SOUTH FLORIDA WATER MANAGEMENT DISTRICT

3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • FL WATS 1-800-432-2045 • TDD (561) 697-2574
Mailing Address: P.O. Box 24680, West Palm Beach, FL 33416-4680 • www.sfwmd.gov

July 24, 2007

City of Port St. Lucie
121 SW Port St. Lucie Blvd.
Port St. Lucie, FL 34984

Subject: Application No. 070601-4, **C-23 Outfall and Watershed B Retrofits**
St. Lucie County, S7,17-21,28-34/T37S/R40E
S11,13,14,23-26,36/T37S/R39E

Enclosed is a copy of the South Florida Water Management District's staff report covering the permit application referenced therein. It is requested that you read this staff report thoroughly and understand its contents. The recommendations as stated in the staff report will be presented to our Governing Board for consideration on **Thursday, August 9, 2007.**

Should you wish to object to the staff recommendation or file a petition, please provide written objections, petitions and/or waivers (refer to the attached "Notice of Rights") to:

Elizabeth Veguilla, Deputy Clerk
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

The "Notice of Rights" addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. You are advised, however, to be prepared to defend your position regarding the permit application when it is considered by the Governing Board for final agency action, even if you agree with the staff recommendation, as the Governing Board may take final agency action which differs materially from the proposed agency action.

Please contact the District if you have any questions concerning this matter.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the addressee this 24th day of July, 2007 in accordance with Section 120.60 (3), Florida Statutes.

Sincerely,

Damon Meiers, P.E., Deputy Director
Environmental Resource Regulation Department

DM/ja

CERTIFIED #7005 0390 0005 9817 0745
RETURN RECEIPT REQUESTED

GOVERNING BOARD

Kevin McCarty, *Chair*
Irela M. Bagué, *Vice-Chair*
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Alice J. Carlson
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EXECUTIVE OFFICE

Carol Ann Wehle, *Executive Director*

NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing and/or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

Right to Request Administrative Hearing
A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569, 120.57, and 120.60(3), Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision in accordance with Rule 28-106.111, Fla. Admin. Code. Any person who receives written notice of a District decision and fails to file a written request for hearing within 21 days waives the right to request a hearing on that decision as provided by Subsection 28-106.111(4), Fla. Admin. Code.

The Petition must be filed at the Office of the District Clerk of the SFWMD, 3301 Gun Club Road, P.O. Box 24680, West Palm Beach, Florida, 33416, and must comply with the requirements of Rule 28-106.104, Fla. Admin. Code. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Pursuant to Rule 28-106.104, Fla. Admin. Code, any document received by the office of the District Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day.

- Filings made by mail must include the original and one copy and must be addressed to the Office of the District Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.

- Filings by hand-delivery must also include the original and one copy of the petition. **Delivery of a petition to the District's security desk does <u>not</u> constitute filing. To ensure proper filing, it will be necessary to request the District's security officer to contact the Clerk's office**. An employee of the District's Clerk's office will file the petition and return the extra copy reflecting the date and time of filing.

- Filings by facsimile must be transmitted to the District Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the District Clerk receives the complete document.

The following provisions may be applicable to SFWMD actions in combination with the applicable Uniform Rules of Procedure (Subsections 40E-0.109(1)(a) and 40E-1.511(1)(a), Fla. Admin. Code):

(1)(a) "Receipt of written notice of agency decision" as set forth in Rule 28-106.111, Fla. Admin. Code, means receipt of either written notice through mail or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action.

(b) If notice is published pursuant to Chapter 40E-1, F.A.C., publication shall constitute constructive notice to all persons. Until notice is published, the point of entry to request a formal or informal administrative proceeding shall remain open unless actual notice is received.

(2) If the District's Governing Board takes action which substantially differs from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law. The District Governing Board's action is considered to substantially differ from the notice of intended agency decision when the potential impact on water resources has changed.

(3) Notwithstanding the timeline in Rule 28-106.111, Fla. Admin. Code, intended agency decisions or agency decisions regarding consolidated applications for Environmental Resource Permits and Use of Sovereign Submerged Lands pursuant to Section 373.427, Fla. Stat., shall provide a 14 day point of entry to file petitions for administrative hearing.

Hearings Involving Disputed Issues of Material Fact

The procedure for hearings involving disputed issues of material fact is set forth in Subsection 120.57(1), Fla. Stat., and Rules 28-106.201-.217, Fla. Admin. Code. Petitions involving disputed issues of material fact shall be filed in accordance with Rule 28-106.104, Fla. Admin. Code, and must comply with the requirements set forth in Rule 28-106.201, Fla. Admin. Code.

Hearings Not Involving Disputed Issues of Material Fact

The procedure for hearings not involving disputed issues of material fact is set forth in Subsection 120.57(2), Fla. Stat, and Rules 28-106.301-.307, Fla. Admin. Code. Petitions not involving disputed issues of material fact shall be filed in accordance with Rule 28-106.104, Fla. Admin. Code, and must comply with the requirements set forth in Rule 28-106.301, Fla. Admin. Code.

Mediation

As an alternative remedy under Sections 120.569 and 120.57, Fla. Stat., any person whose substantial interests are or may be affected by the SFWMD's action may choose to pursue mediation. The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. Choosing mediation will not adversely affect the rights to a hearing if mediation does not result in a settlement.

DISTRICT COURT OF APPEAL

Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

DRAFT
Subject to Governing Board Approval

Last Date For Agency Action: 09-AUG-2007

INDIVIDUAL SURFACE WATER MANAGEMENT STAFF REPORT

Project Name: C-23 Outfall And Watershed B Retrofits

Permit No.: 56-00332-S

Application No.: 070601-4 **Associated File:** 070601-39 WU

Application Type: Surface Water Management (Construction/Operation Modification)

Location: St Lucie County, S7, 17-21, 28-34/T37S/R40E
S11,13,14,23-26, 36/T37S/R39E

Permittee : City Of Port St Lucie

Operating Entity : City Of Port St Lucie

Project Area: 240.73 acres

Project Land Use: Other
Residential

Drainage Basin: C-23
Drainage Basin: C-24

Receiving Body: C-23 Canal and E-8 Waterway **Class:** CLASS III

Special Drainage District: NA

Conservation Easement To District : No
Sovereign Submerged Lands: No

PROJECT PURPOSE:

Modification of a Surface Water Management Permit to authorize construction and operation of water quality retrofits to serve approximately 241 acres of existing development in Watershed "B" and to add a high stage outfall from Watershed "A" to the C-23 Canal. Staff recommends approval with conditions.

PROJECT EVALUATION:

PROJECT SITE DESCRIPTION:

Watershed "A" is a 8,802 acre developed basin located on the west side of the City of Port St. Lucie that is bordered by Gatlin Boulevard and Tulip Boulevard to the north, I-95 to the west, the Florida Turnpike to the east and the C-23 Canal to the south. The E-5 Canal (Horseshoe Canal) and the E-84 Canal are the main collection facilities for the Watershed "A" drainage basin, that discharges through three existing control structures; A-18, A-19 and A-20. An emergency outfall structure within the northern portion of Watershed "A" that discharges into the C-24 Canal adjacent to Florida's Turnpike has been permitted (App. No. 010706-4). The proposed high stage outfall into the C-23 Canal will provide for additional stormwater flow capability within the southern portion of the Watershed "A" Basin. The site for the proposed outfall structure is located at the intersection of the E-17 Canal and the C-23 Canal adjacent to Florida's Turnpike. Currently there is no structure in this location. The E-17 Canal was recently re-constructed as part of the Becker Road / Turnpike Interchange project.

Watershed "B" is a 2,298 acre developed basin located on the west side of the City of Port St. Lucie, bordered by the C-24 Canal to the north, I-95 to the west, Gatlin Boulevard (and Watershed "A") to the south and the Florida Turnpike to the east. The E-8 Waterway is the existing detention outfall for Watershed "B" that discharges through existing control structures B-1 and B-2 into the tidal portion of the C-24 Canal between Port St. Lucie Boulevard and the Florida Turnpike. The proposed improvements will provide additional water quality treatment within the Watershed "B" Basin. There are no wetlands located within or affected by this project.

PROJECT BACKGROUND:

The City of Port St. Lucie has a master surface water management (SWM) system serving the southwest portion of the city that is comprised of interconnected lakes that ultimately discharge to the St. Lucie River. The system was initially permitted in 1979 as a part of the General Development Corp. development of the City of Port St. Lucie. Since then, the permit has been modified many times for development within the City. In December of 2006 (App. No. 060926-17) the City of Port St. Lucie accepted the operation and maintenance responsibility for the master system covered by Permit No. 56-00332-S.

PROPOSED PROJECT:

Watershed "A": Construct an outfall structure with a 36" diameter operable maintenance gate in the City's E-17 Canal. The proposed outfall structure is designed to allow discharge when the E-17 Canal stages above the current 10-yr/3-day storm event. The structure will consist of a Type "K" inlet with the top grate/overflow set at the 10-yr/3-day storm elevation of 15.68 NGVD (14.20 NAVD). The 36" diameter operable maintenance gate will provide the ability for drawdown of the E-17 Canal for maintenance purposes. Any maintenance drawdown will require a dewatering permit approval (Water Use permit).

Watershed "B":
Construct the B-5 control structure at the E-80 Canal outfall into the E-8 Canal to provide additional water quality treatment.
Construct a 50 ft. weir structure (B-10) at the outfall of the Pond "N" Basin adjacent to the E-8 Canal to provide additional water quality treatment.
Modify the existing stormwater treatment area (STA) at the intersection of Oakner Street and the E-8 Canal to improve the function of the STA.

B-5: The B-5 control structure was included in the original design plan for the NE8.3B basin but never constructed. The existing NE8.3B basin, which totals 132.65 acres, drains into the E-51 and E-80 Canals which discharge into the E-8 Canal. The existing water quality volume within the basin is within a pond, which discharges into the E-51 Canal, and the storage within the roadside swales.

The existing NE8.3B basin will be split into two separate basins (B5U and NE8.3B). Basin B5U will include the proposed B-5 control structure that will control discharge from the E-80 Canal into the E-8 Canal. The B-5 structure will provide 8.80 ac-ft of water quality volume within the E-80 and E-51 Canals for the 105.56 acre basin before discharging into the E-8 Canal. Basin NE8.3B will include the remaining 27.09 acres on the north side of the E-8 Canal which flows directly into the E-8.

B-10: The B-10 control structure was included in the original design plan for the Pond "N" basin but never constructed. The existing Pond "N" basin collects local runoff from within adjoining basin areas and discharges freely into the E-8 Canal. The existing basin totals 4.11 acres which includes the 1.56 acre pond and the remaining green space within the basin. The existing B-10U basin drains into the E-44 Canal through a single 24" pipe and outfalls into the E-8 Canal.

To improve water quality in the B-10U basin, the existing pipe will be removed and the canal will be re-graded to drain into a proposed 24" reinforced concrete pipe that will outfall into the adjacent Pond "N" which will provide water quality treatment for the existing Pond "N" and B10U basins. The new B-10 control structure will control discharge from the combined basins into the E-8 Canal. 2.12 ac-ft of water quality volume will be stored within Pond "N" before discharging into the E-8 canal.

Stormwater Treatment Area: The existing stormwater treatment area (STA) located in basin B20U provides water quality treatment and controls discharge into the E-8 canal over an existing weir. This existing weir is constructed as a steel sheet pile weir and concrete cap with a top of weir invert of 14.10 NGVD and a corrugated metal pipe with worm gear gate at invert 10.24 NGVD.

To improve the function of the STA, a weir will be installed in the E-8 canal to divert water through ten 30" diameter RCP pipes that will be installed between the STA and the E-8 Canal. The interior of the STA will be regraded and a diversion berm will be built to increase the flow path through the STA. The existing weir will remain at the discharge from the STA to the E-8 Canal.

WATER QUANTITY :

Discharge Rate :

The proposed project is consistent with the land use and site grading assumptions from the design of the master surface water management systems. The proposed water quality improvements will provide additional storage and will not result in an increase in the discharge rate. The grate elevation of the C-23 emergency structure is set at the design storm (10 year 3 day) stage and will not increase the discharge for the design storm.

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NAVD 88)	WSWT Ctrl Elev (ft, NAVD 88)	Method Of Determination
B-5U	105.56	16	16.00	Previously Permitted
B-10U	25.41	15.05	15.05	Previously Permitted
STA	109.76	12.63	12.63	Previously Permitted

Receiving Body :

Basin	Str.#	Receiving Body
B-5u	B-5	E-8 Canal
B-10u	B-10	E-8 Canal

Receiving Body :

Basin	Str.#	Receiving Body
Sta	STA E-8 We	E-8 Canal
E-17	E-17 Emer	C-23 Canal

Discharge Structures: Note: The units for all the elevation values of structures are (ft, NAVD 88)

Gates:

Basin	Str#	Count	Type	Width	Height	Invert Elev.
E-17	E-17 Emerg	1	Slide Gate	3'	3'	4

Inlets:

Basin	Str#	Count	Type	Width	Length	Dia.	Crest Elev.
E-17	E-17 Emerg	1	Fdot Mod K Drop Inlet	5'	9'		14.2

Water Quality Structures: Note: The units for all the elevation values of structures are (ft, NAVD 88)

Bleeders:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
B-10U	B-10	1	Rectangular Notch	1'	1.5'				15.05
B-5U	B-5	1	Rectangular Notch	2.5'	3.05'				16

Weirs:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
B-10U	B-10	1	Sharp Crested	50'				16.55 (crest)
B-5U	B-5	1	Sharp Crested	30'				19.05 (crest)
STA	STA E-8 Weir	1	Rectangular Notch	30'	1.11'			17.6 (crest)
STA	STA E-8 Weir	1	Sharp Crested	100'				18.71 (crest)

WATER QUALITY :

The proposed water quality retrofits will add water quality treatment to the existing system. The "Required Volume" in the table below is based on one inch of water quality treatment for the basin served by the control structure.

No adverse water quality impacts are anticipated as a result of the proposed project. The applicant has provided reasonable assurances that water quality standards will not be violated as a result of the proposed work. Best Management Practices (BMPs) will be implemented and silt screens and turbidity barriers will be placed so as to contain turbidity during construction of the proposed project. All erosion and turbidity control measures shall remain in place until the completion of onsite construction. Please refer to Exhibit 2 and the Special Conditions.

The applicant will implement a water quality monitoring plan in accordance with Exhibit 3 and the Special Conditions. In addition, riprap will be placed on the downstream end of the proposed C-23 emergency outfall structure to prevent erosion.

Basin	Treatment Method		Vol Req.d (ac-ft)	Vol Prov'd
B-5U	Treatment	Wet Detention	8.8	8.8
B-10U	Treatment	Wet Detention	2.12	2.12

Basin		Treatment Method	Vol Req.d (ac-ft)	Vol Prov'd
STA	Treatment	Wet Detention	9.15	9.15

Wildlife Issues:

No wetland-dependent endangered/threatened species or species of special concern were observed onsite; however, portions of the proposed project are in the known range of the West Indian manatee (Trichechus manatus). To reduce the risk of entrapment and drowning of manatees, manatee exclusion grating shall be installed over any submerged or partially submerged pipes and culverts accessible to manatees during any tidal phase (Exhibit 2.3). The standard manatee construction conditions will also be followed for all in-water construction in areas accessible to manatees during any tidal phase. This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if, in the future, endangered/threatened species or species of special concern are discovered on the site. Please refer to the Special Conditions.

Species	Potential Occurence	Use Types
Manatee	Known Range	Known Use

CERTIFICATION AND MAINTENANCE OF THE WATER MANAGEMENT SYSTEM:

It is suggested that the permittee retain the services of a Professional Engineer registered in the State of Florida for periodic observation of construction of the surface water management (SWM) system. This will facilitate the completion of construction completion certification Form #0881 which is required pursuant to Section 10 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, and Rule 40E-4.361(2), Florida Administrative Code (F.A.C.).

Pursuant to Chapter 40E-4 F.A.C., this permit may not be converted from the construction phase to the operation phase until certification of the SWM system is submitted to and accepted by this District. Rule 40E-4.321(7) F.A.C. states that failure to complete construction of the SWM system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization unless a permit extension is granted.

For SWM systems permitted with an operating entity who is different from the permittee, it should be noted that until the permit is transferred to the operating entity pursuant to Rule 40E-1.6107, F.A.C., the permittee is liable for compliance with the terms of this permit.

The permittee is advised that the efficiency of a SWM system will normally decrease over time unless the system is periodically maintained. A significant reduction in flow capacity can usually be attributed to partial blockages of the conveyance system. Once flow capacity is compromised, flooding of the project may result. Maintenance of the SWM system is required to protect the public health, safety and the natural resources of the state. Therefore, the permittee must have periodic inspections of the SWM system performed to ensure performance for flood protection and water quality purposes. If deficiencies are found, it is the responsibility of the permittee to correct these deficiencies in a timely manner.

RELATED CONCERNS:

Water Use Permit Status:

The applicant has indicated that irrigation water is not required for the project.

The applicant has indicated that dewatering is required for construction of this project. Water Use application number 070601-39 has been submitted and is being processed concurrently for this project.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation, unless the work qualifies for a No-Notice Short-Term Dewatering permit pursuant to Chapter 40E-20.302(3) or is exempt pursuant to Section 40E-2.051, FAC.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

Potable water is not required for the project.

Waste Water System/Supplier:

Waste water service is not required for the project.

Right-Of-Way Permit Status:

A Right-of-Way Permit, 07-0613-1, is being processed concurrently for this project.

DRI Status:

This project is not a DRI.

Historical/Archeological Resources:

No information has been received that indicates the presence of archaeological or historical resources or that the proposed activities could cause adverse impacts to archaeological or historical resources.

DCA/CZM Consistency Review:

The District has not received a finding of inconsistency from the Florida Department of Environmental Protection or other commenting agencies regarding the provisions of the federal Coastal Zone Management Plan.

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF RECOMMENDATION:

The Staff recommends that the following be issued :

Construction and operation modification of a surface water management system for water quality retrofits to serve approximately 241 acres of existing development in Watershed "B" and to add a high stage outfall from Watershed "A" to the C-23 Canal.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached Standard Limiting and Special Conditions.

DRAFT
Subject to Governing Board Approval

STAFF REVIEW:

NATURAL RESOURCE MANAGEMENT DIVISION APPROVAL

ENVIRONMENTAL EVALUATION

Ryan Bond

SUPERVISOR

Melinda Parrott

DIVISION DIRECTOR :

Anita R. Bain

DATE: 7/23/07

SURFACE WATER MANAGEMENT DIVISION APPROVAL

ENGINEERING EVALUATION

Hugo A. Carter, P.E.

SUPERVISOR

Hugo A. Carter, P.E.

DIVISION DIRECTOR :

Anthony M. Waterhouse, P.E.

DATE: 7/18/07

LIMITING CONDITIONS

1. The permittee shall implement the work authorized in a manner so as to minimize any adverse impact of the works on fish, wildlife, natural environmental values, and water quality. The permittee shall institute necesssary measures during the construction period, including full compaction of any fill material placed around newly installed structures, to reduce erosion, turbidity, nutrient loading and sedimentation in the receiving waters.

2. Water quality data for the water discharged from the permittee's property or into surface waters of the State will be submitted to the District as required by Section 5.9, "Basis of Review for Surface Water Management Permit Applications within South Florida Water Management District". Parameters to be monitored may include those listed in Chapter 62-302, F.A.C.. If water quality data is required, the permittee shall provide data on volumes of water discharged, including total volume discharged during the days of sampling and total monthly discharges from the property or into surface waters of the State.

3. This permit shall not relieve the permittee of any obligation to obtain necessary federal, State, local or special district approvals.

4. The operation phase of this permit will not become effective until the District's acceptance of certification of the completed surface water management system. The permittee shall request transfer of the permit to the responsible operation entity accepted by the District, if different from the permittee. The transfer request can be submitted concurrently with the construction completion certification.

5. All road elevations shall be set in accordance with the criteria set forth in Section 6.5, "Basis of Review for Surface Water Management Permit Applications within South Florida Water Management District".

6. All building floor elevations shall be set in accordance with the criteria set forth in Section 6.4, "Basis of Review for Surface Water Management Permit Applications within South Florida Water Management District ".

7. Off-site discharges during construction and development will be made only through the facilities authorized by this permit.

8. A permit transfer to the operation phase shall not occur until a responsible entity meeting the requirement in Section 9.0, "Basis of Review for Surface Water Management Permit Applications within South Florida Water Management District" has been established to operate and maintain the system. The entity must be provided with sufficient ownership or legal interest so that is has control over all water managment facilities authorized herein.

9. The permit does not convey to the permittee any property rights or privileges other than those specified in the permit and Chapter 40E-4, F.A.C..

10. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, operation, maintenance or use of any facility authorized by the permit.

11. This permit is issued based on the applicant's submitted information which reasonably demonstrates that adverse water resource related impacts will not be caused by the completed permit activity. Should any adverse impacts caused by the completed surface water management system occur, the District will require the permittee to provide appropriate mitigation to the District or other impacted party. The District will require the permittee to modify the surface water management system, if necessary, to eliminate the cause of the adverse impacts.

LIMITING CONDITIONS

12. Within 30 days of issuance of this permit, the permittee or authorized agent shall notify the District (via the supplied construction commencement notice or equivalent) of the actual or anticipated construction start date and the expected completion date.

13. When the duration of construction exceeds one year, the permittee or authorized agent shall submit construction status reports on an annual basis (via the supplied annual status report or equivalent) beginning one year after the initial commencement of construction.

14. Within 30 days after completion of construction of the surface water management system, the permittee or authorized agent shall file a written statement of completion and certification by a Florida registered professional engineer. These statements must specify the actual date of construction completion and must certify that all facilities have been constructed in substantial conformance with the plans and specifications approved by the District (via the supplied construction completion/certification or equivalent). The construction completion certification must include, at a minimum, existing elevations, locations and dimensions of the components of the water management facilities. Additionally, if deviations from the approved drawings are discovered during the certification process, the certification must be accompanied by a copy of the approved permit drawings with deviations noted.

15. Within 30 days of any sale, conveyance or other transfer of any of the land which is proposed for development under the authorization of this permit, the permittee shall notify the District of such transfer in writing via either Form 0483, Request for Permit Transfer; or Form 0920, Request for Transfer of Surface Water Managment Construction Phase to Operation Phase (to be completed and submitted by the operating entity), in accordance with Sections 40E-1.6105 AND 40E-4.351, F.A.C..

16. A prorated share of surface water management retention/detention areas, sufficient to provide the required flood protection and water quality treatment, must be provided prior to occupancy of any building or residence.

17. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.

18. It is the responsibility of the permittee to insure that adverse off-site water resource related impacts do not occur during construction.

19. The permittee must obtain a Water Use permit prior to construction dewatering, unless the work qualifies for a general permit pursuant to Subsection 40E-20.302(4), F.A.C..

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on August 9, 2012.

2. Operation of the surface water management system shall be the responsibility of the permittee.

3. Discharge Facilities:

   Basin: B-5U

   1-30' WIDE SHARP CRESTED weir with crest at elev. 19.05' NAVD 88.
   1-2.5' W X 3.05' H RECTANGULAR NOTCH with invert at elev. 16' NAVD 88.
   Receiving body : E-8 Canal
   Control elev : 16 feet NAVD 88.

   Basin: B-10U

   1-50' WIDE SHARP CRESTED weir with crest at elev. 16.55' NAVD 88.
   1-1' W X 1.5' H RECTANGULAR NOTCH with invert at elev. 15.05' NAVD 88.
   Receiving body : E-8 Canal
   Control elev : 15.05 feet NAVD 88.

   Basin: STA

   1-100' WIDE SHARP CRESTED weir with crest at elev. 18.71' NAVD 88.
   1-30' W X 1.11' H RECTANGULAR NOTCH weir with crest at elev. 17.6' NAVD 88.
   Receiving body : E-8 Canal
   Control elev : 12.63 feet NAVD 88.

   Basin: E-17

   1-5' W X 9' L drop inlet with crest at elev. 14.2' NAVD 88.
   1-3' wide X 3' high slide gate with invert at elev. 4'NAVD 88.
   Receiving body : C-23 Canal

4. The permittee shall be responsible for the correction of any erosion, shoaling or water quality problems that result from the construction or operation of the surface water management system.

5. Measures shall be taken during construction to insure that sedimentation and/or turbidity violations do not occur in the receiving water.

6. The District reserves the right to require that additional water quality treatment methods be incorporated into the drainage system if such measures are shown to be necessary.

7. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.

8. Facilities other than those stated herein shall not be constructed without an approved modification of this permit.

9. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.

10. The permittee shall provide routine maintenance of all of the components of the surface water management system in order to remove all trapped sediments/debris. All materials shall be properly disposed of as required by law. Failure to properly maintain the system may result in adverse

SPECIAL CONDITIONS

flooding conditions.

11. Silt screens, hay bales, turbidity screens/barriers or other such sediment control measures shall be utilized during construction. The selected sediment control measures shall be installed prior to the commencement of construction in or adjacent to other surface waters in accordance with Exhibit No. 2 and shall remain in place until all adjacent construction is completed. All areas shall be stabilized and vegetated immediately after construction to prevent erosion into the surface waters.

12. A water quality monitoring program shall be implemented as outlined below:

    Turbidity expressed in nephelometric turbidity units (ntu). Background samples shall be taken 300 feet upstream of any construction activity within adjacent surface waters. Compliance samples shall also be taken 100 feet downstream. Samples shall be taken twice daily, with at least a four-hour interval, during all in-water work authorized in the C-23 and E-8 Canals by this permit.

    Monitoring shall begin on the first day of construction for all activities within or adjacent to surface waters. Monitoring shall cease when all construction activities are completed. The monitoring data must demonstrate that turbidity 100 feet downstream of all proposed activities is less than or equal to 29 NTU's above natural background turbidity and 100 feet upstream of each proposed activity for a period of 7 consecutive days after completion of construction. If monitoring shows such levels to be exceeded, construction shall cease and District compliance staff shall be notified immediately. Work shall not resume until District staff is satisfied that adequate corrective measures have been taken and turbidity has returned to acceptable levels.

    All monitoring data shall be maintained onsite and be available to District staff during regular business hours. All monitoring data shall be submitted within one (1) week of analysis, and the monitoring reports shall include:

    1) permit and application number; (2) dates of sampling and analysis; (3) statement describing the methods used in collection, handling, storage and analysis of the samples; (4) a map indicating the sampling locations and (5) a statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data.

    Monitoring reports shall also include the following information for each sample that is taken:
    (a) time of day samples taken;
    (b) depth of water body;
    (c) depth of samples;
    (d) antecedent weather conditions;
    (e) wind direction and velocity;
    (f) tidal stage and direction of flow.

    Monitoring reports shall be submitted to the District Environmental Resource Compliance staff. Failure to submit reports in a timely manner (as indicated above) constitutes grounds for revocation of the permit, enforcement or other action by the District.

13. Manatee exclusion grates shall be placed across the openings of existing or proposed culverts or pipes that are greater than eight inches but smaller than eight feet in diameter in accordance with Exhibit No. 2. The installation of grates applies to any submerged or partially submerged pipes and culverts accessible to manatees during any tidal phase. Permittee shall keep all grates free and clear of debris.

14. The permittee shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatee(s).

SPECIAL CONDITIONS

The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, The Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act.

Siltation barriers shall be made of material in which manatees cannot become entangled, are properly secured, and are regularly monitored to avoid manatee entrapment. Barriers must not block manatee entry to or exist from essential habitat.

All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

If manatee(s) are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.

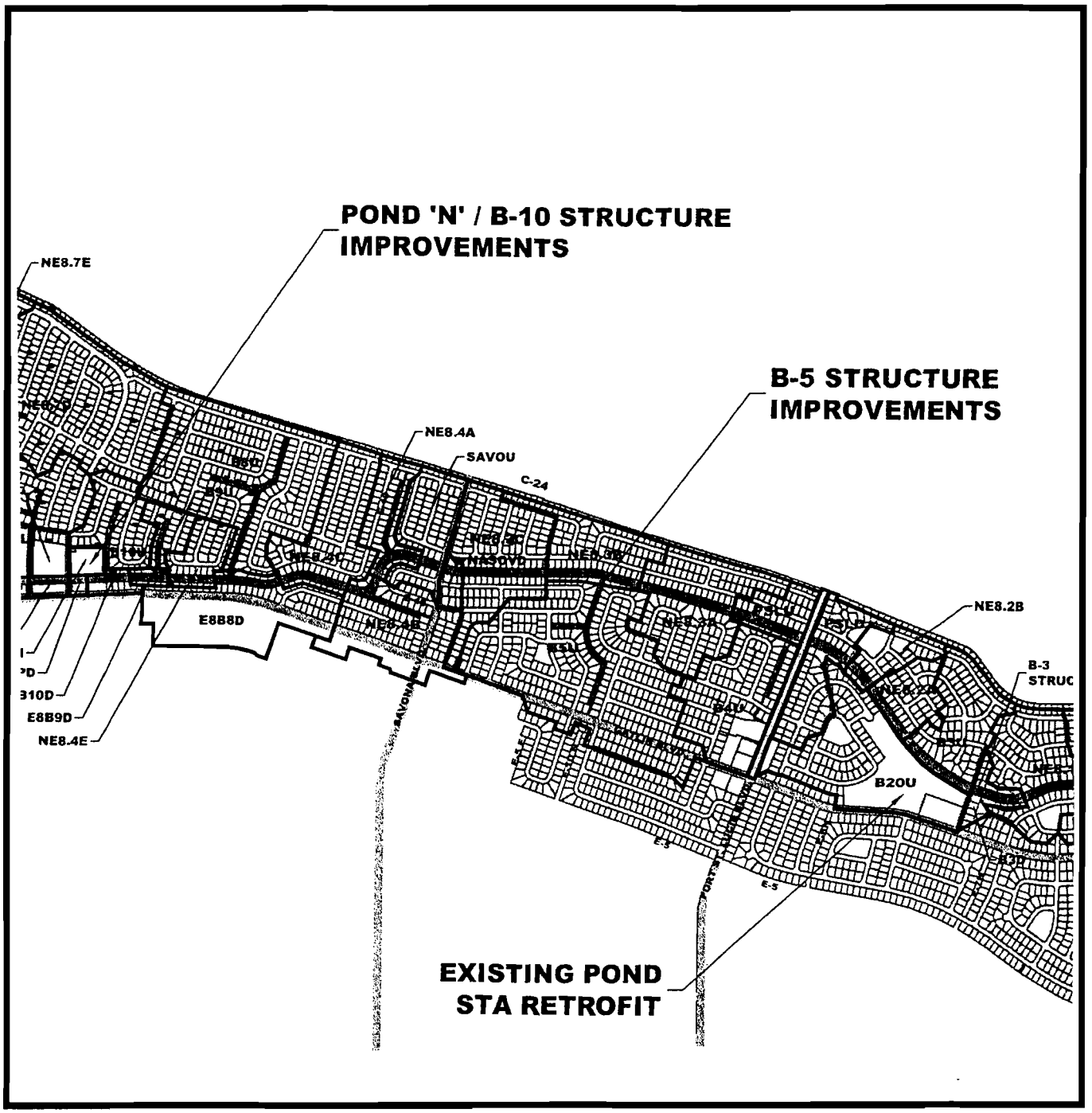
Any collision with and/or injury to a manatee shall be reported immediately to the FWC Hotline at 1-888-404-FWCC. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-772-562-3909) in south Florida.

Temporary signs concerning manatees shall be posted prior to and during all construction/dredging activities. All signs are to be removed by the permittee upon completion of the project. A sign measuring at least 3 ft. by 4 ft. which reads Caution: Manatee Area will be posted in a location prominently visible to water related construction crews. A second sign should be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 81/2" by 11" which reads Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for north Florida or Vero Beach (1-772-562-3909) in south Florida.

15. Endangered species, threatened species and/or species of special concern have been observed onsite and/or the project contains suitable habitat for these species. It shall be the permittee's responsibility to coordinate with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species.

16. The exhibits and special conditions in this permit apply only to this application. They do not supersede or delete any requirements for other applications covered in Permit No. 56-00332-S unless otherwise specified herein.

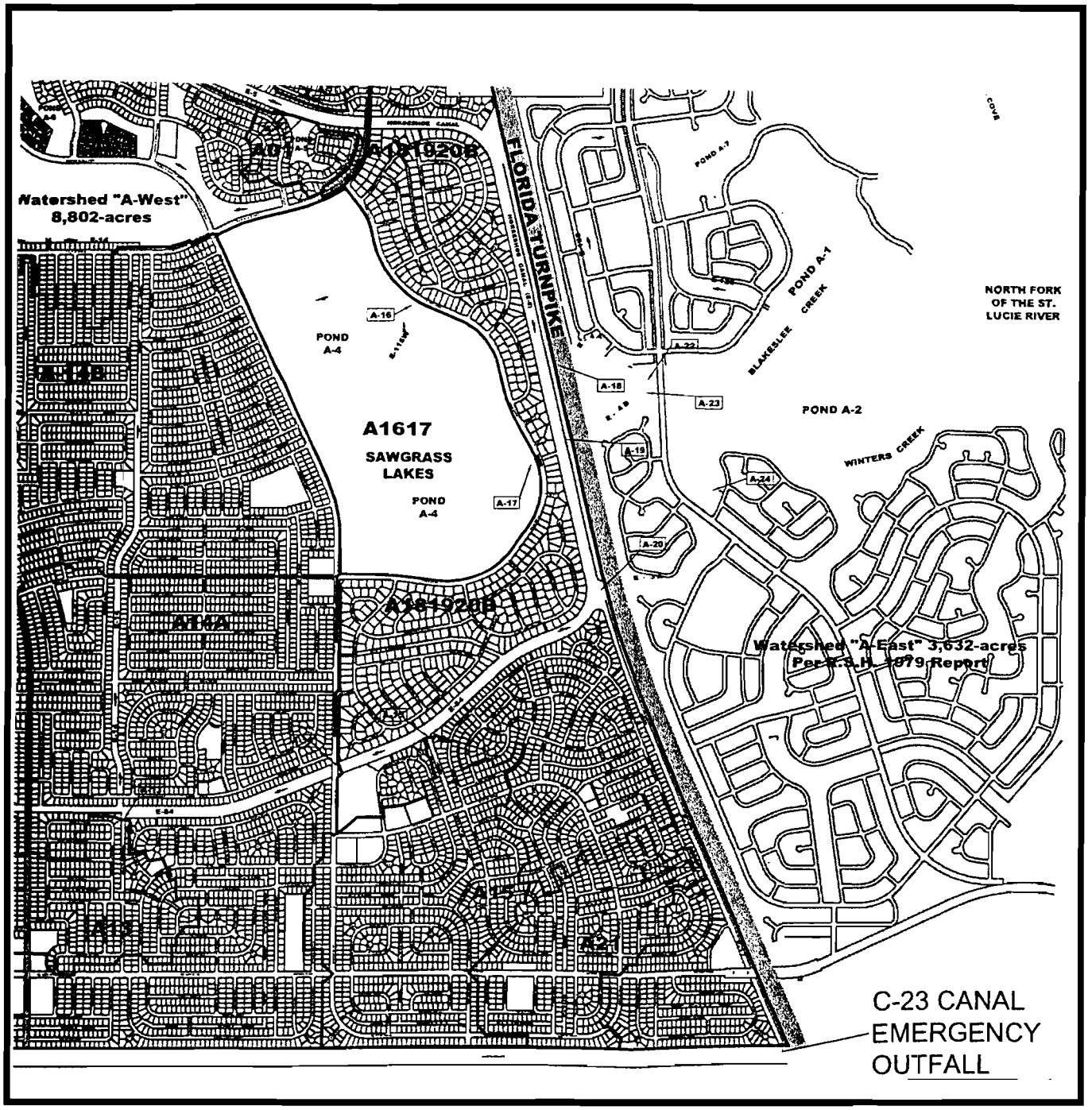
17. The operable structure shall remain closed at all times unless specific approval is granted by the District for its operation. The structures shall not be operated to bypass the water quality detention requirements or to lower the E-17 Canal below the permitted control elevations for the project unless authorized by a District dewatering permit, unless the dewatering is determined by District staff to not require a permit. If for whatever reason, it is determined that the permittee has not complied with the directives of the District, and/or has operated the structure contrary to the intended purpose of this permit, the structure shall be modified to permanently prevent operation of the structure. In addition, the structure shall be equipped with a mechanism to prevent unauthorized use.



N
(no scale)

C-23 OUTFALL AND WATERSHED B RETROFITS
Location Map

Application 070601-4 **Exhibit 1-A**



N
(no scale)

C-23 OUTFALL AND WATERSHED B RETROFITS
Location Map

Application 070601-4 **Exhibit 1-B**

CONSTRUCTION PLANS FOR
WATERSHED 'B' PHASE 2
WATER QUALITY RETROFITS
FOR
THE CITY OF PORT ST. LUCIE
LYING WITHIN THE CITY OF PORT ST. LUCIE
ST. LUCIE COUNTY, FLORIDA

LOCATION MAP

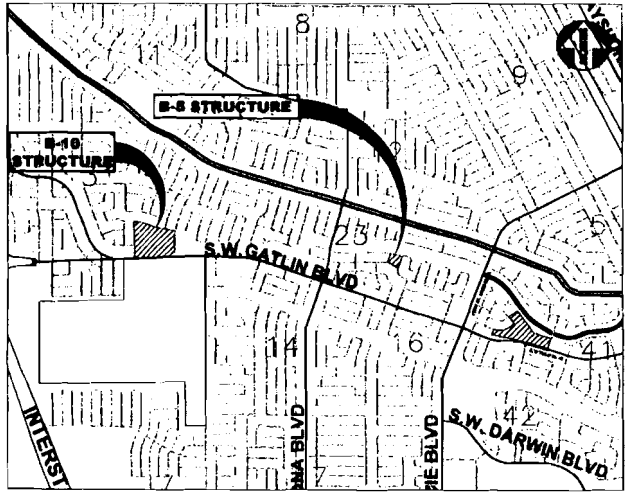
CITY of PORT ST. LUCIE FLORIDA

CITY OFFICIALS

PATRICIA CHRISTENSEN	MAYOR
JACK KELLY	VICE MAYOR
MICHELLE L. BERGER	COUNCIL MEMBER
CHRISTOPHER B. COOPER	COUNCIL MEMBER
LINDA BARTZ	COUNCIL MEMBER
DONALD B. COOPER	CITY MANAGER
WALTER ENGLAND, P.E.	CITY ENGINEER

ENGINEER

MR. JOSEPH W. CAPRA, P.E.
CAPTEC ENGINEERING, INC.
301 NW FLAGLER AVENUE
STUART, FLORIDA 34994
PHONE: (772)-692-4344
FAX: (772)-692-4341
EMAIL: CAPTEC1@AOL.COM
P.E. NO. 37530



Site Map

N.T.S.

ELEVATIONS AS SHOWN HEREON REFERENCE NGVD 1929 DATUM, REFERENCE AN PORT ST. LUCIE BENCHMARK "4696" ELEVATION = 22.994 FEET, PORT ST. LUCIE BENCHMARK "338" ELEVATION = 15.866 FEET AND PORT ST. LUCIE BENCHMARK " BM 4699 " ELEVATION = 22.363 FEET.

SHEET INDEX

SHEET NUMBER	SHEET TITLE/DESCRIPTION
1	COVER SHEET
2-3	SPECIFIC PURPOSE SURVEYS
4	B-8 CONTROL STRUCTURE CONSTRUCTION PLANS AND SECTIONS
5	B-10 CONTROL STRUCTURE CONSTRUCTION PLANS AND SECTIONS
6	DRAINAGE DETAILS
7	GENERAL NOTES

APPLICATION 070601-4
EXHIBIT 2.1A

ORIGINAL SUBMITTAL
JUN 1 2007
M/SL

JUN 0 1 2007

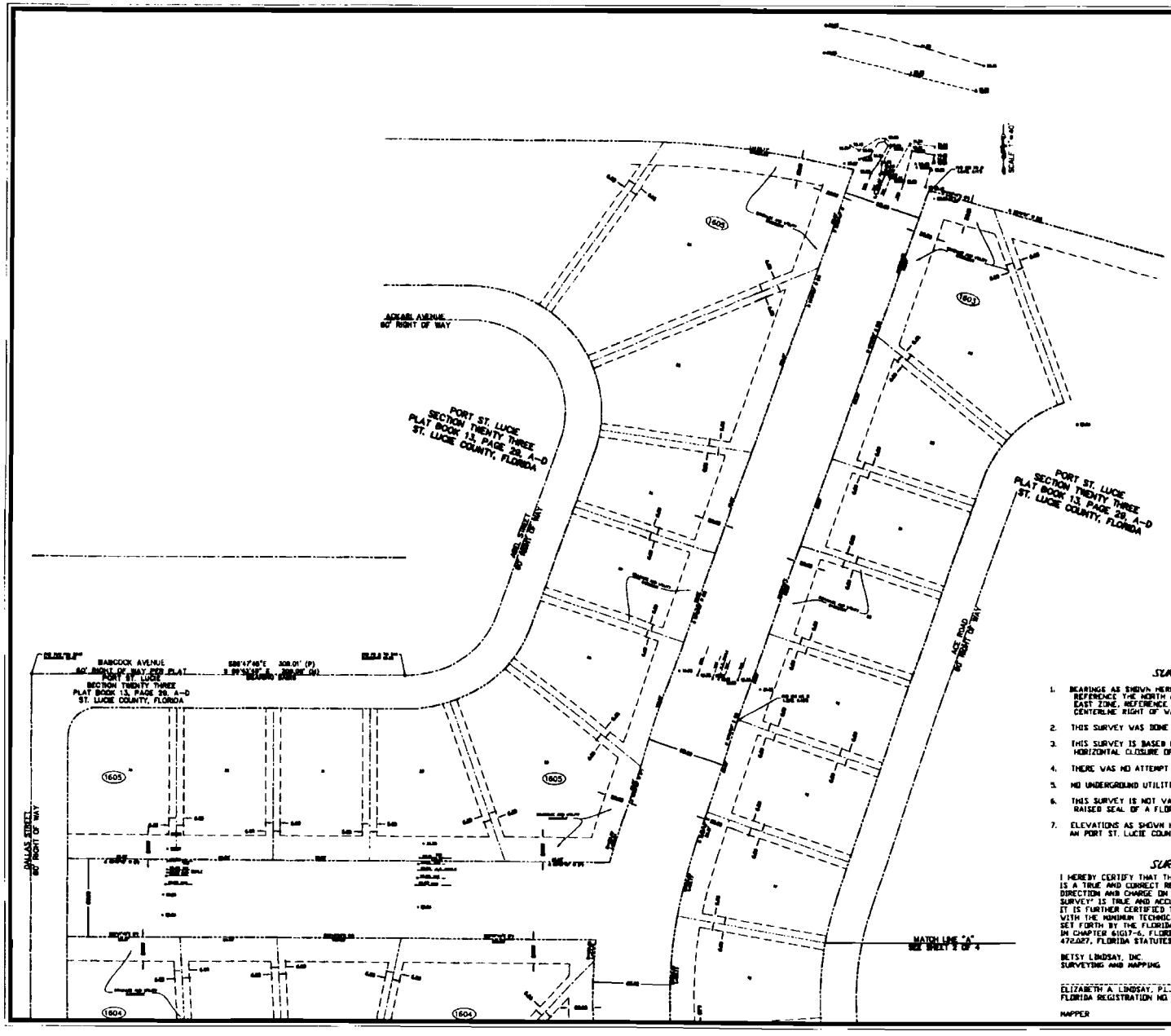
070601-4

PROJECT #607.2 - WATERSHED "B" PHASE 2 WATER QUALITY RETROFITS

Civil Engineering Professionals
Engineering Business No. EB-0027967
301 N.W. Flagler Avenue
Stuart, Florida 34994
Phone: (772) 692-4344
Fax: (772) 692-4341
Email: Captec1@AOL.Com

PROJECT #607.2 - WATERSHED "B" PHASE 2 WATER QUALITY RETROFITS

APPLICATION 070601-4
EXHIBIT 2.1B



ABBREVIATIONS

C.L.	CENTERLINE
FND	FOUND
IRC	IRON ROD & CAP
L.F.	LENGTH
LB	LICENSED BUSINESS
MEASURED	MEASURED
NO.	NUMBER
PLAT	PLAT
PRM	PARKER KALON NAIL WITH WASHER
P.L.S.	PROFESSIONAL LAND SURVEYOR
P.S.L.	PORT SAINT LUCIE
P.S.M.	PROFESSIONAL SURVEYOR AND MAPPER
R	RADIUS
TBM	TEMPORARY BENCHMARK
TOB	TOP OF BANK
TOE	TOE OF SLOPE

SYMBOL LEGEND

- ×11.67 FIELD LOCATED POINT WITH ELEVATION
- ● IRON ROD AND CAP
- ■ PARKER KALON NAIL WITH WASHER

SURVEYOR'S NOTES

1. BEARINGS AS SHOWN HEREON ARE BASED ON STATE PLANE COORDINATES REFERENCE THE NORTH AMERICAN DATUM OF 1983 (NAD. 83), FLORIDA EAST ZONE. REFERENCE A BEARING OF S89°43'45"E ALONG THE CENTERLINE RIGHT OF WAY LINE OF BABCOCK AVENUE.
2. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A TITLE COMMITMENT.
3. THIS SURVEY IS BASED ON A CLOSED GEOMETRIC FIGURE EXCEEDING A HORIZONTAL CLOSURE OF 1:10,000.
4. THERE WAS NO ATTEMPT TO LOCATE ANY SUBSURFACE FOUNDATIONS.
5. NO UNDERGROUND UTILITIES WERE LOCATED OR SHOWN HEREON.
6. THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR.
7. ELEVATIONS AS SHOWN HEREON REFERENCE NAVD 88 DATUM . REFERENCE AN PORT ST. LUCIE COUNTY BENCHMARK "4056" ELEVATION = 20.609 FEET.

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE "SPECIFIC PURPOSE SURVEY" AS SHOWN HEREON IS A TRUE AND CORRECT REPRESENTATION OF A FIELD SURVEY MADE UNDER MY DIRECTION AND CHARGE ON FEBRUARY 13, 2006 AND SAID "SPECIFIC PURPOSE SURVEY" IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. IT IS FURTHER CERTIFIED THAT THIS "SPECIFIC PURPOSE SURVEY" COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR "SPECIFIC PURPOSEY SURVEY" SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

BETSY LINDSAY, INC.
SURVEYING AND MAPPING

ELIZABETH A. LINDSAY, P.L.S.
FLORIDA REGISTRATION NO. 4724

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

BETSY LINDSAY, INC.
SURVEYING AND MAPPING
7987 SW. JACK JAMES DRIVE STUART, FLORIDA 34997
(772)288-5785 (772)288-5933 FAX
LICENSED BUSINESS NO. 6802

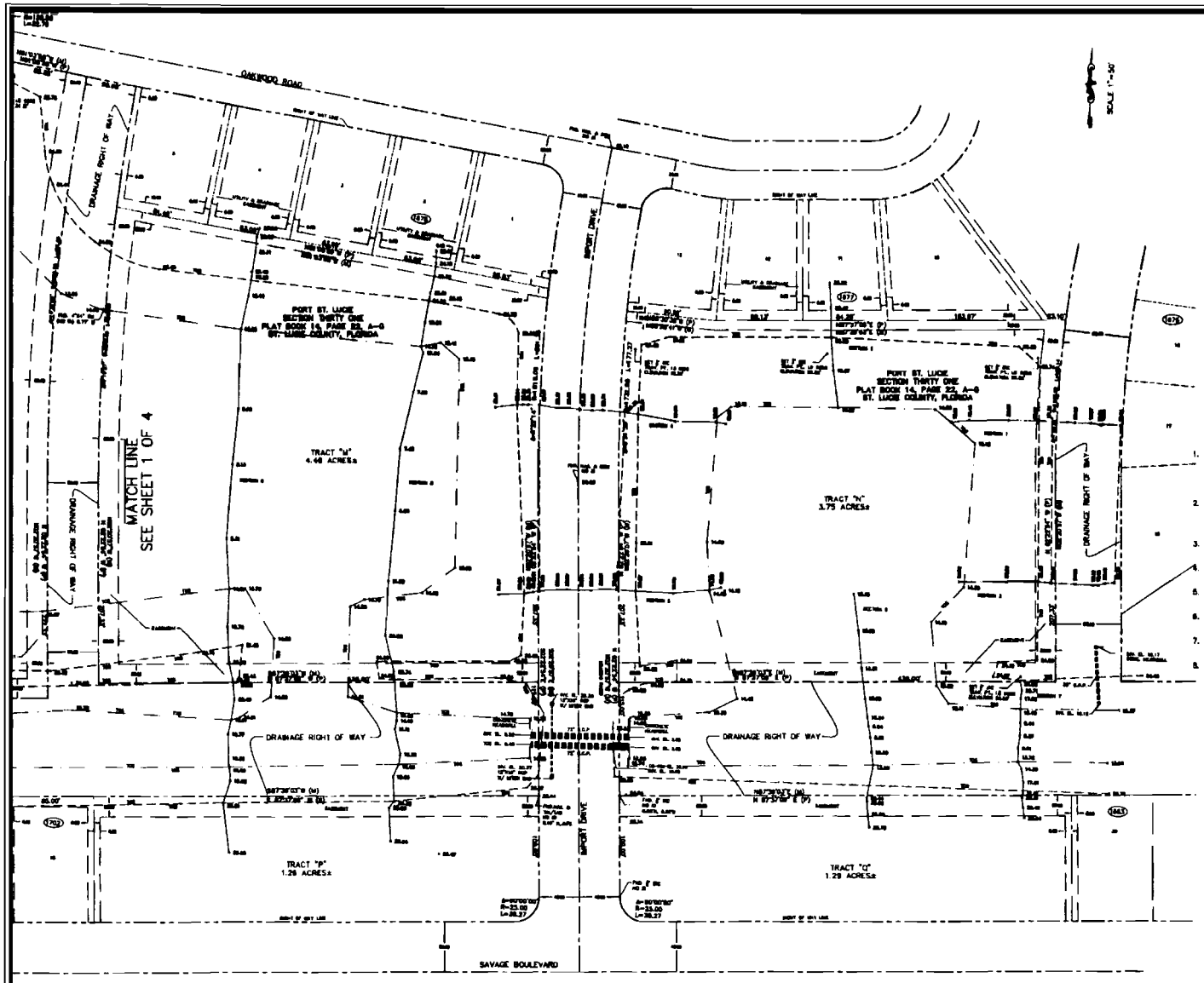
DATE	REVISIONS

DATE 2/17/06
SCALE 1"=40'
FIELD BK. PSL 4
DRAWN BY GABF
CHECKED BY EAL

WATERSHED B - ST. LUCIE COUNTY, FLORIDA
CAPTEC ENGINEERING, INC.

SPECIFIC PURPOSE SURVEY

SHEET NO. 2
OF 7 SHEETS
PROJECT NO. 06-11B



ABBREVIATIONS

C.B.	CATCH BASIN
C.C.	CONCRETE MONUMENT
C.P.	CORRUGATED PLASTIC PIPE
DELT.	DELTA
ELEV.	ELEVATION
FND.	FOUND
INV.	INVERT
I.R.	IRON ROD & CAP
LENG.	LENGTH
L.B.	LICENSED BUSINESS NUMBER
MEAS.	MEASURED
PLAT	PLAT
P.L.S.	PROFESSIONAL LAND SURVEYOR
PT.	POINT
RADIUS	RADIUS
R.C.P.	REINFORCED CONCRETE PIPE
T.O.B.	TOP OF BANK
T.O.S.	TOE OF SLOPE
TNSV.	TRANSVERSE

SYMBOL LEGEND

15.67	FIELD LOCATED POINT WITH ELEVATION
	CONCRETE MONUMENT
	IRON ROD AND CAP
	NAIL & DISK AND TIN TAB

SURVEYOR'S NOTES

1. BEARINGS AS SHOWN HEREON ARE BASED ON STATE PLANE COORDINATES, REFERENCE THE NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), FLORIDA EAST ZONE, REFERENCE A BEARING OF N02°20'57"W ALONG THE EAST RIGHT OF WAY LINE OF AIRPORT DRIVE.
2. ELEVATIONS AS SHOWN HEREON REFERENCE NAVD 88 DATUM ; REFERENCE AN PORT ST. ST. LUCIE COUNTY BENCHMARK " BM 4006 " ELEVATION = 21.888 FEET.
3. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A TITLE COMMITMENT.
4. THIS SURVEY IS BASED ON A CLOSED GEOMETRIC FIGURE EXCEEDING A HORIZONTAL CLOSURE OF 1:10,000.
5. THERE WAS NO ATTEMPT TO LOCATE ANY SUBSURFACE FOUNDATIONS.
6. NO UNDERGROUND UTILITIES WERE LOCATED OR SHOWN HEREON.
7. THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR
8. THIS PROPERTY IS LOCATED IN FEDERAL FLOOD ZONE X, REFERENCE FEMA MAP COMMUNITY NO. 120287, PANEL 0273, SUFFIX F, EFFECTIVE DATE AUGUST 19, 1991.

APPLICATION 070601-4

EXHIBIT 2.1C

BETSY LINDSAY, INC.
SURVEYING AND MAPPING
7997 SW JACK JAMES DRIVE STUART, FLORIDA 34997
(772)286-5733 (772)286-8993 FAX
LICENSED BUSINESS NO. 6852

DATE	REVISIONS

DATE XX/XX/05
SCALE 1"=40'
FIELD BK XXXXXX
DRAWN BY XX
CHECKED BY KAL

PORT ST. LUCIE E-8 PHASE II PONDS L, M AND N
CAPTEC ENGINEERING, INC.

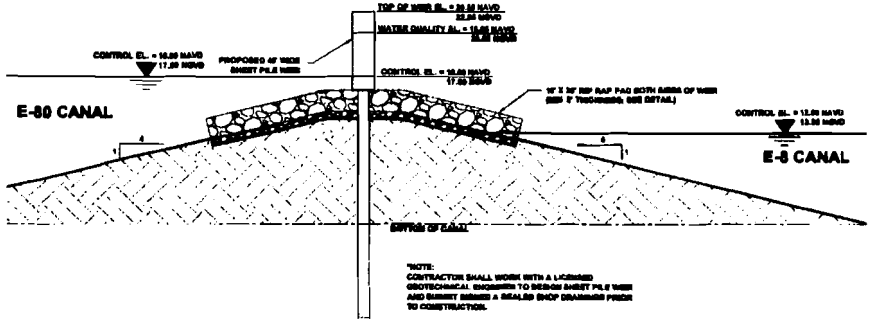
SPECIFIC PURPOSE SURVEY

SHEET NO. 3
OF 7 SHEETS
PROJECT NO. 08-11D

NORTH

GRAPHIC SCALE

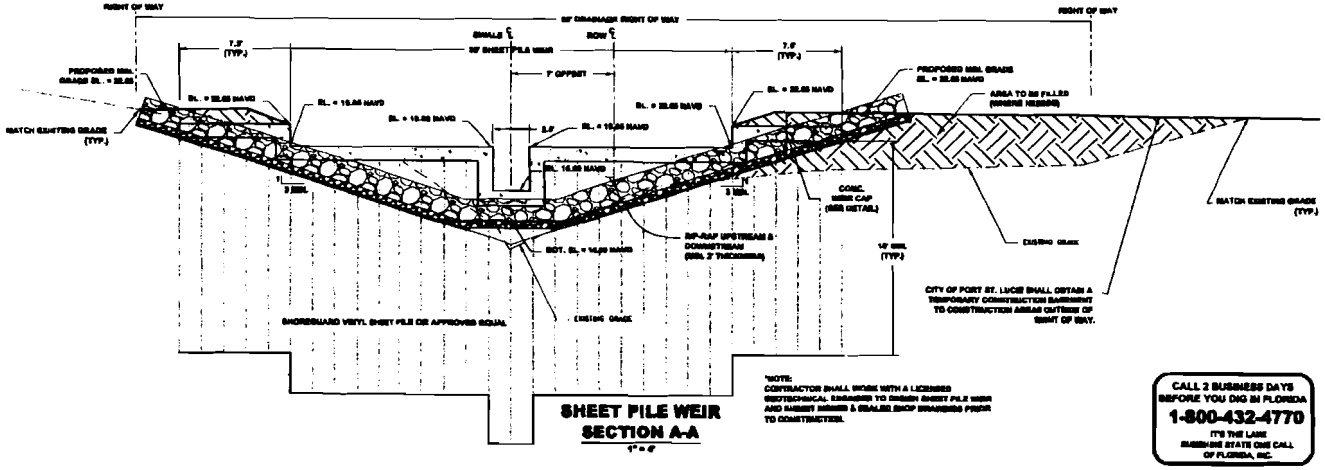
NOTES:
1. ENGINEERS DIGITAL FILES SHALL BE USED BY THE SURVEYOR FOR CONSTRUCTION LAYOUT.
2. VERTICAL DATUM HEREIN REFERENCES DATUM NAVD, 1988.
3. SOD ALL DISTURBED AREAS (SEE GENERAL NOTES SHEET 6)



SHEET PILE WEIR
SECTION B-B
1" = 6'

LEGEND:

- PROPOSED EASEMENT
- EXISTING PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING TOP OF BANK
- EXISTING TOE OF BANK
- EXISTING WATER SURFACE LEVEL
- PROPOSED SILT FENCE
- PROPOSED TOP OF BANK
- PROPOSED TOE OF BANK
- PROPOSED RIP-RAP
- PROPOSED FILL
- EXISTING GRADE
- PROPOSED GRADE



SHEET PILE WEIR
SECTION A-A
1" = 6'

*NOTE:
CONTRACTOR SHALL WORK WITH A LICENSED GEOTECHNICAL ENGINEER TO DESIGN SHEET PILE WEIR AND SUBMIT SIGNED & SEALED SHOP DRAWINGS PRIOR TO CONSTRUCTION.

CALL 2 BUSINESS DAYS BEFORE YOU DIG IN FLORIDA
1-800-432-4770
IT'S THE LAW
SUNSHINE STATE ONE CALL OF FLORIDA, INC.

CARPIEC
Civil Engineering Professionals

REV.	DATE	BY	REVISIONS

SCALE VERIFICATION

WATERSHED "B" PHASE 2
WATER QUALITY RETROFITS
PORT ST. LUCIE, FLORIDA

B-5 CONTROL STRUCTURE AND SECTIONS

Sherman P. Montgomery
501 N.W. Flagler Ave.
Stuart, Florida 34994
P.E. No. 34970

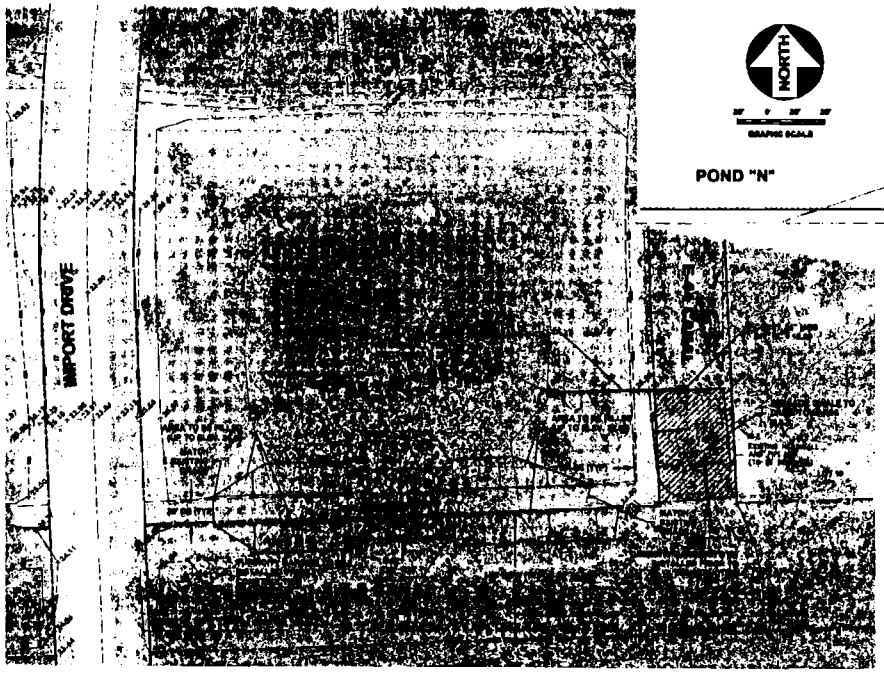
JUN 1 2007

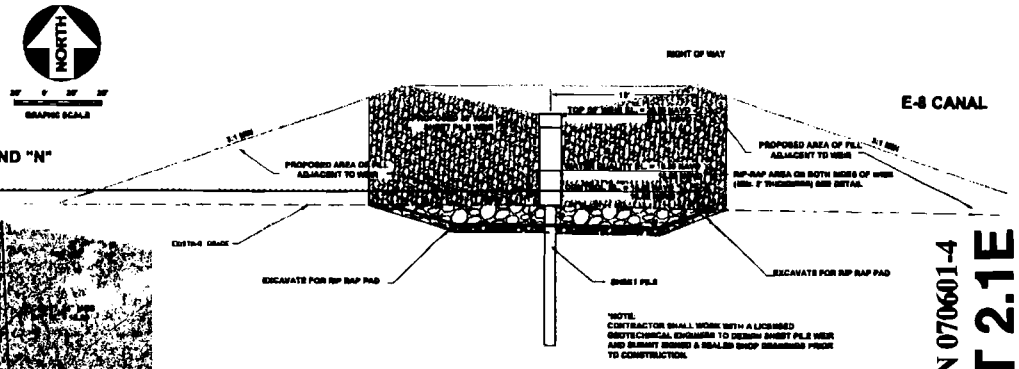
Published Date:

JOB No.: 607.2
SHEET 4 OF 7

APPLICATION 070601-4

EXHIBIT 2.1D





SHEET PILE WEIR SECTION B-B

1" = 4'

NOTES:

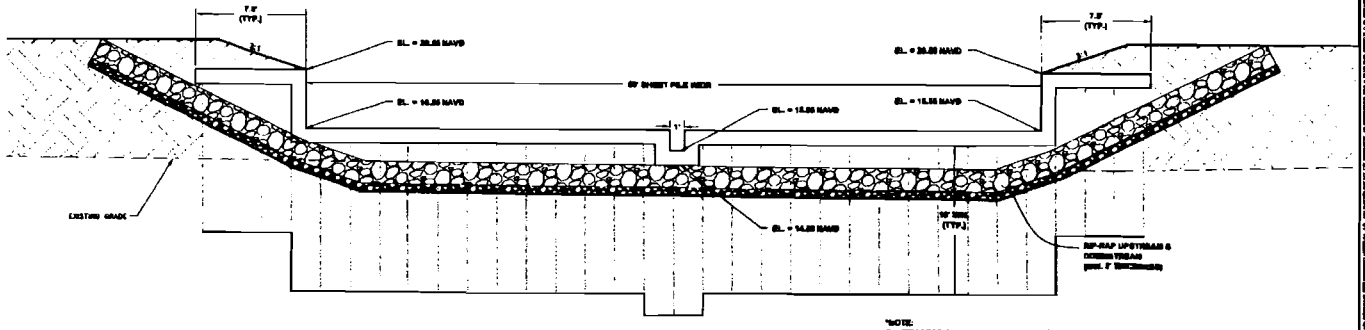
1. ENGINEERS DIGITAL FILES SHALL BE USED BY THE SURVEYOR FOR CONSTRUCTION LAYOUT.
2. VERTICAL DATUM HERBIN REFERENCES DATUM NAVD, 1988.
3. ALL VEGETATION WITHIN AREA OF CONSTRUCTION IS TO BE CLEARED BY CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.
4. SOD ALL DISTURBED AREAS (SEE GENERAL NOTES SHEET 6)

APPLICATION 070601-4

EXHIBIT 2.1E

LEGEND:

- PROPOSED EASEMENT
- EXISTING PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING TOP OF BANK
- EXISTING TOE OF BANK
- EXISTING WATER SURFACE LEVEL
- PROPOSED SILT FENCE
- PROPOSED TOP OF BANK
- PROPOSED TOE OF BANK
- PROPOSED RIP-RAP



SHEET PILE WEIR SECTION A-A

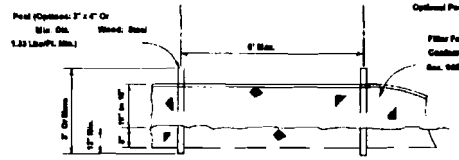
1" = 4'

CALL 2 BUSINESS DAYS BEFORE YOU DIG IN FLORIDA
1-800-432-4770
IT'S THE LAW
BUSINESS STATE ONE CALL OF FLORIDA, INC.

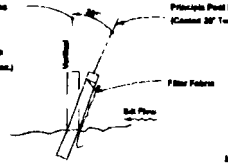
WATERSHED "B" PHASE 2 WATER QUALITY RETROFITS
PORT ST. LUCIE, FLORIDA

B-10 CONTROL STRUCTURE AND SECTIONS

JOB No.: 807.2
SHEET 5 OF 7



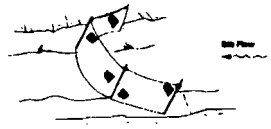
ELEVATION



SECTION

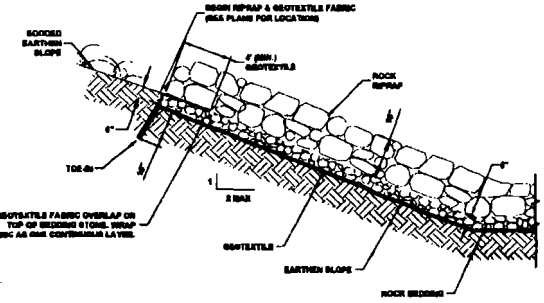
Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

TYPE III SILT FENCE



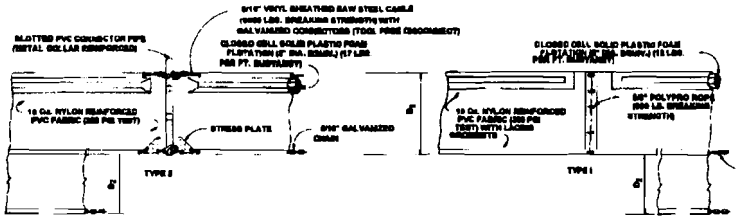
NOTE:

THE CONTRACTOR SHALL PROVIDE SILT SCREENS, HAY BALES OR OTHER SUCH SEDIMENT CONTROL MEASURES DURING CONSTRUCTION. THE SELECTED SEDIMENT CONTROL MEASURES SHALL BE INSTALLED LANDWARD OF THE UPLAND BUFFER ZONES AROUND ALL PROTECTED WETLANDS. ALL AREAS SHALL BE STABILIZED AND VEGETATED IMMEDIATELY AFTER CONSTRUCTION TO PREVENT EROSION INTO THE WETLANDS AND UPLAND BUFFER ZONES.



TYPICAL RIPRAP INSTALLATION DETAIL

NTS

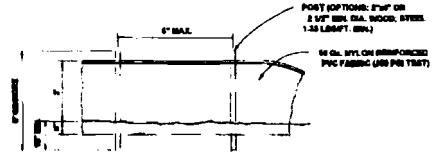


1. D = 6' STD. (SINGLE PANEL FOR DEPTHS 6' OR LESS)
2. D = 8' STD. (ADDITIONAL PANEL FOR DEPTHS > 8')

CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TYPE III PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET OR ANY SPECIAL DEPTH CURTAIN HORIZONTALLY BALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.

FLOATING TURBIDITY BARRIERS



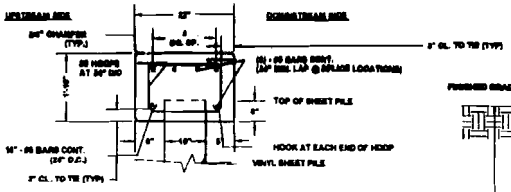
STAKED TURBIDITY BARRIER

NOTES:

1. INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 530-5.3 OF THE FDOT SPECIFICATIONS. THE AREAS TO RECEIVE RIPRAP SHALL BE LINED WITH FILTER FABRIC AND 6" BEDDING OF BEDDING STONE. ROCK RUBBLE SHALL BE PLACED IN 2 LAYERS FOR A TOTAL DEPTH OF 24" TO PROVIDE A REASONABLY WELL GRADED MASS OF STONE WITH THE MINIMUM PERCENTAGE OF VOIDS.
2. THE ROCK RUBBLE SHALL BE BROKEN STONE CONFORMING TO SECTION 530-2.3 OF THE FDOT SPECIFICATIONS. BROKEN CONCRETE SHALL NOT BE ALLOWED.
3. THE BEDDING STONE SHALL CONFORM TO SECTION 901-1 OF THE FDOT SPECIFICATIONS FOR NUMBER 4 COURSE AGGREGATE.
4. THE FILTER FABRIC MATERIALS SHALL CONFORM TO SECTION 985 OF THE FDOT SPECIFICATIONS FOR CLASS 3 FABRIC. INSTALLATIONS SHALL CONFORM TO SECTION 514-4, FDOT SPECIFICATIONS.

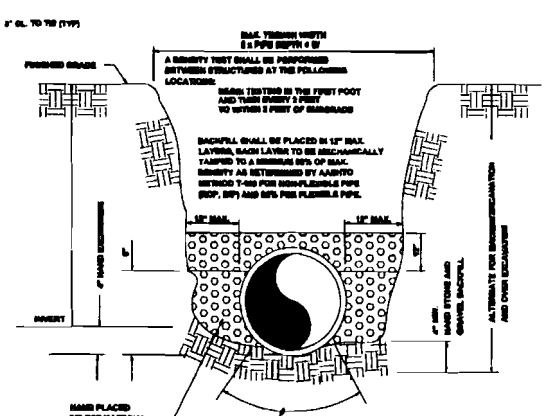
TYPICAL RIPRAP INSTALLATION DETAIL

NTS



SHEET PILE/BULKHEAD CAP DETAIL

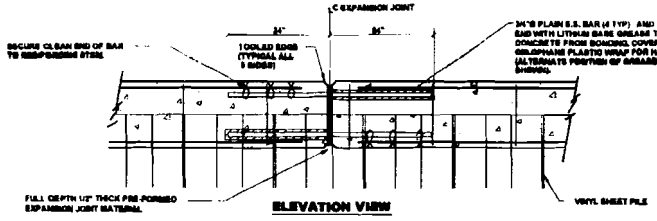
N.T.S.



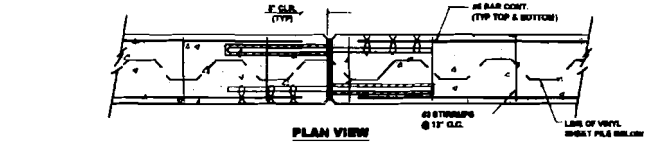
NOTE: IF PIPE IS NOT UNDER PROPOSED PAVEMENT, BACKFILL SHALL BE COMPACTED TO A DENSITY APPROXIMATELY EQUAL TO THAT OF THE SOIL ADJACENT TO THE PIPE TRENCH.

TYPICAL TRENCH DETAIL

N.T.S.



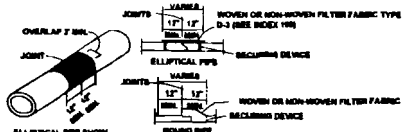
ELEVATION VIEW



PLAN VIEW

BULKHEAD CAP DETAIL

NTS



COST OF FILTER FABRIC JACKET TO BE INCLUDED IN COST OF PIPE CULVERTS

FOR ALL PIPE TYPES - CONCRETE PIPE SHOWN

ALL STORM PIPE JOINTS SHALL BE WRAPPED

STORM PIPE JOINTS SHALL BE WRAPPED ACCORDING TO THIS DETAIL. COMPLETELY WRAP THE OUTSIDE OF EACH JOINT WITH EITHER A WOVEN OR NON-WOVEN FILTER FABRIC (WHICH PROVIDES AN AOS OF A NO. 70 TO NO. 100 SIEVE (150 TO 212 mm), A MINIMUM OF 24 INCHES (600 mm) IN WIDTH AND A LENGTH TO PROVIDE A MINIMUM OVERLAP OF 24 INCHES (600 mm). SECURE FILTER FABRIC AGAINST THE OUTSIDE OF THE PIPE BY STEEL OR PLASTIC STRAPPING OR BY OTHER METHODS APPROVED BY THE ENGINEER. (REF: F.D.O.T. INDEX 200 FOR DETAILS OF CONSTRUCTION).

FILTER FABRIC JACKET DETAIL

N.T.S.

SCALE VERIFICATION

1" = _____

IF THIS BAR IS NOT 1" TO SCALE, THEN THE DRAWING WAS NOT ORIGINALLY ON 11x17 PAPER. ADJUST ALL SCALES ACCORDINGLY.

NO.	DATE	BY

WATERSHED 'B' PHASE 2
WATER QUALITY RETROFITS
PORT ST. LUCIE, FLORIDA

DRAINAGE DETAILS

Stevens F. Wang-Lee
304 N.W. Flagler Ave
Stuart, Florida 34994
P.E. No. 34579

JUN 6 1 2007
Printed Date

JOB No.: 807.2
SHEET 6 OF 7

APPLICATION 070601-4

EXHIBIT 2.1F

GENERAL NOTES

1. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGE OR DEVIATIONS FROM THE DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

2. THE CONTRACTOR SHALL CONTACT ALL EXISTING UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF CONSTRUCTION BEGINNING.

3. THE LOCATION AND SIZE OF ALL EXISTING UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND ARE BASED ON THE BEST AVAILABLE INFORMATION. ADDITIONAL UTILITIES MAY EXIST WHICH ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITIES BY ELECTRONIC METHODS AND BY HAND EXCAVATION IN COORDINATION WITH ALL UTILITY COMPANIES PRIOR TO BEGINNING ANY CONSTRUCTION OPERATION. ANY AND ALL CONFLICTS OF EXISTING UTILITIES WITH PROPOSED IMPROVEMENTS SHALL BE RESOLVED BY THE ENGINEER AND THE OWNER PRIOR TO BEGINNING ANY CONSTRUCTION. ANY WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

4. PROJECT SUPERINTENDENT: THE CONTRACTOR SHALL PROVIDE A QUALIFIED SUPERINTENDENT TO REMAIN ON THE JOB SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. THE SUPERINTENDENT SHALL BE PRESENT AT THE PRE-CONSTRUCTION MEETING. THE CONTRACTOR SHALL NOTIFY THE LOCAL UTILITY COMPANY BY LETTER PRIOR TO THE PRECONSTRUCTION MEETING APPOINTING THE SUPERINTENDENT FOR THIS PROJECT INCLUDING A FORMAL RESUME SHOWING QUALIFICATIONS.

5. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND GROUNDWATER TABLE. BY SUBMITTAL OF A BID FOR THIS PROJECT, THE CONTRACTOR ACKNOWLEDGES HIS COMPLETE UNDERSTANDING AND RESPONSIBILITIES WITH RESPECT TO THE CONSTRUCTION ACTIVITIES REQUIRED UNDER THE SCOPE OF THIS PROJECT.

6. THE "TRENCH SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENDORSED BY THE LEGISLATURE OF THE STATE OF FLORIDA TO BE IN EFFECT AS OF OCTOBER 1, 1990.

7. AS-BUILT PLANS: THE CONTRACTOR SHALL PROVIDE ONE (1) REPRODUCIBLE MYLAR COPY, FIVE(5) (5A) BLACK LINE COPIES AND ONE (1) DISKETTE COPY OF A CERTIFIED AS-BUILT SURVEY. SCHEDULE OF WORK, INCLUDING A NON-SUBMITTED PLAN SHOWING THE ORDER OF CONSTRUCTION, WHICH WILL FACILITATE MAINTAINING EXISTING SERVICES DURING CONSTRUCTION, SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION MAINTENANCE OF TRAFFIC AND STANDARD PLAN.

8. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.

10. ALL BILL SOUTH, PVL, LOCAL CABLE, AND ALL LOCAL UTILITY COMPANY LOCATIONS SHOWN ARE TAKEN FROM INFORMATION PROVIDED BY THAT UTILITY COMPANY. ALL UTILITY LOCATIONS SHOWN ARE BEST VIEWED IN THE FIELD. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR TO COORDINATE WITH SOUTHERN BELL, CABLETELEVISION AND FLORIDA POWER AND LIGHT CONSULTS PRIOR TO BEGINNING CONSTRUCTION AND DELIVERY OF PIPE. THE CONTRACTOR IS TO USE EXTREME CAUTION WITHIN THE VICINITY OF PRIVATE UTILITY FACILITIES. THE CONTRACTOR WILL REQUEST A PRIVATE UTILITY REPRESENTATIVE PRESENCE DURING CONSTRUCTION IN THE VICINITY OF THEIR FACILITIES. A PROFILE OF THE PRIVATE UTILITY FACILITIES ARE NOT INCLUDED IN THESE DRAWINGS. COORDINATION IS RESPONSIBLE FOR CONTACTING THE PRIVATE UTILITIES AND OBTAINING AN APPROXIMATE LOCATION OF THESE FACILITIES.

11. ANY MOND-TM MONUMENT WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF IN DANGER OF DAMAGE, SEE CONTRACTOR SHALL LIFT OUT.

GEODETIC INFORMATION CEN 100

ATTN: CHARLIE HOVACE
ATTN: W/OD - N/2
5001 EVERGLADE BOULEVARD
ROCKVILLE, MARYLAND 20853
TELEPHONE: (301) 443-4210

12. BENCH MARK DATA IS NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD) '88.

13. CONTRACTOR TO UTILIZE "APPROVED CONSTRUCTION PLANS" ONLY.

14. SHOP DRAWINGS FOR ALL STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

15. SHOP DRAWINGS ARE REQUIRED ON ALL STRUCTURES. THE ENGINEER REQUIRES FIVE (5) BUSINESS DAYS TO REVIEW SHOP DRAWINGS AFTER RECEIPT.

16. ALL CONCRETE SHALL HAVE 28 DAY MINIMUM COMPRESSIVE STRENGTH UNLESS NOTED OTHERWISE. REINFORCING BARS SHALL BE DEFORMED BARS AND SHALL BE ASTM A-615 GRADE 60 UNLESS NOTED OTHERWISE. REINFORCING BARS SHALL BE SPLICED WITH A MINIMUM OF 40 DIAMETERS

ORIGINAL SUBMITTAL
JUN 1 2007
M/SL 070601-4

CONSTRUCTION PLANS FOR
WATERSHED 'B' PHASE 1
WATER QUALITY RETROFITS
FOR
THE CITY OF PORT ST. LUCIE
LYING WITHIN THE CITY OF PORT ST. LUCIE
ST. LUCIE COUNTY, FLORIDA

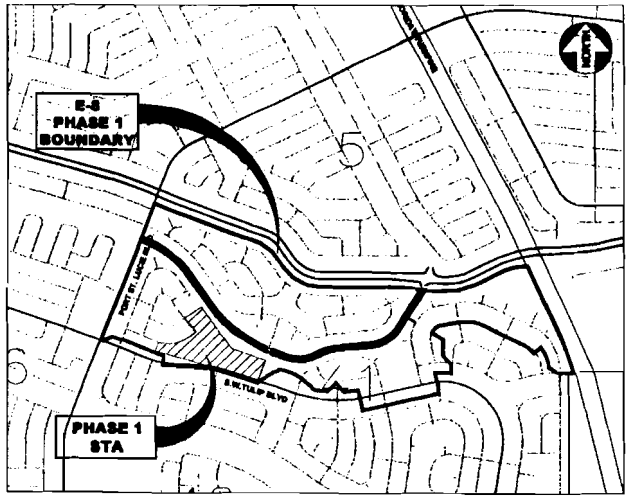
LOCATION MAP

CITY OFFICIALS

PATRICIA CHRISTENSEN	MAYOR
JACK KELLY	VICE MAYOR
MICHELLE L. BERGER	COUNCIL MEMBER
CHRISTOPHER S. COOPER	COUNCIL MEMBER
LINDA BARTZ	COUNCIL MEMBER
DONALD B. COOPER	CITY MANAGER
WALTER ENGLAND, P.E.	CITY ENGINEER

ENGINEER

MR. JOSEPH W. CAPRA, P.E.
CAPTEC ENGINEERING, INC.
301 NW FLAGLER AVENUE
STUART, FLORIDA 34994
PHONE: (772)-692-4344
FAX: (772)-692-4341
EMAIL: CAPTEC1@AOL.COM
P.E. NO. 37628



Site Map
N.T.S.

ELEVATIONS AS SHOWN HEREIN REFERENCE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88 DATUM), REFERENCING PORT ST. LUCIE BENCHMARK "338" ELEVATION = 10.410 FEET.

SHEET INDEX

SHEET NUMBER	SHEET TITLE/DESCRIPTION
1	COVER SHEET
2	E-6 PHASE 1 SPECIFIC PURPOSE SURVEY (1 OF 3)
3	E-6 PHASE 1 SPECIFIC PURPOSE SURVEY (2 OF 3)
4	E-6 PHASE 1 SPECIFIC PURPOSE SURVEY (3 OF 3)
5	STA IMPROVEMENTS AND SECTIONS
6	GENERAL NOTES

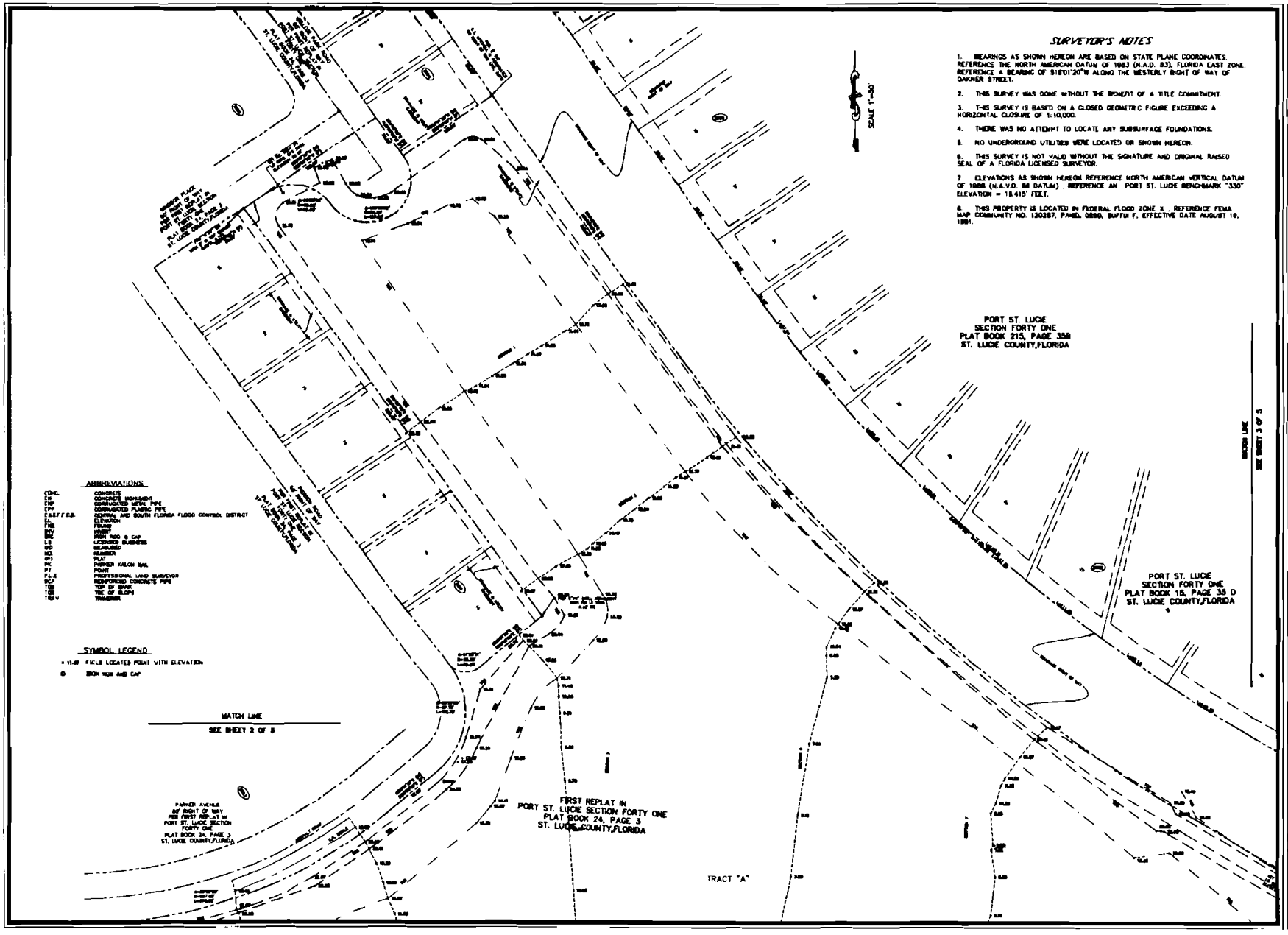
Civil Engineering Professionals
Civil Engineering Professionals
Engineering Business No. EB-0000667
301 N.W. Flagler Avenue
Stuart, Florida 34994
Phone: (772) 692-4344
Fax: (772) 692-4341
Email: Captec1@AOL.Com

JUN 0 1 2007

PROJECT #607.1 - WATERSHED 'B' PHASE 1 WATER QUALITY RETROFITS

PROJECT #607.1 - WATERSHED 'B' PHASE 1 WATER QUALITY RETROFITS

APPLICATION 070601-4
EXHIBIT 2.2A



SURVEYOR'S NOTES

1. BEARINGS AS SHOWN HEREON ARE BASED ON STATE PLANE COORDINATES. REFERENCE THE NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), FLORIDA EAST ZONE. REFERENCE A BEARING OF S16°01'20"W ALONG THE WESTERLY RIGHT OF WAY OF OAKNER STREET.
2. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A TITLE COMMITMENT.
3. THIS SURVEY IS BASED ON A CLOSED GEOMETRIC FIGURE EXCEEDING A HORIZONTAL CLOSURE OF 1:10,000.
4. THERE WAS NO ATTEMPT TO LOCATE ANY SUBSURFACE FOUNDATIONS.
5. NO UNDERGROUND UTILITIES WERE LOCATED OR SHOWN HEREON.
6. THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR.
7. ELEVATIONS AS SHOWN HEREON REFERENCE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88 DATUM). REFERENCE AN PORT ST. LUCIE BENCHMARK "330" ELEVATION = 18.415' FEET.
8. THIS PROPERTY IS LOCATED IN FEDERAL FLOOD ZONE X. REFERENCE FEMA MAP COMMUNITY NO. 120287, PANEL 0290, SUFFIX F, EFFECTIVE DATE AUGUST 18, 1992.

BETSY LINDSAY, INC.
SURVEYING AND MAPPING
7987 SW. JACK JAMES DRIVE STUART, FLORIDA 34997
(772)286-6715 (772)220-1033 FAX
LICENSED BUSINESS NO. 6932

DATE	REVISIONS

DATE 4/17/06
SCALE 1"=50'
FIELD BK. PB 9
DRAWN BY ECJ
CHECKED BY EAL

PORT ST. LUCIE STORMWATER QUALITY RETROFIT (C-8 PHASE 1)
CAPTEC ENGINEERING, INC.

SPECIFIC PURPOSE SURVEY

SHEET NO. 2
OF 5 SHEETS
PROJECT NO. 06-11C

APPLICATION 070601-4

EXHIBIT 2.2B

ABBREVIATIONS

CONC.	CONCRETE
CM	CONCRETE MONUMENT
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
C.S.S.F.C.D.	CENTRAL AND SOUTH FLORIDA FLOOD CONTROL DISTRICT
EL.	ELEVATION
FND.	FOUND
INV.	INVERT
IRC	IRON ROD & CAP
L.B.	LICENSED BUSINESS
MEAS.	MEASURED
RUB.	RUBBER
PLAT	PLAT
P.R.M.	PARKER KALON MAR.
PT.	POINT
P.L.S.	PROFESSIONAL LAND SURVEYOR
RCP	REINFORCED CONCRETE PIPE
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TRANSV.	TRANSVERSE

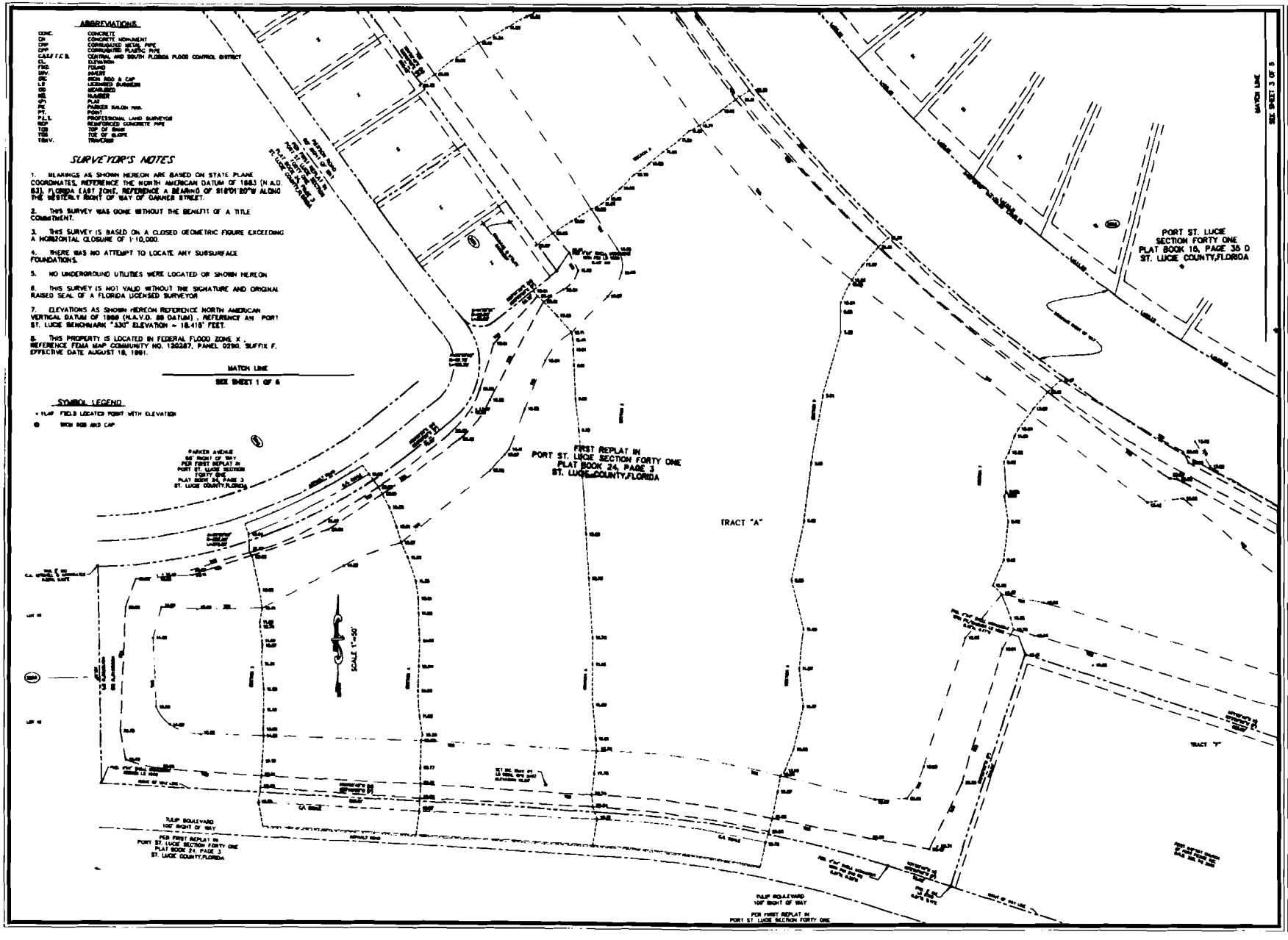
SURVEYOR'S NOTES

1. BEARINGS AS SHOWN HEREON ARE BASED ON STATE PLANE COORDINATES, REFERENCE THE NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), FLORIDA EAST ZONE. REFERENCE A BEARING OF S18°01'50"W ALONG THE WESTERLY RIGHT OF WAY OF GARNER STREET.
2. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A TITLE COMMITMENT.
3. THIS SURVEY IS BASED ON A CLOSED GEOMETRIC FIGURE EXCEEDING A HORIZONTAL CLOSURE OF 1:10,000.
4. THERE WAS NO ATTEMPT TO LOCATE ANY SUBSURFACE FOUNDATIONS.
5. NO UNDERGROUND UTILITIES WERE LOCATED OR SHOWN HEREON
6. THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR
7. ELEVATIONS AS SHOWN HEREON REFERENCE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88 DATUM) . REFERENCE AN PORT ST. LUCIE BENCHMARK "330" ELEVATION = 18.418' FEET.
8. THIS PROPERTY IS LOCATED IN FEDERAL FLOOD ZONE X , REFERENCE FEMA MAP COMMUNITY NO. 120287, PANEL 0290, SUFFIX F, EFFECTIVE DATE AUGUST 18, 1981.

MATCH LINE
SEE SHEET 1 OF 8

SYMBOL LEGEND

- TLAP FIELD LOCATED POINT WITH ELEVATION
- IRON ROD AND CAP



BETSY LINDSAY, INC.
SURVEYING AND MAPPING
PROP. ENG. JACK JAMES DRIVE STUART, FLORIDA 34997
0770000-0705 0770000-0000 FAX
LICENSED BUSINESS NO. 6802

DATE	REVISIONS

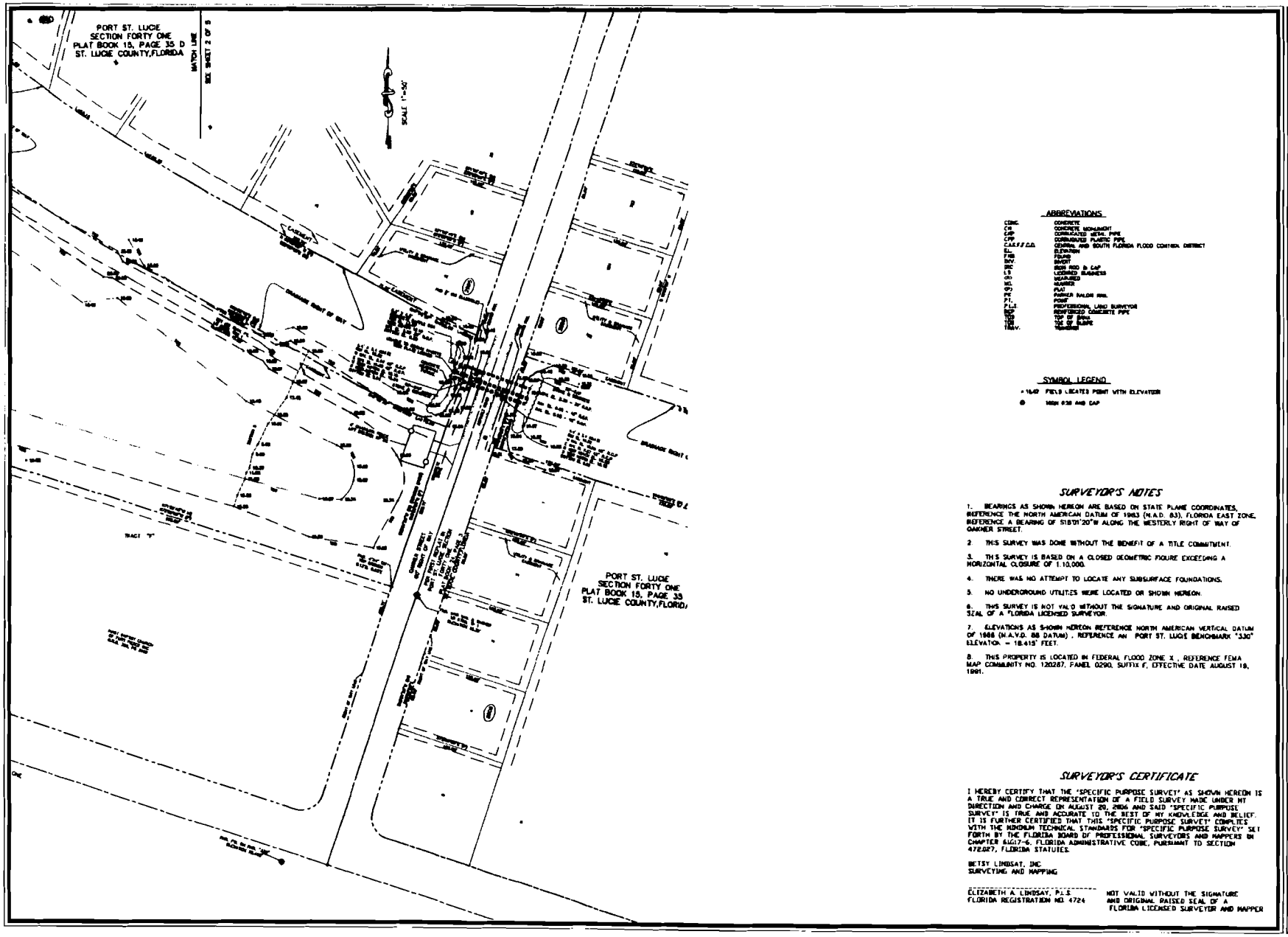
DATE 4/17/06
SCALE 1"=50'
FIELD BK. PG. 5
DRAWN BY GJ
CHECKED BY GJL

PORT ST. LUCIE STORMWATER QUALITY RETROFIT CE-8 PHASE D
CAPTEC ENGINEERING, INC.

SPECIFIC PURPOSE SURVEY

SHEET NO. 8
OF 8 SHEETS
PROJECT NO.
06-11C

EXHIBIT 2.2C
APPLICATION 070601-4



ABBREVIATIONS

CONC	CONCRETE
CM	CONCRETE MONUMENT
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
C.E.R.F.C.D.	CENTRAL AND SOUTH FLORIDA FLOOD CONTROL DISTRICT
EL	ELEVATION
FND	FOUND
INV	INVERT
IRC	IRON ROD & CAP
L.B.	LICENSED BUSINESS
M.S.	MEASURED
MK	MARKER
PL	PLAT
PK	PARKER KALON NAIL
PL	POINT
P.L.S.	PROFESSIONAL LAND SURVEYOR
RCP	REINFORCED CONCRETE PIPE
TOB	TOP OF BANK
TOE	TOE OF SLOPE
REV.	REVISED

SYMBOL LEGEND

+16.40 FIELD LOCATED POINT WITH ELEVATION

IRON ROD AND CAP

SURVEYOR'S NOTES

1. BEARINGS AS SHOWN HEREON ARE BASED ON STATE PLANE COORDINATES, REFERENCE THE NORTH AMERICAN DATUM OF 1983 (N.A.D. 83), FLORIDA EAST ZONE, REFERENCE A BEARING OF S18°01'20"W ALONG THE WESTERLY RIGHT OF WAY OF GAMMER STREET.

2. THIS SURVEY WAS DONE WITHOUT THE BENEFIT OF A TITLE COMMITMENT.

3. THIS SURVEY IS BASED ON A CLOSED GEOMETRIC FIGURE EXCEEDING A HORIZONTAL CLOSURE OF 1:10,000.

4. THERE WAS NO ATTEMPT TO LOCATE ANY SUBSURFACE FOUNDATIONS.

5. NO UNDERGROUND UTILITIES WERE LOCATED OR SHOWN HEREON.

6. THIS SURVEY IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR.

7. ELEVATIONS AS SHOWN HEREON REFERENCE NORTH AMERICAN VERTICAL DATUM OF 1988 (N.A.V.D. 88 DATUM), REFERENCE AN PORT ST. LUCIE BENCHMARK "330" ELEVATION = 18.413' FEET.

8. THIS PROPERTY IS LOCATED IN FEDERAL FLOOD ZONE X, REFERENCE FEMA MAP COMMUNITY NO. 120287, PANEL 0290, SUFFIX F, EFFECTIVE DATE AUGUST 19, 1991.

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE "SPECIFIC PURPOSE SURVEY" AS SHOWN HEREON IS A TRUE AND CORRECT REPRESENTATION OF A FIELD SURVEY MADE UNDER MY DIRECTION AND CHARGE ON AUGUST 29, 2006 AND SAID "SPECIFIC PURPOSE SURVEY" IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. IT IS FURTHER CERTIFIED THAT THIS "SPECIFIC PURPOSE SURVEY" COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR "SPECIFIC PURPOSE SURVEY" SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 61G17-6, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

BETSY LINDSAY, INC.
SURVEYING AND MAPPING

ELIZABETH A. LINDSAY, P.L.S.
FLORIDA REGISTRATION NO. 4724

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER

BETSY LINDSAY, INC.
SURVEYING AND MAPPING
7987 S.W. JACKS DRIVE STUART, FLORIDA 34997
(772)288-0705 (772)288-0706 FAX
LICENSED BUSINESS NO. 6602

DATE	REVISIONS

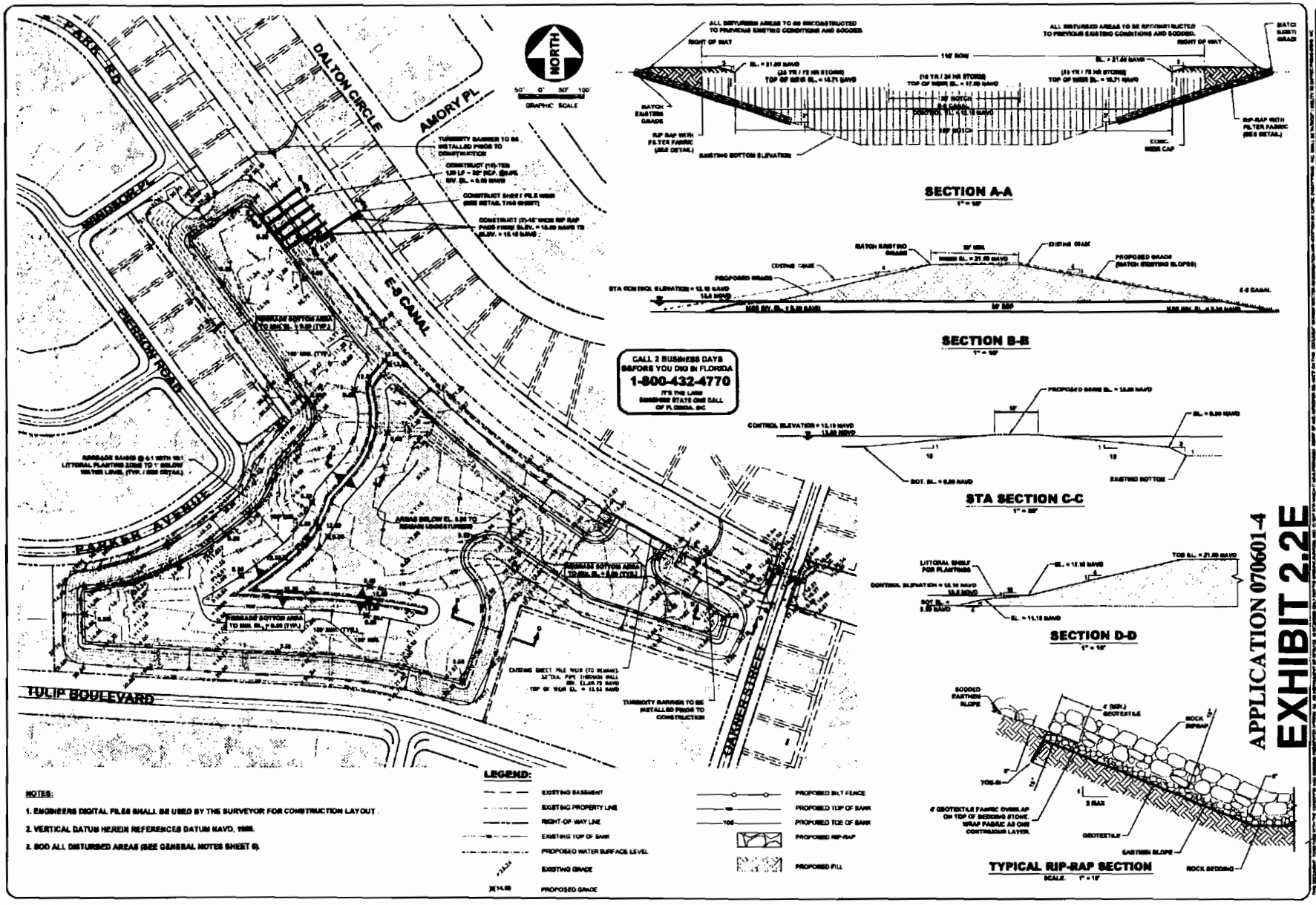
DATE 4/17/06
SCALE 1"=50'
FIELD BK. PG. 9
DRAWN BY EJ
CHECKED BY EAL

PORT ST. LUCIE STORMWATER QUALITY RETROFIT (E-8 PHASE 1)
CAPTEC ENGINEERING, INC.

SPECIFIC PURPOSE SURVEY

SHEET NO. 4
OF 6 SHEETS
PROJECT NO. 06-11C

EXHIBIT 2.2D
APPLICATION 070601-4


PARK RD
DALTON CIRCLE
AMORY PL
WINDSOR PL
PRESTON ROAD
E-8 CANAL
PARKER AVENUE
TULIP BOULEVARD
BAKER STREET
NORTH
GRAPHIC SCALE
CALL 2 BUSINESS DAYS BEFORE YOU DIG IN FLORIDA
1-800-432-4770
SECTION A-A
SECTION B-B
STA SECTION C-C
SECTION D-D
TYPICAL RIP-RAP SECTION
LEGEND:
EXISTING EASEMENT
EXISTING PROPERTY LINE
RIGHT-OF-WAY LINE
EXISTING TOP OF BANK
PROPOSED WATER SURFACE LEVEL
EXISTING GRADE
PROPOSED GRADE
PROPOSED SILT FENCE
PROPOSED TOP OF BANK
PROPOSED TOE OF BANK
PROPOSED RIP-RAP
PROPOSED FILL
NOTES:
1. ENGINEERS DIGITAL FILES SHALL BE USED BY THE SURVEYOR FOR CONSTRUCTION LAYOUT.
2. VERTICAL DATUM HEREIN REFERENCES DATUM NAVD, 1988.
3. SOD ALL DISTURBED AREAS (SEE GENERAL NOTES SHEET 6).
APPLICATION 070601-4
EXHIBIT 2.2E
WATERSHED 'B' PHASE 1
WATER QUALITY RETROFITS
PORT ST. LUCIE, FLORIDA
STA IMPROVEMENTS AND SECTIONS
JOB No.: 607.1
SHEET 5 OF 6

GENERAL NOTES

1. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGE OR DEVIATIONS FROM THE DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ENGINEER.

2. THE CONTRACTOR SHALL CONTACT ALL REGISTERED UTILITIES AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY EXCAVATION.

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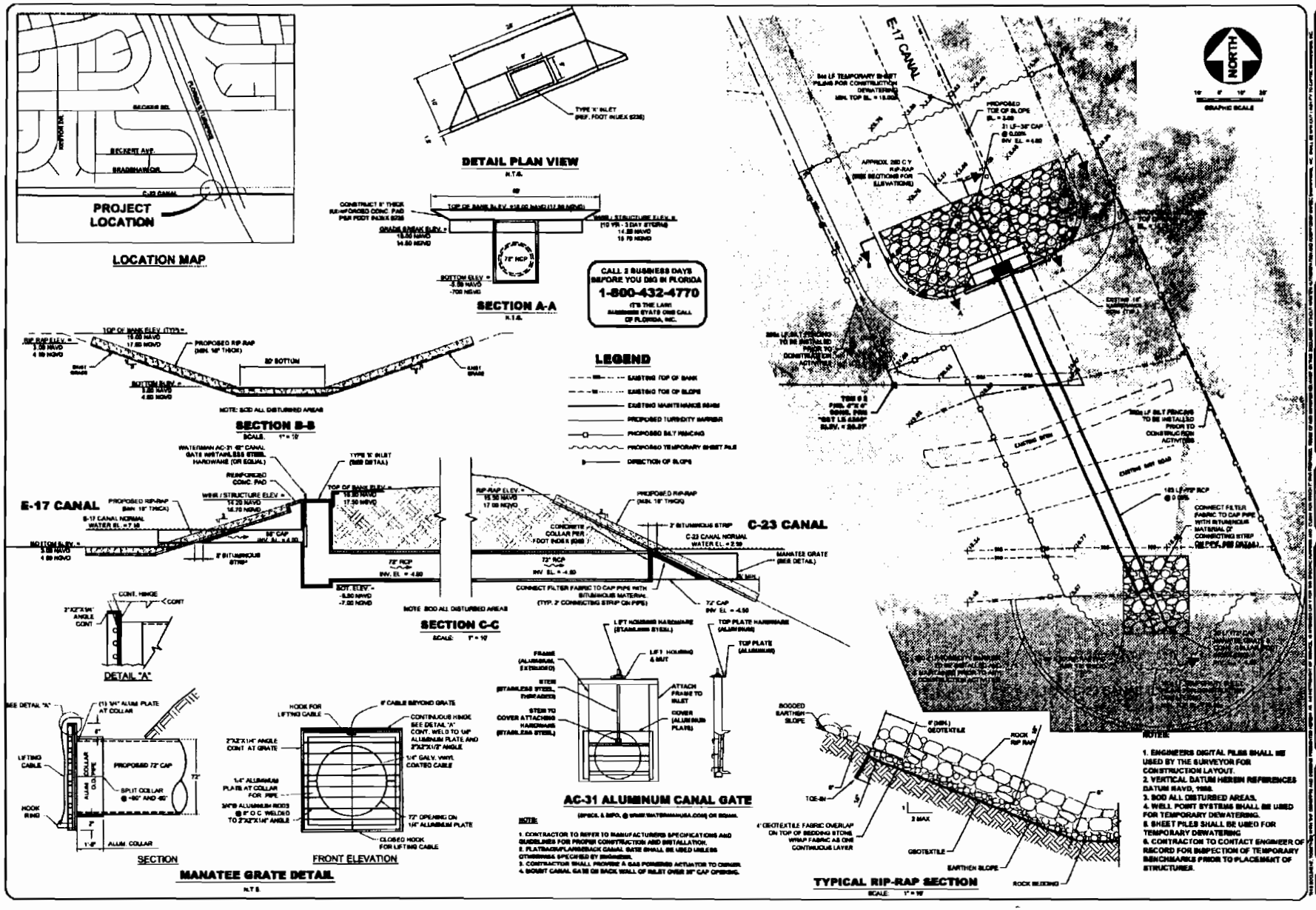
5. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE HIS COMPLETE FAMILIARITY WITH THE PROJECT SITE AND COMPONENTS TO INCLUDE SUBSURFACE CONDITIONS OF SOIL AND ENGINEERING TABLE. BY SUBMITTAL OF A BID FOR THIS PROJECT, THE CONTRACTOR ACKNOWLEDGES HIS COMPLETE UNDERSTANDING AND RESPONSIBILITIES WITH RESPECT TO THE CONSTRUCTION ACTIVITIES REQUIRED UNDER THE SCOPE OF THIS PROJECT.

6. THE "FLORIDA SAFETY ACT" SHALL BE INCORPORATED INTO THIS CONTRACT AS ENDORSED BY THE LEGISLATURE OF THE STATE OF FLORIDA TO BE IN EFFECT AS OF OCTOBER 1, 1992.

7. AS-BUILT PLANS: THE CONTRACTOR SHALL PROVIDE ONE (1) REPRODUCIBLE MYLAR COPY, FIFTEEN (15) BLACK LINE COPIES AND ONE (1) ADDITIONAL COPY FOR REVIEWS, ALONG WITH THE ORIGINAL MYLAR THE ORIGINAL MYLAR AND ONE (1) COPY OF THE PLANS SHALL BE SUPPLIED WITHIN THIRTY (30) DAYS AFTER THE COMPLETION OF CONSTRUCTION. THE COPY PRIOR TO FINAL APPROVAL. THE AS-BUILT SURVEY SHALL BE PREPARED IN PLAN AND PROFILE FORMAT BY A LICENSED PROFESSIONAL LAND SURVEYOR. THE SURVEY SHALL BE PREPARED IN ACCORDANCE WITH CHAPTER 61G17-6 OF THE FLORIDA ADMINISTRATIVE CODE. THE SURVEY SHALL BE AT A SCALE NOT LARGER THAN 1" = 50' AND SHALL BE AT A SCALE NOT LARGER THAN 1" = 20' FOR THE PLAN AND 1" = 5' FOR THE PROFILE. THE SURVEY


LOCATION MAP
PROJECT LOCATION
DETAIL PLAN VIEW
SECTION A-A
CALL 2 BUSINESS DAYS BEFORE YOU DIG IN FLORIDA
1-800-432-4770
LEGEND
SECTION B-B
E-17 CANAL
C-23 CANAL
SECTION C-C
DETAIL "A"
MANATEE GRATE DETAIL
AC-31 ALUMINUM CANAL GATE
TYPICAL RIP-RAP SECTION
NORTH
GRAPHIC SCALE
WATERSHED 'A' STORMWATER RETROFIT
PORT ST. LUCIE, FLORIDA
C-23 CANAL
EMERGENCY OUTFALL
COASTEC
Civil Engineering Professionals
APPLICATION 070601-4
EXHIBIT 2.3

C-23 CANAL EMERGENCY OUTFALL & RETROFITS
Water Quality Monitoring Plan

Water quality monitoring for turbidity around the work site shall be taken a minimum of twice daily while in or over water work (including construction activities and/or dredging related activities) is being conducted in accordance with the standard specifications. Turbidity levels shall be monitored in accordance with the following program:

Turbidity expressed in nephelometric turbidity units (ntu).

Background samples shall be taken 300 feet upstream of any in-water construction or dredging-related activity within adjacent surface waters.

Compliance samples shall also be taken in the C-23 and C-24 Canals 100 feet upstream and 100 feet downstream as well as no more than 100 feet outside of any screened area during in-water construction activities to determine compliance with State water quality standards.

Samples shall be taken twice daily, with at least a four-hour interval, during all in-water work.

Monitoring shall begin on the first day of such activities within or adjacent to surface waters. Monitoring shall cease when all project-related in-water activities are completed. The monitoring data must demonstrate that compliance turbidity samples are less than 29 ntu's above natural background turbidity levels.

All monitoring data shall be maintained on site and be available to District staff during regular business hours. All monitoring data shall be submitted within one (1) week of analysis and the monitoring reports shall contain the following information:
1) Permit and application number;
2) Date of sampling and analysis;
3) A statement describing the collection methods, handling, storage and sample analysis;
4) A map indicating the sampling locations; and
5) A statement by the individual responsible for implementation of the sampling program concerning the authenticity, precision, limits of detection and accuracy of the data.

Monitoring reports shall also include the following information for each sample that is taken:
1) Time of day samples taken;
2) Depth of water body;
3) Depth of samples;
4) Antecedent weather conditions;
5) Wind direction and velocity; and
6) Tidal stage and direction of flow.

If water quality monitoring reveals turbidity levels downstream of the site to be more than 29 ntu's above natural background turbidity levels, in-water project activities shall cease and District compliance staff shall be notified immediately. Work shall not resume until District staff are satisfied that adequate corrective measures have been taken and turbidity has returned to acceptable levels.

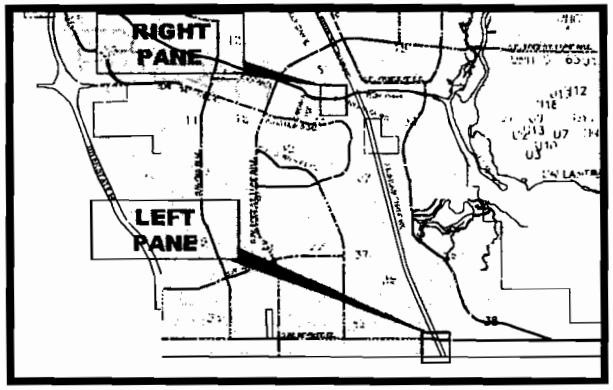
Monitoring reports shall be submitted to the District Environmental Resource Compliance staff. Failure to submit reports in a timely manner (as indicated above) constitutes grounds for revocation of the permit, enforcement or other action by the District.

EXHIBIT 3.01

EXHIBIT 3.02

NORTH

100' 0' 100' 200'
GRAPHIC SCALE



Key Map
N.T.S.

WATER QUALITY MONITORING SITE
300 FT UPSTREAM / 100' DOWNSTREAM IN C-24 CANAL

WATER QUALITY MONITORING SITE
100' UPSTREAM OF B-2 OUTFALL

DOUBLE FLOATING TURBIDITY BARRIER (TYP)

SFWMD S-49 STRUCTURE

C-24 CANAL

WQ - 3

WQ - 4

B-1

B-2

WQ - 5

SCROLL CT.

SW SIMMS CT.

ANN ARBOR RD.

E-8 CANAL

BRADSHAW CIR

E-17 CANAL

MICA CT

DOUBLE FLOATING TURBIDITY BARRIER (TYP)

FLORIDA TURNPIKE

WQ - 1

C-23 CANAL

WQ - 2

WATER QUALITY MONITORING SITE
300' UPSTREAM / 100' DOWNSTREAM IN C-23 CANAL

STEVEN P. MARQUART
P.E. No. 34879

CAPTEC Engineering, Inc.
Civil Engineering Professionals

Joseph W. Capra
301 N.W. Flagler Ave
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Phone: (772) 692-4344
Fax: (772) 692-4341
E-mail: Captec1@aol.com

Engineering Business No. EB-0000657

DATE:	06/21/01
DRAWN BY:	WLC
DESIGNED BY:	WLC
CHECKED BY:	SPM
PROJECT No:	806
HORZ. SCALE:	1" = 300'
VERT. SCALE:	N/A
CADD FILE:	WQ Monitoring

PORT ST. LUCIE C-23 EMERGENCY OUTFALL AND RETROFITS
CITY OF PORT ST. LUCIE, FLORIDA

WATER QUALITY MONITORING LOCATIONS

SCALE VERIFICATION
0 0.5
SOLID BAR IS EQUAL TO HALF AN INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY

Sheet No. 1 of 1

STAFF REPORT DISTRIBUTION LIST

C-23 OUTFALL AND WATERSHED B RETROFITS

Application No: 070601-4

Permit No: 56-00332-S

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X Florida Fish & Wildlife Conservation Commission - Imperiled Species Mgmt Section
X St Lucie County - Planning Div
X St. Lucie County Community Development Director
X St. Lucie County Engineer - Chris Lestrange
X St. Lucie County Environmental Resource Manager
X U.S. Army Corps of Engineers

OTHER INTERESTED PARTIES

X Sierra Club - Central Florida Group P.O. Box 941692