

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

November 14, 2018 at 2:00 p.m. in Executive Conference Room, Administration Building, Beaufort County Government Robert Smalls Complex, 100 Ribaut Road, Beaufort, South Carolina

Board Members

Present

Don Smith
Marc Feinberg
Allyn Schneider
William Bruggeman

Absent

James Fargher
Patrick Mitchell

Ex-Officio Members

Present

Andy Kinghorn
Scott Liggett
Kim Jones

Absent

Van Willis

Beaufort County Staff

Eric Larson
David Wilhelm
Melissa Allen
Amber Woods

Visitors

Dr. Alan Warren, USCB Lab
Alice Howard, County Council
Howard Heckrotte, Soil & Water Conservation District
Neil Desai, City of Beaufort
Jeff Netzinger, Town of Hilton Head Island

1. Meeting called to order – Don Smith

- A. Agenda – Approved.
- B. October 10, 2018 Minutes – Approved.

2. Introductions – Completed.

3. Public Comment(s) – None.

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

<https://www.bcgov.net/departments/Administrative/beaufort-county-council/boards-and-commissions/council-appointed/board-list/stormwater-management-utility-board/agendas/2018/111418.pdf>

A. Utility Update – Eric Larson

In reference to item #3, the Town of Bluffton's annual financial report is attached. In reference to item #4a, Mr. Larson shared that he has toured one of the three installations to see what they are doing for stormwater management and commented that the tour of MCAS went well; they are doing a lot. Mr. Don Smith asked if the 2018 shellfish report was out. Mr. Larson indicated he hasn't seen it, but would watch for it.

B. Monitoring Update – Eric Larson

Please reference the report, no additional updates.

Mr. Andy Kinghorn asked if anything else has been done to determine what the problem with Battery Creek project might be. Routine maintenance is being done. A brief discussion took place about concerns and Mr. Larson indicated he would get with Mr. Neil Desai, Dr. Warren and Paul Moore (Ward Edwards) to address.

Mr. Smith asked about the historical stream sampling data project. Dr. Warren indicated hasn't done any work since his last presentation. He expressed it is a countywide problem, not isolated to a neighborhood. He mentioned Dr. Montie will be involved. Mr. Larson indicated the project is moving forward; the County signed the MOA to co-fund the project with Town of Bluffton.

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

Mr. Larson shared that County staff attended a Charleston group meeting to exchange ideas, as they are looking at regionalization as well.

D. Stormwater Related Projects – Eric Larson

Mr. Larson provided an update on the Evergreen project; a grant was awarded and the contract has been signed. The project will be diverting Highway 170 run off into a pond. The County is advertising for design consultants.

In reference to Wallace Road, two design options were rejected by SCDOT and a third option has been submitted. Mr. Larson explained that the reason the County is doing work on a state road is because in 2005 the County built an asphalt trail through encroachment permit. The outfall pipes that cross Wallace Road were covered. The proposed plan is to dig up the two places where pipes are covered and extend them out past the trail, where it will drain to Sam's Point Road. SCDOT will release conditions of 2005 permit [County responsibility] once the project is complete.

Mr. Marc Feinberg asked about DOT and County responsibility (referring to 170 as well). Mr. Larson explained DOT has a set of standards as does the County. Hwy 170 responsibilities are an evolution of the widening of the road, as it was temporarily owned by the County while it was widened from two to four lanes. The County committed voluntarily to apply County standards, there are seven ponds that have been left as water quality basins (County maintained). The State assumes responsibility of the road for routine maintenance such as mowing and fixing pot holes.

In response to question about Oyster Bluff development being a stakeholder with the situation on Wallace Road. Mr. Larson explained that there is an interceptor ditch that is supposed to divert to the development pond, in an investigation it was found that the interceptor ditch has been filled it, so it is discharging through the fence line. They are working to resolve this issue.

E. Professional Contracts Report – Eric Larson

In reference to item #1b, the Alljoy subwatershed flooding issue was brought up by a County Council member during the Brewer Memorial project change order discussion. The change order was denied by Council and the project is on hold. Mr. Larson indicated the County is working on a plan for Alljoy, but it is not an easy, quick, or cheap solution. He will be presenting the current Capital Plan next week. Mr. Kinghorn asked if there was a SWU rate increase, who it would affect; Mr. Larson responded it would be for all unincorporated Beaufort County. In response to a question about the stop-work order for Brewer Memorial project, Mr. Larson explained that the contract is for an hourly rate with an upper limit. Ward Edwards will bill out for the work they have done.

Mr. Larson noted that Ward Edwards is doing a cost benefit analysis on the Sawmill Creek / Forby project to see if the project should move forward. In response to a question, Mr. Larson explained that the Sawmill project land was initially purchased to prevent it from being developed.

F. Regional Coordination – Eric Larson

In reference to item #5, the Pepper Hall project (near Stokes Toyota and Mercedes) is moving forward and County Council will be taking final action. The stormwater portions of the project will be a 50/50 cost share with the County. This is being done to protect the Okatie and treat the run off. The County owns 18 acres, and the Pepper Hall project has run off coming from HWY 278 onto it and an argument was made that there is a lot of offsite contribution. There will possibly be a stormwater pond built on the 18 acres, but may not be needed since the project has a low impact development planned. An old farm pond on the property will need to be upgraded.

Mr. Feinberg asked if there will be public access to the park, Mr. Larson responded it will be a passive park. Mr. Larson explained that cost share will be for half of the public infrastructure that manages stormwater.

In reference to item #6, the County is involved in a “super street” widening project. The County will own and maintain the stormwater management system, which will be underground vaulting for infiltration and volume control. As a result of not wanting to expand the footprint and remove trees, in the interest of protecting the environment, this is the planned solution to meet stormwater standards.

G. Municipal Reports – Eric Larson

Mr. Neil Desai mentioned that he gave a brief on Friday to a SCDNR King Tide Public Education group. Mr. Andy Kinghorn mentioned that the City Council is getting ready to approve a bond to cover CIP projects.

H. Municipal Separate Storm Sewer System (MS4 Update) – Eric Larson

Inspections - Mr. Larson noted that rain gardens, step two volume control, and grading are being checked to assure built per the design, as many complaints are about run off from one neighbor to the next.

Mr. Smith asked about repeat offenders. Brief discussion took place and Ms. Kim Jones commented about her experience with repeat violators and explained the escalating response plan and noted there are a number of opportunities to comply. Mr. Larson noted the process for the County is similar.

Mr. Larson commented on the BMP mapping of the County, indicating we are getting good coverage throughout the County on the project.

The video announcing the coloring contest to name the sweeper and vac trucks was shared. Mr. Larson said the Town of Bluffton will be naming their sweeper truck as well.

Mr. Larson informed the Board that a treebox BMP installation was taking place outside the admin building today if anyone wanted to stop and look at it. He also introduced Amber Woods, the new Stormwater Regulatory Inspector, who has been inspecting the project.

I. Maintenance Projects Report – David Wilhelm

Mr. David Wilhelm provided an update for the Marsh Road project near the Admin Building. Last week (Thursday and Friday) the contract lined 540 feet of pipe. The County

will try to seek reimbursement from SCDOT once the project is complete. The new lining for the pipe cost \$240 per foot (30" pipe), with the total project costing around \$200,000. The lining has a twenty year guarantee, but expected to last much longer.

Mr. Wilhelm shared the results of the Fall County Clean-up day on November 1st. SCDOT, all municipalities, eleven Adopt-A-Highway groups and other sponsors participated in the event. There were over three hundred workers and about 1,000 bags of litter (1,000 pounds) were picked-up. The event was a great success, and the County is hoping to hold two events a year; during the spring and fall.

5. Unfinished Business –

A. Brewer Memorial Park Stormwater Demonstration Project Expanded Scope Update

– This item was discussed under item #4E, Professional Contracts Report. Please see above.

6. New Business

A. Revised Capital Improvement Plan (CIP) – Mr. Larson will be presenting the plan to County Council, which shows revised budget for 2019. This budget assumes the Brewer Memorial Project was approved and has the next 10 years of CIP project budgeted out. It reflects the projects identified in the Master Plan and shows the costs broken out over several years; this shows the estimate of time it will take for completion (design, ROW acquisition and construction for each project). This CIP plan is a cash flow type of analysis, showing projects, operations/maintenance, and capital equipment, the \$5 million borrows, and utility fees projections. There is roughly \$2 million in capital per year.

There are three unplanned projects highlighted in the spreadsheet, but don't have a funding source; Evergreen Grant Project, Alljoy and May River Sanitary Sewer. Mr. Larson expressed that the utility will need more money to do everything on the list (potential rate increase) or start cutting projects.

A question was asked about priority based on watershed health and Mr. Larson commented that Okatie is number one as it is unincorporated County for the most part, then Battery Creek which is shared with the City, Beaufort River, and there are also concerns with Colleton River which is further downstream. He explained that if he was told by Council that Alljoy is to be made a top priority, the project would be moved above Salt Creek [projects are listed in order of priority on the CIP sheet]. Mr. Larson anticipates Alljoy will be an expensive project based on rough calculations (close to 6 million).

Staff needs the Council to define what the priority will be. Is it water quality, flooding, or public health? This is important for making decisions. Mr. Larson will be presenting the CIP plan to County Council to educate them, so they are able to make an informed decision about the projects. A packet will be provided along with the Capital Improvement Plan, so they are able to understand the intent of each project listed. [Capital Improvement Plan attached.](#)

7. Public Comment(s) – Mr. Larson thanked everyone for the opportunity to serve, as yesterday was his five year anniversary with Beaufort County.

8. Next Meeting Agenda – Approved with Addition.

Addition to Unfinished Business – Battery Creek 319 Pond Update

9. Meeting Adjourned

CAPITAL PROJECTS	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	ACTUALS	UNAUDITED ACTUALS	REVISED BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET	BUDGET
Okatie East (Completed)														
SC170/Okatie West 319 Project	51,371	946,213	112,741											
Hwy 278 Retrofit (Completed)	20,310													
Admin Bldg Parking Lot (Pervious Paving) (Completed)														
Battery Creek 319 (Completed)	3,515	205,137												
Buckingham Plantation			276,247	276,248										
Brewer Memorial Park Demonstration Wet Pond Porject		17,338	100,462	450,000										
Factory Creek M2 Phase I		62,930	5,142											
Factory Creek M2 Phase II	33,840	12,000	20,550											
Salt Creek South M1 (2017 Masterplan \$2,117,730)		26,109	444,774	1,646,847										
Shanklin Road M2 (2017 Masterplan \$3,458,787)		22,248	639,144		1,797,395	1,000,000								
Grober Hill M2 (2017 Masterplan \$2,614,801)														
Sawmill Creek / Forby Site (2017 Masterplan \$155,535)		31,181	80,819	560,000										
Camp St. Mary M2 (2017 Masterplan \$3,890,617)					342,000	165,000	1,783,617	1,600,000						
Battery Creek West M1 (2017 Masterplan \$4,287,238)														
Paige Point Overtopping														
Mossy Oaks Watershed (Partner with CoB) Phase I design		5,000	220,404											
Evergreen Tract Detention Basin (not in CIP plan or budget)		8,118	106,893	295,000	295,000									
Sawmill Branch 1 Regional BMP (2017 Master Plan \$2,063,688)						206,369		412,738	1,444,582					
Rock Springs Creek 1 Regional BMP (2017 Master Plan \$430,524)					43,052	86,105	301,367							
Sawmill Branch 2 Regional BMP (2017 Master Plan \$1,071,064)						107,106			214,213	749,745				
Lucy Point Creek Regional BMP (2017 Master Plan \$438,293)									43,829	87,659	306,805			
Albergotti Creek 2 Regional BMP (2017 Master Plan \$602,447)									60,245	120,489	421,713			
Alljoy Regional Basin / Buy-out (not in CIP plan or budget)														
May River Sanitary Sewer Projects (not in CIP plan or budget)														
	109,036	1,336,274	2,007,175	3,228,095	2,477,447	1,564,580	2,084,984	2,012,738	1,762,868	957,893	728,518	-	-	-
SUMMARY														
Beginning Available Funds	3,118,606	9,085,106	9,014,283	6,460,390	3,532,021	1,306,033	5,520,672	4,029,384	2,725,408	1,359,023	5,359,306	4,459,411	4,137,208	3,495,322
Revenue	5,841,385	5,909,671	5,894,381	5,840,156	5,974,480	6,111,893	6,252,466	6,396,273	6,543,387	6,693,885	6,847,844	7,005,345	7,166,468	7,331,297
Bond Revenue	5,000,000					5,000,000				2,000,000				
Total Revenue	13,959,991	14,994,777	14,908,664	12,300,546	9,506,500	12,417,926	11,773,139	10,425,657	9,268,796	10,052,909	9,258,297	8,628,863	8,580,743	8,216,647
Total Expenditures	(4,874,885)	(5,980,495)	(8,049,829)	(8,128,167)	(7,568,381)	(6,273,629)	(7,128,787)	(7,094,137)	(7,312,719)	(7,054,671)	(7,056,475)	(6,645,983)	(7,136,710)	(6,733,994)
Ending Available Funds	9,085,106	9,014,283	6,460,390	3,532,021	1,306,033	5,520,672	4,029,384	2,725,408	1,359,023	2,410,453	1,623,518	1,414,276	885,350	934,120



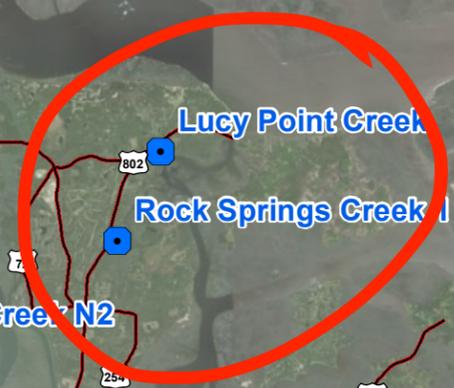
New 2017 CIP Vicinity Map

Legend

- 2017 ATM (new) CIP Locations

Municipal

- City of Beaufort
- City of Hardeeville
- Town of Bluffton
- Town of Hilton Head
- Town of Port Royal
- Town of Yemassee
- Major Roads



Lucy Point Creek
Rock Springs Creek
Albergotti Creek 2
Battery Creek N2
Battery Creek N1
Sawmill Branch 2
Sawmill Branch 1
Jarvis Creek 2
Broad Creek 4

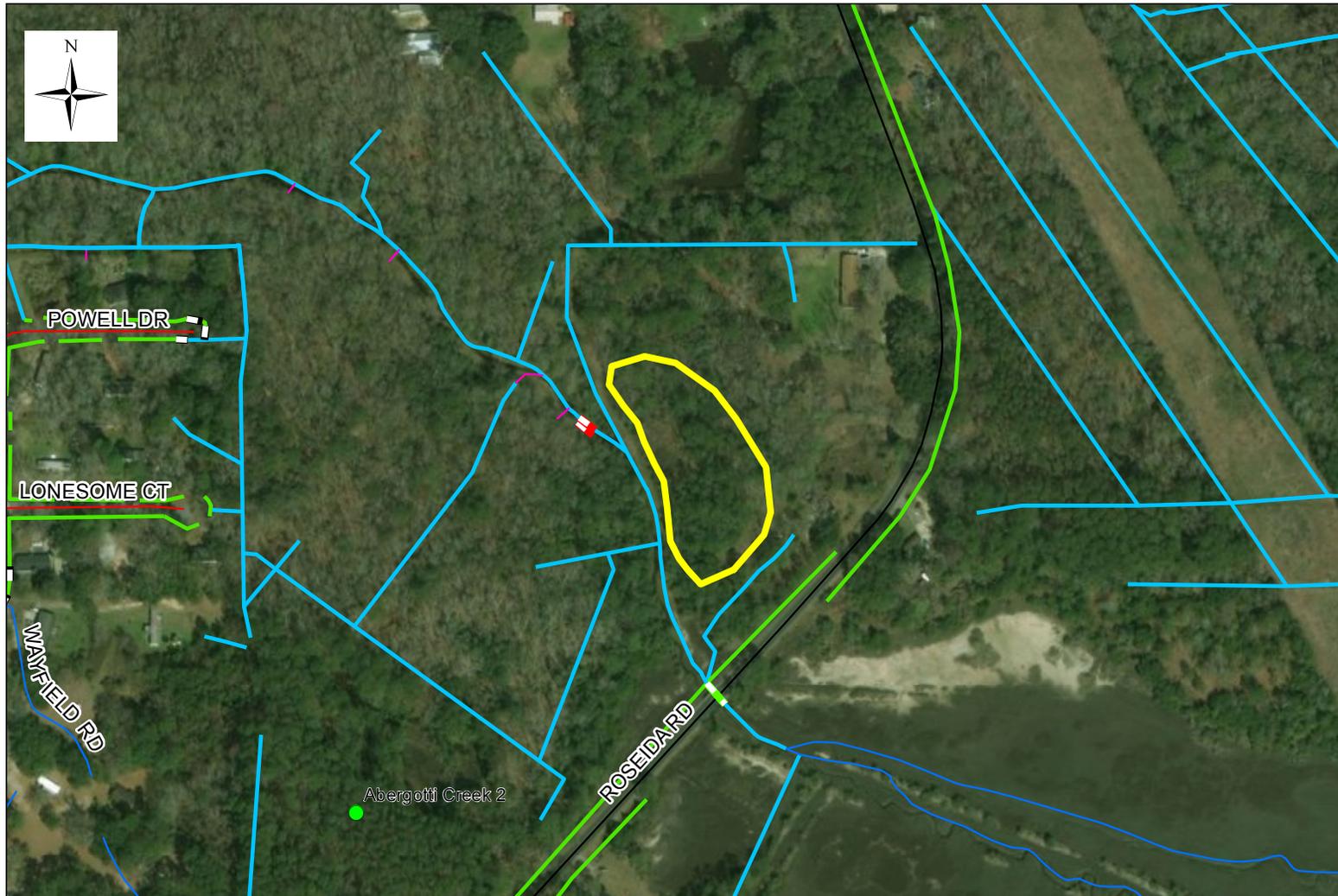


CIP Vicinity Map Showing New 2017 Recommended Projects for Beaufort County.
ESRI Aerial Imagery Shown and Municipality and Roads Layers Provided by Beaufort County.



January 2018

Albergotti Creek 2 Regional BMP Beaufort County

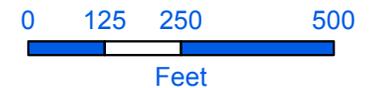


Project Cost
\$602,447

Drainage

TYPE

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

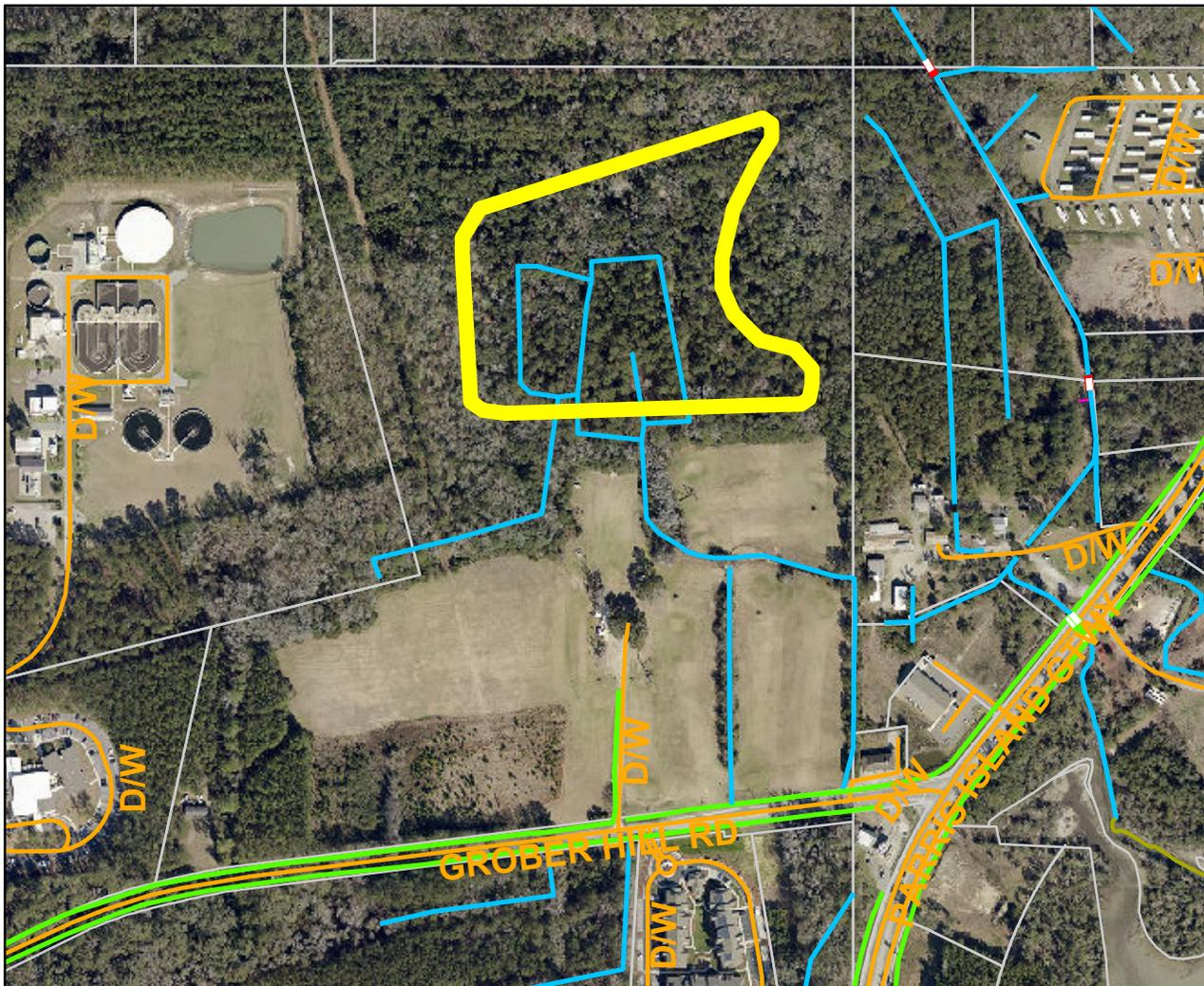


Description: Development in the Albergotti Creek 2 hydrologic sub-basin includes approx. 172 acres of rural and single-family development built prior to stormwater regulations. There are no stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional wet detention facility adjacent to Roseida Road to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of some wetlands in the area, project design would involve delineation and avoidance of the wetlands. Albergotti Creek is impaired by bacteria pollution. The watershed of the site is located within Beaufort County.

County Retrofit Project: Battery Creek West M1
Activity: Regional BMP
Township: Port Royal Island

Project Schedule: FY 2022-2024

Project Cost: \$4,140,000
\$375,000 (2022)
\$165,000 (2023)
\$3,600,000 (2024)



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



1 inch = 500 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

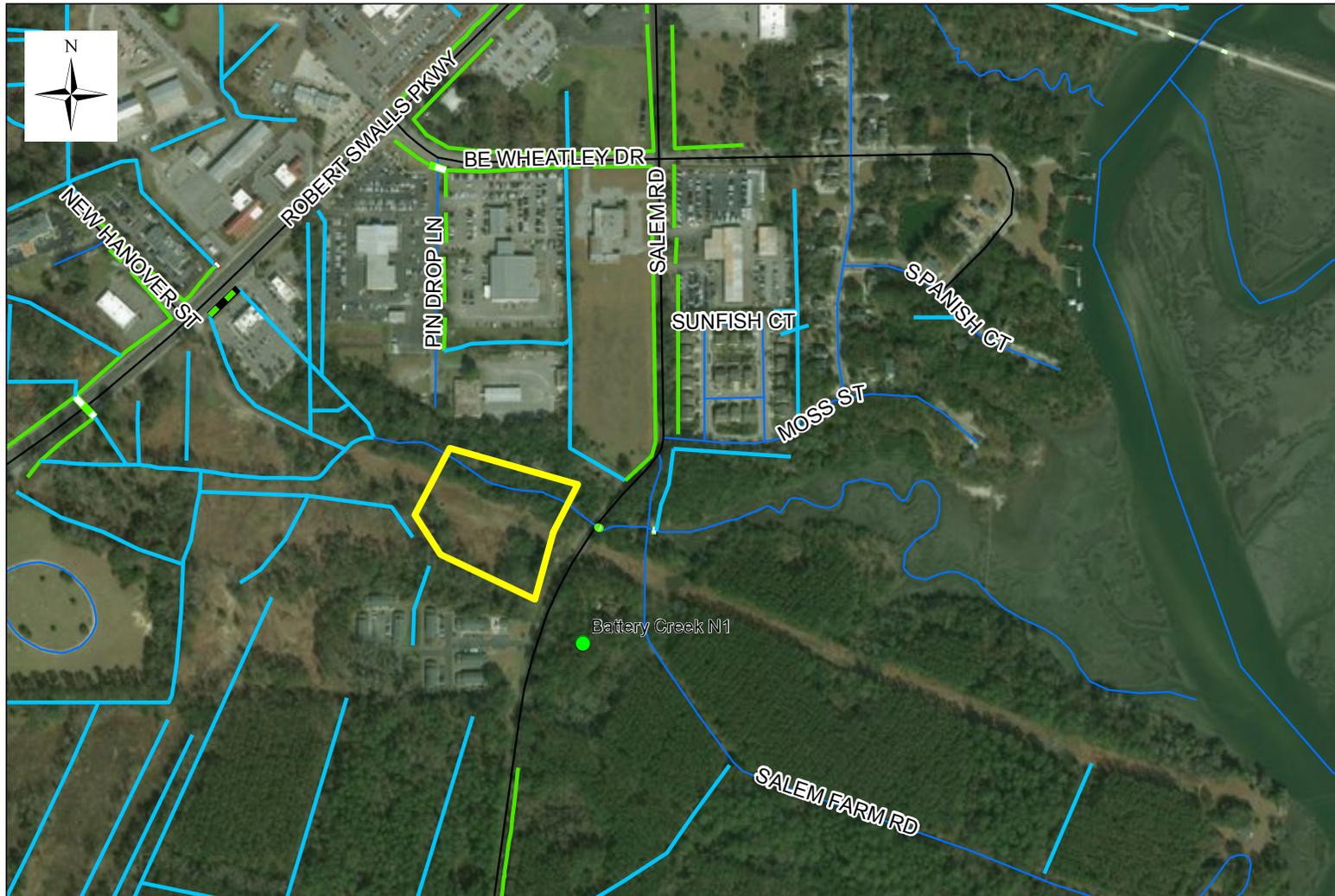
Description: Development in the Battery Creek West hydrologic sub-basin in the Battery Creek watershed includes approx. 500 acres of a mix of single family development and commercial development built prior to stormwater regulations. There are only a few stormwater best management practices, such as hydrodynamic separators, in the area. The project would be to construct a regional detention facility to provide stormwater runoff water quality treatment and volume reduction. Due to the grades of the area, construction will involve a large amount of earthwork, making project cost a limiting factor for project implementation. Battery Creek is impaired by bacteria pollution, a major source being urban runoff. The site is located in the Town of Port Royal.

January 2018

Battery Creek N1 Regional BMP

Township: Beaufort

Project Cost
\$1,369,982



Drainage

TYPE

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

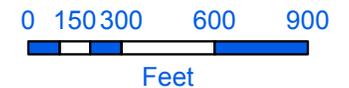
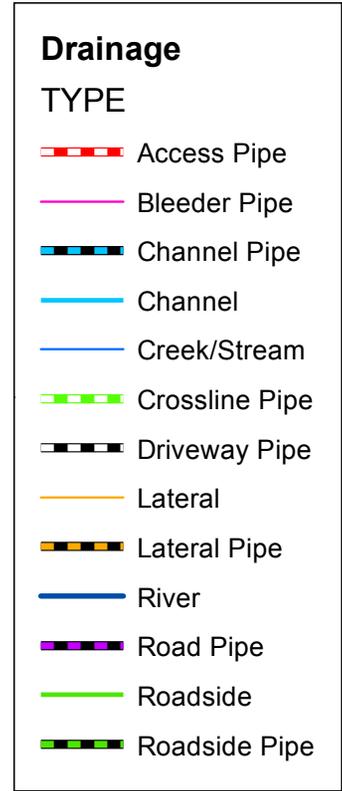
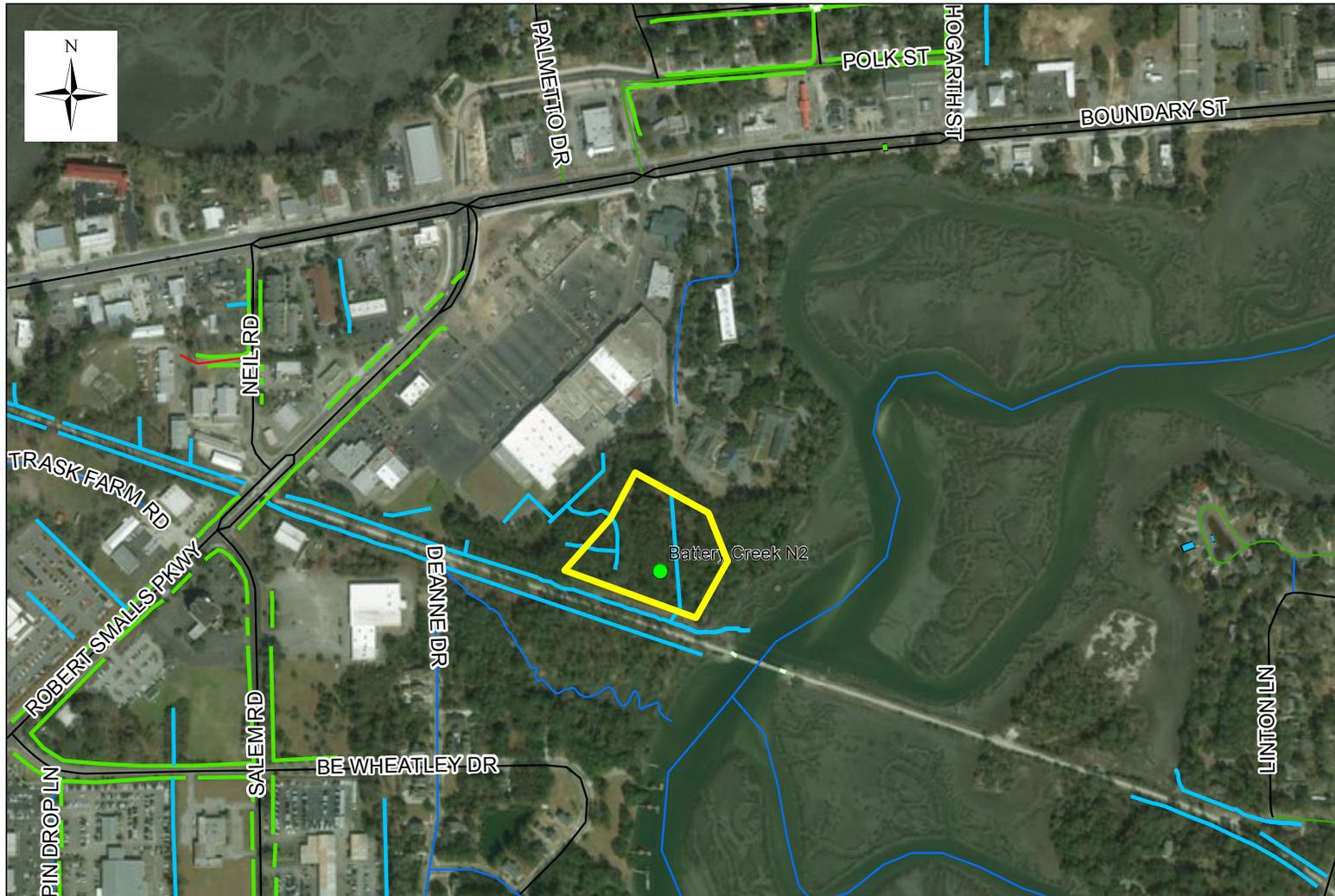


Description: Development in the Battery Creek 2 hydrologic sub-basin includes approx. 274 acres of commercial and residential development built prior to volume control stormwater regulations. There are no stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional wet detention facility adjacent to Salem Road to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of some wetlands in the area, project design would involve delineation and avoidance of the wetlands. Battery Creek is impaired by bacteria pollution. The watershed of the site is located within Beaufort Township.

January 2018

Battery Creek N2 Regional BMP Township: Beaufort

Project Cost
\$618,543



Description: Development in the Battery Creek 2 hydrologic sub-basin includes approx. 67 acres of intense commercial development built prior to volume control stormwater regulations. There are limited stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional wet detention facility adjacent to Spanish Moss Trail to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of some wetlands in the area, project design would involve delineation and avoidance of the wetlands. Battery Creek is impaired by bacteria pollution. The watershed of the site is located within Beaufort Township.

County Retrofit Project: Brewer Memorial Park Demonstration Wet Pond Project Feasibility
Activity: Demonstration BMP
Township: Lady's Island

Project Schedule: FY 2015, 2016 & 2018

Project Cost: \$79,500
\$9,500 (2015)
\$20,000 (2016)
\$50,000 (2018)



Drainage

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



1 inch = 167 feet

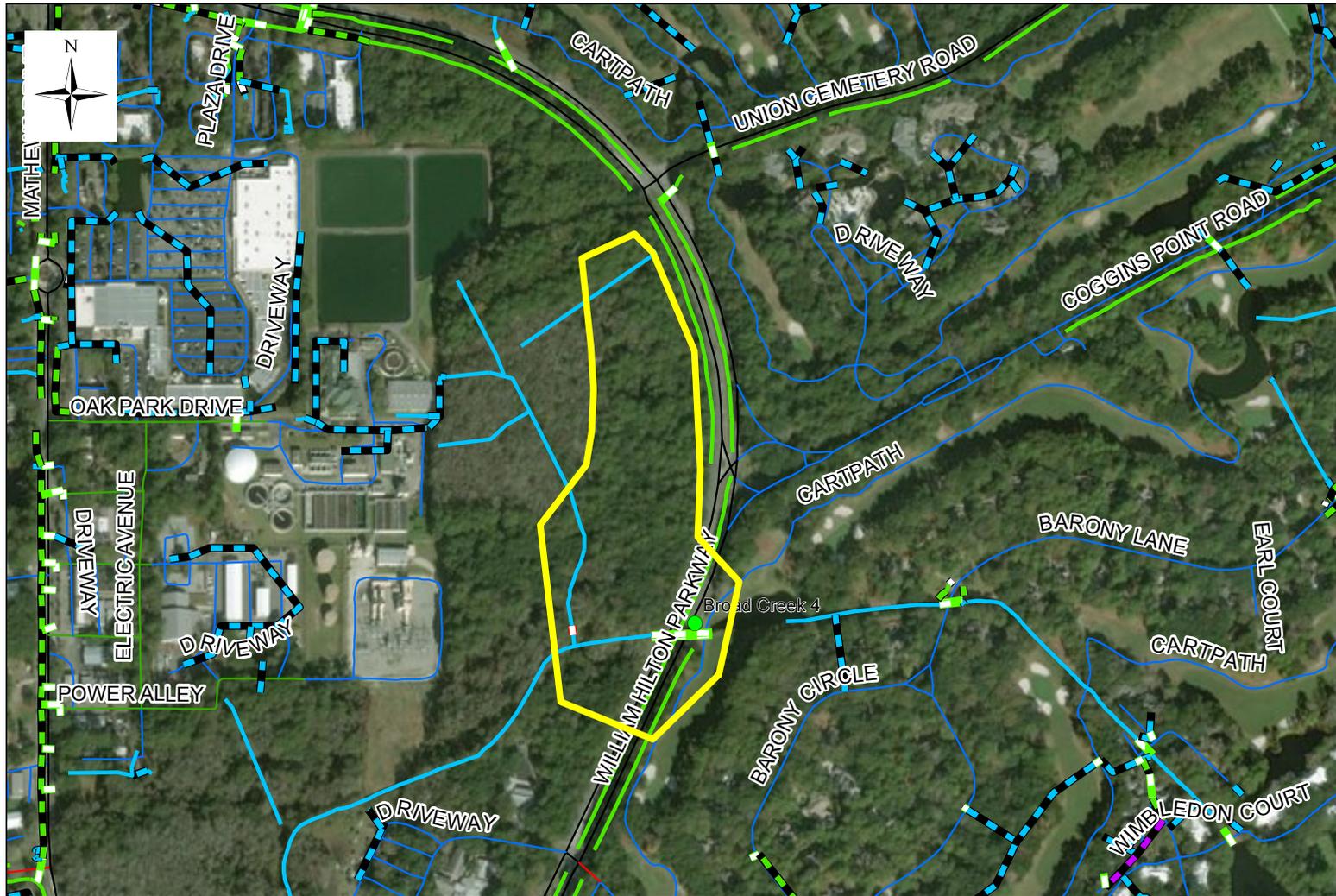
Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

Description: Retrofit a former bait pond at the Brewer Memorial Park on Lady's Island. The site has runoff from Sea Island Parkway and adjacent properties that discharges directly to Factory Creek without water quality treatment or volume reduction. The site is envisioned as a demonstration site due to the high profile location. The park is being built with separate funding through the Beaufort Open Land Trust and will include a boardwalk and landscaping around the pond, providing opportunity for viewing and public education.

January 2018

Broad Creek 4 Regional BMP Township: Hilton Head Island

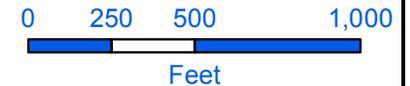
Project Cost
\$991,759



Drainage

TYPE

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

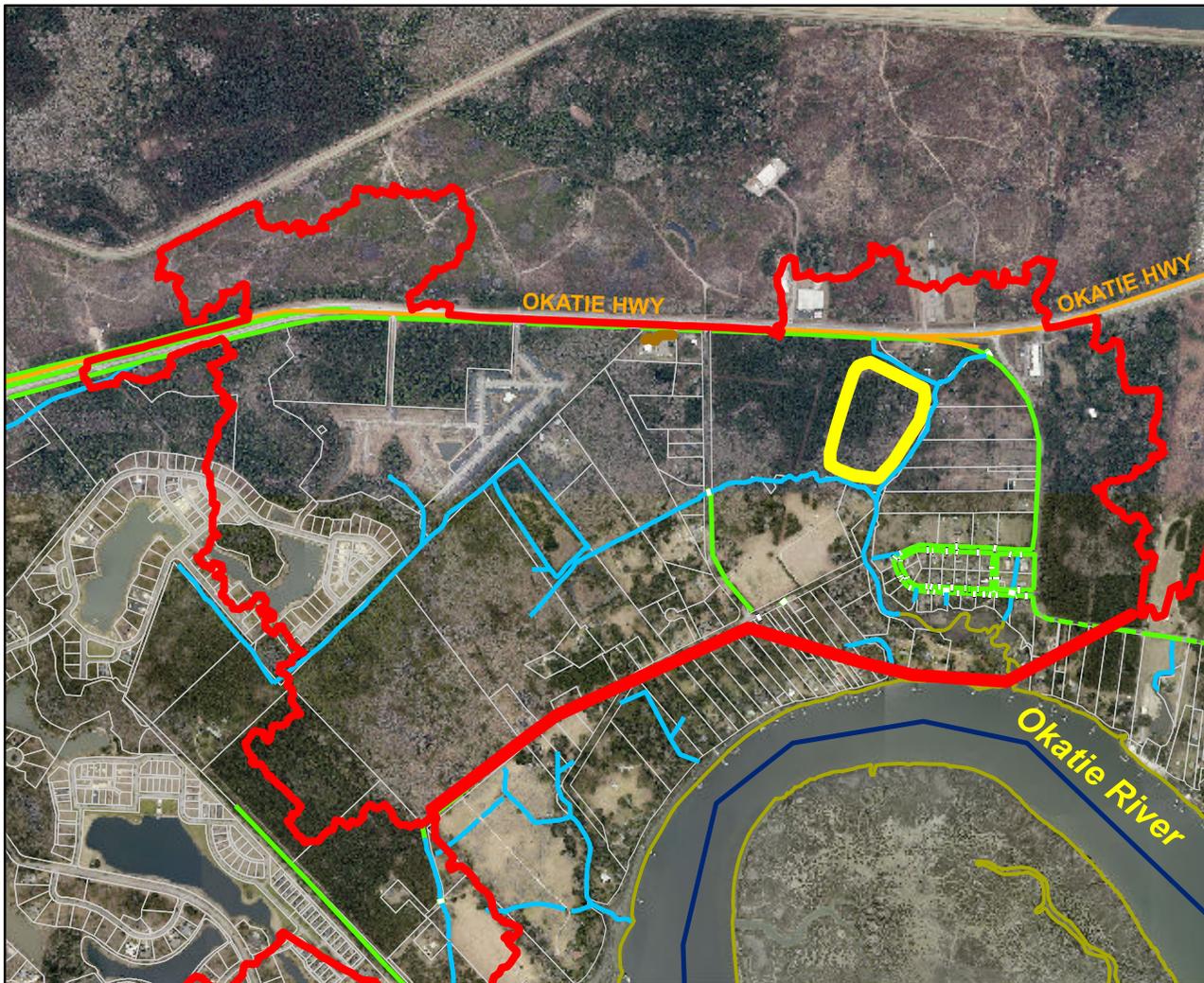


Description: Development in the Broad Creek 4 hydrologic basin includes approx. 750 acres of golf course and single-family development built prior to volume control stormwater regulations. There are stormwater best management practices, such as detention facilities, in the area. The project would be to create additional storage via modified structure from golf course and to construct a regional wet detention pond adjacent to William Hilton Parkway. The project will provide stormwater runoff water quality treatment and volume reduction. Due to the presence of some wetlands in the area, project design would involve delineation and avoidance of the wetlands. Broad Creek is impaired by bacteria pollution.

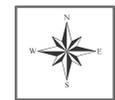
County Retrofit Project: Camp St. Mary's M2
Activity: Regional BMP
Township: Bluffton

Project Schedule: FY 2021-2023

Project Cost: \$3,757,000
\$342,000 (2021)
\$165,000 (2022)
\$3,250,000 (2023)



Drainage	
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 = 1,457 feet

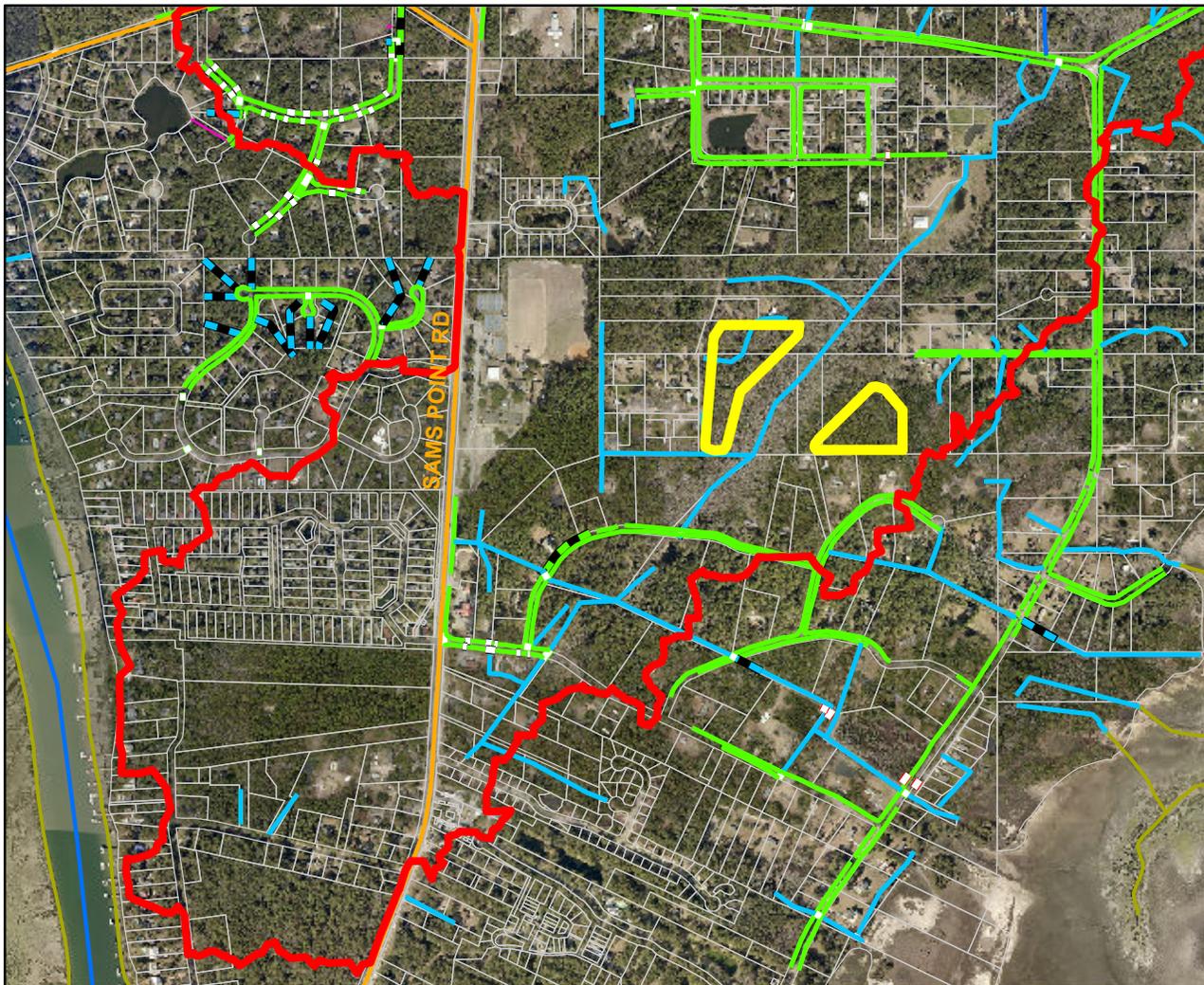
Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

Description: Development in the Camp St. Mary hydrologic sub-basin in the Okatie River watershed includes approx. 500 acres of rural and single family development built prior to stormwater regulations. There are no stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional detention facility to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of multiple wetlands in the area, project design would involve delineation and avoidance of the wetlands, making construction cost a limiting factor for project implementation. Okatie River is impaired by bacteria pollution, a major source being urban runoff. The watershed of the site is located within both Beaufort and Jasper Counties.

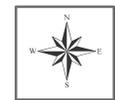
County Retrofit Project: Factory Creek M2
Activity: Regional BMP
Township: Lady's Island

Project Schedule: FY 2018, 2020 & 2022

Project Cost: \$1,740,000
\$200,000 (2018)
\$340,000 (2020)
\$1,200,000 (2022)



Drainage	
TYPE	
	Roadside
	Roadside Pipe
	Road Pipe
	Crossline Pipe
	Channel (fka Outfall)
	Driveway Pipe
	Channel Pipe
	Lateral
	Lateral Pipe
	Access Pipe
	Bleeder Pipe



1 inch = 1,207 feet

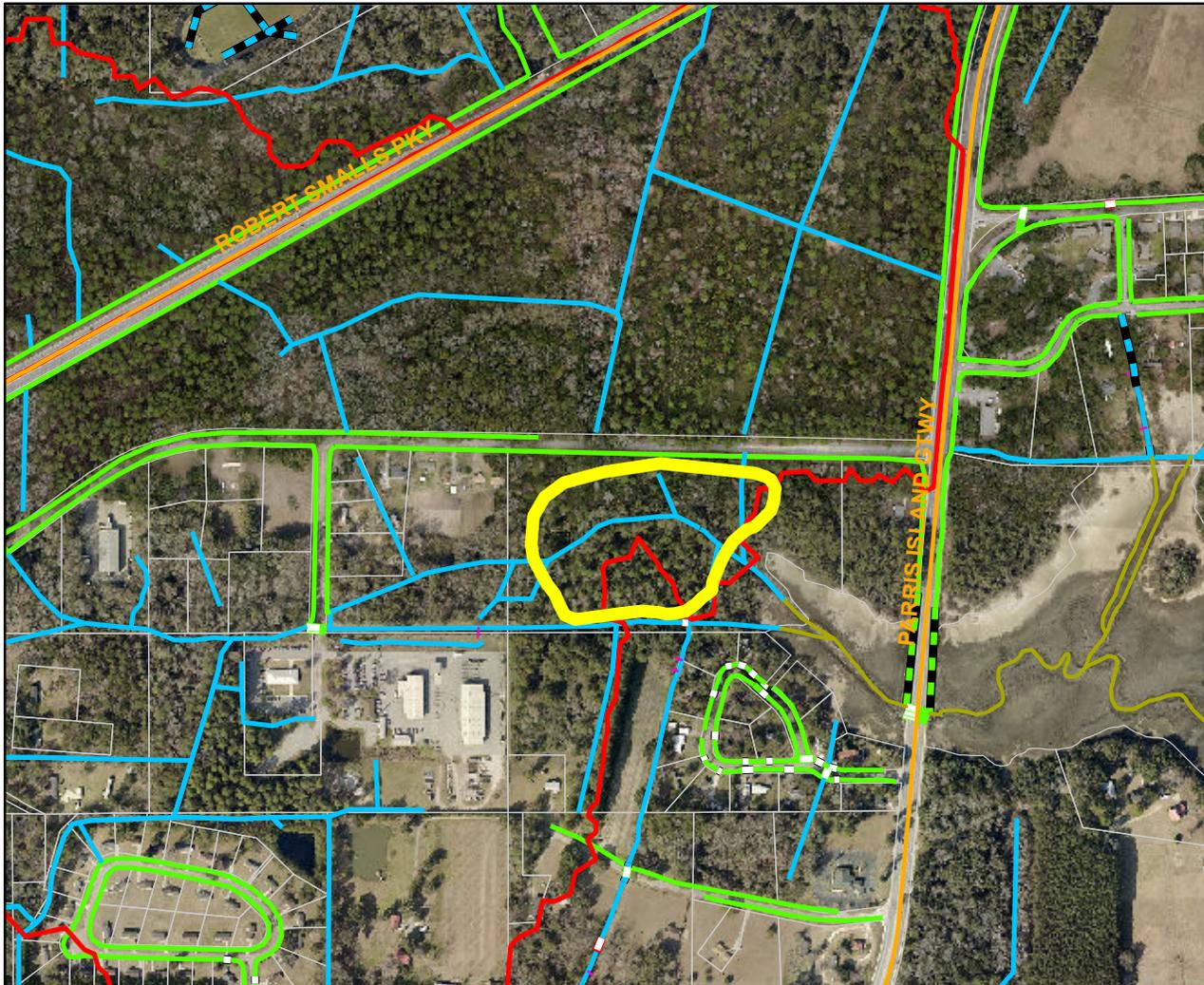
Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

Description: Development in the Factory Creek hydrologic sub-basin in the Rock Springs Creek watershed includes approx. 300 acres of a mix of single family development, and commercial/institutional development built prior to stormwater regulations. There are only a few stormwater best management practices, such as detention basins, in the area. The project would be to construct a regional detention facility to provide stormwater runoff water quality treatment and volume reduction. Due to the grades of the area and the "stop gap measure" to construct a ditch to drain a portion of the wetland, construction will involve a large amount of earthwork, making project cost a limiting factor for project implementation. Rock Springs Creek drains into the Morgan River, which is impaired by bacteria pollution, a major source being urban runoff. The site is located in Beaufort County on Lady's Island.

County Retrofit Project: Grober Hill M2
Activity: Regional BMP
Township: Port Royal Island

Project Schedule: FY 2018,2020 & 2022

Project Cost: \$2,525,000
\$225,000 (2018)
\$900,000 (2020)
\$1,400,000 (2022)



Drainage	
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 = 667 feet

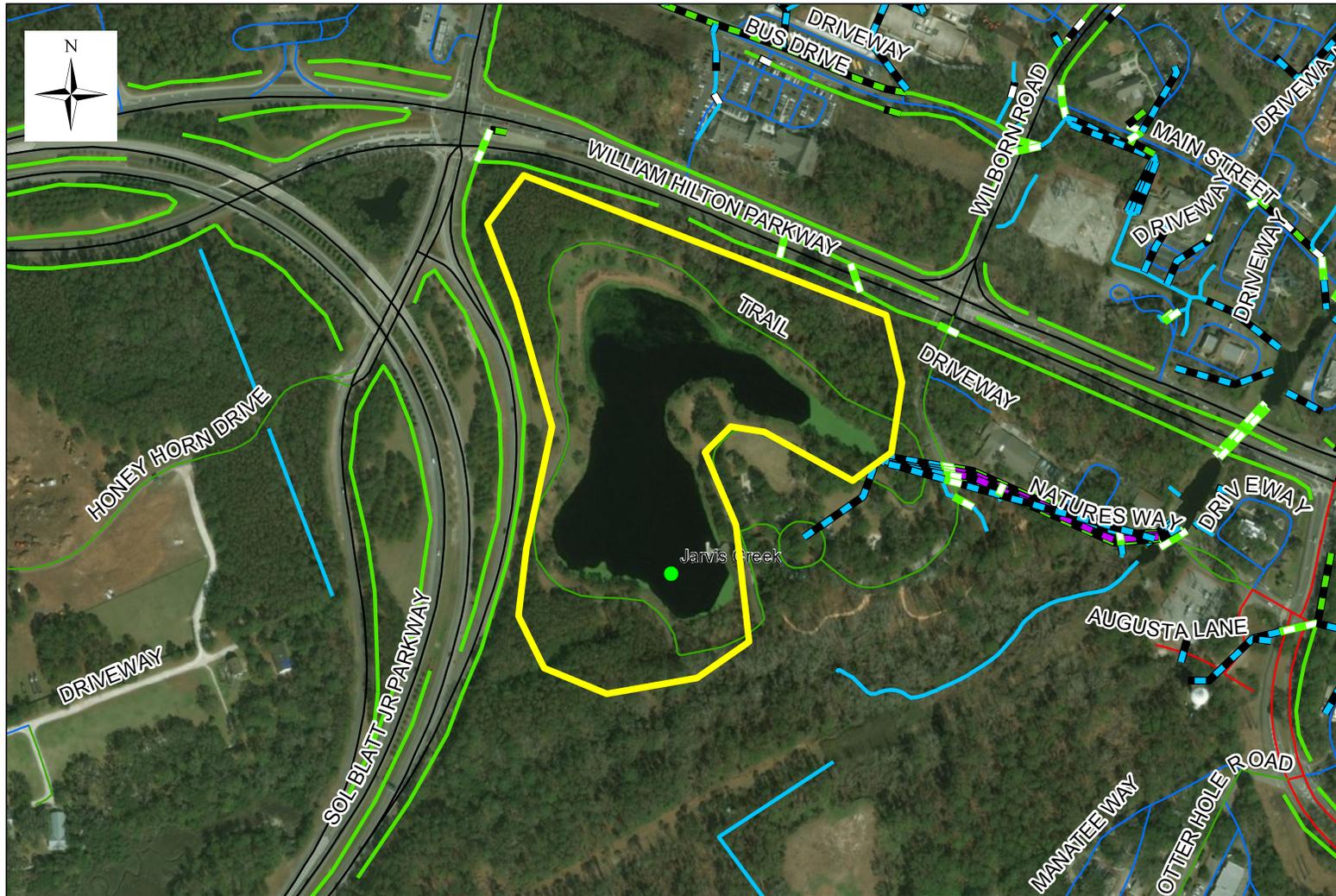
Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

Description: Development in the Grober Hill hydrologic sub-basin in the Battery Creek watershed includes approx. 130 acres of single family development built prior to stormwater regulations. There are no stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional detention facility to provide stormwater runoff water quality treatment and volume reduction. Due to the grades of the area, construction will involve a large amount of earthwork, making project cost a limiting factor for project implementation. Battery Creek is impaired by bacteria pollution, a major source being urban runoff. The site is located in the City of Beaufort.

January 2018

Jarvis Creek 2 Regional BMP Township: Hilton Head Island

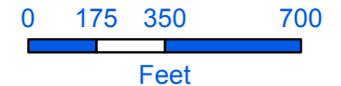
Project Cost
\$2,443,649



Drainage

TYPE

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

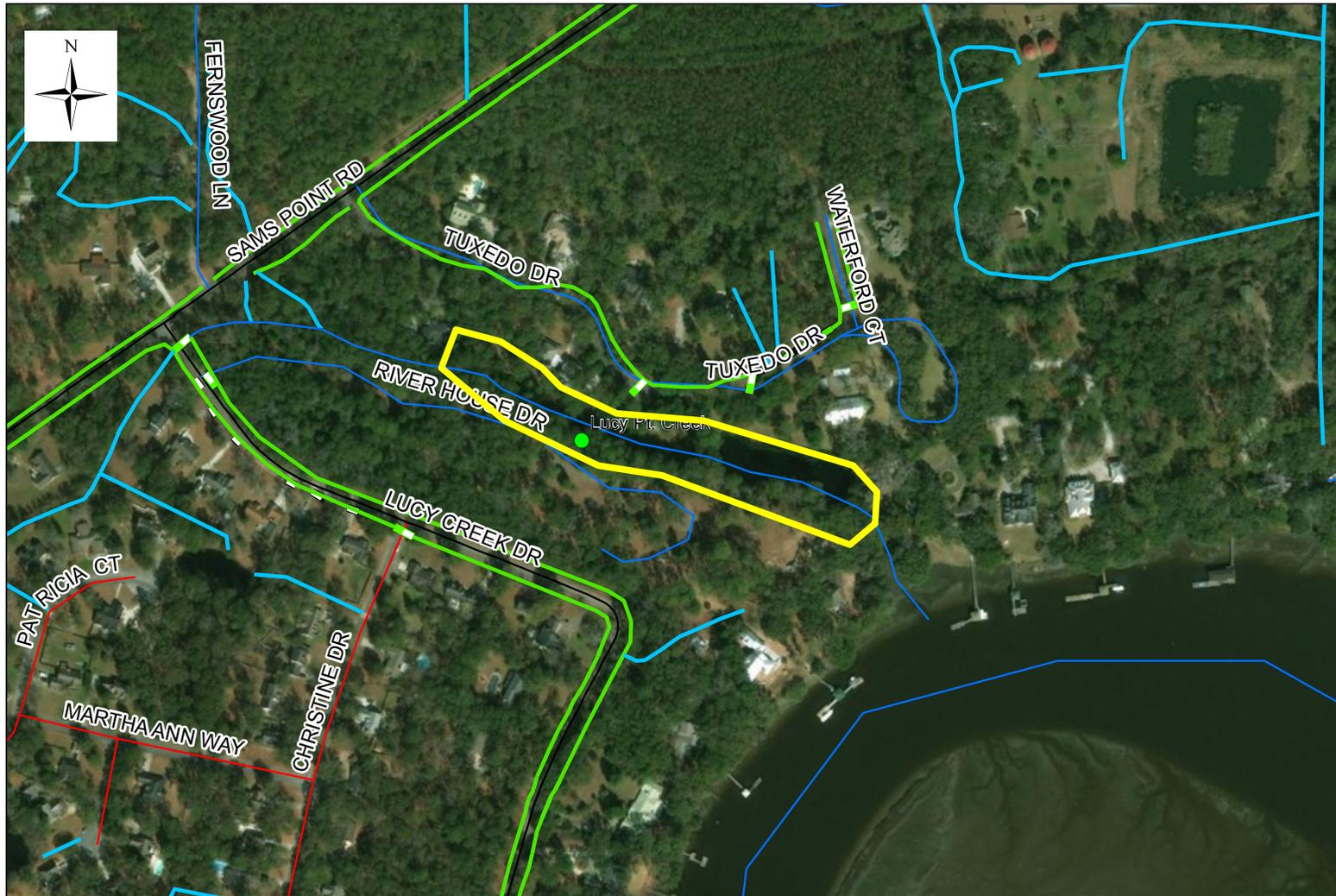


Description: Development in the Jarvis Creek 2 hydrologic basin includes approx. 923 acres of commercial, golf course and single-family development built prior to volume control stormwater regulations. There are stormwater best management practices, such as detention facilities, in the area. The project would be to construct modifications to the existing regional wet detention pond in vicinity of William Hilton Parkway and Sol Blatt Jr. Parkway. Proposed modifications include permanent pool expansion, littoral shelf creation and structure modification to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of some wetlands in the area, project design would involve delineation and avoidance of the wetlands. Jarvis Creek is impaired by bacteria pollution.

January 2018

Lucy Point Creek Regional BMP Township: Lady's Island

Project Cost
\$483,293



Drainage

TYPE

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

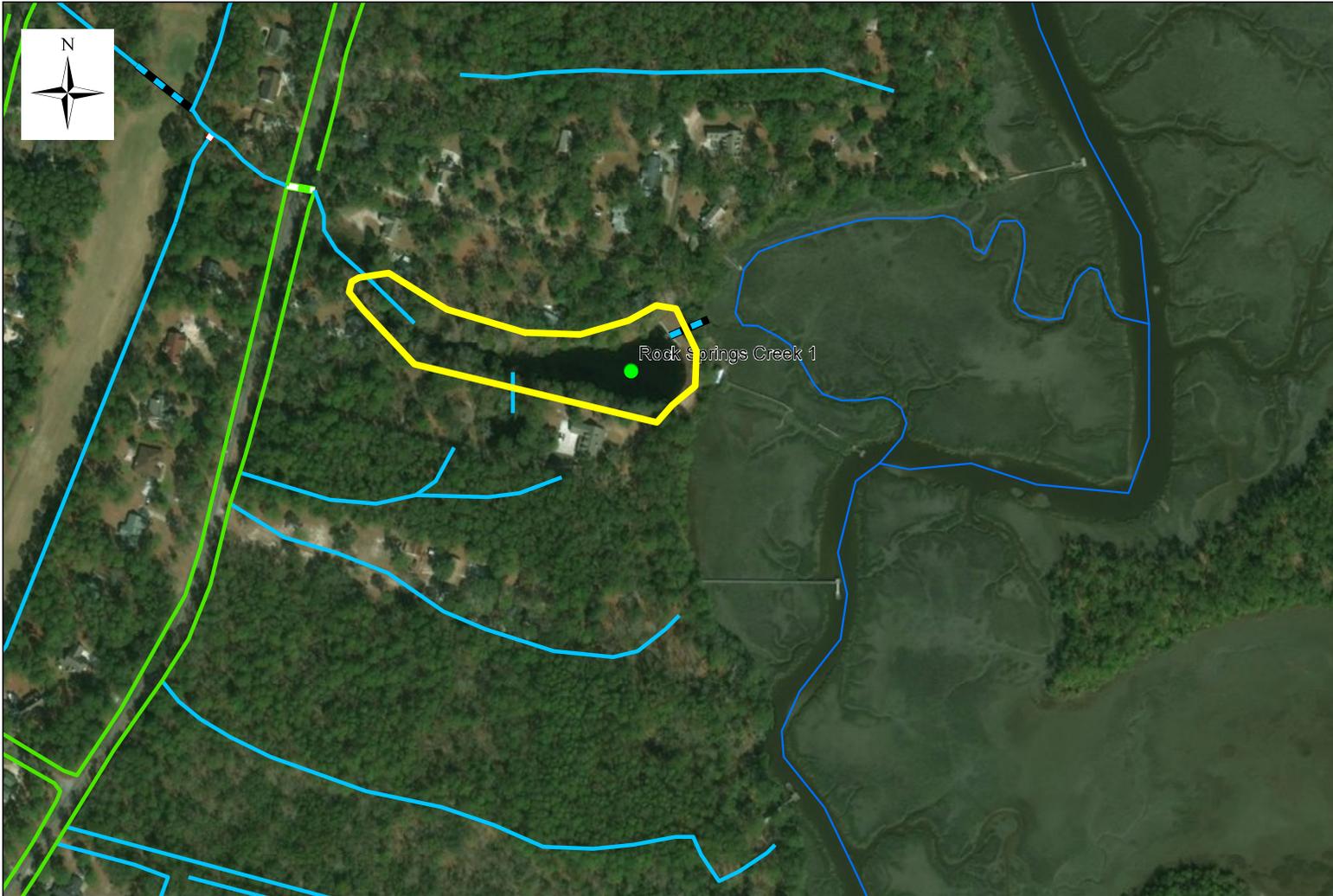


Description: Development in the Lucy Point Creek hydrologic sub-basin includes approx. 105 acres of rural and single-family development built prior to stormwater regulations. There are limited stormwater best management practices, such as detention facilities, in the area. The project would be to construct modifications to the existing regional wet detention pond including permanent pool expansion, littoral shelf creation and control structure modifications. The project will provide enhanced stormwater runoff water quality treatment and volume reduction. Due to the presence of some wetlands in the area, project design would involve delineation and avoidance of the wetlands. The watershed of the site is located within the Lady's Island Township.

January 2018

Rock Spring Creek 1 Regional BMP Township: Lady's Island

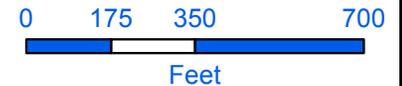
Project Cost
\$430,524



Drainage

TYPE

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

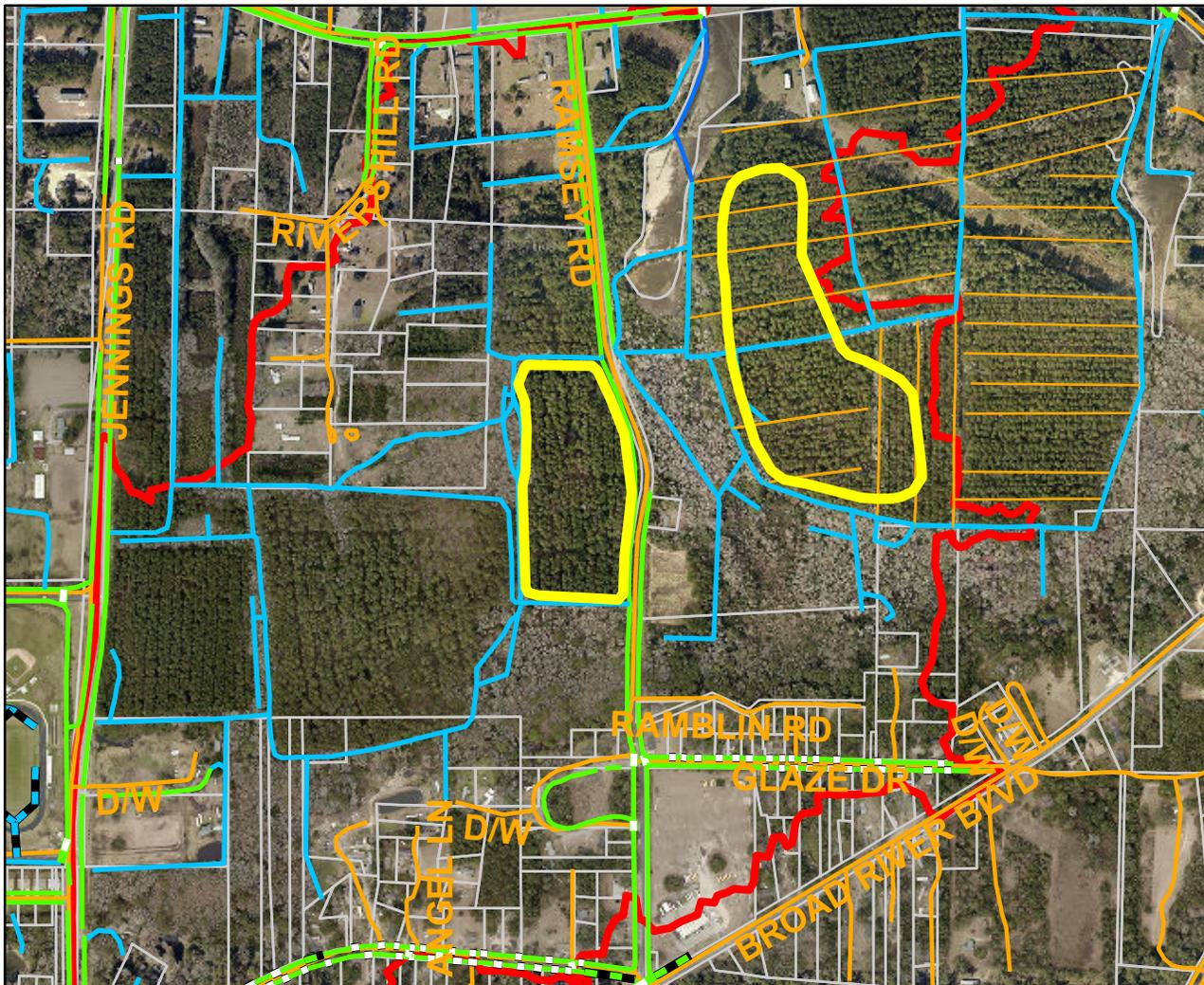


Description: Development in the Rock Springs Creek 1 hydrologic basin includes approx. 194 acres of golf course and single-family development built prior to volume control stormwater regulations. There are stormwater best management practices, such as detention facilities, in the area. The project would be to construct modifications to the existing regional wet detention pond including permanent pool expansion, littoral shelf creation and control structure modifications. The project will provide enhanced stormwater runoff water quality treatment and volume reduction. Rock Springs Creek is impaired by bacteria pollution. The watershed of the site is located within the Lady's Island Township

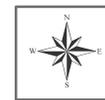
County Retrofit Project: Salt Creek South M1
Activity: Regional BMP
Township: Port Royal Island

Project Schedule: FY 2018-2020

Project Cost: \$2,045,000
\$245,000 (2018)
\$400,000 (2019)
\$1,400,000 (2020)



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



1 inch = 833 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

Description: Development in the Salt Creek South hydrologic sub-basin in the Albergotti Creek watershed includes approx. 330 acres of rural and single family development built prior to stormwater regulations. There are no stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional detention facility to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of multiple wetlands in the area, project design would involve delineation and avoidance of the wetlands, making construction cost a limiting factor for project implementation. Albergotti Creek is impaired by bacteria pollution, a major source being urban runoff. The Creek is being proposed for reclassification to allow shellfish harvesting, making this project a higher priority than in the past. The watershed of the site is located within Beaufort County.

County Retrofit Project: Sawmill Creek Overtopping/Forby Land
Activity: Mitigation BMP
Township: Bluffton

Project Schedule: FY 2016-2017

Project Cost: \$150,000
\$125,000 (2016)
\$25,000 (2017)



Drainage

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



1 inch = 667 feet

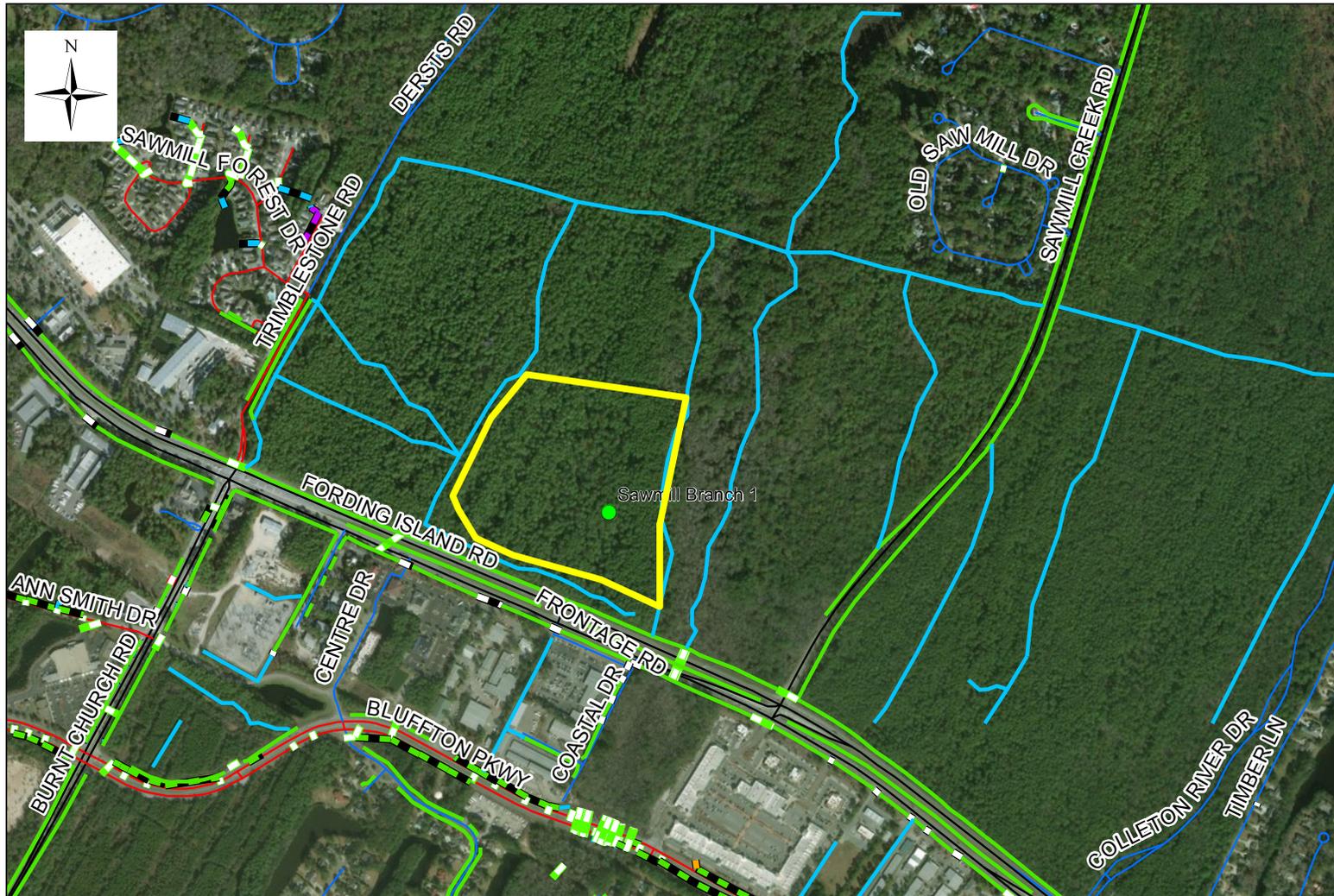
Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

Description: Overtopping of US 278 near Sawmill Creek Road during a 100 - year storm event was identified in the 2006 Stormwater Master Plan. US 278 serves as an evacuation route during a hurricane. The project scope is to construct a detention pond via a wetland enhancement to slow stormwater discharge to the existing culverts under US 278 and to provide water quality treatment and runoff volume reduction. The project will be in conjunction with another project to construct a frontage road in the location providing additional interconnectivity along the south side of the highway.

January 2018

Sawmill Branch 1 Regional BMP Bluffton / Beaufort County

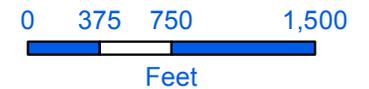
Project Cost
\$2,063,688



Drainage

TYPE

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

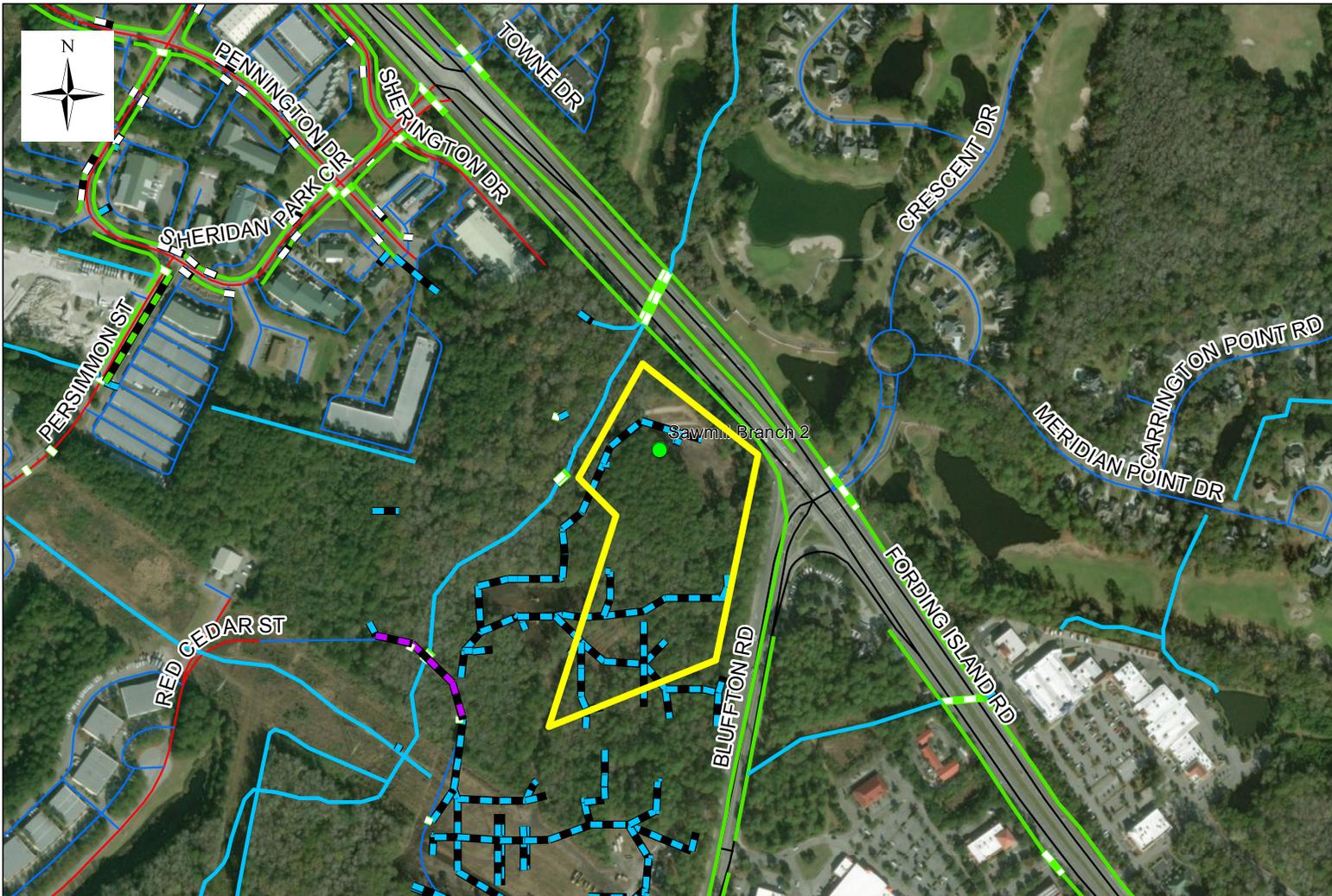


Description: Development in the Sawmill Branch 1 hydrologic basin in the Colleton River watershed includes approx. 310 acres of commercial and single-family development built prior to volume control stormwater regulations. There are stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional detention facility to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of multiple wetlands in the area, project design would involve delineation and avoidance of the wetlands. The watershed of the site is located within Bluffton/Beaufort County.

January 2018

Sawmill Branch 2 Regional BMP Bluffton / Beaufort County

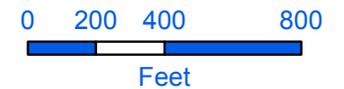
Project Cost
\$1,071,064



Drainage

TYPE

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

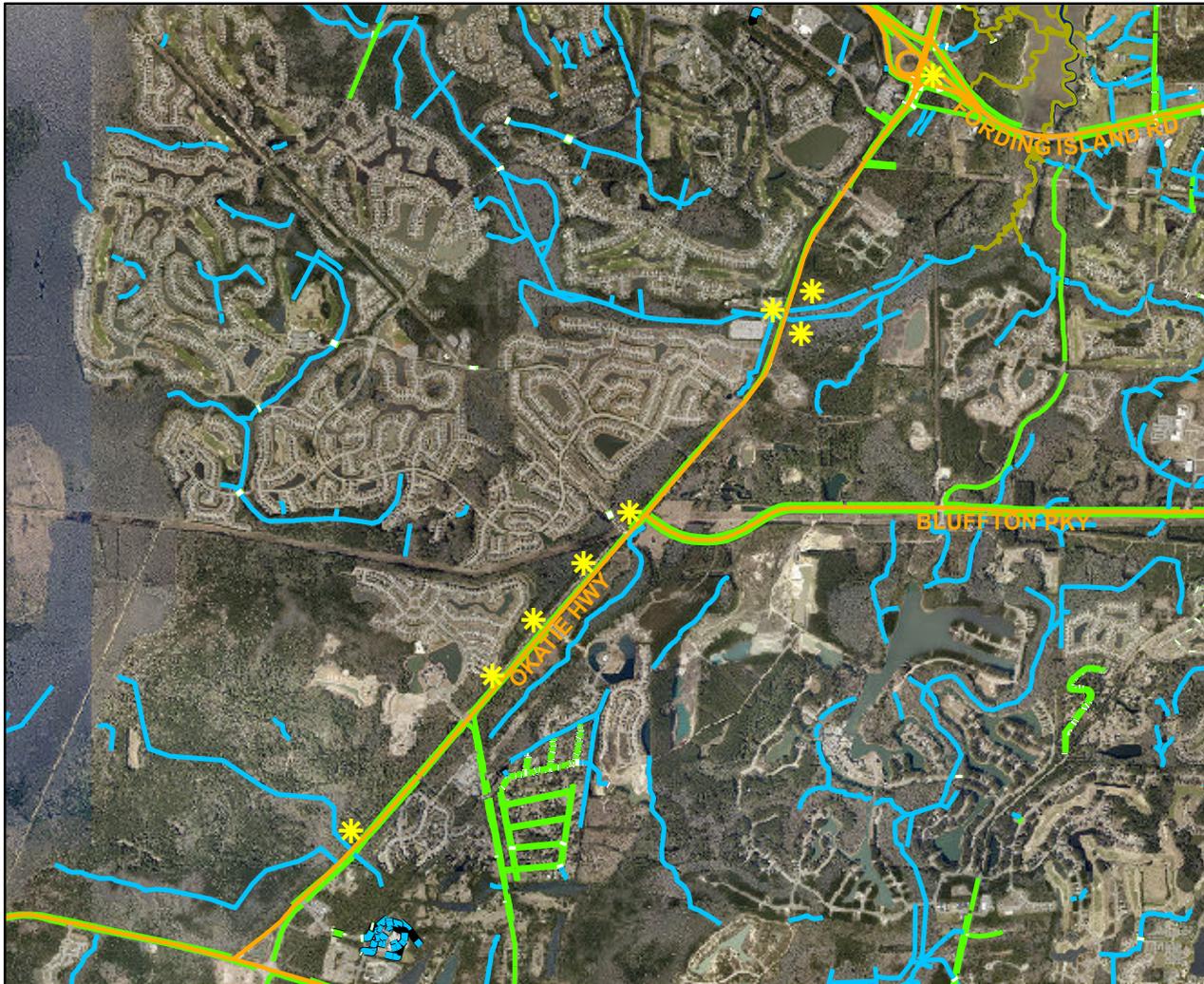


Description: Development in the Sawmill Branch 1 hydrologic basin in the Colleton River watershed includes approx. 270 acres of commercial and single-family development built prior to volume control stormwater regulations. There are stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional detention facility to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of multiple wetlands in the area, project design would involve delineation and avoidance of the wetlands. The watershed of the site is located within Bluffton/Beaufort County.

County Retrofit Project: SC170/Okatie West
Activity: Regional/Retrofit BMP
Township: Bluffton

Project Schedule: FY 2015-2017

Project Cost: \$975,000
 \$60,000 (2015)
 \$315,000 (2016)
 \$600,000 (2017)



Drainage

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 = 3,771 feet

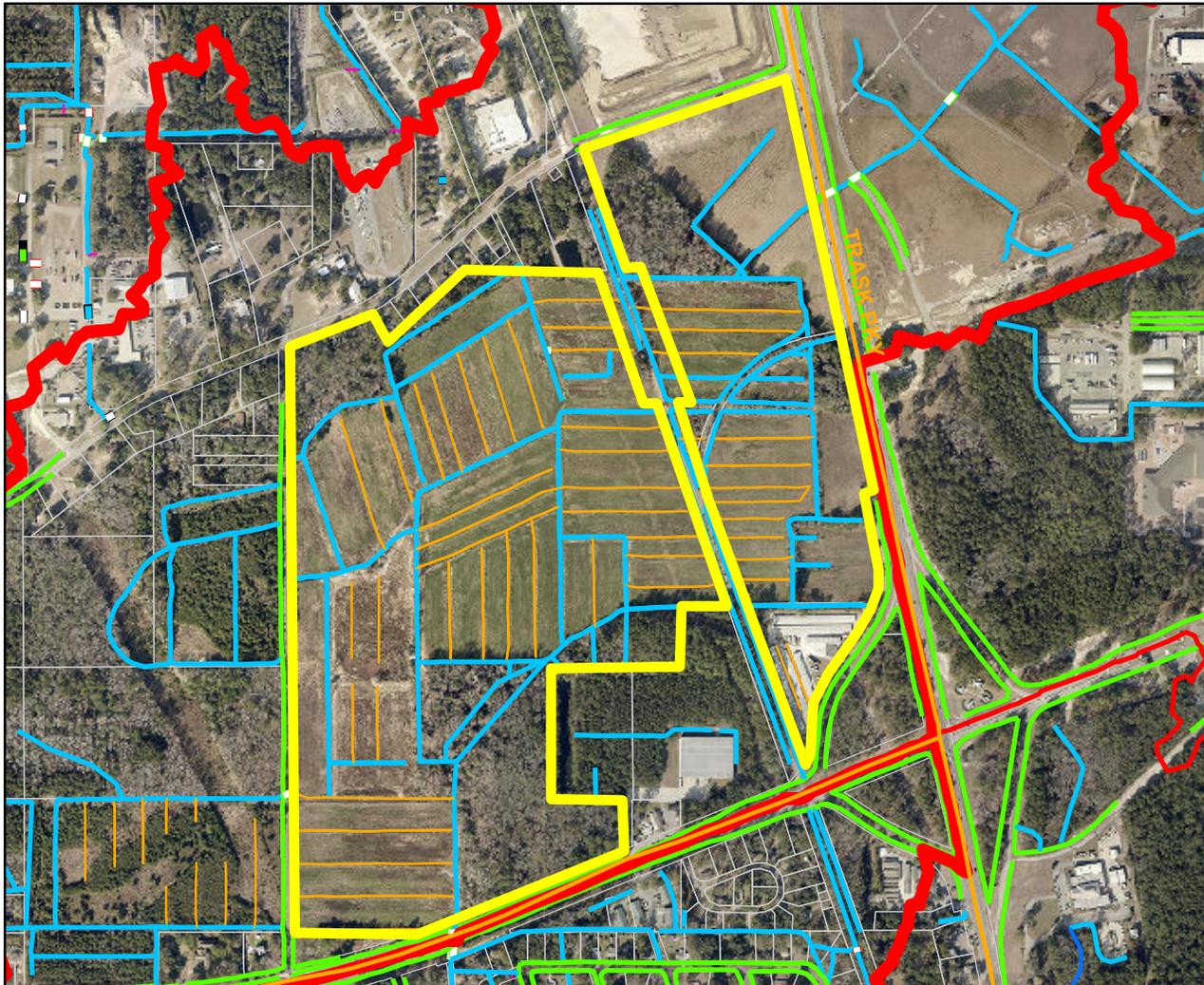
Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

Description: The Okatie River watershed has been identified as a high priority watershed for water quality improvements due to bacteria contamination. The east branch of the headwaters was improved in FY2014 with a wetland enhancement project near Island West golf course and subdivision. A similar enhancement or detention basin is planned for the west branch. Increased runoff from the widening of SC170 in the west branch subwatershed basin adds to the need for a retrofit to the watershed to improve stormwater runoff water quality and reduce runoff volume. The project is a series of detention basins along SC170.

County Retrofit Project: Shanklin Road M2
Activity: Regional BMP
Township: Port Royal Island

Project Schedule: FY 2018-2019 & FY 2021

Project Cost: \$3,340,000
\$330,000 (2018)
\$660,000 (2019)
\$2,350,000 (2021)



Drainage

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 = 917 feet

Prepared By: BC Stormwater Management Utility
 Date Print: 5/19/14

Description: Development in the Shanklin Road hydrologic sub-basin in the Albergotti Creek watershed includes approx. 600 acres of rural, single family development, commercial, and industrial built prior to stormwater regulations. There are no stormwater best management practices, such as detention facilities, in the area. The project would be to construct a regional detention facility to provide stormwater runoff water quality treatment and volume reduction. Due to the presence of multiple wetlands in the area, project design would involve delineation and avoidance of the wetlands, making construction cost a limiting factor for project implementation. Albergotti Creek is impaired by bacteria pollution, a major source being urban runoff. The Creek is being proposed for reclassification to allow shellfish harvesting, making this project a higher priority than in the past. The watershed of the site is located within Beaufort County.