SECTION 6

CAPITAL IMPROVEMENT PROGRAM

CITY OF COCOA BEACH, FLORIDA STORMWATER MASTER PLAN

PARSONS ENGINEERING SCIENCE, INC.

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SECTION 6

CAPITAL IMPROVEMENT PROGRAM

The purpose of the Capital Improvement Program (CIP) is to provide a technically defensible implementation plan of projects that address specific flooding and water quality needs and/or deficiencies. The previous sections of the master plan have established what the City's problems are and provided various BMP alternatives for addressing them. This CIP section incorporates this information in the formation of a logical projects plan based on maximizing cost benefit. The following subsections present the methodology and results of a prioritization and grouping of the individual project identified in the BMP Evaluation section. Included are considerations to the economics, pollutant reduction effectiveness, construction, and operations & maintenance. The end result is a project listing that will make best use of the City's Stormwater Utility capital expenditures for the next 5-10 years. Also, provided are individual fact summary sheets of the projects identified.

This section also continues the PLRG-based LOS definition process discussed in the Water Quality Assessment and BMP Evaluation sections. The BMP Evaluation section presented a *FULL BMP* scenario that considers implementation of technically feasible water quality BMPs considering land constraints, but without consideration to time and economic constraints. From the *FULL BMP* case, a TAPLRG was established as a reasonable technology-based pollutant reduction goal that can be used to evaluate the effectiveness of the CIP. This section describes the process by which a CIP was identified to make the best effort towards achieving the TAPLRG.

6.1 **PROJECT PRIORITIZATION**

6.1.1 Prioritization Methodology

In order to identify a cost-effective, technology reflective CIP that works within the municipality's constraints, a site-specific project prioritization methodology was developed. Although the CIP would be expected to address both water quality and flooding issues, water quality issues, in the form of pollutant reduction effectiveness were used as the basis for project evaluation. As discussed in the BMP Evaluation section, this approach is considered viable as many of the borderline LOS flooding problems would be expected to be addressed through the implementation of water quality BMPs with runoff volume reducing attributes. Accordingly, the objective of this prioritization methodology was to establish a means of determining the individual projects or combination of projects that provide the best pollutant reduction for the cost incurred.

Using the individual BMP projects from the *FULL BMP* pollutant loading case presented in the BMP Evaluation section, project specific economic and pollutant reduction considerations were incorporated to prioritize the projects. TSS was selected as a key evaluation pollutant based on the discussions in the Water Quality Assessment section. This pollutant is also more easily measured relative to nitrogen and phosphorus making it better for project effectiveness verification purposes. In addition, freshwater was selected as a parameter influencing BMP project prioritization. Freshwater represents not only a pollutant source to the estuary, but an important resource for the future. Projects that provide storage (ponds) or recharge to the surface aquifer (retention/exfiltration) should be afforded a higher consideration for prioritization.

6.1.2 Project Ranking Criteria

Three ranking methods were utilized in an effort to compare and prioritize projects on a fair basis:

- <u>Unit Cost Effectiveness (UCE)</u>: This method ranks BMP projects based unit cost per mass of pollutant reduced.
- <u>Cost Equalized UCE:</u> This method was also used to normalize BMP projects types of varying sizes and highlight location advantages by assuming all BMPs were the same length or area.
- **<u>Pollutant Reduction Rank:</u>** BMP projects were ranked solely based on the ability to reduce pollutant mass without regard to cost.

These three methods were used with respect to both TSS removal and Freshwater reduction as pollutants, for a total of six ranking scenarios.

6.1.3 Project Cost Factors

To calculate the UCE of an individual BMP, the construction, capital, land acquisition, and operation and maintenance (O&M) costs for the project must be estimated. BMP reference documents and past engineering experience were the basis for the cost estimations. Construction cost is the actual cost that a contractor would bear for construction of a stormwater management facility or stormwater retrofit. Construction costs were calculated by using average unit costs per BMP as shown on Table 6-1.

Tal	ole 6-1	UNIT CONSTRUCTION COSTS	
ВМР Туре		Unit Construction Cost (Assumed Average)	Units
Exfiltration		\$ 100	Linear foot
<u>Sediment Trap</u>			
Type 1		\$ 15000	Each
Type 2		\$ 25000	Each
Type 3		\$ 40000	Each
Type 4		\$ 60000	Each
Pond		\$ 70000	Acre
Swale		\$ 25	Linear foot

Capital cost is the total cost to the City for project implementation and reflects additional costs beyond the cost of actual construction. These costs include contingency, engineering, legal and administrative, and permitting. These additional costs were estimated to be a percentage of the construction costs based on the type of BMP implemented. Table 6-2 presents the capital cost percentages for the BMPs considered.

		Table 6-2	COST FACT	ORS *								
BMP		Capita	l Cost Factors	•		Labor**						
Туре	Engineering	Admin./Legal	Permitting	Contingency	Total	Factors						
Exfiltration	10 %	5 %	5 %	10 %	30 %	25 %						
Sediment Trap	10 %	5 %	5 %	15 %	35 %	25 %						
Pond	15 %	5 %	5 %	20 %	45 %	30 %						
Swale	10 %	5 %	5 %	5 %	25 %	50 %						
* As a percei	* As a percentage of Construction Cost											
** Percentage informatio	e of Constructio on and engineer	n Costs related to ing judgment. Lat	Labor. Values	are based on lit e considered for	erature City budge	et tracking.						

After construction, BMPs require ongoing O&M in order to ensure they perform according to design standards. In this analysis, O&M was calculated as a percentage of the construction cost (per the EPA and previous studies) and or based on the type and size of the BMP as presented in Table 6-3.

Table 6-3 OPERATION	AND MAINTENANCE FACTORS
BMP Type	Annual O&M Factor
Exfiltration	10% of construction costs
<u>Sediment Trap</u>	
Type 1	\$300 / year
Type 2	\$400 / year
Туре 3	\$500 / year
Type 4	\$500 / year
Pond	15% of construction costs
Swale	\$1/linear foot

The implementation of both new and retrofit BMPs may require the purchase of land. Factoring land costs into the analysis allowed comparison of two BMPs with differing footprints. Since land availability is limited in the City of Cocoa Beach, land acquisition costs were estimated at \$100,000 per acre. Land costs for the stormwater pond projects at Seminole and Cocoa Isles were factored in at \$100,000 each although the actual land costs are much higher. This amount was chosen as a nominal amount to establish the ability to seek grants and cost-share funding from the Florida Department of Transportation (FDOT). Given the amount of State roadway drainage impacting these two basins, the City should petition considerable support from FDOT for these two projects.

These standard BMP cost units and factors allow the BMP projects to be fairly compared as to their relative economic benefit in conjunctions with their pollutant and/or flooding reduction effectiveness. In practical application, however, these costs would vary for a given BMP from project to project based on site-specific considerations. In addition, economies of scale would apply whereas smaller BMP projects would generally carry a higher average unit rate as compared to larger projects. This may result in some underestimation of smaller project cost and O&M and overestimation of larger project costs and O&M. Land costs would also be expected to vary considerably. **Based on the foregoing qualifications, the cost estimations provided in this report should be considered reasonable estimates useful for effective comparison of relative project benefits and overall**

CIP planning and budgeting purposes, but not for construction estimation without further project specific refinement.

6.1.4 Equivalent Annual Cost

Once the construction, capital, land acquisition, and operation and maintenance (O&M) costs were estimated for each individual project, the equivalent annual cost (EAC) of each project was determined. EAC is a means of comparing alternative projects. This approach annualizes the construction, capital, and land acquisition cost of a project so it can be added to the annual O&M costs to obtain the total cost per year.

For this evaluation, a 10-year analysis period and an interest rate of 7.5% were selected. Unit costs were calculated by dividing the EAC by the area served. The development of unit costs allows BMPs to be compared on the basis of TSS removal effectiveness by dividing the unit cost by TSS removed per acre (TSS removed by the BMP/area served) to obtain the UCE.

6.1.5 Project Applicability

The BMP projects included in the prioritization analysis were taken from the FULL BMP case evaluation minus the existing BMPs (existing swales, ponds, street sweeping, canal/dredge, and public education). Also, not included were proposed BMPs that would be expected to be implemented by entities other than the City's Stormwater Utility (i.e., not paid for by the Stormwater Utility fee). These include any proposed BMPs along FDOT roadways (swales/exfiltration) and at the public golf course (swales). BMPs that were included but not cost analyzed were several proposed private development partnerships with existing wet ponds, costs for which cannot be quantified at this time.

6.1.6 Project Ranking Results

The results of the project rankings by the various methods are included in Appendix 6A. These spreadsheets present the results of the individual ranking methods as well as the costs and data (i.e., construction costs, EAC, unit cost, etc.) used to calculate them. Since each ranking method compares each project differently, an average of the UCE, cost equalized UCE, and pollutant abatement rank was calculated for both the TSS removal and freshwater reduction scenarios. Each of these ranking methods was considered equally beneficial, so no preference was given to one versus the others at this time. **Based on consideration of each prioritization method equally, this average rank is considered to represent the most useful prioritization results and is included in Table 6-4**.

6.1.7 **Project Implementation Considerations**

After review of the prioritization results, consideration was made to the grouping of smaller, similar type BMPs by location. Originally, projects were segmented for the purposes of calculating their effectiveness by model nodes or discrete physical locations (street blocks). This aggregation of projects resulted in the combination of many swale and exfiltration projects into convenient groups for more efficient implementation purposes. In addition, some of the lower ranked projects along with locations that were considered of marginal benefit in light of implementation difficulties were removed from the project list.

The project groupings are defined on Table 6-5. The resulting project list developed following the grouping effort is shown on Table 6-6, which includes pertinent project specific

performance and cost data. This is considered the most feasible CIP project listing. The relative coverage of these BMP projects from a geographical perspective is shown on Exhibit 6-1.

Once the final project grouping was established, consideration was given to each project's relative value with respect to water resource/supply benefit as described in Section 6.1.1. Although the potential freshwater infiltration/retention ability of the BMPs were taken into account in the project rankings, an important aspect of project value that is not directly reflected in the ranking spreadsheet prioritization is the ability of a project to provide water supply value in the future. Stormwater is still in the infancy of its application to Florida's water supply. Stormwater is expected to become a component of water supply much the way wastewater has become a water resource and water supply alternative. Stormwater can come into the water supply picture in two ways. First, stormwater can act to recharge the City's surface aquifer thereby abating salt water intrusion and keeping the shallow well lens fresh. Also, water can be pumped directly into the deep aquifer (i.e., ASR) via wells during wet weather, along with wastewater, and can then be withdrawn during dry weather as a commodity. These future values are not currently tangible and costs are not clearly defined. Projects exhibiting the potential for providing this future value were given a more direct priority through logical ranking in the CIP.

Based on the foregoing project implementation considerations, including City review and input, the following 10 projects are recommended for implementation first under the first ten years of the CIP:

- 1. 2nd Street South Sediment Oil/Grease Trap
- 2. Northend Stormwater Pond Park
- 3. Downtown Stormwater Pond Park
- 4. Ocean Beach Swale/Exfiltration
- 5. Barello/Carmine Sediment Oil/Grease Trap
- 6. Cocoa Isles Stormwater Pond Park/Easement Swale on Vacant Property East of Samar
- 7. North Shore Sediment Oil/Grease Trap
- 8. Seminole Lane Stormwater Pond Park
- 9. St. Lucie Sediment Oil/Grease Trap

10. 8th Street South Sediment Oil/Grease Trap

It should be noted that many of these projects serve the State A1A roadway and all effort should be made to partner with FDOT on implementation. In particular, the stormwater ponds proposed for the major outfalls in Basins D (Seminole Lane) and E (Cocoa Isles) take mostly State highway drainage. These two projects in particular deserve special treatment by the State Department of Transportation. It is recommended that the City work very closely with FDOT to accomplish these projects.

TABLE 6.4 CIP PROJECT PRIORITIZATION RANKING SUMMARY STORMWATER MASTER PLAN CITY OF COCOA BEACH, FLORIDA

1		PROJEC	CT PRIORIT	IZATION S	CENARIO		1		
AVERAGE RANK *	UCE (TSS- BASED) RANK	COST EQUALIZED (TSS- BASED) RANK	TSS REMOVAL RANK	UCE (FRESH WATER- BASED) RANK	COST EQUALIZED (FRESH WATER- BASED) RANK	FRESH WATER REATINED RANK	BASIN	BMP TYPE	BMP LOCATION / DESCRIPTION
3.7	5	3	7	3	3	1	С	SWALE	OCEAN BEACH BLVD - 520 TO DIXIE TO MARION
5.3	3	4	10	5	6	4	В	SWALE	OCEAN BEACH BLVD SUWANEE TO GADSDEN
5.7	4	6	12	4	5	3	В	SWALE	OCEAN BEACH BLVD LEON TO PASCO
7.2	10	5	12	11	4	2	C	SWALE	ST. LUCIE - ATA TO BANANA RIVER BLVD - WEST
10.5	9	12	24	6	7	41	с н	SWALF	S 11TH ST - ATLANTIC TO N OPLANDO
11.5	6	8	20	9	14	12	В	SWALE	OCEAN BEACH BLVD PASCO TO OSCEOLA
11.7	7	9	22	8	13	11	Н	SWALE	S 8TH ST - ATLANTIC TO N ORLANDO
12.0	11	14	26	7	8	6	В	SWALE	OCEAN BEACH BLVD 520 TO VOLUSIA
12.8	13	7	18	17	12	10	C	SWALE	ST. LUCIE - A1A TO BANANA RIVER BLVD - EAST
13.8	8 10	15	23	10	16	15	A	SWALE	BEACH BLVD - LEON TO ALACHUA
17.5	21	17	31	14	9	9	G	SWALE SWALE	S 4TH ST - RIVERVIEW TO VACHT HAVEN
22.2	2	2	29	2	2	96	Н	POND	RIVER LAKES WET POND - FLOW DIVERSION/REHABILITATION
22.2	12	19	33	18	22	29	Α	SWALE	OCEAN BEACH BLVD - ALACHUA TO CALIFORNIA
23.0	16	24	44	13	19	22	I	SWALE	MINUTEMAN CSWY AND COUNTRY CLUB
23.3	18	26	46	12	18	20	Н	SWALE	S 10TH ST - ATLANTIC TO N ORLANDO
23.7	32	22	39	21	15	13	E	SWALE	BANANA RIVER BLVD - EAST
20.8	23	29	56	15	20	26	H	SWALE	S ITTH ST - N UKLANDU TU N BKEVARD
30.5	34	20	36	40	23	30	C	SWALE	ST. LUCIE - A1A TO BEACH BI VD
31.8	44	23	14	62	34	14	C	EXFILTRATION	OCEAN BEACH BLVD - 520 TO DIXIE TO MARION
32.5	68	27	48	34	10	8	E	SWALE	EAST OF SAMAR BEHIND DENNYS
34.5	45	28	21	55	39	19	Α	EXFILTRATION	MEAD WEST
36.8	48	44	35	43	35	16	F	EXFILTRATION	N BREVARD AVE - MINUTEMAN - N 2ND ST
38.2	03 46	38	32	21	17	18	B	SWALE EVELITRATION	PARK - BETWEEN ATA AND BANANA RIVER
38.3	31	41	69	20	43	42	F	SWALF	MINUTEMAN BETWEEN CRYSTAL RIVER AND DANUBE - FAST
38.3	24	33	59	29	33	52	i	SWALE	MINUTEMAN CSWY - MIDDLE SCHOOL
38.5	30	40	68	22	28	43		SWALE	MINUTEMAN CSWY - EAST DRIVERS ED
39.5	20	60	45	23	57	32	С	EXFILTRATION	MAIN TO WAKULLA
40.7	42	39	67	32	25	39	G	SWALE	MINUTEMAN CSWY - CRYSTAL TO DANUBE RIVER
41.3	28	37	03 34	31	36	53	Н	SWALE	S 91H ST - ATLANTIC TO N ORLANDO
42.0	50	45	37	49	47	23	G	EXFILTRATION	N BREVARD AVE - MINUTEMAN - N TST ST - SOUTH N BREVARD AVE AT S 1ST
43.2	33	45	70	28	32	51	C	SWALE	FLAGLER TO ST. LUCIE
43.7	36	48	71	26	31	50	I	SWALE	MINUTEMAN CSWY - WEST DRIVERS ED
44.2	25	36	61	35	45	63	В	SWALE	OCEAN BEACH BLVD OSCEOLA TO PARK
44.7	38	52	74	25	30	49	C	SWALE	PALM TO ST. LUCIE
45.5	27	25	10	88	95	37	D	POND	SEMINOLE STORMWATER POND PARK
46.7	52	49	40	50	49 80	24	<u>ل</u>		N BREVARD AVE - MINUTEMAN NORTHEND STORMWATER POND PARK
48.8	29	51	73	30	46	64	B	SWALE	OCEAN BEACH BLVD VOLUSIA TO SUWANEE
50.7	35	63	80	24	42	60	G	SWALE	MINUTEMAN CSWY - EAST OF RIVIERA
50.7	40	57	77	33	40	57	Н	SWALE	S 9TH ST - N ORLANDO TO N BREVARD
53.8	55	59	78	38	38	55	G	SWALE	MINUTEMAN CSWY - DELEON TO RIVIERA
54.2	51	47	3	91 50	98	35	E	POND	COCOA ISLES STORMWATER POND PARK
56.5	83	72	47	59 //1	24	33	B	SWALE	N BREVARD AVE - MINUTEMAN - N IST ST - NORTH
56.7	72	65	50	60	59	34	G	EXFILTRATION	N BREVARD AVE - MINUTEMAN - S 1ST ST
57.2	53	67	81	37	44	61	G	SWALE	N BREVARD - S 2ND TO S 3RD
58.5	73	66	51	61	62	38	С	EXFILTRATION	WAKULLA TO FLAGLER
59.0	86	73	85	44	26	40	В	SWALE	PASCO BETWEEN AIA AND BANANA RIVER
59.8	70	62 50	15	82	85	45	F	POND	WET POND N 2ND & BREVARD
61.0	71	64	49	68	66	48	B	EXFILTRATION	OCEAN BEACH BLVD - SUWANEE TO GADSDEN
61.7	100	35	60	84	37	54	Ē	SWALE	BANANA RIVER BLVD
61.8	74	69	53	65	64	46	В	EXFILTRATION	OCEAN BEACH BLVD LEON TO PASCO
63.0	89	77	91	48	29	44	В	SWALE	VOLUSIA BETWEEN AIA AND BANANA RIVER
63.8	14	10	2	119	119	119	E	SED TRAP - 4	HOLIDAY CENTER (SE035M / SE036O)
64.2	76	74	57	66	65	47	F	EXFILTRATION	N BREVARD AVE - N 1ST ST
65.0	84	58	43	39 77	53	69 56	н С	SWALE EXELLTRATION	S IUTH ST - N ORLANDU TU N BREVARD MARION TO BREVARD IN TO PALM
65.3	15	13	4	120	120	120	A	SED TRAP - 3	JACK DR. / KENT DR. / BANANA RIVER BLVD. (SA038M / SA0390)
65.5	104	70	54	80	54	31	G	EXFILTRATION	N BREVARD AVE - S 4TH TO S 5TH
66.8	17	16	5	121	121	121	F	SED TRAP - 3	NORTHSHORE (SF073I / SF074O)
67.0	59	80	93	42	56	72	F	SWALE	MINUTEMAN BETWEEN CRYSTAL RIVER AND BOUGANVILLEA - EAST
67.2	17	89	101	36	41	59	B	SWALE	GADSDEN - BETWEEN A1A AND BANANA RIVER
68.3	49	71	55	71	52	2/	H	EXFILIRATION	N BREVARD AVE - STUTH TO STITH REACH REVO - ALACHUA TO CALLEODNIA
68.5	82	75	88	53	48	65	1	SWALF	MINUTEMAN CSWY AND WARRINGER - NE SIDE
69.7	22	21	8	122	123	122	Ġ	SED TRAP - 3	SOUTH 2ND STREET (SG0771 / SG0780)

TABLE 6.4 CIP PROJECT PRIORITIZATION RANKING SUMMARY STORMWATER MASTER PLAN CITY OF COCOA BEACH, FLORIDA

		PROJEC	CT PRIORIT	IZATION S	CENARIO				
AVERAGE RANK *	UCE (TSS- BASED) RANK	COST EQUALIZED (TSS- BASED) RANK	TSS REMOVAL RANK	UCE (FRESH WATER- BASED) RANK	COST EQUALIZED (FRESH WATER- BASED) RANK	FRESH WATER REATINED RANK	BASIN	BMP TYPE	BMP LOCATION / DESCRIPTION
70.3	56	76	90	54	67	79	E	SWALE	ST CROIX AVE / BANANA RIVER BLVD
71.3	67	85	98	45	60	73	Н	SWALE	S 6TH ST - ATLANTIC TO N ORLANDO
71.5	65	84	97	47	61	75	G	SWALE	S 3RD ST - N ORLANDO TO ATLANTIC
74.3	43	68	16	106	115	98	E	POND	LORI WILSON PARK
74.3	37	30	9	123	124	123	С	SED TRAP - 4	ST. LUCIE LANE / BANANA RIVER BLVD. (SC063I / SC064O)
75.7	87	87	64	73	76	67	В	EXFILTRATION	OCEAN BEACH BLVD PASCO TO OSCEOLA
76.5	92	82	95	64	55	71	E	SWALE	BANANA RIVER BLVD - WEST
76.7	75	90	103	52	63	77	F	SWALE	MINUTEMAN BETWEEN CEDAR AND AZALEA - EAST
76.7	64	83	96	57	71	89	Н	SWALE	S 6TH ST - N ORLANDO TO N BREVARD
77.7	41	34	17	124	126	124	Н	SED TRAP - 3	SOUTH 8TH STREET (SH0711 / SH0720)
78.2	95	92	108	58	50	66	В	SWALE	ALACHUA BETWEEN AIA AND BANANA RIVER
78.8	39	32	25	126	125	126	F	SED TRAP - 2	NORTH 4TH STREET / BLAKEY (SF2331 / SF234O)
80.0	85	86	27	99	109	74	F	POND	WET POND N 1ST & CEDAR
82.5	78	95	112	56	70	84	Н	SWALE	S 7TH ST - ATLANTIC TO N ORLANDO
84.7	110	102	84	81	73	58	Н	EXFILTRATION	N BREVARD AVE - S 9TH TO S 10TH
84.8	90	94	111	63	69	82	G	SWALE	MINUTEMAN CSWY - CHIPOLA TO DELEON
85.0	112	98	/9	85	74	62	Н	EXFILTRATION	N BREVARD AVE - S 8TH (W)
86.0	62	56	19	125	129	125	D	SED TRAP - 4	SEMINOLE LANE (SD0400)
87.7	66	18	62	129	122	129	F	SED TRAP - 1	CEDAR AVENUE (SF426I / SF427O)
88.0	61	55	30	127	128	127	В	SED TRAP - 3	CARMINE DR. / BARRELLO LANE / BANANA RIVER BLVD. (SB0491 / SB0500)
88.2	106	93	72	100	82	76	Н	EXFILTRATION	N BREVARD AVE - S 101H TO S 111H
89.3	93	97	52	101	110	83	G	POND	DOWNTOWN STORMWATER POND PARK
07.3 00.0	00	- JJ - 100	42	128	127	128	G	SED TRAP - 2	MINUTEMAN / BREVARD (SGT3TT / SGT320)
90.0	00	100	117	6/	/5	93	G	SWALE	S 41H ST - N ORLANDO TO ALLANTIC
90.3	01	90	115	09	81 112	100	н с	DOND	5 81H 51 - N ORLANDU TU N BREVARD
91.8	102	107	90	70	04	91	F		
92.5	114	107	94	/9	70	80	U U	EXFILTRATION	
93.3	109	100	123	70	68	81	G	SWALF	N BREVARD AVE - S 4TH TO S 10TH
93.7	97	101	82	90	97	95	C C	EXEL TRATION	FLAGLER TO ST LUCIE
95.0	96	105	121	72	79	97	G	SWALE	MINUTEMAN CSWY - AUCUA TO BOCA CIEGA
95.2	99	104	89	89	96	94	C	EXEL TRATION	PALM TO ST LUCIE
95.8	105	110	102	83	88	87	F	EXFILTRATION	N BREVARD AVE - N 3RD ST - N 4TH ST
102.5	117	114	107	97	90	90	Н	EXFILTRATION	N BREVARD AVE - S 6TH
102.8	111	119	116	86	93	92	F	EXEL TRATION	N BREVARD AVE - N 2ND ST - N 3RD ST
103.5	124	111	104	111	86	85	Н	EXFILTRATION	N BREVARD AVE - S 7TH
103.5	101	120	124	78	91	107	F	SWALE	MINUTEMAN BETWEEN CEDAR AND AZALEA - WEST
103.8	79	79	75	130	130	130	В	SED TRAP - 1	BARRELLO LANE / ANGELO LANE / BANANA RIVER BLVD. (SB214I / SB215O)
104.2	121	113	106	108	89	88	G	EXFILTRATION	N BREVARD AVE - S 2ND TO S 3RD (SW)
104.8	127	112	105	112	87	86	G	EXFILTRATION	N BREVARD AVE - S 3RD TO S 4TH
105.0	80	81	76	131	131	131	F	SED TRAP - 1	NORTH 3RD STREET (SF323I / SF324O)
106.3	107	115	109	96	107	104	В	EXFILTRATION	OCEAN BEACH BLVD OSCEOLA TO PARK
107.5	119	108	100	109	106	103	Н	EXFILTRATION	N BREVARD AVE - S 9TH TO S 10TH
109.0	115	118	114	105	103	99	Α	EXFILTRATION	MEAD EAST
109.5	108	124	120	92	108	105	В	EXFILTRATION	OCEAN BEACH BLVD VOLUSIA TO SUWANEE
109.5	116	121	125	95	92	108	С	SWALE	BEACH BLVD - 520 TO DIXIE TO MARION
110.7	91	91	86	132	132	132	E	SED TRAP - 1	HOLIDAY LANE (SE054I)
110.7	113	125	126	87	101	112	G	SWALE	MINUTEMAN CSWY - BOCA CIEGA TO CHIPOLA
112.0	120	122	118	107	104	101	Н	EXFILTRATION	N BREVARD AVE - S 8TH (E)
113.2	122	116	110	114	111	106	Н	EXFILTRATION	N BREVARD AVE - S 9TH TO S 10TH
114.5	98	103	87	133	133	133	В	SED TRAP - 2	BRIGHTWATERS DR. / DORSET DR. / FAIRVIEW DR. (SB134M / SB135O)
114.7	130	130	131	94	94	109	G	SWALE	S 4TH ST - YACHT HAVEN TO SLOOP
115.2	118	117	113	115	114	114	Н	EXFILTRATION	N BREVARD AVE - S 6TH
115.2	125	127	128	102	99	110	B	SWALE	LEON BETWEEN AIA AND BANANA RIVER
115.5	131	123	119	113	105	102	G	EXFILIRATION	N BREVARD AVE - S 2ND TO S 3RD
116.5	128	128	129	103	100	111	G	SWALE	N BREVARD - S 3RD TO S 5TH
117.8	129	129	130	104	102	113	G	SWALE	N BREVARD - S 2ND TO S 4TH
119.3	120	132	132	98	112	116	G	SWALE	N BREVARD - S 2ND TO S 3RD
119.7	123	120	122	110	110	115	н		
123.7	132	131	127	118	117	117	U F		BEACH BLVD - 520 TO DIXIE TO MARION
123.3	133	155	133	117	118	118	L L	SWALE	MINUTEMAN BETWEEN CRYSTAL RIVER AND BOUGANVILLEA - WEST

NOTES: * Equal weighting applied to each ranking type for average (i.e., (UCE TSS + TSS Removed + Cost Equalized UCE TSS + UCE Freshwater + Freshwater Retained + Cost Equalized uce Freshwater)/6)

TABLE 6.5 PROJECT GROUPING LISTING FOR EXFILTRATION AND SWALE PROJECTS STORMWATER MASTER PLAN CITY OF COCOA BEACH, FLORIDA

PROJECT GROUP	INDIVIDUAL BMP LOCATION / DESCRIPTION	BASIN	BMP TYPE
	OCEAN BEACH BLVD - ALACHUA TO CALIFORNIA	А	EXFILTRATION
	OCEAN BEACH BLVD - LEON TO ALACHUA	А	EXFILTRATION
	OCEAN BEACH BLVD LEON TO PASCO	В	EXFILTRATION
	OCEAN BEACH BLVD OSCEOLA TO PARK	В	EXFILTRATION
	OCEAN BEACH BLVD PASCO TO OSCEOLA	В	EXFILTRATION
ENHANCED SWALE /	OCEAN BEACH BLVD SUWANEE TO GADSDEN	В	EXFILTRATION
EXFILTRATION PROJECTS -	OCEAN BEACH BLVD VOLUSIA TO SUWANEE	В	EXFILTRATION
OCEAN BEACH BOULEVARD	OCEAN BEACH BLVD - ALACHUA TO CALIFORNIA	A	SWALE
BETWEEN CALIFORNIA &	OCEAN BEACH BLVD - LEON TO ALACHUA	A	SWALE
VOLUSIA	OCEAN BEACH BLVD 520 TO VOLUSIA	В	SWALE
	OCEAN BEACH BLVD LEON TO PASCO	В	SWALE
	OCEAN BEACH BLVD OSCEOLA TO PARK	В	SWALE
	OCEAN BEACH BLVD PASCO TO OSCEOLA	В	SWALE
	OCEAN BEACH BLVD SUWANEE TO GADSDEN	В	SWALE
	OCEAN BEACH BLVD VOLUSIA TO SUWANEE	B	
	OCEAN BEACH BLVD - 520 TO DIXIE TO MARION		
	UCEAN BEACH BLVD - 520 TO DIXIE TO WARTON		
ENHANCED SWALE /	FLAGLER TO ST. LUCIE MADIONI TO RDEVADD LANE TO DALM		
EXELL TRATION PROJECTS -	DALM TO ST LUCIE	C	EXELLERATION
OCEAN BEACH BOULEVARD 520	OCEAN BEACH BLVD - 520 TO DIVIE TO MARION	C	SWALE
TO FLAGLER	OCEAN BEACH BLVD - 520 TO DIVIE TO MARION	C	SWALE
TOTEROLER	ELAGER TO ST. LUCIE	C.	SWALE
	MARION TO BREVARD IN TO PALM	C.	SWALE
	PALM TO ST. LUCIE	C	SWALE
	N BREVARD AVE - MINUTEMAN - N 1ST ST - N 2ND ST	F	EXFILTRATION
	N BREVARD AVE - MINUTEMAN - N 2ND ST	F	EXFILTRATION
EXFILTRATION PROJECTS -	N BREVARD AVE - N 1ST ST	F	EXFILTRATION
BREVARD AVENUE FROM NORTH	N BREVARD AVE - N 2ND ST - N 3RD ST	F	EXFILTRATION
4TH STREET TO MINUTEMAN	N BREVARD AVE - N 3RD ST - N 4TH ST	F	EXFILTRATION
CAUSEWAY	N BREVARD AVE - MINUTEMAN	G	EXFILTRATION
	N BREVARD AVE - MINUTEMAN - N 1ST ST - NORTH	G	EXFILTRATION
	N BREVARD AVE - MINUTEMAN - N 1ST ST - SOUTH	G	EXFILTRATION
	N BREVARD AVE - MINUTEMAN - SIST ST	G	EXFILIRATION
EXFILTRATION PROJECTS -	N BREVARD AVE - S 1ST TO S 2ND	G	EXFILTRATION
BREVARD AVENUE FROM	N BREVARD AVE - S 2ND TO S 3RD	G	EXFILTRATION
MINUTEMAN CAUSEWAY TO	N BREVARD AVE - S 2ND TO S 3RD (SW)	G	EXFILTRATION
SOUTH 5TH STREET	N BREVARD AVE - S 3RD TO S 4TH	G	EXFILTRATION
	N BREVARD AVE - S 4TH TO S 5TH	G	EXFILTRATION
	N BREVARD AVE AT S 1ST	G	EXFILTRATION
	N BREVARD AVE - S 10TH TO S 11TH	Н	EXFILTRATION
	N BREVARD AVE - S 10TH TO S 11TH	Н	EXFILTRATION
	N BREVARD AVE - S 6TH	H	EXFILTRATION
EXELL TRATION PROJECTS -	N BREVARD AVE - S 7TH	Н	EXFILTRATION
BREVARD AVENUE FROM SOUTH	N BREVARD AVE - S 8TH (E)	Н	EXFILTRATION
5TH STREET TO SOUTH 11TH	N BREVARD AVE - S 8TH (E)	Н	EXFILTRATION
STRFFT	N BREVARD AVE - S 8TH (W)	Н	EXFILTRATION
SINCE	N BREVARD AVE - S 9TH TO S 10TH	Н	EXFILTRATION
	N BREVARD AVE - S 9TH TO S 10TH	Н	EXFILTRATION
	N BREVARD AVE - S 9TH TO S 10TH	Н	EXFILTRATION
	N BREVARD AVE - S 9TH TO S 10TH	Н	EXFILTRATION

TABLE 6.5 PROJECT GROUPING LISTING FOR EXFILTRATION AND SWALE PROJECTS STORMWATER MASTER PLAN CITY OF COCOA BEACH, FLORIDA

PROJECT GROUP	INDIVIDUAL BMP LOCATION / DESCRIPTION	BASIN	BMP TYPE
	ALACHUA BETWEEN AIA AND BANANA RIVER	В	SWALE
	GADSDEN - BETWEEN A1A AND BANANA RIVER	В	SWALE
SWALE PROJECTS - BETWEEN	LEON BETWEEN AIA AND BANANA RIVER	В	SWALE
VOLUSIA & ALACHUA AND	OSCEOLA BETWEEN AIA AND BANANA RIVER	В	SWALE
SRA1A & NORTH BANANA RIVER	PARK - BETWEEN A1A AND BANANA RIVER	В	SWALE
BLVD.	PASCO BETWEEN AIA AND BANANA RIVER	В	SWALE
	SUWANEE BETWEEN AIA AND BANANA RIVER	В	SWALE
	VOLUSIA BETWEEN AIA AND BANANA RIVER	В	SWALE
EASEMENT SWALES - OCEAN	ST. LUCIE - A1A TO BANANA RIVER BLVD - EAST	С	SWALE
BEACH TO BANANA RIVER BI VD	ST. LUCIE - A1A TO BANANA RIVER BLVD - WEST	С	SWALE
DEACH TO DANANA RIVER DEVD.	ST. LUCIE - A1A TO BEACH BLVD	С	SWALE
SWALE PROJECTS - BANANA	BANANA RIVER BLVD - EAST	E	SWALE
	BANANA RIVER BLVD - WEST	E	SWALE
RIVER BEVD & ST. CROIX	ST CROIX AVE / BANANA RIVER BLVD	E	SWALE
	MINUTEMAN BETWEEN CEDAR AND AZALEA - EAST	F	SWALE
	MINUTEMAN BETWEEN CEDAR AND AZALEA - WEST	F	SWALE
	MINUTEMAN BETWEEN CRYSTAL RIVER AND BOUGANVILLEA - EAST	F	SWALE
	MINUTEMAN BETWEEN CRYSTAL RIVER AND BOUGANVILLEA - WEST	F	SWALE
	MINUTEMAN BETWEEN CRYSTAL RIVER AND DANUBE - EAST	F	SWALE
	MINUTEMAN CSWY - AUCILA TO BOCA CIEGA	G	SWALE
SWALE PROJECTS - MINUTEMEN	MINUTEMAN CSWY - BOCA CIEGA TO CHIPOLA	G	SWALE
CALISEWAY SWALES - ALICILA	MINUTEMAN CSWY - CHIPOLA TO DELEON	G	SWALE
	MINUTEMAN CSWY - CRYSTAL TO DANUBE RIVER	G	SWALE
TO COUNTRY CLUB	MINUTEMAN CSWY - DELEON TO RIVIERA	G	SWALE
	MINUTEMAN CSWY - EAST OF RIVIERA	G	SWALE
	MINUTEMAN CSWY - EAST DRIVERS ED	I	SWALE
	MINUTEMAN CSWY - MIDDLE SCHOOL	I	SWALE
	MINUTEMAN CSWY - WEST DRIVERS ED	I	SWALE
	MINUTEMAN CSWY AND COUNTRY CLUB	I	SWALE
	MINUTEMAN CSWY AND WARRINGER - NE SIDE		SWALE
	N BREVARD - S 2ND TO S 3RD	G	SWALE
	N BREVARD - S 2ND TO S 3RD	G	SWALE
	N BREVARD - S 2ND TO S 4TH	G	SWALE
SWALE PROJECTS - SOUTH 3RD	N BREVARD - S 3RD TO S 5TH	G	SWALE
TO SOUTH 7TH STREET FROM	N BREVARD - S 4TH TO S 6TH	G	SWALE
ATLANTIC TO BREVARD	S 3RD ST - N ORLANDO TO ATLANTIC	G	SWALE
	S 6TH ST - ATLANTIC TO N ORLANDO	Н	SWALE
	S 6TH ST - N ORLANDO TO N BREVARD	Н	SWALE
	IS 7TH ST - ATLANTIC TO N ORLANDO	H	SWALE
SWALE PROJECTS - SOUTH 4TH	S 4TH ST - N ORLANDO TO ATLANTIC	G	SWALE
STREET FROM ATLANTIC TO	S 4TH ST - RIVERVIEW TO YACHT HAVEN	G	SWALE
SLOOP	S 4TH ST - YACHT HAVEN TO SLOOP	G	SWALE
	S 10TH ST - ATLANTIC TO N ORLANDO	H	SWALE
	S 101H SI - N ORLANDO TO N BREVARD	Н	SWALE
SWALE PROJECTS - SOUTH 8TH	S 111H SI - ATLANTIC TO N ORLANDO	Н	SWALE
TO SOUTH 11TH STREET FROM	S 111H SI - N ORLANDO TO N BREVARD	H	SWALE
ATLANTIC TO BREVARD	S 81H SI - ATLANTIC TO N ORLANDO	H	SWALE
	S 81H SI - N ORLANDO TO N BREVARD	H	SWALE
	S 91H SI - ATLANTIC TO N ORLANDO	H	SWALE
	IS 9TH ST - N ORLANDO TO N BREVARD	Н	SWALE

TABLE 6.6 CIP PROJECT SUMMARY BY BASIN STORMWATER MASTER PLAN CITY OF COCOA BEACH, FLORIDA

			Estimated Pollutant Load Reduction Data				Estimated Construction costs			Estimated Capital Costs								
BASIN	BMP LOCATION / DESCRIPTION SE (2)	AREA ERVED RE (acres) Bl	TSS EMOVED BY MP (Ibs/yr)	TN REMOVED BY BMP (lbs/yr)	TP REMOVED BY BMP (lbs/yr)	FRESH WATER RETAINED BY BMP (Mgal/yr)	Factored Labor Portion of Construction Costs (\$)	Factored Equipment/ Materials Portion of Construction Costs (\$)	Total Construction Cost (\$)	CONTINGENCY Capital Cost (\$)	ENGINEERING Capital Cost (\$)	PERMITTING Capital Cost (\$)	ADMIN/LEGAL Capital Cost (\$)	Total Capital Cost (\$)	Estimated Land Cost (\$)	Total Estimated Implementation Cost	Estimated Annual O&M (\$/year)*	Estimated Implementation Schedule (months)
A,B	ENHANCED SWALE / EXFILTRATION PROJECTS - OCEAN BEACH BOULEVARD BETWEEN CALIFORNIA & VOLUSIA	81.6	4712	128.1	19.17	10.25	\$51,250	\$115,000	\$166,250	\$14,688	\$16,625	\$8,313	\$8,313	\$47,938	\$0	\$214,188	\$7,150	6
С	ENHANCED SWALE / EXFILTRATION PROJECTS - OCEAN BEACH BOULEVARD 520 TO FLAGLER	35.1	3059	76.7	17.48	8.97	\$63,750	\$148,750	\$212,500	\$19,125	\$21,250	\$10,625	\$10,625	\$61,625	\$0	\$274,125	\$9,350	6
F,G	EXFILTRATION PROJECTS - BREVARD AVENUE FROM NORTH 4TH STREET TO MINILITEMAN CALISEWAY	18.8	1641	41.2	9.06	4.44	\$40,000	\$120,000	\$160,000	\$16,000	\$16,000	\$8,000	\$8,000	\$48,000	\$0	\$208,000	\$8,000	6
G	EXFILTRATION PROJECTS - BREVARD AVENUE FROM MINUTEMAN CAUSEWAY TO	13.1	808	18.6	4.58	2.28	\$110,000	\$330,000	\$440,000	\$44,000	\$44,000	\$22,000	\$22,000	\$132,000	\$0	\$572,000	\$22,000	6
Н	EXFILTRATION PROJECTS - BREVARD AVENUE FROM SOUTH 5TH STREET TO SOUTH 11TH STREET	33.4	596	28.7	6.53	2.06	\$167,500	\$502,500	\$670,000	\$67,000	\$67,000	\$33,500	\$33,500	\$201,000	\$0	\$871,000	\$33,500	6
В	SWALE PROJECTS - BETWEEN VOLUSIA & ALACHUA AND SRA1A & NORTH BANANA RIVER BLVD.	39.9	524	5.7	1.84	3.52	\$43,750	\$43,750	\$87,500	\$4,375	\$8,750	\$4,375	\$4,375	\$21,875	\$0	\$109,375	\$1,750	4
С	EASEMENT SWALES ALONG ST. LUCIE FROM OCEAN BEACH TO BANANA RIVER BLVD.	18.4	1726	9.5	3.71	3.88	\$17,500	\$17,500	\$35,000	\$1,750	\$3,500	\$1,750	\$1,750	\$8,750	\$0	\$43,750	\$700	4
E	SWALE PROJECTS - BANANA RIVER BLVD & ST. CROIX	10.7	365	3.1	1.25	1.40	\$15.000	\$15,000	\$30,000	\$1,500	\$3,000	\$1,500	\$1,500	\$7,500	\$0	\$37,500	\$600	4
E	EASEMENT SWALE ON VACANT PROPERTY EAST OF SAMAR	9.0	208	2.0	0.87	1.39	\$12,500	\$12,500	\$25.000	\$1,250	\$2,500	\$1,250	\$1,250	\$6,250	\$0	\$31,250	\$500	4
F,G,I	SWALE PROJECTS - MINUTEMEN CAUSEWAY SWALES - AUCILA TO COUNTRY CLUB	39.2	1173	8.3	2.93	4.32	\$48,125	\$48,125	\$96,250	\$4,813	\$9,625	\$4,813	\$4,813	\$24,063	\$0	\$120,313	\$1,925	4
G,H	SWALE PROJECTS - SOUTH 3RD TO SOUTH 7TH STREET FROM ATLANTIC TO BREVARD	21.8	248	2.1	0.91	1.01	\$35,000	\$35,000	\$70,000	\$3,500	\$7,000	\$3,500	\$3,500	\$17,500	\$0	\$87,500	\$1,400	4
G	SWALE PROJECTS - SOUTH 4TH STREET FROM ATLANTIC TO SLOOP	11.0	358	3.0	1.16	1.43	\$12,500	\$12,500	\$25,000	\$1,250	\$2,500	\$1,250	\$1,250	\$6,250	\$0	\$31,250	\$500	4
Н	SWALE PROJECTS - SOUTH 8TH TO SOUTH 11TH STREET FROM ATLANTIC TO BREVARD	46.6	1590	11.7	4.55	5.36	\$20,000	\$20,000	\$40,000	\$2,000	\$4,000	\$2,000	\$2,000	\$10,000	\$0	\$50,000	\$800	4
А	STORMWATER POND - NORTHEND STORMWATER POND PARK	59.4	1362	68.9	16.38	0.98	\$25,200	\$58,800	\$84,000	\$16,800	\$12,600	\$4,200	\$4,200	\$37,800	\$1,500	\$123,300	\$10,500	12
С	STORMWATER POND - WET POND - ROCK POINT - FLOW DIVERSION / REHABILITATION	72.7	825	84.9	24.18	0.44	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	6
D	STORMWATER POND - SEMINOLE STORMWATER POND PARK	83.0	4153	264.1	41.64	0.48	\$16,800	\$39,200	\$56,000	\$11,200	\$8,400	\$2,800	\$2,800	\$25,200	\$100,000	\$181,200	\$10,500	12
E	STORMWATER POND - COCOA ISLES STORMWATER POND PARK	81.2	1931	189.2	38.50	0.50	\$21,000	\$49,000	\$70,000	\$14,000	\$10,500	\$3,500	\$3,500	\$31,500	\$100,000	\$201,500	\$10,500	12
F	STORMWATER POND - WET POND N 1ST & CEDAR	6.8	411	13.1	2.98	0.17	\$10,500	\$24,500	\$35,000	\$7,000	\$5,250	\$1,750	\$1,750	\$15,750	\$50,000	\$100,750	\$5,250	12
F	STORMWATER POND - WET POND N 2ND & BREVARD	33.5	742	61.0	7.23	0.40	\$10,500	\$24,500	\$35,000	\$7,000	\$5,250	\$1,750	\$1,750	\$15,750	\$50,000	\$100,750	\$5,250	12
F	STORMWATER POND - WET POND N 3RD & BREVARD (N OF JONATHANS)	4.6	242	9.4	2.15	0.08	\$10,500	\$24,500	\$35,000	\$7,000	\$5,250	\$1,750	\$1,750	\$15,750	\$50,000	\$100,750	\$5,250	12
G	STORMWATER POND - DOWNTOWN STORMWATER POND PARK	18.7	193	26.3	7.16	0.12	\$12,600	\$29,400	\$42,000	\$8,400	\$6,300	\$2,100	\$2,100	\$18,900	\$0	\$60,900	\$5,250	12
Н	STORMWATER POND - RIVER LAKES WET POND - FLOW DIVERSION/REHABILITATION	110.5	393	36.6	7.35	0.07	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	6
А	SEDIMENT / OIL & GREASE TRAP - JACK DR. / KENT DR. / BANANA RIVER BLVD. (SA038M / SA039O)	64.4	1824	56.3	1.37	0.00	\$10,000	\$30,000	\$40,000	\$6,000	\$4,000	\$2,000	\$2,000	\$14,000	\$0	\$54,000	\$500	6
В	SEDIMENT / OIL & GREASE TRAP - BARRELLO LANE / ANGELO LANE / BANANA RIVER BLVD. (SB214I / SB215O)	11.0	84	6.7	0.15	0.00	\$3,750	\$11,250	\$15,000	\$2,250	\$1,500	\$750	\$750	\$5,250	\$0	\$20,250	\$300	6
В	SEDIMENT / OIL & GREASE TRAP - BRIGHTWATERS DR. / DORSET DR. / FAIRVIEW DR. (SB134M / SB1350)	23.0	55	5.0	0.13	0.00	\$6,250	\$18,750	\$25,000	\$3,750	\$2,500	\$1,250	\$1,250	\$8,750	\$0	\$33,750	\$400	6
В	SEDIMENT / OIL & GREASE TRAP - CARMINE DR. / BARRELLO LANE / BANANA RIVER BLVD. (SB0491 / SB0500)	61.5	356	34.2	0.81	0.00	\$10,000	\$30,000	\$40,000	\$6,000	\$4,000	\$2,000	\$2,000	\$14,000	\$0	\$54,000	\$500	6
С	SEDIMENT / OIL & GREASE TRAP - ST. LUCIE LANE / BANANA RIVER BLVD. (SC0631 / SC0640)	72.7	1032	66.1	1.96	0.00	\$15,000	\$45,000	\$60,000	\$9,000	\$6,000	\$3,000	\$3,000	\$21,000	\$0	\$81,000	\$500	6
D	SEDIMENT / OIL & GREASE TRAP - SEMINOLE LANE (SD0400)	83.0	519	64.8	1.12	0.00	\$15,000	\$45,000	\$60,000	\$9,000	\$6,000	\$3,000	\$3,000	\$21,000	\$0	\$81,000	\$500	6
E	SEDIMENT / OIL & GREASE TRAP - HOLIDAY CENTER (SE035M / SE036O)	81.2	3075	161.6	3.38	0.00	\$15,000	\$45,000	\$60,000	\$9,000	\$6,000	\$3,000	\$3,000	\$21,000	\$0	\$81,000	\$500	6
E	SEDIMENT / OIL & GREASE TRAP - HOLIDAY LANE (SE054I)	7.6	56	1.5	0.05	0.00	\$3,750	\$11,250	\$15,000	\$2,250	\$1,500	\$750	\$750	\$5,250	\$0	\$20,250	\$300	6
F	SEDIMENT / OIL & GREASE TRAP - NORTH 3RD STREET (SF323I / SF324O)	9.6	81	4.0	0.13	0.00	\$3,750	\$11,250	\$15,000	\$2,250	\$1,500	\$750	\$750	\$5,250	\$0	\$20,250	\$300	6
F	SEDIMENT / OIL & GREASE TRAP - CEDAR AVENUE (SF4261 / SF4270)	12.9	128	5.8	0.19	0.00	\$3,750	\$11,250	\$15,000	\$2,250	\$1,500	\$750	\$750	\$5,250	\$0	\$20,250	\$300	6
F	SEDIMENT / OIL & ORLAGE THAT - NORTH HT STREET / DEARCT (SF2331 / SF2340)	26.5	424	13.4	0.45	0.00	\$6,250	\$18,750	\$25,000	\$3,750	\$2,500	\$1,250	\$1,250	\$8,750	\$0	\$33,750	\$400 \$500	6
r	SEDIMENT / OIL & GREASE TRAP - NORTHSHORE (SPUTST / SPUT40)	47.0	1041	03.2	1.00	0.00	\$10,000	\$30,000	\$40,000	\$0,000	\$4,000	\$2,000	\$2,000	\$14,000	φU	\$34,000	\$200	0
G	SEDIMENT / OIL & GREASE TRAP - MINUTEMAN / BREVARD (SG1311 / SG1320)	21.0	241	20.5	0.58	0.00	\$6,250	\$18,750	\$25,000	\$3,750	\$2,500	\$1,250	\$1,250	\$8,750	\$0	\$33,750	\$400	6
H	SEDIMENT / OIL & GREASE TRAP - SOUTH 2ND STREET (SOUTH / SOUTH	49.8	600	<u>41.0</u> 52.4	1.30	0.00	\$10,000	\$30,000	\$40,000	\$6,000	\$4,000	\$2,000	\$2,000	\$14,000	↓ \$0	\$54,000	\$500	6
				02.1		5.50	÷.0,000	+00,000	# .0,000	#0,000	÷.,000	÷=,000	<i><i>v-</i>,000</i>	÷,000	÷.	÷0.1000	+000	

Notes:

* For combined BMP project areas, annual O&M costs were reduced 50% from combined total to account for double maintenance

6.2 CIP WATER QUALITY IMPACT

The CIP project list was input into the BMP evaluation spreadsheets to determine the specific impact to the pollutant loading results. This *CIP BMP* pollutant loading case was then compared to the *FULL BMP* and Existing BMP cases which established the site specific TAPLRG. The results of this comparison are summarized in Table 6-7, and Figure 6-1. The results of the *EXISTING BMP* and *FULL BMP* cases are reiterated for comparison purposes.

The results indicate that the *CIP BMP* case comes close to the pollutant reduction performance of the *FULL BMP* case, with only a 1-2% difference in overall pollutant reduction for TSS (83% versus 85%), TN (68% versus 69%), and TP (67% versus 69%). The difference in the reduction in runoff volume was more pronounced but not significant differing by approximately 12% (34% versus 46%) from the *FULL BMP* case.

The CIP projects appear to provide a good effort at meeting the TAPLRG developed in the previous sections. Considering the approximations and inherent estimations used in the pollutant loading calculation process, the CIP projects may in fact provide nearly the same level of water quality benefit as indicated the *FULL BMP* implementation. This would require confirmation during the implementation process through reevaluation of the pollutant loading model utilizing actual project data. The City's CIP implementation along with significant actions by others (FDOT, Golf Course) could achieve a very beneficial level of pollutant reduction. This degree of water quality improvement would put the City in a good, if not excellent position with regard to the upcoming TMDL regulations.

TABLE 6.7 POLLUTANT LOADING COMPARISON STORMWATER MASTER PLAN CITY OF COCOA BEACH, FLORIDA

CIP BMP																
		TS	is			TN				T	Р		FRESHWATER			
BASIN	BMP % REMOVAL	LBS. REMOVED	LBS. BEGIN	LBS. REMAIN	BMP % REMOVAL	LBS. REMOVED	LBS. BEGIN	LBS. REMAIN	BMP % REMOVAL	LBS. REMOVED	LBS. BEGIN	LBS. REMAIN	BMP % REMOVAL	MILLION GALLONS RETAINED	MILLION GALLONS BEGIN	MILLION GALLONS REMAIN
А	79.3%	11,042	13,918	2,876	67.5%	321	476	154	68.7%	49.6	72.1	22.6	22.5%	5.6	25.0	19.3
В	65.0%	11,111	17,095	5,984	60.2%	409	680	271	55.7%	53.5	96.1	42.6	39.4%	13.1	33.1	20.1
С	82.1%	29,490	35,902	6,412	66.1%	736	1,114	378	64.7%	115.4	178.4	63.0	44.8%	22.9	51.1	28.2
D	90.4%	29,846	33,011	3,165	71.9%	715	994	279	73.8%	111.8	151.6	39.8	41.8%	20.3	48.4	28.2
E	92.6%	40,107	43,295	3,188	76.7%	1,149	1,499	350	77.6%	191.8	247.1	55.3	32.4%	23.9	73.9	50.0
F	93.6%	26,621	28,434	1,814	80.4%	763	949	186	74.6%	120.3	161.3	41.0	27.3%	13.7	50.1	36.4
G	89.9%	19,185	21,336	2,151	74.1%	577	779	202	74.2%	101.8	137.1	35.3	29.9%	12.2	40.8	28.6
Н	67.9%	9,164	13,505	4,342	40.9%	230	563	333	39.8%	42.3	106.3	64.0	48.1%	14.9	31.0	16.1
	38.6%	4,373	11,328	6,956	39.5%	151	381	231	35.3%	14.7	41.7	27.0	16.7%	5.7	34.0	28.3
TOTALS	83.1%	180,939	217,824	36,886	67.9%	5,052	7,435	2,384	67.2%	801	1,192	391	34.1%	132	387	255

REFERENCE DATA FROM WATER QUALITY ASSESSMENT AND BMP EVALUATION SECTIONS

		TS	S			TN				Т	Р		Freshwater Volume			
BASIN BMP % LBS. LBS. LBS. REMOVAL REMOVED BEGIN REMAIN					BMP % REMOVAL	LBS. REMOVED	LBS. BEGIN	LBS. REMAIN	BMP % Removal	LBS. REMOVED	LBS. BEGIN	LBS. REMAIN	BMP % REMOVAL	MILLION GALLONS RETAINED	MILLION GALLONS BEGIN	MILLION GALLONS REMAIN
EXISTING BMP	CASE															
TOTALS	73.1%	159,278	217,824	58,546	54.5%	4,049	7,435	3,386	55.4%	660	1,192	531	21.1%	82	387	306
FULL BMP CASE																
TOTALS	84.7%	184,567	217,824	33,257	68.7%	5,111	7,435	2,325	68.6%	818	1,192	374	46.0%	178	387	209

DIFFERENCE CIP BMP TO EXISTING BMP CASE	9.9%	21,660		13.5%	1,002		11.8%	141		13.1%	51	
DIFFERENCE CIP BMP TO FULL BMP CASE	1.7%	3,628		0.8%	59		1.4%	17		11.9%	46	

% REDUCTION FROM FULL BMP TO EXISTING BMP CASE: 43%	31%	30%	32%
% REDUCTION FROM CIP BMP TO EXISTING BMP CASE: 37%	30%	27%	17%











6.3 CIP PROJECT DESCRIPTIONS

Included as Attachment 6-1 to this section are detailed one-page fact summary sheets about the projects identified for the CIP program. Included are photos of the proposed locations along with project descriptions, cost information, implementation scheduling estimates, and site-specific considerations.

It should be reiterated that the cost, schedule, and other technical data associated with these project sheets are estimates based on the CIP prioritization and comparison analysis provided in this section. Actual costs and schedules will vary based on economies of scale and method of implementation (i.e., City versus contractor constructed). These estimated should not be used for construction purposes without further refinement based on additional services required (e.g., engineering, surveying, utility identification, etc.).

Included as Attachment 6-2 are separate generalized fact sheets of project descriptions recommended for the City's State highways SRA1A and SR520. These projects would be under the jurisdiction of the FDOT for implementation. Although these projects are not directly addressed in this Master Plan, the benefit of these projects is considered significant enough to warrant their recommendation.

ATTACHMENT 6-1

CIP

STORMWATER PROJECT DATA SHEETS

Project # Project Name

- 1. SWALES & EXFILTRATION Ocean Beach Boulevard between California & Volusia
- 2. SWALES & EXFILTRATION Ocean Beach Boulevard between 520 & Flagler
- 3. EXFILTRATION Brevard Avenue from North 4th Street to Minuteman Causeway
- 4. EXFILTRATION Brevard Avenue from Minuteman Causeway To South 5th Street
- 5. EXFILTRATION Brevard Avenue from South 5th Street to South 11th Street
- 6. SWALES Between Volusia & Alachua and SRA1A & North Banana
- 7. SWALES Easement Swales along St. Lucie from Ocean Beach to Banana River Blvd.
- 8. SWALES Banana River Blvd & St. Croix
- 9. SWALES Easement Swale on vacant property east of Samar
- 10. SWALES Minutemen Causeway Swales Aucila to Country Club
- 11. SWALES 3rd 7th St. S from Atlantic to Brevard
- 12. SWALES 4th St S from Atlantic to Sloop
- 13. SWALES 8th 11th St. S from Atlantic to Brevard
- 14. PONDS Northend Stormwater Pond Park
- 15. PONDS Rock Point Condos Flow Diversion / Private Retention Partnership
- 16. PONDS Seminole Lane Stormwater Pond Park
- 17. PONDS Cocoa Isles Stormwater Pond Park
- 18. PONDS North 1st & Cedar
- 19. PONDS North 2nd & Brevard
- 20. PONDS North 3rd & Brevard (North of Jonathans)
- 21. PONDS Downtown Stormwater Pond Park
- 22. PONDS River Lakes Wet Pond Flow Diversion / Private Retention Partnership
- 23. SEDIMENT TRAPS Jack Dr. / Kent Dr. / Banana River Blvd. (SA038M / SA039O)
- 24. SEDIMENT TRAPS Barrello Ln. / Angelo Ln. / Banana River Blvd. (SB214I/SB2150)
- 25. SEDIMENT TRAPS Brightwaters Dr. / Dorset Dr. / Fairview Dr. (SB134M/SB1350)
- 26. SEDIMENT TRAPS Carmine Dr. / Barrello Ln. / Banana River Blvd. (SB049I/SB0500)
- 27. SEDIMENT TRAPS St. Lucie Lane / Banana River Blvd. (SC0631 / SC0640)
- 28. SEDIMENT TRAPS Seminole Lane (SD0400)
- 29. SEDIMENT TRAPS Holiday Center (SE035M / SE036O)
- 30. SEDIMENT TRAPS Holiday Lane (SE054I)
- 31. SEDIMENT TRAPS North 3rd Street (SF323I / SF324O)
- 32. SEDIMENT TRAPS Cedar Avenue (SF4261 / SF4270)
- 33. SEDIMENT TRAPS North 4th Street / Blakey (SF233I / SF234O)
- 34. SEDIMENT TRAPS Northshore (SF073I / SF0740)
- 35. SEDIMENT TRAPS Minuteman / Brevard (SG1311 / SG1320)
- 36. SEDIMENT TRAPS South 2nd Street (SG0771 / SG0780)
- 37. SEDIMENT TRAPS South 8th Street (SH0711 / SH0720)

SWALES & EXFILTRATION - Ocean Beach Boulevard between California & Volusia



						Pro	ject Da	ta					
Basin	Area :	Served	Land	Required	TS	SS Remova	al TN	Rem	oval	TP Re	emoval	Freshwa	nter Retained
	(ac	res)	(2	acres)		(lbs/yr)	(lbs/yl	r)	(lbs	s/yr)	(Million	Gallons/yr)
Α, Β	81	.6		0		4712	1	28.1	1	19	.17	1	0.25
			Ē	Estimate	ed F	Project	Cost (y	ear	2000) dolla	irs)		
С	onstruc	tion				Сар	oital				Land	Total	Estimated
Equip/ I	Materials	s Labor	Con	ntingency	Eng	gineering	Permitt	ing	Admin	/ Legal	Cost	Cost	O&M / year
\$ 115,000 \$ 51,250 \$ 14,688 \$ 16,625 \$ 8,313 \$ 8,313 \$ 0 \$ 214,188										\$ 7,150			
			Est	timated	Im	plemer	ntation	Sch	edule	e (moi	nths)		
Init Adm Leg	tial i nin/ gal	Engineer Desigi	ring n	Permittir	ng	Interim . Subconti Procure	Admin/ racting/ ement	Ca	onstruc	ction	Final A Certific Close	ldmin ation/ -Out	Total
0.5	5	1		1		0.	5		2.5		0.	5	6
	Constructed By: Additional Services Required:												
	City or C	Contractor			Engir	neering / N	/lodeling,	Utilit	y Identi	fication	and Clea	rance, Con	tracting
Notes:	Iotes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.												

SWALES & EXFILTRATION - Ocean Beach Boulevard between 520 & Flagler



					Pr	ojec	t Data	3				
Basin	Area S (acr	erved es)	Lan	d Required (acres)	TSS Rem (lbs/yi	oval r)	TN R (lb.	emoval s/yr)	TP Re (Ibs	emoval s/yr)	Freshwa (Million	ater Retained Gallons/yr)
С	35	.1		0.00	3059		70	6.7	17	.48	5	8.97
				Estimate	ed Project	t Cos	st (yea	ar 200	0 dolla	nrs)		
Construction Capital Land Total Estimate											Estimated	
Equip/Materials Labor Contingency Engineering Permitting Admin/Legal Cost Cost										O&M / year		
\$148,750 \$63,750 \$19,125 \$21,250 \$10,625 \$10,625 \$0 \$									\$274,125	\$ 9,350		
			E	stimated	Impleme	entat	ion S	chedul	e (mo	nths)		
Init Adm Leg	tial I nin/ gal	Engine Desi	ering gn	Permittir	ng Interin Subcon Procu	n Adn tracti reme	nin/ ing/ ont	Constru	iction	Final A Certific Close	ldmin ation/ -Out	Total
0.	5	1		1	().5		2.5	5	0.	5	6
	Constructed By: Additional Services Required:											
	City or C	Contract	or		Engineering /	Mode	ling, Ut	ility Iden	tification	and Clea	rance, Cont	tracting
Notes:	lotes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.											

EXFILTRATION - Brevard Avenue from North 4th Street to Minuteman Causeway



View to north along Brevard Avenue at typical roadside section.

				Proj	ect Dat	a					
Basin	Area	Served	Land Required	TSS Removal	TN R	emoval	TP Ren	noval	Freshwat	ter Retained	
	(ac	res)	(acres)	(lbs/yr)	(lb:	s/yr)	(lbs/)	vr)	(Million (Gallons/yr)	
Н	3	3.4	0.00	1641	41	.2	9.00	6	4	.44	
	Estimated Project Cost (year 2000 dol										
	Constru	ction		Сар	ital			Land	Total	Estimated	
Equip/	Cost	O&M / year									
\$12	20,000	\$40,000	\$16,000	\$16,000	\$8,000) \$	8,000	\$0	\$208,000	\$ 8,000	
			Estimated	Implemen	tation S	Schedu	ule (mo	nths)			
Init	tial E	ngineerii	ng Permittin	g Interim A	dmin/	Const	ruction	Final	Admin	Total	
Adm	nin/	Design		Subcontra	acting/			Certifi	cation/		
Leg	gal			Procure	ment			Close	e-Out		
0.	5	1	1	0.5		2	.5	0	.5	6	
	Constructed By: Additional Services Required:										
	City or C	ontractor	Easem	ent Acquisition	, Engineei	ing, Utili	ty Identifi	cation an	d Clearance	e, Contracting	
Notes:	Notes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.										

EXFILTRATION - Brevard Avenue from Minuteman Causeway To South 5th Street



2nd and S. 3rd

and S. 5th at SG055I and SG056M

				Proj	ect Dat	а				
Basin	Area (ac	Served res)	Land Required (acres)	TSS Removal (lbs/yr)	TN Re	emoval /yr)	TP Ren (lbs/)	noval vr)	Freshwa (Million	ter Retained Gallons/yr)
Н	3	3.4	0.00	808	18	8.6	4.5	8	2	2.28
			Estimate	d Project C	Cost (ye	ar 20	00 dolla	ars)		
	Construc	tion		Cap	ital			Land	Total	Estimated
Equip/	Materials	Labor	Contingency	Engineering	Permittii	ng Admi	in / Legal	Cost	Cost	O&M ∕ year
\$33	0,000	\$110,000	\$44,000	\$44,000	\$22,000) \$2	2,000	\$0	\$572,000	\$22,000
			Estimated	Implement	tation S	chedu	ule (mo	nths)		
Init Adm Leg	tial E nin⁄ gal	ngineerin Design	g Permitting	g Interim A Subcontra Procure	ldmin/ acting/ ment	Consti	ruction	Final Certifi Clos	Admin ication/ e-Out	Total
0.	5	1	1	0.5		2	.5	().5	6
Constructed By: Additional Services Required:										
	City or Co	ontractor	Easeme	ent Acquisition,	Engineer	ing, Utili	ty Identifi	cation a	nd Clearance	e, Contracting
Notes:	Jotes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.									

EXFILTRATION – Brevard Avenue from South 5th Street to South 11th Street



exfiltration

exfiltration

				Proj	ect Dat	а					
Basin	Area	Served	Land Required	TSS Removal	TN Re	emoval	TP Ren	noval	Freshwa	ter Retained	
н	(a	$\frac{1}{22}$		(<i>IUS/ yi</i>)	(105	/ <u>///</u>	(105/)	3			
		JJ. -	Estimate	ed Project (Cost (ve	ar 20	0.0 00 dolla	ars)	2		
	Constru	iction		Cap	ital			Land	Total	Estimated	
Equip/Materials Labor Contingency Engineering Permitting Admin / Legal Cost										O&M ∕ year	
\$50	2,500	\$167,50	3,500	\$0	\$871,000	\$33,500					
			Estimated	Implement	tation S	Schedu	ule (mo	onths)			
Init Adm Leg	tial nin/ gal	Engineeri Design	ng Permittin	ng Interim A Subcontra Procure	ldmin/ acting/ ment	Consti	ruction	Final Certific Close	Admin cation/ e-Out	Total	
0.	5	1	1	0.5		2	.5	0	.5	6	
	Constructed By: Additional Services Required:										
	City or (Contractor	Easem	ent Acquisition	, Engineer	ing, Utili	ty Identifi	ication an	d Clearanc	e, Contracting	
Notes:	Notes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.										

View to east along Pasco between A1A and	View to east along Park between A1A and
Banana River Boulevard at SB1181	Banana River Boulevard at SB0441

SWALES - Between Volusia	8	Alachua	and	SRA1A	&	North	Banana
---------------------------------	---	---------	-----	-------	---	-------	--------

						Pro	oject D	ata	а				
Basin	Area (a	a Served acres)	Lä	and Require (acres)	ed	TSS Re (lbs/	emoval /yr)	T	N Removal (lbs/yr)	TP . (l.	Removal bs/yr)	Freshwau (Million (ter Retained Gallons/yr)
В		39.9		0.00		52	4		5.7		1.84	3	.52
				Estimate	ed	Project	Cost (ye	ar 2000	dol	lars)		
6	Constru	iction				Ca	pital				Land	Total	Estimated
Equip/Materials Labor Contingency Engineering Permitting Admin/Legal Cost Cost O&M										<i>O&M / year</i>			
\$43,750 \$43,750 \$4,375 \$8,750 \$4,375 \$4,375 \$0 \$109,375 \$1,750											\$ 1,750		
			Es	timated	l In	npleme	ntatior	ו S	chedule	(m	onths)		
Init Adm Leg	tial nin/ gal	Engineerii Design	ng	Permittir	ng	Interim Subcon Procu	n Admin/ tracting/ rement	/	Construct	tion	Final Certifi Clos	Admin ication/ e-Out	Total
0.	5	1		1		C).5		0.5		(0.5	4
	Constr	ucted By:					Add	liti	onal Servid	ces I	Required	:	
	City or Contractor Easement Acquisition, Engineering, Utility Identification and Clearance, Contracting												
Notes:	Notes: Project would treat partial AIA (FDOT) runoff. Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.												

SWALES - Easement Swales along St. Lucie from Ocean Beach to Banana River Blvd.



A1A and Banana River Boulevard

and Banana River Boulevard

						Pro	ject	Data	I				
Basin	Area S	Served	Land	Required		TSS Remo	val	TN P	Removal	TP R	emoval	Freshwa	ater Retained
	(acı	res)	('acres)		(lbs/yr)		(lk	ns/yr)	(lb.	s/yr)	(Million	Gallons/yr)
С	18	<mark>.4</mark>		0.00		1726		(9.5	3.	.71		3.88
				Estimate	e d	Project	Cost	t (yea	nr 2000) doll	ars)		
С	construc	ction				Сар	ital				Land	Total	Estimated
Equip/	Materials	s Labor	Сс	ontingency	En	gineering	Pern	mitting Admin / Legal			Cost	Cost	O&M ∕ year
\$17	7,500	\$17,500)	\$1,750	\$3,500 \$1,750 \$1,750 \$0					\$0	\$43,750	\$ 700	
Estimated Implementation Schedule (months)													
Init Adm Leg	tial nin/ gal	Engineer Desigr	ing 1	Permittir	ng	Interim Subconti Procur	Admi ractir emen	in/ ng/ nt	Construc	ction	Final Certifi Clos	Admin cation/ e-Out	Total
0.	5	1		1		0.	5		0.5		C	.5	4
	Constru	ucted By:					A	dditio	nal Serv	vices R	equired.	,	
City or Contractor Easement Acquisition, Engineering, Utility Identification and Clearance, Contracting													
Notes:	Notes: Project would treat PARTIAL AIA (FDOT) runoff. Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.												

SWALES - Banana River Blvd & St. Croix



View to northwest along S. Banana River Boulevard

					Pro	oject	t Dat	a				
Basin	Area S	erved	Land	Required	TSS Remo	/al	ΤN	Removal	TP	Removal	Freshw	ater Retained
	(acri	es)	(a	acres)	(lbs/yr)		(1	lbs/yr)	(lbs/yr)	(Millior	n Gallons/yr)
E	10	.7	(0.00	365			3.1		1.25		1.40
				Estimat	ed Project	Cos	t (ye	ar 2000	dol	lars)		
С	onstruc	tion			Сар	oital				Land	Total	Estimated
Equip/Materials Labor Contingency Engineering Permitting Admin / Legal Cost Cost O&M / yea											O&M ∕ year	
\$15,000 \$15,000 \$1,500 \$3,000 \$1,500 \$1,500 \$0										\$0	\$37,500	\$ 600
			Es	stimated	I Impleme	ntat	ion S	chedule	(m	onths)		
Init	tial L	Enginee	ering	Permitti	ng Interim	n Adm	nin/	Construct	tion	Final	Admin	Total
Adm		Desig	<u>jn</u>		Subcon	tracti	ing/			Certifi	cation/	
Leg	jal				Procu	reme	nt			CIOS	e-Out	
0.	5	1		1	().5		0.5		C).5	4
	Constructed By: Additional Services Required:											
	City or Contractor Easement Acquisition, Engineering, Utility Identification and Clearance, Contracting											
Notes:	Notes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.											

Cocoa Isles Stormwater Pond Park/Easement Swale on vacant property east of Samar



SWALES - Easement Swale on vacant property east of Samar

'iew to north towards Denny's pond and proposed swale area east of Samar Vacant area for potential swale east of Samar looking south

						Pro	oject	Data	а					
Basin	Area Se	erved	Land	d Required	/	TSS Rem	oval	ΤI	N Removal	7	P Remova	/	Freshw	ater Retained
	(acre	es)	((acres)		(lbs/yr)		(lbs/yr)		(lbs/yr)		(Milliol	n Gallons/yr)
E	9.	0		0.00		208			2.0		0.87			1.39
				Estimat	ed	Project	Cost	t (ye	ar 2000 d	olla	ars)			
С	onstruc	tion				Ca	oital		•		Land	7	Total	Estimated
Equip/	Materials	Labor	Со	ntingency	Eng	gineering	Perm	oitting	Admin / Leg	gal	Cost	6	Cost	O&M / year
\$12,500 \$12,500 \$1,250 \$2,500 \$1,250 \$1,250 \$0 \$31,250										\$ 500				
	Estimated Implementation Schedule (months)													
Init	tial E	nginee	ring	Permitti	ing	Interim	Admi	in/ (Constructio	Fil	nal Admii	n		Total
Adm	nin/	Desig	n			Subcon	tractir	ng/	n	Ce	ertificatio	n		
Leg				l	-+	Procu	remen	nt		/ (Close-Ou	T		
0.	5	1		1		0).5		0.5		0.5			4
	Constructed By: Additional Services Required:													
	City or C	ontractor	-	Easer	nent	t Acquisitio	on, Eng	ineeri	ng, Utility Ide	ntifi	cation and	l Cle	earance	, Contracting
Notes:	Notes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.													



<u>SWALES</u> - Minutemen Causeway Swales - Aucila to Country Club

Dasiii	Aica S (acr	erveu (25)	Lanu N	res)	(lhs/vr)	(lhs/	iovai ir)	//hs/v	r)	(Million (Gallons/vr)
F,G,I	39	.2	0.	00	1173	8.3	}	2.93	3	4	.32
				Estimat	ed Project	Cost (ye	ear 2	000 dolla	ars)		
Co	onstruc	tion			Caj	oital			Land	Total	Estimated
Equip/ M	laterials	Labo	or Col	ntingency	Engineering	Permittin	g Adl	min / Legal	Cost	Cost	O&M / year
\$48,	125	\$48,1	25	\$4,813	3 \$9,625 \$4,813 \$4,813				\$0	\$120,313	\$ 1,925
Estimated Implementation Schedule (months)											
Initi Admi Lega	al l in/ al	Engine Desi	ering gn	Permittii	nitting Interim Admin/ Construction Subcontracting/ Procurement				Final Certifi Close	Admin cation/ e-Out	Total
0.5	5	1		1	0	.5	0.5		C	.5	4
6	Constru	icted B	'y:			Addit	ional	Services R	equired:		
City or Contractor Easement Acquisition, Engineering, Utility Identification and Clearance, Contractin									e, Contracting		
Notes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.										j purposes.	



SWALES - 3rd - 7th St. S from Atlantic to Brevard

View to east along S. 5th between N. Orlando and Brevard at SG054I

Orlando and Atlantic

						Pr	oject Da	ta						
Basin	Area S	Served	Land	Required	TSS	S Remova	al TN Ren	noval	TP R	emoval	Freshwa	ter Retained		
	(ac	res)	(a	acres)	((lbs/yr)	(lbs/	vr)	(lb	s/yr)	(Million	Gallons/yr)		
G,H	2	1.8	(0.00		248	2.1		0	.91	1	.01		
				Estimat	ted	Projec	t Cost (y	ear 2	000 do	llars)				
Ca	onstruc	tion				Ca	oital			Land	Total	Estimated		
Equip/Materials Labor Contingency Engineering Permitting Admin/Legal Cost Cost O&M/year														
\$35,000 \$35,000 \$3,500 \$7,000 \$3,500 \$3,500 \$0 \$87,500 \$1,400												\$ 1,400		
	Estimated Implementation Schedule (months)													
Initi Admi Lega	ial i in/ al	Enginee Desig	ering gn	Permitt	ing	Interii Subcoi Proci	n Admin/ htracting/ urement	Cons	struction	n Final Certifi Clos	Admin ication/ e-Out	Total		
0.5	5	1		1			0.5		0.5	().5	4		
6	Constru	icted B	<i>y:</i>				Addi	tional :	Services	Required	:			
(City or C	Contracto	or	Ease	ment	t Acquisit	ion, Enginee	ring, Ut	tility Iden	tification ar	nd Clearance	, Contracting		
Notes:	Project Data B Actual Not for	ct would ased on values v constru	<mark>d trea</mark> CIP pr vill var ction e	t PARTIA roject cost y based or estimation	LAI sum n eco purp	A (FDO) mary she nomies c oses with	() runoff. eets – Table of scale and in nout further	6.9, for method refinem	r project o l of imple nent.	comparison mentation.	and plannin	g purposes.		



SWALES - 4th St S from Atlantic to Sloop

View to west along S. 6th between Atlantic and N. Orlando

View to west along S. 6th between N. Orlando and N. Brevard

						Pro	oject Dat	а						
Basin	Area Se (acre	erved es)	Lai	nd Required (acres)	TSS	S Removal (lbs/yr)	TN Ren (lbs/)	noval /r)	TP I (IL	Removal bs/yr)	Freshwa (Million	ater Retained Gallons/yr)		
G	11.	0		0.00		358	3.0)	•	1.16		1.43		
			-	Estim	atec	l Project	: Cost (ye	ar 200	0 doll	ars)				
С	onstruc	tion				Сар	pital			Land	Total	Estimated		
Equip/ I	Equip/Materials Labor Contingency Engineering Permitting Admin/Legal Cost Cost O&M/year													
\$12	\$12,500 \$12,500 \$1,250 \$2,500 \$1,250 \$1,250 \$0 <mark>\$31,250 \$500</mark>													
	Estimated Implementation Schedule (months)													
Init Adm Leg	tial I nin/ gal	Engine Des	erii ign	ng Permi	tting	Interim Subcon Procu	n Admin/ tracting/ rement	Constru	ıction	Final A Certific Close	ldmin ation/ -Out	Total		
0.	5	1		1		().5	0.!	5	0.	5	4		
	Constru	icted E	By:				Additi	onal Ser	vices F	Required:				
City or Contractor Easement Acquisition, Engineering, Utility Identification and Clearance, Contracting														
Notes:	Data Ba Actual V Not for	ised on values v constru	n CIF will N uctio	project co vary based on n estimatio	st sum on ecc n purp	nmary shee pnomies of poses withc	ts – Table 6. scale and mo put further re	9, for pro ethod of i finement	oject cor mpleme	mparison a entation.	nd planning	g purposes.		

SWALES - 8th - 11th St. S from Atlantic to Brevard



						Pro	oject Dat	а					
Basin	Area S	Served	Lar	nd Required	T:	SS Remova	TN Re	emoval /vr)	TP R	emoval s/vr)	Freshw (Millio)	ater Retained	
Н	46	0.6		0.00		1590	11	.7	4	.55	(1011110)	5.36	
				Estima	ted	l Project	Cost (ye	ar 200	00 dol	lars)			
С	onstru	ction				Сар	pital	I		Land	Total	Estimated	
Equip/Materials Labor Contingency Engineering Permitting Admin/Legal Cost Cost O&M/yea												O&M / year	
\$20,000 \$20,000 \$2,000 \$4,000 \$2,000 \$2,000										\$0	\$50,000	\$ 800	
	Estimated Implementation Schedule (months)												
Init Adm Leg	tial nin/ nal	Engine Des	eerir Sign	ng Permiti	ting	Interim Subcon Procu	n Admin/ tracting/ rement	Constr	ruction	Final A Certific Close	Admin cation/ e-Out	Total	
0.	5		1	1		().5	0	.5	0	.5	4	
Со	nstruc	ted By.	:				Addition	al Servi	ices Red	quired:			
Cit	y or Cor	ntractor		Easeme	ent A	Acquisition,	Engineering	, Utility I	Identifica	ation and C	learance,	Contracting	
Notes:	Proje Data E Actual Not fo	e <mark>ct wou</mark> Based o I values er consti	IId ti n CII will ructio	reat PARTI/ P project cost vary based o on estimation	AL A t sun n eco i pur	IA (FDOT) nmary shee onomies of poses with) runoff . ets – Table 6 scale and n out further r	.9, for p nethod o efinemer	roject co f implem nt.	emparison a entation.	and planni	ng purposes.	



PONDS – Northend Stormwater Pond Park

							P	roje	ct Da	ta				
Basin	Area Se (acre	erved es)	Land (d Re (acre	equired es)	TS.	S Remov (lbs/yr)	'al	TN (I	Removal lbs/yr)	T	P Remova (lbs/yr)	l Freshv (Millio	vater Retained on Gallons/yr)
Α	59 .4	4		0.5	0		1362			68.9		16.38		0.98*
				E	Estima	ted	Projec	t Co	ost (y	ear 2000	do	llars)		
С	onstruc	tion				•	Ca	pital	1			Land	Total	Estimated
Equip/	Materials	E Lai	bor	Con	tingency	Eng	ineering	Per	mitting	Admin / Leg	gal	Cost	Cost	<i>O&M / year</i>
\$58,800 \$25,200 \$16,800 \$12,600 \$4,200 \$4,200 \$1,500 \$123,300 \$10,500										\$10,500				
	Estimated Implementation Schedule (months)													
Init	Initial Engineering Permitting Interim Admin/ Construction Final Admin Total													
Adm	nin/	De	sign				Subco	ntrad	cting/			Certi	fication/	
Leg	gal 🛛						Proc	uren	nent			Clo	se-Out	
2	2		3		2			1		3			1	12
	Constru	<i>icted</i>	By:						Addit	ional Servi	ces	Required	1:	
	Cont	ractor			Real	Estat	e Acquis	ition,	Survey (ing, Engineei Clearance, Co	ring ontra	/ Modelin acting	g, Utility Ide	entification and
Notes:	State of	owne	d pro	per	ty to be	leas	ed by th	ne Ci	ty.					
	Data Ba	ised o	n CIP	proj	ject cost	sumn	nary she	ets –	Table 6	.9, for proje	ct co	omparison	and planning	ng purposes.
	Actual v	/alues	will v	ary I	based on	ecor	nomies o	f scal	e and m	nethod of imp	olem	nentation.		
	Not for	consti	ructio	n est	timation	purpo	oses with	out f	urther r	efinement.				
	* Much	great	er pot	tentia	al if ASR	is im	plemente	ed in	the futu	ire.				

<u>PONDS</u> - Rock Point Condos - Flow Diversion / Private Retention Partnership (Alternative to St. Lucie Lane / Banana River Blvd. Sediment Trap)



					Pro	oject Dat	ta						
Basin	Area Serve (acres)	ed Land (a	Required cres)	TSS R (Ib	Removal ns/vr)	TN Ren (lbs/y	noval (r)	TP F (IL	Removal ps/yr)	Freshw (Millio	/ater Retained n Gallons/yr)		
С	72.7	().00	8	325	84.9))	24	4.18	,	0.44*		
			Estima	ated F	Project	Cost (ye	ear 20	00 dol	lars)	-			
Ca	onstructio	1			Cap	ital			Land	Total	Estimated		
Equip/ N	quip/Materials Labor Contingency Engineering Permitting Admin / Legal Cost Cost O&M / year												
	ESTABLISH THROUGH PRIVATE PARTNERSHIP												
	Estimated Implementation Schedule (months)												
Initi Admi Lega	ial Eng in/ L al	ineering Design	Permit	ting	Interim Subcon Procu	n Admin/ tracting/ rement	Const	truction	Final Certifi Clos	Admin cation/ e-Out	Total		
			ES	TABLIS	SH THRO	UGH PRIVA	TE PART	INERSHI	c				
(Constructe	d By:				Addit	ional S	ervices	Required.				
(City or Cont	ractor		Engir	neering /	Modeling, l	Jtility Id	entificatio	on and Cle	arance, Coi	ntracting		
Notes:	Data Base Actual value Not for cont * Much group	d on CIP ples will van Struction eater pote	project cos ry based o estimation ential if ASI	st sumn on econ n purpo R is imp	nary shee nomies of oses with plemente	ets – Table scale and r out further d in the fut	6.9, for nethod refineme ure.	project c of implen ent.	omparison nentation.	and planni	ng purposes.		



PONDS - Seminole Lane Stormwater Pond Park

Lane

					Pro	oject D	ata	3				
Basin	Area S	Served	Lan	d Required	TSS Remov	al T	N Re	emoval	TP	Removal	Freshv	vater Retained
D	83	8.0		1.00	4153		26	4.1	(<i>1</i> . 	1.64		0.48*
				Estimat	ed Project	: Cost (yea	ar 2000) doll	ars)		
(Constru	ction			Ca	pital				Land	Tota	l Estimated
Equip/ I	Materials	s Labo	or	Contingency	Engineering	Permiti	ing	Admin /	' Legal	Cost	Cost	O&M / year
\$39	,200	\$16,8	00	\$11,200	\$8,400	\$2,80	0	\$2,8	00	\$100,000	\$181,20	00 \$10,500
	Estimated Implementation Schedule (months)											
Initial Engineering Permitting Interim Admin/ Construction Final Admin To Admin/ Design Permitting Interim Admin/ Construction Final Admin To Legal Procurement Close-Out Close-Out Close-Out Close-Out									Total			
2	2	3		2		1		3		1		12
	Constru	ucted B	ly:			Ad	ditic	onal Serv	vices R	equired:		
	Cont	tractor		Real E	state Acquisit	ion, Surv	eyin Cle	g, Engine earance, (ering / Contrac	Modeling, I ting	Utility Ide	entification and
Notes:	Project Data Ba Actual Not for * Much	t would ased on values w constru	d trea CIP p /ill var ction	t PRIMARI roject cost s y based on estimation p	LY AIA (FDC ummary shee economies of urposes witho s implemented	DT) rung ts – Table scale and out furthe	e 6.9 e 6.9 l me r ref	9, for proj thod of in inement.	ect cor npleme	nparison ar ntation.	nd plannir	ng purposes.

Cocoa Isles Stormwater Pond Park/Easement Swale on vacant property east of Samar



<u>PONDS</u> – Cocoa Isles Stormwater Pond Park

View to east towards vacant lot north of Denny's

						Pro	ojec	t Data	3				
Basin	Area (ad	Served cres)	Lan (d Required (acres)	/ 7	SS Remov (lbs/yr)	'al	TN Re (lbs,	emoval /yr)	TP R (lb.	emoval s/yr)	Freshwa (Million	ater Retained Gallons/yr)
E	8	1.0		0.25		1931		189	9.2	38	.50	0	.50*
				Estimat	ted	Project	t Co	st (yea	ar 200	0 doll	ars)		
Co	onstruc	tion				Ca	pital	1			Land	Total	Estimated
Equip/ N	laterials	s Labor	Со	ntingency	Eng	gineering	Per	rmitting	Admin	/ Legal	Cost	Cost	<i>O&M / year</i>
\$49,0	000	\$21,000	\$	514,000	\$	10,500	\$	3,500	\$3,	500	\$100,000	<mark>\$201,500</mark>	\$10,500
	Estimated Implementation Schedule (months)												
Initi	al I	Engineel	ring	Permitt	ing	Interim	n Adı	min/	Constru	uction	Final A	dmin	Total
Admi	n/	Desig	7			Subcon	traci	ting/			Certific	ation/	
Lega	a/					Procu	rem	ent			Close	-Out	
2		3		2			1		3		1		12
6	Constru	ucted By						Additio	onal Ser	vices R	equired:		
	Cont	ractor		Real	Esta	te Acquisit	ion, S	Surveyin Cl	g, Engin earance,	eering / Contrac	Modeling, ting	Utility Ider	ntification and
Notes:	Projec	t would	treat		ILY	AIA (FDC	OT) r	<mark>unoff.</mark>					
	Data Ba	ased on C	IP pr	oject cost	sumi	mary shee	ts –	Table 6.9	9, for pro	oject con	nparison ai	nd planning	g purposes.
	Actual	values wil	l vary	/ based on	eco	nomies of	scale	and me	thod of i	impleme	ntation.		
	Not for	construct	ion e	stimation	ourp	oses witho	out fu	irther ref	finement				
	* Much	greater p	oten	tial if ASR	is im	plemented	d in t	he future	€.				

PONDS - North 1st & Cedar



View to southwest towards vacant parcel

						Proj	ject Dat	а					
Basin	Area .	Served	Land	Required	TSS Rem	oval	TN Rei	moval	TP	Removal	Fresh	vater Retained	
	(ac	res)	(2	ncres)	(lbs/y)	(lbs/	(yr)	(1	lbs/yr)	(Millic	on Gallons/yr)	
F	6	.8		0.25	540		41 ⁻	1		13.1		2.98*	
				Estima	ted Proj	ect (Cost (ye	ar 200	00 dol	lars)			
Со	nstruc	tion				Capit	tal			Land	Total	Estimated	
Equip/Materials Labor Contingency Engineering Permitting Admin/Legal Cost Cost O&M/									O&M / year				
\$24,	500	\$10,50	00	\$7,000	\$5,250		\$1,750	\$1,	750	\$50,000	\$100,750	\$5,250	
	Estimated Implementation Schedule (months)												
Estimated Implementation Schedu Initial Engineering Permitting Interim Admin/ Constr Admin/ Design Subcontracting/ Procurement Procurement									ruction	Final A Certific Close	Admin ation/ -Out	Total	
2		3		2		1		:	3	1	I	12	
6	Constr	ucted B	ly:				Additi	onal Se	ervices l	Required:			
	Con	tractor		Real	Estate Acq	uisitio	on, Surveyir C	ng, Engir learance	heering / e, Contra	[/] Modeling, cting	Utility Ide	ntification and	
Notes:	Projec Data B Actual Not for * Much	t would ased on values v constru greater	d trea CIP pr vill vary ction e	t PARTIA oject cost / based on stimation tial if ASR	L AIA (FD) summary s economies purposes w is impleme	DT) r neets of so ithou nted i	runoff. 5 – Table 6. cale and me it further re in the futur	9, for pr ethod of finemen e.	oject col impleme t.	mparison a entation.	nd plannin	g purposes.	



PONDS - North 2nd & Brevard

View to southwest towards vacant parcel

							Рі	roje	ct Da	ta				
Basin	Area S	erved	Lan	d Red	quired	T.	SS Remo	ıal	TN Re	emoval	TP Re	emoval	Freshw	ater Retained
	(acr	es)		(acre.	s)		(Ibs/yr)		(Ibs	/yr)	(IDS	/yr)	(Millior	n Gallons/yr)
F	33	.5		0.25	5		742		61	0.1	7.	23		0.40*
				Es	stima	ted	Projec	t Co	ost (ye	ear 20	00 dol	lars)		
Co	onstruc	tion					Ca	pital	/			Land	Total	Estimated
Equip/ N	laterials	Lab	or (Contii	ngency	Eng	ineering	Peri	mitting	Admin	n / Legal	Cost	Cost	O&M ∕ year
\$24,500 \$10,500 \$7,000 \$5,250 \$,750	\$1,	,750	\$50,000	<mark>\$100,750</mark>	\$5,250	
	Estimated Implementation Schedule (months)													
Initi	Initial Engineering Permitting Interim Admin/ Construction Final Admin Total													
Admi	in/	Des	ign			_	Subcol	ntrad	cting/			Certifi	cation/	
Lega	a/						Proc	uren	nent			Clos	e-Out	
2		3	3		2			1			3		1	12
6	Constru	icted I	By:						Addit	'ional S	ervices l	Required	•	
	Cont	ractor			Real	Esta	te Acquis	ition,	Survey	ing, Eng	ineering /	/ Modeling	, Utility Ide	entification and
	Conti	actur							(Clearanc	e, Contra	cting		
Notes:	Project	t woul	d tre	at P/	ARTIA	LAL	<mark>a (fdot</mark>) rur	<mark>noff.</mark>					
	Data Ba	sed on	I CIP I	proje	ct cost	sumi	mary she	ets –	Table 6	.9, for p	project co	mparison	and plannii	ng purposes.
	Actual v	alues v	vill va	ary ba	ased on	ecol	nomies of	f scal	e and m	nethod c	of implem	entation.	•	51 1
	Not for	constru	uction	ı estir	nation	ourp	oses with	out f	urther r	efineme	nt.			
	* Much	areate	r pote	ential	if ASR	is im	plemente	ed in	the futu	ire.				



PONDS - North 3rd & Brevard (North of Jonathans)

						P	Proje	ct Dat	а				
Basin	Area Se (acre	erved es)	Land I (ad	Required cres)	T.	SS Remo (lbs/yr,	oval)	TN Ro (Ibs	emoval s/yr)	TP (i	Removal lbs/yr)	Freshu (Millio)	vater Retained n Gallons/yr)
F	4.6	b	0	.25		242		9	.4		2.15		0.08*
				Estima	ated	Proje	ct Co	ost (ye	ar 200	0 dol	lars)		
C	onstruc	tion				Ci	apital				Land	Total	Estimated
Equip/	Materials	S Labor	Cor	ntingency	Engi	neering	Per	mitting	Admin /	' Legal	Cost	Cost	O&M / year
\$24,500 \$10,500 \$7,000 \$5,250 \$1,750 \$1,750									50	\$50,000	\$100,750	\$5,250	
	Estimated Implementation Schedule (months)												
Estimated Implementation Schedule (months)InitialEngineeringPermittingInterim Admin/ConstructionFinal AdminTotalAdmin/DesignSubcontracting/Certification/Final AdminTotalLegalFinal AdminProcurementClose-OutFinal Admin													
2	2	3		2			1		3			1	12
	Constru	icted B	/:					Additi	ional Ser	vices l	Required:		
	Cont	ractor		Rea	I Esta	te Acqui	sition,	Surveyir C	ng, Engine learance,	eering / Contra	/ Modeling, cting	Utility Ide	ntification and
Notes:	Projec Data Ba Actual v Not for * Much	<mark>t would</mark> ased on (/alues w construc greater	trea CIP pr Il vary tion e poten	t PARTIA oject cos y based c estimatior tial if ASI	AL AI t sum n eco n purp R is im	A (FDO mary sho nomies o oses wit oplement	T) rui eets – of scal hout f ted in	noff. Table 6. e and me further re the futur	9, for pro ethod of i finement re.	oject co implem	mparison a entation.	nd plannin	g purposes.



PONDS – Downtown Stormwater Pond Park

View to southeast towards City Hall Parking lot

View to northeast at City Hall parking lot



View of City Hall parking lot near old library

						P	rojec	t Da	ta							
Basin	Area S	erved	Land F	Required	TS.	S Remou	ıal	TN	Remova	al 🛛	TP	Remov	al	Freshwa	ter Reta	ained
	(aci	es/	(ac	ies)		(IDS/YI)		(//	JS/YL)		()	iDS/yr)			GallUIIS	/уг)
G	18	3.7	0	.25		193		2	26.3			7.16		0.	12*	
			E	stima	ted I	Projec	t Co	st (y	ear 2	000 d	lot	lars)				
Ca	onstruct	tion				Ca	oital					Land	d	Total	Estil	mated
Equip/ N	<i>Naterials</i>	Laboi	r Con	tingency	Engi	neering	Pern	nitting	Admir	n / Lega	al	Cost	ł.	Cost	0&M	/ year
\$29,400 \$12,600 \$8,400 \$6,300 \$2,100									\$2	,100		\$0		\$60,900	\$5,	250
	Estimated Implementation Schedule (months)															
Initial A Leg	Estimated Implementation Schedule (months) nitial Admin/ Engineering Permitting Interim Admin/ Construction Final Admin Cert./ Total Legal Design Subcon./ Procurement Close-Out Vision															
2	2		3	2			-	1			3			1		12
Constr	ucted B	y:					Addit	tional .	Servico	es Req	quir	re d :				
Con	tractor		Real Es	tate Acq	uisitio	n, Surve	ying,	Engine	ering/N	/lodelin	g, l	Utility I.	D. (Clearance, C	ontract	ing
Notes:	Project Data Bas Actual v Not for o * Much (would sed on (alues w construc greater	treat CIP proj ill vary tion es potenti	PRIMAR ect cost based on imation al if ASR	SUMM SUMM econ purpo is imp	AIA (FD hary shee omies of ses with plemente	OT) r ets – T f scale out fu ed in t	Table 6 Table 6 and m Irther r he futu	.9, for nethod efinemo re.	project of impl ent.	t co lem	mpariso entatio	on a n.	and planning	j purpo	ses.

<u>PONDS</u> - River Lakes Wet Pond - Flow Diversion / Private Retention Partnership (Alternative to South 8th Street Sediment Trap)



									and the second	and the second second	and and the			
			View	to west	towa	ards wet p	ond at I	River Lakes	devel	opment	č			
						Proj	ect Dat	ta						
Basin	Area S	Served	Land	Required	T.S	SS Removal	T/	N Removal	TP R	Removal	Freshu	vater Retained		
	(aci	res)	(a	cres)	L	(lbs/yr)		(lbs/yr)	(lb	is/yr)	(Millio	n Gallons/yr)		
Н	11	0.5	().00		393		36.6	7	.35		0.07*		
	Estimated Project Cost (year 2000 dollars)													
Со	Construction Capital Land Total Estimated Guip/Materials Labor Contingency Engineering Permitting Admin / Legal Cost Cost O&M / year													
Equip/ M	ip/Materials Labor Contingency Engineering Permitting Admin / Legal Cost Cost O&M / year													
	ESTABLISH THROUGH PRIVATE PARTNERSHIP													
	ESTABLISH THROUGH PRIVATE PARTNERSHIP Estimated Implementation Schedule (months)													
Initia	al	Engine	eering	Permit	ting	Interim A	1 <i>dmin/</i>	Constructio	n	Final Ac	Imin	Total		
Admi	n/	Des	;ign		ļ	Subcontra	acting/	1	6	Certifica	tion/			
Lega	a/					Procure	ement			Close-	Out			
				ES	TABL	ISH THROUG	GH PRIVA	TE PARTNERS	HIP					
6	Constru	ucted I	By:				Addit	ional Service	s Req	uired:				
C	ity or (Contrac	tor		Eng	jineering / M	lodeling, L	Jtility Identifica	ation a	nd Cleara	ince, Con	itracting		
Notes:	Data B	ased or	ו CIP p	roject cost	sumi	mary sheets	– Table 6	.9, for project	compa	arison and	d plannin	g purposes.		

- Actual values will vary based on economies of scale and method of implementation.
- Not for construction estimation purposes without further refinement.
 - * Much greater potential if ASR is implemented in the future.

SEDIMENT TRAPS - Jack Dr. / Kent Dr. / Banana River Blvd. (SA038M / SA039O) (Alternative to Northend Stormwater Pond Park)



View to west towards SB038M from Banana River Boulevard

						Pr	oject D	at	a				
Basin	Area S	Served	Lar	nd Required	<i>TS</i> .	S Remova	al TN	Re.	moval	TP Re	emoval	Freshw	ater Retained
А	64	.4		0.00		1824		56.	.3	1.	37	(10111101	0.00
				Estima	ted	Projec	t Cost (ye	ear 200	00 dol	lars)		
Ca	onstruc	ction			1	Са	pital	-1			Land	Total	Estimated
Equip/Materials Labor Contingency Engineering Permitting Admin/Legal C											Cost	Cost	<i>0&M / year</i>
\$30,	,000	\$10,	000	\$6,000	5	\$4,000	\$2,000		\$2,0	000	\$0	\$54,000	\$ 500
	Estimated Implementation Schedule (months)												
Estimated Implementation Schedul Initial Engineering Permitting Interim Admin/ Construction Admin/ Design Subcontracting/ Procurement Procurement										ruction	Final Certifi Clos	Admin ication/ e-Out	Total
0.5	5	2	2	1			1			1	(0.5	6
Cons	tructe	d By:					Additio	na	l Servic	es Requ	iired:		
C	Contractor Easement Acquisition, Engineering / Modeling, Utility Identification and Clearance, Contracting												
Notes:	To be Data B Actual Not for	consid ased of values r constr	erec n CIF will uctio	f only if No P project cos vary based o on estimatior	r ther t sum n ecc i purp	nd Storm mary she pnomies o poses with	nwater Po eets – Table of scale and nout furthe	e 6 d m	d Park o 5.9, for p nethod of refinemer	ption n roject cc f implem nt.	ot feasib mparison entation.	<mark>le.</mark> and plann	ing purposes.

SEDIMENT TRAPS - Barrello Lane / Angelo Lane / Banana River Blvd. (SB214I/SB2150)



View to west towards SB214I from Banana River Boulevard

						Pr	oject D	at	a				
Basin	Area S	erved	Lano	Required	T.	SS Remov	ial T	N //	Removal hs/vr)	T	P Remova (lbs/vr)	nl Fres	hwater Retained
В	11	.0	(2	0.00		<u>(103/31/)</u> 84		(//	6.7		0.15	(1011)	0.00
				Estima	ted	Projec	t Cost (ye	ear 2000	do	llars)		
Ca	onstruc	tion				Ca	oital				Land	Total	Estimated
Equip/ Materials Labor Contingency Engineering Permitting									Admin / Leg	gal	Cost	Cost	O&M / year
\$11,	,250	\$3,7	750	\$2,250	9	\$1,500	\$750		\$750		\$0	\$20,250	\$ 300
	Estimated Implementation Schedule (months)												
Initi	ial I	Engine	eering	Permiti	ting	Interin	n Admin/		Construct	tion	Fina	l Admin	Total
Aami Lega	in/ al	Des	sign			Subcol Proci	ntracting/ urement				Certi Clo	se-Out	
0.5	5		2	1			1		1			0.5	6
Cons	tructed	d By:					Additio	na	l Services l	Req	uired:		
Contractor Easement Acquisition, Engineering / Modeling, Utility Identification and Clearance, Contracting													
Notes:	Data Ba Actual v Not for	ased or /alues constr	n CIP p will va uction	project cost ry based or estimation	sum 1 eco purp	mary she nomies of oses with	ets – Table f scale and out further	e 6 m re	.9, for project ethod of imp efinement.	ct co plem	omparison entation.	and planr	ing purposes.

SEDIMENT TRAPS - Brightwaters Dr. / Dorset Dr. / Fairview Dr. (SB134M/SB1350)

						Pro	oject Dat	а					
Basin	Area Se	rved	Land	Required	TSS	Removal	TN Rei	noval	TP I	Removal	Freshw	ater Retained	
	(acre.	s)	(au	cres)	(],	bs/yr)	(lbs/	vr)	(//	os/yr)	(Millior	n Gallons/yr)	
В	23.0)	0	.00		55	5.0)	C).13		0.00	
				Estimat	ted I	Project	Cost (ye	ar 200	00 dol	lars)			
Ca	onstruct	ion				Сар	oital			Land	Total	Estimated	
Equip/Materials Labor Contingency Engineering Permitting Admin/Legal Cost Co.											Cost	O&M / year	
\$18,750 \$6,250 \$3,750 \$2,500 \$1,250									250	\$0	\$33,750	\$ 400	
	Estimated Implementation Schedule (months)												
Initi	al El	ngine	ering	Permitte	ing	Interim	Admin/	Constr	ruction	Final A	dmin	Total	
Admi	in/	Desi	ign			Subcon	tracting/			Certifica	ntion/		
Lega	al					Procu	rement			Close-	Out		
0.5	5	2		1			1		1	0.5	5	6	
Cons	tructed	By:					Additiona	l Servic	es Requ	uired:			
Co	Contractor Easement Acquisition, Engineering / Modeling, Utility Identification and Clearance, Contracting												
Notes:	Data Ba Actual v Not for c	sed or alues v constru	n CIP p will var uction	roject cost y based or estimation	sumr ecor purpo	mary sheen on the mary sheen of the mary sheet the market sheet the market sheet she	ets – Table 6 scale and m out further r	.9, for p nethod o efinemer	roject co f implem nt.	omparison an nentation.	nd plannir	ng purposes.	

SEDIMENT TRAPS - Carmine Dr. / Barrello Lane / Banana River Blvd. (SB0491/SB0500)

View to west towards SB049I from Banana River Boulevard

						Pro	oject	Dat	а				
Basin	Area	Serv	ved L	and Requirea	'	TSS Remo	val	ΤN	Removal	Ti	P Removal	Freshu	ater Retained
	(ac	cres))	(acres)		(lbs/yr)		(4	lbs/yr)		(lbs/yr)	(Millio	n Gallons/yr)
В	6	1.5		0.00		356			34.2		0.81		0.00
				Estima	ted	Project	t Cos	t (ye	ar 2000	dol	lars)		
С	onstru	ctio	n			Сар	oital				Land	Total	Estimated
Equip/Materials Labor Contingency Engineering Permitting Ad									Admin / Le	egal	Cost	Cost	O&M / year
\$30	0,000	\$	\$10,000	\$6,000		\$4,000	\$2	,000	\$2,000)	\$0	\$54,000	\$ 500
	Estimated Implementation Schedule (months)												
Init Adm Leg	tial nin/ gal	Eng	gineerii Design	ng Permitt	ing	Interin Subcon Procu	n Adm tracti reme	nin/ ing/ nt	Construct	tion	Final A Certific Close	ldmin ation/ -Out	Total
0.	5		2	1			1		1		0.	5	6
Cons	structe	d B	у:				Addi	tional	Services R	Requ	ired:		
С	Contractor Easement Acquisition, Engineering / Modeling, Utility Identification and Clearance, Contracting												
Notes:	Proje Data E Actual Not fo	ect v Base I val or co	vould t ed on CI lues will onstructi	reat PARTIA P project cost vary based or on estimation	sum sum n ecc purp	IA (FDOT) mary shee poomies of poses with) rung ets – T [:] scale out fu	o <mark>ff.</mark> able 6 and m rther re	.9, for proje ethod of im efinement.	ect co plem	omparison a ientation.	nd plannir	ng purposes.

<u>SEDIMENT TRAPS</u> - St. Lucie Lane / Banana River Blvd. (SC063I / SC064O) (Alternative to Rock Point Condos Private Retention Partnership)

						_								
						Pr	oject	t Dai	ta					
Basin	Area	Served	Lan	d Required	7	SS Remo	oval	TN	Removal	TP F	Removal	Freshw	ater Retained	
	(ac	cres)		(acres)		(lbs/yr))	(1)	bs/yr)	(IL	ns/yr)	(Millior	n Gallons/yr)	
С	7	2.7		0.00		1032		e	6.1	1	.96		0.00	
				Estimat	ted	Projec	t Cos	st (ye	ear 200	0 dol	lars)			
Ca	onstruc	ction				Ca	pital				Land	Total	Estimated	
Equip/ N	laterial:	s Lab	or Co	ontingency	Eng	ineering	Permi	itting	Admin /	Legal	Cost	Cost	O&M / year	
\$45,	,000	\$15,0	000	\$9,000	\$	6,000	\$3,0	000	\$3,00	00	\$0	\$81,000	\$ 500	
	Estimated Implementation Schedule (months)													
Initi	al	Engine	ering	Permitt	ing	Interii	n Adm	nin/	Constru	ıction	Final	Admin	Total	
Admi	in/	Des	ign			Subcor	ntracti	ing/			Certifi	cation/		
Lega	al 🛛					Proc	ureme	nt			Clos	e-Out		
0.5	5	2		1			1		1		0).5	6	
Const	tructed	d By:					Addi	tiona	l Services	s Requ	ired:			
Co	ontracto	or	Ease	ment Acqu	isitio	n, Engine	ering /	' Mode	eling, Utilit	y Ident	ification a	nd Clearand	ce, Contracting	
Notes:	To be	consic	lered	only if Ro	ck Po	oint Priv	ate Re	etent	ion Partn	ership	option n	ot feasible	e.	
	Proje	<mark>ct wou</mark>	ld trea	at PARTIA	LAL	<mark>a (FDO</mark> T	<mark>) run</mark> d	off.						
	Data B	Based or	n CIP p	roject cost	sum	mary she	ets – T	able (6.9, for pro	oject co	mparison	and planni	ng purposes.	
	Actual	values	will va	ry based or	n eco	nomies o	of scale	and r	nethod of	implem	entation.		-	
	Not for	r constr	uction	estimation	purp	oses with	nout fu	rther	refinement	t.				

SEDIMENT TRAPS - Seminole Lane (SD0400) (Alternative to Seminole Land Stormwater Pond Park)

View to west towards SD0400 from Seminole Lane

						Pr	ojec	t Data	3					
Basin	Area S	Served	Land	d Required	7.	SS Remo	val	TN F	Removal	TP	Removal	Fresh	water Retained	
D	83	3.0		0.00		<u>(103/91)</u> 519		6	4.8	(1.12		0.00	
				Estimat	ed	Project	t Cos	st (ye	ar 2000	doll	ars)			
С	onstru	ction			-	Ca	pital		i		Land	Total	Estimated	
Equip/ N	Naterial	's La	bor (Contingency	Eng	nineering	Peri	nitting	Admin /	Legal	Cost	Cost	O&M / year	
\$45	,000	\$15	,000,	\$9,000	\$	6,000	\$3	3,000	\$3,00	00	\$0	\$81,000	\$ 500	
	Estimated Implementation Schedule (months)													
Initi Adm Leg	ial in⁄ al	Engin De	eering sign	g Permitt	ing	Interin Subcon Procu	n Adı htracı urem	min/ ting/ ent	Construc	ction	Final Certific Close	Admin cation/ e-Out	Total	
0.!	5		2	1			1		1		0	.5	6	
Cons	tructe	d By:					Add	itional	Services l	Requi	red:			
Сс	ontracto	or	Eas	ement Acqui	sitior	n, Enginee	ering .	/ Modeli	ng, Utility	Identi	fication an	d Clearanc	e, Contracting	
Notes:	To be Proje Data E Actual	ct wou ct wou Based c values	dered uld trea on CIP p will va	only if Sem at PRIMAR project cost s ry based on	inol ILY sumr ecor	e Storm AIA (FD) nary shee nomies of	wate OT) r ets – T scale	r Pond unoff. able 6.9 and me	Park opti 9, for proje thod of im	i <mark>on no</mark> ect cor pleme	ot feasible nparison a entation.	<mark>e.</mark> Ind plannin	g purposes.	

<u>SEDIMENT TRAPS</u> - Holiday Center (SE035M / SE036O) (Alternative to Cocoa Isles Stormwater Pond Park)

					-		-						
					Pro	oject Da	ta						
Basin	Area	Served	Lan	d Required	TSS Remov	al TN	Removal	Tŀ	P Removal	E.	reshv	vater Retained	
	(ac	res)	((acres)	(lbs/yr)	(1)	ns/yr)		(lbs/yr)	(Millio	n Gallons/yr)	
E	8	1.2		0.00	3075	1	51.6		3.38			0.00	
				Estimate	ed Project	Cost (y	ear 200	0 dol	lars)				
C	onstru	ction			Ca	pital	-		Land	То	tal	Estimated	
Equip/ N	laterial:	s Lab	or (Contingency	Engineering	Permitting	Admin /	/ Legal	Cost	Со	st	O&M / year	
\$45,	,000	\$15,	000	\$9,000	\$6,000	\$3,000	\$3,0	000	\$0	\$81,	000	\$ 500	
	Estimated Implementation Schedule (months)												
Initi	al	Engine	ering	Permittin	ng Interim	n Admin/	Constru	uction	Final	Admir	7	Total	
Admi	in/	Des	ign		Subcon	tracting/			Certifi	cation			
Lega	a/				Procu	rement			Clos	e-Out			
0.5	5	2		1		1	1		0).5		6	
Const	tructed	d By:				Additiona	I Service	s Requ	vired:				
Со	ontracto	or	Ease	ment Acquis	sition, Enginee	ering / Mod	eling, Utili	ty Ident	ification a	nd Clea	rance	e, Contracting	
Notes:	To be	consid	ered o	only if Coco	a Isles Stor	mwater P	ond Park	option	not feas	<mark>ible.</mark>			
	Projec	t woul	d trea	t PRIMARI	LY AIA (FDC)T) runoff							
	Data Ba	ased on	CIP pr	roject cost s	ummary shee	ts – Table (5.9, for pro	oject co	mparison a	and pla	nning	j purposes.	
	Actual	values v	vill var	y based on e	economies of	scale and r	nethod of	implem	entation.				
	Not for	constru	iction e	estimation p	urposes witho	out further i	efinement						

PARSONS ENGINEERING SCIENCE, INC.

SEDIMENT TRAPS - Holiday Lane (SE054I)

View to west towards SE054I from Holiday Lane

						Pr	oject Dat	а					
Basin	Area S	Served	Land	d Required	75	SS Remov	al TN Re	moval (vr)	TP Re	emoval	Freshwa	ater Retained	
F	(<i>a</i> ci 7	6	($\frac{a(1es)}{0.00}$	-	<u>(IDS/yr)</u> 56	(103,	5	(103	05			
		.0		Estimat	ted	Projec	t Cost (ye	ear 200	00 dol	lars)		5.00	
С	onstruc	tion				Ca	pital			Land	Total	Estimated	
Equip/Materials Labor Contingency Engineering Permitting Admin/Legal Cost Cost O&M/											O&M / year		
\$11,250 \$3,750 \$2,250 \$1,500 \$750 \$750									750	\$0	\$20,250	\$ 300	
	Estimated Implementation Schedule (months)												
Init Adm Leg	tial I nin/ gal	Engined Desi	ering gn	Permitt	ing	Interir Subcor Procu	n Admin/ htracting/ urement	Consti	ruction	Final Certifi Clos	Admin cation/ e-Out	Total	
0.	5	2		1			1		1	0).5	6	
Cons	structea	l By:					Additional	Service	es Requ	ired:			
С	Contractor Easement Acquisition, Engineering / Modeling, Utility Identification and Clearance, Contracting												
Notes:	Data B Actual Not for	ased on values v constru	CIP p vill var iction (roject cost y based or estimation	sum eco purp	mary she nomies o ooses with	eets – Table (f scale and n nout further r	5.9, for p nethod o refineme	project co f implem nt.	omparison ientation.	and planni	ng purposes.	

SEDIMENT TRAPS - North 3rd Street (SF323I / SF3240)

View to west towards SF323I from 3rd and Cedar Avenue

					Pr	oject Dat	a				
Basin	Area :	Served	Lan	d Required	TSS Remova	al TN R	Pemoval	TP R	emoval	Freshwa	ter Retained
	(ac	res)	((acres)	(lbs/yr)	(lb	s/yr)	(lb:	s/yr)	(Million	Gallons/yr)
F	9	.6		0.00	81		1.0	0	.13	(0.00
				Estimat	ed Project	t Cost (ye	ar 200	0 dolla	ars)		
C	onstru	ction			Cá	apital			Land	Total	Estimated
Equip/ N	Naterial.	s Lak	oor	Contingency	Engineering	Permitting	r Admin	/ Legal	Cost	Cost	O&M / year
\$11,	,250	\$3,	750	\$2,250	\$1,500	\$750	\$	750	\$0	\$20,250	\$ 300
Estimated Implementation Schedule (months)											
Initi Admi Lega	ial in/ al	Engine Des	eering ign	Permittii	ng Interin Subcon Procu	n Admin/ tracting/ rement	Constru	uction	Final A Certific Close	ldmin ation/ -Out	Total
0.5	5	2	2	1		1	1		0.	5	6
Const	ructea	By:				Additional	Services	s Requir	red:		
Co	ntracto	r	Ease	ment Acquis	ition, Enginee	ring / Mode	ing, Utilit	y Identif	ication and	I Clearance	, Contracting
Notes:	Project Data B Actual Not for	<mark>ct wou</mark> Based o values r constr	I <mark>ld tre</mark> n CIP will va ruction	at PARTIAL project cost s ary based on estimation p	AIA (FDOT) summary shee economies of ourposes with) runoff. ets – Table (^f scale and r out further (5.9, for pr nethod of efinemen	oject cor impleme it.	mparison a entation.	ind plannin	g purposes.

SEDIMENT TRAPS - Cedar Avenue (SF4261 / SF4270)

View to west towards SF426I from Cedar Avenue

						Pr	oject Dat	а				
Basin	Area S	Served	Lar	nd Required	TSS	S Remova (lbs/vr)	TN Rem	oval r)	TP Ren	noval (r)	Freshwa	ter Retained
F	12	2.9		0.00		128	5.8	/	0.19	<i>7</i>	(101111011	0.00
				Estima	ated	Projec	t Cost (ye	ar 2	000 doll	lars)		
Co	onstru	ction		a	1_	Ca	pital	1		Land	Total	Estimated
Equip/ N	<i>laterial</i>	's Lai	bor	Contingenc	/ Eng	gineering	Permitting	Adm	in / Legal	Cost	Cost	U&M ∕ year
\$11,	,250	\$3,	750	\$2,250		\$1,500	\$750		\$750	\$0	\$20,250	\$ 300
Estimated Implementation Schedule (months)												
Initi Admi Lega	ial in/ al	Engin De	eerii sign	ng Permit	ting	Interin Subcon Proce	n Admin/ htracting/ urement	Con	struction	Final Certif Clos	Admin fication/ fice-Out	Total
0.5	5		2	1			1		1		0.5	6
Consti	ructed	By:					Additional .	Servia	ces Requii	red:		
Contractor Easement Acquisition, Engineering / Modeling, Utility Identification and Clearance, Contracting											e, Contracting	
Notes:	Proje Data E Actual Not fo	e <mark>ct wo</mark> Based o I values or const	uld t i on CII s will tructio	reat PARTI P project cos vary based o pn estimation	AL A st sum on eco n purj	IA (FDO) nmary she pnomies o poses with	f <mark>) runoff.</mark> ets – Table 6 f scale and n nout further r	o.9, for nethod efinen	r project co I of implem nent.	emparisor entation.	and planni	ng purposes.

SEDIMENT TRAPS - North 4th Street / Blakey (SF233I / SF234O)

View to west towards SF233I from Cedar Avenue

						Pr	oject	Dat	ta				
Basin	Area S	Servea	' Lar	nd Required	1	TSS Rei	moval	T	N Removal	TF	P Removal	Fresh	water Retained
	(aci	res)		(acres)		(lbs/	yr)		(lbs/yr)		(lbs/yr)	(Millic	on Gallons/yr)
F	26	o.5		0.00		424	1		13.4		0.45		0.00
			<u>.</u>	Estima	ted	Projec	t Cost	(ye	ear 2000	dol	lars)		
Co	nstruc	tion			_	Cap	pital				Land	Total	Estimated
Equip/ N	<i>Naterials</i>	s Lab	or Co	ntingency	Eng	gineering	Permitt	ting	Admin / Le	egal	Cost	Cost	O&M ∕ year
\$18,	,750	\$6,2	250	\$3,750		\$2,500	\$1,25	50	\$1,250		\$0	\$33,750	\$ 400
	Estimated Implementation Schedule (months)												
Initi Admi Lega	ial I in/ al	Engin De	eering sign	Permitt	ing	Interir Subcor Procu	n Admii ntractin uremen	n∕ g∕ t	Construct	tion	Final Certifi Clos	Admin cation/ e-Out	Total
0.5	5		2	1			1		1		C).5	6
Constr	ructed	By:					Additio	nal	Services R	equi	red:		
Cor	ntractor		Easen	nent Acquis	sitior	n, Enginee	ering / M	odel	ing, Utility Ic	lentif	ication and	d Clearanc	e, Contracting
Notes:	Projec Data Ba Actual \ Not for	t wou ased o /alues consti	n CIP pr will var	t PARTIA roject cost y based on estimation	L AI sum eco purp	A (FDOT) mary shee nomies of ooses with) runofi ets – Tak ^f scale ar out furth	<mark>f.</mark> ole 6 nd m ner r	.9, for projentethod of imperiod	ct co plem	mparison a entation.	and planni	ng purposes.

SEDIMENT TRAPS - Northshore (SF073I / SF0740)

						Pr	oject D)at	ta					
Basin	Are	ea Served	l	and Requi	ired	TSS Re	emoval		TN Removal	ΤI	P Remova	al Frest	hWa	ater Retained
	((acres)		(acres)		(lbs,	/yr)		(lbs/yr)		(lbs/yr)	(Mill	ion	Gallons/yr)
F		49 .5		0.00		16	91		63.2		1.68		(0.00
				Estimat	ed	Projec	t Cost	(ye	ear 2000 d	lol	lars)			
Co	onstru	ction				Сар	oital				Land	Total		Estimated
Equip/Materials Labor Contingency Engineering Permittin									Admin / Lega	a/	Cost	Cost		O&M / year
\$30,	000	\$10,00)	\$6,000	\$	\$4,000	\$2,000)	\$2,000		\$0	\$54,000)	\$ 500
	Estimated Implementation Schedule (months)													
Initi Admi Lega	al in/ al	Enginee Desig	ring n	Permitti	ing	Interin Subcor Procu	n Admin htracting hrement	/	Constructio	on	Final Certif Clos	l Admin fication/ se-Out		Total
0.5	5	2		1			1		1			0.5		6
Const	tructe	d By:					Additio	na	l Services Re	equ	ired:			
Со	ntracto	or	Ease	ment Acqui	sitio	n, Engine	ering / M	ode	eling, Utility Id	lent	ification a	and Cleara	nce	e, Contracting
Notes:	Projec Data B Actual Not for	ct would ased on C values wil	t rea IP pr vary ion e	t PARTIAL oject cost s / based on estimation p	AL sumi ecoi ourp	A (FDOT) mary shee nomies of oses with) runoff. ets – Tabl scale and out furthe	e6 dm err	.9, for project nethod of imple efinement.	coi eme	mparison entation.	and planr	ning) purposes.

<u>SEDIMENT TRAPS</u> - Minuteman / Brevard (SG1311 / SG1320) (Alternative Downtown Stormwater Pond Park)

						Pr	oject	t Data	a *					
Basin	Area	Served	Lar	Land Required			TSS Removal		N Removal 7		TP Removal	Fresh	Freshwater Retained	
G	2	<u>1.0</u>		0.00		241	1)	(20.5		0.58		0.00	
				Estimat	ted	Projec	t Cos	t (ye	ar 2000 c	lol	lars) *			
Со	nstruc	tion				Ca	pital				Land	Total	Estimated	
Equip/ N	laterial	's Labo	or Col	ntingency	Eng	ineering	Perm	itting	Admin / Leg	gal	Cost	Cost	<i>O&M / year</i>	
\$18,	750	\$6,2	50	\$3,750	\$	2,500	\$1,	250	\$1,250		\$0 \$33,750		\$ 400	
	Estimated Implementation Schedule (months)													
Initi Admi Lega	ial in/ al	Engine Des	ering ign	Permit	ting	Inter Subco Proc	im Adı ontracı curem	min/ ting/ ent	Construct	tion	n Final Certifi Clos	Admin ication/ e-Out	Total	
0.5	5	2		1			1		1		().5	6	
Const	tructe	d By:					Ada	litiona	l Services k	Req	uired:			
Co	ontracto	or	Ease	ment Acq	uisitio	on, Engin	eering	/ Mode	eling, Utility I	Ider	ntification a	nd Clearan	ce, Contracting	
Notes:	To be Projec Data B Actual Not for	consid t woul ased or values	ered c d trea CIP pi will var uction e	nly if Do t PARTIA oject cost y based ou estimation	wnto L AI t sum n ecc purp	own Sto A (FDO mary sho pomies o poses wit	rmwa F) run eets – of scale hout fu	ter Po off. Table 6 and n irther r	nd Park op 0.9, for project nethod of imp efinement.	tior ct co plen	n not feasi omparison nentation.	<mark>ble.</mark> and plannir	ng purposes.	

SEDIMENT TRAPS - South 2nd Street (SG077I / SG078O)

						Pr	oject Dat	а				
Basin	Area S	Served	Land	Land Required TSS Removal			I TN Rem	oval TP Removal		noval	Freshwater Retained	
	(acı	res)	(a	ncres)	(ílbs/yr)	(lbs/yi)	(lbs/y	(r)	(Million	Gallons/yr)
G	85	5.6	(0.00		1241	41.8		1.30)	(0.00
				Estima	ted	Projec	t Cost (ye	ar 2	2000 doll	ars)		
Ca	onstruc	tion				Ca	pital			Land	Total	Estimated
Equip/ N	<i>Naterials</i>	s Labo	or Ca	ontingency	Eng	ineering	Permitting	Adr	min / Legal	Cost	Cost	O&M / year
\$30,	,000	\$10,0	000	\$6,000	\$	4,000	\$2,000		\$2,000	\$0	\$54,000	\$ 500
	Estimated Implementation Schedule (months)											
Initi Admi Lega	ial I in/ al	Engine Desi	ering ign	Permitt	ing	Interii Subcoi Proce	n Admin/ htracting/ urement	Cor	nstruction	Final Certifi Clos	Admin ication/ e-Out	Total
0.5	5	2		1			1		1	().5	6
Const	tructea	l By:					Additional	' Serı	vices Requ	ired:		
Со	ontracto	r	Ease	ment Acqu	isitio	n, Engine	ering / Mode	ling,	Utility Identi	ification a	nd Clearand	e, Contracting
Notes:	Projec Data Ba Actual \ Not for	t woul ased on /alues v constru	d trea CIP pi vill var	t PARTIA roject cost y based on estimation	L AI/ sumr ecor purpo	A (FDOT mary shee nomies of oses with) runoff . ets – Table 6 ⁵ scale and m out further re	9, fo ethoo finer	r project cor d of impleme nent.	mparison entation.	and plannin	g purposes.

SEDIMENT TRAPS - South 8th Street (SH0711 / SH0720) (Alternative to River Lakes Private Retention Partnership)

View to west at SH071I at Brevard Avenue

						Pr	ojec	t Dat	a				
Basin	Area	Served	Lan	Land Required TSS Removal TN Removal		TP Removal		Freshu	Freshwater Retained				
н	(a)	0 8		$\frac{acres}{0.00}$		(<i>IUS/yi</i>)	′ 	(<i>ID</i> 5	2Λ	(1 /7		0.00
		7.0		Estimat	hot	Projec	t Co	st (vc	2.4 ar 200	0 do	llars)		0.00
Ca	onstruc	tion		Lotina	.cu	Cal	bital	si (je	ai 200	0 40	Land	Total	Estimated
Equip/ N	laterials	s Labo	r Co	ontingency	Eng	ineering	Pern	nitting	Admin /	Legal	Cost	Cost	O&M / year
\$30,	000	\$10,0	00	\$6,000	\$	54,000	\$2	,000	\$2,00	00	\$0	\$54,000	\$ 500
Estimated Implementation Schedule (months)													
Initi	al	Engine	ering	Permitt	ing	Interir	n Adr	nin/	Constru	iction	Fina	l Admin	Total
Admi Lega	n/ al	Desi	ŋn			Subcor Proci	ntract ureme	ent			Certin Clo	fication/ se-Out	
0.5	5	2		1			1		1			0.5	6
Const	ructed	' By:					Addi	tional	Services	Requ	iired:		
Сог	ntracto	r	Easen	nent Acqui	sitior	n, Engine	ering /	' Model	ing, Utility	/ Iden	tification a	ind Clearand	e, Contracting
Notes:	Notes: To be considered only if River Lakes Private Retention Partnership option not feasible. Project would treat PARTIAL AIA (FDOT) runoff.												
	Data Ba	ased on	CIP pr	oject cost	sumr	mary shee	ets – T	able 6.	9, for pro	ject co	omparison	and plannir	ng purposes.
ĺ	Not for	construct	tion e	stimation	ourp	oses with	out fu	rther re	efinement				

ATTACHMENT 6-2

NON-CIP STORMWATER PROJECT DATA SHEETS

- 1. SWALES & EXFILTRATION FDOT R-O-W A1A from North City Limit to St. Lucie
- 2. SWALES FDOT Right of Way Median Swales along 520
- 3. PONDS Seminole Lane Stormwater Pond Park
- 4. PONDS Cocoa Isles Stormwater Pond Park
- 5. SWALES & EXFILTRATION FDOT R-O-W A1A from 4th Street North to 6th Street South (Basins F & G)
- 6. SWALES & EXFILTRATION FDOT R-O-W A1A from 6th Street South to South City Limit (Basin H)

<u>SWALES & EXFILTRATION</u> – FDOT Right of Way A1A from North City Limit to St. Lucie

	Project Data								
Basin	Area Served	Land Required	TSS Removal	TN Removal	TP Removal	Freshwater Retained			
	(acres)	(20103)	(103/y1)	(103/ yr)	(103/91)				
A,B,C	17.21	0.00	589.26	4.33	1.28	1.87			
Notes: F C A	Project would Data Based on C Actual values wil	treat PRIMARIL IP project cost sur I vary based on ec ion estimation pur	Y A1A (FDOT) nmary sheets – onomies of scale poses without fu	runoff. Table 6.9, for proje e and method of im urther refinement.	ct comparison a plementation.	nd planning purposes.			

<u>SWALES</u> - FDOT Right of Way Median Swales along 520

View to east from north side of 520 towards median areas.

	Project Data									
Basin	Area Served (acres)	Land Required (acres)	TSS Removal (lbs/yr)	TN Removal (lbs/yr)	TP Removal (lbs/yr)	Freshwater Retained (Million Gallons/yr)				
B,C	14.52	0.00	1091.24	8.42	3.35	4.62				
Notes:	Project would Data Based on Actual values w Not for constru	d treat PRIMARIL CIP project cost su vill vary based on ec ction estimation pu	Y 520 (FDOT) ru mmary sheets – Ta conomies of scale a rposes without furtl	<mark>noff.</mark> ble 6.9, for proje nd method of im her refinement.	ect comparison plementation.	and planning purposes.				

PONDS - Seminole Lane Stormwater Pond Park

	Project Data									
Basin	Area Served (acres)	Land Required (acres)	TSS Removal (lbs/yr)	TN Removal (lbs/yr)	TP Removal (lbs/yr)	Freshwater Retained (Million Gallons/yr)				
D	83.0	1.00	4153	264.1	41.64	0.48				
Notes:	Project would	d treat PRIMARI	LY AIA (FDOT)	runoff.						
	Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes.									
	Actual values v	vill vary based on e	economies of scal	le and method of in	nplementation.					
	Not for constru	ction estimation p	urposes without f	further refinement.						

PONDS – Cocoa Isles Stormwater Pond Park

Project Data TSS Removal Area Served Land Required TN Removal TP Removal Freshwater Retained Basin (acres) (acres) (lbs/yr) (lbs/yr) (lbs/yr) (Million Gallons/yr) 189.2 Ε 81.0 0.25 1931 38.50 0.50 Project would treat PRIMARILY AIA (FDOT) runoff. Notes: Data Based on CIP project cost summary sheets – Table 6.9, for project comparison and planning purposes. Actual values will vary based on economies of scale and method of implementation. Not for construction estimation purposes without further refinement.

SWALES & EXFILTRATION – FDOT Right of Way A1A from 4th Street North to 6th Street South (Basins F & G)

View of typical FDOT AIA right-of-way

	Project Data									
Basin	Area Served (acres)	Land Required (acres)	TSS Removal (lbs/yr)	TN Removal (lbs/yr)	TP Removal (lbs/yr)	Freshwater Retained (Million Gallons/yr)				
F,G,H	188.9	0.00	11653	93.1	28.3	33.4				
Notes:	Project would Data Based on C Actual values wil Not for construct	treat PRIMARIL IP project cost sur I vary based on ec ion estimation pur	Y A1A (FDOT) nmary sheets – onomies of scale poses without fu	runoff. Table 6.9, for proje e and method of im urther refinement.	ect comparison a plementation.	nd planning purposes.				

SWALES & EXFILTRATION – FDOT Right of Way A1A from 6th Street South to South City Limit (Basin H)

View of typical FDOT AIA right-of-way in Basin H.

View of typical FDOT AIA right-of-way near south City limit.

	Project Data									
Basin	Area Served (acres)	Land Required (acres)	TSS Removal (lbs/yr)	TN Removal (lbs/yr)	TP Removal (lbs/yr)	Freshwater Retained (Million Gallons/yr)				
F,G,H	188.9	0.00	11653	93.1	28.3	33.4				
Notes: [/	Project would Data Based on C Actual values wil Not for construct	treat PRIMARIL IP project cost sur I vary based on ec ion estimation pur	Y A1A (FDOT) nmary sheets – onomies of scale poses without fu	runoff. Table 6.9, for proje e and method of im urther refinement.	ct comparison a plementation.	nd planning purposes.				