Department of
Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

September 30, 2005

Mr. Larry Nadeau
Public Works Department
460 SW Thornhill Drive
Port St. Lucie, Florida 34984

Dear Mr. Nadeau:

Enclosed please find two originals of the Florida Department of Environmental Protection Agreement for the E8 Waterway Stormwater Retrofit Project, DEP Agreement No. S0239.

Please have both copies signed by the appropriate city official, retain executed copy for your files and return one original executed copy to me at the following address:

Eric Livingston
Department of Environmental Protection
Bureau of Watershed Management
2600 Blair Stone Road (M.S. 3510)
Tallahassee, Florida 32399-2400

I look forward to working with you on this important project. If you have any questions, please do not hesitate to call me at 850/245-8430 (SunCom 205-8430).

Best Wishes,

Eric H. Livingston
Chief, Bureau of Watershed Management

DEP AGREEMENT NO. S0239

STATE OF FLORIDA
GRANT ASSISTANCE
PURSUANT TO LINE ITEM 1700 OF THE 2004-2005 GENERAL APPROPRIATIONS ACT

THIS AGREEMENT is entered into between the STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION, whose address is 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000 (hereinafter referred to as the "Department") and the CITY OF PORT ST. LUCIE, whose address is Engineering Department, 121 SW Port St. Lucie Boulevard, Port St. Lucie, Florida 34984 (hereinafter referred to as "Grantee" or "Recipient"), a unit of local government, to provide funding for the E-8 Waterway Phase 1 Stormwater Quality Retrofit Improvement Project.

In consideration of the mutual benefits to be derived herefrom, the Department and the Grantee do hereby agree as follows:

1. The Grantee does hereby agree to perform in accordance with the terms and conditions set forth in this Agreement, **Attachment A**, Grant Work Plan, and all attachments and exhibits named herein which are attached hereto and incorporated by reference. For purposes of this Agreement, the terms "Contract" and "Agreement" and the terms "Grantee", "Recipient" and "Contractor", are used interchangeably.

2. A. This Agreement shall begin upon execution by both parties and shall remain in effect for a period of thirty-six (36) months, inclusive. The Grantee shall not be eligible for reimbursement for work performed prior to the execution date of this Agreement. This Agreement may be amended to provide for additional services if additional funding is made available by the Legislature.

   B. The Grantee understands and agrees that certification forward of the State Fiscal Year 2004-2005 funds supporting this Agreement beyond June 30, 2007 is subject to the approval of the Governor's Office.

3. A. As consideration for the services rendered by the Grantee under the terms of this Agreement, the Department shall pay the Grantee on a cost reimbursement basis in an amount not to exceed $750,000 towards the total project cost of $1,522,000. The parties hereto agree that the Grantee is responsible for providing a minimum match of $772,000 (or 50% of the total project cost, whichever is less) toward the project described in **Attachment A,** Grant Work Plan. If the Grantee finds, after receipt of competitive bids, that the work described in **Attachment A** cannot be accomplished for the current estimated project cost, the parties hereto agree to modify the Project Work Plan described in **Attachment A** to provide for the work that can be accomplished for the funding identified above.

   B. The Grantee shall be reimbursed on a cost reimbursement basis for all eligible project costs upon receipt and acceptance of a properly completed **Attachment B**, Payment Request Summary Form. In addition to the summary form, the Grantee must provide from its accounting system, a listing of expenditures charged against this Agreement. The listing shall include, at a minimum, a description of the goods or services purchased, date of the transaction, voucher number, amount paid, and vendor name. Requests for reimbursement of travel expenses are not authorized under the terms of this Agreement.

   C. In addition to the invoicing requirements contained in paragraph 3.B. above, the Department will periodically request proof of a transaction (invoice, payroll register, etc.) to evaluate the appropriateness of costs to the Agreement pursuant to State and Federal guidelines (including cost allocation guidelines), as appropriate. This information, when requested, must be provided within 30 calendar days of such request. The Grantee may also be required to submit a cost allocation plan to the Department in support of its multipliers (overhead, indirect, general administrative costs, and fringe benefits). All bills for amounts due under this Agreement shall be submitted in detail sufficient for a proper pre-audit and post-audit thereof. State guidelines for allowable costs can be found in the Department of Financial Services' Reference Guide for State Expenditures at www.dbf.state.fl.us/aadir/reference_guide.

4. The State of Florida's performance and obligation to pay under this Agreement is contingent upon an annual appropriation by the Legislature. The parties hereto understand that this Agreement is not a commitment of future appropriations.

5. The Grantee shall submit quarterly invoices in conjunction with quarterly progress reports describing the work performed, problems encountered, problem resolution, schedule updates and proposed work for the next reporting period. Quarterly reports shall be submitted to the Department's Grant Manager no later than twenty (20) days following the completion of the quarterly reporting period. It is hereby understood and agreed by the parties that the term "quarterly" shall reflect the calendar quarters ending March 31, June 30, September 30 and December 31. The Department's Grant Manager shall have ten (10) calendar days to review deliverables submitted by the Grantee.

6. Each party hereto agrees that it shall be solely responsible for the negligent or wrongful acts of its employees and agents. However, nothing contained herein shall constitute a waiver by either party of its sovereign immunity or the provisions of Section 768.28, Florida Statutes.

7. A. The Department may terminate this Agreement at any time in the event of the failure of the Grantee to fulfill any of its obligations under this Agreement. Prior to termination, the Department shall provide thirty (30) calendar days written notice of its intent to terminate and shall provide the Grantee an opportunity to consult with the Department regarding the reason(s) for termination.

   B. The Department may terminate this Agreement for convenience by providing the Grantee with thirty (30) calendar days written notice.

8. This Agreement may be unilaterally canceled by the Department for refusal by the Grantee to allow public access to all documents, papers, letters, or other material made or received by the Grantee in conjunction with this Agreement, unless the records are exempt from Section 24(a) of Article I of the State Constitution and Section 119.07(1), Florida Statutes.

9. The Grantee shall maintain books, records and documents directly pertinent to performance under this Agreement in accordance with generally accepted accounting principles consistently applied. The Department, the State, or their authorized representatives shall have access to such records for audit purposes during the term of this Agreement and for five years following Agreement completion. In the event any work is subcontracted, the Grantee shall similarly require each subcontractor to maintain and allow access to such records for audit purposes.

10. A. In addition to the requirements of the preceding paragraph, the Grantee shall comply with the applicable provisions contained in **Attachment C (Special Audit Requirements)**, attached hereto and incorporated herein by reference. **Exhibit 1** to **Attachment C** summarizes the funding sources supporting the Agreement for purposes of assisting the Grantee in complying with the requirements of **Attachment C**. A revised copy of **Exhibit 1** must be provided to the Grantee for each amendment which authorizes a funding increase or decrease. If the Grantee fails to receive a revised copy of **Exhibit 1**, the Grantee shall notify the Department's Grants Development and Review Manager at 850/245-2361 to request a copy of the updated information.

    B. The Grantee is hereby advised that the Federal and/or Florida Single Audit Act Requirements may further apply to lower tier transactions that may be a result of this Agreement. The Grantee shall consider the type of financial assistance (federal and/or state) identified in **Attachment C, Exhibit 1** when making its determination. For federal financial assistance, the Grantee shall utilize the guidance provided under OMB Circular A-133, Subpart B, Section ___.210 for determining whether the relationship represents that of a subrecipient or vendor. For state financial assistance, the Grantee shall utilize the form entitled "Checklist for Nonstate Organizations Recipient/Subrecipient vs Vendor Determination" (form number FSAA_CL2) that can be found under the "Links/Forms" section appearing at the following website:

    http://www.fsaa.state.fl.us/

    The Grantee should confer with its chief financial officer, audit director or contact the Department for assistance with questions pertaining to the applicability of these requirements.

11. A. The Grantee may subcontract work under this Agreement without the prior written consent of the Department's Grant Manager. The Grantee agrees to be responsible for the fulfillment of all work elements included in any subcontract and agrees to be responsible for the payment of all monies due under any subcontract. It is understood and agreed by the Grantee that the Department shall not be liable to any subcontractor for any expenses or liabilities incurred under the subcontract and that the Grantee shall be solely liable to the subcontractor for all expenses and liabilities incurred under the subcontract.

B. The Department of Environmental Protection supports diversity in its procurement program and requests that all subcontracting opportunities afforded by this Agreement embrace diversity enthusiastically. The award of subcontracts should reflect the full diversity of the citizens of the State of Florida. Upon request, the Department will furnish a list of minority owned businesses for consideration in subcontracting opportunities.

12. In accordance with Section 216.347, Florida Statutes, the Grantee is hereby prohibited from using funds provided by this Agreement for the purpose of lobbying the Legislature, the judicial branch or a state agency.

13. The Grantee shall comply with all applicable federal, state and local rules and regulations in providing services to the Department under this Agreement. The Grantee acknowledges that this requirement includes compliance with all applicable federal, state and local health and safety rules and regulations. The Grantee further agrees to include this provision in all subcontracts issued as a result of this Agreement.

14. The Department's Grant Manager for this Agreement is identified below.

Eric Livingston	
Florida Department of Environmental Protection	
Bureau of Watershed Management	
2600 Blair Stone Road, MS# 3510	
Tallahassee, Florida 32399-2400	
Telephone No.:	850/245-8430
SunCom No.:	205-8430
Fax No.:	850/245-8434
SunCom Fax No.:	205-8434
E-mail Address:	eric.Livingston@dep.state.fl.us

15. The Grantee's Grant Managers for this Agreement are identified below.

Larry Nadeau (Primary Grant Manager)	
City of Port St. Lucie Public Works Department	
460 SW Thornhill Drive	
Port St. Lucie, Florida 34984	
Telephone No.:	772/871-5104
Fax No.:	772/871-7397
E-mail Address:	lnadeau@cityofpsl.com

Bill Shearer (Secondary Grant Manager)	
City of Port St. Lucie Public Works Department	
460 SW Thornhill Drive	
Port St. Lucie, Florida 34984	
Telephone No.:	772/871-7399
Fax No.:	772/871-7397
E-mail Address:	bshearer@cityofpsl.com

16. To the extent required by law, the Grantee will be self-insured against, or will secure and maintain during the life of this Agreement, Workers' Compensation Insurance for all of his employees connected with the work of this project and, in case any work is subcontracted, the Grantee shall require the subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees unless such employees are covered by the protection afforded by the Grantee. Such self-insurance program or insurance coverage shall comply fully with the

Florida Workers' Compensation law. In case any class of employees engaged in hazardous work under this Agreement is not protected under Workers' Compensation statutes, the Grantee shall provide, and cause each subcontractor to provide, adequate insurance satisfactory to the Department, for the protection of his employees not otherwise protected.

17. The Grantee, as an independent contractor and not an agent, representative, or employee of the Department, agrees to carry adequate liability and other appropriate forms of insurance. The Department shall have no liability except as specifically provided in this Agreement.

18. The Grantee covenants that it presently has no interest and shall not acquire any interest which would conflict in any manner or degree with the performance of services required.

19. The purchase of non-expendable equipment costing $1,000 or more is not authorized under the terms of this Agreement.

20. The Department may at any time, by written order designated to be a change order, make any change in the work within the general scope of this Agreement (e.g., specifications, task timeline within current authorized Agreement period, method or manner of performance, requirements, etc.). All change orders are subject to the mutual agreement of both parties as evidenced in writing. Any change, which causes an increase or decrease in the Grantee's cost or time, shall require formal amendment to this Agreement.

21. If the Grantee's project involves environmentally related measurements or data generation, the Grantee shall develop and implement quality assurance practices consisting of policies, procedures, specifications, standards, and documentation sufficient to produce data of quality adequate to meet project objectives and to minimize loss of data due to out-of-control conditions or malfunctions. All sampling and analyses performed under this Agreement must conform with the requirements set forth in Chapter 62-160, Florida Administrative Code, and the Quality Assurance Requirements for Department Agreements, attached hereto and made a part hereof as **Attachment D**.

22. A. No person, on the grounds of race, creed, color, national origin, age, sex, or disability, shall be excluded from participation in; be denied the proceeds or benefits of; or be otherwise subjected to discrimination in performance of this Agreement.

B. An entity or affiliate who has been placed on the discriminatory vendor list may not submit a bid on a contract to provide goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity. The Florida Department of Management Services is responsible for maintaining the discriminatory vendor list and intends to post the list on its website. Questions regarding the discriminatory vendor list may be directed to the Florida Department of Management Services, Office of Supplier Diversity, at 850/487-0915.

23. Land acquisition is not authorized under the terms of this Agreement.

24. This Agreement represents the entire agreement of the parties. Any alterations, variations, changes, modifications or waivers of provisions of this Agreement shall only be valid when they have been reduced to writing, duly signed by each of the parties hereto, and attached to the original of this Agreement, unless otherwise provided herein.

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IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed, the day and year last written below.

CITY OF PORT ST. LUCIE

By: Donald B. Cooper
Title: City Manager

Date: November 23, 2005

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

By: _____
Secretary or designee

Date: 9/29/05

Eric Livingston, DEP Grant Manager

DEP Contracts Administrator

Approved as to form and legality:

DEP Attorney

FEID No.: 59-6141662

*For Agreements with governmental boards/commissions: If someone other than the Chairman signs this Agreement, a resolution, statement or other document authorizing that person to sign the Agreement on behalf of the Grantee must accompany the Agreement.

List of attachments/exhibits included as part of this Agreement:

Specify Type	Letter/ Number	Description (include number of pages)
Attachment	A	Grant Work Plan (17 Pages)
Attachment	B	Payment Request Summary Form (2 Pages)
Attachment	C	Special Audit Requirements (5 Pages)
Attachment	D	Quality Assurance Requirements Provision Options (10 Pages)

ATTACHMENT A
GRANT WORK PLAN

E-8 WATERWAY PHASE 1 STORMWATER QUALITY RETROFIT IMPROVEMENTS

COOPERATING ORGANIZATIONS:
1. City of Port St. Lucie (PSL) Engineering Department, NPDES Office
2. City of PSL Public Works Department
3. City of PSL Home Owners Association
4. South Florida Water Management District (SFWMD) St. Lucie Issues Team (SLRIT) Grant Funding.

PROJECT ABSTRACT: This project consists of stormwater quality retrofit Best Management Practice (BMP) improvements for the existing E-8 Waterway in the City of Port St. Lucie Watershed "B" drainage basin. The E-8 Waterway is the existing detention outfall for the entire 2,100 acre Watershed "B" Basin that discharges through an existing control structure into the SFWMD C-24 Canal between Port St. Lucie Boulevard and the Florida Turnpike, and ultimately outfalls into the pristine North Fork of the St. Lucie River.

The E-8 Waterway Phase 1 Stormwater Quality Retrofit Improvements consist of baffle boxes, control structure improvements, accumulated sediment removal, and installation of a Stormwater Treatment Area (vegetated marsh flow-way) to reduce nutrients, metals and sediment currently discharging into the SFWMD C-24 Canal and the North Fork of the St. Lucie River. Implementation of the E-8 Waterway Phase 1 Water Quality Retrofit Improvements will improve water quality; restore native vegetation and habitat; enhance stormwater treatment and flood protection capacity; and provide an opportunity for environmental education. Monitoring will be performed to determine the system's treatment effectiveness. Phase 2 Retrofit Improvements will consist of additional upstream water quality treatment BMP improvements that have been selected for SLRIT Grant Funding.

PROJECT LOCATION AND WATERSHED Watershed "B" is located on the west side of the City of Port St. Lucie, bordered by SFWMD C-24 Canal to the north, I-95 to the west, Gatlin Boulevard to the south and the Florida Turnpike to the east

CHARACTERISTICS: . The Phase 1 project area consists of 244 acres located in the eastern most section of Watershed "B" in Sections 17 and 18, Township 37 South, Range 40 East within the City of Port St Lucie. The Phase 1 project area includes the E-8 Waterway outfall to the C-24 Canal and is bordered by the C-24 Canal to the north, Port St. Lucie Boulevard to the west, Tulip Boulevard to the south and the Florida Turnpike to the east. (See attached Figures 1, 2 and 3)

The Phase 1 watershed consists of existing quarter acre lot residential development.

Watershed Name: Indian River Lagoon & North Fork of St. Lucie River
Latitude: 27.25
Longitude: 80.35
Hydrologic Unit Code(HUC): 3090202

Land Uses within the Watershed (acres and percentages of total):

Land Use	**Acres**	**%**
Phase 1 Area - Residential (1/4 acre lots)	244	100
Land Use Totals (Acreage and %)	244	100

POLLUTION REDUCTION STRATEGY: This project has been incorporated as part of the City of Port St. Lucie's 5-year Capital Improvement Plan. Port St. Lucie's receiving waters are the Indian River Lagoon via the North Fork of the St. Lucie River. The City's Stormwater Utility uses the SWIM Plan and IRLCCMP as guidance for the City's stormwater program – see IRLCCMP Progress Report, Port St. Lucie. The concept proposed for funding embraces several of the Actions in the Indian River Lagoon Comprehensive Conservation and Management Plan (IRLCCMP) (Appendix 5, IRLCCMP, revised 1998). The City has actively involved the community in the City's Capital Improvement Program (CIP) involving them in the planning stage and improvement of the project area. As with all of City's major stormwater improvement projects, educational signage will be erected at the site which describes the improvement and the need for stormwater management within the City for resource protection. It is important to note that the E-8 Waterway Stormwater Quality Retrofit project was scheduled as a four phase project in the City's CIP due to funding constraints, but if this project is selected for grant funding, these BMP improvements will be completed in two phases.

PROJECT OBJECTIVE(S): The E-8 Waterway outfall structure failed in October 1995 during a significant rainfall event which included total loss of the adjacent roadway and dikes. The facilities were re-constructed as originally designed, but it is anticipated that failure will occur during similar rainfall events unless design improvements are implemented. Modification of this critical outfall structure is proposed as a part of the E-8 Waterway Retrofit Phase 1 improvements.

The existing surface water management system (canals and swales) will be enhanced by wet detention expansion (outfall structure modifications), construction of a Stormwater Treatment Area (STA), and installation of second generation nutrient-removal baffle boxes. Although the Phase 1 BMP improvements are being designed for the 244 acre Phase 1 drainage basin, these improvements will provide water quality treatment for the entire 2,100 acre Watershed "B" drainage basin since these initial improvements will be constructed at the outfall of the watershed. The proposed wet detention expansion, STA retrofit, and baffle boxes will provide significant water quality treatment, removal of nutrients and heavy metals from the E-8 Waterway stormwater discharge. (See attached Figure No. 4).

PROJECT DESCRIPTION: Implementing the proposed E-8 Waterway Phase 1 Stormwater Quality Retrofit Improvements is part of the City's long term goal of improving stormwater treatment for the whole City. The existing E-8 Waterway facilities were originally designed to provide drainage and flood protection. At the time of original construction, water quality treatment was not a primary objective. Implementation of the E-8 Waterway Phase 1 Water Quality Retrofit Improvements will improve water quality; restore native vegetation and habitat; enhance stormwater treatment and flood protection capacity; and provide an opportunity for environmental education. This project seeks to provide retrofit stormwater treatment as follows:

1. The existing Watershed "B" residential areas drain to swales and pipe systems that directly discharge untreated runoff in to the E-8 Waterway. Ten (10) nutrient separating bafle boxes will be installed in the Phase 1 area at these existing swale/pipe discharge points. The baffle boxes will be online and located on City owned property. All of the Phase 1 E-8 Basin will be treated with baffle boxes prior to discharging into the E-8 Waterway.

2. Lake B-1 (a 15-acre wet detention area adjacent to the E-8 Waterway) will be modified to function as a STA /marsh wetland flow way area. Diversion berms and weirs will be constructed to form the STA which will be planted with desirable native vegetation to provide nutrient uptake and sediment removal. The STA treatment volume will be approximately 18.75 ac-ft and up to 50% of the STA surface at control elevation will be planted with littoral plantings. The residence time will be based on industry standard outfall design with bleeders to draw down 50% of the treatment volume in 24 hours and the balance being drawn down within the following 48 hours.

3. The existing E-8 Waterway outfall structures B-1 and B-2 that control discharge into the SFWMD C-24 Canal will be modified to provide additional detention volume in the Watershed "B" basin and will be fitted with operable gates to provide for emergency pre-storm draw down, as well as, additional runoff retention during drought periods. These outfall control structures are being removed and replaced to increase the detention volume and residence time similar to the STA design approach: 50% of the treatment will be drawn down within 24 hours and the balance will be drawn down in the following 48 hours. The detention volume will be approximately 13.4 ac-ft.

4. Although the Phase 1 BMP improvements are being designed for the 244 acre Phase 1 drainage basin, these improvements will provide water quality treatment for the entire 2,100 acre Watershed "B" drainage basin, since these initial improvements will be constructed at the outfall of the watershed. The proposed Phase 1 Retrofit BMP improvements will be constructed within the existing E-8 Waterway right of way areas.

PUBLIC EDUCATION & OUTREACH: The PSL Public Works and Engineering Departments will work cooperatively to raise awareness about stormwater management and educate residents about the role they play in reducing nonpoint source pollution. The proposed activities use the engineering project as a means to engage local residents in the stormwater treatment process and educate them on the impacts their daily activities can have on water resources. The project will be highlighted on the City's Stormwater Website for its overall water quality benefits. The campaign will utilize three different strategies to reach homeowners adjacent to the project and city residents at large with the outreach message.

1. Neighborhood charettes – Two neighborhood meetings will be held to inform area residents about the importance of stormwater management, clarify how their actions contribute to pollution prevention, and encourage their input to project planning. The same meeting will be conducted on two different dates to accommodate the largest audience. Details of the E-8 Waterway Stormwater Quality Retrofit project will be delivered and residents will be encouraged to ask questions and comment on the project. The audience will learn about nonpoint source pollution impacts and how they can be part of the solution. The charettes will be held at the City of Port St. Lucie Community Center and City staff, Capra Technologies (CAPTEC) engineering firm and the City's National Pollutant Discharge Elimination System (NPDES) coordinator will present materials. Project specifications and work area designs will be distributed as well as homeowner best management practices and nonpoint source pollution prevention information. Florida Yards & Neighborhoods representatives will be invited to present Florida Friendly yards tips and distribute landscaping guidelines.

2. Written media - Approximately 600 residents living adjacent to the project site will be contacted by mail and through door hangers notifying them of the charettes and pre-construction meetings. Notices and information will also be posted on city public bulletin boards and web site. Homeowner input is invaluable during the pre-construction phase and the City will make every opportunity for homeowner participation. Funding is requested to print the door hangers and distribution will be conducted through City personnel in-kind service.

3. Public Service Announcements - A fifteen (15) minute long television public service announcement will be produced and aired eighty-eight times on the City's local government access channel. The programming will be aired at least two times a day for two weeks, and then once a day for thirty days and once a week for thirty days. The fifteen minute clip will describe the city's efforts to manage stormwater and how residents can "do their part" to reduce stormwater impacts. It will include a short studio interview followed by field shots of the project area and nonpoint source pollution prevention practices. A local videographer will be employed to collect field footage and compile existing footage. The City will contribute in-kind match in the form of studio filming and editing, existing footage and personnel time.

The City local government access channel is viewed by approximately 52,000 residents (40% of the City population) representing all market segment groups. It has become a popular method for the citizens to learn and view project activities as noted by the fact that following a televised broadcast, regular citizens calls are received through the City's media options; website, phone, emails, and in person.

ESTIMATED POLLUTANT LOAD REDUCTION:

BMP's Installed		TSS kg/yr	TP kg/yr	TN kg/yr	Sediment kg/yr	BOD kg/yr	Other kg/yr	Other kg/yr
10 Baffle Boxes and Pond in Series								
Pollutant Loads	Pre-Project	117, 800	1247	9828				
	Post-Project	42, 808	597	7972				
	Load Reduction	75, 002	650	1856				
	% Reduction	63	52	18.9				

OUTPUTS/DELIVERABLES:

Task 1: Survey Project Site
Description: The City's survey staff will prepare a complete survey of the improvement locations.

Deliverables: A complete survey of the project locations.

Task 2: Engineering Design
Description: The City's engineering consultant will prepare design specifications and construction documents for installation of the improvements. (Post construction surface water monitoring will be conducted over a 5 year time frame, see Task 6 below.) The improvements will be installed on property currently owned by the City and in existing drainage and street right-of-ways.

Deliverables: A complete set of design and construction drawings, construction specifications and permits.

Task 3: Prepare, Send, Receive, Evaluate and Award Construction Bid
Description: City personnel and City's engineering consultant will prepare, advertise for, send, receive, and evaluate bids for construction of the improvements. An award will be made; contracts signed and notice to proceed given.

Deliverables: A construction contract with a Notice to Proceed given to the lowest responsible bidder.

Task 4: Construction of Stormwater Qualty Retrofit Facilities
Description: The City's selected contractor will construct the Improvements for the Phase 1 area as shown on the attached Figures.

Deliverables: The acceptance of the facilities as completed according to design.

Task 5: Post Grant Project Administration
Description: After the grant has been awarded, the City's grant administrator shall provide ongoing monitoring of project schedules to assure compliance with timelines outlined in the grant contract. Required

grant quarterly reports to DEP, construction contract coordination with DEP, Quality Assurance Monitoring plans, stormwater monitoring reports, and preliminary and final project reports will be written by the grant administrator.

Deliverables: Quarterly reports to DEP, stormwater monitoring reports, and preliminary and final project reports will be written by the City.

Task 6: Implementation of Water Quality Monitoring Program
Description: A Monitoring Plan will be submitted to FDEP once final design is completed. The Monitoring Plan will be designed to determine pollutant load reduction associated the project including storm event sampling.

Deliverables: Bi-monthly stormwater reports, storm event autosampler reports, and twice-a-year stormwater analysis reports will be completed.

Task 7: Implementation of Education Component
Description: PSL will utilize three different strategies to educate residents about stormwater management and nonpoint source pollution. The strategies include neighborhood charettes, mailed printed materials, and public service announcements. These strategies are described in greater detail in the education section. The City's Public Works and Engineering Departments will work cooperatively to raise awareness about stormwater management and educate residents about the role they play in reducing nonpoint source pollution. The proposed activities use the engineering project as a means to engage local residents in the stormwater treatment process and educate them on the impacts their daily activities can have on water resources. The project will be highlighted on the City's Stormwater Website for its overall water quality benefits. The campaign will utilize three different strategies to reach homeowners adjacent to the project and city residents at large with the outreach message.

Deliverables:

Strategy	Deliverable	Budget Request	Budget Match
I. Public Charettes	Meeting Agendas, PowerPoint presentation		$2,500
II. Notification	Mail outs (~1,000)		$2,500
	Door Hangers (~1,000)	$1,000	$3,000
III. PSAs	One 15-min PSA delivered on the air 88 times	$3,000	$20,000
Total Education Budget		$4,000	$28,000

Task 8. Draft and Final Project Report
Description: A draft and final project report will be prepared summarizing the project. It will include photos taken during the entire project and results from the monitoring study.

Deliverables: Five copies of the final report will be submitted to FDEP.

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PROJECT MILESTONES:

Task	Activity	Start	Complete
1	Survey	Month 1	Month 2
2	Engineering Design	Month 2	Month 4
3	Prepare/Award Bid	Month 5	Month 7
4	Construct Stormwater Facilities	Month 7	Month 12
5	Post-Construction Project Administration	Month 5	Month 17
6	Implement Water Quality Monitoring	Month 5	Month 29
7	Implement Education Component	Month 5	Month 29
8	Draft Final Report Final Report	Month 29 Month 34	Month 34 Month 35

PROJECT BUDGET:

Project Funding Activity	Grant Amount	Matching Contribution	Match Source *
Staff	$0.00	$80,000.00	PSL Utility
Travel	$0.00	$0.00	
Equipment	$0.00	$0.00	
Supplies	$0.00	$0.00	
Contractual	$0.00	$90,000.00	PSL Utility
BMP Implementation	$750,000.00	$500,000.00	PSL Utility
Monitoring	$0.00	$70,000.00	PSL Utility
Public Education	$0.00	$32,000.00	PSL Utility
Total:	$750,000.00	$772,000.00	
Total Project Cost:		$1,522,000.00	
Percentage Match:	49.28	50.72	

***If a stormwater utility or other dedicated recurring fee is contributing, put that information in the following table.**

MATCH SOURCE INFORMATION:

Match Source Name	Description	Equivalent Residential Unit (ERU)/Fee
PSL Utility	City of PSL Stormwater Fee: An enterprise fund used for capital improvements, planning operations and maintenance	$105/ERU

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BUDGET BY TASK:

Project Funding Activity	Grant Amount	Matching Contribution	Match Source
Surveying	$0.00	$30,000.00	PSL Utility
Engineering DesignPrepare/Award Bid	$0.00	$90,000.00	PSL Utility
Construct Stormwater BMP & STA Facilities	$750,000.00	$500,000.00	PSL Utility
Post-Grant Project Admin.	$0.00	$50,000.00	PSL Utility
Water Quality Monitoring	$0.00	$70,000.00	PSL Utility
Education	$0.00	$32,000.00	PSL Utility
Total:	$750,000	$772,000	
Total Project Cost:		$1,522,000.00	
Percentage Match:	49.28	50.72	

OTHER FUNDING (Not Match – such as land acquisition or other federal grants):

Agency	Activity	Amount
PSL Public Works	Channel Cleaning & Maintenance	$300,000
	Total:	$300,000

REFERENCES CITED:

Stormwater loading rates are calculated from the report "Stormwater Loading Rate Parameters for Central and South Florida", Harvey Harper, 1994. The pollutant removal rates are based upon Harvey Harper data for ponds and Gordon England data for baffle boxes.

P:/700/769/Fla Forever Grant/FF-NPS-Application-062205.doc

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Appendix 1

Preliminary Surface Water Monitoring for Phase 1 E-8 Waterway Improvements

The local government has proposed a balanced and comprehensive approach to stormwater management in order to minimize pollutant discharges from the project area. The final Water Quality Monitoring Plan (the Plan) will be developed in coordination with the Florida Department of Environmental Protection (DEP) and included with the final scope of work when DEP and the local government sign the contract for work to begin. The final Plan will be designed to improve water quality and comply with maintenance and monitoring requirements set forth below.

The effectiveness of this project in reducing stormwater loadings will be quantified via water quality monitoring. This monitoring shall include background monitoring of surface waters during non-rain fall conditions. This background monitoring will enable the general physicochemical (salinity, temperature, pH, dissolved oxygen) of the receiving water to be characterized under baseline conditions. After significant rainfall events, the local government will conduct monitoring in two locations: inflow and outflow of the BMP(s) installed. Monitoring will include sampling from seven to ten storm events. These events will be discrete rainfall events of generally greater than 0.5 inches and less than 2.0 inches.

Monitoring will include the following parameters:

• Daily rainfall (to the nearest 0.01 inch) measured at the sampling location with verification from the local weather station. Rainfall data would be provided for at least one week preceding monitoring and for day(s) of monitoring/sampling.

• Flow using approved flow-activated flow meters.

Parameters as specified below:

Parameter	Detection Limit	Method
Total Cadmium	1 ug/l	Composite*
Total Chromium	5 ug/l	Composite*
Total Copper	5 ug/l	Composite*
Total Zinc	10 ug/l	Composite*
NO2+NO3	0.1 ug/l	Composite*
TKN	0.3 ug/l	Composite*
Total Ammonia	0.05 ug/l	Composite*
Or Total N		Composite*
Total Phosphorus	0.05 ug/l	Composite*
Ortho Phosphate	0.05 ug/l	Composite*
TSS	1 mg/l	Composite*
Oil/Grease	1 mg/l	Composite*
Fecal Coliform	N/A	Grab** if possible

* Flow weighted composite samples will be taken over the storm hydrograph. Typically, the samples will be composited over the inflow hydrograph at the inflow and for up to a 36-hour period at an outflow station. Rainfall that does not result in at least a 6-hour discharge from the stormwater BMP will not be considered a completed monitoring event. Each composite will include at least 6 evenly distributed sub-samples.

**Grab samples to be collected within the drainage area time of concentration at the influent and effluent stations described above.

APPENDIX 2

E-8 Waterway Phase 1 Stormwater Quality Retrofit Figures

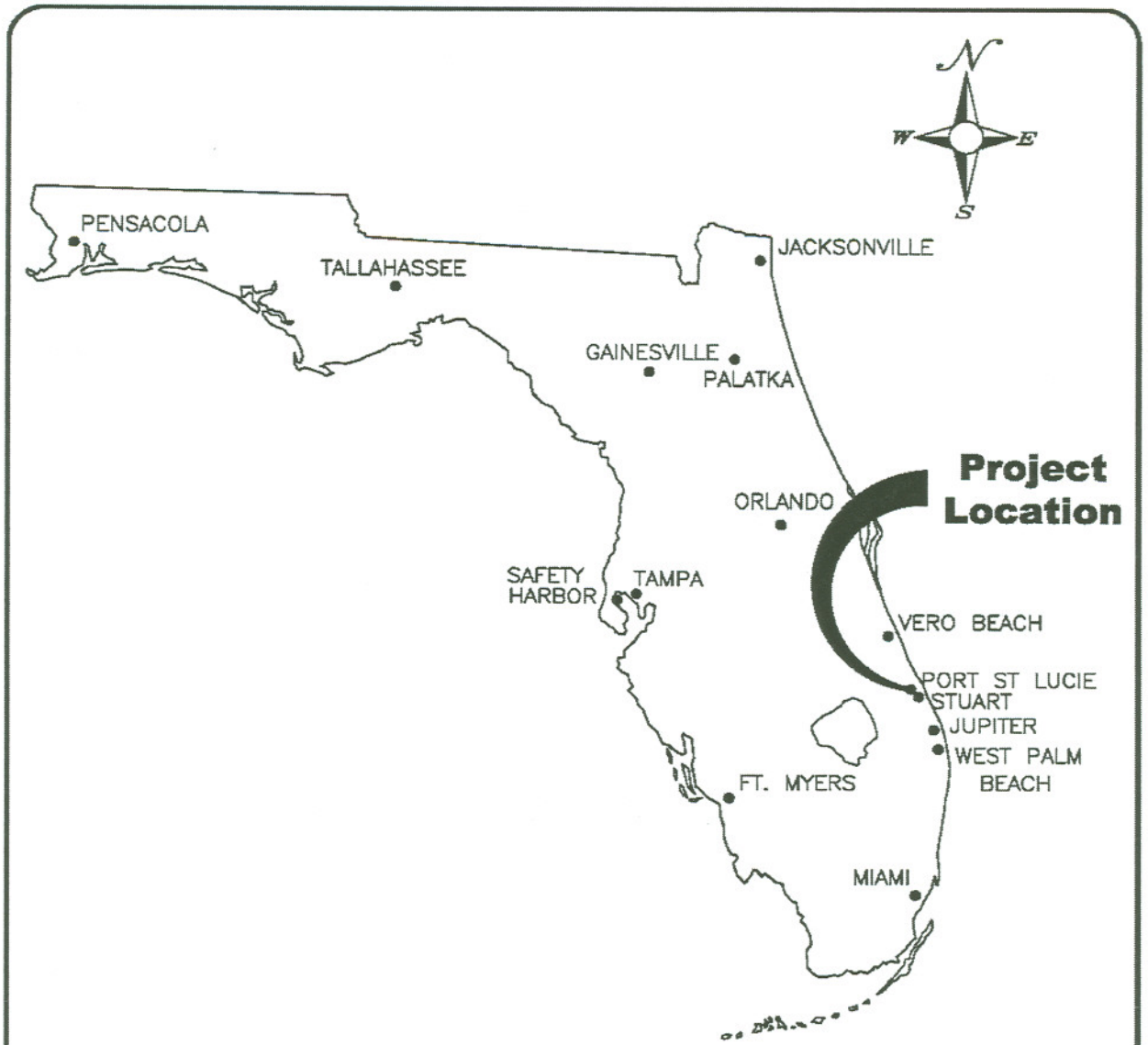


FIGURE NO. 1

CAPTEC Engineering, Inc.
Civil Engineering Professionals

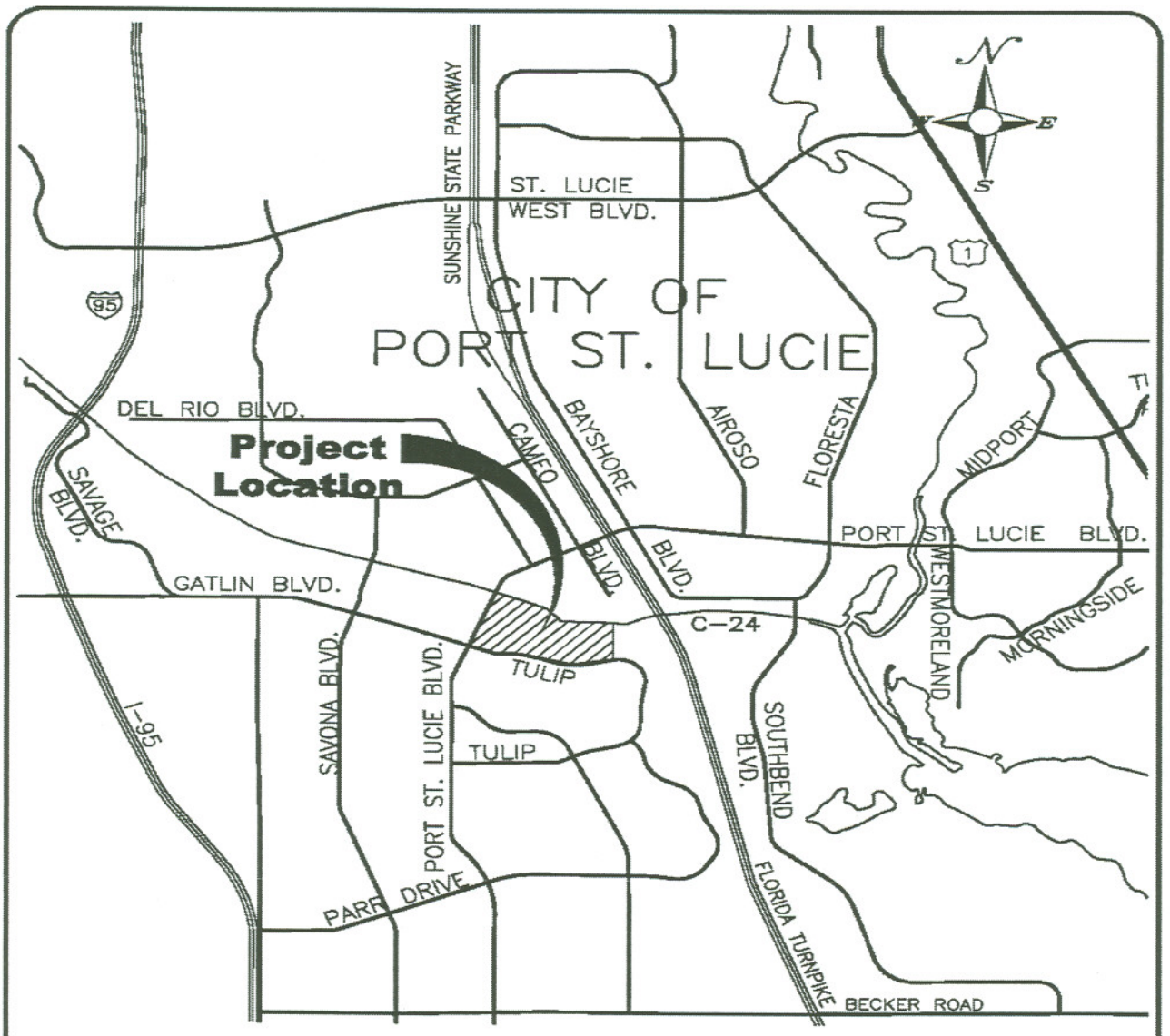
DATE: 5-19-04
DRAWN BY: TRH
DESIGNED BY: SPM
CHECKED BY: SPM
PROJECT No.: 789
HORZ. SCALE: N/A
VERT. SCALE: N/A
CADD FILE: LOC MAPS

E-8 WATERWAY PHASE 1
STORMWATER QUALITY RETROFIT
CITY OF PORT ST. LUCIE

STATE MAP

SCALE VERIFICATION
SOLID BAR IS EQUAL TO HALF AN INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

Sheet No. 1 of 1



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Civil Engineering Professionals

DATE: 5-19-04
DRAWN BY: TRH
DESIGNED BY: SPM
CHECKED BY: SPM
PROJECT No.: 759
HORZ. SCALE: NA
VERT. SCALE: NA
CADD FILE: LOC MAPS

E-8 WATERWAY PHASE 1
STORMWATER QUALITY RETROFIT
CITY OF PORT ST. LUCIE

VICINITY MAP

SCALE VERIFICATION
SOLID BAR IS EQUAL TO HALF AN INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

Sheet No. 1 of 1

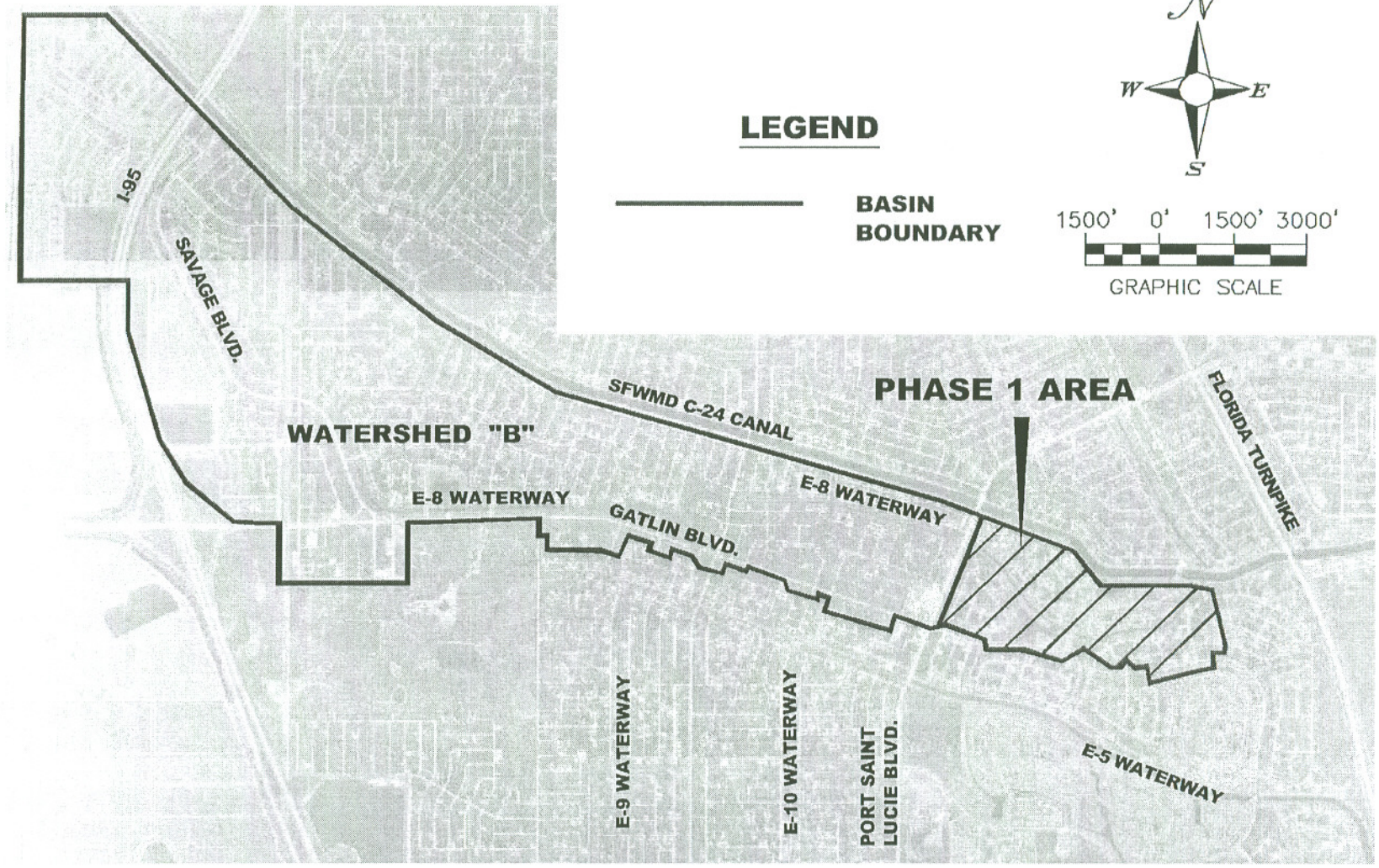

FIGURE NO. 3

CAPTEC Engineering, Inc.
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Joseph W. Capra
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HORZ. SCALE:	AS SHOWN
VERT. SCALE:	N/A
CADD FILE:	769

E-8 WATERWAY PHASE 1
STORMWATER QUALITY RETROFIT
CITY OF PORT ST. LUCIE
WATERSHED "B"
AERIAL

SCALE VERIFICATION
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SOLID BAR IS EQUAL TO HALF AN INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

Sheet No. 1 of 1

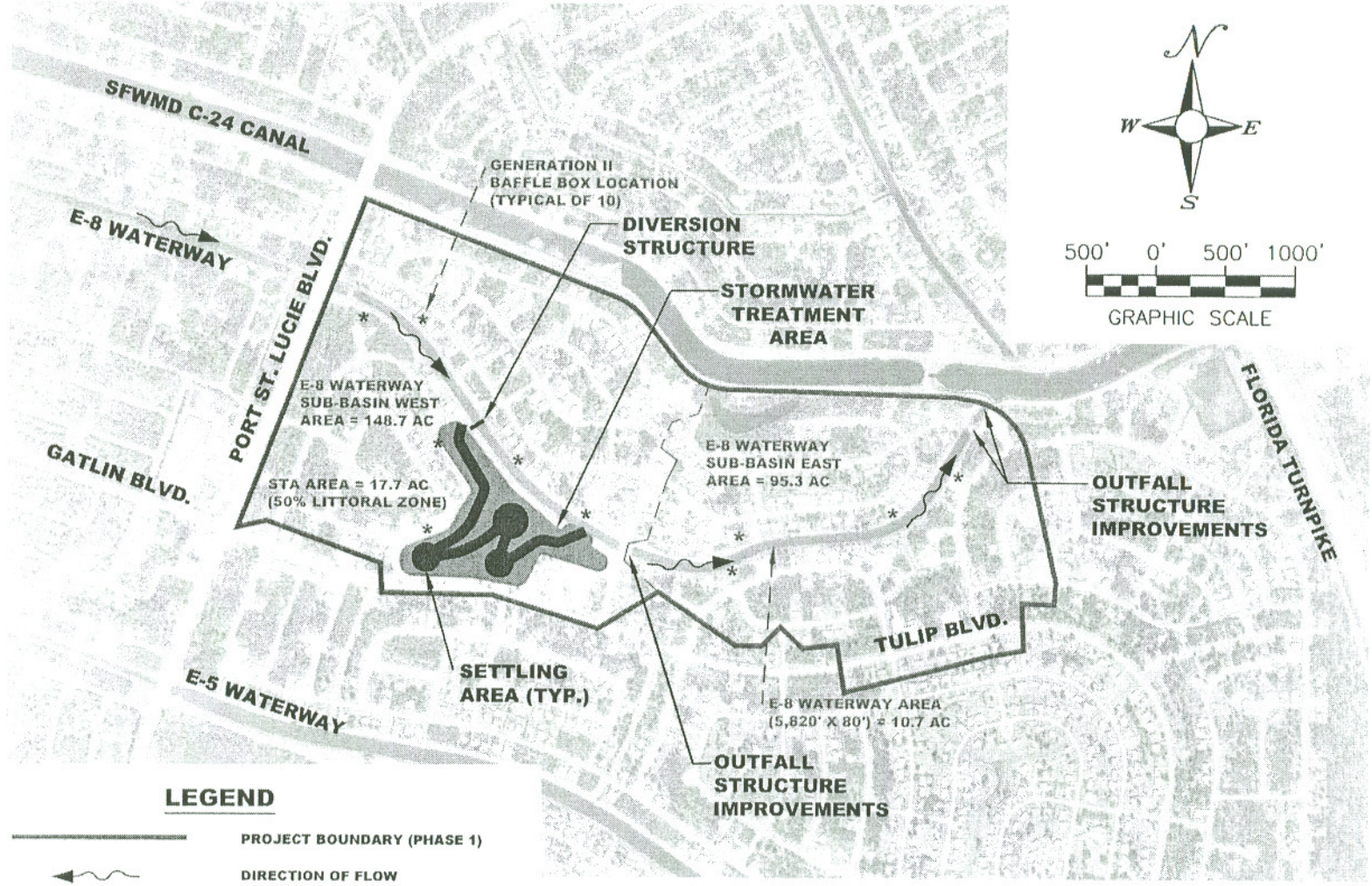

FIGURE NO. 4

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CHECKED BY:	SPM
PROJECT No.:	769
HORZ. SCALE:	AS SHOWN
VERT. SCALE:	N/A
CADD FILE:	769

E-8 WATERWAY PHASE 1
STORMWATER QUALITY RETROFIT
CITY OF PORT ST. LUCIE

PROJECT AREA

SCALE VERIFICATION
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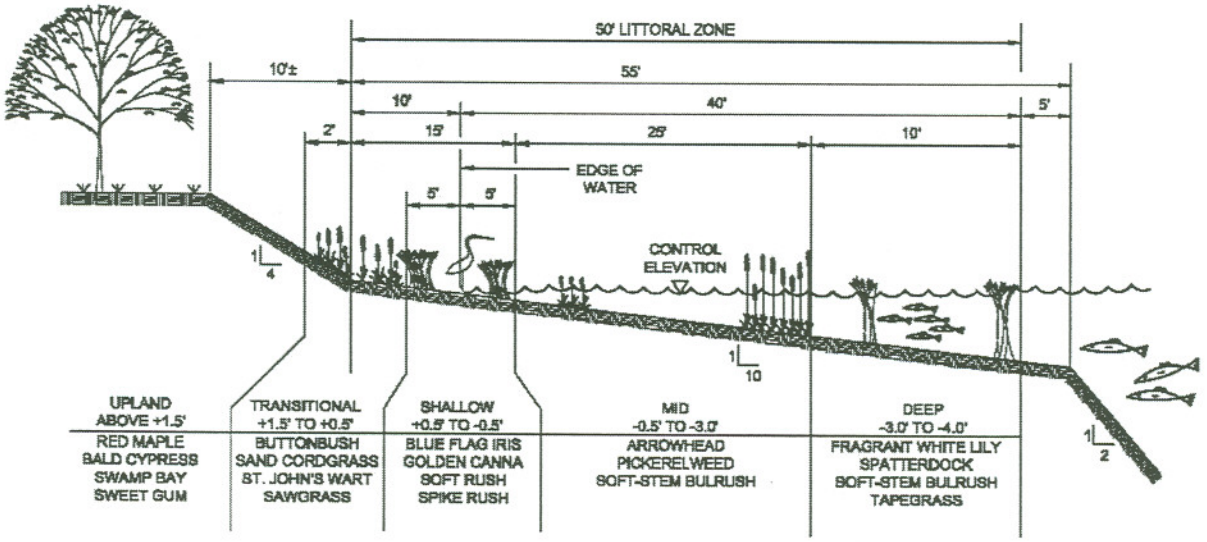
Sheet No. 1 of 1



TYPICAL LITTORAL SHELF DETAIL

N.T.S.

NOTE:
LITTORAL SHELF PLANTINGS & CONSTRUCTION SHALL BE IN ACCORDANCE WITH CITY OF PORT ST. LUCIE STANDARDS.

FIGURE NO. 5

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DATE:	9-19-04
DRAWN BY:	TRH
DESIGNED BY:	SPM
CHECKED BY:	SPM
PROJECT No.:	759
HORZ. SCALE:	N/A
VERT. SCALE:	N/A
CADD FILE:	759

E-8 WATERWAY PHASE 1
STORMWATER QUALITY RETROFIT
CITY OF PORT ST. LUCIE

TYPICAL LITTORAL SHELF DETAIL

SCALE VERIFICATION
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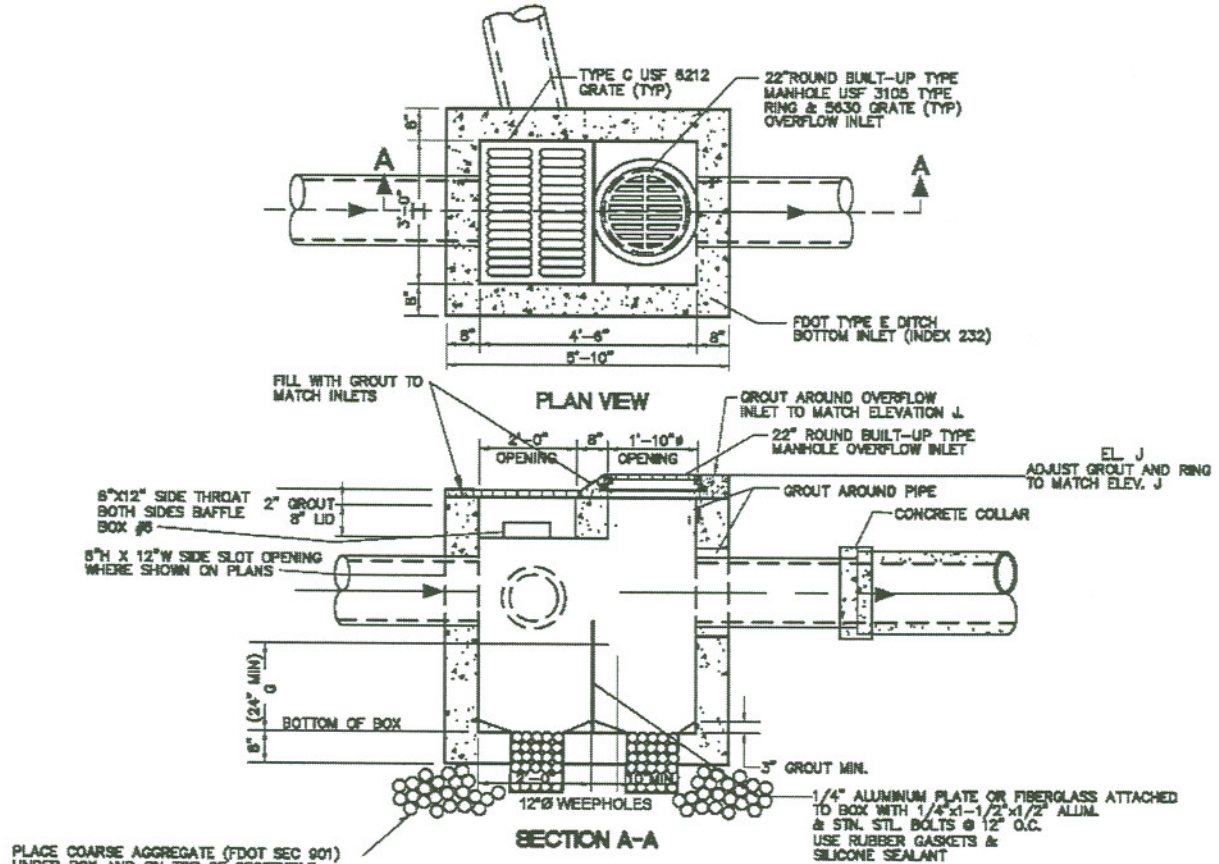
SOLID BAR IS EQUAL TO HALF AN INCH ON ORIGINAL DRAWING, ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

Sheet No. 1 of 1



TYPE E BAFFLE BOX SEDIMENT TRAP
NTS

FIGURE NO. 6

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DATE:	8-16-04
DRAWN BY:	TRH
DESIGNED BY:	SPM
CHECKED BY:	SPM
PROJECT No.:	799
HORZ. SCALE:	N/A
VERT. SCALE:	N/A
CADD FILE:	799

E-8 WATERWAY PHASE 1
STORMWATER QUALITY RETROFIT
CITY OF PORT ST. LUCIE

TYPICAL BAFFLE BOX DETAIL

SCALE VERIFICATION
SCALE BAR IS EQUAL TO HALF AN INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

Sheet No. 1 of 1

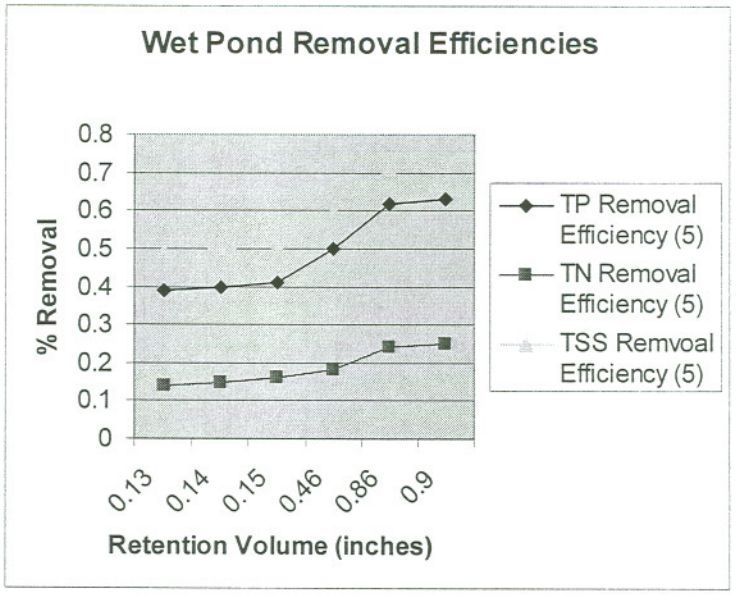
APPENDIX 3
Excerpt from the City of Port St. Lucie Capital Improvement List

CITY OF PORT ST. LUCIE
STORMWATER UTILITY FUND - #401 - CAPITAL PROJECTS
FIVE YEAR PROJECTED COSTS
FY 2004-05

	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
EXPENDITURES:					
OPERATIONS/ADMINISTRATION - ENGINEERING - #401-4105					
Property Acquisition for the Emergency Relief Canal to C23	$ 60,000	$ -	$ -	$ -	$ -
Property Acquisition for Access to C-24 Control Structure	75,000	-	-	-	-
Emergency Relief Canal to C24 & Equalization Pipes		1,200,000	-	-	-
Emergency Relief Canal to C23 Design, Permitting & Construction	-		1,000,000	-	-
Gasoline Contamination Thornhill Maintenance Facility	12,500	-	-	-	-
Geotechnical Eng. studies & testing of materials	20,000	20,000	20,000	20,000	20,000
Drainage basin C-24 Canal , Gatlin Blvd, Watershed B	150,000	600,000	-	-	-
Drainage basin C-23 Canal , Gatlin Blvd, Watershed A	200,000	200,000	200,000		-
St. Lucie North Drainage Improvements	-	-	250,000	-	-
Master Drainage System Improvements Study	-	75,000	75,000	75,000	75,000
Totals	$ 517,500	$ 2,095,000	$ 1,545,000	$ 95,000	$ 95,000
OPERATIONS/ADMINISTRATION - PUBLIC WORKS - #401-4106 - 75%					
Relocate the Public Works Complex Phase I, II, & III - 75%	$ 35,000	$ 375,000	$ 3,202,500	$ -	$ -
Totals	$ 35,000	$ 375,000	$ 3,202,500	$ -	$ -
DRAINAGE DIVISION - PUBLIC WORKS - #401-4126					
Multiyear project to Reprofile Drainage Ditch	$ -	$ 25,000	$ 25,000	$ 25,000	$ 25,000
Install Drainage & Paving in Sections 11 & 12	175,000	-	-	-	-
Relocate D-10 Drainage Right-of-Way	-	200,000	200,000	-	-
Side lot ditch piping program	200,000	100,000	100,000	100,000	100,000
Large Culvert Repair Contract	-	30,000	30,000	30,000	30,000
Repair washed out DROW Citywide	-	75,000	75,000	75,000	75,000
Canal Excavation, C 104 105 106 107 108	250,000	200,000	200,000	200,000	200,000
Kingsway Waterway Remove vegetation, Reprofile Slopes & Bottom	-	-	-	100,000	100,000
E-8 Waterway Stormwater Quality Retro-fit (Phase I,II,III,IV)	500,000	500,000	500,000	500,000	-
Replace Track Dozer PWT7-R1/1997 Komatsu	-	120,000	-	-	-
Replace 1996 Badger PWT-10R1	-	270,000	-	-	-
Replace Kasier-PWT-30R1 Swampmister	250,000	-	-	-	-
Replace PWD 23 1995 Ford Dump Truck	80,000	-	-	-	-
Replace PWD 9 Water Truck & Tank	35,000	-	-	-	-
Replace Ford Stakebody PW-26 1992, 72,000		32,000	-	-	-
Replace Ford Dumptruck PWD-18 1992, 131,00 repl		80,000	-	-	-
Replace Ford Dumptruck PWD-17, 1992, 134,000 repl		80,000	-	-	-
Replace Ford Dumptruck PWD-16 1992, 134,000 rep	80,000	-	-	-	-
Replace PWD-11 GMC Stake		32,000			

APPENDIX 4

E-8 Waterway Pollutant Removal Figures



Derived from Harvey Harper Data

Retention Volume	TP Removal Efficiency %	TN Removal Efficiency %	TSS Removal Efficiency %
0.13	0.39	0.14	0.49
0.14	0.4	0.15	0.5
0.15	0.41	0.16	0.51
0.46	0.5	0.18	0.6
0.86	0.62	0.24	0.71
0.9	0.63	0.25	0.72

Table 1
Pollutant Removal Calculations

Baffle Box No	Basin Area (acres)	TN Loading Rate** (kg/ac/year)	TP Loading Rate ** (kg/ac/year)	TSS Loading Rate** (kg/ac/year)	TN Loading (kg/year)	TP Loading (kg/year)	TSS Loading (kg/year)	% TN Removal ***	% TP Removal ***	% TSS Removal ***	TN Removal (kg/year)	TP Removal (kg/year)	TSS Removal (kg/year)	Post Project TN Load (kg/year)	Post Project TP Load (kg/year)	Post Project TSS Load (kg/year)
1	15.0	4.7	0.59	56.1	70.2	8.9	841.5	10	40	85	7.0	3.6	715	63.2	5.3	126.2
2	11.0	4.7	0.59	56.1	51.5	6.5	617.1	10	40	85	5.1	2.6	525	46.3	3.9	92.6
3	13.7	4.7	0.59	56.1	64.1	8.1	768.6	10	40	85	6.4	3.3	653	57.7	4.9	115.3
4	21.3	4.7	0.59	56.1	99.7	12.7	1,194.9	10	40	85	10.0	5.1	1,016	89.7	7.6	179.2
5	33.0	4.7	0.59	56.1	154.4	19.6	1,851.3	10	40	85	15.4	7.8	1,574	139.0	11.8	277.7
6	30.0	4.7	0.59	56.1	140.4	17.8	1,683.0	10	40	85	14.0	7.1	1,431	126.4	10.7	252.5
7	7.3	4.7	0.59	56.1	34.2	4.3	409.5	10	40	85	3.4	1.7	348	30.7	2.6	61.4
8	39.0	4.7	0.59	56.1	182.5	23.2	2,187.9	10	40	85	18.3	9.3	1,860	164.3	13.9	328.2
9	27.0	4.7	0.59	56.1	126.4	16.0	1,514.7	10	40	85	12.6	6.4	1,287	113.7	9.6	227.2
10	29.0	4.7	0.59	56.1	135.7	17.2	1,626.9	10	40	85	13.6	6.9	1,383	122.1	10.3	244.0
				Subtotal	**1,059**	**134**	**12,695**				**105.9**	**53.8**	**10,791**			
Pond w/o Baffle Box Removals	2100.0	4.7	0.59	56.1	9,828.0	1,247.4	117,810.0									
*Pond w/ Baffle Box Removals	2100.0	4.7	0.59	56.1	9,722.1	1,193.6	107,018.9	18	50	60	1,750.0	596.8	64,211	7,972.1	596.8	42,807.6
				Total Percent Removals										**18.9**	**52.2**	**63.7**

* Loadings Account for Baffle Box Removals

**Based upon pollutant loadings from Dr. Harvey Harper, 1994

*** Removal Rates from Conceptual Upper Lake Tohopekaliga Restoration Study, 2004
Pond and canal storage will provide 0.5" Detention Volume
Wet Pond Removal Efficiencies derived from Harvey Harper Data