5		
6		
7		

**Ward Edwards**  
ENGINEERING

P.O. BOX 381, BLUEFORD, SOUTH CAROLINA 29910  
PH: (803) 837-5350 / FAX: (803) 837-2356  
WWW.WARDEDWARDS.COM

PLANTATION BUSINESS PARK  
BEAUFORT COUNTY, SOUTH CAROLINA  
BEAUFORT COUNTY, SOUTH CAROLINA  
**INSPECTION EXHIBIT**

PROJECT #:	150251
DATE:	2/01/16
DESIGNED BY:	RDB
CHECKED BY:	PRM
SCALE:	1"=60'

SHEET  
**EX.01**

IF THIS SHEET IS LESS THAN 22" X 34" IT IS A REDUCED PRINT. SCALE ACCORDINGLY





BEAUFORT COUNTY  
STORMWATER MANAGEMENT UTILITY BOARD AGENDA  
Wednesday, March 23, 2016  
2:00 p.m.  
Executive Conference Room 170, 100 Ribaut Road, Beaufort, SC  
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 – David Wilhelm (backup)
  - J. Financial Report (backup)
5. UNFINISHED BUSINESS (backup)
  - A. Rate Study Final Report/Update on Municipalities (backup)
6. NEW BUSINESS
  - A. Credit Manual Update (backup)
7. PUBLIC COMMENT
8. NEXT MEETING AGENDA
  - A. April 27, 2016 (backup)
9. ADJOURNMENT

