

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

August 6, 2014 at 2:00 p.m. in Beaufort Industrial Village Building #2 Conference Room

**Board Members**

<b>Present</b>	<b>Absent</b>
Don Smith	Allyn Schneider
James Fargher	Patrick Mitchell
William Bruggeman	

**Ex-Officio Members**

<b>Present</b>	<b>Absent</b>
Andy Kinghorn	
Kimberly Jones	
Van Willis	
Scott Liggett	

**Beaufort County Staff**

Eric Larson  
Eddie Bellamy  
Danny Polk  
Carolyn Wallace

**Visitors**

Lamar Taylor, City of Beaufort  
Bryan McIlwee, Town of Hilton Head Island  
Paul Moore, Ward Edwards  
Tony Maglione, ATM  
Reed Armstrong, Coastal Conservation League

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

- A. Agenda – No quorum to approve the agenda.
- B. June 4, 2014 Minutes and July 2, 2014 Minutes – No quorum to approve the minutes.

**2. Introductions** – Completed.

**3. Public Comment(s)** – None.

**4. Reports** – (Mr. Larson submitted his written report in advance. [Please see attachment.](#))

- A. **Special Presentation** – Mr. Bryan McIlwee with the Town of Hilton Head Island provided a presentation on an overview of the Town’s stormwater program and the timeline for their upcoming Municipal Separate Storm Sewer System (MS4) designation ([please see attachment](#)).

- B. **Utility Update** – Eric Larson

*Credits and On-Lot Volume Control Exemptions* – Mrs. Carolyn Wallace and Mr. Larson are working on an update to the records of developments with stormwater utility fee credits and/or on-lot volume control exemptions. Mr. Larson is planning on performing audits of these applications in fiscal year (FY) 2015 to determine if the programs are beneficial and if the applicants are still compliant.

*Speaking Engagement* – Mr. Larson wanted to thank the Riverbend POA for asking him to be the guest speaker at their meeting on July 11, 2014. He spoke on the stormwater program, current projects, and new programs related to the MS4 permit.

- C. **MS4 Update** – Eric Larson

*MS4 Update* – The selection committee for the Engineering and Consulting Services for Stormwater Management Request for Proposals (RFP) received 6 proposals from Woolpert, ATM partnered with Raftelis Financial Consulting and Beaufort Surveying, Bowman Consulting partnered with Andrews and Burgess, Thomas & Hutton partnered with CDM Smith, AMEC partnered with Ward Edwards, and URS partnered with a surveyor (Cragston Engineering Group, P.C.) out of Augusta, Ga.. The committee, made up of Audra Antonacci with Code Enforcement, Charles Atkinson with Building Inspection, Gregg Hunt with Mosquito Control, Amanda Flake with Planning, and Mr. Larson, short

listed 3 firms who were interviewed July 30, 2014. The committee has recommended hiring ATM. The draft recommendation to County Council's Public Facilities Committee is attached to the SW manager's report.

*Stormwater Public Education and Outreach* – The RFP for services was issued July 19, 2014.

Proposals are due August 19, 2014. The stormwater managers for the county and four municipalities will be on the selection committee.

**D. Monitoring Update** – Eric Larson

*University of South Carolina, Beaufort (USCB) Laboratory* – Mr. Danny Polk and Mr. Larson met with Dr. Warren last week. Per the strategic plan, the lab is on schedule, perhaps a little ahead of schedule. They will be submitting their first application for certification next month.

*Preliminary Okatie River Monitoring Data* – A councilman asked Mr. Larson to look at the data to see if the efforts are making a difference to the water quality of the river. His anecdotal response was fecal coliform is still the issue but phosphorus and nitrogen levels are within limits. The data trend is flat. Mr. Larson stated that this makes sense. There is plenty of data but not many projects have come on line yet. Future projects on the Okatie River will hopefully show a trend downward in fecal coliform.

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

*SWIC Meeting* – The committee met in July and discussed Good Housekeeping/Facility Operations which is one of the Minimum Control Measure (MCM) of the MS4 permit. The meeting members are attached to the SW Manager's report. The next meeting is scheduled for next week and the committee will continue this discussion. The members will also be reviewing the Notice of Intent (NOI) template provided by SC Department of Health and Environmental Control (DHEC) and reviewing the Public Education RFP.

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

*BC Administration Building's Stormwater Ponds* – The SW infrastructure crew is restoring the two ponds to original design elevation.

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

*SC 170 Widening and Stormwater* – Ward Edwards has been retained to update a preliminary study of the Okatie East basin site and to expand the study to include the entire road corridor for additional potential best management practices (BMPs) to address water quality and volume control. Mr. Larson stated the contract amount is \$14K.

*Comment* - Mr. Don Smith asked that the cost of projects be added to the SW manager's report in the future.

**H. Regional Coordination** - Eric Larson

**I. Sea Level Rise and Future Planning** – The flyer for a series of public meetings is attached to the SW manager's report. The public is invited and encouraged to attend the meetings.

*Battery Creek Pond* – The City of Beaufort personnel, county personnel and the consultants will be meeting with the Gray family. Mr. Andy Kinghorn expressed his interest in attending the meeting and would like to review the plans before the meeting. Mr. Lamar Taylor said he would make sure he gets a copy.

*May River Watershed Action Plan* – Ms. Kim Jones thanked Mr. Larson for providing copies of a news article that included pictures of the May River watershed signage.

The town just executed their third 3-year contract (\$120K/year) with USCB lab.

The town is sending one of their employees to EnerGov data management software training to help build their MS4 tracking modules. This is the same software that the Town of Hilton Head Island uses.

For the 319 Phase II grant, the town is executing the contract for flow monitoring to collect pre-project data to compare to flow monitoring data after the project is completed. The RFP for actual design and construction will go out shortly.

The town and Beaufort Jasper Water Sewer Authority (BJWSA) partnered to create a May River Sewer Master Plan.

There was a minor sewer spill near the farmer's market and a great collaborative effort between BJWSA, DHEC, and the town to address the spill. Mr. Kinghorn mentioned an article in the newspaper this morning about a major sewer spill in Battery Creek in the Port Royal area, in an area that is already impaired.

Mr. Larson mentioned that the May River Action Plan meeting minutes are posted on the town's website.

**J. Financial Report** – Copies of the June financials were provided.

**K. Maintenance Projects Report** – Mr. Eddie Bellamy submitted his written report in advance ([Please see attachment](#)). Mr. Bellamy left the meeting early so Mr. Larson covered this agenda item.

## **5. Unfinished Business**

*Vacant SWMU Board Member Seats* – There are no candidates on file for these seats. Mr. Larson spoke with Councilman Bryan Flewelling. He also sent out emails soliciting help to find viable candidates. He said they are also trying to use social media to let people know we are in search of candidates to fill these seats.

*Forby Tract Land Acquisition* – County Council's Natural Resources Committee heard the recommendation and approved it. It will go to council. The Rural and Critical Land Committee has approved it.

**6. New Business** – None.

**7. Public Comment(s)** – None.

**8. Next Meeting Agenda** – No quorum to approve.

**9. Meeting Adjourned.**



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



August 6, 2014

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

Utility Update

1. Carolyn Wallace and I are working on an update to the records of developments with SWU fee credits and/or on-lot volume control exemptions. I am planning on performing audits of these applications in FY15 to determine if the programs are beneficial and if the applicants are still compliant.
2. I prepared an analysis of staffing, workload, and projections of funding needs for FY15 to assist the County Council with their evaluation of the budget adjustments to be made this year.
3. I was a guest speaker at the Riverbend POA meeting on July 11, 2014. I spoke on the stormwater program, current projects, and new programs related to the MS4 permit.
4. The Stormwater Department currently has 5 positions open. Three are crew positions to fill vacancies, one is related to the new 811 Utility Locate program, and one is related to the new MS4 program. Interviews are complete and recommendations have been made for all five positions.

MS4 Update

1. The selection committee for the Engineering and Consulting Services for Stormwater Management RFP received 6 proposals from Woolpert, ATM, Bowman Consulting, Thomas & Hutton, AMEC, and URS. The committee, made up of Audra Antonacci with Code Enforcement, Charles Atkinson with Building Inspection, Gregg Hunt with Mosquito Control, Amanda Flake with Planning, and myself, short listed 3 firms who were interviewed July 30, 2014. The committee has recommended hiring ATM. The [draft recommendation](#) to County Council's Public Facilities Committee is attached. I request the Board take action to approve the recommendation.
2. Stormwater Public Education and Outreach – The RFP for services was issued July 19, 2014. Proposals are due August 19, 2014.
3. I attended a meeting with Bryan Hill, Charles Atkinson, and Alicia Holland to discuss a strategy to implement stormwater construction and post construction permits using the One Stop Shop and the permitting department. It will be doable but we need to develop a flow chart to outline the process. Work is on-going.

Monitoring Update

1. USCB Lab – Danny Polk and I are planning a meeting in August with Dr. Warren and his staff to discuss implementation of the strategic plan we developed earlier this year.

## Stormwater Implementation Committee (SWIC) report

1. The SWIC met in July. The topic of discussion was Public Education, Data Management, and Good Housekeeping / Facility Operations. [Minutes are attached.](#)
2. The next meeting is scheduled for August 13. The SWIC will be reviewing the Public Education proposals, reviewing the needed content of the NOI, and reviewing data management software.

## Stormwater Related Projects

1. Proposed Carolina Jellyball processing facility in Lobeco – Nothing new to report since last month.
2. Golden Dock Road facility expansion on St. Helena Island – I reviewed the BMP design and construction for this recent loading dock expansion. I attended a public hearing on an appeal of the development permit granted by the Planning Commission. I did not testify but provided technical advice to the County Attorney. The permit was upheld.
3. Infrastructure crew performed on-going maintenance needs. This past week, the crew began a clean-up and dredging project for the retention ponds at the Administration Building. We are also partnering with the SCDOT to clean a ditch on Burnt Church Road near Bluffton to assist a property owner with a detention pond drainage issue.
4. 343 Sea Island Parkway - Code Enforcement and Zoning asked me to get involved in an action against a property owner that has filled a portion of a wet detention pond with construction debris. Danny Polk and I met the owner on site and provided direction on how to resolve the matter.

## Professional Contracts Report

1. US 278 retrofit ponds – This project will be performed in-house by the Infrastructure over the coming months. In conjunction with the soccer complex expansion at the Buckwalter park site, we plan on stockpiling the spoils from the pond excavation for use as fill on that project, subject to permitting approval.
2. County Admin. Complex Retrofit Project – Bids are due Aug 7, 2014.
3. Consultant procurement for the Carolina Jellyball application for the Lebeco site is still on hold pending a submittal from the applicant.
4. Okatie East BMP monitoring – Ongoing. We are experiencing frequent overflows of the outlet structure built as part of the retrofit earlier this spring. Ward Edwards is working on a model to evaluate a potential design modification to the pipe and outlet structure.
5. SC 170 widening and stormwater – We have retained Ward Edwards to prepare a conceptual design study for the road corridor to determine methods, needs, and cost. It is due September 1, 2014.
6. Okatie West basin – Nothing new to report since last month. This project will likely move forward in conjunction with the SC 170 stormwater project.

## Regional Coordination

1. Battery Creek Pond funded by an EPA 319 grant – On going. Preliminary design is complete and a meeting to review the project with the property owner and government staff is pending. (Lamar Taylor may report)
2. May River Watershed Action Plan – On going. (Kim Jones may report)
3. Salinity Study - On going. Nothing new to report.
4. Sea Level Rise and future planning – On going. Two public meetings will be held on August 25 and 26 to review the work done and seek input. [\(Flyer attached.\)](#) The public is invited and encouraged to attend one of the meetings.
5. Drainage issue on H.E. McCracken Circle in Bluffton – On going. Nothing new to report.
6. May River Sewer Extensions by BJWSA - I met with Dick Deuel, where he presented the sewer extension plan for the May River watershed areas. He has asked the County to review. He is seeking support of the plan going forward. I am coordinating comments by Planning, Engineering, and Stormwater.



COUNTY COUNCIL OF BEAUFORT COUNTY  
**PURCHASING DEPARTMENT**

102 Industrial Village Road, Bldg 3—Post Office Drawer 1228  
Beaufort, South Carolina 29901-1228

**TO:** Councilman Gerald Dawson, Chairman, Public Facilities Committee

**FROM:** Dave Thomas, Purchasing Director

**SUBJ:** **RFP # 07112014 Request for Proposal to provide Engineering and Consulting Services for Stormwater Management for Beaufort County**

**DATE:** August 1, 2014

**BACKGROUND:** Beaufort County's Purchasing Department issued a Request for Proposal (RFP) to firms capable of providing professional engineering and consulting services for Beaufort County's Stormwater Department programs. The resulting contract with the successful firm(s) shall be a full service, indefinite delivery type with multiple year renewals option up to five (5) years for the County. The scope of services will require the consultants to oversee, design, develop, and/or manage the various Stormwater projects and programs as listed in the RFP. The Evaluation Committee consisted of five (5) members: Audra Antonacci with Code Enforcement, Charles Atkinson with Building Inspection, Amanda Flake with Planning, Gregg Hunt with Mosquito Control, and Eric Larson with Stormwater Utility Management. Beaufort County received six (6) responses to the RFP. The Evaluation Committee reviewed and evaluated all responses and selected the following three (3) firms for interviews: AMEC Environmental & Infrastructure, Inc., Applied Technology & Management, Inc. (ATM), and Woolpert, Inc.

After the interviews and based on the RFP evaluation criteria, Applied Technology & Management, Inc. (ATM) was unanimously selected and ranked the number one (1) firm to provide Engineering and Consulting Services for Stormwater Management for Beaufort County's Stormwater programs. The committee further recommends that there should be prioritized alternates based on the ranking should contractual negotiations fail. The final ranking is as follows:

1. Applied Technology & Management, Okatie, SC
2. Woolpert, Inc., Charleston, SC
3. AMEC Environmental & Infrastructure, Inc., Columbia, SC
4. Thomas & Hutton, Savannah, GA
5. URS Corporation, N. Charleston, SC
6. Bowman Consulting Group, Ltd., Chantilly, VA

The contract term will be for an initial one (1) year term with four additional one (1) year terms subject to County Council approval. The initial one (1) year term is effective September 1, 2014 to August 31, 2015. Contract fees for each Stormwater project will be negotiated with Applied Technology & Management, Inc. (ATM) and brought back to the appropriate committee/council for approval. Should negotiations fail due to budget and scheduling issues with Applied Technology & Management, Inc. (ATM), County staff may proceed to the next rank firm.

**FUNDING:** Primarily from Stormwater fees (50250011-51160) and CIP fund accounts.

**PRIOR YEAR COST:** \$50,000

**FOR ACTION:** Public Facilities Committee meeting August 18, 2014.

**RECOMMENDATION:** The Purchasing Department recommends that the Public Facilities Committee approves and recommends to County Council approval of an indefinite delivery contract award to Applied Technology & Management, Inc. (ATM), the number one ranked firm for providing professional engineering and consulting services for Beaufort County's Stormwater Department projects. The Purchasing Department further recommends that the Public Facilities Committee and County Council authorize County staff to negotiate contracts with the prioritized alternates based on the ranking should contractual negotiations fail with Applied Technology & Management, Inc. (ATM). During the negotiation process, County Staff may consider using the next alternate firm if Applied Technology & Management, Inc. (ATM) is unable to meet the County's schedule and approved budget.

**CC:** Gary Kubic, County Administrator  
Bryan Hill, Deputy Administrator  
Alicia Holland, Chief Financial Officer  
Robert McFee, Director of Engineering and Infrastructure  
Don Smith, Chairman, Beaufort County Stormwater Board  
Eric W Larson, Stormwater Manager  
Richard Dimont, Contract Specialist

## DRAFT Minutes

July 9, 2014, 1:30pm at the BJWSA Community Room, 6 Snake Road, Okatie, SC

Attendees: Brian McIlwee, Bates Rambow, Sally Krebs, Kim Jones, Lamar Taylor, Tony Maglione, Eric Larson, Seth Stanbery, Danny Polk

- 1) Approval of May minutes - approved by common consent
- 2) Review and Discussion of Public Education, Outreach, Involvement DRAFT scope of services – Eric Larson

Reviewed the draft scope - changes agreed upon by group:

- Note that any Education on the Credit Program is for the County only.
- Change Wildlife Management to Feeding of Wildlife
- Add Marina / Boating best management practices to Messages section
- Remove Local Audubon Foundation from Audiences
- Remove Fishing Groups from Audiences
- Add Boating Groups to Marinas in the Audience section

Discussed procurement. All still agree need outside help to do education.

No one has a full time educator so will need help to do education. Still desire to cost share and have united effort.

Agreement that County needs to be the lead and procure the consultant and do MOUs with the Towns and City.

- 3) Presentation of MS4 data management Access Database tool – Bates Rambow  
Bates demonstrated an Access Database developed for Deltona Florida.

- Allows attachments.
- Can enter permit info.
- Can store up to 25 years of data
- Can track SS inventory
- Can track education
- Can attach Word Documents to link SOPs, ordinance, etc.
- Can track inspections
- Has work order process with email distribution.
- Reporting features including education, IDDE, meetings, inspections, training
- Can be used on internet if you have Sharepoint
- Must be used on Microsoft Access 2010

Bates is going to ask him about the web version they are using in Deltona.

Everybody says they like the database and think it would be a good tool to do permit data management. Bates to get more details.

Action items:

Bates to ask about how to make it a web based tool.

Bates will email out DB for all to demo.

Eric will consider County paying for local customization for all to use.

4) MCM 6 summary of permit needs, discussion on implementation strategies – Tony Maglione (on behalf of ToPR)

Tony led discussion on what the SC MS4 permit requires for MCM6. See PowerPoint [presentation slides](#).

Eric asked if stormsewer maintenance is part of MCM6. Bates says SC requires inventory of structural controls and suggests it is maintained but he doesn't think we are required to report on maintenance records. Tony noted that data on quantity of work is still good data to report to demonstrate compliance.

Ideas for partnering, cost sharing:

- Development of Facility Inventory SOP (template) and inspection forms.
- Development of SPCC plans template
- Staff training materials and events

5. Kim noted ToB's Frank Hodge, Director of Growth Management, announced to HHI Home Builders Assoc. that the MS4 permit were coming and it would require new things from them.
6. Tony noted that DHEC has told ToPR and CoB that they will get a letter in June 2015 for permitting by Jan. 2016.
7. Bates to send DHEC attachments from the MS4 training from June 2014 to Kim and Lamar.
8. Bates to email out DHEC NOI template to the group.
9. Next topic = NOI template, update on Pub. Ed. and Data Management software
10. Next Meeting = Aug 13, 1:30pm
11. Adjourn approx. 3:15pm

**Presentation:**

## MS4 Pollution Prevention/Good House Keeping Municipal Operations

July 9, 2014

### What are These Activities?

- ✓ Any Municipal activity that can pose a threat to water quality. Examples:
  - ✓ Road Sealants
  - ✓ Gasoline/Diesel Fuel Storage/Dispensing
  - ✓ Fleet and Equipment Maintenance Repair & Washing
  - ✓ Municipal Landscape – Chemical Storage & Use
  - ✓ Parking Lot, Storage Area Run-off
  - ✓ Street Sweeping/Storm Drain Waste Disposal

### What to Do?

- ✓ Develop Plans and Requirements for:
  - ✓ Identifying all potential pollutant source materials
    - Fuels, oil/grease, solvents, herbicide, insecticides, pesticides
  - ✓ Hazardous Materials Storage (fuels, oil/greases, solvents, paints, etc.) with MSDS signage
  - ✓ Materials Management
    - Proper storage areas to prevent container damage
    - Manage inventory quantity
    - Separation of Hazardous/Non Hazardous Materials

### What to Do?

- ✓ Develop Plans and Requirements for:
  - ✓ Municipal Facilities Management – Where to do:
    - Fueling
    - Repairs
    - Washing
    - Storage
    - How to manage run-off from these activities
  - ✓ Storage/Removal of Street Sweeping/Storm Drain Spoils

### What to Do?

- ✓ Develop Spill Response and Prevention Plan:
  - ✓ Prevention:
    - Recycle whenever possible
    - Install leak detection (fuel tanks) and overflow berms
    - Isolate drains from process areas to prevent discharge into stormwater systems
    - Keep Preventive Maintenance Up to Date
    - Implement Secure Material Storage & Transfer Processes
    - Replace Toxic Materials with less Toxic Materials
    - Educate all staff on SWPPP processes, need and potential impacts

### What to Do?

- ✓ Develop Spill Response and Prevention Plan:
  - ✓ Spill Response Plan”
    - Determine Equipment needed (booms, absorption pads, safety gear, etc.)
    - Document Spill Response procedures for each type of material spill possible on and off site
    - Identify individual who will report spill to authorities
    - Develop plans in conjunction with local fire, police, hospitals and water/sewer utilities
    - Training, training and more training

- ✓ Visit:  
[http://cfpub.epa.gov/npdes/stormwater/menuofbmps/?action=min\\_measure&min\\_measure\\_id=6](http://cfpub.epa.gov/npdes/stormwater/menuofbmps/?action=min_measure&min_measure_id=6)
- ✓ For Detailed Information on how to meet Good Housekeeping requirements of MS4 plans
- ✓ Good Housekeeping sounds simple but is more complex than you may think...identification, planning and training are the key to success

## Questions & Answers?

# Sea Level Rise Adaptation Strategies for Beaufort County, S.C. Public Workshop

Southern county location:

**Monday, August 25**

1:00 PM – 4:00 PM

Large Meeting Room

Bluffton Branch Library

120 Palmetto Way

Bluffton, S.C. 29910

Northern county location:

**Tuesday, August 26**

1:00 PM – 4:00 PM

Large Meeting Room

St. Helena Branch Library

6355 Jonathan Francis Sr. Rd.

St. Helena, S.C. 29920

**Cost: FREE**

**Registration required by August 20**

**For more information and to register, visit**

**<https://sites.google.com/site/beaufortslr/>**

**Questions? Send them to:**

**[sean.bath@scseagrant.org](mailto:sean.bath@scseagrant.org) or 843-953-2097**

## OBJECTIVES

- To share the latest science on sea level rise.
- To discuss Beaufort County vulnerabilities identified by a local group of interested staff and stakeholders.
- To solicit participants' additional input on adaptation strategies.
- To use participant input to write a plan for prioritized action for Beaufort County.

## WHO SHOULD ATTEND

Municipal and county government officials and staff, interested citizens, natural resource managers, private sector associations and organizations

Organized and hosted by:





## Town of Hilton Head Island

### Storm Water Utility Board Presentation



August 6, 2014



## Introduction

Town of Hilton Head Public Projects & Facilities /  
Engineering Division

```

    graph TD
      A["Scott Liggett, PE  
Director PPS&F / Chief Engineer"] --> B["Jeff Buckalew, PE  
Town Engineer"]
      B --> C["Bryan McIlwre, PE  
Asst. Town Engineer /  
Storm Water Manager"]
      C --> D["Cary Gaffney  
Operations &  
Maintenance"]
      C --> E["Bates Rambow  
Data & Compliance"]
    
```

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## Services Provided / Limits of Responsibility

- Development plan review
- Construction, erosion/sediment inspection
- Water Quality monitoring
- Pump Station Operation & Maintenance
- Maintenance and Capital Projects
- PUD Maintenance agreements
  - Hilton Head Plantation, Indigo Run, Palmetto Dunes, Long Cove, Wexford, Shipyard and Sea Pines
  - Palmetto Hall and Shelter Cove added FY15
  - 69% of island



## Storm Water Funds FY 2002 – FY 2012

Town of Hilton Head Island Fees Generated: \$19.9 million

Storm Water Bond Proceeds: \$15.8 million

Interest and Principal Payments: \$9.7 million

Total Expenditures: \$24.2 million



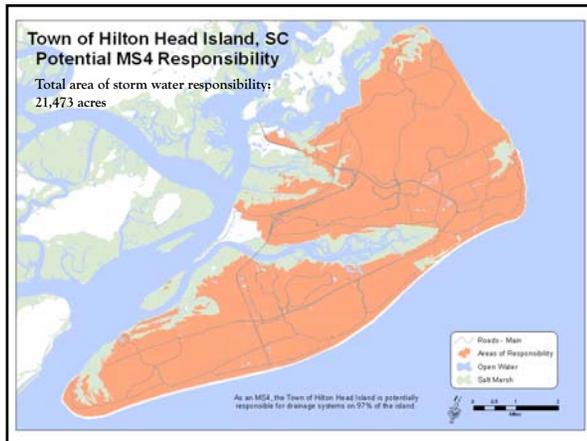
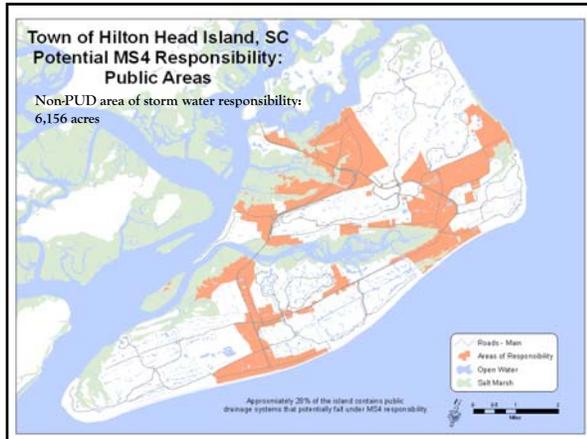
## FY14 Overview

- Received 51 Requests for Service between 7/1/2013 and 6/30/2014.
- Completed 61 Storm Water Utility funded projects (Capital and Maintenance) between 07/01/2013 and 06/30/2014.
  - Total cost: \$1.1 million
- Inventory/Modeling: \$238k
- Pump Station repairs/maintenance: \$65k



## SC DHEC MS4 Designation

- Received designation letter June 4, 2014
- Notice of Intent due December 1, 2014
- Anticipated coverage date January 1, 2015
- MS4 Strategy
  - Overall Schedule
  - Cooperation with County and municipalities
  - Repercussions of PUD agreements



**Water Quality Monitoring**

- Monitoring program began in 1996
- Current on-call contract with GEL Engineering
- 18 Sampling Locations; 12 sampling parameters including:
  - Bacteria
  - TSS
  - Nutrients
  - Metals

**Impaired Waters  
SC DHEC 303(d) List**

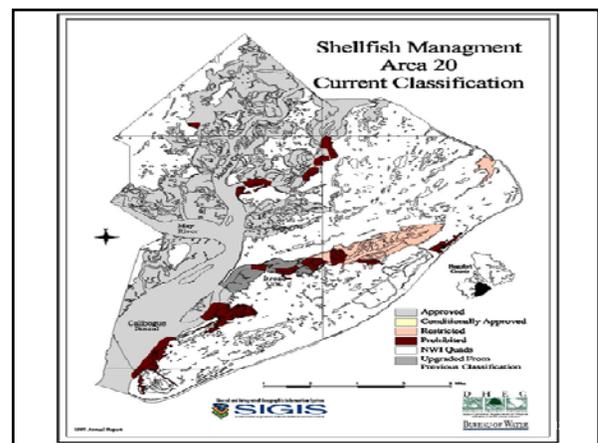
**Broad Creek:**

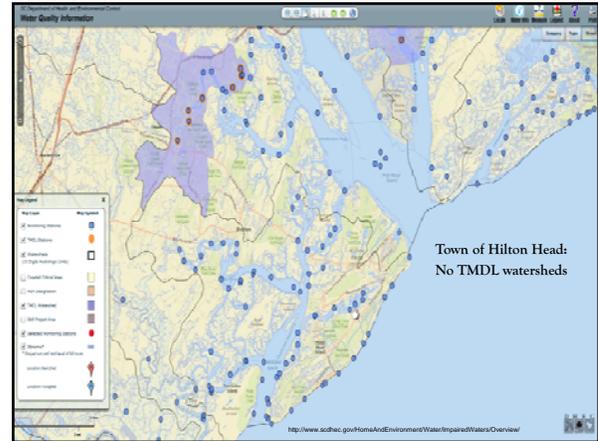
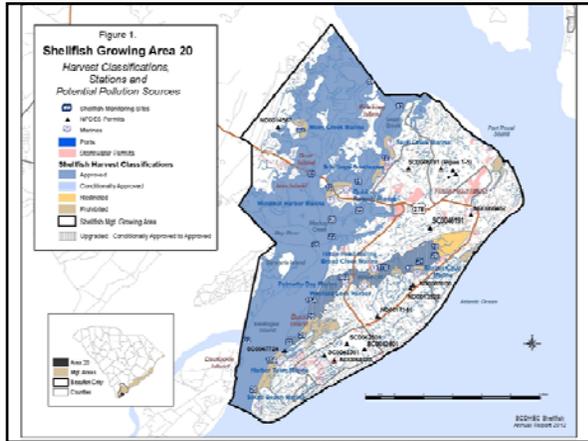
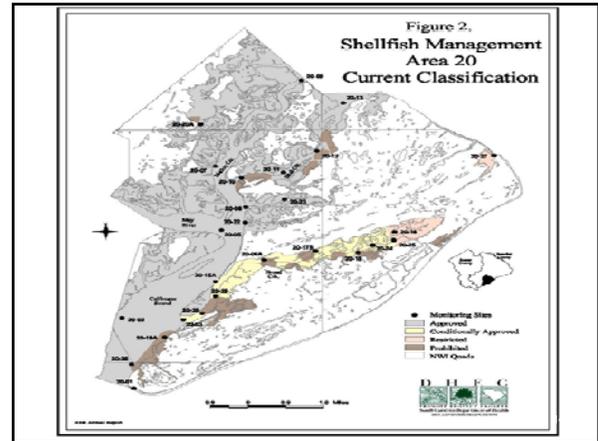
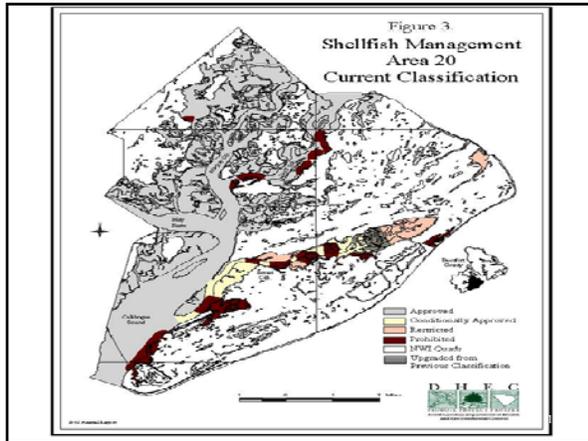
- 2000-2012 - Numerous impairments
  - 2000 - 1 impairment; Dissolved Oxygen (Aquatic Life)
  - 2004 - 1 impairment; Fecal Coliform (Shellfish)
  - 2006 - 7 impairments; Fecal Coliform (Shellfish)
  - 2008 - 8 impairments; Fecal Coliform (Shellfish)
  - 2010 - 3 impairments; Fecal Coliform (Shellfish)
  - 2012 - 1 impairment; Fecal Coliform (Shellfish)
- 2014 draft 303(d) list shows removal of remaining Broad Creek impairment due to standard attainment

**Fish Haul Creek:**

- 2004-2012 - Fecal Coliform (Shellfish); TMDL in 2015
- Town submitted public comment to DHEC; error in reporting, impairment to be removed

<http://www.scdhec.gov/Home/Environment/Water/ImpairedWatersOverview>





### Broad Creek Watershed Plan - 319 Grant

- EPA/DHEC Section 319 grant to develop a watershed plan for the upper portion of the Broad Creek Watershed.
- The grant is a 60/40 matching grant that will provide \$72,000 in matching funds to develop and evaluate water quality models and a plan for the watershed.
- Applied for in July of 2013; notice of award in November 2013.
- Scheduled to be complete by end of 2015.

### Inventory & Modeling

**Purpose:**

- Operation and Maintenance of system
- Hydrologic & Hydraulic modeling (XP-SWMM)
- Water Quality modeling (IDEAL)
- Master Plans

**Inventory Status:**

- Began: 2008
- Structures & Ditch Points: 10,665
- Pipes/Ditches: 9,309
- Completion: 2018

<http://hiltonheadmaps.org/arcgis/home/index.html>



### Future Challenges

- NPDES Permit Compliance
- On-going Maintenance Issues
- Increasing Requests for Service



### NPDES Permit Compliance

- Develop Legal Authority / Ordinances
- Illicit Discharge Inspections
- Outfall Inspections
- BMP Inspections
- Construction Site Inspections
- Facility Inspections
- Annual Reporting




### Pond Maintenance

- There are approximately 1,155 acres of ponds or lagoons on the island (over a thousand football fields)
- Most of these lagoons were dug in the 1960's, 70's and early 80's
- Sedimentation over time will require future dredging to maintain the conveyance and water quality benefits of the ponds

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### Aging Infrastructure and the Need for Pipe Maintenance / Capital Upgrades

- Many of the systems the Town has accepted for maintenance were installed in the 1970's and early 80's that will be nearing the end of its service life over the next decade.
- The average lifespan of corrugated metal pipe is generally accepted to be 30 years.
- Construction inspection was lacking prior to incorporation of the Town in 1983.
- There are more than 12 miles of metal pipe in Hilton Head Plantation alone.
- Our budgets are often derailed with emergency repairs.



 **Storm Water Utility Program  
FY 15 Funding Summary**

REVENUE	FY15 New
<b>HHI SWU Fees</b>	<b>\$ 3,564,900</b>
<i>*based on \$108.70 per SFU, no rate increase</i>	
EXPENSES	FY 15 New
Salary and Benefits	\$ 357,000
Operating Expenses	290,000
Debt Service	1,150,000
Capital & Infrastructure Improvements	440,000
Inventory and Modeling	264,000
Maintenance & Repairs	753,000
Pump Stations	201,000
<b>TOTAL EXPENSES</b>	<b>\$ 3,455,000</b>
 Transfer Out to General Fund <i>(related Staff support of the SWU)</i>	 \$ 94,258

 **Questions**

- Bryan McIlwee, PE – Assistant Town Engineer / Storm Water Manager  
843-341-4775  
[bryanm@hiltonheadislandsc.gov](mailto:bryanm@hiltonheadislandsc.gov)



## MEMORANDUM

Date: July 2, 2014

To: Stormwater Management Utility Board

From: Eddie Bellamy, Public Works Director

Re: **Maintenance Project Report for August 2014**

1. This report will covers nine minor or routine projects. The Project Summary Reports are attached.

2. Projects:

- A. **Lady's Island Vacuum Truck Work**, completed in May on Lady's Island, District 7; we cleaned two catch basins, four crossline pipes and 224 feet of roadside pipe on three roads.
- B. **Rice Road Pond**, completed in May in the Burton area, District 6; we hydroseeded the perimeter of the pond.
- C. **Sheldon Vacuum Truck Work**, completed in June in Sheldon Township, District 5; we cleaned two access pipes, nine crossline pipes and 34 driveway pipes on three roads.
- D. **St. Helena Island Vacuum Truck Work**, completed in June in District 8; we cleaned one access pipe, two crossline pipes, 12 driveway pipes and 24 feet of channel pipe on two roads.
- E. **Bluffton Township Vacuum Truck Work**, completed in June in District 9; we cleaned 29 driveway pipes and three crossline pipes on four roads.
- F. **Oyster Street**, completed in June in the Alljoy area of District 9; we cleaned out 761 feet of channel.
- G. **Colleton and Charleston Drives**, completed in June in the Grays Hill area of District 6; we cleaned out 215 feet of roadside ditch and two catch basins. We also extended, repaired, and jetted one driveway pipe.
- H. **Paige Point Bluff Road**, completed in July in District 5; we replaced a driveway pipe.
- I. **Port Royal Island Vacuum Truck Work**, completed in June in District 6, we cleaned out one catch basin, three driveway pipes, 108 feet of roadside ditch and 330 feet of channel pipe on three roads and in the Public Works complex.



# Beaufort County Public Works Stormwater Infrastructure Project Summary

**Project Summary:** Ladys Island Vacuum Truck - Carolyn Drive, Judge Island Drive and Sherman Drive

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 224 L.F. of drainage system. Cleaned (2) catch basins. Jetted (4) crossline pipes and 224 L.F. of roadside pipe.

**Completion:** May-14

2014-307A / Ladys Island Vacuum Truck	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
CLPJT / Crossline Pipe - Jetted	26.0	\$568.26	\$288.08	\$147.58	\$0.00	\$372.84	\$1,376.76
<b>2014-307A / Ladys Island Vacuum Truck Sub Total</b>	<b>26.5</b>	<b>\$578.49</b>	<b>\$288.08</b>	<b>\$147.58</b>	<b>\$0.00</b>	<b>\$379.46</b>	<b>\$1,393.61</b>
<b>Grand Total</b>	<b>26.5</b>	<b>\$578.49</b>	<b>\$288.08</b>	<b>\$147.58</b>	<b>\$0.00</b>	<b>\$379.46</b>	<b>\$1,393.61</b>

Before



During



After



**Project: Carolyn Drive**

**Activity: Vacuum Truck**

**Project #: 2014-307A**

**Township: Lady's Island**

**Completed: May 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 83 feet

**Project: Judge  
Island Drive**

**Activity: Vacuum  
Truck**

**Project #:  
2014-307A**

**Township: Lady's  
Island**

**Completed:  
May 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



Jetted (2)  
crossline pipes.

Jetted (4)  
driveway pipes.



1 inch = 149 feet

**Project: Sherman Drive**

**Activity: Vacuum Truck**

**Project #: 2014-307A**

**Township: Lady's Island**

**Completed: May 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe

Jetted (1) crossline pipe.

SHERMAN DR

CARISSA LN

PINEY LN

COOSAW RIVER DR



1 inch = 147 feet



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

**Project Summary:** Rice Road Pond

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Completion:** May-14

Hydroseeded perimeter of pond.

<b>2014-617 / Rice Road Pond</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	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
HYDR / Hydroseeding	20.0	\$468.01	\$55.42	\$189.12	\$0.00	\$303.78	\$1,016.33
ONJV / Onsite Job Visit	7.0	\$215.56	\$25.34	\$15.00	\$0.00	\$140.09	\$395.99
SCR / Sediment Control - Removed	6.0	\$120.40	\$7.24	\$6.00	\$0.00	\$75.30	\$208.94
WEED / Weedeating	30.0	\$637.15	\$58.20	\$119.40	\$0.00	\$415.00	\$1,229.75
<b>2014-617 / Rice Road Pond Sub Total</b>	<b>63.5</b>	<b>\$1,451.35</b>	<b>\$146.20</b>	<b>\$329.52</b>	<b>\$0.00</b>	<b>\$940.79</b>	<b>\$2,867.86</b>
<b>Grand Total</b>	<b>63.5</b>	<b>\$1,451.35</b>	<b>\$146.20</b>	<b>\$329.52</b>	<b>\$0.00</b>	<b>\$940.79</b>	<b>\$2,867.86</b>

Before



After





**Project: Rice Road**

**Activity: Routine/ Preventive Maintenance**

**Project #: 2014-617**

**Township: St. Helena Island**

**Completed: May 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe
-  Easements

Hydroseeded perimeter of the pond.



1 inch = 150 feet



# Beaufort County Public Works Stormwater Infrastructure Project Summary

**Project Summary:** Sheldon Vacuum Truck - Paige Point Bluff, George Williams Lane and Twickenham Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Completion:** Jun-14

Jetted (2) access pipes, (9) crossline pipes and (34) driveway pipes.

2014-308A / Sheldon Vacuum Truck	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
CLPJT / Crossline Pipe - Jetted	14.0	\$302.79	\$155.12	\$94.48	\$0.00	\$200.76	\$753.15
DPJT / Driveway Pipe - Jetted	80.0	\$1,770.00	\$886.40	\$408.60	\$0.00	\$1,181.64	\$4,246.64
<b>2014-308A / Sheldon Vacuum Truck Sub Total</b>	<b>94.5</b>	<b>\$2,083.02</b>	<b>\$1,041.52</b>	<b>\$503.08</b>	<b>\$0.00</b>	<b>\$1,389.02</b>	<b>\$5,016.64</b>
<b>Grand Total</b>	<b>94.5</b>	<b>\$2,083.02</b>	<b>\$1,041.52</b>	<b>\$503.08</b>	<b>\$0.00</b>	<b>\$1,389.02</b>	<b>\$5,016.64</b>

Before



During



After



**Project: Paige Point Bluff**

**Activity: Vacuum Truck**

**Project #: 2014-308A**

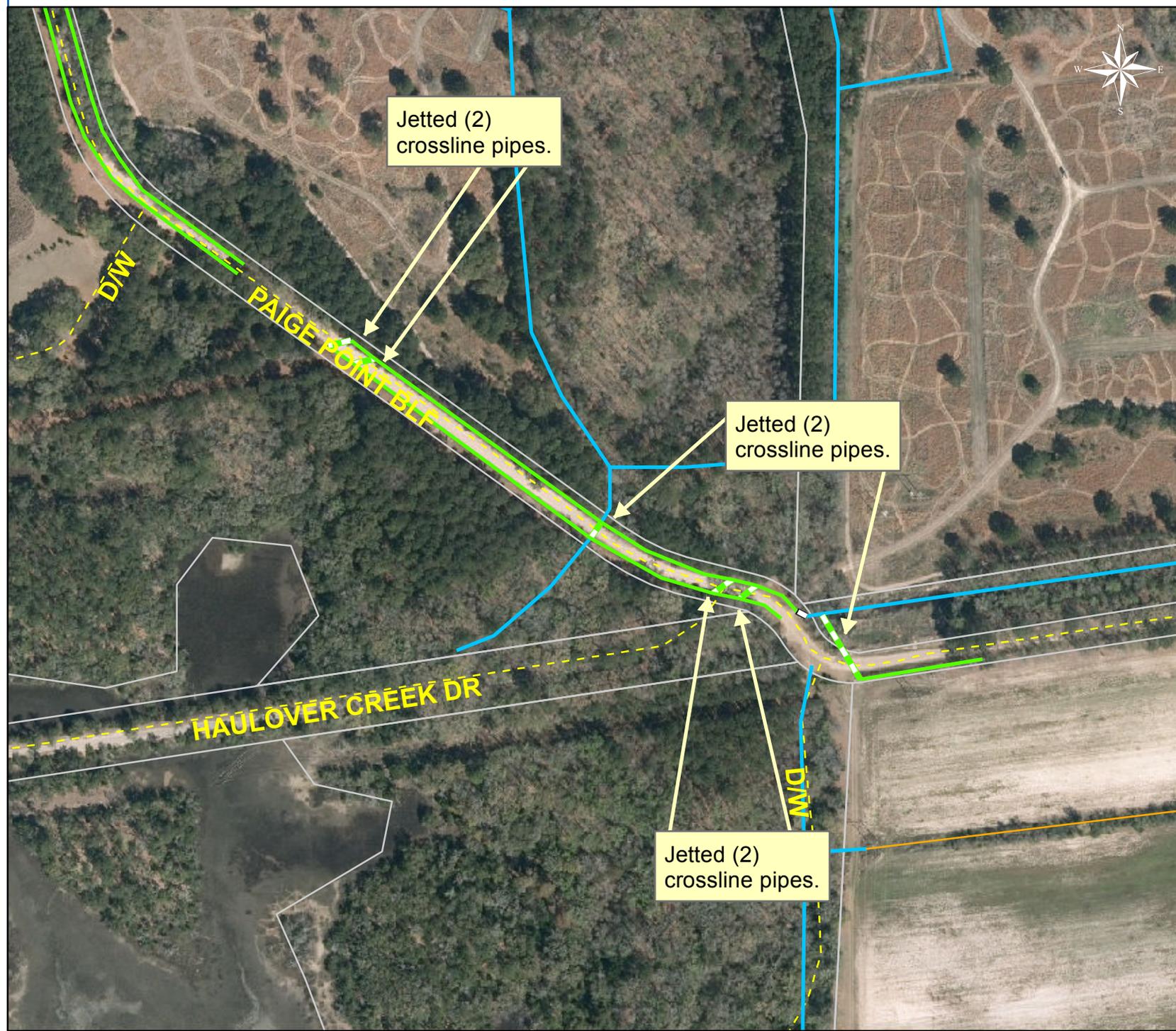
**Township: Sheldon**

**Completed: June 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 237 feet

**Project: George Williams Lane**

**Activity: Vacuum Truck**

**Project #: 2014-308A**

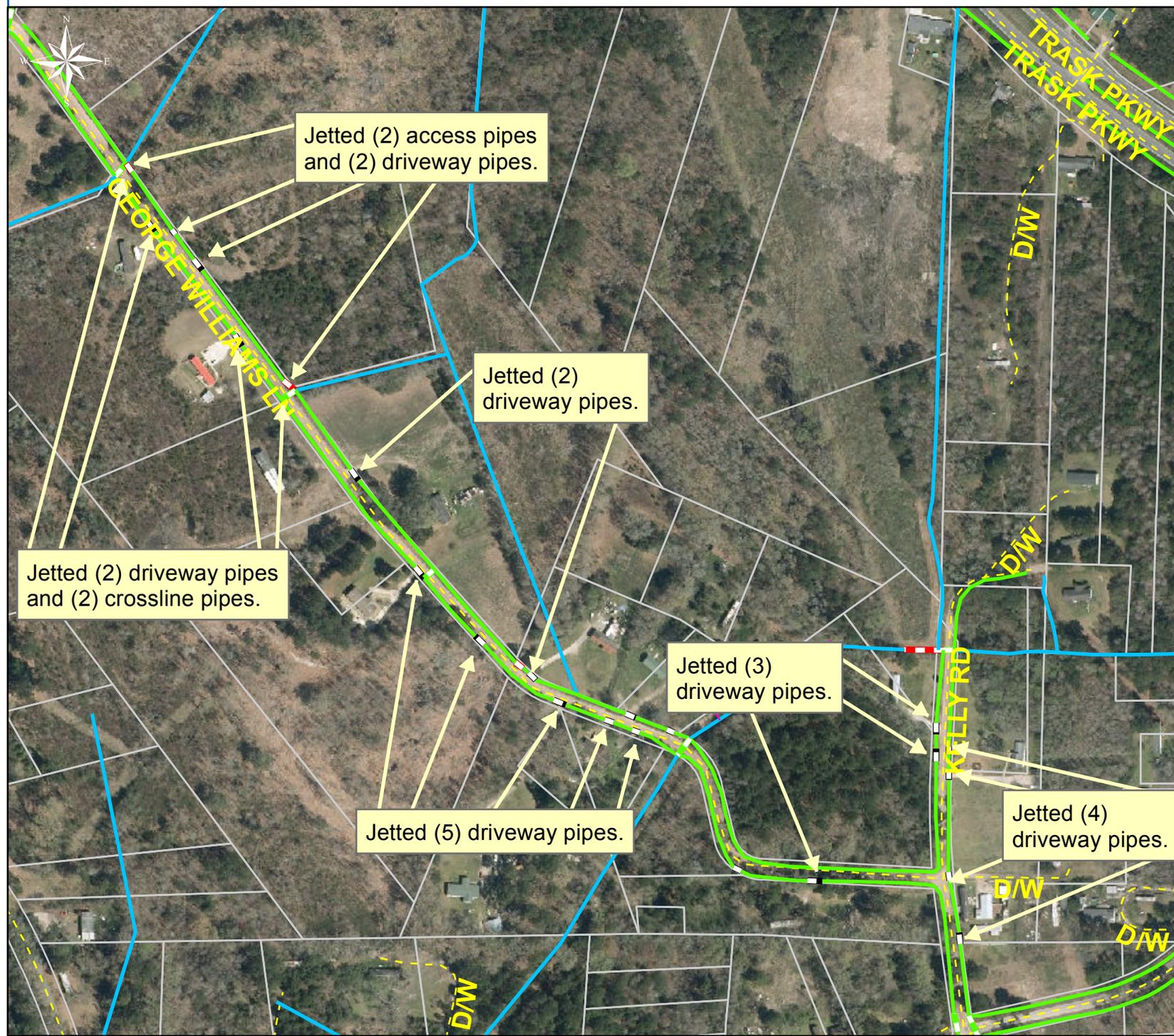
**Township: Sheldon**

**Completed: June 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 329 feet

**Project:**  
Twickenham Road

**Activity:** Vacuum  
Truck

**Project #:**  
2014-308A

**Township:**  
Sheldon

**Completed:**  
June 2014

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe

Jetted (16)  
driveway pipes.

Jetted (1)  
crossline pipe.



1 inch = 565 feet



# Beaufort County Public Works Stormwater Infrastructure Project Summary

**Project Summary:** St. Helena Island Vacuum Truck - Sea Pines Drive and Peaches Hill Circle

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Completion:** Jun-14

Project improved 24 L.F. of drainage system. Jetted (1) access pipe, (2) crossline pipes, (12) driveway pipes and 24 L.F. of channel pipe.

2014-309A / St.Helena Island Vacuum Truck	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
CLPJT / Crossline Pipe - Jetted	16.0	\$346.05	\$177.28	\$61.70	\$0.00	\$229.44	\$814.47
DPJT / Driveway Pipe - Jetted	30.0	\$648.86	\$332.40	\$133.29	\$0.00	\$430.20	\$1,544.75
OFPJ / Outfall Pipe - Jetted	8.0	\$178.70	\$88.64	\$44.12	\$0.00	\$119.64	\$431.11
<b>2014-309A / St.Helena Island Vacuum Truck Sub Total</b>	<b>54.5</b>	<b>\$1,183.84</b>	<b>\$598.32</b>	<b>\$239.11</b>	<b>\$0.00</b>	<b>\$785.90</b>	<b>\$2,807.17</b>
<b>Grand Total</b>	<b>54.5</b>	<b>\$1,183.84</b>	<b>\$598.32</b>	<b>\$239.11</b>	<b>\$0.00</b>	<b>\$785.90</b>	<b>\$2,807.17</b>

Before



During



After



**Project: Peaches Hill Circle**

**Activity: Vacuum Truck**

**Project #:  
2014-309A**

**Township: St. Helena Island**

**Completed:  
June 2014**

**Legend**

**TYPE**

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- ▬ Channel Pipe
- Lateral
- ▬ Lateral Pipe
- Roadside
- ▬ Roadside Pipe
- ▬ Road Pipe
- ▬ Crossline Pipe
- ▬ Driveway Pipe
- ▬ Access Pipe
- ▬ Bleeder Pipe



1 inch = 113 feet

**Project: Sea Pines Drive**

**Activity: Vacuum Truck**

**Project #:  
2014-309A**

**Township: St.  
Helena Island**

**Completed:  
June 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe

Jetted (3)  
driveway pipes.

Jetted (1) driveway  
pipe and (1) access  
pipe.

Jetted (2)  
crossline pipes.

Jetted (7) driveway  
pipes.



1 inch = 262 feet

Prepared By: BC Stormwater Management Utility

Date Print: 7/18/14

File: C:/sethdata/projects/projectmaps/Vac/Sea Pines Dr 2014-309A



# Beaufort County Public Works

## Stormwater Infrastructure

### Project Summary

**Project Summary:** Bluffton Vacuum Truck - Calhoun Plantation Road, Mourning Dove Lane,  
Harrison Island Road and Sutler Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Jetted (29) driveway pipes and (3) crossline pipes.

**Completion:** Jun-14

2014-310A / Bluffton Vacuum Truck	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
DPJT / Driveway Pipe - Jetted	60.0	\$1,340.28	\$664.80	\$289.05	\$0.00	\$897.30	\$3,191.43
PRRECON / Project Reconnaissance	10.0	\$223.38	\$18.10	\$15.95	\$0.00	\$149.55	\$406.98
<b>2014-310A / Bluffton Vacuum Truck Sub Total</b>	<b>70.5</b>	<b>\$1,573.89</b>	<b>\$682.90</b>	<b>\$305.00</b>	<b>\$0.00</b>	<b>\$1,053.47</b>	<b>\$3,615.26</b>
<b>Grand Total</b>	<b>70.5</b>	<b>\$1,573.89</b>	<b>\$682.90</b>	<b>\$305.00</b>	<b>\$0.00</b>	<b>\$1,053.47</b>	<b>\$3,615.26</b>

Before



During



After



**Project: Calhoun Plantation Road**

**Activity: Vacuum Truck**

**Project #: 2014-310A**

**Township: Bluffton**

**Completed: June 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 251 feet

**Project: Harrison Island Road**

**Activity: Vacuum Truck**

**Project #: 2014-310A**

**Township: Bluffton**

**Completed: June 2014**

Jetted (4) driveway pipes and (1) crossline pipe.

Jetted (3) driveway pipes.

**Legend**

TYPE	
	River
	Creek/Stream
	River/Creek/Marsh BANK
	Channel (fka Outfall)
	Channel Pipe
	Lateral
	Lateral Pipe
	Roadside
	Roadside Pipe
	Road Pipe
	Crossline Pipe
	Driveway Pipe
	Access Pipe
	Bleeder Pipe



1 inch = 216 feet

**Project: Mourning Dove Lane**

**Activity: Vacuum Truck**

**Project #: 2014-310A**

**Township: Bluffton**

**Completed: June 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 125 feet



**Project: Sutler Road**

**Activity: Vacuum Truck**

**Project #: 2014-310A**

**Township: Bluffton**

**Completed: June 2014**

Jetted (1) driveway pipe and (1) crossline pipe.

Jetted (1) driveway pipe.

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 98 feet



# Beaufort County Public Works

## Stormwater Infrastructure

### Project Summary

**Project Summary:** Oyster Street

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Completion:** Jun-14

Project improved 761 L.F. of drainage system. Cleaned out 761 L.F. of channel.

2014-626 / Oyster Street	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
HAUL / Hauling	20.0	\$432.60	\$214.00	\$114.45	\$0.00	\$288.40	\$1,049.45
ODCO / Outfall ditch - cleaned out	76.0	\$1,755.60	\$185.19	\$78.75	\$0.00	\$1,132.40	\$3,151.94
ONJV / Onsite Job Visit	9.0	\$297.42	\$32.58	\$22.33	\$0.00	\$195.53	\$547.86
<b>2014-626 / Oyster Street</b>	<b>105.5</b>	<b>\$2,495.85</b>	<b>\$431.77</b>	<b>\$215.53</b>	<b>\$0.00</b>	<b>\$1,622.95</b>	<b>\$4,766.09</b>
<b>Sub Total</b>							
<b>Grand Total</b>	<b>105.5</b>	<b>\$2,495.85</b>	<b>\$431.77</b>	<b>\$215.53</b>	<b>\$0.00</b>	<b>\$1,622.95</b>	<b>\$4,766.09</b>

Before



During



After



ALLJOY RD



**Project: Oyster Street**

**Activity: Routine/  
Preventive  
Maintenance**

**Project #:  
2014-626**

**Township:  
Bluffton**

**Completed:  
June 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe

Cleaned out 761  
LF of channel.



1 inch = 110 feet



# Beaufort County Public Works Stormwater Infrastructure Project Summary

**Project Summary:** Colleton Drive and Charleston Drive

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

**Completion:** Jun-14

Project improved 215 L.F. of drainage system. Repaired (1) driveway pipe. Cleaned out 215 L.F. of roadside ditch and (2) catch basins. Extended (1) driveway pipe. Jetted (1) driveway pipe.

2014-627 / Colleton Dr and Charleston Dr	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
CBCO / Catch basin - clean out	4.0	\$95.90	\$88.64	\$2.00	\$0.00	\$65.88	\$252.42
DPEX / Driveway Pipe - Extended	20.0	\$432.64	\$75.30	\$76.98	\$0.00	\$282.32	\$867.24
HAUL / Hauling	20.0	\$432.60	\$214.00	\$105.03	\$0.00	\$255.25	\$1,006.88
ONJV / Onsite Job Visit	9.0	\$326.28	\$32.58	\$11.64	\$0.00	\$226.99	\$597.49
PRRECON / Project Reconnaissance	1.0	\$44.27	\$3.62	\$5.82	\$0.00	\$33.96	\$87.67
RPWO / Repaired Washout	4.0	\$81.84	\$7.24	\$37.09	\$0.00	\$50.88	\$177.05
RSDCL / Roadside Ditch - Cleanout	41.0	\$886.92	\$126.66	\$0.42	\$0.00	\$577.54	\$1,591.54
TRAIN / Training	2.0	\$38.56	\$0.00	\$0.00	\$0.00	\$24.42	\$62.98
UTLOC / Utility locates	1.0	\$32.37	\$0.00	\$0.00	\$0.00	\$23.60	\$55.96
<b>2014-627 / Colleton Dr and Charleston Dr</b>	<b>102.5</b>	<b>\$2,381.61</b>	<b>\$548.04</b>	<b>\$238.99</b>	<b>\$0.00</b>	<b>\$1,547.45</b>	<b>\$4,716.09</b>
<b>Grand Total</b>	<b>102.5</b>	<b>\$2,381.61</b>	<b>\$548.04</b>	<b>\$238.99</b>	<b>\$0.00</b>	<b>\$1,547.45</b>	<b>\$4,716.09</b>

Before



During



After



**Project: Colleton Drive & Charleston Drive**

**Activity: Routine/ Preventive Maintenance**

**Project #: 2014-627**

**Township: Port Royal Island**

**Completed: June 2014**

Legend	
TYPE	
	River
	Creek/Stream
	River/Creek/Marsh BANK
	Channel (fka Outfall)
	Channel Pipe
	Lateral
	Lateral Pipe
	Roadside
	Roadside Pipe
	Road Pipe
	Crossline Pipe
	Driveway Pipe
	Access Pipe
	Bleeder Pipe

Cleaned out (2) catch basins.

CHARLESTON DR

CAROLINA AVE

COLLETON DR

HAMPTON DR

Jettied, repaired and extended (1) driveway pipe.

Cleaned out 215 LF of roadside ditch.



1 inch = 208 feet



# Beaufort County Public Works

## Stormwater Infrastructure

### Project Summary

**Project Summary:** Paige Point Bluff

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Replaced (1) driveway pipe.

**Completion:** Jul-14

2015-500 / Paige Point Bluff	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
DPRPL / Driveway Pipe - Replaced	24.0	\$575.46	\$60.07	\$204.68	\$0.00	\$349.80	\$1,190.01
HAUL / Hauling	6.0	\$129.78	\$64.20	\$69.47	\$0.00	\$86.52	\$349.97
<b>2015-500 / Paige Point Bluff Sub Total</b>	<b>30.5</b>	<b>\$715.47</b>	<b>\$124.27</b>	<b>\$274.15</b>	<b>\$0.00</b>	<b>\$442.94</b>	<b>\$1,556.82</b>
<b>Grand Total</b>	<b>30.5</b>	<b>\$715.47</b>	<b>\$124.27</b>	<b>\$274.15</b>	<b>\$0.00</b>	<b>\$442.94</b>	<b>\$1,556.82</b>

Before



During



After



**Project: Paige Point Bluff**

**Activity: Routine/  
Preventive  
Maintenance**

**Project #:  
2015-500**

**Township:  
Sheldon**

**Completed:  
July 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 117 feet

Prepared By: BC Stormwater Management Utility

Date Print: 7/23/14

File:C:/sethdata/projects/projectmaps/Paige Pt Blf 2015-500



# Beaufort County Public Works Stormwater Infrastructure Project Summary

**Project Summary:** Port Royal Island Vacuum Truck - Roosevelt Avenue, Smalls Hill Road,  
Public Works Complex and Clarendon Road

**Activity:** Routine/Preventive Maintenance

**Narrative Description of Project:**

Project improved 438 L.F. of drainage system. Cleaned out (1) catch basin. Jetted (3) driveway pipes, 108 L.F. of roadside pipe and 330 L.F. of channel pipe.

**Completion:** Jun-14

2014-306A / Port Royal Island Vacuum Truck	Labor Hours	Labor Cost	Equipment Cost	Material Cost	Contractor Cost	Indirect Labor	Total Cost
AUDIT / Audit Project	0.5	\$10.23	\$0.00	\$0.00	\$0.00	\$6.62	\$16.85
CLPJT / Crossline Pipe - Jetted	16.0	\$346.05	\$177.28	\$65.97	\$0.00	\$229.44	\$818.74
DPJT / Driveway Pipe - Jetted	4.0	\$86.51	\$44.32	\$18.35	\$0.00	\$57.36	\$206.54
OFPJ / Outfall Pipe - Jetted	9.0	\$194.66	\$77.34	\$34.30	\$0.00	\$129.30	\$435.60
ONJV / Onsite Job Visit	2.0	\$59.68	\$7.24	\$3.19	\$0.00	\$36.46	\$106.57
PRRECON / Project Reconnaissance	5.0	\$119.90	\$18.10	\$9.57	\$0.00	\$82.35	\$229.92
RSPJ / Roadside Pipe - Jetted	4.0	\$89.36	\$44.32	\$54.24	\$0.00	\$59.82	\$247.74
SC / Sediment Control	3.0	\$64.88	\$0.00	\$0.00	\$0.00	\$43.02	\$107.90
SD / Soft Digging	10.0	\$216.28	\$110.80	\$31.35	\$0.00	\$143.40	\$501.83
<b>2014-306A / Port Royal Island Vacuum Truck Sub Total</b>	<b>53.5</b>	<b>\$1,187.55</b>	<b>\$479.40</b>	<b>\$216.97</b>	<b>\$0.00</b>	<b>\$787.77</b>	<b>\$2,671.69</b>
<b>Grand Total</b>	<b>53.5</b>	<b>\$1,187.55</b>	<b>\$479.40</b>	<b>\$216.97</b>	<b>\$0.00</b>	<b>\$787.77</b>	<b>\$2,671.69</b>

Before



During



After



Project: Green Pond/  
Roosevelt Avenue

Activity: Vacuum  
Truck

Project #:  
2014-306A

Township: Port  
Royal Island

Completed:  
June 2014



**Legend**

**TYPE**

- River
- Creek/Stream
- River/Creek/Marsh BANK
- Channel (fka Outfall)
- Channel Pipe
- Lateral
- Lateral Pipe
- Roadside
- Roadside Pipe
- Road Pipe
- Crossline Pipe
- Driveway Pipe
- Access Pipe
- Bleeder Pipe



1 inch = 79 feet

Prepared By: BC Stormwater Management Utility

Date Print: 7/25/14

File: C:/sethdata/projects/projectmaps/Vac/Green Pond-Roosevelt Ave Rd 2014-306A

**Project: Clarendon Road**

**Activity: Vacuum Truck**

**Project #:  
2014-306A**

**Township: Port  
Royal Island**

**Completed:  
June 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe

Jetted 60 LF  
of channel pipe.

Jetted 88 LF  
of channel pipe.

CLARENDON RD



1 inch = 71 feet

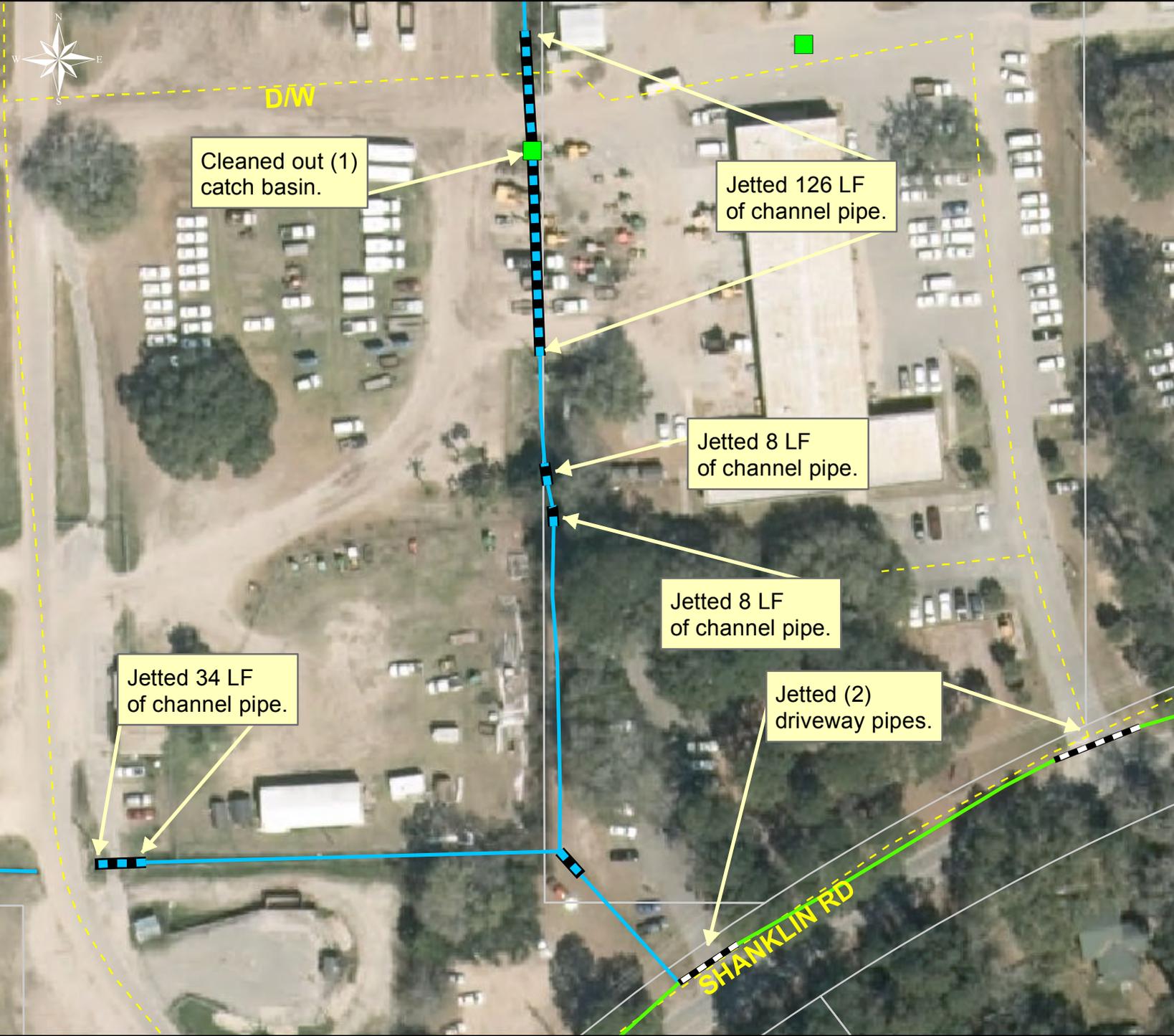
**Project: Public Works/Drainage**

**Activity: Vacuum Truck**

**Project #: 2014-306A**

**Township: Port Royal Island**

**Completed: June 2014**



**Legend**

TYPE	
	River
	Creek/Stream
	River/Creek/Marsh BANK
	Channel (fka Outfall)
	Channel Pipe
	Lateral
	Lateral Pipe
	Roadside
	Roadside Pipe
	Road Pipe
	Crossline Pipe
	Driveway Pipe
	Access Pipe
	Bleeder Pipe



1 inch = 83 feet

**Project: Smalls Hill Road**

**Activity: Vacuum Truck**

**Project #: 2014-306A**

**Township: Port Royal Island**

**Completed: June 2014**

**Legend**

**TYPE**

-  River
-  Creek/Stream
-  River/Creek/Marsh BANK
-  Channel (fka Outfall)
-  Channel Pipe
-  Lateral
-  Lateral Pipe
-  Roadside
-  Roadside Pipe
-  Road Pipe
-  Crossline Pipe
-  Driveway Pipe
-  Access Pipe
-  Bleeder Pipe



1 inch = 57 feet