



**Town of Sullivan's Island
Town Council Special Meeting
Monday, May 2, 2016
Town Hall, 2050-B Middle Street
5:00 p.m.**

- 1. Call to Order and notification that press and public were duly notified in accordance with State Law.**
- 2. Executive Session (to commence by vote of Council immediately following Call to Order).
 - a) Legal Advice – Legal advice from Attorney Linton regarding Maybank Restaurant et al. v. Town of Sullivan's Island et al. case 2015-CP-10-0449.**
 - b) Contractual Matter – General discussion regarding contractual matters with Charleston Water System.****

(Executive Session will end promptly at 6 P.M.)

- 3. First Reading, by Title Only, Ordinance No. 2016-02, An Ordinance to Adopt the General Fund Budget for July 1, 2016 through June 30, 2017.**
- 4. First Reading, by Title Only, Ordinance No. 2016-03, An Ordinance to Adopt the Water and Sewer Utility Budget for July 1, 2016 through June 30, 2017.**
- 5. Selection of Engineer for Station 18 Street/Atlantic Avenue Drainage Study.**
- 6. Motion by Town Council for Staff and Counsel to Proceed to Review and Discuss with Charleston Water System the Water Supply Contract.**
- 7. Adjourn**

Ordinance 2016-02

AN ORDINANCE
TO ADOPT BUDGET FOR JULY 1, 2016 THROUGH JUNE 30, 2017

WHEREAS, Section 5-7-260 (3) of the South Carolina Code requires that a municipal council shall act by ordinance to adopt budgets pursuant to public notice.

NOW, THEREFORE, BE IT ORDAINED by the Governing Body of the Town of Sullivan’s Island in Council duly assembled and by the authority of same:

SECTION 1: That the prepared budget and the estimated revenue for payment of same is hereby adopted and is hereby made a part thereof as fully as if incorporated herein and copy thereof is attached hereto.

SECTION 2: That budgeted revenues and expenses cover the period from the First Day of July 2016 to the Last Day of June 2017, both inclusive.

SECTION 3. That budgeted expenses must be matched by budgeted revenues to be generated so as to effect a balanced budget, in a manner deemed feasible by the Town Council, and consistent with the Constitution and Statues of the State of South Carolina.

SECTION 4. The billing dates, the penalty dates, and the amount of the penalty which shall be levied for delinquent taxes shall be as established theretofore.

SECTION 5. The Town Council shall be responsible for the collection of delinquent taxes.

SECTION 6. The Town Council shall administer the budget and may authorize the transfer of appropriated fund within and between departments as are necessary to achieve the goals of the budget.

SECTION 7. If for any reason why any sentence, clause or provision of this ordinance shall be declared invalid, such shall not affect the remaining provisions thereof.

This Ordinance to take effect upon its enactment.

Adopted this ____ day of June, 2016.

Town of Sullivan’s Island

Patrick M. O’Neil, Mayor

Attest:

Ellen Miller, Town Clerk

First Reading: May 2, 2016

Second Reading: _____

Third Reading and Ratification: _____

Town of Sullivan's Island
FY 2017 - Expense Budget

	<u>Admin</u>	<u>Building</u>	<u>Fire</u>	<u>Police</u>	<u>Maintenance</u>	<u>Recreation</u>	<u>Total</u>
BUDGETED EXPENDITURES:							
1 Salaries	\$ 445,000	\$ 207,000	\$ 604,000	\$ 542,000	\$ 178,000	\$ -	\$ 1,976,000
2 Social Security	34,000	16,000	48,000	40,000	15,000	-	153,000
3 Health Insurance	46,000	25,000	94,000	85,000	25,000	-	275,000
4 Retirement	49,000	25,000	85,000	76,000	16,000	-	251,000
5 County Sheriff Deputies	-	-	-	30,000	-	-	30,000
6 Gas & oil	4,000	4,000	10,000	35,000	10,000	-	63,000
7 Diesel Fuel	-	-	5,000	1,000	2,750	-	8,750
8 Vehicle Repairs & Maintenance	-	-	20,000	16,000	8,000	-	44,000
9 Office Supplies	26,000	3,000	-	-	-	-	29,000
10 Supplies & Materials	-	-	20,000	12,000	25,000	-	57,000
11 Travel - Clerk of Court	700	-	-	-	-	-	700
12 Supplies - Clerk of Court	500	-	-	-	-	-	500
13 Supplies - Building Department	-	2,000	-	-	-	-	2,000
14 Telephone	17,000	4,000	7,000	9,500	660	-	38,160
15 Charleston County Centralized Dispatch Service	-	-	24,000	12,000	-	-	36,000
16 Power & Lights	9,000	3,000	10,000	4,200	40,000	9,000	75,200
17 Insurance	95,000	1,000	57,000	50,000	18,000	5,000	226,000
18 Uniforms	-	-	11,000	8,000	3,000	-	22,000
19 System Repair & Maintenance	76,000	3,000	10,000	8,000	21,280	-	118,280
20 Recreation Area Maintenance	-	-	-	-	-	10,000	10,000
21 Dues & Certifications	4,500	2,000	1,000	300	-	-	7,800
22 Training & Seminars	9,500	3,000	9,500	6,000	-	-	28,000
23 Professional Services	60,000	-	-	-	-	-	60,000
24 BZA Expenses	-	2,000	-	-	-	-	2,000
25 DRB Expenses	-	5,000	-	-	-	-	5,000
26 Planning Expenses	400	-	-	-	-	-	400
27 Tree Commission Expenses	-	1,500	-	-	-	-	1,500
28 Council Expenses	30,000	-	-	-	-	-	30,000
29 General Advertising Expenses	12,000	-	-	-	-	-	12,000
30 Legal & Accounting	110,000	-	-	-	-	-	110,000
31 Accreted Land Lawsuit	70,000	-	-	-	-	-	70,000
32 Accreted Land Management	-	-	-	-	100,000	-	100,000
33 Trimming & Pruning Exp.	-	9,000	-	-	-	-	9,000
34 Special Events	-	-	-	-	-	25,000	25,000
35 Miscellaneous	20,000	-	6,000	1,000	1,000	-	28,000
36 Property & Equipment - Capital Lease Purchases	-	-	-	105,000	-	-	105,000
37 Capital Lease Payments	11,985	-	53,036	34,235	5,850	-	105,106
38 Capital Projects	750,000	-	-	-	-	-	750,000
39 Equipment Under \$5,000	10,000	14,000	7,500	22,000	7,500	-	61,000
40 Town Hall Cleaning	21,000	-	-	-	-	-	21,000
41 Town Hall Relocation	50,000	-	-	-	-	-	50,000
42 Building Repairs & Improvements	-	-	212,904	-	-	-	212,904
44 Victims Rights Fund	8,000	-	-	-	-	-	8,000
45 Water Bond Payment	581,372	-	-	-	-	-	581,372
46 2014 G.O. Bond Payments	432,410	-	-	-	-	-	432,410
47 Wildlife Management	-	-	-	6,000	-	-	6,000
48 Dispatching Services	-	-	-	10,000	-	-	10,000
49 Container Servicing	-	-	-	-	11,000	-	11,000
50 Property Repairs & Improvements	-	-	-	-	50,000	115,000	165,000
51 Stormwater System Repairs & Improvements	-	-	-	-	60,000	-	60,000
52 Causeway Maintenance	-	-	-	-	2,000	-	2,000
53 Beach Path Maintenance	-	-	-	-	50,000	-	50,000
54 Garbage Disposal	-	-	-	-	197,000	-	197,000
Total Expenditures - FY 2017	\$ 2,983,367	\$ 329,500	\$ 1,294,940	\$ 1,113,235	\$ 847,040	\$ 164,000	\$ 6,732,082

Town of Sullivan's Island
FY 2017 Revenue Projections

	2017 <u>Projections</u>
1 INTEREST EARNED	\$ 6,000
2 POLICE ACCIDENT REPORTS	200
3 TRANSFER FROM WATER FUND	581,372
4 LICENSES	750,000
5 DOG PERMITS	80,000
6 BRD. OF ZONING APPEALS APPLIC FEE	1,000
7 DESIGN AND REVIEW BOARD FEES	17,000
8 PLANNING COMMISSION FEES	500
9 BUILDING PERMITS	325,000
10 TRIMMING & PRUNING INCOME - ACCRETED LAND	10,500
11 AD VALOREM PROPERTY TAX - Operating	2,100,000 ¹
12 AD VALOREM PROPERTY TAX - Debt Service	432,410 ²
13 HOMESTEAD EXEMPTION REFUND	12,600
14 FINES COLLECTED	40,000
15 AID TO SUBDIVISIONS	39,000
16 VICTIMS RIGHTS FUND	8,000
17 LOCAL OPTION PERMIT - SUNDAY ALCOHOL SALES	24,000
18 FRANCHISE FEES - CELL TOWER	45,500
19 FRANCHISE FEES - OTHER	450,000
20 STATE ACCOMMODATIONS TAX	26,000
21 L.O.S.T., PROP.ROLLBACK	135,000
22 L.O.S.T., REVENUE FUND	88,000
23 MISCELLANEOUS INCOME	175,000
24 TRANSFERS FROM HOSPITALITY & ACCOMMODATIONS TAX FUNDS FOR OPERATING EXPENDITURES	530,000
25 PROCEEDS FROM CAPITAL LEASE	105,000
26 USE OF FUND BALANCE RESERVES FOR CONSTRUCTION PROJECTS	<u>750,000</u>
	<u>\$ 6,732,082</u>

1 The operating millage will remain at 33.1 for FY 2017.

2 Millage for debt service will be set to equal the 2014 GO Bond debt service FY 2017.

ORDINANCE NO. 2016-03
AN ORDINANCE TO ADOPT THE WATER AND SEWER OPERATING
BUDGET FOR FISCAL YEAR 2016-17

WHEREAS, The Town of Sullivan’s Island owns and operates a municipal waste water collection system and treatment plant; and

WHEREAS, the Town of Sullivan’s Island owns and operates a water distribution system; and

WHEREAS, The Town of Sullivan’s Island operates the Water and Sewer Systems on a July 1 through June 30 budget cycle; and

WHEREAS, The Town of Sullivan’s Island collects user fees and rates for the operation of the Water and Sewer Systems; and

WHEREAS, The Water and Sewer Committee has reviewed the operating expenses and revenue of the Water and Sewer Department and recommends adoption;

NOW THEREFORE BE IT ORDAINED by the Mayor and Town Council of the Town of Sullivan’s Island in Council assembled, that the operating budget for the Water and Sewer Department for the period of July 1, 2016 through June 30, 2017 be adopted.

THIS ORDINANCE SHALL BE EFFECTIVE IMMEDIATELY UPON RATIFICATION.

SIGNED, SEALED AND DELIVERED THIS _____ **day of** _____, **2016.**

Patrick M. O’Neil, Mayor

Attest:

Ellen Miller, Town Clerk

First Reading: May 2, 2016

Second Reading: _____

Third Reading and Ratification: _____

SEWER
PROPOSED
BUDGET FY17

									
2/24/2016	Water			Sewer					
	FY 2017			FY 2017					
	increase/decrease			increase/decrease					
Expenses Assumptions									
Salaries	\$	6,748	Increase	\$	6,748	Increase			
Health Insurance	\$	1,901	Increase	\$	1,901	Increase			
Expenses Highlights									
Debt Service	\$	-	Decrease	\$	205,000	Increase			
CWS Capital Improvements	\$	-	Same		N/A				
Capital Improvements	\$	5,000	Increase	\$	(91,000)	Decrease			
CWS H2O Purchase	\$	9,000	Increase		N/A				
Lease Payments/Vehicle Replacement	\$	643	Increase	\$	0	Same			
Reserves	\$	80,500	Same	\$	-	Same			
Operating Costs	\$	(1,900)	Decrease	\$	26,800	Increase			
Usage Demand Assumptions									
Usage									
Billed Usage Projected FY16		81 Million Gallons			66 Million Gallons				
Revenue Requirments									
Estimated Rate Increase		-9.7%			17.0%				
Estimated Revenue Requirements	\$	(96,608)	Decrease	\$	150,449	Increase			
Avg 6,000 gallon user will actually see a 2.5% Water & Sewer bill increase									
<i>All references are to revenue requirements or budgeted numbers from FY16</i>									
Salaries	Increase 2.5%								
Health Insurance	Increase of 6% overall plus funding for full family coverage on two staff								
Debt Service	Lowered GO Bond Rev requirement by 118K. Sewer - Added SRF Phase I & II 87K + 118K to existing Sewer Rev Bond								
CWS Capital Improvements									
Water Capitol	Net Increase 5K for ongoing WLRP								
CWS H2O Purchase	Rev requirement will increase to 132K								
Water Reserves	Shifted balance of Go Bond payment of 80K to reserves and show one time pay off of 580k from reserves. Result is no change t								
Sewer Capital	No rev requirement increase, all project funding anticipated from lot sales or CIP reserves.								
Lease Payments/Vehicle Replacement									
Sewer Reserves	No change, rev requirement will remain the same 35K								

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WATER REVENUE
BUDGET FY17

4	ACCT.#	DESCRIPTION	FY13 ACTUAL	FY14 ACTUAL	FY15 ACTUAL	FY16 PROJECTED ACTUAL	FY16 BUDGETED	FY17 PROPOSED REVENUES	(+/-) % to BUDGET
5	123-0005	Water Bond Transfer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
6	123-1000	Transfer From CIP Fund	\$ 39,523.33	\$ -	\$ -	\$ -	\$ 120,000.00	\$ 150,000.00	
7	123.2000	Transfer fr. Depreciation Fd.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 582,000.00	
8	123.3300	Interest earned	\$ 1,980.52	\$ 1,772.67	\$ 1,432.73	\$ 1,766.08	\$ 2,000.00	\$ 2,000.00	0.0%
9	123.4110	Water Sales	\$ 869,067.34	\$ 925,568.00	\$ 1,028,642.55	\$ 1,019,599.00	\$ 992,454.30	\$ 895,846.35	-9.7%
10	123.4111	Penalties	\$ 5,410.00	\$ 6,080.00	\$ 8,390.00	\$ 7,750.28	\$ 5,500.00	\$ 5,500.00	0.0%
11	123.4112	Administrative Account Fees	\$ 9,940.00	\$ 10,260.00	\$ 9,171.61	\$ 8,629.84	\$ 8,000.00	\$ 8,000.00	0.0%
13	123.4114	Hydrant meter permits	\$ 100.00	\$ 850.00	\$ 250.00	\$ 500.00	\$ 200.00	\$ 200.00	0.0%
14	123.4300	Meter connect & renew	\$ 19,370.00	\$ 22,169.24	\$ 24,220.00	\$ 24,509.00	\$ 7,000.00	\$ 7,000.00	0.0%
15	123.4400	Meter Repairs	\$ 1,175.00	\$ 1,835.00	\$ 610.00	\$ -	\$ 500.00	\$ 500.00	0.0%
16	123.4500	Service Calls	\$ 1,020.00	\$ 390.00	\$ 705.00	\$ 360.00	\$ 500.00	\$ 500.00	0.0%
17	123.4600	Inspection Fees	\$ -	\$ -	\$ -	\$ -	\$ 250.00	\$ 250.00	0.0%
18	123.4610	Backflow Testing	\$ 560.00	\$ 720.00	\$ 720.00	\$ 1,120.00	\$ 700.00	\$ 700.00	0.0%
19	124.4611	Unmetered Fire Line Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
21	124.4612	Repairs Caused by Others	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
22	123.4900	Miscellaneous	\$ 114.76	\$ 3,558.55	\$ 100.00	\$ 18,630.00	\$ 100.00	\$ 100.00	0.0%
23	123.9000	Transfer fr. Spec. Rev.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
24	123.9100	Transfer fr. Sewer Fd.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
25	123.9400	Transfer fr. Gen. Fd.	\$ 125,000.00	\$ -	\$ -	\$ -	\$ -	\$ -	
26	123.9900	Advalorem Tax	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
27		TOTAL	\$ 1,073,260.95	\$ 973,203.46	\$ 1,074,241.89	\$ 1,082,864.20	\$ 1,137,204.30	\$ 1,652,596.35	5.0%

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WATER EXPENDITURES
BUDGET FY17

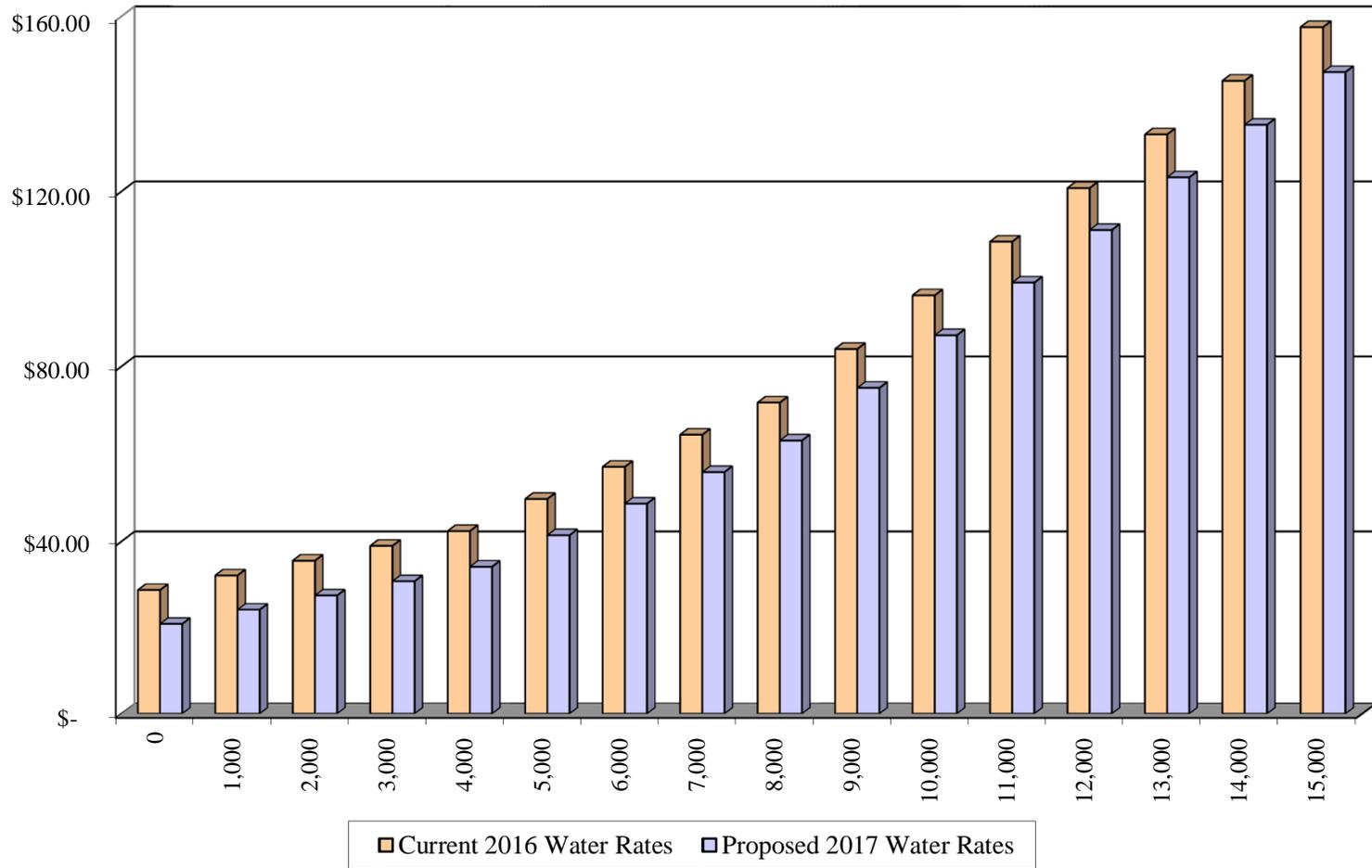
1			FY13 ACTUAL	FY14 ACTUAL	FY15 ACTUAL	FY16 PROJECTED ACTUAL	FY16 BUDGETED Prop. Budget	FY17 PROPOSED BUDGET	(+/-) % to BUDGET
2		WATER 124 DESCRIPTION							
3	124.0100	Salaries	\$ 146,325.43	\$ 147,352.26	\$ 154,096.48	\$ 164,740.76	\$ 174,282.54	\$ 178,641.81	2.5%
4	124.0200	Social Security	\$ 10,716.94	\$ 11,021.54	\$ 10,973.74	\$ 11,657.18	\$ 13,332.62	\$ 13,666.10	2.5%
5	124.0210	Health Insurance	\$ 16,082.32	\$ 17,822.73	\$ 21,774.09	\$ 24,646.40	\$ 28,368.63	\$ 30,096.76	6.1%
6	124.0220	Retirement	\$ 13,723.13	\$ 14,454.46	\$ 16,623.85	\$ 17,879.10	\$ 18,412.53	\$ 19,150.71	4.0%
7	124.0300	Gas & Oil Vehicles	\$ 6,742.45	\$ 6,644.14	\$ 3,395.29	\$ 4,701.42	\$ 7,000.00	\$ 7,000.00	0.0%
8	124.0310	Diesel--Fuel	\$ 2,666.96	\$ 586.00	\$ 1,704.87	\$ -	\$ 3,300.00	\$ 3,300.00	0.0%
9	124.0320	Diesel Equip Maint & Repairs	\$ 316.66	\$ 2,487.34	\$ 4,355.24	\$ 4,305.74	\$ 2,000.00	\$ 2,000.00	0.0%
10	124.0400	Maint & Repairs Vehicles	\$ 3,333.41	\$ 5,793.35	\$ 4,318.65	\$ 173.02	\$ 5,000.00	\$ 5,000.00	0.0%
11	124.0600	Supplies & Materials	\$ 8,415.82	\$ 14,030.99	\$ 15,670.69	\$ 15,397.32	\$ 10,000.00	\$ 12,000.00	20.0%
12	124.0610	Tools	\$ 1,654.09	\$ 592.61	\$ 854.30	\$ 3,225.40	\$ 1,500.00	\$ 1,500.00	0.0%
13	124.0620	Office Supplies	\$ 5,955.38	\$ 6,436.81	\$ 8,322.02	\$ 5,150.96	\$ 8,700.00	\$ 8,700.00	0.0%
14	124.0630	Lab Supplies	\$ 1,937.81	\$ 1,640.83	\$ 3,077.95	\$ 2,388.54	\$ 2,200.00	\$ 2,300.00	4.5%
15	124.0700	Telephone	\$ 5,456.34	\$ 5,495.66	\$ 6,184.30	\$ 5,412.88	\$ 5,600.00	\$ 5,600.00	0.0%
16	124.0900	Power & Electricity	\$ 3,128.75	\$ 3,316.80	\$ 3,466.61	\$ 3,466.06	\$ 3,500.00	\$ 3,500.00	0.0%
17	124.1000	Insurance	\$ 15,931.24	\$ 15,750.11	\$ 17,057.15	\$ 17,831.90	\$ 17,000.00	\$ 17,000.00	0.0%
18	124.1100	Equipment Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
19	124.1200	System Repairs&Main	\$ 23,907.15	\$ 39,613.03	\$ 24,147.84	\$ 37,780.20	\$ 38,000.00	\$ 38,000.00	0.0%
20	124.1203	Uniforms and Clothing	\$ 303.99	\$ 1,812.91	\$ 1,054.67	\$ 992.42	\$ 1,500.00	\$ 1,500.00	0.0%
21	124.1210	capital Improvements	\$ 196,725.54	\$ 45,322.71	\$ 100,434.65	\$ 173,529.69	\$ 182,500.00	\$ 137,500.00	-24.7%
22	124.1211	Admin. Bld. Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
23	124.1220	Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
24	124.1300	Dues & Certifications	\$ 5,289.00	\$ 4,944.64	\$ 5,547.50	\$ 8,111.50	\$ 9,000.00	\$ 9,000.00	0.0%
25	124.1400	Training & Seminars	\$ 1,213.49	\$ 3,774.45	\$ 1,257.63	\$ 3,282.77	\$ 4,500.00	\$ 4,500.00	0.0%
26	124.1900	Prof. Ser. - Audit	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 10,000.00	\$ 5,000.00	\$ 5,000.00	0.0%
27	124.2000	Prof. Ser. - Eng.	\$ 8,000.00	\$ -	\$ 2,000.00	\$ 38,230.95	\$ 35,000.00	\$ 111,000.00	217.1%
28	124.3000	Miscellaneous	\$ 260.20	\$ 35.27	\$ 1,497.95	\$ 767.50	\$ 1,564.35	\$ 1,564.35	0.0%
29	124.3100	Prop. & Equipment	\$ -	\$ -	\$ 23,998.00	\$ 10,897.23	\$ 11,000.00	\$ 7,000.00	-36.4%
30	124.3110	Prop & Equip <\$5,000	\$ -	\$ -	\$ 674.99	\$ -	\$ -	\$ -	-
31	124.3500	Water Bond pmt to general fund	\$ 198,500.00	\$ 199,682.77	\$ 203,098.16	\$ 198,500.00	\$ 198,500.00	\$ 582,000.00	193.2%
32	124.3510	Lease Payments	\$ -	\$ 13,568.98	\$ 13,568.98	\$ 21,780.42	\$ 29,568.00	\$ 34,211.00	15.7%
33	124.3600	Water analysis	\$ 420.00	\$ -	\$ -	\$ -	\$ 1,200.00	\$ 1,200.00	0.0%
34	124.3700	Chemicals	\$ 9,583.60	\$ 4,938.51	\$ 9,773.55	\$ 4,635.84	\$ 8,000.00	\$ 8,000.00	0.0%
35	124.3800	Meter Lease Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
36	124.3900	H2O Payment, Operation	\$ 101,640.10	\$ 117,505.52	\$ 126,808.00	\$ 148,508.16	\$ 123,000.00	\$ 132,000.00	7.3%
37	124.4000	CPW Improvements	\$ -	\$ 131,797.00	\$ 2,225.00	\$ 73,000.00	\$ 73,000.00	\$ 36,000.00	-50.7%
38	124.8900	Bad Debt Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
39		SUBTOTAL - WATER	\$ 860,229.80	\$ 930,421.42	\$ 950,737.15	\$ 1,065,493.28	\$ 1,083,528.67	\$ 1,597,430.73	47.4%
40									
41									
42		ADMINISTRATIVE							
43	ACCT #	DESCRIPTION							
44	129.0100	Admin. Salaries	\$ 39,803.92	\$ 39,587.28	\$ 42,799.69	\$ 47,820.30	\$ 42,095.10	\$ 43,147.49	2.5%
45	129.0200	Social Security	\$ 3,012.49	\$ 2,968.61	\$ 3,225.59	\$ 3,448.16	\$ 3,220.28	\$ 3,300.78	2.5%
46	129.0210	Hospital Insurance	\$ 3,617.76	\$ 3,581.07	\$ 3,492.31	\$ 3,957.40	\$ 3,771.88	\$ 3,945.24	4.6%
47	129.0220	Retirement	\$ 4,219.24	\$ 4,196.17	\$ 4,623.33	\$ 5,289.00	\$ 4,588.37	\$ 4,772.11	4.0%
48		Admin-Office Supplies	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
49		Bond Interest expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
50		Transfer to Gen. Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
51		Transfer to Water Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
52		Transfer to Sewer Fund	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
53		Transfer to Special Rev	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	-
54		TOTAL ADMINISTRATIVE	\$ 50,653.41	\$ 50,333.13	\$ 54,140.92	\$ 53,675.63	\$ 53,675.63	\$ 55,165.62	2.8%
55									
56		GRAND TOTAL - WATER	\$ 910,883.21	\$ 980,754.55	\$ 1,004,878.07	\$ 1,137,204.30	\$ 1,137,204.30	\$ 1,652,596.35	45.3%
57									
58		Reserve for Anticipated capital Outlays	\$ 50,000.00	\$ 50,000.00	\$ 50,000.00	\$ 24,999.96	\$ 25,000.00	\$ 105,500.00	322.0%
59		Reserve for CWS capital Charge	\$ 17,000.00	\$ 59,000.00	\$ 107,775.00	\$ 29,499.96	\$ 37,000.00	\$ 74,000.00	100.0%

DRAFT
SEWER EXPENDITURES
BUDGET FY17

			FY13 ACTUAL	FY14 ACTUAL	FY15 ACTUAL	FY16 PROJECTED ACTUAL	FY16 BUDGETED	FY17 PROPOSED BUDGET	(+/-) % to BUDGET
1		SEWER 114							
2		DESCRIPTION							
3	114.0100	Salaries	\$ 146,326.04	\$ 148,252.07	\$ 153,990.95	\$ 167,101.24	\$ 174,282.55	\$ 178,641.81	2.5%
4	114.0200	Social Security	\$ 10,716.96	\$ 10,735.52	\$ 10,973.73	\$ 11,837.18	\$ 13,332.62	\$ 13,666.10	2.5%
5	114.0210	Health Insurance	\$ 16,082.38	\$ 20,330.04	\$ 21,515.47	\$ 24,646.40	\$ 28,368.63	\$ 30,096.76	6.1%
6	114.0220	Retirement	\$ 13,723.21	\$ 14,904.74	\$ 16,623.85	\$ 18,140.14	\$ 18,412.53	\$ 19,150.71	4.0%
7	114.0300	Gas & Oil Vehicles	\$ 6,742.52	\$ 6,644.09	\$ 3,643.09	\$ 4,204.46	\$ 7,000.00	\$ 7,000.00	0.0%
8	114.0310	Diesel--Fuel	\$ 2,267.69	\$ 3,589.81	\$ 2,102.20	\$ 3,853.12	\$ 3,300.00	\$ 3,300.00	0.0%
9	114.0320	Diesel Equip Maint & Repairs	\$ 3,119.74	\$ 4,279.95	\$ 6,651.64	\$ 7,995.35	\$ 5,000.00	\$ 5,000.00	0.0%
10	114.0400	Maint & Repairs Vehicles	\$ 3,998.43	\$ 6,885.32	\$ 3,201.04	\$ 511.26	\$ 5,000.00	\$ 5,000.00	0.0%
11	114.0600	Supplies & Materials	\$ 12,063.17	\$ 12,699.83	\$ 6,723.23	\$ 11,832.25	\$ 10,000.00	\$ 10,000.00	0.0%
12	114.0610	Tools	\$ 784.88	\$ 2,102.24	\$ 2,215.24	\$ 1,449.95	\$ 2,000.00	\$ 2,000.00	0.0%
13	114.0620	Office Supplies	\$ 5,836.74	\$ 6,894.54	\$ 8,768.05	\$ 4,528.60	\$ 8,700.00	\$ 8,700.00	0.0%
14	114.0630	Lab Supplies	\$ 5,644.21	\$ 5,112.30	\$ 6,158.33	\$ 7,337.64	\$ 3,700.00	\$ 5,500.00	48.6%
15	114.0700	Telephone	\$ 5,385.63	\$ 5,495.61	\$ 6,282.66	\$ 5,412.82	\$ 5,600.00	\$ 5,600.00	0.0%
16	114.0900	Power & Electricity	\$ 55,233.63	\$ 55,437.95	\$ 59,459.82	\$ 65,001.58	\$ 58,000.00	\$ 58,000.00	0.0%
17	114.1000	Insurance	\$ 18,396.20	\$ 18,155.69	\$ 19,391.73	\$ 20,471.52	\$ 19,000.00	\$ 19,000.00	0.0%
18	114.1100	Equipment Repairs	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
19	114.1200	System Repairs&Main	\$ 75,901.53	\$ 79,762.47	\$ 63,711.58	\$ 73,943.38	\$ 60,000.00	\$ 75,000.00	25.0%
20	114.1201	Sludge Disposal	\$ 28,552.83	\$ 54,582.89	\$ 53,059.28	\$ 41,833.96	\$ 50,000.00	\$ 52,000.00	4.0%
21	114.1202	Grit Disposal	\$ 1,223.42	\$ 1,075.21	\$ 2,579.81	\$ 1,273.42	\$ 1,400.00	\$ 1,400.00	0.0%
22	114.1203	Uniforms and Clothing	\$ 304.00	\$ 1,812.90	\$ 1,054.66	\$ 1,489.30	\$ 1,500.00	\$ 1,500.00	0.0%
23	114.1210	capital improvements	\$ 76,524.18	\$ 73,622.86	\$ 23,520.06	\$ 246,594.39	\$ 373,500.00	\$ 157,500.00	-57.8%
24	114.1211	Admin. Bld. Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
25	114.1220	Depreciation	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
26	114.1230	Collection System I&I Monitoring	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
27	114.1300	Dues & Certifications	\$ 2,345.00	\$ 5,745.65	\$ 4,850.50	\$ 7,873.58	\$ 8,000.00	\$ 8,000.00	0.0%
28	114.1400	Training & Seminars	\$ 4,591.97	\$ 4,142.09	\$ 1,118.17	\$ 6,838.00	\$ 5,000.00	\$ 5,000.00	0.0%
29	114.1900	Prof. Ser. - Audit	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	\$ 5,000.00	0.0%
30	114.2000	Prof. Ser. - Eng.	\$ 19,309.58	\$ 15,795.18	\$ 158,346.12	\$ 21,221.45	\$ 15,000.00	\$ 6,000.00	-60.0%
31	114.3000	Miscellaneous	\$ 803.62	\$ 1,406.08	\$ 1,736.39	\$ 835.46	\$ 1,124.82	\$ 1,124.82	0.0%
32	114.3100	Prop. & Equipment	\$ 8,940.40	\$ -	\$ 39,656.84	\$ 30,838.87	\$ 31,000.00	\$ 7,000.00	-77.4%
33	114.3110	Prop & Equip <\$5,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
34	114.3500	Admin. of Sewer bond	\$ 68,304.50	\$ 69,682.00	\$ 69,971.00	\$ 10,571.52	\$ 72,000.00	\$ 277,000.00	284.7%
35	114.3510	Lease Payments	\$ -	\$ 13,568.98	\$ 13,568.98	\$ 21,780.41	\$ 29,568.98	\$ 53,569.00	81.2%
36	114.3600	Wastewater analysis	\$ 11,642.49	\$ 10,909.35	\$ 11,275.53	\$ 12,586.66	\$ 9,000.00	\$ 11,000.00	22.2%
37	114.3700	Chemicals (cl2,so2.)	\$ 14,719.75	\$ 17,916.21	\$ 16,780.78	\$ 17,007.50	\$ 11,000.00	\$ 17,000.00	54.5%
38	114.8900	Bad Debt Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
39						\$ -	\$ -		
41		SUBTOTAL - SEWER	\$ 652,484.70	\$ 707,341.57	\$ 828,930.73	\$ 889,011.41	\$ 1,069,790.13	\$ 1,083,749.20	1.3%
42									
43									
44		ADMINISTRATIVE							
45	ACCT #	DESCRIPTION							
46	119.0100	Admin. Salaries	\$ 39,803.86	\$ 39,587.07	\$ 42,800.01	\$ 47,820.30	\$ 42,095.10	\$ 43,147.49	2.5%
47	119.0200	Social Security	\$ 3,012.48	\$ 2,968.63	\$ 3,225.64	\$ 3,448.26	\$ 3,220.28	\$ 3,300.78	2.5%
48	119.0210	Hospital Insurance	\$ 3,617.76	\$ 3,581.25	\$ 3,782.10	\$ 3,957.44	\$ 3,771.88	\$ 3,945.24	4.6%
49	119.0220	Retirement	\$ 4,219.31	\$ 4,196.16	\$ 4,623.58	\$ 5,288.82	\$ 4,588.37	\$ 4,772.11	4.0%
50		Admin-Office Supplies	\$ -						
51		Bond Interest expense	\$ -						
52		Transfer to Gen. Fund	\$ -						
53		Transfer to Water Fund	\$ -						
54		Transfer to Special Rev	\$ -						
55		TOTAL ADMINISTRATIVE	\$ 50,653.41	\$ 50,333.11	\$ 54,431.33	\$ 60,514.82	\$ 53,675.63	\$ 55,165.62	2.8%
56									
57		GRAND TOTAL - SEWER	\$ 703,138.11	\$ 757,674.68	\$ 883,362.06	\$ 949,526.23	\$ 1,123,465.75	\$ 1,138,914.82	1.4%
58									
59		Reserve for Anticipated capital Outlays	\$ 28,000.00	\$ 30,800.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	\$ 35,000.00	0.0%

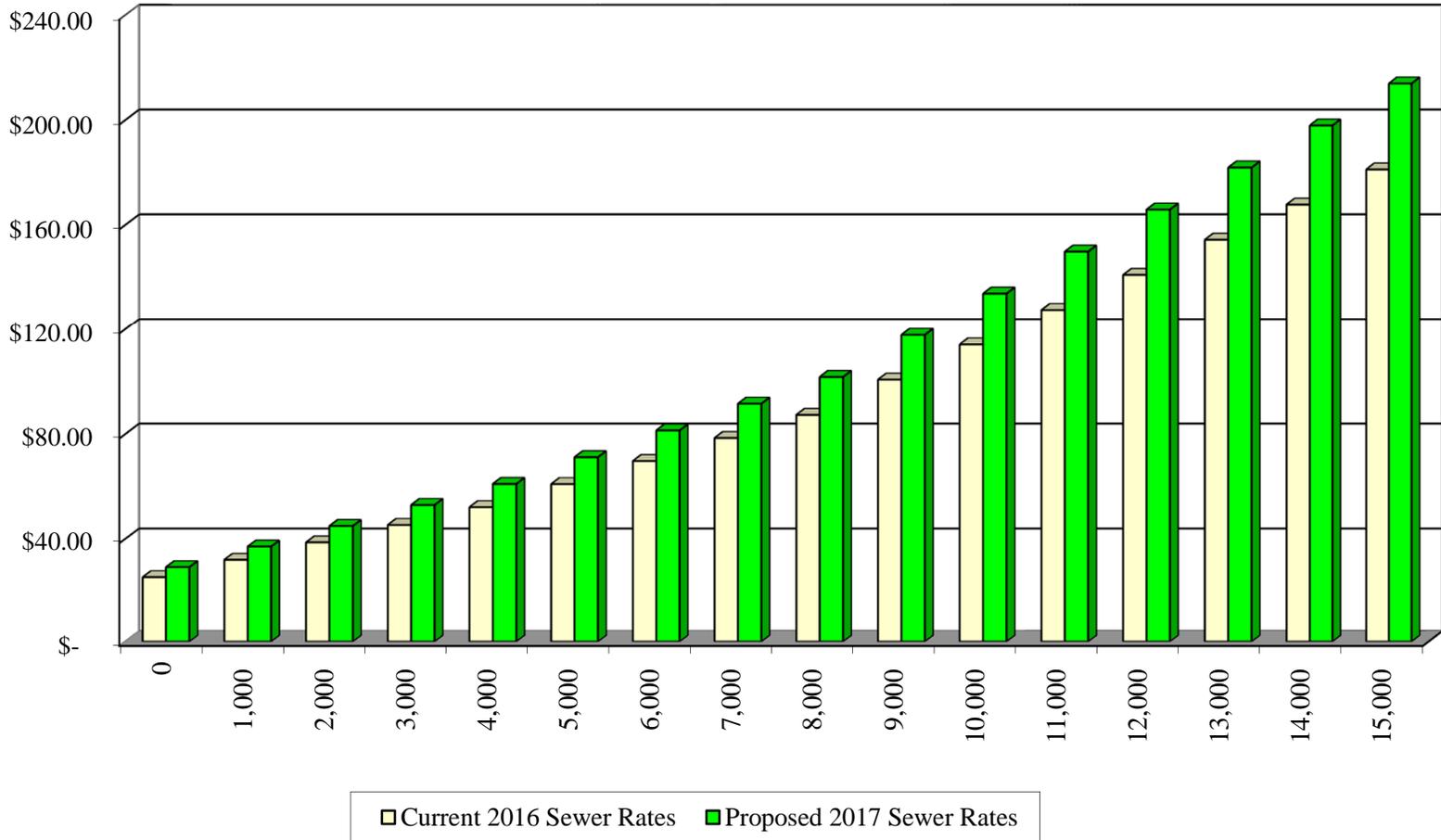
	Current 2016 Water Rates	Proposed 2017 Water Rates	% Change	\$ Amount Change
0	\$ 28.87	\$ 20.96	-27.4%	\$ (7.91)
1,000	\$ 32.25	\$ 24.28	-24.7%	\$ (7.97)
2,000	\$ 35.63	\$ 27.60	-22.5%	\$ (8.03)
3,000	\$ 39.01	\$ 30.92	-20.7%	\$ (8.09)
4,000	\$ 42.39	\$ 34.24	-19.2%	\$ (8.15)
5,000	\$ 49.73	\$ 41.45	-16.6%	\$ (8.28)
6,000	\$ 57.07	\$ 48.66	-14.7%	\$ (8.41)
7,000	\$ 64.41	\$ 55.87	-13.3%	\$ (8.54)
8,000	\$ 71.75	\$ 63.08	-12.1%	\$ (8.67)
9,000	\$ 84.01	\$ 75.11	-10.6%	\$ (8.90)
10,000	\$ 96.27	\$ 87.14	-9.5%	\$ (9.13)
11,000	\$ 108.53	\$ 99.17	-8.6%	\$ (9.36)
12,000	\$ 120.79	\$ 111.20	-7.9%	\$ (9.59)
13,000	\$ 133.05	\$ 123.23	-7.4%	\$ (9.82)
14,000	\$ 145.31	\$ 135.26	-6.9%	\$ (10.05)
15,000	\$ 157.57	\$ 147.29	-6.5%	\$ (10.28)
16,000	\$ 169.83	\$ 159.32	-6.2%	\$ (10.51)
17,000	\$ 182.09	\$ 171.35	-5.9%	\$ (10.74)
18,000	\$ 194.35	\$ 183.38	-5.6%	\$ (10.97)
19,000	\$ 206.61	\$ 195.41	-5.4%	\$ (11.20)
20,000	\$ 218.87	\$ 207.44	-5.2%	\$ (11.43)
21,000	\$ 231.13	\$ 219.47	-5.0%	\$ (11.66)
22,000	\$ 243.39	\$ 231.50	-4.9%	\$ (11.89)
23,000	\$ 255.65	\$ 243.53	-4.7%	\$ (12.12)
24,000	\$ 267.91	\$ 255.56	-4.6%	\$ (12.35)
25,000	\$ 280.17	\$ 267.59	-4.5%	\$ (12.58)
26,000	\$ 292.43	\$ 279.62	-4.4%	\$ (12.81)
27,000	\$ 304.69	\$ 291.65	-4.3%	\$ (13.04)
28,000	\$ 316.95	\$ 303.68	-4.2%	\$ (13.27)
29,000	\$ 329.21	\$ 315.71	-4.1%	\$ (13.50)
30,000	\$ 341.47	\$ 327.74	-4.0%	\$ (13.73)

FY 16 & FY 17 Water Rates



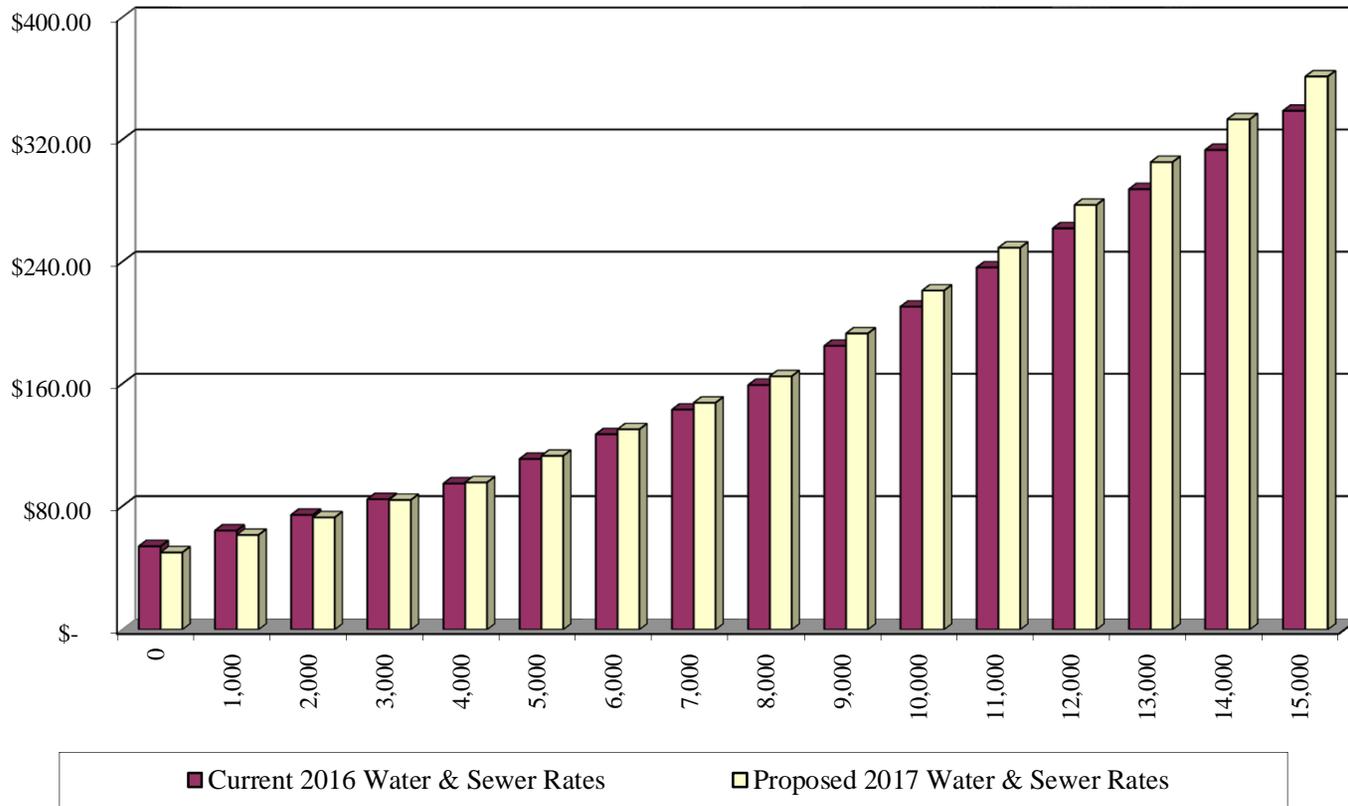
	Current 2016 Sewer Rates	Proposed 2017 Sewer Rates	% Change	\$ Amount Change
0	\$ 25.09	\$ 29.01	15.6%	\$ 3.92
1,000	\$ 31.87	\$ 37.02	16.2%	\$ 5.15
2,000	\$ 38.65	\$ 45.03	16.5%	\$ 6.38
3,000	\$ 45.43	\$ 53.04	16.8%	\$ 7.61
4,000	\$ 52.21	\$ 61.05	16.9%	\$ 8.84
5,000	\$ 60.99	\$ 71.23	16.8%	\$ 10.24
6,000	\$ 69.77	\$ 81.41	16.7%	\$ 11.64
7,000	\$ 78.55	\$ 91.59	16.6%	\$ 13.04
8,000	\$ 87.33	\$ 101.77	16.5%	\$ 14.44
9,000	\$ 100.74	\$ 117.80	16.9%	\$ 17.06
10,000	\$ 114.15	\$ 133.83	17.2%	\$ 19.68
11,000	\$ 127.56	\$ 149.86	17.5%	\$ 22.30
12,000	\$ 140.97	\$ 165.89	17.7%	\$ 24.92
13,000	\$ 154.38	\$ 181.92	17.8%	\$ 27.54
14,000	\$ 167.79	\$ 197.95	18.0%	\$ 30.16
15,000	\$ 181.20	\$ 213.98	18.1%	\$ 32.78
16,000	\$ 194.61	\$ 230.01	18.2%	\$ 35.40
17,000	\$ 208.02	\$ 246.04	18.3%	\$ 38.02
18,000	\$ 221.43	\$ 262.07	18.4%	\$ 40.64
19,000	\$ 234.84	\$ 278.10	18.4%	\$ 43.26
20,000	\$ 248.25	\$ 294.13	18.5%	\$ 45.88
21,000	\$ 261.66	\$ 310.16	18.5%	\$ 48.50
22,000	\$ 275.07	\$ 326.19	18.6%	\$ 51.12
23,000	\$ 288.48	\$ 342.22	18.6%	\$ 53.74
24,000	\$ 301.89	\$ 358.25	18.7%	\$ 56.36
25,000	\$ 315.30	\$ 374.28	18.7%	\$ 58.98
26,000	\$ 328.71	\$ 390.31	18.7%	\$ 61.60
27,000	\$ 342.12	\$ 406.34	18.8%	\$ 64.22
28,000	\$ 355.53	\$ 422.37	18.8%	\$ 66.84
29,000	\$ 368.94	\$ 438.40	18.8%	\$ 69.46
30,000	\$ 382.35	\$ 454.43	18.9%	\$ 72.08

FY 16 & FY 17 Sewer Rates



	Current 2016 Water & Sewer Rates	Proposed 2017 Water & Sewer Rates	% Change	\$ Amount Change
0	\$ 53.96	\$ 49.97	-7.4%	\$ (3.99)
1,000	\$ 64.12	\$ 61.30	-4.4%	\$ (2.82)
2,000	\$ 74.28	\$ 72.63	-2.2%	\$ (1.65)
3,000	\$ 84.44	\$ 83.96	-0.6%	\$ (0.48)
4,000	\$ 94.60	\$ 95.29	0.7%	\$ 0.69
5,000	\$ 110.72	\$ 112.68	1.8%	\$ 1.96
6,000	\$ 126.84	\$ 130.07	2.5%	\$ 3.23
7,000	\$ 142.96	\$ 147.46	3.1%	\$ 4.50
8,000	\$ 159.08	\$ 164.85	3.6%	\$ 5.77
9,000	\$ 184.75	\$ 192.91	4.4%	\$ 8.16
10,000	\$ 210.42	\$ 220.97	5.0%	\$ 10.55
11,000	\$ 236.09	\$ 249.03	5.5%	\$ 12.94
12,000	\$ 261.76	\$ 277.09	5.9%	\$ 15.33
13,000	\$ 287.43	\$ 305.15	6.2%	\$ 17.72
14,000	\$ 313.10	\$ 333.21	6.4%	\$ 20.11
15,000	\$ 338.77	\$ 361.27	6.6%	\$ 22.50
16,000	\$ 364.44	\$ 389.33	6.8%	\$ 24.89
17,000	\$ 390.11	\$ 417.39	7.0%	\$ 27.28
18,000	\$ 415.78	\$ 445.45	7.1%	\$ 29.67
19,000	\$ 441.45	\$ 473.51	7.3%	\$ 32.06
20,000	\$ 467.12	\$ 501.57	7.4%	\$ 34.45
21,000	\$ 492.79	\$ 529.63	7.5%	\$ 36.84
22,000	\$ 518.46	\$ 557.69	7.6%	\$ 39.23
23,000	\$ 544.13	\$ 585.75	7.6%	\$ 41.62
24,000	\$ 569.80	\$ 613.81	7.7%	\$ 44.01
25,000	\$ 595.47	\$ 641.87	7.8%	\$ 46.40
26,000	\$ 621.14	\$ 669.93	7.9%	\$ 48.79
27,000	\$ 646.81	\$ 697.99	7.9%	\$ 51.18
28,000	\$ 672.48	\$ 726.05	8.0%	\$ 53.57
29,000	\$ 698.15	\$ 754.11	8.0%	\$ 55.96
30,000	\$ 723.82	\$ 782.17	8.1%	\$ 58.35

FY 16 & FY 17 Combined Water & Sewer Rates



PATRICK M. O'NEIL
MAYOR

TOWN OF SULLIVAN'S ISLAND



TOWN COUNCIL
CHAUNCEY CLARK, MAYOR PRO TEM
SARAH CHURCH
MARK HOWARD
RITA LANGLEY
SUSAN MIDDAGH
BACHMAN SMITH, IV

ANDY BENKE
TOWN ADMINISTRATOR
JASON BLANTON
DEPUTY ADMINISTRATOR/COMPTROLLER
LAWRENCE A. DODDS
TOWN ATTORNEY
GREG GRESS
WATER AND SEWER MANAGER
JOE HENDERSON
ZONING ADMINISTRATOR
DANIEL J. HOWARD
CHIEF OF POLICE
ELLEN MILLER
TOWN CLERK
RANDY ROBINSON
BUILDING OFFICIAL
M. ANTHONY STITH
FIRE CHIEF

REQUEST FOR PROPOSAL – Professional Services Station 18 Street Stormwater Infrastructure Condition Assessment

I. Introduction

The Town of Sullivan's Island (Town) is seeking bid proposals from licensed engineers (Engineer) for a condition assessment of the stormwater collection system in the Station 18 Street and Atlantic Avenue basin. It is believed the system consists of approximately seven hundred eighty-five (785') feet of covered stormwater collection pipe, one hundred ninety-five feet (195') of open stormwater collection ditch and a pump station inclusive of the wet well, effluent flapper valve and pipes, pump support over wet well and electrical connection to pump station and pump station building. The project is funded by the Town of Sullivan's Island from the General Fund. The infrastructure is owned by the South Carolina Department of Transportation and provides stormwater collection in the area as defined by Attachment A. Upon review of the proposals submitted, it is the intent of the Town to select a firm to provide the services outlined in this RFP and in accordance with the Town Procurement Policy.

II. Scope of Services

The Scope of Services will include the following tasks:

- 1) Condition assessment and slope evaluation of approximately six hundred ninety-five (695') feet of covered stormwater pipe beginning near the northeast corner of 1735 Atlantic (Charleston County TMS 523-12-00-020) and running easterly along Atlantic Avenue to the pump station at the southwest corner of Station 18 Street and Atlantic Avenue.

- 2) Condition assessment and slope evaluation of one hundred ninety-five feet (195') of open ditch beginning near the southwest corner of 1808 Atlantic Avenue (Charleston County TMS 529-09-00-084) and running westerly along Atlantic Avenue to the southwest corner of 200 Station 18 Street (Charleston County TMS 529-09-00-085).
- 3) Condition assessment and slope evaluation of approximately forty-four feet (44') of covered stormwater pipe beginning near the southwest corner of 200 Station 18 Street (Charleston County TMS 529-09-00-085) running south to the northwest corner of 1801 Atlantic Avenue (Charleston County TMS 529-09-00-086).
- 4) Condition assessment and slope evaluation of approximately forty-four feet (44') of covered stormwater pipe beginning near the northwest corner of 1801 Atlantic Avenue (Charleston County TMS 529-09-00-086) to the pump station at the northeast corner of Station 18 and Atlantic Avenue.
- 5) Condition assessment and evaluation of the wet well in pump house at the corner of Station 18 Street and Atlantic Avenue.
- 6) Condition assessment and evaluation of the flapper valve at the junction of the pump house to the South Carolina Electric and Gas Company force main.
- 7) Recommendation for pump sizing and design to properly operate and discharge stormwater from the wetwell into a shared ten inch (10") manifold force main with the South Carolina Electric and Gas Company drainage system.
- 8) Structural assessment of pump house building and pump house roof.
- 9) Needs and condition assessment of electric connectivity and generator requirements in pump house.
- 10) Provide construction estimate for necessary infrastructure repair.
- 11) Provide alternative solutions for temporary or mobile stormwater relief in the basin area.

Proposals must clearly address the ability to meet the intended schedule.

The Engineer will be responsible for meeting with Town to discuss project needs through completion of construction. Town Project Manager will be responsible for coordinating any and all contract matters with the Town Administrator. However, the selected firm will be responsible for providing any and all information required throughout the course of the project.

Bid proposals shall identify the Principal-in-Charge and Project Manager for this project. Bid proposals shall also provide a statement of the firm's commitment that the identified individuals will be involved throughout the entire project.

Bid proposal shall, at a minimum, address the following:

- 1) Names, titles and responsibilities of those who would work on this project.
- 2) Resume of project team members including,
 - a) Longevity with firm.
 - b) Membership in professional organizations.
 - c) Description of and contact references for three (3) previously completed stormwater projects.

3) The Firm:

The organizational strength and stability of the responding firm is important. Respondents shall focus their responses accordingly. The past experience of the firm, which was obtained by personnel no longer with the firm, not available for the project, or in offices outside the Charleston area, is of no interest to the Town and shall not be submitted in the response. Evaluators will check to confirm that the projects identified are only those listed in the project team's resumes.

- a) Identify the key members of the firm, their experience with similar projects and their role in the projects, listing what your firm offers that others may not, relevance and appropriateness of firm's expertise and experience in stormwater collection and management.
- b) Identify the firm's background including organizational structure and years in existence.
- c) Sub-contractors: the Contractor shall provide a list of all sub-contractors in their proposal.
- d) All proposals should be submitted in hard copy along with an electronic copy.
- e) Firm will be required to sign a contract with the Town.

III. Selection Process

The Town reserves the right to reject any and/or all bid proposals. The Town also reserves the right to accept the proposal as a whole and/or any item listed in this RFP. The Town reserves the right to select the Engineer on factors other than bid amount such as experience with stormwater in barrier island communities. No bid proposal may be withdrawn for a period of sixty (60) days after the date of the proposals are due.

Listed below is the anticipated schedule for the selection process.

- RFP Available February 19, 2016
- Site Visit March 1, 2016 (10:00AM)
- Deadline for Questions March 4, 2016 (2:00 PM)
- Addenda, if necessary March 8, 2016

- The Town shall have the option to choose which line items to include in the project contract.
- Any and all reimbursable expenses and/or other costs to complete this project.

VI. Submittals

Any questions or requests for clarification of the RFP must be made, in writing, no later than 2:00 PM March 4, 2016 to the attention of Andy Benke, Town Administrator, Town of Sullivan’s Island, 2050-B Middle Street, Sullivan’s Island, SC 29482 or by email to abenke@sullivanisland-sc.com. No questions will be addressed after that deadline and an addendum, if necessary, will be issued no later than March 8, 2016.

Five (5) original copies and one (1) electronic copy of the proposal must be received no later than 2:00 PM on March 11, 2016. All proposals must be sent in a sealed envelope to the attention of Ms. Lisa Darrow, Assistant to Administrator, 2050-B Middle Street, Sullivan’s Island SC 29482 and clearly marked on the bottom left hand corner, “Professional Services - Station 18 Street Stormwater Infrastructure Assessment”.

END OF DOCUMENT



**Request for Proposals:
Station 18 Stormwater Infrastructure Condition Assessment**

Opening of candidate packages summary
Friday, March 11, 2016
Town Hall, 2050-B Middle Street, Town of Sullivan's Island

Asst. to Town Administrator Darrow acknowledged it as being 2:00 p.m. E.S.T., Friday, March 11, 2016, following the deadline for candidate submittals from contractors to provide engineering services to provide Station 18 Stormwater Infrastructure Condition Assessment.

Present: Asst. to Administrator Darrow (Staff); no public/media.

The Town received four (6) submittals (in alphabetical order):

- | | |
|--------------------------------------------------------------------------------------------------------------|--------------------|
| 1.) E.M. Seabrook | \$42,630.00 |
| PO Box 96, Mt. Pleasant, SC 29465-0096
(843) 884-4496
FAX (843) 881-76096 | |
| 2.) Stantec | \$41,500.00 |
| 4969 Centre Point Drive Suite 200
North Charleston, SC 29418-6952
(843) 740-7700
FAX (843) 740-7707 | |
| 3.) Thomas & Hutton | \$28,200.00 |
| 682 Johnnie Dodds Blvd Suite 100
Mt. Pleasant, SC 29464
(843) 849-0200 | |
| 4.) Weston & Sampson | \$20,648.00 |
| 672 Marina Drive, Suite 204
Charleston, SC 29492
(843) 881-9804 | |

There being no other candidates, the receipt of candidate packets closed at 2:05 p.m.

Town of Sullivan's Island
Request for Proposal – Proposal Services
Station 18 Street Stormwater
Infrastructure Condition Assessment

March 11, 2016 @ 2:00 PM



 **THOMAS & HUTTON**
Engineering | Surveying | Planning | GIS | Consulting

682 Johnnie Dodds Blvd., Suite 100 | Mt. Pleasant, SC 29464 | 843.849.0200

thomasandhutton.com

THOMAS & HUTTON

682 JOHNNIE DODDS BLVD., SUITE 100 | MOUNT PLEASANT, SC 29464

POST OFFICE BOX 1522 | MOUNT PLEASANT, SC 29465-1522

843.849.0200 | WWW.THOMASANDHUTTON.COM

March 11, 2016

Town of Sullivan's Island
Attn: Ms. Lisa Darrow
Assistant to Town Administrator
2050-B Middle Street
Sullivan's Island, SC 29482

Re: Request for Proposal – Proposal Services
Station 18 Street Stormwater Infrastructure
Condition Assessment

Dear Ms. Darrow:

The Town of Sullivan's Island has shown tremendous dedication and progress in working to resolve drainage problems. Your solutions have provided for the safe, efficient, and cost effective collection and conveyance of stormwater, while ensuring a proper stewardship of citizen's resources. Thomas & Hutton is pleased to have this opportunity to assist the Town in performing a condition assessment of the stormwater collection system in the Station 18 Street and Atlantic Avenue basin. Five (5) original copies and one (1) digital copy of our qualifications are enclosed for your consideration.

As you will see from this Statement of Qualifications, the Thomas & Hutton team can provide the Town with all the necessary services envisioned. With expertise in planning, study, surveying, engineering, design, contracting, construction observation, and other services, we are well prepared to perform a condition assessment and recommend solutions for stormwater relief. Our services will be the most efficient for the Town since Thomas & Hutton has previously conducted two investigations related to the stormwater pump station and limits of the drainage basin.

The Thomas & Hutton team offers several advantages to the Town that set us apart from any competitor. These advantages include:

Firm Expertise – Thomas & Hutton is an established, local consulting firm with an extensive background in assessing, planning, engineering, and designing stormwater management facilities.

Individual Expertise – The Thomas & Hutton team will be managed by Ken Nagel, who has successfully guided the CTC Drainage Improvements Project on Johns Island. In addition, many of the engineers and other support staff that worked on the CTC Drainage Improvements Project will bring that working knowledge, experience, and drive to finding stormwater management solutions for the Town of Sullivan's Island. Also, our team has individuals that are experts in the areas of pump station engineering and design, watershed/H&H modeling, surveying, civil design, and engineering, among others.

Past Performance – Thomas & Hutton has a long-term working relationship with the Town. For over 15 years, we have provided surveying and other services to various departments and divisions within the Town. Our services have been provided in a timely manner and within the project fee.

Creativity and Insight – Thomas & Hutton will assess the existing components and will look for solutions to effectively use the current infrastructure.

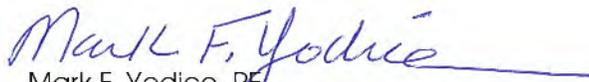
Schedules and Budgets – Thomas & Hutton has consistently met (or exceeded) our clients' expectations for on-time services and within budget projects. Our team will continue this record of timely and cost conscience services to the Town's project.

Location – Thomas & Hutton maintains a local office that is just minutes from the Town's offices and the project site.

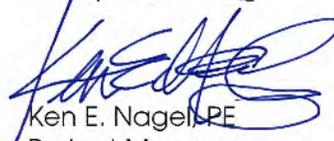
We look forward to working with the Town and we welcome the opportunity to discuss any of the information contained in this document in greater detail. Thank you in advance for your careful consideration of these qualifications. Should you have any questions, please do not hesitate to contact us at (843) 849-0200.

Sincerely,

THOMAS & HUTTON



Mark F. Yodice, PE
Principal-in-Charge



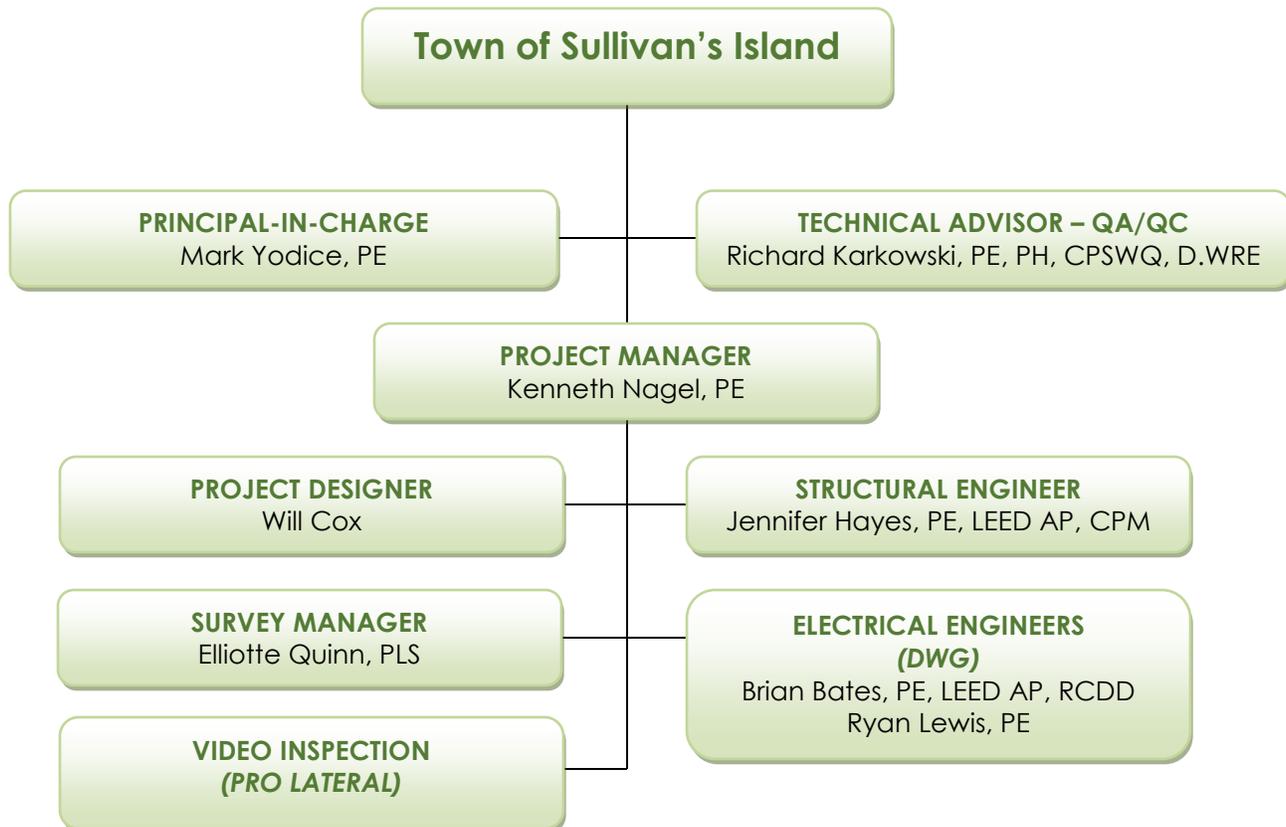
Ken E. Nagel, PE
Project Manager





ORGANIZATION CHART

The following team members will be involved through the entire project.





Mark Yodice, PE | Principal-in-Charge

Mark Yodice is a Principal-in-Charge and Project Manager for a variety of projects. His experience of 31 years includes work on Sullivan's Island, storm drainage analysis and design, design of pump station, and investigative engineering.

Education

Clemson University - B.S. in Civil Engineering, 1983

University of South Carolina - M.B.A., 1985

Professional Registrations

Registered Professional Engineer in SC and NC

Professional Associations

American Waterworks Association, Water Environment Federation, South Carolina Water Quality Association, Chi Epsilon – Civil Engineers Honor Society, Rotary – East Cooper Breakfast Club

Project Experience

Sullivan's Island Stormwater Pump Station, Sullivan's Island, SC, Project Manager/Engineer for analyzing options to address a failed stormwater pump station at Station 18 and Atlantic Avenue. With two separate undertakings, Mark investigated the existing drainage basin and collection system associated with the existing stormwater pump station at the intersection of Station 18 and Atlantic Avenue. Considerations included 1) limits of drainage basin, 2) condition of existing stormwater pump station and pumps, 3) effects of operating two manifolded stormwater pump stations (Station 18 and SCE&G Dunes Club), 4) analyzing performance of both stormwater pump stations, 5) developing options to make Station 18 pump station effective, 6) developing cost estimates of various options, and 7) minimizing/reducing flooding in the basin. These considerations were presented in two separate technical memorandums or short reports.

Drainage Improvements-Bayonne Avenue, Charleston County, Town of Sullivan's Island, SC, Project Manager for the analysis, study, and computer modeling of a 60-acre drainage basin to identify flooding problems. Report with recommendations and cost projections.

Sullivan's Island Force Main Replacement, Sullivan's Island, SC, Project Engineer for relocating a 6-inch force main in order to provide proper separation with a new water line.

Stith Park Tennis/Basketball Court Replacement, Sullivan's Island, SC, Project Manager for design, permitting, bidding and construction services for the Stith Park site. The project included the demolition of two existing tennis courts and one basketball court. The overall site was regraded to facilitate stormwater runoff away from the courts, and the courts were replaced with regulation sized courts. Additionally, the project included the rehabilitation of an adjacent practice court.

Citadel Playground Tennis Court Replacement, Sullivan's Island, SC, Project Manager/Engineer for replacing tennis courts at this recreation area. Improvements included removing and reconstructing new tennis courts, new fencing, and a single basketball play area.

Shem Creek Drainage Improvements, Charleston County, Town of Mt. Pleasant, SC, Project Manager for the drainage investigation and computer modeling to alleviate flooding. Recommend improvements and design said improvements. Basin covers about 54 acres.

Snee Farm Drainage Study, Charleston County, Snee Farm HOA, SC, Project Manager for the study with computer modeling of a 715-acre drainage basin. Recommended improvements to alleviate chronic flooding problems.

Parker Island Drainage Study, Charleston County, Parker Family, SC, Project Manager for the analysis of a 650-acre drainage basin. Recommendations for stormwater control.

Yeamans Hall Golf Course Erosion Control, Charleston County SC, Principal-in-Charge for the erosion control and storm drainage design to stop erosion of an existing dirt road paralleling golf fairway No. 7 at the Yeamans Hall Club.

City of Myrtle Beach-Redevelopment Plan, Horry County, City of Myrtle Beach, SC, Project Manager for developing drainage options and costs to meet redevelopment plan for beachfront area from 2nd Avenue to 14th Avenue to control stormwater release rates by limiting post-development rates to the predevelopment rate when the area was undeveloped.

Morris Square, City of Charleston, Civitas, SC, Principal-in-Charge for a 2.5-acre infill project in the center of the Historic District of downtown Charleston with 73 building units. The work at Morris Square included the design of streets, drainage, wastewater collection, water distribution systems and a city park with underground detention system. Developed solutions to avoid flooding issues in adjacent neighborhoods.

Debordieu, Georgetown County, Debordieu, SC, Project Manager for the drainage investigation and study for a 2,000-acre watershed. The study evaluated existing conditions and developed recommendations for improvements to eliminate flooding problems.

Pavilion at Dorchester Road, Summerville, SC, Principal-In-Charge for design, permitting, and construction monitoring for approximately 86,000 square feet of buildings with parking spaces, driveways, and the associated water, sewer and storm drainage infrastructure. Condition assessed of existing drainage infrastructure and design of improvements.

McLeod Plantation, Charleston, SC, Project Manager for the site design for new historic park on James Island in the City of Charleston, SC. Improvements included bio-retention areas, pervious parking and pavement, and water/sewer infrastructure. Design of low impact techniques to reduce runoff and development of techniques to use existing features to minimize direct runoff.

Clemson University, Anderson County, Clemson University, SC, Project Manager for planning, site design, permitting and construction monitoring for Carillon Gardens Amphitheatre and Memorial Square auto drop-off, including drainage improvements and utility relocations. Design included assessment of existing drainage system and development of options to eliminate ponding on travel-ways.

Naval Weapons Station, Building Demolition/Remount Road Drainage, North Charleston, SC, Project Manager/Project Engineer for demolition of building on the Naval Weapons Station, including utility abandonment. Also for study and subsequent design of recommended improvements for a flooding concern near Remount Road perimeter of the Base.

Canal Street Bridge Replacement, Charleston County, SC, Project Manager for performing analysis for replacement of existing concrete bridge supported by timber pile and design of recommended improvements.

Steamboat Landing Retaining Wall, Charleston County, SC, Principal-in-Charge for performing evaluation of the existing conditions of the failed wall area including for structural engineering and design of the replacement of 100 feet of failed existing wall, details, and specifications for the installation of the new wall including repairs/modifications to the remaining 200 feet of existing wall.

Richard Karkowski, PE, PH, CPSWQ, D.WRE | Technical Advisor, QA/QC

Rick Karkowski has 26 years of experience in planning, analyzing, designing, permitting, constructing, operating, and maintaining water resources-related projects, including stormwater drainage systems, flood control projects, and water quality systems. He is experienced in the application of all types of hydrologic, hydraulic, and water quality models.

Education

University of Florida - B.S. in Civil Engineering (High Honors), 1989

Professional Registrations

Professional Engineer in GA, SC, NC, FL

Professional Hydrologist

Certified Professional in Stormwater Quality

Diplomate, Water Resources Engineer

Project Experience

Forest Acres Drainage Improvements Phase 1, City of Charleston, SC, Project Manager/Engineer for the analysis and design of the initial (Phase 1) improvements to the Forest Acres and 5th Ave Drainage Basins in the West Ashley area of the City of Charleston. The project includes conceptual, preliminary, and final design of the basin's main outfall system. The proposed Phase 1 improvements include over 2,500 linear feet of box culvert improvements and 2,000 linear feet of channel improvements in the 450-acre watershed. The project included plans production and permitting – including NPDES MS4 approval, SCDOT encroachment, and USACE wetlands disturbance.

St. Paul's Parish Drainage Inventory and Study, Charleston County, SC, Project Manager for the development of comprehensive drainage system inventory and mapping and the recommendation of maintenance practices and schedules. The project covered the rural towns of Hollywood, Ravenel, and Meggett in southern Charleston County. The project focused on the miles of outfall and roadside ditches and canals that provide drainage for the low-lying areas. The project also included a recommended scope of study for the development of a coordinate and comprehensive stormwater management and capital improvement program.

Lincolnton/McClellanville/Folly Beach Drainage Projects, Charleston County, SC, Charleston County Roadwise, Project Manager for survey, design, and permitting assistance associated with various roadside drainage areas prone to flooding. Responsibilities included coordination with adjacent property owners and local mayors/utility directors, preparation of maintenance easement plats, and preparation of construction documents.

Parkers Ferry/South Santee Drainage Evaluations, Charleston County, SC, Charleston County Public Works, Project Manager for evaluating various alternatives for alleviating flooding occurrences in two rural areas of Charleston County. For the South Santee Drainage Evaluation, we assisted the County in identifying, mapping, and prioritizing of areas of the roadside drainage systems requiring maintenance for completion by the SCDOT. For Parkers Ferry, we assisted the County in identifying and resolving structural flooding issues resulting from an earthen access road located in adjacent wetlands. Tasks included coordination of wetland permitting associated with the installation of culvert cross drains, as well as coordination of land appraisal associated with acquisition of construction and maintenance easements.

Lakewood-Pirateland Swash Drainage Basin Study, Horry County, SC, Project Manager/Engineer for the drainage improvement study of the approximately 1,560-acre fully developed basin along US Highway 17 Business between Myrtle Beach and Surfside Beach. Structural flooding of several businesses and homes was recorded in the past. To date, the study included the development of a hydraulic and hydrologic model and identification of drainage issues, alternatives analysis, and recommendations improvements. 2009/2010

Stormwater Management Master Plan, St. Marys, GA, Project Consultant for a comprehensive stormwater management plan for the City of St Marys, GA. The project included the analysis of major drainage features for

drainage capacity and flooding and minor systems for drainage capacity. A comprehensive capital improvement program was developed and prioritized.

Section 319 Grant Best Management Practices (BMP) Pilot Project, Bluffton, SC, Project Manager/Engineer for the study of a structural stormwater BMP in the May River watershed to improve water quality (particularly fecal coliform bacteria). The initial phase of the project included screening potential options and sites for a regional BMP project, assessing each option's effectiveness and feasibility, and recommending a viable project. The second phase of the project will include the design and construction phase services to implement the project.

New Riverside Stormwater Quality Best Management Practices (BMPs) Project, Bluffton, SC, Project Manager/Engineer for the design, permitting, and construction of a structural BMP that will reduce the fecal coliform bacteria loading into the May River with a focus on the headwaters area. The project included a diversion structure, forebays, deep pool pond area, and an outfall structure.

Royal Estates Drainage Study, Horry County, SC, Project Manager for rain events in late 2015 resulted in flooding of garages and first floors for many homes, revealing problems with the drainage system. Project Manager in assisting Horry County with its plans to implement a 3-phased approach to improve the drainage situation in the area. The first and second phases include hydrology and hydraulic model development and alternatives analysis and improvement recommendations. The third phase will include the design and implementation of the selected improvements, which may be completed at a future date. The Royal Estates subdivision study watershed drains to an unnamed tributary of the Intracoastal Waterway (ditch/wetland system). A preliminary delineation of the study watershed includes approximately 30 acres. The study will concentrate on the drainage system from the western curve of Mandi Ave. to SC Hwy 90 and east along SC Hwy 90 to the outfall to the wetland/ditch system.

Base-Wide Stormwater Management Study, Savannah, GA, Project Manager for the base-wide stormwater management plan for the combined 165th Airlift Wing and Combat Readiness Training Center of the Georgia Air National Guard at the Savannah/Hilton Head International Airport. Tasks include data collection, field surveys, database development, hydrologic and hydraulic modeling, and stormwater master planning.

Pine Ridge Stormwater Best Management Practices (BMP) Retrofit, Town of Bluffton, SC, Technical Advisor for the stormwater BMP retrofit of two stormwater detention ponds within the established Pine Ridge neighborhood. In 2010, the Town implemented a volume based stormwater management ordinance for new development project. The Pine Ridge neighborhood was developed prior to this ordinance and this project is being implemented to bring the neighborhood in compliance with the ordinance. The project is being implemented to assess stormwater reuse (as irrigation) and will include two stormwater pump stations and below ground distribution and irrigation infrastructure on adjacent common areas and town owner property.

Drainage Study Update for Springfield Canal, Savannah, GA, Lead Engineer for the update to the drainage study of the 5,600-acre Springfield Canal Watershed. The update included incorporating completed improvements to the XP-SWMM stormwater model and developing detailed floodplain, flood depth, and flood duration mapping to assist in the prioritization of future drainage improvements.

Briarcliffe Acres Water Quality Study, Horry County, SC, Project Manager/Engineer for a focused water quality study conducted in response to the bacteria impairment of a beachfront swash. The study assessed available data/mapping, survey of residents concerning septic tank usage, watershed assessment, and dry/wet weather water quality sampling. The study used advanced

Water Quality Pilot Project Study, Bluffton, SC, Project Manager/Engineer to research structural Best Management Practices (BMPs) that will reduce the fecal coliform bacteria loading into the May River with a focus on the headwaters area. Two broad types of alternative structural BMPs were studied, as well as potential locations for implementation of the BMP alternatives.

Ken E. Nagel, PE, CEPSCI | Project Manager

Ken Nagel is a Project Manager/Engineer who has 25 years of experience designing and permitting a variety of road and drainage improvement projects primarily located in the coastal areas of South Carolina. Additionally, he has completed design and permitting for a wide range of residential and commercial developments. These site development projects have included the design of storm drainage systems, grading and paving design for roads and parking lots, as well as design of water distribution systems and sanitary sewer collection systems.

Education

Georgia Institute of Technology, B.S., Civil Engineering, 1991

Professional Registrations

Professional Engineer in SC, NC, GA, TX

Level II Erosion and Sedimentation Control Certified

Certified Erosion and Prevention and Sediment Control Inspector

Project Experience

2015 TST Drainage Improvements, Charleston County, Various Locations, Project Manager/Engineer for the completion of three drainage improvement projects including Pinckney Street (McClellanville), North Alert Road (McClellanville), and Stations 19 and 22 (Sullivan's Island). The scope of work consisted of providing design and permitting services that included survey, easement platting, design, and permitting coordination with the Corps of Engineers, SCDOT, and SCDHEC-OCRM.

2013 TST Drainage Improvements, Charleston County, Johns Island, SC, Project Manager/Engineer for the completion of a drainage improvement project associated with existing driveways at the Angel Oaks elementary school on Johns Island. The scope of work consisted of identifying and evaluating various options for alleviating flooding within the driveways; and providing design and permitting services including survey, preliminary and final design, and permitting coordination with the Corps of Engineers, SCDOT, and SCDHEC-OCRM.

2011 TST Drainage Improvements, Charleston County RoadWise, Various Locations, SC, Project Manager/Engineer for the completion of three drainage improvement projects including Sparrow Drive (Isle of Palms), Legareville (Johns Island), and 10th Street East (Folly Beach). The scope of work consisted of providing design and permitting services that included survey, preliminary and final design, and permitting coordination with the Corps of Engineers, SCDOT, and SCDHEC-OCRM.

2010 TST Drainage Improvements, Charleston County RoadWise, Various Locations, SC, Project Manager/Engineer for the completion of four road and drainage improvement projects including three drainage improvements on Folly Beach (4th Street West/West Ashley Ave, 3rd Street at East Huron Ave, and 6th Street East), and one drainage improvement on Isle of Palms (Lauden St/30th Ave). The scope of work consisted of providing design and permitting services that included survey, preliminary and final design, and permitting coordination with the Corps of Engineers, SCDOT, and SCDHEC-OCRM.

2007 TST Lincolville Phase I/II Drainage Improvements, Charleston County, Lincolville, SC, Project Manager/Engineer for the completion of drainage improvements for six areas located within the Town of Lincolville, SC. The projects included upsizing of existing culverts in each of the areas. The scope included survey and easement plats, hydraulic modeling, preliminary and final design phase, and permitting coordination with the Corps of Engineers, SCDOT, and SCDHEC-OCRM.

Forest Acres Drainage Improvements, City of Charleston, SC, Project Engineer for the design of drainage improvements for the Forest Acres and 5th Ave Drainage Basins in the West Ashley area of the City of Charleston. The project includes conceptual, preliminary, and final design of the basin's main outfall system. The proposed improvements include over 2,500 linear feet of box culvert improvements and 2,000 linear feet of channel improvements in the 450-acre watershed. Project responsibilities included coordination of survey and design activities, and permit coordination with the USACE, OCRM and SCDOT.

William Cox, EIT | Project Designer

William Cox has 2 years of experience in evaluation, planning, and design for environmental and water resources projects, including stormwater management, water distribution systems, wastewater collection and pumping systems, and potable water wells. He also has experience in the design and permitting for a wide range of residential and commercial developments. These site development projects have included the design of storm drainage systems, grading and paving design for roads and parking lots, as well as design of water distribution systems and sanitary sewer collection systems.

Education

Clemson University - B.S. in Civil Engineering, 2014

Project Experience

I'on Avenue Drainage Improvement Project, Charleston County, Sullivan's Island, SC Project Engineer for the design and permitting of drainage improvements at the intersections of Station 19 and 22 with I'on Avenue on Sullivan's Island, SC. The project includes the replacement of various small diameter pipe with approximately 660 linear feet of 15" diameter drainage pipe. As part of the work, both intersections will be repaved and multiple box culverts will be replaced and relocated.

Forest Acres Drainage Improvements, City of Charleston, SC, Project Engineer for the design of drainage improvements for the Forest Acres and 5th Ave Drainage Basins in the West Ashley area of the City of Charleston. The project includes conceptual, preliminary, and final design of the basin's main outfall system. The proposed improvements include over 2,500 linear feet of box culvert improvements and 2,000 linear feet of channel improvements in the 450-acre watershed. Project responsibilities included coordination of survey and design activities, and permit coordination with the USACE, OCRM and SCDOT.

Pinckney Street Drainage Improvements, Charleston County, McClellanville, SC, Project Engineer for the design and permitting of drainage improvements along Pinckney Street in the Town of McClellanville, SC. The project includes the relocation of approximately 480 linear feet of existing 24" diameter storm drain and related box culverts, as well as localized grading to improve conveyance of stormwater from Pinckney Street and adjacent areas to an existing outfall on Jeremy Creek.

N. Alert Road Drainage Easements, McClellanville, SC, Project Engineer for surveying and preliminary design associated with improvements along an existing rear yard open channel drainage system. Services included topographic survey of the existing drainage system and the preparation of drainage easement plats for properties located along the existing drainage system.

Jennifer Hayes, PE, LEED AP, CPM | Structural Engineer

Jen Hayes has 16 years of experience, including analysis, design, and construction management of federal, commercial, healthcare, municipal, educational, industrial, and residential structures. Her experience with existing structures includes failure and deficiency analysis, as well as historic structure analysis. Jen is a LEED Accredited Professional with detailed knowledge of sustainable design approaches, as well as energy conservation measures. She is also a Certified Project Manager.

Education

Virginia Tech - B.S. in Civil Engineering, 2000

Professional Registrations

Professional Engineer in SC, NC, FL

LEED Accredited Professional

Certified Project Manager

Project Experience

Forest Trails Wastewater Treatment Plant Replacement, Isle of Palms Water & Sewer Authority, SC, Structural Engineer for the design and detailing of the concrete process structures and concrete/masonry building to support the replacement of the wastewater treatment plant. The process structures include an elevated concrete platform for the primary screen equipment and a divided concrete treatment basin with secondary screen support. The blower and operations building is a 2-story flood-proofed structure and is a combination of concrete and masonry. There is a monorail system supported by the building roof system for removal of the membranes. All main structures are pile supported.

Central Berkeley Wastewater Treatment Plant Flow Diversion, Berkeley County Water & Sanitation Authority, SC, Structural Engineer for the design and detailing of the \$4.5 million expansion of the plant service area. Structural aspects of the expansion included the design and detailing of two concrete pump stations ranging in size from 0.3 mgd to 3.5 mgd.*

Omni Industrial Park Culvert, Berkeley County, SC, Structural Engineer for the design and detailing of the bottomless culvert system to span wetland and creek below new roadway (AASHTO loading). A scour analysis was performed on the waterway, the results of which were used to design the walls and foundation. Various foundation systems were designed for consideration, including a pile-supported stem wall, concrete spread footings, and concrete footing system with soil improvements.

Trident Refit Dry Dock Rehabilitation, Kings Bay, GA, Structural Manager for the design and detailing of an extensive equipment and concrete rehabilitation at this secure dry dock facility that included process mechanical, HVAC, electrical, and structural. Concrete repairs to address deficiencies were performed in various areas of the facility. Strict health and safety measures were implemented, including confined space entry procedures. Environmental sampling and testing were performed as well. This project was design/build.*

Northwest Regional Water Reclamation Facility, Onwasa County, NC, Structural Engineer for the design and detailing of all concrete process structures and all masonry buildings for this new wastewater treatment plant. The process structures include elevated preliminary treatment headworks and splitter box, membrane aeration basin with pump gallery, ultraviolet disinfection, equalization pump station, effluent pump station, blower building, maintenance building, control lab building, influent pump station, and miscellaneous site structures to include blower and equipment supports, retaining walls, and sloping waterways.*

**Previous experience with prior employer(s)*

F. Elliott Quinn, PLS | Survey Manager

Elliott Quinn has 36 years of experience with many types of engineering and development projects, as well as general land surveying, for a variety of projects primarily located in South Carolina.

Education

Midlands Technical College - A.A.S. in Civil Engineering Technology-Survey Option, 1980

Professional Registrations

Professional Land Surveyor in SC, NC, GA

Professional Associations

National Society of Professional Surveyors, North Carolina Society of Surveyors, South Carolina Society of Professional Land Surveyors (President, Past District Director, Past Chapter President)

Project Experience

Ocean Boulevard Front Beach Enhancement, Isle of Palms, SC, Project Surveyor for preliminary surveys for design of widening and enhancing a section of Ocean Boulevard along the Isle of Palms front beach business district.

Hut Abrams Road, James Island, Charleston County, SC, Project Surveyor for preliminary surveys for design and right-of-way acquisition for a 2.5-mile rural community road improvement project for Charleston County Public Works.

Town of Edisto Beach Water and Wastewater Professional Engineering Services, Edisto Beach, SC, Survey Manager for providing "as-needed" engineering services for the Town's water and wastewater utilities. Including ancillary work such as parking, roadways, surveying, grading, stormwater management and rate studies.

North Charleston Public Works Facility, Charleston County, SC, Surveyor-in-Charge of surveys for the development of the 21-acre portion of the former Naval Complex for the City of North Charleston Public Works facility. Surveys included boundary, topographic, and subdivision platting.

Caw Caw Rice Field Restoration Project, Ravenel, SC, Surveyor-in-Charge for boundary survey of park property (542 acres). Topographic surveys of rice field dikes and canals for design of restoration project for Charleston County PRC.

Patriots Point, Mount Pleasant, SC, Surveyor-in-Charge for boundary surveys of all of the Patriots Point Development Authority (PPDA) lands, hydrographic surveys of Patriots Point Marina and Fort Sumter Tour channel and topographic surveys of selected parcels for planning and design of improvements for the PPDA.

Parris Island Drainage Study, Beaufort County, SC, Survey Manager for for coordination of surveying activities associated with a drainage study of a 1,600 acre portion of the U.S. Marine Corps Parris Island training facility. Surveys included storm water structure inventory including surveyed elevations and locations.

BRIAN BATES, PE, LEED® AP, RCDD
Vice President / Electrical Engineer

FIRM DWG, Inc. Consulting Engineers

EXPERIENCE 15 Years

EDUCATION Western Michigan University/Bachelor Degree - Electrical Engineering, 2000

REGISTRATION Registered Professional Electrical Engineer in SC , AL, AZ, CO, FL, GA, IL, IN, IA, KY, LA, MD, MI, MN, MS, MO, NV, NM, NY, OH, OR, PA, TX, VA, WA, WI / Registered Communications Distribution Designer

**PROFESSIONAL EXPERIENCE**

Brian Bates, DWG Vice President, oversees multi-discipline design teams. DWG design teams are experienced with the entire range of the design and construction process including master planning, civic review, design, bidding, construction administration and facility record documentation. The design teams have experience in daycare, K-12, restaurants, higher education, municipal, office buildings, retail, industrial, campus wide utility systems, waste water, healthcare, historic buildings and high rise residential and hotels.

RELEVANT EXPERIENCE**Berkeley County Water and Sanitation, PS001 Design, Moncks Corner, SC**

This project involved the replacement of an outdated power and controls system for a large pumping station for Berkeley County Wastewater and Sanitation. The pump station is composed of four (4) 250 horsepower vertical turbine pumps. DWG first performed an evaluation on the existing equipment to justify the replacement of the existing power system. Followed by the evaluation, DWG provided full mechanical and electrical design of a new fully redundant power system. DWG was also responsible for designing and specifying a new controls system to communicate over SCADA to the waste water plant. Role – Project Manager/Lead Electrical Engineer

Charleston Water System, Cainho Regional Pump Station, Charleston, SC

DWG provided electrical and mechanical engineering design for a regional pump station managed by Charleston Water Systems. Electrical aspect of the design included both the power system as well as the low voltage PLC controls design. The pump station was composed of three 50HP pumps controlled by variable frequency drives. Role – Project Manager/Electrical Engineer

Charleston Water System, Johns Island Pump Station, Johns Island, SC

DWG provided electrical and mechanical engineering design services for the Johns Island Pump Station on Johns Island in Charleston, SC. The scope of work included the design of the electrical and mechanical exhaust for the drywall. DWG provided electrical and mechanical drawings, performance specifications, and CA services. Role – Project Manager/Electrical Engineer

Boyne City, Wastewater Treatment Plant, Boyne City, MI

The project consisted of the design of a new wastewater treatment plant with aerated lagoons and primary clarifiers. The project also included a new main pump station and administrative building. Brian provided design for the power and PLC control systems for the new plant. Brian also performed bi-weekly construction observation through the entire construction process. Role – Electrical Engineer

Village of Holly, Wastewater Treatment Plant Renovations, Village of Holly, MI

The project included assessment and documentation of a thirty year old wastewater treatment plant. The design included upgrading all control system and the majority of pumping and electrical systems. In addition, VFD's were added to the primary wet-well pumps. Role – Electrical Engineer

AFFILIATIONS

LEED® AP, BICSI, RCDD

RYAN LEWIS, PE
Electrical Engineer

FIRM DWG, Inc. Consulting Engineers

EXPERIENCE 4 Years

EDUCATION North Carolina State University - Bachelor Degree Electrical Engineering, 2012

REGISTRATION Registered Professional Engineer in NC

PROFESSIONAL EXPERIENCE

Ryan comes from a background designing industrial controls and automation for the utility industry. Ryan has been with DWG for 2 years and has worked on projects ranging from ground up medical office buildings to replacing miles of medium voltage power distribution systems. He has experience working with critical infrastructure power systems, low voltage PLC controls, fire alarm, nurse call, telecommunications, backup generators, variable frequency drives, motor control centers, lighting, UPS systems, manufacturing facility automation, and Public address systems.

RELEVANT EXPERIENCE**Nexton Northwest Village Pump Station, Summerville, SC**

The project scope involved designing electrical power systems infrastructure for a wastewater pump station located in Berkley County, SC. This included sizing an emergency backup generator, utility service entrance size, automatic transfer switch and associated interconnecting equipment. DWG also provided expertise on site grounding, lighting, and equipment locations. Role - Electrical Consultant

Berkeley County Water and Sanitation, PS001 Design, Moncks Corner, SC

This project involved the replacement of an outdated power and controls system for a large pumping station for Berkeley County Wastewater and Sanitation. The pump station is composed of four (4) 250 horsepower vertical turbine pumps. DWG first performed an evaluation on the existing equipment to justify the replacement of the existing power system. Followed by the evaluation, DWG provided full mechanical and electrical design of a new fully redundant power system. DWG was also responsible for designing and specifying a new controls system to communicate over SCADA to the waste water plant. Role – Electrical Consultant

Charleston Water System, Cainhoy Regional Pump Station, Charleston, SC

DWG provided electrical and mechanical engineering design for a regional pump station managed by Charleston Water Systems. Electrical aspect of the design included both the power system as well as the low voltage PLC controls design. The pump station was composed of three 50HP pumps controlled by variable frequency drives. Role – Electrical Consultant

Charleston Water System, Johns Island Pump Station, Johns Island, SC

DWG provided electrical and mechanical engineering design services for the Johns Island Pump Station on Johns Island in Charleston, SC. The scope of work included the design of the electrical and mechanical exhaust for the drywall. DWG provided electrical and mechanical drawings, performance specifications, and CA services. Role – Electrical Consultant

Berkeley County Water and Sanitation, Sanitary Sewer Pump Station, Moncks Corner, SC

DWG provided electrical and controls systems integration for a pump station located in Moncks Corner, SC. The scope of work included integrating a flow meter into existing controls system and tying a packaged pump station into an existing motor control center. Role - Electrical Consultant





THE FIRM

THOMAS & HUTTON is a privately held professional services company founded in 1946. Licensed to provide engineering and surveying services in the State of South Carolina, our technical competencies include civil, transportation, environmental, structural, and marine engineering; land surveying; land planning; landscape architecture; Geographic Information Systems (GIS); and Construction Administration. Our offices are located in Charleston, Myrtle Beach, Columbia, and Greenville, SC and Savannah and Brunswick, GA.

We have 70 years of experience in consulting, project design, roadway design, stormwater/drainage design, site grading and erosion control design, parks and recreation development, water and sewer review, review of shop drawings, and construction inspection. Thomas & Hutton maintains strong professional relationships with state resource agencies, the Corps of Engineers, and local, state, and federal government representatives within our service region. These established relationships will ensure timely discovery and resolution of any project issues identified during the course of the project.

Thomas & Hutton offers the Town a strong local presence and provides cost-effective solutions, based on our knowledge and experience in coastal South Carolina. We believe that the Thomas & Hutton team's combined strengths offer the Town a wealth of experience in all aspects of project management, quality assurance, and interdisciplinary technical expertise across all tasks required for this contract. Thomas & Hutton has the necessary technical expertise to meet all the potential needs of this contract.

The Thomas & Hutton team, including DWG, Inc. and Pro Lateral, LLC, provides a unique balance of local knowledge, practical experience, water resource management expertise, and project vision to successfully respond to The Town of Sullivan's Islands needs for this project. Our experience and familiarity with local watershed planning efforts in the area gives us a unique insight as to the purpose of the proposed retrofit projects and how to maximize their effect.

STORMWATER MANAGEMENT

Thomas & Hutton has an extensive history of performing stormwater management services to clients throughout the southeastern United States. Our comprehensive engineering approach allows us to provide cost-effective solutions for proper surface water drainage during storm events. Thomas & Hutton's team of surveyors, engineers, hydrologists, and GIS specialists provide state-of-the-art technological services for small, medium, and large-scale projects. We utilize GIS data, analytical tools, and spatio-temporal reasoning to assist clients throughout all phases of a project. Through careful master planning, Thomas & Hutton can develop automated processes to establish precise up-to-date maps and data for the planning and design phases.

TYPICAL SCOPE OF SERVICES

STUDIES

- Stormwater Inventory/GIS Database Preparation
- Feasibility Studies
- Riverine & Coastal Studies
- Site Specific Stormwater Studies
- Scour Studies
- Watershed Management Planning

FEMA RELATED SERVICES

- Base Flood Elevation Determination
- Hydrologic & Hydraulic Analysis
- Community Consulting
- GIS Integrated FEMA Analysis & Mapping
- Letter of Map Revision/Letter of Map Amendments

DESIGN

- Stormwater Capital Improvement Projects
- Canal/Riverine Improvements
- Hydrologic/Hydraulic Modeling
- Storm Drainage System Remediation
- Rehabilitation
- Storm Drainage System Maintenance Planning
- Stormwater Master Plans



Request for Proposal - Proposal Services Station 18 Street
Stormwater Infrastructure Condition Assessment
Town of Sullivan's Island, South Carolina

SUB-CONSULTANTS

The Thomas & Hutton team includes the following sub-consultants:



DWG, INC. is a full service Mechanical, Electrical, Plumbing, Fire Protection and Communications small business design firm in Mount Pleasant, South Carolina. DWG specializes in technical, economic and feasibility studies; assessments of existing facilities; design of HVAC, plumbing, fire protection, lighting, power, fire alarm and data distribution systems; and project commissioning. DWG is led by senior principals, Michael Weeks, PE, CxA and Philip Dalpiaz, PE, CxA, who are actively involved in the design and quality control of each project to ensure the optimal result for the client. DWG's staff are experienced professionals, including Registered Professional Engineers with licensure in the following states: South Carolina, Alabama, Arizona, Colorado, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, Nevada, New Mexico, New York, North Carolina, Ohio, Oregon, Pennsylvania, Texas, Virginia, Washington and Wisconsin. In addition, six (6) of their personnel are LEED Professionals, and two (2) are Certified Commissioning Agents. DWG is one of the few engineering firms in South Carolina to have a Registered Fire Protection Engineer on staff. Furthermore, DWG has a Registered Communications Distribution Designer (RCDD).



PRO LATERAL, LLC is a cleaning and video inspection company located in Charleston, SC that has been in business since 2003. Their owners have a combined 37 years of experience performing pipe cleaning and video inspection. They are PACP certified by NASSCO, the National Association of Sewer Service Companies. With their vast experience and knowledge, Pro Lateral has had the opportunity to work with a variety of clients. their clientele range from cities and municipalities of all sizes, state and federal entities, and private contractors.

Pro Lateral has been in business for 13 years performing cleaning and video inspection work in storm drain systems and sanitary sewer collections systems with pipe ranging from 6" – 60". Pro Lateral has completed well over 3.0 million feet of cleaning and video inspection of pipe. Their project manager has 25 years of experience working in the cleaning and video inspection industry.



Request for Proposal - Proposal Services Station 18 Street
Stormwater Infrastructure Condition Assessment
Town of Sullivan's Island, South Carolina

SCOPE OF SERVICES

- Condition assessment and slope evaluation of approximately 695' of covered stormwater pipe beginning near the northeast corner of 1735 Atlantic and running easterly along Atlantic Avenue to the pump station at the southwest corner of Station 18 Street and Atlantic Avenue.
- Condition assessment and slope evaluation of 195' of open ditch beginning near the southwest corner of 1808 Atlantic Avenue and running westerly along Atlantic Avenue to the southwest corner of 200 Station 18 Street.
- Condition assessment and slope evaluation of approximately 44' of covered stormwater pipe beginning near the southwest corner of 200 Station 18 Street running south to the northwest corner of 1801 Atlantic Avenue.
- Condition assessment and slope evaluation of approximately 44' of covered stormwater pipe beginning near the northwest corner of 1801 Atlanta Avenue to the pump station at the northeast corner of Station 18 and Atlantic Avenue.
- Condition assessment and evaluation of the wet well in pump house at the corner of Station 18 Street and Atlantic Avenue.
- Condition assessment and evaluation of the flapper valve at the junction of the pump house to the South Carolina Electric and Gas Company force main.
- Recommendation for pump sizing and design to properly operate and discharge stormwater from the wetwell into a shared 10" manifold force main with the South Carolina Electric and Gas Company drainage system.
- Structural assessment of pump house building and pump house roof.
- Needs and condition assessment of electric connectivity and generator requirements in pump house.
- Provide construction estimate for necessary infrastructure repair.
- Provide alternative solutions for temporary or mobile stormwater relief in the basin area.



EXPERIENCE WITH SIMILAR PROJECTS

FOREST ACRES DRAINAGE IMPROVEMENTS STUDY, CHARLESTON, SC

CLIENT:

City of Charleston
Steven Kirk
75 Calhoun Street, 3rd Floor
Charleston, SC 29401
843-579-7682

SCOPE OF SERVICES:

- Watershed Mapping
- Hydrologic & Hydraulic Modeling
- Alternative Analysis
- Conceptual Design
- Public Input Coordination
- Planning Study Report

The City plans to construct improvements to the stormwater collection and conveyance system in the Forest Acres and 5th Avenue drainage basins in the West Ashley area of the City. The existing drainage systems in the two drainage basins are typified by undersized channels and road culvert systems. Drainage in the Forest Acres drainage basin is conveyed to an



undersized stormwater pump station that outfalls through a limited gravity system in the 5th Avenue drainage basin. The City retained **THOMAS & HUTTON** to confirm the need for the proposed improvements and design the initial phase of the improvements to increase the basins' outfall capacity. Thomas & Hutton's services included hydrologic and hydraulic modeling, conceptual design, public input coordination, and cost estimating. Based on the analysis of various factors, including drainage and flood control effectiveness, life cycle costs, environmental impacts, and others, Thomas & Hutton recommended that the City implement a gravity drainage option as the Phase 1 improvements for the basins.

FOREST ACRES DRAINAGE IMPROVEMENTS DESIGN, CHARLESTON, SC

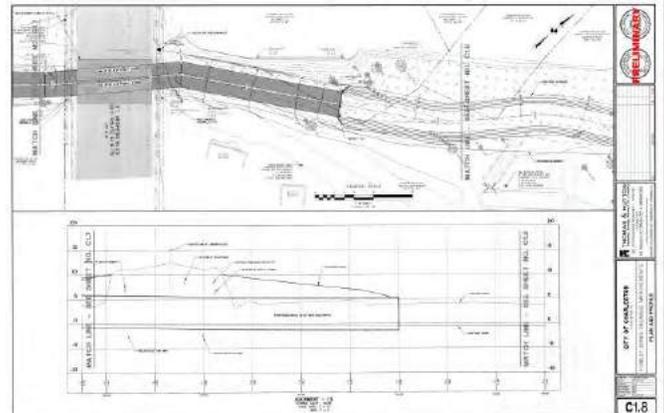
CLIENT:

City of Charleston
Steven Kirk
75 Calhoun Street, 3rd Floor
Charleston, SC 29401
843-579-7682

SCOPE OF SERVICES:

- Utility Location
- Geotechnical Investigation
- Environmental Assessment
- Topographic Survey
- Permitting Assistance
- Final Design
- Construction Plans
- Easement Plats
- Bid Assistance

Based on the findings and recommendations of the Forest Acres Drainage Improvements Study, the City retained **THOMAS & HUTTON** to design the first phase of improvements in the combined Forest Acres/5th Avenue drainage basin. The project includes the survey, design, and permitting of the basin's main outfall system. The proposed Phase 1 improvements include over 2,500 linear feet of box culvert improvements, 2,000 linear feet of channel improvements, and improvements to various secondary systems in the 450-acre watershed. The project includes coordination and permitting with the SC Department of Transportation, SC Department of Health and Environmental Control, (including OCRM), and US Army Corps of Engineers. The project also includes the coordination utility relocations with SCE&G (for gas and overhead power), Charleston Water Systems (for water and sewer), and AT&T (for telecommunications).





2015 CHARLESTON COUNTY TRANSPORTATION COMMITTEE (CTC) PROJECTS, CHARLESTON COUNTY, SC

CLIENT:

Charleston County
Transportation Department
James Armstrong
4045 Bridge View Drive,
Suite C-204
N. Charleston, SC 29405
843-202-6145

For the 2015 program year, Thomas & Hutton was selected to complete three drainage improvement projects under the Charleston County Transportation Committee (CTC) Program. The projects included the following:

- Sta. 19 and 22 at I'on Ave Drainage Improvements, Sullivan's Island, SC
- Pinckney St. Drainage Improvements, McClellanville, SC
- Alert Rd Drainage System Survey and Easement Acquisition, McClellanville, SC

SCOPE OF SERVICES:

- Survey
- Preliminary and Final Design
- Permitting Assistance (SCDOT, SCDHEC-OCRM)
- Cost Estimates
- Bid Support
- Construction Phase Services

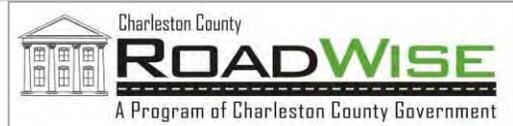
The design of these projects have been completed. The Sta. 19 and 22 at I'on Ave Drainage Improvements Project consists of providing design and permitting services for drainage improvements at the intersections of Station 19 and 22 with I'on Avenue. The Pinckney St. Drainage Improvements Project consists of providing design and permitting services for the relocation of an existing drainage system on the Town of McClellanville's property. The Alert Rd. Drainage System Survey and Easement Acquisition Project consists of surveying for an existing rear yard drainage system located near N. Alert Road and recommendations for future drainage maintenance access, and the preparation of easement plats.

CHARLESTON COUNTY ROADWISE DRAINAGE IMPROVEMENT PROJECTS, CHARLESTON COUNTY, SC

CLIENT:

Charleston County Roadwise
Eric Adams
4045 Bridge View Drive
Suite C-204
N. Charleston, SC 29405
843-906-6149

THOMAS & HUTTON was selected for twelve on-call drainage improvement projects under the Charleston County RoadWise Drainage Allocation program from 2006 to present.



Project activities included coordination between RoadWise, Town officials, SCDOT, and affected property owners. Field activities included topographic surveys, pipe videoing, wetland investigations and the determination of jurisdictional freshwater wetland limits and OCRM critical lines. The design surveys of each area included existing drainage and utilities, roadways, adjacent structures, wetland lines, and trees/landscaped areas.

Designs were developed based on field survey data, available mapping, and field investigations. Proposed drainage improvements were designed and construction drawings developed in accordance with the policies and practices of the SCDOT and the Charleston Transportation Committee.

Additional activities will include assisting with public meetings, preparation of technical specifications for all non standard materials, and development of opinions of probable construction costs.

Completed or ongoing projects include:

10 th Street East Drainage Improvements, Folly Beach	Sparrow Drive Drainage Improvements, Isle of Palms
Legareville Drainage Improvements, James Island	6 th Street East Drainage Improvements, Folly Beach
3 rd Street East Drainage Improvements, Folly Beach	4 th Street West Drainage Improvements, Folly Beach
Lauden Street Drainage Improvements, Isle of Palms	St. Pauls Drainage Study
Lincolnville Drainage Improvements, Phase I	Lincolnville Drainage Improvements, Phase II
Morrison Street Drainage Improvement, Folly Beach	West Hudson Drainage Improvements, McClellanville



LAKWOOD – PIRATELAND SWASH DRAINAGE STUDY, Horry County, SC

CLIENT:

Horry County
Tom Garigen
4401 Privetts Road
Conway, SC 29528
843-915-5160

SCOPE OF SERVICES:

- Geographic Information Systems (GIS)
- Stormwater Drainage System Modeling
- Alternatives Analysis
- Recommended Improvements
- Opinion of Probable Construction Cost
- Study/Report

The Lakewood - Pirateland Swash Basin drains approximately 1,560 acres of fully developed areas along US Highway 17 Business between Myrtle Beach and Surfside Beach. Many businesses and residents in the Lakewood-Pirateland Swash Basin have voiced flooding concerns. Structural flooding of several business and homes has been recorded on at least two occasions in the past. **THOMAS & HUTTON** is conducting a drainage



study that will be implemented in three phases: (1) the development of a hydrology and hydraulic model and identification of drainage issues, (2) alternatives analysis and recommendations, and (3) implementation of the recommended improvements. Phase 1 (which has been completed) included data collection; field reconnaissance; surveying existing conditions; hydrologic and hydraulic model development; model calibration; and study findings and report. Phase 2 included alternative projects screening; post-improvements hydrologic and hydraulic model development; alternative project evaluation; opinion of probable cost and benefit assessment; and recommended improvements. Phase 3 will include the design and implementation of the recommended projects developed as part of the study.

ST. MARYS STORMWATER MASTER PLAN, ST. MARYS, GA

CLIENT:

City of St. Marys Public Works
Robert Marr
418 Osborne Street
St. Marys, GA 31558
912-882-4415

SCOPE OF SERVICES:

- Capital Improvement Plan
- Geographic Information Systems (GIS)
- Master Planning
- Stormwater Drainage System Design
- Study/Report

THOMAS & HUTTON analyzed the existing stormwater system for the entire City of St. Marys. We used the city's GIS inventory in conjunction with a one dimensional node network model for hydraulic modeling and a step backwater model for hydrologic modeling to locate areas impacted by flooding during the 25-year, 24-hour storm. Alternatives such as pipe and channel replacements, increased detention, and stormwater diversion were developed to alleviate flooding at these



locations. Continuous communication with the client was vital in choosing the most appropriate solutions. Public meetings were also important both in gathering information and in determining the most viable alternatives. A comprehensive report was prepared to outline the budget and schedule for implementation of the selected alternatives. Additionally, recommended improvements were presented in simple conceptual 11x17 plans, which the city uses as inclusions for Capital Improvement projects.



NEW RIVERSIDE STORMWATER BEST MANAGEMENT PRACTICE DESIGN, BLUFFTON, SC

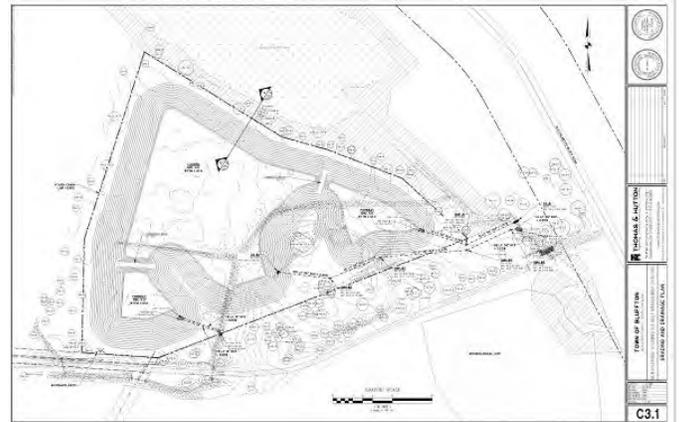
CLIENT:

Town of Bluffton
 Jeremy Ritchie
 20 Bridge Street
 Bluffton, SC 29910
 843-706 -7805

SCOPE OF SERVICES:

- Preliminary Design
- Hydrologic & Hydraulic Modeling
- Geotechnical Investigation
- Design Survey
- Final Design
- Construction Plans and Specifications
- Opinion of Probable Cost
- Permitting Support
- Construction Services

Based on the findings and recommendations of the Section 319 Water Quality Pilot Project Study, the Town retained **THOMAS & HUTTON** to design the New Riverside Stormwater Best Management Practice (BMP). Thomas & Hutton's services included preliminary design, geotechnical investigation, survey, final design, construction plans, specifications, cost estimating, permit assistance, and construction observation services. The New Riverside Stormwater BMP is a wet-detention facility designed to not only receive its natural drainage basin, but to also divert stormwater flow from an adjacent channel, store and treat the flows, and then release the treated runoff. The project includes a diversion structure (with high flow by-pass) from an adjacent wetland ditch into the 80,000 CY wet-detention facility. The facility includes sediment forebays at inflow points and a control structure to slowly release the treated stormwater runoff.



WARNER/DANBURY DRAINAGE IMPROVEMENTS STUDY

CLIENT:

Cynthia Kestner, CFM,CSPR
 CEPSCI
 Associate Stormwater Engineer
 Richland County
 400 Powell Road
 Columbia, SC 29203
 803-576-2489

SCOPE OF SERVICES:

- Data Collection
- Hydrologic & Hydraulic Modeling
- Improvement Alternatives Screening & Assessment
- Opinion of Probable Cost
- Recommendations

THOMAS & HUTTON was retained by Richland County Public Works to prepare a drainage study to investigate flooding reported within the Warner Drive and Danbury Drive Basins. The Warner Drive drainage basin study included the analysis of the 157 acre, nearly fully-developed watershed. The analysis sought to address nuisance and structural flooding caused mainly by an undersized culvert. The Danbury Drive drainage basin study included the analysis of the 163 acre, fully-developed watershed. The analysis sought to address nuisance flooding from caused mainly by an upstream, undersized detention facility and in adequate stormwater system piping. Study tasks included data collection, field reconnaissance, watershed and sub-basin mapping, existing conditions hydrology and hydraulics modeling, presentation of preliminary findings, improvement options listing and screening, selected improvements hydrology and hydraulic modeling, opinion of probable construction costs, presentation of final findings and recommendation.





HOLLINGSLED CREEK WATERSHED MANAGEMENT PLAN, RICHLAND COUNTY, SC

CLIENT:

Richland County Public Works
Quinton Epps
400 Powell Road
Columbia, SC 29203
803-576-2465

SCOPE OF SERVICES:

- Stakeholder Participation
- Watershed Assessment
- Water Quality Modeling
- Management Solutions
- Watershed Management Plan

THOMAS & HUTTON was selected by Richland County to prepare a Watershed Management Plan for the Hollingshed Creek Watershed. The watershed is located in the northwestern area of Richland County and discharges into Broad River. The watershed is approximately 17 square miles in area and consists of land uses such as forest; high, low and medium development intensity; and open space and wetlands. The project included the following: collect and synthesize existing information and data and identify and fill data gaps; characterize historical, current, and potential future watershed conditions; evaluate potential strategies, options, projects, and programs for the cumulative effects on watershed resources; improve protection of watershed resources; develop management options that protect and/or improve watershed resources; develop effective restoration projects and program; and provide for financial needs, monitoring, and adaptive management.







Request for Proposal - Proposal Services Station 18 Street
Stormwater Infrastructure Condition Assessment
Town of Sullivan's Island, South Carolina

FEE PROPOSAL/STRUCTURE

Fee Proposal/Structure can be found in the attached separately sealed envelope.



THOMAS & HUTTON

Engineering | Surveying | Planning | GIS | Consulting

682 Johnnie Dodds Blvd., Suite 100 | Mt. Pleasant, SC 29464 | 843.849.0200

thomasandhutton.com



Town of Sullivan's Island

RFP - Professional Services:

Station 18 Street Stormwater Infrastructure Condition Assessment
Stormwater Management Solutions at the J. Marshall Stith Park Mound



Post Office Box 96
Mount Pleasant, South Carolina 29465
(843) 884-4496



March 9, 2016

Town of Sullivan's Island
Ms. Lisa Darrow, Assistant to Administrator
2050-B Middle Street
Sullivan's Island, South Carolina 29482

Re: RFP - Professional Services:
Station 18 Street Stormwater Infrastructure Condition Assessment and
Stormwater Management Solutions at the J. Marshall Stith Park Mound

Ladies and Gentlemen:

We are pleased to present our response to your Requests for Proposals for engineering services. We have assisted local municipalities, utilities and private-sector clients since our founding by E. M. Seabrook, Jr. in 1956. Our principals are licensed professional engineers and land surveyors with combined practical experience exceeding 75 years in Charleston County. We believe our history and reputation allow us to claim a pre-eminent position among civil engineering firms in the county.

We have completed a number of stormwater engineering projects for both public and private clients including several large drainage studies and designs. We include herewith information on several projects of similar scope that we have performed for other clients.

We believe the attached materials address the items you wish to evaluate. We believe the Seabrook firm provides the Town of Sullivan's Island with the experience, site familiarity and local attention necessary to perform any public works projects engineering you may require. We appreciate the opportunity to put our expertise to work for you.

Respectfully,

E. M. Seabrook, Jr., Inc.
Engineers-Surveyors

A handwritten signature in black ink, appearing to read 'E. M. Seabrook III', with a horizontal line underneath it.

E. M. Seabrook III, PE/PLS

EMS/e
enclosures

Town of Sullivan's Island

RFP - Professional Services:
Station 18 Street Stormwater Infrastructure Condition Assessment
Stormwater Management Solutions at the J. Marshall Stith Park Mound

General Information

Firm Information	
Firm Name:	E. M. Seabrook, Jr., Inc.
Mailing Address:	Post Office Box 96, Mount Pleasant, SC 29465-0096
Physical Address:	1037 Chuck Dawley Blvd. Mount Pleasant, SC 29464
Years in business:	60 years in Mount Pleasant
Organization:	S Corporation (incorporated 1967)
Federal ID:	57-0481467

Management Principals and Shareholders

Corporate	Corporate
President	Vice President
E. M. Seabrook, III, PE/PLS	Lewis E. Seabrook, PE/PLS
SC Reg. No. 8436	SC Reg. No. 9860

Town of Sullivan's Island

RFP - Professional Services:
Station 18 Street Stormwater Infrastructure Condition Assessment
Stormwater Management Solutions at the J. Marshall Stith Park Mound

Project Team



E.M. SEABROOK
Engineers | Surveyors

E. M. Seabrook III, PE/PLS
Primary Client Liaison
Project Manager and Responsible Design Engineer

Lewis E. Seabrook, PE/PLS
Design Engineer
Responsible Land Surveyor

Subcontractors

Tom Seabrook
Permit Coordination
Office and Staff Supervision

Staff Field Surveyors
Site Data Acquisition

Staff Engineering Technicians
Computation and Drawing
Preparation



E.M. SEABROOK

Engineers | Surveyors

Site Development

- Commercial Site Design
- Grading & Pavement Design
- Office & Technology Parks
- Parking Design
- Residential Communities
- Retail Developments
- Roadway Design
- Schools and Institutions
- Streetscapes
- Water & Wastewater Utility Design

Stormwater Analysis & Design

- Low Impact Stormwater Design
- Retention & Detention Systems
- Stormwater Management Plans
- Stormwater Transmission Systems

Civil Engineering

- Encroachment Permit Applications
- Engineering Support for Municipalities & Utilities
- OCRM & Corps of Engineers Permit Applications
- Site Plans
- Stormwater Permit Applications
- Traffic Control Plans
- Utility Construction & Operations Permit Applications

Environmental Systems Engineering

- NPDES & ND Permit Applications
- Operations & Maintenance Manuals
- Wastewater Land Application System Design
- Water & Wastewater Systems Design
- Water Well Design

Land Planning

- Annexation Petitions
- Land Use Planning
- Planned Development (PD) Documents
- Rezoning Applications

Land Surveying Services

- ALTA/ACSM Surveys
- Beach Surveys
- Boundary Surveys
- Construction Staking
- Flood Insurance Surveys & Certificates
- Foundation Surveys
- GPS Surveys
- Industrial Site Surveys
- Record Drawings
- Route Surveys
- Topographic & Tree Surveys
- Wetland Surveys

Ephriam Mikell Seabrook III

Employment

E. M. Seabrook, Jr., Inc. (1977-present)
Civil/Environmental Engineers and Land Surveyors
President and Principal Engineer (1996-present)
Professional Engineer and Land Surveyor

Education

Clemson University
Bachelor of Science in Engineering Analysis - 1976
Master of Engineering in Environmental Systems Engineering - 1977
Special Research Problem Thesis
Adsorption Equilibria for Three Typical Dye Wastewaters
Using Activated Carbon

Professional/Civic Organizations

American Society of Civil Engineers
American Waterworks Association
Water Environment Federation
Water Environment Association of SC - Life Member
Member - Town of Mount Pleasant Commercial Design Review Board
Former Director - East Cooper/Mount Pleasant Kiwanis
Former Director - Rural Mission, Inc., Johns Island, SC
Former Director - Louis August Jonas Foundation, Rhinebeck, NY
Elder - Mount Pleasant and Palmetto Presbyterian Churches
Deacon - Mount Pleasant Presbyterian Church
Trustee and Coordinating Committee member - Charleston Atlantic Presbytery

Municipal Affiliations

Town of Awendaw, SC, Town Engineer
Town of Hollywood, SC, Town Engineer

Honors

Tau Beta Pi National Honorary Engineering Association
Chi Epsilon National Honorary Civil Engineering Fraternity
Charleston Contractors' Association 2000 Engineer of the Year

Registration

South Carolina, Sanitary Engineering	No.	8436
South Carolina, Land Surveying	No.	8436
North Carolina, Professional Engineering	No.	21522

Lewis E. Seabrook

Employment

E. M. Seabrook, Jr., Inc. (1978-present)
Civil Engineers and Land Surveyors
Vice President
Professional Engineer and Land Surveyor

Education

Clemson University
Bachelor of Science in Civil Engineering - 1978

Professional/Civic Organizations

American Society of Civil Engineers
Elder - Mount Pleasant Presbyterian Church
Deacon - Mount Pleasant Presbyterian Church

Registration

South Carolina, Civil Engineering	No.	9860
South Carolina, Land Surveying	No.	9860

Responsibilities

Design professional
Head professional land surveyor

Thomas M. Seabrook

Employment

Senior Project Manager
E. M. Seabrook, Jr., Inc.
Civil/Environmental Engineers and Land Surveyors
November 2006 - Present

Previous

Senior Project Manager / Project Scientist
The GEL Group
Environmental Consulting and Testing Laboratory
January 1990 – November 2006

Education

College of Charleston
Bachelor of Science Physical Education & Health - 1988

Responsibilities

Primary liaison among clients, project engineers and surveyors; respond to the needs of clients, coordinating with office and field staff to ensure these needs are met according to client expectations; monitoring workflow of projects; preparation of estimates, agency applications, invoicing, and provide business development support; investigate market trends and potential new service opportunities.

ARCHITECT - ENGINEER QUALIFICATIONS

PART I - CONTRACT-SPECIFIC QUALIFICATIONS

A. CONTRACT INFORMATION

1. TITLE AND LOCATION *(City and State)*

Station 18 Street SW Infrastructure Condition Assessment & SW Management Solutions at the J. Marshall Stith Park Mound

2. PUBLIC NOTICE DATE

02/19/2016

3. SOLICITATION OR PROJECT NUMBER

B. ARCHITECT-ENGINEER POINT OF CONTACT

4. NAME AND TITLE

E. M. Seabrook III - President

5. NAME OF FIRM

E. M. Seabrook Jr., Inc.

6. TELEPHONE NUMBER

(843) 884-4496

7. FAX NUMBER

(843) 881-7609

8. E-MAIL ADDRESS

mickey@emseabrook.com

C. PROPOSED TEAM

(Complete this section for the prime contractor and all key subcontractors.)

	(Check)			9. FIRM NAME	10. ADDRESS	11. ROLE IN THIS CONTRACT
	PRIME	J-V PARTNER	SUBCONTRACTOR			
a.	✓			E. M. Seabrook Jr., Inc. <input type="checkbox"/> CHECK IF BRANCH OFFICE	Post Office Box 96 Mount Pleasant, SC 29465 (Mail) 1037 Chuck Dawley Blvd. Mount Pleasant, SC (Physical)	Civil Engineering Sanitary Engineering Land Surveying
b.			✓	Eadie's Construction <input type="checkbox"/> CHECK IF BRANCH OFFICE	147 Vacuum Lane Ridgeville, SC 29472	Stormwater cleaning and Television Inspection
c.			✓	Coastal Engineering & Testing Co. <input type="checkbox"/> CHECK IF BRANCH OFFICE	1279 Remount Road North Charleston SC 29406	Geotechnical Subcontractor
d.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
e.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		
f.				<input type="checkbox"/> CHECK IF BRANCH OFFICE		

D. ORGANIZATIONAL CHART OF PROPOSED TEAM

(Attached)

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME E. M. Seabrook III	13. ROLE IN THIS CONTRACT Principal & Project Manager	14. YEARS EXPERIENCE	
		a. TOTAL 38	b. WITH CURRENT FIRM 38

15. FIRM NAME AND LOCATION *(City and State)*
E. M. Seabrook Jr., Inc. Mount Pleasant, SC

16. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> Bachelor of Science in Engineering Analysis - 1976 Master of Engineering in Environmental Systems Engineering - 1977	17. CURRENT PROFESSIONAL REGISTRATION <i>(STATE AND DISCIPLINE)</i> South Carolina, Sanitary Engineering No. 8436 South Carolina, Land Surveying No. 8436 North Carolina, Professional Engineering No. 21522
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18. OTHER PROFESSIONAL QUALIFICATIONS *(Publications, Organizations, Training, Awards, etc.)*
ASCE, WEF, WEASC, Tau Beta Pi National Honorary Engineering Association, Chi Epsilon National Honorary Civil Engineering Fraternity, Charleston Contractors' Association 2000 Engineer of the Year

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION <i>(City and State)</i> Maybank Center, Johns Island, SC (ongoing)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2016	CONSTRUCTION <i>(If applicable)</i>
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm a. Comprehensive civil site design for a 16,800 SF office/warehouse complex including stormwater design, site plan permitting and services during construction James Kerr, Owner - (843) 735-7330		
(1) TITLE AND LOCATION <i>(City and State)</i> The Bootjack, Summerville, SC	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2014	CONSTRUCTION <i>(If applicable)</i>
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm b. Comprehensive civil site design for new retail facility including boundary and topographic surveys, stormwater design, utility access and site plan permitting, services during construction and project closeout with agencies Mike Colavita, Brantley Construction Company, Client - (843) 552-0150		
(1) TITLE AND LOCATION <i>(City and State)</i> Town of James Island, SC	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2014	CONSTRUCTION <i>(If applicable)</i>
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm c. Site survey, design, permitting, bidding assistance and services during construction for road and slope protection project on Sweetgrass Creek Road Mark Johnson, Public Works Director - (843) 795-4141		
(1) TITLE AND LOCATION <i>(City and State)</i> Town of Awendaw, SC (ongoing)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2016	CONSTRUCTION <i>(If applicable)</i>
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm d. Town Engineer providing assistance to Town Council and staff related to water, stormwater, planning and zoning, roads and subdivisions (1997 to present) William Wallace, Town Administrator - (843) 928-3100		
(1) TITLE AND LOCATION <i>(City and State)</i> Town of Hollywood, SC (ongoing)	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2016	CONSTRUCTION <i>(If applicable)</i>
(3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm e. Town Engineer providing assistance to Town Council and staff related to water, wastewater, stormwater, planning and zoning, roads and subdivisions (1994 to present) Beth Carpenter, Mayor's Assistant - (843) 889-3222		

E. RESUMES OF KEY PERSONNEL PROPOSED FOR THIS CONTRACT

(Complete one Section E for each key person.)

12. NAME Lewis E. Seabrook	13. ROLE IN THIS CONTRACT Principal	14. YEARS EXPERIENCE	
		a. TOTAL 37	b. WITH CURRENT FIRM 37
15. FIRM NAME AND LOCATION <i>(City and State)</i> E. M. Seabrook Jr., Inc., Mount Pleasant, SC			
16. EDUCATION <i>(DEGREE AND SPECIALIZATION)</i> Bachelor of Science in Civil Engineering - 1978		17. CURRENT PROFESSIONAL REGISTRATION <i>(STATE AND DISCIPLINE)</i> South Carolina, Civil Engineering No. 9860 South Carolina, Land Surveying No. 9860	
18. OTHER PROFESSIONAL QUALIFICATIONS <i>(Publications, Organizations, Training, Awards, etc.)</i> South Carolina Society of Professional Land Surveyors, American Society of Civil Engineers			

19. RELEVANT PROJECTS

(1) TITLE AND LOCATION <i>(City and State)</i> Schumacher Homes of SC, Summerville, SC	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2015	CONSTRUCTION <i>(If applicable)</i>
a. (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Site engineering including stormwater management plan preparation, utilities and permitting for model home/sales office Principal and Project Engineer Ed Booher, General Manager - (843) 851-1465		
(1) TITLE AND LOCATION <i>(City and State)</i> Moultrie Plaza, Mount Pleasant, SC	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2016	CONSTRUCTION <i>(If applicable)</i>
b. (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm ALTA/ACSM boundary and topographic survey for existing 8.8 acre shopping center Professional Land Surveyor George Brewer, Partner - (843) 881-4655		
(1) TITLE AND LOCATION <i>(City and State)</i> Real Estate Capital Management, Mount Pleasant, SC	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2015	CONSTRUCTION <i>(If applicable)</i>
c. (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Boundary, topographic and tree survey for 2.99 acre parcel on Sweetgrass Parkway Professional Land Surveyor Gary Shahid, Owner - (843) 284-5776		
(1) TITLE AND LOCATION <i>(City and State)</i> Town of Mount Pleasant, SC - Pine Hollow Road	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2016	CONSTRUCTION <i>(If applicable)</i>
d. (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Surveying and platting of ditches and drainage system for areawide stormwater improvements for the Town of Mount Pleasant Professional Land surveyor Hillary Repik, Stormwater Manager, Town of Mount Pleasant - (843) 849-2022		
(1) TITLE AND LOCATION <i>(City and State)</i> Town of Mount Pleasant, SC - Shemwood II Subdivision	(2) YEAR COMPLETED	
	PROFESSIONAL SERVICES 2014	CONSTRUCTION <i>(If applicable)</i>
e. (3) BRIEF DESCRIPTION <i>(Brief scope, size, cost, etc.)</i> AND SPECIFIC ROLE <input checked="" type="checkbox"/> Check if project performed with current firm Topographic survey and re-establishment of recorded easement lines for existing ditch and structures for proposed stormwater system maintenance and improvements to be performed by the stormwater utility Professional Land Surveyor Hillary Repik, Stormwater Manager, Town of Mount Pleasant - (843) 849-2022		

F. EXAMPLE PROJECTS WHICH BEST ILLUSTRATE PROPOSED TEAM'S QUALIFICATIONS FOR THIS CONTRACT <i>(Present as many projects as requested by the agency, or 10 projects, if not specified. Complete one Section F for each project.)</i>		20. EXAMPLE PROJECT KEY NUMBER
21. TITLE AND LOCATION <i>(City and State)</i>	22. YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION <i>(If applicable)</i>

23. PROJECT OWNER'S INFORMATION

a. PROJECT OWNER	b. POINT OF CONTACT NAME	c. POINT OF CONTACT TELEPHONE NUMBER
------------------	--------------------------	--------------------------------------

24. BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTRACT *(Include scope, size, and cost)*

During his career with E. M. Seabrook Jr., Inc., E. M. Seabrook III has personally performed major stormwater studies and designs. Representative examples are presented below:

1. Northwoods Drainage Study: 50-year return interval stormwater calculations and preliminary design recommendations for drainageway improvements and pump station addition for 1919-acre drainage basin upstream from Northwoods Mall, North Charleston
2. Friedberg Properties: Stormwater calculations, design, permitting and services during construction for 120-acre catchment involving multiple property owners near Coleman, Magrath Darby, Houston Northcutt and Johnnie Dodds Boulevards, Mount Pleasant
3. Moss Grove Plantation: 300+ acre drainage basin topographic survey and comprehensive study, design and permitting for new 28-acre lake and dam construction to minimize potential for overtopping US Highways 17A and 52 during multiple rainfall event return intervals, Berkeley County
4. Seabrook Island POA: Design of stormwater pumping station modification for 25 HP and future 50 HP pumps, Seabrook Island

25. FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

a.	(1) FIRM NAME E. M. Seabrook Jr., Inc.	(2) FIRM LOCATION <i>(City and State)</i> 1037 Chuck Dawley Blvd. Mount Pleasant, SC 29464	(3) ROLE Prime
b.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
c.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
d.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
e.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE
f.	(1) FIRM NAME	(2) FIRM LOCATION <i>(City and State)</i>	(3) ROLE

H. ADDITIONAL INFORMATION

30. PROVIDE ANY ADDITIONAL INFORMATION REQUESTED BY THE AGENCY. ATTACH ADDITIONAL SHEETS AS NEEDED.

Charleston County SBE Certification No. 060608-00-AE-004

I. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

31. SIGNATURE

 (17)

32. DATE

03/09/2016

33. NAME AND TITLE

E. M. Seabrook III, President

ARCHITECT-ENGINEER QUALIFICATIONS

1. SOLICITATION NUMBER *(If any)*

PART II - GENERAL QUALIFICATIONS

(If a firm has branch offices, complete for each specific branch office seeking work.)

2a. FIRM (OR BRANCH OFFICE) NAME E. M. Seabrook Jr., Inc.			3. YEAR ESTABLISHED 1956	4. DUNS NUMBER
2b. STREET 1037 Chuck Dawley Blvd.			5. OWNERSHIP	
2c. CITY Mount Pleasant	2d. STATE SC	2e. ZIP CODE 29464	a. TYPE S Corporation	
6a. POINT OF CONTACT NAME AND TITLE E. M. Seabrook III - President			b. SMALL BUSINESS STATUS Small Business (541330; 541370)	
6b. TELEPHONE NUMBER (843) 884-4496		6c. E-MAIL ADDRESS mickey@emseabrook.com		
8a. FORMER FIRM NAME(S) <i>(If any)</i>			8b. YR. ESTABLISHED	8c. DUNS NUMBER

9. EMPLOYEES BY DISCIPLINE				10. PROFILE OF FIRM'S EXPERIENCE AND ANNUAL AVERAGE REVENUE FOR LAST 5 YEARS		
a. Function Code	b. Discipline	c. No. of Employees		a. Profile Code	b. Experience	c. Revenue Index Number <i>(see below)</i>
		(1) FIRM	(2) BRANCH			
12	Civil Engineer	1		C06	Churches; Chapels	1
52	Sanitary Engineer	1		C16	Construction Surveying	1
38	Land Surveyor	2		E02	Educational Facilities; Classrooms	1
48	Project Manager	1		F03	Fire Protection	1
08	Cadd Technician	1		H07	Highways; Streets; Airfield; Parking	1
				H11	Housing	1
				H13	Hydrographic Surveying	1
				L02	Land Surveying	2
				O01	Office Buildings; Industrial Parks	1
				P06	Planning	1
				S04	Sewage Collection T&D	1
				S13	Stormwater Handling & Facilities	1
				T04	Topographic Surveying & Mapping	1
				W03	Water Supply Treatment & Dist.	1
02	Other Employees	1				
Total		7				

11. ANNUAL AVERAGE PROFESSIONAL SERVICES REVENUES OF FIRM FOR LAST 3 YEARS <i>(Insert revenue index number shown at right)</i>		PROFESSIONAL SERVICES REVENUE INDEX NUMBER			
a. Federal Work	1	1. Less than \$100,000	6. \$2 million to less than \$5 million	7. \$5 million to less than \$10 million	8. \$10 million to less than \$25 million
b. Non-Federal Work	4	2. \$100,00 to less than \$250,000	7. \$5 million to less than \$10 million	8. \$10 million to less than \$25 million	9. \$25 million to less than \$50 million
c. Total Work	4	3. \$250,000 to less than \$500,000	8. \$10 million to less than \$25 million	9. \$25 million to less than \$50 million	10. \$50 million or greater
		4. \$500,000 to less than \$1 million	9. \$25 million to less than \$50 million		
		5. \$1 million to less than \$2 million	10. \$50 million or greater		

12. AUTHORIZED REPRESENTATIVE

The foregoing is a statement of facts.

a. SIGNATURE 	b. DATE 03/09/2016
c. NAME AND TITLE E. M. Seabrook III, President	

Town of Sullivan's Island

RFP - Professional Services: Station 18 Street Stormwater Infrastructure Condition Assessment

Project Approach, Methodology and Proposed Services

The outline below indicates engineering steps applicable to perform the eleven services described in Section II - Scope of Services in the request for proposal:

Preliminary Investigation Phase

1. Arrange initial meetings between Town and Engineer to define project limits and project schedule for notification of public
2. Coordinate with subcontractor for cleaning and television inspection of pipes described as Items 1, 3 and 4 in the Scope of Services
3. Perform field surveys concurrently with pipe inspection survey above for determination of existing topographic conditions in study area described as Items 1-6 in the Scope of Services
4. Meet with Town representatives to review results of investigations above and to discuss options for proceeding with Items 7 -11 described in the Scope of Services
5. Prepare preliminary pump, electrical and station recommendations and preliminary probable costs for construction, permitting and engineering design
6. Present formal report to Town in accordance with Project Completion Date established for the project

The Scope of Services does not include preparation of design documents for permitting, bidding and construction. If the Town elects to proceed with these additional steps, the following outline includes typical services to be necessary for a typical construction project:

Design Phase

1. Prepare preliminary design drawings and details for review by Town
2. Meet with regulatory agencies, if necessary, to review permitting issues
3. Upon acceptance and approval of preliminary design by Town, initiate preparation of construction documents
4. Prepare typical Division One specifications if project is to be bid competitively
5. Submit design documents to Town for approval

Permitting Phase

1. Prepare permit applications for review and signature by Town
2. Submit applications to agencies and prepare responses to comments
3. Coordinate and reconcile details of various agency permits

Town of Sullivan's Island

RFP - Professional Services: Station 18 Street Stormwater Infrastructure Condition Assessment

Project Approach, Methodology and Proposed Services (continued)

Bidding Phase

1. Establish bid advertisement and receipt dates in consultation with Town
2. Deliver contract and construction documents to potential bidders
3. Respond to inquiries by bidders prior to bid opening
4. Attend bid opening
5. Review bids for accuracy and completeness and recommend award
6. Attend Town Council or staff meetings to discuss bids and recommendation(s)

Contract Award Phase

1. Prepare and deliver Notice of Award to contractor
2. Prepare contract agreement and assemble signed agreement, bonds and insurance certificates for delivery to Town
3. Arrange preconstruction meeting, prepare minutes and discuss date for issue of Notice to Proceed

Construction Phase

1. Receive and review submittal documents from contractor
2. Provide routine observation of construction and prepare field reports
3. Notify Town and contractor of progress, potential problems and expectations
4. Attend periodic site construction meetings
5. Arrange site visits and observe testing by contractor

Project Closeout

1. Receive record documents from contractor and prepare closeout materials for delivery to agencies for issue of permission to operate
2. Arrange final inspection by regulatory agencies and coordinate any other closeout activities with Town and contractor

Town of Sullivan's Island

RFP - Professional Services: Stormwater Management Solutions at the J. Marshall Stith Park "Mound"

Project Approach, Methodology and Proposed Services

The outline below indicates engineering steps applicable to perform the four services described in Section II - Scope of Services in the request for proposal:

1. Arrange initial meetings between Town and Engineer to define project limits and final design scope
2. Perform field topographic survey of southern face of the Mound and perform two soil borings by geotechnical subcontractor for evaluation of soil conditions
3. Prepare drawing showing observed conditions at southern face and limited details of eastern and western rim elevations
4. Meet with Town representatives to review results of investigations above
5. Prepare final recommendations for three or fewer possible alternative solutions and prepare probable cost of construction estimates in accordance with Project completion date established for the project

The Scope of Services does not include preparation of design documents for permitting, bidding and construction. If the Town elects to proceed with these additional steps, the following outline includes typical services to be necessary for a typical construction project:

Design Phase

1. Prepare preliminary design drawings and details for review by Town
2. Meet with regulatory agencies, if necessary, to review permitting issues
3. Upon acceptance and approval of preliminary design by Town, initiate preparation of construction documents
4. Prepare typical Division One specifications if project is to be bid competitively
5. Submit design documents to Town for approval

Permitting Phase

1. Prepare permit applications for review and signature by Town
2. Submit applications to agencies and prepare responses to comments
3. Coordinate and reconcile details of various agency permits

Town of Sullivan's Island

RFP - Professional Services: Stormwater Management Solutions at the J. Marshall Stith Park "Mound"

Project Approach, Methodology and Proposed Services (continued)

Bidding Phase

1. Establish bid advertisement and receipt dates in consultation with Town
2. Deliver contract and construction documents to potential bidders
3. Respond to inquiries by bidders prior to bid opening
4. Attend bid opening
5. Review bids for accuracy and completeness and recommend award
6. Attend Town Council or staff meetings to discuss bids and recommendation(s)

Contract Award Phase

1. Prepare and deliver Notice of Award to contractor
2. Prepare contract agreement and assemble signed agreement, bonds and insurance certificates for delivery to Town
3. Arrange preconstruction meeting, prepare minutes and discuss date for issue of Notice to Proceed

Construction Phase

1. Receive and review submittal documents from contractor
2. Provide routine observation of construction and prepare field reports
3. Notify Town and contractor of progress, potential problems and expectations
4. Attend periodic site construction meetings
5. Arrange site visits and observe testing by contractor

Project Closeout

1. Arrange final inspection by regulatory agencies and coordinate any other closeout activities with Town and contractor

Town of Sullivan's Island

RFP - Professional Services:

Station 18 Street Stormwater Infrastructure Condition Assessment
Stormwater Management Solutions at the J. Marshall Stith Park Mound

Subcontractors

E. M. Seabrook, Jr., Inc. will perform all route surveys and will prepare all project studies and permit applications with staff professionals and staff associates. Should a project require the services of a geotechnical firm, Seabrook will subcontract those services to the following firm with home office in Charleston:

Coastal Engineering & Testing Company
1279 Remount Road
North Charleston, South Carolina 29406
(843) 566-1264

E. M. Seabrook, Jr., Inc. and Coastal Engineering & Testing have enjoyed working relationships for numerous projects for approximately twenty years.

Eadie's Construction
147 Vacuum Lane
Ridgeville, South Carolina 29472
(843) 810-3311

Town of Sullivan's Island

RFP - Professional Services:

Station 18 Street Stormwater Infrastructure Condition Assessment
Stormwater Management Solutions at the J. Marshall Stith Park Mound

Typical Projects in Progress - 2016

Town of Awendaw

Water Plant and Well Pump #2

Town of Elloree

Wastewater System Flood Damage Recovery and Treatment Plant Modifications

Isle of Palms Water and Sewer Commission

Three gravity sewer extensions

Five grinder pump and force main sewer extensions

Boone Hall Farms, Charleston County

Site Plan Review process for additional parking at Farm Store

Dunes West Property Owners Association, Mount Pleasant

Site surveys for stormwater and roadway improvements

Coastal Community Church, Charleston

Services during construction for new multipurpose building

Landmark Enterprises, Mount Pleasant

Surveying and engineering for multi-use site near Ravenel Bridge

James Island Charter High School

Services during construction for school additions

On call

Boundary, tree, topographical surveys

Residential and commercial site design, including stormwater management

Water and wastewater extensions to residential and commercial properties

The Firm maintains sufficient resources to perform its responsibilities to existing clients as well as to service the needs of the Town of Sullivan's Island for its stormwater projects.

Town of Sullivan's Island

RFP - Professional Services:
Station 18 Street Stormwater Infrastructure Condition Assessment
Stormwater Management Solutions at the J. Marshall Stith Park Mound

References

Town of Awendaw
Mr. William Wallace, Town Administrator
P. O. Box 520
Awendaw, South Carolina 29429
(843) 928-3100

Town of Hollywood
Ms. Beth Carpenter, Mayor's Assistant
P. O. Box 519
Hollywood, South Carolina 29449
(843) 889-3222

Rosenblum Coe Architects, Inc.
Mr. Steve Coe, President
1643 Means Street
Charleston, South Carolina 29412
(843) 577-6073

Asset Management and Consulting Services
Mr. James J. Kerr
P. O. Box 1302
Johns Island, South Carolina 29457
(843) 735-7330

Carolina Landscape, Inc.
Mr. Derek Wade
740 Up on the Hill Road
Charleston, South Carolina 29412
(843) 795-4769



***Certified
Charleston County
Small Business Enterprise***



***E.M. Seabrook, Jr., Inc.
Mt. Pleasant, SC***

Certification No. 060608-00-AE-004

Valid Until: June 6, 2016

Certified for: Civil Engineering and Land Surveying

Susan J. Hogan, Manager
Small Business Enterprise Program
Charleston County Contracts & Procurement

Issued On: May 15, 2015



Qualifications for

Station 18 Street Stormwater Infrastructure Condition Assessment

Submitted to Town of Sullivan's Island

March 11, 2016

Submitted By:



Stantec Consulting Services Inc.
4969 Centre Pointe Drive #200
North Charleston, South Carolina



Stantec Consulting Services Inc.
4969 Centre Pointe Drive, Suite 200
North Charleston SC 29418-6952

March 11, 2016

Mr. Andy Benke
Town Administrator

The Town of Sullivan's Island
2050-B Moultrie Street
Sullivan's Island, SC 29482

**Reference: REQUEST FOR PROPOSAL – PROFESSIONAL SERVICES STATION 18 STREET STORMWATER
 INFRASTRUCTURE CONDITION ASSESSMENT**

Dear Selection Committee,

We believe that we are better together, and in partnership with our clients, we strive to find the best in every opportunity and project.

Stantec is that team. We are professionals who have made it our careers to service the transportation, building, infrastructure, and aesthetic needs of our clients and our communities. With a local team of 36 employees backed by the support of more than 15,000 Stantec professionals experienced in a multitude of industries, we deliver a full-service team to you every day. We believe we work better together and we follow a simple principle: quality results can only be produced by quality people. That's why we have hand-selected a team of seasoned professionals with a history of providing critical, reliable, and expedient services. For this contract, Stantec has teamed with Parker Land Survey, Charleston Engineering, and Eadies Construction to accomplish all tasks needed for this contract.

This is simply the start of the benefits you'll receive when choosing Stantec. The following includes even more ways Stantec can help simplify your work.

We've Got the Technical Skills. Our team has proven experience in each project task planned under this contract. The Stantec team has proven experience in stormwater improvement project across the South Carolina. As you review our proposal, you'll see we have the depth of experienced professionals to handle every project task. Knowing Stantec as you do, you can be assured the team is experienced in this type of work, is familiar with town and SCDOT policies and practices, and will have adequate staffing.

We're Local. This project will be managed from our North Charleston office located at 4969 Centre Pointe Drive. With close proximity to your office, Stantec will be able to respond quickly as well as provide low cost for field and office meetings.

We're Responsive. Our county, city, and South Carolina Department of Transportation (SCDOT) clients appreciate our team's responsiveness and rank us highly in this area in formal evaluations. You can be confident that when you call us with an assignment, we'll be able to mobilize a team almost as soon as we hang up the phone. With a large diverse staff located in North Charleston, we have the resources needed to lead projects and handle multiple assignments concurrently.

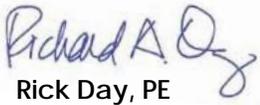
Commitment to Value and Quality. Every firm can say they're committed to quality. What makes Stantec stand apart is how we achieve this goal. As you'll see in this submittal, we have a proven process for working on large projects like this one. With a firm-wide ISO 9001 certified process, we'll be able to generate deliverables that are technically accurate and follow the town's policies and procedures.

Choosing Stantec means you get a local team with national standing. Many of the Stantec team members are lifelong residents of this area; therefore, we are personally invested in your success. We bring our knowledge, experience, and imagination to get the job done better, faster, and smarter and look forward to providing the infrastructure for the Town of Sullivan's Island that will carry on supporting your residents, businesses, and visitors for years to come.

Based upon the schedule in your RFQ, Stantec will be able to complete all tasks by May 27, 2016 assuming a Notice to Proceed of April 11, 2016.

We look forward to talking to you further and please feel free to contact us anytime.

Regards,



Rick Day, PE
(843) 740-7705
rick.day@stantec.com



Bryan Kizer, PE
(843) 740-7705
bryan.kizer@stantec.com



What's Inside

Qualifications and Relevant Experience

page 4

Proposed Approach

page 17

Project Team Members Qualifications

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Ability to complete the Project with the Proposed Schedule

page 27

Qualifications and Relevant Experience

OFFEROR'S FULL NAME

Stantec Consulting Services Inc.

CONTRACTING AND PERFORMING OFFICE LOCATION

4969 CentrePointe Drive, Suite 200
North Charleston SC 29418-6952
Tel: (843) 740-7700

CONTACT PERSON

Bryan Kizer, PE, Project Manager
bryan.kizer@stantec.com

PRIME FIRM

We're active members of the communities we serve. That's why at Stantec, we always design with community in mind.

The Stantec community unites more than 15,000 employees working in over 250 locations. Our work—professional consulting in planning, engineering, architecture, interior design, landscape architecture, surveying, environmental sciences, project management, and project economics—begins at the intersection of community, creativity, and client relationships. With a long-term commitment to the people and places we serve, Stantec has the unique ability to connect to projects on a personal level and advance the quality of life in communities across the globe.

Stantec's North Charleston office provides planning and engineering services for all types of development projects. We have been a part of the Lowcountry for more than 20 years. Our services span the full range of project development, from concept studies to implementation. Our 36 North Charleston employees offer expertise in planning; landscape architecture; civil, transportation and structural engineering; and project management.

SUBCONSULTANTS

As the prime consultant, Stantec will oversee the efforts of our sub-consultants. Stantec has an extensive history working with these firms and can deliver the benefit of these relationships by offering a collaborative design team throughout the project.

For this assignment, Stantec proposes to utilize the following sub-consultants and their services:

Firm Name	Firm Roles
Parker Land Survey	<ul style="list-style-type: none">• Surveying
Eadies Construction	<ul style="list-style-type: none">• Inspection• CCTV• De-watering
Charleston Engineering	<ul style="list-style-type: none">• Electrical Needs Assessment• Generator Requirements



Parker is a 48-person firm with 17 field crews and eight licensed professional land surveyors. They have three South Carolina offices, including a location in Georgetown, and they are tasked with the performance of all surveys required to support design, right of way and permitting.

EADIE'S

services

Started in 1989, Eadie's Construction specializes in industrial vacuum work, video inspections, underground utility services, and site work water blasting.

CHARLESTON ENGINEERING CONSULTANTS, INC.

Charleston Engineering was established in March, 1990 and incorporated on January 1, 1995 as Charleston Engineering Consultants, Inc. Charleston Engineering is located at 125 B Wappoo Creek Drive on James Island, South Carolina.

Charleston Engineering is a professional mechanical, electrical, fire protection, and plumbing engineering consulting firm that designs interior systems which make buildings comfortable and functional.

Project Narratives

On the following you'll find evidence which describe some of our similar experience in more detail. Each project has elements that meet the criteria you listed in your RFQ. However for every contract there is one unwritten scope item: the ability to handle anything that could arise under this contract. Our diverse range of experience means we can do exactly that.

Project Experience	Osprey Lake in Litchfield by the Sea Drainage Study	Hagley West Water Line and Storm Drain Replacement	Heritage Lake Drainage Improvements	US 17 Median and Drainage Improvements	Pine Hill Acres Neighborhood Drainage Improvement	Mount Pleasant Stormwater Assessment	Renewal Water Resources (ReWa) – Saluda PS#4 and Harbortown PS Replacement Pump Station
Bryan Kizer, PE	✓	✓	✓		✓	✓	
Rick Day, PE	✓	✓	✓	✓	✓	✓	
Kevin Bair, PE, PLS							✓
Eddie Porcher, PE							✓
Shaun Cavey, PE	✓			✓	✓		
John Prorock, PE		✓		✓			

Osprey Lake in Litchfield by the Sea Drainage Study

Georgetown County, South Carolina
Client: Georgetown County



Osprey Lake Drainage Basin is a 113-acre watershed that experiences flooding conditions during certain storm events. The drainage basin, comprised of nine smaller basins, eventually drains to Osprey Lake in Litchfield by the Sea. Because the existing Osprey Lake outfall structure is undersized, it is unable to handle the regulatory storm events and requires routine maintenance from the county. Stantec closely studied the area and recommended a total of nine drainage improvements, to include widening of the existing channel and the addition of more pipes at several road crossings. We developed a model which lowered the existing outfall and created an additional outfall. Stantec also provided an Engineers Opinion of Probable Costs for the project.



Hagley West Water Line and Storm Drain Replacement

Georgetown County, South Carolina
Client: Georgetown County



Stantec is revisiting a design created by another firm for a 60-inch diameter storm drain system, draining from Founders Club Golf Course to the west along Hagley Drive. Stantec evaluated the previous design and provided alternatives to implement as well as a probable cost analysis for each alternative. Stantec is creating the final design documents (including 50% & 90% review by the county), coordinating regulatory permitting, and preparing SWPPP and civil design specifications that can be used for construction. The design phase of the project shall include two meetings and the construction phase of the projects shall include bid coordination, construction observation, and closeout.



Heritage Lake Drainage Improvements

Georgetown County, South Carolina
Client: Georgetown County



Heritage Lake is the final storage area for an approximate 600- acre watershed that drains the Hagley Area of Pawleys Island. It experiences flooding conditions during certain storm events because the existing outfall structure is undersized and unable to handle the regulatory storm events. In addition, a new upstream outfall recommended by another consultant may be exacerbating the situation at Heritage Lake. However, since the outfall structure at Heritage Lake is on a private golf course, the county does not have a means to control and maintain the structure or lake levels.

Stantec developed a stormwater model of the existing system, prepared four conceptual design alternatives, and made a recommendation: a covered bridge with a weir, to match the existing outfall. This option provides an aesthetically pleasing solution for the neighborhood while still addressing the problem. With direction from Georgetown County (in coordination with Heritage Plantation), Stantec will create construction documents (including 50% and 90% review by the county), coordinating regulatory permitting, and preparing Stormwater Pollution Prevention Plans (SWPPP) and civil design specifications that can be used for construction administration.



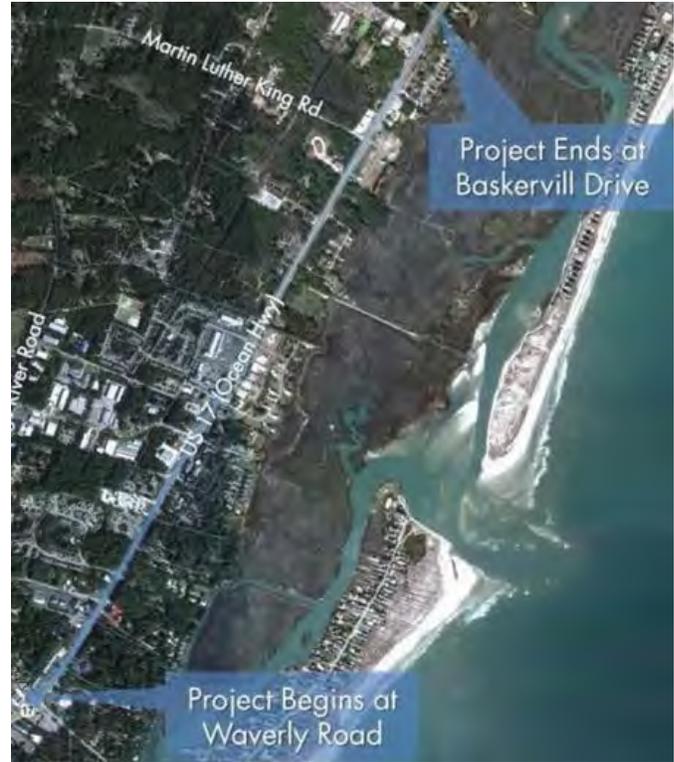
US 17 Median and Drainage Improvements

Georgetown, South Carolina
Client: South Carolina Department of Transportation



Communication proved key in this roadway design and median project for the South Carolina Department of Transportation.

Stantec provided roadway design and traffic engineering services to improve the median along US 17 from Waverly Road to Baskerville Drive in Georgetown County. This section of US 17 is approximately 1.9 miles and includes 24 intersections. Public involvement was a key component of this project's success. Stantec conducted two general public meetings with SCDOT and conducted a series of additional meetings with local stakeholders. Improving safety was one of the goals for this corridor, which currently experiences on average 3.4 collisions per month. Stantec designed a raised median, with appropriate median breaks for traffic flow. Two new signals were installed and coordinated with the two existing signals on the corridor.



Stantec also provided Georgetown County with a drainage study of the area that encompassed 10 drainage basins totally 527 acres. Based on study results, we designed drainage crossline and downstream improvements.

Public involvement is proving to be a key component of this project's success. Stantec conducted two general public meetings with SCDOT and conducted a series of additional meetings with local stakeholders.



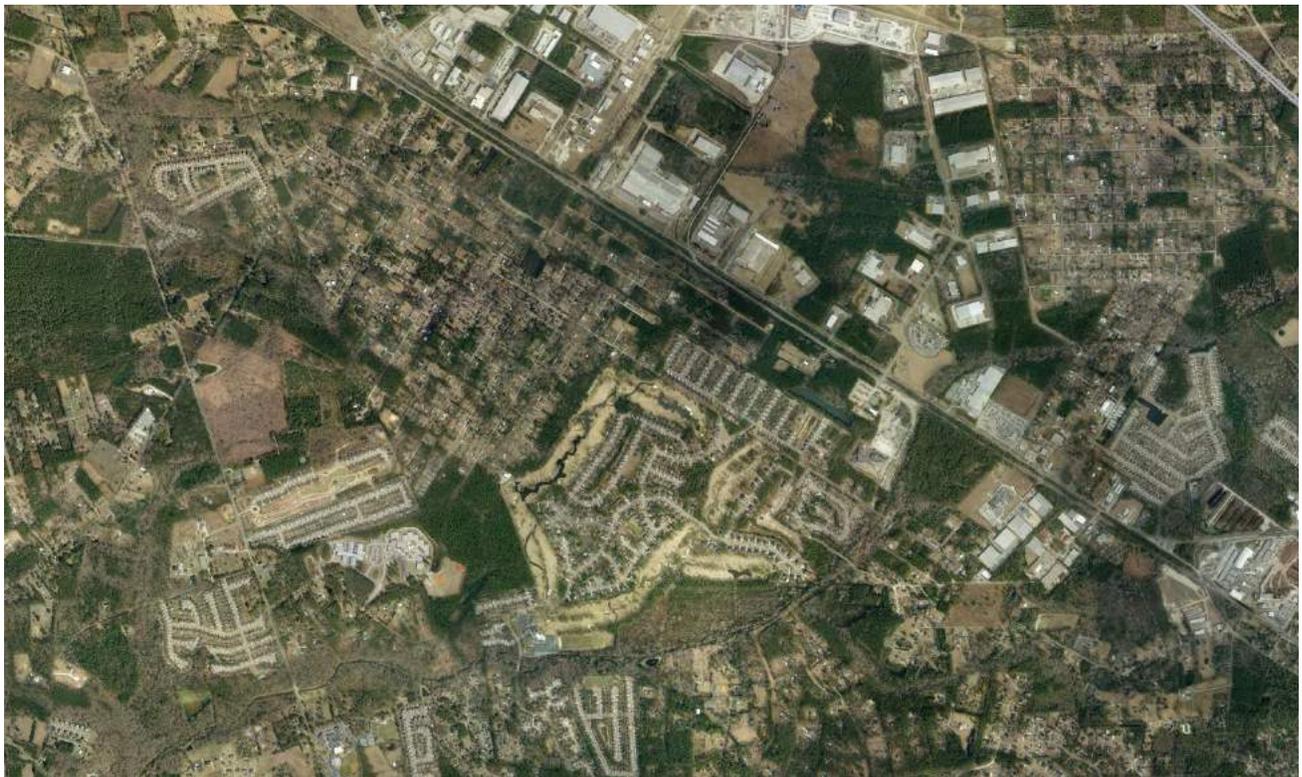
Pine Hill Acres Neighborhood Drainage Improvement

Dorchester County, South Carolina
Client: Georgetown County



A neighborhood approximately 30 acres in size, Pine Hill was originally developed in the 1970's when retention ponds were not required. The area recently received water and sewer service, causing an increase in development. This increase in development has resulted in the lots being cleared and created additional impervious area, resulting in more flooding.

Stantec made recommendations on increasing ditch and pipe sizes and suggest possible locations for stormwater retention ponds in the neighborhood.



Mount Pleasant Asset Management

Mount Pleasant, South Carolina
Client: Town of Mount Pleasant



Stantec developed an asset management program for the town of Mt. Pleasant, South Carolina. Specifically, Stantec performed an extensive inventory and condition assessment for infrastructure elements such as roadway pavement, curb & gutter, sidewalk, pavement markings, signage, street lights, traffic signals, stormwater pipes, ditches, ponds and other infrastructure elements.

Stantec field teams performed a condition assessment which included documenting the structure type, material, flow, condition, need for maintenance, invert elevation, pipe connectivity, pipe size, and pipe material. Additionally, our professionals obtained a digital photograph at the surface and utilizing a pole camera to record video of the pipe conditions.

Once the field data gathering was complete, Stantec utilized this information to perform an overall condition assessment for the Town's stormwater infrastructure, and this assessment was used to prioritize future projects.

Once the field team finalized its efforts, members passed the data along to a GIS Analyst that performed further processing and electronically linked the data. Stantec delivered the town a stormwater geodatabase that incorporated into its GIS. In addition to the database the deliverable included all photographs, video files and condition assessment reports taken on location.



Renewal Water Resources (ReWa) Saluda PS#4 and Harbortown PS Replacement

Greenville County, South Carolina
Client: Greenville County



This project consists of investigation, evaluation, and design of the Saluda Pump Station 4 elimination and Harbor Town Pump Station replacement.

Project elements includes design of necessary gravity sewer to facilitate the elimination of Saluda PS#4, complete replacement of the existing Harbor Town pump station, including demolition, removal of existing pumps and controls, bypass pumping, replacement of the existing wet well including epoxy lining, installation of new pumps and controls, stand-by electric generator packages, electric service laterals, equipment racks, grounding systems, grading, fencing, landscape screens, and sediment and erosion control.

This project is currently in the design phase.



References

Stantec has excellent references from municipal, state, and federal clients. We take great pride in and place a high value on our long-term ongoing relationships with our clients, as evidenced by the fact that the majority of our clients are repeat customers. The references below can tell you firsthand how we have performed as a firm on contracts with needs very similar to yours. You should hear a common theme from everyone you talk to: from concept through construction, Stantec will be your partner in helping you build an even better Sullivan's Island.

	CONTACT	ADDRESS	PHONE/EMAIL
	Jim Armstrong Charleston County	4045 Bridge View Drive Suite C204 North Charleston, SC 29405	(843) 202-6140 jdarmstrong@charlestoncounty.org
	Brad Morrison Town of Mount Pleasant	100 Ann Edwards Lane Mount Pleasant, SC 29464	(843) 856-3080 BMorrison@tompsc.com
	Jason Carraher Dorchester County	2120 East Main Street Dorchester, SC 29437	(843) 832-0070 jcarraher@dorchestercounty.org
	Laura Cabiness City of Charleston	75 Calhoun Street Charleston, SC	(843) 724-3754 cabinessl@charleston-SC.gov
	Robert Clark SCDOT	6355 Fain Boulevard North Charleston, SC 29406	(843) 740-1665 ClarkRT@dot.state.sc.us
	Ray Funnye Georgetown County	108 Screven Street Georgetown, SC 29442	(843) 545-3325 rcfunnye@georgetowncountysc.org

Quality Control

Stantec has a formal Project Management Process (PMP) which helps us achieve excellent results, as seen in our SCDOT Consultant Performance Evaluation Reviews. Our staff knows how to perform the work and we are able to drive our projects to success. We ensure Quality Control is maintained by both Stantec and our sub-consultants.

Integrated Management System

At Stantec, we promote quality, safety, and the environment across our entire organization through our integrated management system, which provides a disciplined and accountable framework for managing risks, quality outcomes, and regulatory compliance. This integrated management system has been implemented and registered to internationally recognized standards:

1. ISO 9001:2008 Quality Management Standard—aligns business processes with strategic objectives, provides a disciplined approach to managing risk, and promotes quality outcomes and management transparency.
2. ISO 14001:2004 Environmental Management Standard—encourages the reduction of the organization’s environmental footprint and drives regulatory compliance.
3. ISO/IEC 20000-1:2005 IT Service Management Standard—promotes the quality, consistency, reliability, and value of information technology services.
4. OHSAS 18001 Safety Management System—safeguards the occupational health and safety of our employees, monitors compliance with safety regulations, and promotes consistent safety performance alignment with our Health, Safety, & Environment (HSE) policy.



Our ISO 9001 QA/QC process verifies that all project details are covered, to help avoid change orders. This helps us control schedule and budget appropriately while minimizing surprises

Quality Management

We maintain our ISO 9001 Quality Management System (QMS) certification through our corporate business processes and our mandatory 10 Point Project Management (PM) Framework, which outlines required project tasks to manage risk and ensure quality on all projects.

The 10 points are organized based on the four stages of project management: Initiate, Plan, Execute and Control, and Close- Out. These represent the project requirements of our ISO 9001 QMS:

1. Prepare a proposal that includes a preliminary project plan including scope, budget, resources, deliverable, and schedule.
 - Conduct and document an independent review.
2. Obtain written instructions to proceed and execute an approved contract. Obtain written sub-consultant agreements.
3. Prepare a detailed project plan.
 - Conduct and document an independent review.
4. Establish hardcopy and/or electronic project record directories and file projects accordingly.
5. Complete a HSE Risk Management Assessment and documentation for all projects involving field work.
6. Monitor the project management dashboard regularly.
 - Follow best practices for managing project financials, including time changes, work in progress, accounts receivable, and estimates to complete.
7. Obtain client’s written approval on scope of service changes.
8. Conduct and document a quality review of all final deliverables prior to issue (quality control).
9. Conduct and document an independent review of all final deliverables prior to issue (quality assurance).
10. Close out the project financials and files.

Quality Control & Quality Assurance

Quality Control is the responsibility of Stantec project personnel through the checking and review requirements outlined in Points 8 and 9 of the PM Framework and incorporated into our work practices. Our staff members are expected to check their own work, have it checked or reviewed by another qualified individual, and verify all final deliverables have undergone an independent or cold-eye review.

Improvements or recommendations are incorporated into the final deliverables and into applicable discipline work practices when necessary.

In addition to the due diligence of our staff, Stantec also has a team of independent Quality Assurance Specialists who are responsible for supporting and auditing projects to verify that the PM Framework, work practices, and project plans are followed. The team also establishes QA work practices to support the business line, including, non-conformance/ improvement reporting, continuous improvement initiatives, and auditing processes.

During our audit process, findings are reported and recorded as Non-Conformances (NCs) or Opportunities for Improvement (OFIs). These are analyzed to see if any impacted work practices can be improved to prevent recurrence of the NC or OFI. And because not all findings and improvements are realized through audits, we have also made room on the business line SharePoint for our people to report NCs or suggest improvements. All of these findings are captured in our Continuous Improvement (CI) program to help identify work practice enhancements and improve project execution across all offices, for all clients.

Proposed Approach

Project Approach

Stantec will conduct a condition assessment of the Station 18 Street and Atlantic Avenue stormwater collection system as outlined in the Town of Sullivan's Island Request for Proposal. The system consists of approximately 785 linear feet (lf) of covered stormwater pipe and approximately 195 lf of open stormwater collection ditch that discharges into a stormwater pump station. The system is owned by the South Carolina Department of Transportation (SCDOT). It is our understanding that the Town of Sullivan's Island will utilize this condition assessment report to obtain funding from FEMA to improve the system.

The map below depicts the locations of system components that will be inspected as part of this project:



LEGEND

-  Condition Assessment and Slope Evaluation of ~ 695 Linear Feet of Covered Stormwater Pipe
-  Condition Assessment and Slope Evaluation of ~ 195 Linear Feet of Open Ditch
-  Condition Assessment and Slope Evaluation of ~ 44 Linear Feet of Covered Stormwater Pipe
-  Condition Assessment and Slope Evaluation of ~ 44 Linear Feet of Covered Stormwater Pipe
-  Condition/Structural Assessment of Pump House and Additional Equipment

Our assessment will begin with a field investigation to determine the apparent condition of the pipe, ditch, and pump station described above. A multidiscipline inspection team will review each component and provide recommendations relative to

the apparent condition. The disciplines represented will include civil, environmental, structural^[KB1], and electrical. In addition to the condition assessment, a capacity assessment of the pump station will be conducted by performing a pump drawdown test. Comparisons will be made to the expected theoretical performance of the pumps if sufficient information is available.

Stantec will also contract with Eadie's Construction to de-water and video inspect via Closed Circuit Television (CCTV) the following:

- Six hundred ninety-five feet (695 lf) of covered stormwater pipe beginning near the northeast corner of 1735 Atlantic (Charleston County TMS 523-12-00-020) and running easterly along Atlantic Avenue to the pump station at the southwest corner of Station 18 Street and Atlantic Avenue.
- Forty-four feet (44 lf) of covered stormwater pipe beginning near the southwest corner of 200 Station 18 Street (Charleston County TMS 529-09-00-085) running south to the northwest corner of 1801 Atlantic Avenue (Charleston County TMS 529-09-00-086).
- Forty-four feet (44 lf) of covered stormwater pipe beginning near the northwest corner of 1801 Atlantic Avenue (Charleston County TMS 529-09-00-086) to the pump station at the northeast corner of Station 18 Street and Atlantic Avenue.
- The wet well in the pump house at the corner of Station 18 Street and Atlantic Avenue.
- The flapper valve at the junction of the pump house to the South Carolina Electric and Gas Company force main.

The pipe de-watering, and CCTVing will allow Stantec's engineers to fully evaluate the condition of the pipe network and determine if the pipes are deteriorated and need repair and/or replacement. Stantec assumes the pipes will be cleaned by others. Next, Stantec's surveying sub-consultant Parker Land Surveying (PLS), will provide invert elevation information and determine the slope of all of the sub-

surface piping. PLS will also provide topographic information for the open storm drainage system.

All of this information, along with topographic LIDAR information of the Station 18 Street and Atlantic Avenue Basin will be used to produce a Hydraulic and Hydrologic (H&H) model. This model will be utilized by Stantec's engineers to determine the quantity of water draining to the pump station. This information will be used to properly size the pump and wet well. Stantec will also evaluate the size of the shared ten inch (10") force main that the pump station connects by manifold and which ultimately discharges to the marsh at the end of Station 18 [Street](#)[KB2].



Stantec will also work with Charleston Engineering to determine the electrical needs for the new pump and the emergency generator requirements. The pump and wet well sizing information, electrical demand, emergency generator information and required pipe replacement/repair information will be utilized to prepare a cost estimate of the required upgrades.

Stantec's structural engineer, Eddie Porcher will perform a structural assessment of the pump house building and roof. Mr. Porcher recently completed assessment for the Harbortown Pump Station.



Stantec's final deliverable will include a condition assessment of the overall piping system, a recommendation for the size of a new wet well and pump system and emergency generator/electrical demand upgrades. Our assessment evaluation will use the condition assessment of each component from the field investigation to estimate the construction cost of any necessary infrastructure repair and/or replacement.

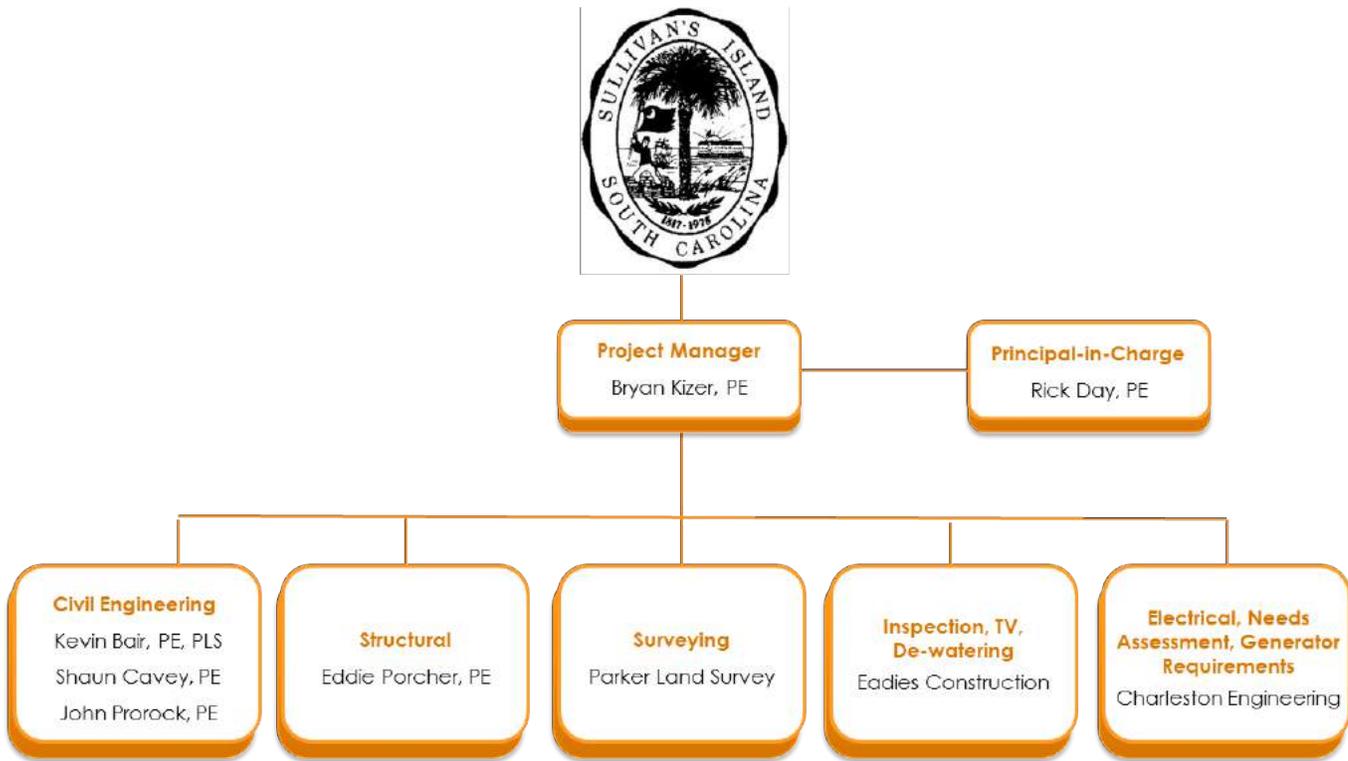
Lastly, Stantec will evaluate alternate solutions for a temporary or mobile pump/power supply system if the current pump were to fail during a storm event.

Project Team Members Qualifications

Key Personnel

Our proposed team has been carefully selected to provide breadth and depth of expertise, availability to meet project schedules, and accessibility to project sites. Key services will be provided by our local North Charleston staff, with additional support from our Columbia office.

The chart below illustrates the organizational structure and respective roles of our proposed project team. The firm is supported by our well qualified sub-consultants. We can deal creatively with complex issues in an efficient manner, drawing upon our extensive knowledge and judgment gained from many years of experience. Following this page are the resumes and availability of the team members proposed for this contract.





Bryan Kizer, PE Project Manager

Qualifications

- MS, Civil Engineering, University of South Carolina
- BS, Civil Engineer, The Citadel
- SC, Professional Engineer #26556
- Member, SC Association of Stormwater Managers (SCASM)
- 3 years with Stantec

Bryan brings you 24 years of experience and is a seasoned project manager with extensive background and experience in roadway design and drainage improvement projects. He has worked extensively in the planning, design, and permitting of infrastructure related to commercial, residential, multi-family, office, and school developments in the Lowcountry. Additionally, he has worked with city and county governments in planning and designing roadway, drainage, water, sewer, and other public work improvements.

- **Georgetown County On-Call, Georgetown County, South Carolina.** *Project manager for drainage projects for Georgetown County. These projects include stormwater/drainage design, site grading, water and sewer design and construction administration.*
- **Dorchester County On-Call, Dorchester County, South Carolina.** *Project manager for four small drainage improvement projects in Dorchester County. All four projects have a limited budget and reside in established residential neighborhoods.*
- **Charleston County Stormwater Plan Review, Charleston County, South Carolina.** *Project manager and reviewer to assist the City of Charleston with its MS4 reviews of stormwater plans designs.*



Rick Day, PE Principal-in-Charge

Qualifications

- MS, Civil Engineering, Georgia Institute of Technology
- BS, Civil Engineer, The Citadel
- SC, Professional Engineer #9285
- 7 years with Stantec

Rick has more than 37 years of transportation engineering experience including planning, designing, permitting, and implementing numerous roadway and traffic engineering projects throughout South Carolina and the Southeast. He will oversee the technical work effort and serve as a liaison with key project stakeholders. Rick will also make sure adequate staffing and resources are available at the appropriate times for the contract duration.

- **US 17 Median and Drainage Improvements, Pawleys Island, South Carolina.** *Principal for this project involving the development of roadway and traffic signal plans for the conversion of a section of US 17 in Georgetown County from a five-lane cross-section to a four-lane divided cross-section. Project includes 1.9 miles of US 17 and 24 side street tie-ins. This project included public involvement, concept development, wetland delineation and permitting, roadway design, and traffic analysis and design.*
- **Isle of Palm Connector Improvements, Mount Pleasant, South Carolina.** *Principal-in-charge for conceptual design, public meeting presentation, topographic surveying, roadway/traffic signal design, and environmental permitting for improvements to Isle of Palms Connector in Mount Pleasant. The proposed project will widen Isle of Palms Connector from US 17 to Riviera Drive to include two through lanes in each direction of the connector, turn lane improvements to Rifle Range Road, and relocation to some sections of the existing 10-foot multi-use path.*
- **North Rhett Avenue and Remount Road Intersection Improvements, Charleston, South Carolina.** *Principal for traffic analysis and design plans for improvements to the intersection of North Rhett Avenue at Remount Road in North Charleston. This project was conducted under the Charleston County Roadwise Intersection Improvements of 2010.*



Kevin Bair, PE, PLS Civil Engineering Lead

Qualifications

- MS, Civil Engineering, University of South Carolina
- BS, Civil Engineering, University of South Carolina
- SC, Professional Engineer #16173
- SC, Professional Land Surveyor#16173
- 2 years with Stantec

Kevin has provided civil and environmental engineering services to local governments and institutional clients for the past 25 years. His primary project experience includes extensive work related to water distribution, wastewater collection systems, wastewater pumping stations (both new construction and rehabilitation/replacement work), stormwater management system design and permitting, civil/site design, hydrologic and hydraulic modeling; and erosion and sedimentation control planning and permitting. This experience also includes all required route, easement, and boundary surveying associated with these projects.

- **Renewal Water Resources (ReWa) – Saluda PS#4 and Harbortown PS Replacement, Greenville County, South Carolina.** *Project manager for this project which consists of investigation, evaluation, and design of the Saluda Pump Station 4 elimination and Harbor Town Pump Station replacement. Project elements includes design of necessary gravity sewer to facilitate the elimination of Saluda PS#4, complete replacement of the existing Harbor Town pump station, including demolition, removal of existing pumps and controls, bypass pumping, replacement of the existing wet well including epoxy lining, installation of new pumps and controls, stand-by electric generator packages, electric service laterals, equipment racks, grounding systems, grading, fencing, landscape screens, and sediment and erosion control.*
- **Berkeley County Water and Sanitation - FY16 Pump Station Renovations, Berkeley County, South Carolina.** *Project Manager. Elements of this project include the complete renovation of four existing pump stations, including demolition of above grade buildings and electrical service, removal of existing pumps and controls, bypass pumping, replacement and/or repair of existing wet wells including epoxy lining, installation of new pumps and controls, stand-by electric generator packages, electric service laterals, equipment racks, grounding systems, access drive improvements, drainage, grading, fencing, landscape screens, and sediment and erosion control. Rated pump station capacities for the new pump stations will range between 100 gpm to 700 gpm.*
- **Berkeley County Water and Sanitation - FY 17 Pump Station Renovations, Berkeley County, South Carolina.** *Project Manager for this project consisting of surveying, investigation, condition assessment, evaluation, preliminary design, and development of budgetary construction cost opinions of six existing pump stations.*



Eddie Porcher, PE Structural Engineering

Qualifications

- BS, Civil Engineering, Clemson University
- SC, Professional Engineer, #11136
- 28 years with Stantec

A senior associate with Stantec's Buildings Engineering Group, Eddie has more than 33 years of structural engineering experience in a wide variety of projects.

His chief responsibilities include structural project engineering for buildings and special projects. Special projects include historic renovations, restoration of oceanfront high-rise structures, concrete repair, and structural analysis of deficient structures. Duties include supervision of investigations, analyses, designs, preparation of construction documents, and construction administration.



Shaun Cavey, PE Civil Engineering

Qualifications

- BS, Civil Engineering, Virginia Polytechnic Institute and State University
- SC, Professional Engineer, #31699
- LEED Accredited Professional, U.S. Green Building Council
- 5 years with Stantec

Shaun has experience performing hydraulic riverine modeling, hydrologic analysis, and watershed assessments. His civil design experience includes land planning, subdivision design, grading, street design, and stormwater management design. He is proficient in ArcGIS and AutoCAD Civil 3D.

- **Kiawah Island Master Stormwater Plan, Drainage Study, Kiawah Island, South Carolina.** *Water Resource Engineer. Analyzed existing stormwater drainage for 105 ponds covering a total 2,300 acres of drainage area. Incorporated 286 surveyed outfall pipes into HydroCAD modeling software. Streamlined hydrologic model inputs with GIS software. Identified drainage improvement needs to help create detailed plan for stormwater maintenance.*
- **East Andrews Drainage Study, Drainage Study, Georgetown County, South Carolina.** *Water Resource Engineer. Reviewed previous work completed by others to understand the drainage problems at Lester Creek. The study also included a field investigation of the area as well as a hydrologic and hydraulic (H&H) analysis of the system using the Interconnected Pond Routing (ICPR) software (Version 3.10). The drainage study analyzed the 2-, 10-, 25-, 50-, and 100-year storm events, with specific focus on reducing water surface elevations for the 10-year storm event. A series of proposed conceptual design options were developed to alleviate the drainage issues. Permitting requirements, easement/access requirements, construction issues, and an opinion of probable cost were also provided for each design option.*
- **North Carolina Statewide Watershed Floodplain Mapping, Initiated as part of the State of North Carolina CTP Program with FEMA, Statewide, North Carolina.** *Water Resource Engineer. Served as the Water Resources Engineer supporting a statewide elevation data and floodplain mapping program contract. Review of GIS products and database development. Stantec has produced 644 Digital Flood Insurance Rate Maps, 1,700 LM of automated hydraulic and hydrology modeling, 303 miles of redelineated effective study analysis, and 14 miles of detailed coastal study; collected over 1,000 field run channel cross-sections and structure surveys; completed detailed study for 167 miles of riverine reaches, 1,813 miles of limited detailed stream analysis; and populated a North Carolina Floodplain Management Program database.*



John Prorock, PE Civil Engineering

Qualifications

- BS, Civil Engineering, North Carolina State
- SC, Professional Engineer, #32297
- 4 years with Stantec

John has more than eight years of in site infrastructure and stormwater design, planning and assessment experience. He routinely performs civil engineering design tasks needed to create construction plans for a variety of federal, municipal and commercial projects. John completes grading, stormwater design/calculations, SW BMP design, utility design, erosion control design, landscape design, quantity takeoffs, cost estimates, technical writing, and other tasks based on project requirements.

- **Hagley West Drainage Improvements, Georgetown County, South Carolina.** *Stantec is revisiting a design created by another firm for a 60" diameter storm drain system, draining from Founders Club Golf Course to the west along Hagley Drive. Stantec evaluated the previous design and provided alternatives to implement as well as a probable cost analysis for each alternative. Stantec is creating the final design documents (including 50% & 90% review by the county), coordinating regulatory permitting, and preparing SWPPP and civil design specifications that can be used for construction. The design phase of the project shall include two meetings and the construction phase of the projects shall include bid coordination, construction observation, and closeout.*
- **Cherry Street Improvements – Elizabeth to Wilkerson, Georgetown, South Carolina.** *Cherry Street is a project under Stantec's current On-Call with the City of Georgetown. Cherry Street (SC Route S-279) is owned by SCDOT. Stantec will meet with SCDOT District 5 to discuss the proposed work early in the design process. First Stantec will design the new gravity systems (Waste Water and Stormwater) by identifying the invert elevations at the end of each line and working backwards to the start of the line. Stantec will then identify any potential conflicts and determine how to resolve these conflicts (conflict boxes, rerouting lines, etc.). **Waste Water:** An existing 8" Vitrified Clay Pipe (VCP) line runs under the center of the pavement section on Cherry Street. The line will be replaced with a new 8" SDR-35 line. The design will be phased to allow service throughout the construction process. **Water:** Stantec will design the replacement of the existing 2" galvanized water main with a new 6" C-900 water main. The new water main will run outside the edge of pavement and will be properly sized to handle 1000 gallons per minute at 20 psi. The design will be phased to allow service throughout the construction process.*

At Stantec, we've built our practice around continually furnishing South Carolina's infrastructure needs and becoming a part of their communities. ***This is what we do and what we do well.***

Most of the services we provide for these local government clients are through on-call contracts like this one. We currently hold 23 on-call engineering contracts with agencies in South Carolina; so we have extensive experience working with clients to deliver every project on-time and within budget. We've held many of these on-call contracts for two or three contract cycles. Why? Stantec knows and understands how to work as an extension of your staff to effectively scope and execute projects small and large. We have the demonstrated ability to perform under tight budgets and schedules.

Another key to our team's success stems from our proven project management processes which allows us to be responsive and keep projects moving. You can be confident that when you call us with an assignment, we'll be able to mobilize a team almost as soon as we hang up the phone.



Our approach promotes early identification of project needs and clearly communicates scoping at the onset. We'll execute your task orders transparently and make the work easier for your staff.

We excel at serving local government clients. This is evident in the number of local clients we currently serve:

- Charleston County
- Town of Mount Pleasant
- City of Charleston
- Town of James Island
- City of Folly Beach
- City of Isle of Palms
- Town of Sullivan's Island
- BCDCOG
- Dorchester County
- Town of Summerville
- Berkeley County
- Town of Moncks Corner
- Georgetown County

Under these on-call services contracts, Stantec has successfully completed numerous work orders in both the planning and engineering fields. Through these contracts Stantec has developed a great working relationship with SCDOT and other reviewing agencies and understands the permitting process.

Stantec has excellent references from municipal, state, and federal clients. We take great pride in and place a high value on our long-term ongoing relationships with our clients, as evidenced by the fact that the majority of our clients are repeat customers. Below we have included our most recent SCDOT evaluation scores on this page and comments from several project managers. We are very proud that all of our scores rank above expectations and that we've received consistently high marks for responsiveness. Letters of recommendation from city, county, and other state government agencies are available upon request.

We are very proud that all our scores rank above expectations and that we've received high marks for responsiveness.

Stantec's Average Score on 15 Projects (Oct 2015)

Meets Schedule Milestones	4.5
Work Quality	4.5
Responsiveness	4.6
Budget Adherence	4.2
Contract Modifications	4.5
DBE Utilization	4.1
SCDOT Satisfaction	4.5

5.0 - Consistently Exceeds Expectations
4.0 - Occasionally Exceeds Expectations
3.0 - Meets Expectations
2.0 - Occasionally Fails to Meet Expectations
1.0 - Consistently Fails to Meet Expectations



Client Comments

From SCDOT Project Manager Comments on Consultant Evaluations...

"Stantec continues to go above and beyond expectations on coordination and delivery of several tough intersection projects. We highly value their support and would be hard-pressed to complete these projects without them."

"Stantec has been invaluable in their assistance with moving these difficult projects forward."

"Stantec's responsiveness and quality of work has been remarkable. We look forward to continuing work with Stantec..."

From President and CEO of a Charleston-Based Industrial Park... "Stantec's response times to urgent requests for proposals and their professionalism in interaction with our prospects has made them our trusted partners."

From the Project Manager for a City Government...

"[Stantec's] work has been professional and thorough, anticipating stakeholders' concerns and addressing them before they became an issue [...] Stantec did a masterful job portraying the impacts... in terms where a lay person could understand."

Availability of the Staff

Stantec assembled this team to address all tasks mentioned in the scope of services. Project success involves more than staffing; it's all about meeting your goals. That's why we plan ahead and schedule carefully so we can complete your work on time and on budget. We perform an analysis to determine that we have enough staff to perform any effort, and selected professionals will be monitored to keep them from being over-committed on other work. With this process, the town will get the staff it has been promised, and these individuals will have the time to work on their assignments. You can rest assured that Stantec will have staff available to assign to this project starting on day one.

Ability to Complete the
Project with the Proposed
Schedule

Schedule & Budget Statement

Stantec will complete the proposed scope of services by May 27, 2016 if we receive the Notice to Proceed by April 11, 2016.

We've built our practice around continually serving South Carolina communities to improve facilities and work as an extension of our clients' teams. Under these on-call services contracts, Stantec has successfully completed numerous work orders in both the planning and engineering fields. We currently hold 23 on-call engineering contracts with 13 agencies in South Carolina, so we have extensive experience working with clients to deliver projects on time and within budget.

The Town of Sullivan's Island is an important client for us. We greatly value our relationship with you. We respect your time and want to be your trusted advisors. We'll accomplish this by keeping staff apprised of project needs and details. During project design, we will address all project details for you. When we make a design phase submittal, we will specifically identify key issues that require your attention. That way you can maximize your efforts by focusing on items that warrant your decision making.

Project Management Framework

To help us manage multiple project assignments simultaneously, we use a Project Management Framework document which identifies a number of critical elements that contribute to the delivery of a successful project. These elements include:

Project Scoping. At the start of every work order, we thoroughly investigate the assignment and properly document all work items needed.

Value Budgeting. We develop a realistic budget on the first submittal, identifying staff hours by category required for the effort. It is our goal to bring excellent value to the project (in other words, excellent work for reasonable consultant fees.)

Schedule Adherence. A reasonable schedule is developed during project scoping and maintained throughout the project. The project manager works to anticipate potential delays so they can be minimized.

Project Communications. Open and frequent communications between the client, applicable permitting and local agencies, and the Stantec project manager will occur. Communications is typically done through project meetings, phone calls, emails, and monthly progress reports. Documentation for all communications will be kept in the project file.

Quality Assurance Reviews. Each project deliverable will be reviewed by an independent landscape architect or engineer qualified in that particular area prior to any submittal. That way, the client only receives well-developed and executed plans for review.



Why Stantec?

Throughout this submittal, we've shown you that we're a firm with a great deal of experience stormwater and drainage improvements.

Following is a recap of the top reasons to consider renewing Stantec for this contract.

- ✓ **We know Sullivan's Island.** We are grateful for recent opportunity to assist the town with traffic/parking project. This project and those for other clients have helped us to not only know the area, but to also understand the town's needs.
- ✓ **Significant local experience with all scope items.** The range of our local experience delivering stormwater and drainage improvements means there's no challenge we haven't already addressed. We'll be able to handle any tasks that comes out from this contract, no matter how simple or complex the assignment.
- ✓ **Positive client feedback.** We take pride in our work and that shows in our evaluation scores. We strive to exceed your expectations, particularly when it comes to work quality and responsiveness. We encourage you to contact our clients about the services we have provided them.
- ✓ **PM Bryan Kizer, PE has a successful history of completing similar projects in the Charleston area.** As demonstrated in this submittal, Bryan has managed drainage projects in Charleston and the surrounding area.

- ✓ **The Stantec team has an ongoing relationship with local governments and agencies.** You're going to read submittals from qualified firms that have performed projects just like the ones under this contract. What separates us from the others is the number of on-call contracts we have managed, which gives us a good understanding of both the technical and management aspects of this contract. Our relationships with key local agencies, such as OCRM, USACE, SCDOT, and Charleston County, will benefit the Town of Sullivan's Island as well since they will help us push projects forward.
- ✓ **This is our kind of work!** This type of project is a key part of our business. We know how to deliver them for a reasonable cost and on schedule.





When it's essential ...it's Weston&Sampson.®
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Weston&Sampson®

environmental/infrastructure consultants

672 Marina Drive, Suite 204, Charleston, SC 29492
tel: 843-881-9804

qualifications



Town of

Sullivan's Island

SOUTH CAROLINA

Request for Proposal - Professional Services Station 18 Street Stormwater Infrastructure Condition Assessment

Request for Proposal - Professional Services for Stormwater Management Solutions at the J. Marshall Stith Park "Mound"

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March 11, 2016

Town of Sullivan's Island
Attn: Ms. Lisa Darrow
2050-B Middle Street
Sullivan's Island, SC 29482

RE: Request for Proposal – Professional Services Station 18 Stormwater Infrastructure Condition Assessment

Dear Ms. Darrow and Members of the Selection Committee:

We appreciate the opportunity to present you with our qualifications submittal for the above referenced project. In accordance with the requirements listed in the RFQ announcement, please find attached five (5) copies of our qualifications package.

Founded in 1899, Weston & Sampson is a 440 employee company, with a local office in Charleston. **We have been serving the Charleston area since 2004, and many of our Team Members have since the early 1980's.** Weston & Sampson provides public and private sector clients with a variety of environmental and infrastructure consulting services in the areas of: Stormwater, Survey, Transportation, Drinking Water, Wastewater, Hazardous Waste, Renewable Energy, Landscape Architecture, Architecture, Bridges & Culverts, Solid Waste, Geotechnical & Structural, Surface & Groundwater, Site/Civil Development, Facility Design, GIS & Mapping, Construction Services and Forensic Engineering. Concerning experience applicable to this project, the Team includes design professionals that are very experienced in all aspects of stormwater collection and management.

The Weston & Sampson Team enjoys a very good relationship with the local regulatory community and takes pride in continuing to build these relationships with every project. Our Team is on a first name basis with many members of the various regulatory staff members including the US Army Corps of Engineers, SCDHEC, SCDOT and many City and County Planning, Engineering and Public Works and maintenance Divisions throughout South Carolina.

Weston & Sampson has assembled a project team with the qualifications and experience needed to successfully provide professional engineering services for Sullivan's Island. In organizing our project team and scheduling our key personnel, we have taken into account their commitments for other projects currently underway to ensure their availability, even on concurrent project work. Upon selection, our proposed team members will be immediately available to begin work and complete the project within the required schedule.

The primary office where design efforts will take place is located at 672 Marina Drive, Suite 204, Charleston, SC. All proposed Weston & Sampson Team Members are located at this office, within close proximity to project sites on Sullivan's Island. Our subconsultant – Sanders Brothers – is also located in Charleston and will be providing CCTV and Storm Drain cleaning.

As demonstrated by our similar work for other clients and projects, Weston & Sampson has a proven record of providing quality consulting and engineering services. We will work closely with the Town to ensure that all project tasks are completed in a timely, cost-effective manner.

Weston & Sampson works hard to ensure that all deadlines are met for every project that comes through our office. We work very diligently to ensure that our projects are all completed on time and

under budget. In addition, our entire organization uses one of the most resourceful management tools available today, Deltek Vision. Vision is a comprehensive, easy to use program that ties weekly work progress, hours, project costs and progress together with project scopes and budgets. This tool combined with our weekly status reports to Clients and our weekly internal Project Status Meetings serve to make our production consistent with anticipated schedules.

Weston & Sampson believes that "anything worth doing is worth doing right". This philosophy also extends into scheduling and budgeting considerations. No matter what the project, no one likes embarrassing moments or unpleasant surprises. We believe that regularly scheduled meetings are key to the successful completion of the project. Such meetings foster good communication between the Town and Weston & Sampson, ensuring accountability in maintaining the scheduled budget. These meetings will, in effect, cause a review of the scheduled budget to occur on a regular basis.

Weston & Sampson's organizational structure and approach for your project is intended to maximize and apply the technical and management expertise represented by each team member. All of Weston & Sampson's team members are experts in their respective fields and have extensive experience in assisting clients like Sullivan's Island in solving complex engineering, planning, and environmental challenges. The project team will bring about this quality service by utilizing the in-place QA/QC and TRC programs of Weston & Sampson as the basis of a QA/QC Program. Use of checklists, procedures, and control forms should provide for continued improvements in our performance, in carrying out projects, and in providing service to our clients during all phases of a project – including construction oversight and administration. Construction support is always provided by the same project team members as those involved in design.

With over 90% of our work in the public sector, Weston & Sampson has a demonstrated record of committing the resources necessary to meet important deadlines, and will commit our resources as necessary to support your project needs. Weston & Sampson is either currently providing or has recently provided professional services for the following local agencies:

- | | |
|----------------------------------------|-------------------------------------------|
| ✓ James Island Public Service District | ✓ City of Columbia |
| ✓ Town of Summerville | ✓ City of Bishopville |
| ✓ Town of Ridgeville | ✓ Dillon County |
| ✓ City of Hanahan | ✓ Richland County |
| ✓ Berkeley County | ✓ Beaufort Jasper Water & Sewer Authority |
| ✓ Charleston Water System | ✓ Renewable Water Resources |
| ✓ Berkeley County Water & Sanitation | ✓ SCANA |
| ✓ Dorchester County Public Works | ✓ SCE&G |
| ✓ Mount Pleasant Water Works | ✓ SCDOT |
| ✓ North Charleston Sewer District | |

We appreciate the opportunity to provide professional engineering services for the Town of Sullivan's Island, and are looking forward to working with you as the project develops.

Sincerely,

Robert L. Horner, PE
 Vice President
HornerR@wseinc.com

SECTION 1 – COMPANY PROFILE

Full Name: **Weston & Sampson Engineers, Inc.**
Address: **672 Marina Drive, Suite 204, Charleston, SC 29492**
Phone: **(843) 881-9804**

Weston & Sampson is an employee-owned corporation with a local office located in Charleston. *The primary office where design efforts will take place is located at 672 Marina Drive, Suite 204, Charleston, SC. All proposed Weston & Sampson Team Members are located at this office.*

Since 1899, Weston & Sampson has been providing municipalities, public agencies, and private sector clients with cost-effective and innovative solutions to their infrastructure, utility, and environmental engineering challenges throughout the eastern United States. Weston & Sampson offers capabilities ranging from project development and planning through design, construction, and long-term operation and maintenance.

Weston & Sampson is among the **top 200 design firms in the United States** according to the *Engineering News Record* and among the **top 100 environmental firms in the United States** according to the *Engineering News Record*.

PHILOSOPHY STATEMENT AND BUSINESS FOCUS

Weston & Sampson maintains a business philosophy that dictates the delivery of conscientious engineering services with professionalism and accountability. We tailor our scope of services to meet our clients' needs and expectations in accordance with the established industry standards of care. We perform these services at a fair price while upholding the highest ethical values of the profession. Adherence to these principles has served us well since Weston & Sampson's inception in 1899. We are proud of our long history of successful projects and satisfied clients, and we look forward with great expectation and promise to the future.

The company's prime business focus is client satisfaction. Listening to and understanding client concerns, goals and expectations for the project, and then converting these thoughts and desires into a buildable and sustainable solution are key to achieving complete client satisfaction. We focus on developing innovative and cost effective solutions, quality planning and design products, and dependable, conscientious services that provide and retain value for our clients, while promoting our reputation within the market place as a leader and innovator in our field.

Our design practice is founded on a horizontal, fully collaborative team structure, conceived to derive maximum benefit from synergies that exist between our design and engineering disciplines and those of our teaming partners, and to yield a result that is truly "greater than the sum of its parts." Weston & Sampson welcomes the challenges provided by the ever changing landscape of the built and to be built environment.

When it's essential...it's Weston & Sampson

SECTION 1 – COMPANY PROFILE

SERVICE OFFERINGS

To meet the diverse needs of our clients, Weston & Sampson offers full-service capabilities to address the complex challenges of today's projects. Our areas of expertise include:

- Site/Civil Engineering
- Construction Oversight & Management
- Facility Design
- Environmental Compliance/Permitting
- Environmental Site Assessment
- Geotechnical & Structural Engineering
- Water Supply Development & Treatment
- Water Supply Pumping & Distribution
- Wastewater Collection & Treatment
- Watershed Management
- Landscape Architecture
- Architecture
- Master Planning
- Solid Waste Management
- Regulatory & Enforcement Assistance
- Renewable Energy
- Stormwater Management
- Subdivision Planning
- Survey
- Transportation & Traffic
- GIS & Mapping
- Hazardous Waste
- Operation and Maintenance

We also invite you to visit our website at www.westonandsampson.com.

RELEVANT EXPERIENCE

The majority of work completed by Weston & Sampson's staff is focused on assisting communities in developing and implementing infrastructure plans as they relate to roadways, intersections, parking areas, sidewalks, drainage, water, sewer, streetscapes, town commons and greens, schools and recreational facilities, conservation areas, and the natural environment. Our comprehensive experience with the evaluation, planning, design, and construction of infrastructure provides us the depth needed to assist our clients in meeting their project goals.

Our project team has completed the planning, design, and construction of more than:

- ✓ 28 miles of roadway improvements
- ✓ 14 miles of sidewalk, curb ramps, and crosswalk improvements
- ✓ **20 miles of drainage improvements**
- ✓ 45 miles of sewer main improvements
- ✓ 30 miles of water improvements

Weston & Sampson has provided planning, design, and construction services for more than three million feet of infrastructure related improvements over the past 10 years, and more than \$20 million of landscape related improvements over the same period of time.

Stormwater Collection and Management

Our professionals are very serious when it comes to drainage designs especially when roadways and sidewalks are involved. We understand that **efficient drainage can be a life safety issue**. We always consider off-site impacts associated with drainage as well. Computer stormwater modeling using Storm CAD, Interconnected Pond Routing or other software as required is commonplace work for our project engineers to insure that drainage projects are well planned and designed.

SECTION 1 – COMPANY PROFILE

Our design group also understands the significance of **erosion prevention** and is prepared to address pollution prevention and erosion protection throughout the project by utilizing various protective measures designed for each specific situation that may arise. **Robert L. Horner, PE** and **Taylor S. Hart, EIT** are both ***Certified Erosion Prevention and Sediment Control Specialists***. Whether planting the appropriate ground cover, installing the correct best management practice device or providing storage, Weston & Sampson is prepared to address the project needs ensuring compliance.

Weston & Sampson routinely works with MS4 entities and OCRM to permit stormwater projects. We are very familiar with the process and requirements that both OCRM and the MS4 program require for BMP design and construction. Our Team has designed numerous stormwater and BMP systems, from surveying, through design, permitting, and project close-out throughout the Lowcountry and the barrier islands.

COMMITMENT TO TIME & BUDGET

Weston & Sampson will ensure that all deadlines are met for every project that comes through our office. We work very diligently to ensure that our projects are all completed on time and on budget. In addition, our entire organization uses one of the most resourceful management tools available today, Deltak Vision. Vision is a comprehensive, easy to use program that ties weekly work progress, hours, project costs and progress together with project scopes and budgets. This tool combined with our weekly status reports to Clients and our weekly internal Project Status Meetings serve to make our production consistent with anticipated schedules and budgets, from design through construction close-out.

We have a strong commitment to providing quality and work hard to maintain our reputation associated with providing essential services on time and under budget. We monitor progress closely to ensure that incremental approvals are received from the Client thereby mitigating the need for re-designs.

SUBCONSULTANT

Sanders Brothers Construction Since the 1960s, Sanders Brothers has been a proud contributor to the Lowcountry's growth and prosperity. Our family-owned company prides itself on paving the roads and creating the infrastructure that keep this community on track. For generations, we've laid a foundation of trust. Construction companies, developers and municipalities come to us to help them accomplish important jobs, with real deadlines and bottom-lined budgets. And we do just that. Our company prides itself on doing everything from estimating to construction to recycling under one roof. Every one of our 250 employees was hired for their sharp skills, their can-do attitude and their willingness to work. What does that mean to the customer? Jobs finish on schedule, on budget, and at a high quality. And customers know exactly where the buck stops. It stops at 1990 Harley Street, Charleston, SC. Sanders Brothers will be providing CCTV and Storm Drainage cleaning for this project.



SECTION 2 – RESUMES OF KEY PERSONNEL

Weston & Sampson has assembled a project team with the qualifications and experience needed to successfully provide professional engineering services for Sullivans Island. In organizing our project team and scheduling our key personnel, we have taken into account their commitments for other projects currently underway to ensure their availability, even on concurrent project work. **Upon selection, our proposed team members will be immediately available to begin work and complete the project within the required schedule.**

The primary office where design efforts will take place is located at 672 Marina Drive, Suite 204, Charleston, SC. All proposed Weston & Sampson Team Members are located at this office, and all proposed subs are located in Charleston as well.

PROJECT MANAGEMENT



Mr. Robert L. Horner, PE, serving as **principal-in-charge**, will direct the performance of the project team, ensure technical quality, and monitor personnel assignments and allocations. A **South Carolina registered Professional Engineer**, Bob has over 30 years of experience in all aspects of water system engineering and has managed like projects for a number of municipal clients. A civil engineering graduate of The Citadel, Bob's approach to all projects includes teambuilding, integrity and determination to see projects beyond completion and well into the operational phase. Bob is talented in the development and coordination of practical and economical solutions for complex engineering problems. Bob's project experience includes stormwater studies and capacity planning, as well as sidewalk, curb and gutter design work. He has extensive experience at the Principal level management, Director level management, project management, project design, and construction administration. Bob is also a **Certified Erosion Prevention and Sediment Control Specialist**. His experience includes the design of sidewalks in conformance with ADA/AAB standards; roadway layout and geometric design; site grading and drainage; hydraulics; traffic signal study and design; and parking lot design. Bob is well versed in the design of infrastructure and stormwater improvements for towns and residential developments.

Projects of Note: Northwoods Mall Drainage Basin/Goose Creek Reservoir Stormwater Improvements; Town of Summerville CDBG West 1st North Street Sidewalk and Drainage; City of Hanahan Charleston Farms Neighborhood Stormwater Improvements; City of Bishopville CDBG Mohawk Village Renaissance Water, Stormwater and Streetscape Improvements; Dillon County CDBG Water, Wastewater and Roadway Improvements; City of Columbia Three Rivers and Colonial Life PS Replacement/Rehab; Sportsman's Island Regional Pump Station; CWS John's Island Regional 4.5 MGD Pump Station; CWS Red Top #6 Pump Station

Mr. Kipling R. Gearhart, PE, a graduate from the Citadel's Civil Engineering program and a **South Carolina registered Professional Engineer**, will serve as **project manager**. He has over 29 years of extensive experience in all aspects of civil engineering. Kip's relevant project experience includes sidewalk design, curb and gutter design, and drainage improvements, as well as extensive design of stormwater systems in residential areas. Kip has extensive experience associated with civil site design, permitting, regulatory compliance and project management. His experience includes the design of sidewalks in conformance



SECTION 2 – RESUMES OF KEY PERSONNEL

with ADA/AAB standards; roadway layout and geometric design; site grading and drainage; hydraulics; traffic signal study and design; and parking lot design.

Projects of Note: City of Bishopville CDBG Mohawk Village Renaissance Wastewater, Stormwater and Streetscape Improvements; City of Hanahan Charleston Farms Neighborhood Stormwater Improvements; McCall Center at International Blvd. Sidewalks and Stormwater system, N. Charleston; Cross County Road Connector and Stormwater system, N. Charleston; BCWS PS001 Modernization PER and Design; BJWSA Bay Street Pump Station Rehabilitation; BJWSA Duke Street Pump Station Rehabilitation; BJWSA Laurens Street Pump Station; BJWSA PS 122, 123 and 124 Rehabilitation; BCWS 2006 Pump Station Renovations, Phase 1-4; BCWS Pump Station #39 Rehab; BCWS Pump Station #129 Rehab

CIVIL ENGINEERING



Mrs. Lauren B. Carper, PE, MBA, is a Project Engineer for Weston & Sampson. Her experience includes the planning and design of water distribution systems, hydraulic modeling, wastewater collection and pumping systems, site development, roadways and stormwater management. Lauren is proficient in the use and applications of AUTOCAD CIVIL 3-D, WaterCAD, SewerCAD, Microstation/Geopak, and several other civil engineering design software packages. She also provides civil design for storm water modeling, hydraulic modeling, drainage modeling, roads, sidewalks, bridges, water distribution, water transmission, wastewater collection; land planning, subdivision design, and site plans. She also has worked with the design of various types of private and municipal systems and provides technical support for project teams.

Projects of Note: City of Bishopville CDBG Mohawk Village Renaissance Wastewater, Stormwater and Streetscape Improvements; White Road dirt road paving and outfall improvements, Charleston; SC24 Bridge Replacement, Florence; Tobacco Leaf Lane dirt road paving, Horry; Dirt road paving, roadway and drainage improvements for Horry County; Greene Street Corridor urban roadway improvements to accommodate new 170 foot bridge over existing railroad; SCDOT Enoree River Bridge and Approaches Replacement; City of Columbia Three Rivers and Colonial Life PS Replacement/Rehab; BCWS PS001 Modernization PER and Design



Mr. Jeffrey K. Carper, PE is Senior Civil Designer for Weston & Sampson with 20 years of experience in utility and infrastructure design and modeling. He also provides civil design for storm water modeling, hydraulic modeling, drainage modeling, water distribution, water transmission, wastewater collection; land planning, subdivision design, roads, sidewalks and site plans. Jeff has provided drainage system design on numerous residential and industrial projects. His projects have included drainage of roadways and parking areas, stormwater detention facilities and sedimentation and erosion control facilities. His experience with the design of urban storm sewers systems includes both hydrologic and hydraulic aspects, utilizing stormwater modeling software such as the Environmental Protection Agency's Stormwater Management Model (SWMM) and hydrologic methodologies including the rational method and SCS TR-55 among others.

SECTION 2 – RESUMES OF KEY PERSONNEL

Projects of Note: Dillon County CDBG Water, Wastewater and Roadway Improvements; Horry County River Oaks Drive roadway and drainage improvements; Horry County Carolina Forest roadway and drainage design; Storm drainage master plan for SC Advanced Technology Park in Barnwell; Drainage design and analysis for industrial complex expansion in Lugoff; Storm drainage design and analysis for new 2,500 student high school in West Ashley; Storm drainage design and analysis for Western Star Trucks manufacturing facility in North Charleston; Storm drainage design for new 3,500 student Wando High School on 100 acre tract.



Mrs. Meghan Moody, EIT is a results-oriented engineering and management professional with experience leading engineering and construction teams; analyzing construction projects, master plans and engineering surveys; and providing design, cost estimates, scopes of work, and technical recommendations for large and small projects. She has a military background including serving as Project Engineer for Naval Facilities and Engineering Command in Washington and for Camp Pendleton Air Station Public Works Department.

Projects of Note: Saltworks Construction Pedestrian Bridge; City of Hanahan Charleston Farms Neighborhood Stormwater Improvements; Northwoods Mall Drainage Basin/Goose Creek Reservoir Stormwater Improvements; BCWS PS001 Modernization PER and Design



Mr. Taylor S. Hart, EIT is Engineer I with Weston & Sampson. He is a recent graduate of The Citadel with a B.S. in Civil and Environmental Engineering. Taylor is providing design assistance to numerous projects currently, including site design, road design, water line extensions, pump station rehabilitations and many pipeline projects for SCE&G. Taylor is also a **Certified Erosion Prevention and Sediment Control Specialist**.

Projects of Note: City of Hanahan Charleston Farms Neighborhood Stormwater Improvements; Northwoods Mall Drainage Basin/Goose Creek Reservoir Stormwater Improvements



Ms. Paige M. Lux, EIT Ms. Lux is a graduate of Clemson University's Environmental Engineering Program. Paige provides design experience associated with various aspects of municipal infrastructure including hydraulics, wastewater, water treatment, environmental, stormwater and permitting. She is very efficient in the use and applications of AutoCAD, ASIM, HEC-HMS, Wepp, and Win TR-55. As a design engineer, Paige has provided support for the development of methodologies associated with data management as may be found in the evaluation of municipal infrastructure asset evaluations. Paige is also experienced with the development of Pollution Prevention Plans, Hazardous & Solid Waste Management, Watershed Hydrology and Risk Assessment.

Projects of Note: City of Hanahan Charleston Farms Neighborhood Stormwater Improvements; Northwoods Mall Drainage Basin/Goose Creek Reservoir Stormwater Improvements

SECTION 2 – RESUMES OF KEY PERSONNEL

SURVEYING



Mr. Joseph O. Eelman, PE, PLS, a graduate from the Citadel's Civil Engineering program and a **South Carolina Registered Professional Land Surveyor**, has over 26 years of extensive experience in all aspects surveying. Joe provides surveying services for municipal, industrial, commercial and residential projects. Joe has extensive experience with the challenges associated with surveying in all types of situations from densely built cities and neighborhoods to secluded wooded areas, wetlands, and hydrographic. Joe also has extensive experience associated with water, wastewater, roads, and civil site design.

PERMITTING / PROJECT COORDINATION



Mrs. Lisa Horner will be providing permitting and project coordination services for this project. She is extremely proficient in local, state, regional and federal permitting ordinances and requirements, and has successfully receive countless SCDOT encroachment permits, OCRM land disturbance permits and SCDHEC wastewater and water construction permits. Lisa is on a first name basis with many members of the various regulatory staff, including those at SCDOT, SCDHEC and OCRM, as well as many City and County Planning, Engineering and Public Works and maintenance Divisions throughout South Carolina.

Background

August 2013 - Current
Vice President, Program Manager
Weston & Sampson

May 2010 - August 2013
Senior Associate, Program Manager
Weston & Sampson

July 2004 - May 2010
Principal
HEG, LLC

October 1997 - August 2004
Director of Design & Construction
Charleston Commissioners of Public
Works

September 1989 - October 1997
Engineering Manager
Charleston Commissioners of Public
Works

June 1986 - September 1989
Associate Engineer
Charleston Commissioners of Public
Works

June 1985 - June 1986
Associate Engineer
Nivens Engineering, Inc.

Education

1985
B.S. Civil Engineering
The Citadel, Charleston, SC

1982
B.S. Biology
The Citadel, Charleston, SC

Professional Registrations

Professional Engineer:
South Carolina 13416
North Carolina 032786
Georgia 034969
Ohio 75111

Certified Erosion Prevention &
Sediment Control Inspector, 0568

Papers & Presentations

March 2010
"Team Approach for the Design
of a 4.5 MGD Wastewater Pump
Station," Published by AWWA/WEA
and presented at South Carolina
Environmental Conference

2009
"Ethical Behavior and Integrity in
Engineering," Published by South
Carolina Society Of Professional
Engineers

EXPERIENCE

Mr. Horner has more than 30 years of engineering design and leadership experience. Bob has an in-depth understanding of the public works industry having worked as an Engineer, Engineering Manager and Director of Design & Construction for the Charleston Commissioners of Public Works collectively for eighteen years. Bob has extensive experience with the conceptual development and detailed designs for large public works projects, including public relations, easement acquisitions, community impact mitigation and public acceptance. Bob's project experience includes all aspects of rehabilitation and design for roads, bridges, sidewalks, parking lots and drainage systems.



A civil engineering graduate of The Citadel, Bob's approach to all projects includes teambuilding, integrity and determination to see projects beyond completion and well into the operational phase. Bob is talented in the development and coordination of practical and economical solutions for complex engineering problems.

SPECIFIC PROJECT EXPERIENCE

Charleston National Drainage Improvements, Mt. Pleasant, SC, Weston & Sampson is currently working with the Charleston National Country Club and the Charleston National Owners' Association to study drainage for the Charleston National area to develop ways for improving sustainability, reduction of salt water intrusion into the stormwater & Irrigation system and to confirm drainage capacity for significant storm and tidal events. This includes coordination with the Town of Mount Pleasant Stormwater Division and other regulatory entities.

Northwoods Mall Drainage Basin-Goose Creek Reservoir Drainage Improvements, Charleston, SC, Weston & Sampson was selected to evaluate alternatives and implement drainage improvements for a portion of the Goose Creek Reservoir adjacent to Northwoods Mall and US Highway 52 in the City Of North Charleston. The project included evaluating alternatives for improving drainage, selection of the most effective alternative, developing project plans and acquiring easements and project permits through the US Army Corps of Engineers, North Charleston Public Works, OCRM and SCDOT. The project is currently under construction.

CWS John's Island Regional Pump Station and Force Main, John's Island, SC, Weston & Sampson was retained by Charleston Water System to develop the route and plans for a new trunk sewer main, 7,000 linear feet of 14" Force Main, 10,000 linear feet of 16" & 18" and 24" Gravity Pipeline, and a 4.5 MGD pump station to serve a large basin area on Johns Island. The project scope includes route surveys, Hydraulic modeling, stormwater management, development of plans, easement acquisitions, permitting, geotechnical investigation, cultural resources study, coordination with the City of Charleston, Charleston County, SC DOT, SCANA / SCE&G, and multiple private land owners. Wetlands permitting included critical areas, jurisdictional and non-jurisdictional areas as well as mitigation.

Felder Creek Pump Station and Drainage Basin, Berkeley County, SC, Weston & Sampson was retained to provide engineering services for the Felder Creek Drainage Basin in

Papers & Presentations

2004

"Digging for Solutions,"

Published by WE&T Magazine

Co-Authors: Kipling R. Gearhart, PE,

Joe Eelman, PE, PLS, Jason Swartz,

EIT, James McKelvey, PE, Clay Haynes,

PE, Ray Brainard, PE

Professional Societies

American Society of Civil Engineers

American Water Works Association

Berkeley Chamber of Commerce

Charleston Chamber of Commerce

Civil Engineers Club of Charleston

South Carolina Biomass Council

South Carolina Economic Developers

Association

South Carolina Water Quality

Association (President 2003-2004)

Trident Professional Park Board

(President 1996-1998)

Water Environment Federation

WateReuse Association

Water for People

Berkeley County, South Carolina. The purpose of this project was to plan improvements for continued development within the Berkeley County/Felder Creek/Jedburg Road area. Study parameters included water quality, identification of available storage, planned storage, floodway impacts, and US Army Corps of Engineers permitting. Weston & Sampson professionals performed the original topographic surveys as well as identified the drainage basins affected by the overall project. In addition, we also evaluated the off-site impacts to drainage and incorporated those into a drainage model through hydraulic modeling to determine the cumulative effects of various rainfall events, such as 5 year, 10 year and 25 year storms on existing and proposed drainage improvements in the area. Recommendations were reviewed and approved by SCDHEC, OCRM, Berkeley County Public Works, the US Army Corps of Engineers and SCDOT. Improvements were constructed and are currently in service. The project was completed on-time and under budget.

CWS RT6 Pump Station, Charleston, SC, Weston & Sampson was retained to provide design services, including the evaluation of alternatives for replacement and relocation of an existing suction lift pump station to provide additional depth and capacity enabling service to a larger area by gravity extensions. The project included Surveying, Easement plat development, Appraisals, Easement acquisitions, Design, Permitting (SCDOT, Charleston County, SCDHEC, OCRM, CSX Railroad), Bidding, Construction administration, Inspection for a 1000 GPM pump station, 18 inch gravity main, and 10 inch force main, Hydraulic modeling, and Coordination with area residents.

West 1st North Street Sidewalk & Drainage Improvements, Weston & Sampson was selected through a competitive bid process to provide design for a new sidewalk on West 1st North Street in the Town of Summerville. The project included the installation of a 5 foot sidewalk and gutter section along West 1st North Street, between Maple Street and Bryan Street. The design included curb and gutter, sidewalk, drainage improvements and sediment and erosion control measures. The project was funded through a Community Development Block Grant, so communication with the Berkeley-Charleston-Dorchester Council of Governments was important in order to ensure all standards of the grant were met.

James Island Hydraulic Model, James Island, SC, Project included evaluation of existing infrastructure capacity and ability to handle future growth due to infill growth and new development expected in this suburban area of James Island, SC. A hydraulic model was developed for 60 pump stations using geometry from system GIS data. Pump drawdown tests were performed to assess existing pump station capacities and to help calibrate the model, along with site inspections to assess conditions and confirm design drawings. Extended period model simulations were performed with pump capacities in model adjusted to fit the draw down tests. Rainfall and tide records were analyzed as part of evaluating and quantifying infiltration / inflow impacts. Overall project analysis resulted in the recommendation of three pump station capacity increases, one force main capacity increase and several pump station / force main rehabs.

Residential Drainage Design for Wild Wing Plantation, Horry County, SC

Residential Drainage Design for Isaiah Townhomes, Hampton County, SC

Residential Drainage Design for Eagle Run, Dorchester County, SC

Residential Drainage Design for Stonoview, Charleston County, SC

Residential Drainage Design for Kings Flats, Charleston County, SC

Residential Drainage Design for Nelliefield Plantation, Berkeley County, SC

Residential Drainage Design for Palmetto Place Condominiums, Berkeley County, SC

Residential Drainage Design for College Park Village, Berkeley County, SC

Residential Drainage Design for Bridlewood Farms, Dorchester County, SC

Residential Drainage Design for Staffordshire, Charleston County, SC

Residential Drainage Design for Royal Oaks, Berkeley County, SC
Residential Drainage Design for Medway Landing, Berkeley County, SC
Residential Drainage Design for Tranquil Hill, Dorchester County, SC
Residential Drainage Design for Brightwood, Berkeley County, SC
Residential Drainage Design for South Cove at Tanner Plantation, Berkeley County, SC
Residential Drainage Design for Maple Ridge at Sangaree, Berkeley County, SC
Residential Drainage Design for Indigo Palms Phase IV, Charleston County, SC
Residential Drainage Design for Riverland Park, Charleston County, SC
Residential Drainage Design for Von Ohsen, Charleston County, SC

City of Hanahan Sidewalk & Drainage Improvements, Weston & Sampson was selected through a competitive process to provide design for a new sidewalk in the Charleston Farms Community in Hanahan, SC. The project includes the installation of a 5 foot wide sidewalk that will extend the entire length of Berkeley Street from North Murray to the western end (approximately 1,520 SY). The design included curb and gutter, sidewalk, associated street improvements, drainage improvements and sediment and erosion control measures. To meet SCDOT standards, the sidewalk required the installation of curb and gutter along areas where a 5' safety buffer could not be provided between the edge of the pavement and the right-of-way. Sidewalk improvements will also include associated pedestrian crossing signage and limited landscaping. Storm drainage improvements that entail piping the existing stormwater ditch at the intersection of Berkeley Street and Corner Avenue. Currently there is a 48" culvert that runs beneath Berkeley Street. The proposed improvement would add a new 48" pipe to replace the ditch section in this area. The project is funded through a Community Development Block Grant, so communication with the Berkeley-Charleston-Dorchester Council of Governments is important in order to ensure all standards of the grant are met. Engineering was designed in accordance with SCDOT Highway Design Manual and SCDOT Standard Specifications for Highway Construction. W&S performed project management, construction administration, and construction inspection to ensure compliance.

Background

May 2010 - Present
Senior Associate, Team Leader
Weston & Sampson

July 2004 - May 2010
Principal
HEG, LLC

November 1997 - July 2004
Engineering Manager
Charleston Commissioners of Public Works

March 1997 - November 1997
Associate Engineer
Charleston Commissioners of Public Works

February 1997 - March 1997
Engineering Department Head
Berkeley County Water & Sanitation Authority

May 1986 - March 1997
Project Engineer
Davis & Floyd, Inc. - Consulting Engineers

Education

1986
B.S. Civil Engineering
The Citadel, Charleston, SC

Professional Registration

South Carolina PE, 17309

NASSCO Certifications
PACP, MACP, LACP

Papers & Presentations

2015
"Study Approach to Modernizing a 28 MGD WWPS - BCWS PS001"
Presented at the AWWA/WEA South Carolina Environmental Conference

2012
"VA Hospital Water Main Replacement - A New WM Under the Hospital?"
Presented at the AWWA/WEA South Carolina Environmental Conference

2011
"Longpoint Road 12" Force Main Evaluation - An Innovative Approach"
Presented at the AWWA/WEA South Carolina Environmental Conference

EXPERIENCE

Mr. Gearhart, a graduate of The Citadel's Civil Engineering program, has over twenty-nine years of experience in the design of transportation related projects, including highway and bridge projects; isolated and coordinated traffic signal design projects; and traffic impact analyses for commercial and residential development. His responsibilities include design, environmental permitting, oversight of design, client and agency coordination, budget management, and public presentation. As part of this work, he has become well-versed in the design of mitigation measures for site impacts on wetlands and traffic impacts on existing highways.

**SPECIFIC PROJECT EXPERIENCE**

Charleston National Drainage Improvements, Mt. Pleasant, SC, Weston & Sampson is currently working with the Charleston National Country Club and the Charleston National Owners' Association to study drainage for the Charleston National area to develop ways for improving sustainability, reduction of salt water intrusion into the stormwater & Irrigation system and to confirm drainage capacity for significant storm and tidal events. This includes coordination with the Town of Mount Pleasant Stormwater Division and other regulatory entities.

Northwoods Mall Drainage Basin-Goose Creek Reservoir Drainage Improvements, Charleston, SC, Weston & Sampson was selected to evaluate alternatives and implement drainage improvements for a portion of the Goose Creek Reservoir adjacent to Northwoods Mall and US Highway 52 in the City Of North Charleston. The project included evaluating alternatives for improving drainage, selection of the most effective alternative, developing project plans and acquiring easements and project permits through the US Army Corps of Engineers, North Charleston Public Works, OCRM and SCDOT. The project is currently under construction.

PS001 Modernization Study and Design, Berkeley County, SC, Description: Weston & Sampson was selected through a competitive process to provide engineering services for the Berkeley County Water & Sanitation PS 001 Renovation project. PS001 is a critical asset to BCWS – it is the largest pump station in the BCWS wastewater system, delivering over half of the influent flow to the Lower Berkeley Wastewater Treatment Plant (LBWWTP). The station is constructed with four (4) large submersible pumps - (2) Flygt CP-3311 at 248 HP, (2) Flygt CP-3312 at 240 HP) - which have a design capacity of 19,375 gallons per minute with three pumps in operation while PS 002 is in operation and the force main interconnection between PS001 and PS002 is open. Each of the (4) pumps discharges into an individual 16-inch force main within the wet well and then manifolds into a common 30-inch manifold header. Flow from the pumping system then passes through approximately 17,000 LF of 30-inch diameter force main and discharges into the LBWWTP headworks. The station has been in operation for 18 years (1994) and in recent years, pump failures have been occurring, resulting in expensive pump rebuilds. The station has also experienced damage and negative impacts caused by hydrogen sulfide related corrosion. Within the past year Weston & Sampson has completed a comprehensive report identifying the problems and providing clear resolution and direction for PS001 Renovations. This included a hydraulic model to identify capacity of existing mains and to model various alternatives for improvements.

Papers & Presentations

2011

"BCWS Pump Station Renovation - A Construction F.E.A.T"
Presented at the AWWA/WEA South Carolina Environmental Conference

2010

"Interior Pipe Lining & Wetwell Lining for Corrosion Prevention in Wastewater Applications"
Published by AWWA/WEA South Carolina Environmental Conference

2010

"Optimizing Wastewater System Pumping for Energy Conservation Using a Hydraulic Model"
Published by AWWA/WEA South Carolina Environmental Conference

2004

"Digging for Solutions"
Published by WE&T Magazine
Co-Authors: Robert L. Horner, PE, Joe Eelman, PE, PLS, Jason Swartz, EIT, James McKelvey, PE, Clay Haynes, PE, Ray Brainard, PE

Professional Societies

American Society of Civil Engineers
American Water Works Association
Berkeley Chamber of Commerce
Charleston Chamber of Commerce
Civil Engineers Club of Charleston
South Carolina Water Quality Association
Water Environmental Association

Felder Creek Pump Station and Drainage Basin, Berkeley County, SC, Weston & Sampson was retained to provide engineering services for the Felder Creek Drainage Basin in Berkeley County, South Carolina. The purpose of this project was to plan improvements for continued development within the Berkeley County/Felder Creek/Jedburg Road area. Study parameters included water quality, identification of available storage, planned storage, floodway impacts, and US Army Corps of Engineers permitting. Weston & Sampson professionals performed the original topographic surveys as well as identified the drainage basins affected by the overall project. In addition, we also evaluated the off-site impacts to drainage and incorporated those into a drainage model through hydraulic modeling to determine the cumulative effects of various rainfall events, such as 5 year, 10 year and 25 year storms on existing and proposed drainage improvements in the area. Recommendations were reviewed and approved by SCDHEC, OCRM, Berkeley County Public Works, the US Army Corps of Engineers and SCDOT. Improvements were constructed and are currently in service. The project was completed on-time and under budget.

West 1st North Street Sidewalk & Drainage Improvements, Weston & Sampson was selected through a competitive bid process to provide design for a new sidewalk on West 1st North Street in the Town of Summerville. The project included the installation of a 5 foot sidewalk and gutter section along West 1st North Street, between Maple Street and Bryan Street. The design included curb and gutter, sidewalk, drainage improvements and sediment and erosion control measures. The project was funded through a Community Development Block Grant, so communication with the Berkeley-Charleston-Dorchester Council of Governments was important in order to ensure all standards of the grant were met.

James Island Hydraulic Model, James Island, SC, Project included evaluation of existing infrastructure capacity and ability to handle future growth due to infill growth and new development expected in this suburban area of James Island, SC. A hydraulic model was developed for 60 pump stations using geometry from system GIS data. Pump drawdown tests were performed to assess existing pump station capacities and to help calibrate the model, along with site inspections to assess conditions and confirm design drawings. Extended period model simulations were performed with pump capacities in model adjusted to fit the draw down tests. Rainfall and tide records were analyzed as part of evaluating and quantifying infiltration / inflow impacts. Overall project analysis resulted in the recommendation of three pump station capacity increases, one force main capacity increase and several pump station / force main rehabs.

Residential Drainage Design for Wild Wing Plantation, Horry County, SC
Residential Drainage Design for Isaiah Townhomes, Hampton County, SC
Residential Drainage Design for Eagle Run, Dorchester County, SC
Residential Drainage Design for Stonoview, Charleston County, SC
Residential Drainage Design for Kings Flats, Charleston County, SC
Residential Drainage Design for Nelliefield Plantation, Berkeley County, SC
Residential Drainage Design for Palmetto Place Condominiums, Berkeley County, SC
Residential Drainage Design for College Park Village, Berkeley County, SC
Residential Drainage Design for Bridlewood Farms, Dorchester County, SC
Residential Drainage Design for Staffordshire, Charleston County, SC
Residential Drainage Design for Royal Oaks, Berkeley County, SC
Residential Drainage Design for Medway Landing, Berkeley County, SC
Residential Drainage Design for Tranquil Hill, Dorchester County, SC
Residential Drainage Design for Brightwood, Berkeley County, SC
Residential Drainage Design for South Cove at Tanner Plantation, Berkeley County, SC
Residential Drainage Design for Maple Ridge at Sangaree, Berkeley County, SC

KIPLING R. GEARHART, P.E.

Senior Associate, Team Leader

Residential Drainage Design for Indigo Palms Phase IV, Charleston County, SC
Residential Drainage Design for Riverland Park, Charleston County, SC
Residential Drainage Design for Von Ohsen, Charleston County, SC

City of Hanahan Sidewalk & Drainage Improvements, Weston & Sampson was selected through a competitive process to provide design for a new sidewalk in the Charleston Farms Community in Hanahan, SC. The project includes the installation of a 5 foot wide sidewalk that will extend the entire length of Berkeley Street from North Murray to the western end (approximately 1,520 SY). The design included curb and gutter, sidewalk, associated street improvements, drainage improvements and sediment and erosion control measures. To meet SCDOT standards, the sidewalk required the installation of curb and gutter along areas where a 5' safety buffer could not be provided between the edge of the pavement and the right-of-way. Sidewalk improvements will also include associated pedestrian crossing signage and limited landscaping. Storm drainage improvements that entail piping the existing stormwater ditch at the intersection of Berkeley Street and Corner Avenue. Currently there is a 48" culvert that runs beneath Berkeley Street. The proposed improvement would add a new 48" pipe to replace the ditch section in this area. The project is funded through a Community Development Block Grant, so communication with the Berkeley-Charleston-Dorchester Council of Governments is important in order to ensure all standards of the grant are met. Engineering was designed in accordance with SCDOT Highway Design Manual and SCDOT Standard Specifications for Highway Construction. W&S performed project management, construction administration, and construction inspection to ensure compliance.

City of Bishopville Mohawk Village Renaissance Phase II, Bishopville, SC
Weston & Sampson was chosen through a competitive bid process to provide engineering services for sewer improvements, drainage improvements, and streetscape improvements for the City of Bishopville's Mohawk Village Renaissance project, funded through Community Development Block Grant (CDBG) funds.

Charleston Water System, Plum Island Grit Handling, Charleston, SC, CWS was consolidating stormwater flows to prevent several areas of the plant site from draining into the marsh. Weston & Sampson developed a plan to redirect stormwater inlets to gravity lines that were originally installed to support basin overflows. This enabled stormwater flows from several areas of the plant site to enter the treatment process prior to discharge. A pump station was also provided to serve as a septage receiving station as well as a stormwater pump station.

East Cooper Baptist Church Expansion, Mt Pleasant, SC, Weston & Sampson was retained by East Cooper Baptist Church to develop civil plans for waterline relocations, storm drainage relocations, parking lot layout, grading and storm drainage design, including all necessary site details. This scope is part of an expansion of the current building to include a new gymnasium and expanded parking lot. Weston & Sampson also prepared a drainage report and completed permitting through Mt. Pleasant Water Works, SC DHEC and OCRM.

Hawk Construction, Ozark Office Building, Charleston, SC
Weston & Sampson was selected by Hawk Construction to provide site planning, landscape design, drainage and erosion control design, and permitting for this commercial office building. We provided topographic surveying, assistance to the architect with conceptual planning, and ultimately developed the permit drawings for all regulatory agencies including the City of North Charleston.

Background

January 2015-Present
Project Manager
Weston & Sampson

February 2013-December 2014
Project Engineer
Weston & Sampson

2003-2013
Civil Engineer / Project Manager
HGBD, Inc.
2001-2002
Student Work
Clemson Environmental Eng. Dept.

Education

Bachelor of Science / Civil
Engineering / Clemson University
2002

Master of Business Administration
The Citadel, 2006

Professional Registration

South Carolina PE, 26131

NASSCO: PACP, MACP, LACP

Haestad Methods Certified Master
Modeler for Water Distribution
Systems / 2004

Professional Societies

American Society of Civil Engineers
AWWA

EXPERIENCE

Mrs. Carper is a Project Manager for Weston & Sampson. Her experience includes over 12 years of planning and design of water distribution systems, hydraulic modeling, wastewater collection and pumping systems, site development, roadways and stormwater management. Lauren is proficient in the use and applications of AUTOCAD CIVIL 3-D, WaterCAD, SewerCAD, Microstation/Geopak, and several other civil engineering design software packages. She also provides civil design for storm water modeling, hydraulic modeling, drainage modeling, water distribution, water transmission, wastewater collection, wastewater pumping; land planning, subdivision design, roads and site plans. She has worked with the design of various types of private and municipal water and wastewater systems and provides technical support for project teams.



SPECIFIC PROJECT EXPERIENCE

Collier County, FL Treviso Bay Pumping & Force Main Analysis, Project Engineer responsible for modeling (SEWER GEMS) and analyzing the pumping and force main system within the Treviso Bay subdivision.

Charleston National Drainage Improvements, Mt. Pleasant, SC, Weston & Sampson is currently working with the Charleston National Country Club and the Charleston National Owners' Association to study drainage for the Charleston National area to develop ways for improving sustainability, reduction of salt water intrusion into the stormwater & Irrigation system and to confirm drainage capacity for significant storm and tidal events. This includes coordination with the Town of Mount Pleasant Stormwater Division and other regulatory entities.

Northwoods Mall Drainage Basin-Goose Creek Reservoir Drainage Improvements, Charleston, SC, Weston & Sampson was selected to evaluate alternatives and implement drainage improvements for a portion of the Goose Creek Reservoir adjacent to Northwoods Mall and US Highway 52 in the City Of North Charleston. The project included evaluating alternatives for improving drainage, selection of the most effective alternative, developing project plans and acquiring easements and project permits through the US Army Corps of Engineers, North Charleston Public Works, OCRM and SCDOT. The project is currently under construction.

Three Rivers and Colonial Life Pump Station Rehabilitations, City of Columbia, SC, Contracted by City of Columbia and Clean Water 2020 to provide professional surveying and engineering services for the evaluation of, design, and construction for the rehabilitation and/or replacement of the Three Rivers Pump Station and the Colonial Life Pump Station. Scope includes evaluation of both stations including all equipment and components, operating conditions, aesthetics, existing capacity and potential future capacity needs based on the sewer area that can be served by these stations. Engineer will prepare an evaluation report stating recommendations and cost estimates. Upon approval by City of Columbia, proceed with design services, and follow with construction phase services.

Spartanburg Sanitary Sewer District (SSSD) 42" Pigging Project, Spartanburg, SC
Project scope included the design of a 42" FM Pig Launch at Lawson's Fork PS and retrieval at Fairforest WWTP, Contractor Pre-qualification, bidding assistance, construction administration and inspection.

Berkeley County Water & Sanitation (BCWS) PS 001 Modernization Report and Subsequent Design Phase, Berkeley County, SC

Weston & Sampson was part of the project team that was selected for the design of PS 001 Modernization Study and Report. Weston & Sampson provided overall technical expertise, oversight, project management and coordination for the entire study. Weston & Sampson conducted hydraulic modeling, and worked closely with Clemson Engineering Hydraulics to conduct physical modeling, and with Webster Environmental Associates to develop alternative and recommendations to minimize odor and corrosion. A detailed Technical Memorandum was developed for each of the key pump station components and provided with our recommendations for a systematic implementation plan. We were then selected through a competitive process to complete the Design of the PS Modernization, which is now underway.

City of Bishopville Mohawk Village Renaissance Phase II, Bishopville, SC

Weston & Sampson was chosen through a competitive bid process to provide engineering services for sewer improvements, drainage improvements, and streetscape improvements for the City of Bishopville's Mohawk Village Renaissance project, funded through Community Development Block Grant (CDBG) funds.

SCANA, All over South Carolina, Multiple gas main and regulator station design and permitting.

Jedburg Commerce Park Water and Sewer Design, Jedburg, SC: Project included surveying and design for the installation of water and sewer mains.

Beresford Hall Subdivision water and wastewater system design, Charleston, SC

Al-Baha and Northern Borders Wastewater Master Plan for the Kingdom of Saudi Arabia

Coordination and design of five shallow microtunnel and open cut connection routes throughout downtown Charleston in conjunction with Charleston Water System's Cooper River Sewer Tunnel Replacement Project

Background

January 2015-Present
Project Manager
Weston & Sampson

February 2013-December 2014
Senior Civil Designer
Weston & Sampson

2010-2013
Engineer IV / Sr. Project Manager
HGBD, Inc.

2007-2010
Engineer III, Project Manager
HGBD, Inc.

2004-2007
Engineer II
HGBD, Inc.

2001-2004
Engineer I
HGBD, Inc.

1994-2001
Technician
HGBD, Inc.

Education

Civil Engineering / The Citadel
1988-1992

Basic Stormwater Drainage Design
Clemson University / 1996

Stormwater Detention Basin Design
Clemson University / 1996

GEOPAK V7 to V8 Migration / Bentley
Institute / 2008

GEOPAK Road 1 / Bentley Institute
2008

GEOPAK Site 1 / Bentley Institute
2008

Professional Registration

North Carolina PE 041991

Professional Societies

American Water Works Association

EXPERIENCE

Mr. Carper is Project Manager with Weston & Sampson. He has experience in utility and infrastructure design and modeling. He also provides civil design for storm water modeling, hydraulic modeling, drainage modeling, land planning, subdivision design, roads, sidewalks and site plans. Mr. Carper has provided roadway and sidewalk design on numerous SCDOT, residential, industrial, city and county road projects. His projects have included design of low volume minor streets as well as multi-lane urban collector roads and highways. He has had responsibility for the development of typical sections, horizontal and vertical design, hydraulic design and calculation of quantities. Mr. Carper has provided drainage system design on numerous residential and industrial projects. His projects have included drainage of roadways and parking areas, stormwater detention facilities and sedimentation and erosion control facilities.



SPECIFIC PROJECT EXPERIENCE

Dillon County EDA Roads, Water and Sewer Improvements, Dillon County, SC
Weston & Sampson was awarded through a competitive bid process an EDA-funded project for Dillon County to design improvements to roadways, waterline and sewerline. The project includes improvements to approximately 5,200 LF of 3 lane roadway, 3,000 LF of 2 lane roadway and 3,000 LF of other roadway improvements. The project also includes approximately 5,600 LF of 12" water main relocation and 1,000 LF of wastewater improvements.

Dillon County Phase 1 Road Improvements to support HFT Expansion, Dillon County, SC
Weston & Sampson is providing infrastructure design support for the 1mil. Sqft expansion of the Harbor Freight Tools (HFT) Warehouse Facility within the I-95 Gateway Industrial Park. Civil design services include design, permitting and construction of a new security access entrance for inbound/outbound truck traffic at the warehouse facility, re-alignment of the Industrial Park boulevard to provide vehicular access to the balance of the Park, extension of both the water and sewer systems to support both the HFT expansion and the Park as a whole, as well as improvements to SC-34 and the overall storm drainage system to accommodate current and on-going needs of the this successful Economic Development project. Additionally, Weston & Sampson is updating the I-95 Gateway Industrial Park Master Plan to provide the Tri-County Economic Development team marketing materials to reflect the current build-out and potential future development possibilities.

SCDOT Relocation of South Aviation Avenue, N. Charleston, SC: The project involves the relocation and improvement of approximately one (1) mile of road to accommodate the new Boeing Commercial Airplane Facility adjacent to the Charleston International Airport. Improvements include widening the existing two-lane facility to a divided four-lane section to support the increased traffic associated with the production facility. A new traffic signal has been designed at the plant entrance and modifications have been made to the existing traffic signal at the International Boulevard and South Aviation intersection.

Horry County Road Improvement Program, River Oaks Drive Roadway Improvements, Horry County, SC: 4.8 miles of roadway improvements, portions of widening from two to four lane divided highway, drainage design, and final construction plans.

JEFFREY K. CARPER, P.E.

Project Manager

Horry County Road Improvement Program, Carolina Forest, Horry County, SC: 5.6 miles of roadway improvements, portions of widening from two to four lane divided highway, drainage design, and final construction plans.

Horry County Road Improvement Program, Tobacco Leaf Lane, Horry County, SC: 1.4 miles of roadway improvements, portions of widening from two to four lane divided highway, drainage design, and final construction plans.

South Carolina Advanced Technology Park, Barnwell, SC, Jeff provided a storm drainage master plan for this 1,680 acre industrial park.

Greene Street Corridor, Columbia, SC: The engineering design services included complete preliminary and final design for improvements to 0.4 miles of an existing urban roadway section including modifications to accommodate the construction of a new 170 foot bridge over an existing railroad right-of-way. The design effort involved geometric and hydraulic design, utility coordination, conceptual design of the bridge, and the preparation of final right-of-way plans. The survey effort involved establishing control and completing both topographic and property surveys.

US Highway 278 Widening, Beaufort, SC: Design Engineer providing survey and design to Beaufort County, South Carolina for improvements to U.S. Highway 278. Responsibilities included conceptual layout, surveying, database preparation, preliminary plans, right-of-way plans and final construction plans. The project widened the existing four-lane road to a six-lane road with turn lanes and acceleration and deceleration lanes. Coordination with the South Carolina Department of Transportation was also provided.

River Oaks Drive Roadway Improvements, Horry County, SC: 4.8 miles of roadway improvements, portions of widening from two to four lane divided highway, drainage design, and final construction plans.

Butterfly Lane Charleston Transportation Committee (CTC) paving project, Charleston County CTC

International Boulevard/Michaux Parkway Intersection Improvements, Charleston Aviation Authority/Boeing

South Aviation Avenue Realignment, Charleston Aviation Authority/Boeing

Burnt Church Road widening and turn lane improvements, Beaufort County, SC

Carolina Forest, Horry County, SC: 5.6 miles of roadway improvements, portions of widening from two to four lane divided highway, drainage design, and final construction plans.

Beresford Hall Subdivision, Charleston, SC: Residential Road Design - 5.3 Miles

Dunes West Subdivision, Phase II, Mt. Pleasant, SC: Storm drainage master plan for 540 acre residential community.

Hope Plantation, Charleston, SC: Comprehensive drainage analysis of existing 360 acre residential golf community to assess problem areas as well as future needs.

West Ashley High School, Charleston, SC: Storm drainage design & analysis for new 2,500 student high school.

Carrington Place Apartments, Mt. Pleasant, SC: Storm drainage design & analysis for multifamily development.

JEFFREY K. CARPER, P.E.

Project Manager

The Preserve at Indigo Run, Hilton Head Island, SC: Storm drainage design & analysis for multifamily project on a 55 acre tract.

Wando High School, Mt. Pleasant, SC: Storm drainage design & analysis for new 3,500 student high school on a 100 acre tract.

Western Star Trucks, North Charleston, SC
Scope included storm drainage design & analysis for new truck manufacturing facility.

Mancor Industries, Lugoff, SC
Scope included drainage design & analysis for industrial complex expansion.

Brock Built Homes Stonoview Plantation, Johns Island, SC
Weston & Sampson provided infrastructure design services for this 165 lot single family residential community in Charleston, South Carolina. Project scope for this project includes civil design, permitting, project management, and construction administration for this 165 lot residential community, including the installation of approximately: 9,347 linear feet (lf) of 8-inch gravity sewer line and 63 manholes, 10,687 lf of 8-inch water main and 15 hydrants, 10,700 lf of roads, 21,400 lf of sidewalks, Traffic study and a Drainage system.

SCANA, All over South Carolina, Multiple gas main and regulator station design and permitting.

Background

January 2015-Present
Project Engineer
Weston & Sampson

July 2013-December 2014
Engineer II
Weston & Sampson

Sep 2010-May 2011
General Engineer
Naval Facilities and Engineering
Command, Washington

Apr-June 2010
Project Engineer
Camp Pendleton Air Station PWD

2005-2009
Captain
United States Marine Corps

2008-2009
Marine Air Traffic Control Facility
Officer

Apr 2007-Oct 2008
Air Traffic Control Crew/Watch
Officer

Nov 2005-Mar 2007
Legal Officer

Education

Bachelor of Science
Civil Engineering
Pennsylvania State University

Professional Registration

Principles & Practice
of Engineering Exam - Passed
(*experience requirements in progress*)

Engineer in Training
30-hr OSHA

Professional Development

Turner School of Construction
Management

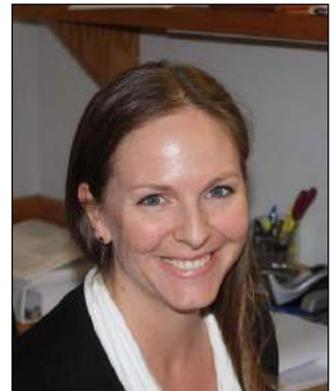
Entrepreneurial Bootcamp for
Veterans, Whitman School of
Management, Syracuse University

Survey and Assault Zone Assessment
Course, Airfield planning

The Basic School, Leadership training

EXPERIENCE

Mr. Moody is a results-oriented engineering and management professional with experience leading engineering and construction teams; analyzing construction projects, master plans and engineering surveys; and providing design, cost estimates, scopes of work, and technical recommendations for large and small projects. She has a military background including serving as Project Engineer for Naval Facilities and Engineering Command in Washington and for Camp Pendleton Air Station Public Works Department. She recently passed the Principles & Practice of Engineering Exam, and is currently fulfilling the experience requirements to become a licensed Professional Engineer.



SPECIFIC PROJECT EXPERIENCE

Construction Services Group, Inc., Augusta, GA, Butler Creek Bridge Bank improvement design

Saltwater Construction, Myrtle Beach, SC, Withers Swash Pedestrian Bridge foundation design

Carolina Waterworks, Design of multiple aluminum ramps and gangways.

Berkeley County Public Works Indefinite Delivery Contract - Weston & Sampson was selected through a competitive process to provide surveying, design, geotechnical, permitting and construction administration and inspection services for various road, drainage and infrastructure related projects. Our staff is currently working on intersection improvements located in the City of Hanahan on Yeamans Hall Road which includes turn lane improvements, traffic signal improvements, sidewalks drainage and pedestrian safety and accessibility improvements.

Charleston Water System Johns Island Regional Wastewater System, Charleston, SC Project included the conceptual development, planning, surveying, design, easement plats, property appraisals, easement acquisitions and permitting for a 4.5 MGD regional, dry-pit submersible wastewater pump station, 24", 18" and 16" gravity sewer and 7500 feet of 16" force main. The project included extensive coordination with the SC Department of Transportation associated with the proposed route of Interstate 526 and South Carolina Electric & Gas associated with the proposed expansion of a power transmission line.

Charleston Water System RT 6 Wastewater Pump Station Replacement, Charleston, SC The project included the conceptual development, planning, surveying, design, easement plats and permitting for an 800,000 GPD suction lift wastewater pump station, 16" gravity sewer and 10" force main. The project included extensive coordination with the SC Department of Transportation, CSX Railroad and Charleston County.

Charleston Water System Future Drive Water Main, Charleston, SC The Project Scope included surveying, design, permitting, construction administration, and construction inspection for the installation of over 20,000 feet of various sizes of water transmission mains (8", 12", 16", 24") for CWS. This project was very significant in that W&S was selected to provide the Surveying, Design, Permitting & Coordination

MEGHAN E. MOODY, E.I.T.

Project Engineer

for this ROADWISE project that was already under construction. Rapid collaboration between Charleston County, SCDOT, North Charleston Public Works, the US Army Corps Of Engineers, OCRM, SCDHEC and CWS led to a very compressed design and permitting phase in order to meet the construction timeline. Our unique ability to effectively coordinate communication between several municipal entities as well as contractors helped to make the design and permitting process successful.

Charleston Water System Hollywood/Ravenel Water Main Extension Phase II, Ravenel, SC
Weston & Sampson provided design services for water main along Old Jacksonboro Road, New Road, and Savannah Highway (Hwy 17) in Hollywood/Ravenel. The project scope included surveying, design, permitting, construction administration, and construction inspection for the installation of approximately 6,800 linear feet of 16" water main and 6,100 linear feet of 12" water main. Weston & Sampson engaged in collaboration between Charleston County, the Town of Ravenel, SCDOT, the US Army Corps Of Engineers, OCRM, SCDHEC, and CWS.

Stuart Point HOA Well and Water Distribution System, Beaufort, SC
Weston & Sampson was retained by the Reserve at Stuart Point Homeowner's Association to develop, design, and construct a 100-foot well and distribution system to serve a gated community in Beaufort County. The project scope included water supply selection, testing, design, construction administration, and application for operating licenses from local and state authorities.

City of Columbia SSES Basin WC-02, Columbia, SC
Weston & Sampson was retained by the City of Columbia to provide technical engineering support to the City of Columbia for Sanitary Sewer Evaluation Study (SSES) and subsequent rehabilitation design and construction administration services to eliminate and reduce sources of rain derived inflow/infiltration (RDII) in the City's Basin WC-02. As part of the project, Weston & Sampson developed a Data Management System in close coordination with the City, conducting focused field inspections, developing and implementing rehabilitation plans, and quantifying and evaluating results. The scope included the inspection of all manholes, approximately 561, and smoke testing of approximately 91,872 LF of sanitary sewer pipe.

City of Columbia Three Rivers and Colonial Lakes Pump Station Rehab, Columbia, SC
Contracted by City of Columbia and Clean Water 2020 to provide professional surveying and engineering services for the evaluation of, design, and construction for the rehabilitation and/or replacement of the Three Rivers Pump Station and the Colonial Life Pump Station. Scope includes evaluation of both stations including all equipment and components, operating conditions, aesthetics, existing capacity and potential future capacity needs based on the sewer area that can be served by these stations. Engineer will prepare an evaluation report stating recommendations and cost estimates. Both pump stations are currently in design and will then move to permitting and the construction phase once design complete.

SCANA, All over South Carolina, Multiple gas main and regulator station design and permitting

Background

June 2014-Present
 Engineer I
 Weston & Sampson

Summer 2012, 2013
 Internship
 GEL Engineering

Education

B.S. Civil and Environmental
 Engineering / The Citadel
 2011-2014

Professional Registrations

Professional Engineer In Training:
 South Carolina 19621

Certified Erosion Prevention &
 Sediment Control Inspector, 10697

EXPERIENCE

Mr. Hart is an Engineer with Weston & Sampson who has been helping clients with challenging designs and permitting associated with various types of infrastructure projects. Taylor has recently been focused on Pipeline extensions associated with Water, Wastewater and Natural Gas, including one project spanning over 23 miles. Taylor's expertise also includes working with the Corps of Engineers, SCDOT, SCDHEC and other regulatory agencies to secure permits for various types of impacts and encroachments. Taylor also spends time in the field to provide construction observation and quality control for projects such as wastewater pump stations, roadwork, pipelines, and grading operations.

**SPECIFIC PROJECT EXPERIENCE**

Richland County Dry Hydrant Repairs, Richland County Public Safety Department, SC W&S repaired several dry hydrants for the Richland County Public Safety Department recently which will help them provide faster responses to calls in rural parts of the County. The new Dry Hydrant Assembly was designed in response to the Richland County Public Safety Department's request to come up with a robust solution to the FD's need for a strong sustainable water intake structure for their fire trucks that could be used for repairs or new installations in rural areas. The new screen assembly is restrained and includes an automatic surge relief valve that assists with back flushing and reduces the potential for damage caused by rapid back flushing which could happen while FD Crews are working quickly during a fire event.

Berkeley County Public Works Indefinite Delivery Contract - Weston & Sampson was selected through a competitive process to provide surveying, design, geotechnical, permitting and construction administration and inspection services for various road, drainage and infrastructure related projects. Our staff is currently working on intersection improvements located in the City of Hanahan on Yeamans Hall Road which includes turn lane improvements, traffic signal improvements, sidewalks drainage and pedestrian safety and accessibility improvements.

CWS Future Drive Water Main, Charleston, SC, The Project Scope included surveying, design, permitting, construction administration, and construction inspection for the installation of over 20,000 feet of various sizes of water transmission mains (8", 12", 16", 24") for CWS. This project was very significant in that W&S was selected to provide the Surveying, Design, Permitting & Coordination for this ROADWISE project that was already under construction. Rapid collaboration between Charleston County, SCDOT, North Charleston Public Works, Charleston Water System, the US Army Corps Of Engineers, OCRM, SCDHEC and Charleston Water System led to a very compressed design and permitting phase in order to meet the construction timeline. Our unique ability to effectively coordinate communication between several municipal entities as well as contractors helped to make the design and permitting process successful.

Brock Built Homes Stonoview Plantation, Johns Island, SC, Weston & Sampson provided infrastructure design services for this 165 lot single family residential community in Charleston, South Carolina. Project scope for this project includes civil design, permitting, project management, and construction administration for this 165 lot residential community, including the installation of approximately: 9,347 linear feet (lf) of 8-inch gravity sewer line and 63 manholes, 10,687 lf of 8-inch water main and 15 hydrants, 10, 700 lf of roads, 21,400 lf of sidewalks, Traffic study and a Drainage system.

CWS Hollywood Ravenel Water Main Extensions, Phase II, Charleston, SC, The project scope included surveying, design, permitting, construction administration, and construction inspection for the installation of approximately 6,800 linear feet of 16" water main and 6,100 linear feet of 12" water main. Weston & Sampson engaged in collaboration between Charleston County, the Town of Ravenel, South Carolina Department of Transportation (SCDOT), the US Army Corps Of Engineers, Ocean & Coastal Resource Management (OCRM), South Carolina Department of Health & Environmental Control (SCDHEC), and Charleston Water System.

City of Columbia Three Rivers and Colonial Life Pump Station Rehabilitations, Columbia, SC, Contracted by City of Columbia and Clean Water 2020 to provide professional surveying and engineering services for the evaluation of, design, and construction for the rehabilitation and/or replacement of the Three Rivers Pump Station and the Colonial Life Pump Station. Scope includes evaluation of both stations including all equipment and components, operating conditions, aesthetics, existing capacity and potential future capacity needs based on the sewer area that can be served by these stations. Engineer will prepare an evaluation report stating recommendations and cost estimates. Upon approval by City of Columbia, proceed with design services, and follow with construction phase services.

CWS Red Top 6 Wastewater Pump Station Replacement, Charleston, SC, Project included the conceptual development, planning, surveying, design, easement plats and permitting for an 800,000 GPD suction lift wastewater pump station, 16" gravity sewer and 10" force main. The project included extensive coordination with the SC Department of Transportation, CSX Railroad and Charleston County.

SCANA, All over South Carolina, Multiple gas main and regulator station design and permitting:

- Bacons Bridge Road
- Coosaw Preserve
- DI Gas Main Extension (Long Point Rd. Feeder)
- JI Gas Main Extension
- Kapstone-Fassitt Rd. Gas Main Extension
- Oaks at Cane Bay Gas Main Extension
- Owens Circle Gas Main Extension
- Palmetto Commerce Park HP Gas Main Extension Ph3
- Park Ave. Blvd Gas Main Extension
- Schinger Ave. Gas Main Extension
- Tall Sail

City of Columbia SSES Basin WC-02, Columbia, SC

Weston & Sampson was retained by the City of Columbia to provide technical engineering support to the City of Columbia for Sanitary Sewer Evaluation Study (SSES) and subsequent rehabilitation design and construction administration services to eliminate and reduce sources of rain derived inflow/infiltration (RDII) in the City's Basin WC-02. As part of the project, Weston & Sampson developed a Data Management System in close coordination with the City, conducting focused field inspections, developing and implementing rehabilitation plans, and quantifying and evaluating results. The scope included the inspection of all manholes, approximately 561, and smoke testing of approximately 91,872 LF of sanitary sewer pipe.

Background

March 2015-Present
Engineer I
Weston & Sampson

July - October 2014
Internship
Kestrel Horizons, LLC

Education

B.S. Environmental Engineering
Clemson University
2010-2014

Professional Registrations

Professional Engineer In Training:
South Carolina

OSHA 40 Hour HAZWOPER

EXPERIENCE

Ms. Lux is a graduate of Clemson University's Environmental Engineering Program. Paige provides design experience associated with various aspects of municipal infrastructure including hydraulics, wastewater, water treatment, environmental, stormwater and permitting. She is very efficient in the use and applications of AutoCAD, ASIM, HEC-HMS, Wepp, and Win TR-55. As a design engineer, Paige has provided support for the development of methodologies associated with data management as may be found in the evaluation of municipal infrastructure asset evaluations. Paige is also experienced with the development of Pollution Prevention Plans, Hazardous & Solid Waste Management, Watershed Hydrology and Risk Assessment. In addition to her general experience, Paige also has specialized experience associated with potable water treatment and the removal of taste and odor in potable water supplies using advanced oxidation and adsorption processes to remove geosmin and MIB.



SPECIFIC PROJECT EXPERIENCE

Charleston Water System Goose Creek Reservoir(GCR) Maintenance, Goose Creek, SC
Portions of the GCR, based upon water depth, encourage nuisance aquatic weed growth which may affect water quality as well as stormwater flow patterns. The area located between the CSX Railroad Right of Way and US Highway 52 near Eagle Landing Boulevard is the subject of this project. This area, approximately 1500 feet long by 350 feet wide is one area of the reservoir that supports aquatic weed growth. The objective of this project was to develop a plan to enable the removal of sediment from areas near culverts, restore drainage channels, remove nuisance aquatic weed growth and accumulation in areas that are or were formerly open water, improve or restore hydraulic flow patterns, and enable routine maintenance.

Brock Built Homes Stonoview Plantation, Johns Island, SC, Weston & Sampson provided infrastructure design services for this 165 lot single family residential community in Charleston, South Carolina. Project scope for this project includes civil design, permitting, project management, and construction administration for this 165 lot residential community, including the installation of approximately: 9,347 linear feet (lf) of 8-inch gravity sewer line and 63 manholes, 10,687 lf of 8-inch water main and 15 hydrants, 10, 700 lf of roads, 21,400 lf of sidewalks, Traffic study and a Drainage system.

SCANA, All over South Carolina, Multiple gas main and regulator station design and permitting:

- East Edisto Gas Main Extension
- Park Avenue Boulevard Gas Main Extension
- Ben Sawyer Feeder Main
- John's Island Gas Main Extension

Daniel Island Marina Dry Stack Expansion, Daniel Island, SC

Scope included surveying, site planning, drainage, utilities, foundations and permitting

Construction Services Group Ashley River Road Office, Charleston, SC

Civil/Site Plans for a new office to include surveying, permitting and design for drainage, improved entrance, shared parking, site grading and landscaping.

Carolina Waterworks Myrtle Sports Complex

Education

1996
B.S. Civil Engineering
The Citadel, Charleston, SC

1991
A.S. Civil Engineering
Trident Tech College, Charleston, SC

Professional Registrations

South Carolina PE, 16492
South Carolina PLS, 16492
Georgia PLS, 2694

Professional Societies

American Water Works Association

American Society of Civil Engineers

SC Society of Professional Land
Surveyors

Coastal Chapter Society of
Professional Land Surveyors

EXPERIENCE

Mr. Eelman graduated from the Citadel in Civil Engineering. Joe provides surveying services for municipal, industrial, commercial and residential projects. Joe has extensive experience with the challenges associated with surveying in all types of situations from densely built cities and neighborhoods to secluded wooded areas, wetlands, and hydrographic. Joe also has extensive experience associated with water, wastewater, roads, and civil site design. Waterfront communities, golf course communities, marinas, Department of Defense installations, security, water treatment and many other types of projects are all a part of Joe's resume. Joe has more than thirty years of surveying and engineering experience.



SPECIFIC PROJECT EXPERIENCE

Dillon County ED Water, Roads and Sewer Improvements, Dillon County, SC
Weston & Sampson was awarded through a competitive bid process an ED project for Dillon County to design improvements to waterline and roadways. The project includes improvements to approximately 5,200 LF of 3 lane roadway, 3,000 LF of 2 land roadway and 3,000 LF of roadway improvements. The project also includes approximately 5,600 LF of 12" water main relocation. The project is currently under design.

City of Bishopville, Mohawk Village Renaissance Phase II Sewer, Streetscape and Drainage, Bishopville, SC
Weston & Sampson was chosen through a competitive bid process to provide engineering services for sewer improvements, drainage improvements, and streetscape improvements for the City of Bishopville's Mohawk Village Renaissance project.

Town of Ridgeville, SC, CDBG Water Main Extensions Project, Ridgeville, SC
The Town of Ridgeville received a grant for water main extensions within the City to improve water service and fire protection. The project included the design of various sizes and lengths of water mains to provide improvements to service and fire protection. The project included coordination with the Town Fire Department, SCDHEC, Ocean & Coastal Resource Management, SCDOT and the County. The project also included the evaluation and modeling of existing Elevated Storage Tank for the connection of a new Wholesale Customer. Ran multiple model scenarios to evaluate optimum connection location while maintaining adequate system pressure.

Town of Summerville, SC, West 1st North Street CDBG Sidewalk, Summerville, SC
The project includes the permitting, design, and installation of 3,000 LF of 5 foot sidewalk and gutter section along West 1st North Street from Maple Street to Bryan Street. The target completion date is set for June 30, 2012.

BCWS Burntwood Drive CDBG Water Main Extension, Berkeley County, SC
10,000 feet various sizes of water main, County Road R/W, SCDOT Road R/W, 15 Easement surveys, Jack & Bore US Hwy 52, HDD for wetland crossing.

JOSEPH O. EELMAN, PE, PLS

Surveying Manager

Charleston Water System John's Island Regional Pump Station & Force Main Route Survey, John's Island, SC

This project included developing easement plats & a route survey for a new 7,000 LF 16" force main including one 800 ft Horizontal Directional Drill, 10,000 LF of 16" & 18" gravity sewer & 4.5 MGD wastewater pump station to serve Johns Island. Also included a Tree survey, critical lines and wetlands.

SCANA/SCE&G Goat Island Crossing, Isle of Palms Intracoastal Waterway Survey

This project includes 2,000 LF of surveying for the Goat Island for electrical power transmission using horizontal directional drill from the Isle of to Goat Island crossing the Intracoastal Waterway. The project includes cross section drawings showing the Mean Water Levels, bottom depth and bore depth, plan view showing the location of the bore including latitude & longitude.

SCANA/SCE&G Gas Main Extension Surveys, All over SC

Provided numerous route surveys for gas main extensions predominately in Charleston, Berkeley, & Horry Counties, as well as one contract encompassing several counties throught the state of South Carolina.

Charleston Water System, Thomas Island Pump Station & Force Main Survey, Berkeley County, SC

This project included boundary and topographic, wetlands, critical areas, and utilities information for a pump station and a 24" force main route from the CPW Jack Primus Pump Station along Clements Ferry Road and Northeast of Interstate-526 to Daniel Island, stake corners for pump station and force main, flag wetlands, submit delineation to Corps of Engineers for Jurisdictional determination approval.

Jedburg Road Project, Berkeley County, SC

Regional wastewater pump station, force main, 6,000 LF of 14" water transmission main, 7,000 LF of 10" Sewer Force Main, tree and topographic surveys, right of way survey, SCDOT Encroachments, Berkeley County Public Works Encroachments, Flood Plain encroachments, and floodway elevation survey.

Dorchester Road 30 acre Commercial Site

Alta Survey, Tree Survey, Wetlands, Drainage Easements, Power Easements, Charleston County Aviation Authority common boundary line.

Mount Pleasant Waterworks Long Point Road Force Main Rehabilitation, Mt. Pleasant, SC

3,000 ft as-built of 12" Sewer Force Main inside and adjacent to SCDOT R/W including horizontal & vertical locations of force main and utilities.

Charleston National HOA, Charleston National Drainage Improvements, Mt. Pleasant, SC

Topographic & Hydrographic Surveys for Drainage evelauation project, included detailed survey of 18 lakes, pipes and drainage structures.

84 Lumber / Powerhouse Park, Moncks Corner, SC

This project includes ALTA, boundary, existing building surveys & staking property, located near Bonneau, SC. Project also included coordinating with SCPISA, & recording plats.

LISA HORNER

Senior Office Coordinator

Background

May 2010 - Present
Senior Office Coordinator
Weston & Sampson

August 2005 - May 2010
Grants Specialist/ Project Admin
HEG, LLC

Education

1985
A.S., Business Administration
Trident Technical College

Certifications

Grants Management, Management
Concepts, Vienna, Virginia
2008

Notary Public

Papers & Presentations

March 2010
"Grant Funding Scavenger Hunt:
Show Me the Money!" Published
by AWWA/WEA South Carolina
Environmental Conference

EXPERIENCE

Mrs. Horner has over 25 years of experience in office management, accounting, project administration, grants management and training. Lisa provides administrative support for the office as well as projects. Lisa possesses sophisticated skills and a comprehensive knowledge of government-wide requirements, agency regulations, and grants management best practices to lead projects through the permitting and close-out processes.

During Lisa's career, she has worked extensively with Federal and State administration and grant management for many large projects associated with research and construction. During her career Lisa has managed more than fifty grants for the Department of Natural Resources from NOAA, U.S. Fish and Wildlife Service, U.S. Department of Commerce, U.S. Department of Interior, South Carolina Sea Grant Consortium, and the South Carolina DHEC. Lisa also works with the Community Development Block Grant Program (CDBG) to assist with Grant Applications, Administration & Compliance.



AREAS OF RESPONSIBILITY INCLUDE

- Administrative review for all submittals
- Submitting applications to regulatory agencies for permits
- Preparing closeout packages
- Compiling project summaries, reports, and statistical data
- Monitoring project activity to ensure projects stay on schedule and budget
- Coordinating with Contractors
- Office Finance and Accounting

GRANT EXPERIENCE

- Preparing, reviewing, and submitting grant applications
- Monitoring and approving grant purchases
- Monitoring project activity to ensure grant compliance
- Auditing and processing invoices, purchase orders, field purchase requests, interdepartmental transfers, travel reimbursements, disbursement vouchers, and timesheets
- Preparing indirect cost entries and General Journal entries
- Preparing and submitting financial reports and project reports to the granting entity

SECTION 3 – PREVIOUS EXPERIENCE / CAPABILITY

Charleston National Drainage Improvements

Description: Weston & Sampson is currently working with the Charleston National Country Club and the Charleston National Owners' Association to study drainage for the Charleston National area to develop ways for improving sustainability, reduction of salt water intrusion into the stormwater & Irrigation system and to confirm drainage capacity for significant storm and tidal events. This includes coordination with the Town of Mount Pleasant Stormwater Division and other regulatory entities.

Client: Timothy P. Kane, General Manager, Charleston National Country Club, Phone (843) 203-9994, Mobile Phone (302) 593-7700

Northwoods Mall Drainage Basin-Goose Creek Reservoir Drainage Improvements

Description: Weston & Sampson was selected to evaluate alternatives and implement drainage improvements for a portion of the Goose Creek Reservoir adjacent to Northwoods Mall and US Highway 52 in the City Of North Charleston. The project included evaluating alternatives for improving drainage, selection of the most effective alternative, developing project plans and acquiring easements and project permits through the US Army Corps of Engineers, North Charleston Public Works, OCRM and SCDOT. The project is currently under construction.

Client: Andrew W. Fairey, Charleston Water System, faireyaw@charlestoncpw.com, 843.727.7150

CWS John's Island Regional Pump Station and Force Main – John's Island, SC

Description: Weston & Sampson was retained by Charleston Water System to develop the route and plans for a new trunk sewer main, 7,000 linear feet of 14" Force Main, 10,000 linear feet of 16" & 18" and 24" Gravity Pipeline, and a 4.5 MGD pump station to serve a large basin area on Johns Island. The project scope includes route surveys, Hydraulic modeling, stormwater management, development of plans, easement acquisitions, permitting, geotechnical investigation, cultural resources study, coordination with the City of Charleston, Charleston County, SC DOT, SCANA / SCE&G, and multiple private land owners. Wetlands permitting included critical areas, jurisdictional and non-jurisdictional areas as well as mitigation.

Client: Charleston Water System, Russell Huggins, HugginsRL@charlestoncpw.com, 843.727.6800



Felder Creek Pump Station and Drainage Basin, Berkeley County, SC

Description: Weston & Sampson was retained to provide engineering services for the Felder Creek Drainage Basin in Berkeley County, South Carolina. The purpose of this project was to plan improvements for continued development within the Berkeley County/Felder Creek/Jedburg Road area. Study parameters included water quality, identification of available storage, planned storage, floodway impacts, and US Army Corps of Engineers permitting. Weston & Sampson professionals performed the original topographic surveys as



SECTION 3 – PREVIOUS EXPERIENCE / CAPABILITY

well as identified the drainage basins affected by the overall project. In addition, we also evaluated the off-site impacts to drainage and incorporated those into a drainage model through hydraulic modeling to determine the cumulative effects of various rainfall events, such as 5 year, 10 year and 25 year storms on existing and proposed drainage improvements in the area. Recommendations were reviewed and approved by SCDHEC, OCRM, Berkeley County Public Works, the US Army Corps of Engineers and SCDOT. Improvements were constructed and are currently in service. The project was completed on-time and under budget.

Weston & Sampson also designed the Felder Creek Regional Pump Station, 4,284 linear feet of 8" Force Main, 383 linear feet of 18" Gravity pipeline, 642 linear feet of 10" Gravity Pipeline, and 4,734 linear feet of 8" pipeline to extend the service area for the BCWSA. The route included sections that required jacked and bored steel casings under Jedburg Road and wetlands crossings. Coordination Phases included public interaction, temporary and permanent easement acquisition, and coordination with SCDHEC, Ocean & Coastal Resource Management, USA COE, SCDOT and Berkeley County.

Client: Van Malphrus, Malphrus Development, (843) 688-6197

PS001 Modernization Study and Design, Berkeley County, SC

Description: Weston & Sampson was selected through a competitive process to provide engineering services for the Berkeley County Water & Sanitation PS 001 Renovation project. PS001 is a critical asset to BCWS – it is the largest pump station in the BCWS wastewater system, delivering over half of the influent flow to the Lower Berkeley Wastewater Treatment Plant (LBWWTP). The station is constructed with four (4) large submersible pumps - (2) Flygt CP-3311 at 248 HP, (2) Flygt CP-3312 at 240 HP) - which have a design capacity of 19,375 gallons per minute with three pumps in operation while PS 002 is in operation and the force main interconnection between PS001 and PS002 is open. Each of the (4) pumps discharges into an individual 16-inch force main within the wet well and then manifolds into a common 30-inch manifold header. Flow from the pumping system then passes through approximately 17,000 LF of 30-inch diameter force main and discharges into the LBWWTP headworks. The station has been in operation for 18 years (1994) and in recent years, pump failures have been occurring, resulting in expensive pump rebuilds. The station has also experienced damage and negative impacts caused by hydrogen sulfide related corrosion. Within the past year Weston & Sampson has completed a comprehensive report identifying the problems and providing clear resolution and direction for PS001 Renovations. This included a hydraulic model to identify capacity of existing mains and to model various alternatives for improvements.

Based on the recommendation in the referenced modernization report the following improvements will be made:

Odor & Corrosion Control Equipment

A 2-stage biofilter system will be installed to ensure high reduced sulfur compounds are treated. Also force air ventilation system will be installed to ensure up to 6 air exchanges per hour in the wetwell.

Pumps and Pump Discharge Elbows & Pump Discharge Piping

New discharge elbows will be installed for the 4 large submersible pumps. 2 new 75 HP pumps will be installed with VDF to handle



SECTION 3 – PREVIOUS EXPERIENCE / CAPABILITY

average daily flows. New 30" force main header will be installed to facilitate all pump discharge headers. Additionally all valves will be replaced and flow meter will be installed.

Wetwell & Splitter Box Modifications

Wetwell and splitter box modification will be based on the findings of the physical model to eliminate pre-swirl tendencies which are contributing to pump cavitation.

Electrical Upgrade

Electrical upgrades include a new motor control center and new generators to be installed for emergency power.

Client: Berkeley County Water & Sanitation, Mr. Micah Miley, 843.572.4400, MGMiley@bcwsa.com

RT6 Pump Station, Charleston, SC

Description: Weston & Sampson was retained to provide design services, including the evaluation of alternatives for replacement and relocation of an existing suction lift pump station to provide additional depth and capacity enabling service to a larger area by gravity extensions. The project included Surveying, Easement plat development, Appraisals, Easement acquisitions, Design, Permitting (SCDOT, Charleston County, SCDHEC, OCRM, CSX Railroad), Bidding, Construction administration, Inspection for a 1000 GPM pump station, 18 inch gravity main, and 10 inch force main, Hydraulic modeling, and Coordination with area residents.

Client: Charleston Water System, Russell Huggins, 843.727.6879, HugginsRL@charlestoncpw.com

Treviso Bay Force Main and Pump Station Modeling, Collier County, FL

Description: Collier County PPMD retained Weston & Sampson to provide a hydraulic analysis of the force main and pumping system serving the Treviso Bay subdivision. The community includes single and multiple-family homes, a golf course with club house and maintenance facility, a bar and restaurant, meeting rooms, and a community center with a pool and tennis courts.

Multiple pumping stations in the subdivision experience periods of "inhibited pumping capacity" and possible back-ups. The overall length of the community's wastewater force main, commencing at Tamiami Trail, is approximately 17,000 feet.

Treviso Bay's force main system is made up of 11 pumping stations that collect wastewater from the 11 individual subdivisions. Wastewater is pumped to a system of force mains that begins near the main entrance north of the subdivision and flows southeast along Treviso Bay Boulevard and Corso Bello Drive towards Southwest Boulevard. It then connects with a 24-inch force main on Tamiami Trail (US- 41), discharging into the wet well of the master station MS301 located northwest of the Hitching Post Plaza (11524 Tamiami Trail East, Naples).

Client: Collier County, FL, Mr. Craig Prajer, 239.252.2554

James Island Hydraulic Model, James Island, SC

Description: Project included evaluation of existing infrastructure capacity and ability to handle future growth due to



SECTION 3 – PREVIOUS EXPERIENCE / CAPABILITY

infill growth and new development expected in this suburban area of James Island, SC. A hydraulic model was developed for 60 pump stations using geometry from system GIS data. Pump drawdown tests were performed to assess existing pump station capacities and to help calibrate the model, along with site inspections to assess conditions and confirm design drawings. Extended period model simulations were performed with pump capacities in model adjusted to fit the draw down tests. Rainfall and tide records were analyzed as part of evaluating and quantifying infiltration / inflow impacts. Overall project analysis resulted in the recommendation of three pump station capacity increases, one force main capacity increase and several pump station / force main rehabs.

Client: James Island Public Service District, David Hoffman,
843.795.9060, hoffmandd@jipsd.org

St. Thomas Point Drainage Study, Berkeley County, SC

Description: The Homeowners Association for St. Thomas Point retained the Engineering Services of Weston & Sampson to perform an evaluation of the Drainage System at St. Thomas Point located in Wando, S.C. The project included: research and investigation of the topographic maps, soils maps, and existing record drawing of the roads system, drainage piping and detention system.

A field investigation was performed along with survey to work to confirm drainage pipe sizes and invert elevations. After field confirmation of all drainage system components, a **Storm Drainage Model** was developed using ICPR (Interconnected Pond Routing approved by FEMA). The 5yr., 10yr., 25yr., 50yr., and 100yr, storm events were input to the model and the hydraulic grade line was determined. Improvements to the detention pond outfall structure and surface collection system were provided to eliminate flooding of the road system and home site. Additionally soil borings and corresponding 24hr. water table was determined along the roadway system. In order to lower the ground water table in low area, an under drain system was installed to prevent groundwater intrusion into the roadway base.

Client: St. Thomas Point HOA, Michael West



Stonoview Stormwater Modeling

Description: Weston & Sampson was selected to provide design services for the Stonoview development on Johns Island. Our Scope of work covered all infrastructure design and permitting for the 120 Acre project including roads, drainage and utilities. More specifically, the drainage system included a system of connecting ponds and outfall structures that stored and conveyed stormwater for the entire project. The outfall included triple 48" Diameter concrete pipes along with an overflow weir to maintain flow discharge rates based on the requirements of the hydraulic model and drainage report. The discharge was into a critical area. (Salt marsh).

SECTION 3 – PREVIOUS EXPERIENCE / CAPABILITY

West 1st North Street Sidewalk & Drainage Improvements

Description: Weston & Sampson was selected through a competitive bid process to provide design for a new sidewalk on West 1st North Street in the Town of Summerville. The project included the installation of a 5 foot sidewalk and gutter section along West 1st North Street, between Maple Street and Bryan Street. The design included curb and gutter, sidewalk, drainage improvements and sediment and erosion control measures. The project was funded through a Community Development Block Grant, so communication with the Berkeley-Charleston-Dorchester Council of Governments was important in order to ensure all standards of the grant were met.



Client: Russ Cornette, PE, Town of Summerville, SC, (843) 871-6000

City of Hanahan Sidewalk & Drainage Improvements

Description: Weston & Sampson was selected through a competitive process to provide design for a new sidewalk in the Charleston Farms Community in Hanahan, SC. The project includes the installation of a 5 foot wide sidewalk that will extend the entire length of Berkeley Street from North Murray to the western end (approximately 1,520 SY). The design included curb and gutter, sidewalk, associated street improvements, drainage improvements and sediment and erosion control measures. To meet SCDOT standards, the sidewalk required the installation of curb and gutter along areas where a 5' safety buffer could not be provided between the edge of the pavement and the right-of-way. Sidewalk improvements will also include associated pedestrian crossing signage and limited landscaping.



Storm drainage improvements that entail piping the existing stormwater ditch at the intersection of Berkeley Street and Corner Avenue. Currently there is a 48" culvert that runs beneath Berkeley Street. The proposed improvement would add a new 48" pipe to replace the ditch section in this area. The project is funded through a Community Development Block Grant, so communication with the Berkeley-Charleston-Dorchester Council of Governments is important in order to ensure all standards of the grant are met.

Client: City of Hanahan, Johnny Cribb (843) 554-4221

PUMP STATIONS

COMPREHENSIVE LOCAL PUMP STATION EXPERIENCE

Pump Station Name	Municipality/ Agency	Size of Pump Stations	Evaluation	Rehab or Upgrade	New Design
Bay Street PS	BJWSA	1.5 MGD	✓	✓	
Duke Street PS	BJWSA	1.5 MGD	✓	✓	
Laurens Street PS	BJWSA	1.5 MGD	✓	✓	
RH - 07 PS	BJWSA	1.0 MGD		✓	
PS SS 23	BJWSA	1.0 MGD	✓	✓	
PS SS 24	BJWSA	1.0 MGD	✓	✓	
PS SS 25	BJWSA	1.0 MGD	✓	✓	
PS001 Modernization Study & Design	BCWS	29 MGD	✓	✓	
2006 PS Renovations Ph 1 - 4	BCWS		✓	✓	
PS 39	BCWS		✓	✓	
PS 49	BCWS		✓	✓	
PS 129	BCWS		✓	✓	
Brightwood PS	BCWS				✓
Royal Oaks PS	BCWS	0.5 MGD			✓
Sophia Landing PS	BCWS	0.5 MGD			✓
Stoney Creek PS	BCWS	0.5 MGD			✓
Three Rivers PS	City of Columbia	1.0 MGD	✓	✓	✓
Colonial Life PS	City of Columbia	1.0 MGD	✓	✓	✓
Felder Creek Regional PS	CWS	1.0 MGD			✓
Sportman's Island PS	CWS	1.0 MGD			✓
Johns Island Regional PS	CWS	4.0 MGD			✓
Red Top # 6	CWS	2.0 MGD	✓		✓
River Reach Regional PS	CWS		✓	✓	
Staffordshire Community PS	CWS	1.5 MGD			✓
Bridlewood Farms PS	DCWS	1.5 MGD			✓
Wentworth Hall PS	DCWS	0.5 MGD	✓	✓	
Thomas Island Drive PS	DCWS		✓		✓
PS 4	DCWS		✓	✓	
Villages PS	DCWS		✓		✓
CIP Hydraulic Model for all PS	JIPSD		✓		
USS Yorktown PS	Patriots Point	1	✓		
Saluda Basin PS Study	ReWa	4.0 MGD	✓		

SECTION 4 – APPROACH FOR STATION 18 STREET

Background and Purpose

The Town of Sullivan's Island has issued an RFQ to develop a study of the existing Drainage system serving the area around the existing Stormwater Pump Station located on Station 18. This station was constructed approximately in 1938. The station is designed to pump stormwater from the area along a portion of Atlantic Avenue and a portion of Station 18. The Station 18 Pump Station 8" force main is currently tied in to a 10" force main the serves the stormwater station at the Sandunes Club. In addition to the pumping system, there are several sections of RCP and open ditches that convey stormwater to the pump station. The condition of the piped sections is unknown.



The Study will include a comprehensive evaluation of the existing equipment, operation and reliability. The study will include providing recommendations for upgrades and improvements and will include but not be limited to installation of new pumps, controls, piping, wetwell improvements and upgrade to the electrical control systems.

Weston & Sampson understands that it is very important for all aspects of the project to be carefully and fully coordinated and managed in order to ensure a quality design and construction project is delivered on time and on budget.

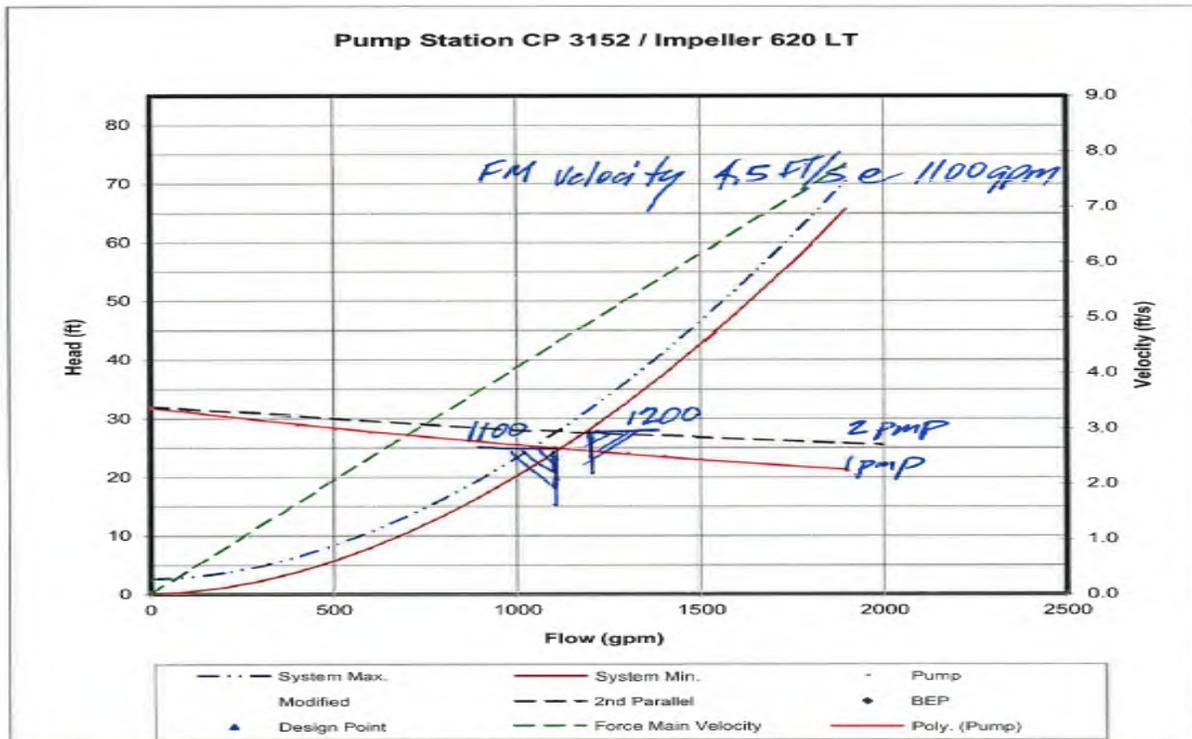
Project Approach

The proposed Work Plan in this proposal incorporates information obtained at the site visit and reflects our initial assessments. Our approach is focused on providing two separate recommendations which will be focused on short term and long term improvements. Short term improvements will restore service to the pump station with minimal cost to mitigate damage to private property while the long range plan is being fully developed and funding sources can be identified. Currently, the SCE&G Station is capable of pumping 1200 Gallons per Minute with both pumps on which is likely the condition that occurs during periods of heavy rain. The pump curve and system curve below shows the characteristics of the Flygt CP 3152 LT with the 620 Impeller as pumping 1100 to 1200 GPM under ideal conditions with all the air release valves working and properly maintained.



SECTION 4 – APPROACH FOR STATION 18 STREET

SCE&G Pump Station System & Pump Curve



Air release valves require routine maintenance to work properly. If the orifice gets clogged with debris, the valve will not allow air to escape. Air accumulating in the force main at high spots serves to partially block the force main by reducing the effective diameter adding additional head and reducing the flowrate.

Based upon the appearance of the system, it is likely that no ARV maintenance has been performed since the SCE&G station was installed. The SCE&G system is in operation as flow was observed during the site visit but the performance is unknown. The force main however, is sized to accommodate flow from the SCE&G Station at a velocity of 4.5 feet per second which is in the upper limit of the operational range. Combined flows from the 2 pump stations operating together will increase the flowrate above a normal operating range for this type of system. This would happen during periods of heavy rain. Operating above this velocity (4.5 ft/sec) will create unusually high head conditions which lead to unnecessary pump wear, high energy costs and higher potential for force main failures.

One conceptual alternative for providing reliable service which will prevent damages to private property caused from stormwater flooding is described below. The system requirements for the Station 10 basin dictate that a dedicated force main be installed from a new pump station with a new, and larger wetwell. A new duplex submersible station with NEMA Type 6P control panel will provide reliable service. This station combined with a stand-by power source would provide service under most foreseeable conditions. There is ample available space for this type of arrangement. All of the pumping equipment would be below ground. The stand-by-generator would be located above the 100 year flood elevation adjacent to or close by the new pump station. The station would need a 3 Phase power source which could be extended underground from Middle Street. The proposed new pump station would also need its own dedicated force main. This would likely be 14" in

SECTION 4 – APPROACH FOR STATION 18 STREET

diameter to support a flow of 2000 Gallons per minute just from the Station 18 Station. A new 10’ diameter wetwell would provide some storage and would also enable pump cycles to be acceptable. A budget cost estimate for the system described above is shown below.

Conceptual alternative Cost Estimate New Station 18 Duplex Pump Station and Stand –By Generator

Item	Description	unit	quantity	Cost	Extended Cost
1	25 Hp Duplex Submersible Pump Package	EA	1	\$95,000	\$95,000
2	10' Diameter precast Concrete wetwell	EA	1	\$50,000	\$50,000
3	24" RCP	LF	600	\$85	\$51,000
4	14" C905 Force Main	LF	1500	\$75	\$112,500
5	Electrical Supply	LS	1	\$30,000	\$30,000
6	30KW Standby Generator	EA	1	\$60,000	\$60,000
				Total	\$398,500
				Engineering	\$60,000
				Contingency	\$50,000
				Total	\$508,500

Pipes and Ditches

Our approach associated with the condition assessment of the existing pipes and ditches is very simple. The project manager along with a project engineer will participate in the survey to determine the existing elevations of the drainage resources in the project area. That will include the noted pipes and ditches in the RFP along with any other resources determined to be significant relative to drainage in the basin. Once an understanding of the system is developed based upon field investigations, our project manager will direct the CCTV operations to determine the condition of the drainage pipes serving the basin and noted in the RFP. Data will be compiled and recommendations will be summarized for repairs, maintenance and cleaning necessary to restore the system to its intended functionality.

A report will be generated along with cost estimates for tasks identified suitable for providing to contractors for bidding and implementation. The data provided will include maps to identify deficiency locations and descriptions of deficiencies in a tabular format.



PROJECT EXECUTION TASKS

Weston & Sampson places a high importance on communication. Therefore a kickoff meeting will be conducted as the first task in order to refine the scope, timeline and budget constraints for the project. Once the specifics of the project to be designed are confirmed and/or re-defined, the detailed design of the recommendations will commence.

SECTION 4 – APPROACH FOR STATION 18 STREET

A work plan of our Team's approach to the Wet Weather Pump Station is described in this section.

Outline of Work Plan

- Project Kickoff Meeting – Work Session No. 1
- Hydraulic Evaluation of existing facilities, wetwell, piping, collection system, drainage basin, impacts from SCE&G Pump Station and Summary Technical Memorandum
- Hydraulic Evaluation review meeting - Work Session No. 2
- Electrical Evaluation with Technical Memorandum
- Electrical Evaluation review meeting - Work Session No. 3
- Comprehensive Report including Executive Summary
- Compressive Report review Meeting – Work Session No. 4

Conduct Project Kickoff Meeting (Work Session No. 1)

- Prior to the kickoff meeting, Weston & Sampson will provide a proposed agenda that outlines project and meeting goals along with a list of questions and observations from our site visits.
- Lead kickoff meeting (with key team members in attendance).
- Discuss with maintenance staff any specific ongoing problems at the existing pump station including specific issues with pumping and collection systems.
- Review Project Approach as described below along with Project Milestones, Schedule and Deliverables.
- Prepare and issue kickoff meeting minutes for TSI review and comment.



WORK PLAN

Hydraulic Evaluation

We anticipate that we will develop a drainage model to project stormwater flows for the Station 18 drainage basin. We will review the required capacity that is necessary to prevent flooding and develop a host of alternatives for maintaining stormwater levels below acceptable levels. Recommendations may include a new pump station or improvements to the existing pump station depending on the outcome of the hydraulic evaluation. We will develop a conceptual plan of alternatives along with cost estimates for design, construction, and permitting.

ELECTRICAL

Only single phase service is available to the current pump station site. Our electrical evaluation along with developing the stand by generating capacity requirements and alternatives will be done in compliance with anticipated flood elevation levels to mitigate damage from rising water. We will review alternatives and provide a recommendation for the most feasible & economical approach to providing power during periods of electric service outages. Options will include installing a stand-by generator, providing a generator receptacle, relocating the station to provide more regional service based upon a long range drainage improvement plan.

SECTION 4 – APPROACH FOR STATION 18 STREET

Deliverables

Following a detailed site inspection, W&S will provide a summary report to the Town which will include the following Items:

1. Pump Station facility condition assessment
 - a. Building & Roof
 - b. Wetwell
 - c. Electrical Service
 - d. Pumping Equipment
 - e. Piping
 - f. Controls
 - g. Risk Assessment Summary
2. Temporary Stormwater Pumping Service Alternatives
 - a. Portable option alternatives for Stand-by system
 - b. Temporary installation alternatives for interim stormwater service
3. Recommendations for a permanent stormwater solution for the Station 18 Stormwater Basin
 - a. Summary of Existing system assets
 - b. Prioritized Alternatives for improvements
 - c. Cost estimates for Alternatives

SECTION 5 – APPROACH FOR STITH PARK “MOUND”

The Weston & Sampson Approach for the stabilization of the Mound is simple and robust. Our goal will be to develop a three tiered plan that will address (1) stormwater & erosion, (2) vegetation and (3) operation and maintenance.

Stormwater

Management of stormwater will focus on collecting sheet flow and directing it down the slopes and into the system which exists near the base of the mound. An investigation of the condition of the existing system will be performed and will include a visual inspection, survey and CCTV of the pipelines in order to determine and verify the hydraulic capacity. The most economical approach to managing the stormwater will be to collect it via trench drains installed based on the results of a topographic survey of the top of the mound. An estimated 0.70 Acre is the approximate drainage area. The stormwater falling on that area during periods of heavy rain is presumed to sheet flow to the lower areas mainly towards the front face, South, and portions of the sides, East and West. Our primary approach will be to intercept that runoff through the installation of modified subgrade drains which will be flared at the top to a width of approximately 3 feet and covered with a geotextile that will maintain a coarse sand surface that can support turf grass. The result will be a zone of highly pervious soil over a fabric encased stone bed that will allow surface drainage to enter perforated pipes which will direct that flow to a combination of sections of the restored concrete flumes as well as some additional 6" HDPE slope drains. The stormwater can then be collected in a small water quality basin at the foot of the South face of the mound that can serve to collect the stormwater and release it into the existing stormwater system ultimately discharging highly aerated, filtered stormwater to the existing outfall.



There are also options that may be explored associated with using the system as an interpretive component of the park to increase awareness of the importance of water quality, stormwater management and preservation of natural resources. The basin at the base of the mound could be designed as a simple, normally dry, shallow grassed depression, or an infiltration garden which could also be a part of an interpretive aspect of the park. A cistern could also be added for rainwater collection as a component of an irrigation system that would help maintain the South face as an amenity to the park.



The remaining aspects of the Mound management project will include recommendations associated with mowing and treating the bamboo and vegetation on the South face. This face should receive a layer of conditioned, pH adjusted topsoil along with soil stabilizers and possibly a biodegradable fiber mat to provide soil structure while a planted stand of a durable turf is established along with sections of native grasses and wildflowers. The result would leave lanes

SECTION 5 – APPROACH FOR STITH PARK “MOUND”

down the face of the slope that could be alternated for sliding based on wear, growth and weather. A passive schedule could be placed explaining alternating use of lanes for sliding that would help in maintaining the turf on the slope. This approach should provide a sustainable feature that could serve to become even more of an attraction. It would also be nice to provide some restoration of the various aspects of the former use and purpose of the mound as a tribute to veterans. The history of the Mound is very interesting and should be used as a reminder of the cost of the Freedom and the important Role that a strong coastal defense and Sullivan's Island has played to maintain our freedom since the Spanish American War.

