



FORM #0157
Rev. 07/09

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
PERMIT MODIFICATION NO. 56-01501-P
DATE ISSUED: AUGUST 23, 2010**

PERMITTEE: CITY OF PORT ST LUCIE
(EASTERN WATERSHED IMPROVEMENT PROJECT)
121 SW PORT ST LUCIE BLVD,
PORT ST LUCIE, FL 34984

ORIGINAL PERMIT ISSUED: MAY 8, 2001

ORIGINAL PROJECT DESCRIPTION: A SURFACE WATER MANAGEMENT SYSTEM SERVING 8.11 ACRES OF HIGHWAY DEVELOPMENT KNOWN AS LENNARD ROAD.

APPROVED MODIFICATION: CONSTRUCTION AND OPERATION MODIFICATION OF A SURFACE WATER MANAGEMENT SYSTEM TO SERVE A 4,545 ACRE PROJECT KNOWN AS EASTERN WATERSHED IMPROVEMENT PROJECT.

PROJECT LOCATION: ST LUCIE COUNTY, SECTION 12-13 TWP 37S RGE 40E
SECTION 6-7 TWP 37S RGE 41E

PERMIT DURATION: See Special Condition No.1. See attached Rule 40E-4.321, Florida Administrative Code.

This is to notify you of the District's agency action concerning Permit Application No. 100322-15, dated March 17, 2010. This action is taken pursuant to the provisions of Chapter 373, Part IV, Florida Statutes (F.S.), and the Operation Agreement Concerning Regulation Under Part IV, Chapter 373 F.S., between South Florida Water Management District and the Department of Environmental Protection.

Based on the information provided, District rules have been adhered to and an Environmental Resource Permit Modification is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.5 and Section 120.569, or request a judicial review pursuant Section 120.68, Florida Statutes.
2. The attached 19 General Conditions.
3. The attached 28 Special Conditions.
4. The attached 8 Exhibits.

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition, please provide written objections, petitions and/or waivers to:

Elizabeth Veguilla, Deputy Clerk, MSC2440
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416-4680

Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY that the Staff Report, Conditions and Notice of Rights have been mailed to the Permittee (and the persons listed on the attached staff report distribution list) no later than 5:00 p.m. on this 24th day of August, 2010, in accordance with Section 120.60(3), Florida Statutes, and a copy has been filed and acknowledged with the Deputy District Clerk.

ORIGINAL SIGNED BY
By JACKI MCGORTY
DEPUTY CLERK
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Attachments

CERTIFIED MAIL# 70050390000598199159

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on August 23, 2015.
2. Operation of the surface water management system shall be the responsibility of the permittee.
3. Discharge Facilities:

Basin: Eastport
1-60 ft wide SHARP CRESTED weir with crest at elev. 11.5 ft NAVD.
Receiving body: Howard Creek via US-1 Box Culverts

Basin: Howard Creek (Lennard Road)
1-3 ft wide SHARP CRESTED weir with crest at elev. 9.5 ft NAVD.
Receiving body: Elk Cane Slough STA

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 flooding conditions.
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.
12. The permittee acknowledges that, pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the property.
13. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or

(800) 847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

14. Water quality treatment provided by the project authorized under this permit application is for the use of the area defined in the application as a retrofit and cannot be applied to new development that may discharge to the project authorized under this permit application.
15. Prior to the commencement of construction, the permittee shall conduct a pre-construction meeting with field representatives, contractors and District staff. The purpose of the meeting will be to discuss construction methods and sequencing, including type and location of turbidity and erosion controls to be implemented during construction, mobilization and staging of contractor equipment, phasing of construction, methods of vegetation clearing, construction dewatering if required, ownership documentation for eminent domain authority, coordination with other entities on adjacent construction projects, wetland/buffer protection methods, endangered species protection with the permittee and contractors. The permittee shall contact District Environmental Resource Compliance staff from the Martin St Lucie Service Center at (772) 223-2600 to schedule the pre-construction meeting.
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. 56-01501-P unless otherwise specified herein.
17. Prior to the commencement of construction activities on the site, the permittee shall provide all necessary permanent and temporary construction easements and submit a copy of the easement(s) to the District's Environmental Resource Compliance staff in the service center where the permit application was processed.
18. Permanent physical markers designating the preserve status of the wetland preservation areas and buffer zones shall be placed at the locations shown in Exhibit 6. These markers shall be maintained in perpetuity.
19. A mitigation program for the Elks-Cane Slough Mitigation Area shall be implemented in accordance with Exhibit No. 4. The permittee shall create 5.32 acres of marsh and forested wetlands and preserve a total of 6.68 acres of wetlands/upland compensation areas.
20. A monitoring program shall be implemented in accordance with Exhibit No. 6. The monitoring program shall extend for a period of 5 years with annual reports submitted to District staff. At the end of the first monitoring period the mitigation area shall contain an 80% survival of planted vegetation. The 80% survival rate shall be maintained throughout the remainder of the monitoring program, with replanting as necessary. If native wetland, transitional, and upland species do not achieve an 80% coverage within the initial two years of the monitoring program, native species shall be planted in accordance with the maintenance program. At the end of the 5 year monitoring program the entire mitigation area shall contain an 80% survival of planted vegetation and an 80% coverage of desirable obligate and facultative wetland species.
21. A maintenance program shall be implemented in accordance with Exhibit No. 6 for the preserved upland and created wetland areas on a regular basis to ensure the integrity and viability of those areas as permitted. Maintenance shall be conducted in perpetuity to ensure that the conservation areas are maintained free from Category 1 exotic vegetation (as defined by the Florida Exotic Pest Plant Council at the time of permit issuance) immediately following a maintenance activity. Maintenance in perpetuity shall also insure that conservation areas, including buffers, maintain the species and coverage of native, desirable vegetation specified in the permit. Coverage of exotic and nuisance plant species shall not exceed 5% of total cover between maintenance activities. In addition, the permittee shall manage the conservation areas such that exotic/nuisance plant species do not dominate any one section of those areas.
22. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.

23. Prior to commencement of construction and in accordance with the work schedule in Exhibit 8 the permittee shall submit an electronic or hard copy version of the certified copy of the recorded conservation easement for the mitigation area and associated buffer. The electronic version of the recorded conservation easement, and associated GIS information described below, shall be submitted via the District's ePermitting/eCompliance website. The GIS data shall be supplied in a digital ESRI Geodatabase (mdb), ESRI Shapefile (shp) or AutoCAD Drawing Interchange (dxf) file format using Florida State Plane coordinate system, East Zone (3601), Datum NAD83, HARN with the map units in feet. A map depicting the Conservation Easement over the best available satellite or aerial imagery shall also be provided. If the information is provided via hard copy the GIS data shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted.

The recorded easement shall utilize the form attached as Exhibit 7. Any proposed modification to the approved form must receive prior written consent from the District. The easement must be free of encumbrances or interests in the easement which the District determines are contrary to the intent of the easement. In the event it is later determined that there are encumbrances or interests in the easement which the District determines are contrary to the intent of the easement, the permittee shall be required to provide release or subordination of such encumbrances or interests.

24. Activities associated with the implementation of the mitigation, monitoring and maintenance plan shall be completed in accordance with the work schedule attached as Exhibit No. 8. Any deviation from these time frames will require prior approval from the District's Environmental Resource Compliance staff. Such requests must be made in writing and shall include (1) reason for the change, (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.
25. Success of the mitigation activities proposed herein is heavily dependent on proper grading to achieve the design ground elevations necessary to recruit the expected vegetation or to sustain the proper hydrology for the targeted vegetation communities. The permittee shall submit as-built topography of the proposed mitigation area prior to planting. The permittee shall correct any deficiencies in the project grade within 14 days of being notified of such deficiencies by District staff.
26. 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.
27. The remaining 0.49 herbaceous functional units generated by this project may potentially be used for other city projects in the future. Use of functional units will be determined on a case-by-case basis and is contingent upon the proposed impacts meeting all other permitting requirements such as elimination and reduction of impacts, cumulative impacts analysis and appropriateness of the mitigation type and is also contingent on this project remaining in compliance and obtaining a successful outcome. A letter modification will be required to deduct the functional units from this permit.
28. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this application number.

Exhibit Nos 2.1 and 2.2 Summary of Pre-Improved and Post Basin Analysis

GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.
2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.
5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.
6. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation 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. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.
7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved

responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.
9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.
10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.
11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..
12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
13. 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(3), F.A.C., also known as the "No Notice" Rule.
14. 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, alteration, operation, maintenance, removal, abandonment or use of any system authorized by the permit.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.
16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.
17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.

18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.
19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

ENVIRONMENTAL RESOURCE PERMITS CHAPTER 40E-4 (01/07)

40E-4.321 Duration of Permits.

(1) Unless revoked or otherwise modified the duration of an environmental resource permit issued under this chapter or Chapter 40E-40, F.A.C., is as follows:

(a) For a conceptual approval, two years from the date of issuance or the date specified as a condition of the permit, unless within that period an application for an individual or standard general permit is filed for any portion of the project. If an application for an environmental resource permit is filed, then the conceptual approval remains valid until final action is taken on the environmental resource permit application. If the application is granted, then the conceptual approval is valid for an additional two years from the date of issuance of the permit. Conceptual approvals which have no individual or standard general environmental resource permit applications filed for a period of two years shall expire automatically at the end of the two year period.

(b) For a conceptual approval filed concurrently with a development of regional impact (DRI) application for development approval (ADA) and a local government comprehensive plan amendment, the duration of the conceptual approval shall be two years from whichever one of the following occurs at the latest date:

1. The effective date of the local government's comprehensive plan amendment,
2. The effective date of the local government development order,
3. The date on which the District issues the conceptual approval, or 4. The date on which the District issues a final order pertaining to the resolution of any Section 120.57, F.S., administrative proceeding or other legal appeals.

(c) For an individual or standard general environmental resource permit, the construction phase authorizing construction, removal, alteration or abandonment of a system shall expire five years from the date of issuance or such amount of time as made a condition of the permit.

(d) For an individual or standard general environmental resource permit, the operational phase of the permit is perpetual for operation and maintenance.

(e) For a noticed general permit issued pursuant to Chapter 40E-400, F.A.C., five years from the date the notice of intent to use the permit is provided to the District.

(2)(a) Unless prescribed by special permit condition, permits expire automatically according to the timeframes indicated in this rule. If application for extension is made by electronic mail at the District's e-Permitting website or in writing pursuant to subsection (3), the permit shall remain in full force and effect until:

1. The Governing Board takes action on an application for extension of an individual permit, or
2. Staff takes action on an application for extension of a standard general permit.

(b) Installation of the project outfall structure shall not constitute a vesting of the permit.

(3) The permit extension shall be issued provided that a permittee files a written request with the District showing good cause prior to the expiration of the permit. For the purpose of this rule, good cause shall mean a set of extenuating circumstances outside of the control of the permittee. Requests for extensions, which shall include documentation of the extenuating circumstances and how they have delayed this project, will not be accepted more than 180 days prior to the expiration date.

(4) Substantial modifications to Conceptual Approvals will extend the duration of the Conceptual Approval for two years from the date of issuance of the modification. For the purposes of this section, the term "substantial modification" shall mean a modification which is reasonably expected to lead to substantially different water resource or environmental impacts which require a detailed review.

(5) Substantial modifications to individual or standard general environmental resource permits issued pursuant to a permit application extend the duration of the permit for three years from the date of issuance of the modification. Individual or standard general environmental resource permit modifications do not extend the duration of a conceptual approval.

(6) Permit modifications issued pursuant to paragraph 40E-4.331(2)(b), F.A.C. (letter modifications) do not extend the duration of the permit.

(7) Failure to complete construction or alteration of the surface water management system and obtain operation phase approval from the District within the permit duration shall require a new permit authorization in order to continue construction unless a permit extension is granted.

Specific Authority 373.044, 373.113, 668.003, 668.004, 668.50 FS. Law Implemented 373.413, 373.416, 373.419, 373.426, 668.003, 668.004, 668.50 FS. History-New 9-3-81, Amended 1-31-82, 12-1-82, Formerly 16K-4.07(4), Amended 7-1-86, 4-20-94, 10-3-95, 5-28-00, 10-1-06.

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 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 and 120.57, 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, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic 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. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. 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. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. **Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office.** An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD 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 SFWMD Clerk receives the complete document.

Initiation of an Administrative Hearing

Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the District takes action with substantially different impacts on water resources 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.

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. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

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.

Last Date For Agency Action: September 19, 2010

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Eastern Watershed Improvement Project

Permit No.: 56-01501-P

Application No.: 100322-15

Associated File: 100323-8 SWM Concurrent
100323-6 SWM Concurrent
100323-18 WU Concurrent

Application Type: Environmental Resource (Construction/Operation Modification)

Location: St Lucie County, S6-7/T37S/R41E
S12-13/T37S/R40E

Permittee : City Of Port St Lucie

Operating Entity : City Of Port St Lucie

Project Area: 4,545.00 acres

Project Land Use: Commercial
Residential

Drainage Basin: NORTH ST LUCIE

Receiving Body: HOWARD CREEK / SAVANNAS / NORTH FORK SLR

Class: CLASS III

Special Drainage District: NA

Total Acres Wetland Onsite: 2.42

Total Acres Impacted Onsite : 2.42

Total Acres Presv/Mit Compensation Onsite: 6.68

Conservation Easement To District : Yes

Sovereign Submerged Lands: No

**FINAL APPROVED BY
EXECUTIVE DIRECTOR
AUGUST 23, 2010**

PROJECT PURPOSE:

Environmental Resource Permit modification to authorize construction and operation of a surface water management system to serve a 4,545 acre residential/commercial watershed known as the Eastern Watershed Improvement Project (EWIP). Approval is granted with conditions.

PROJECT EVALUATION:**PROJECT SITE DESCRIPTION:**

The Eastern Watershed Improvement Project (EWIP) is located in the City of Port St. Lucie in southeastern St Lucie County and encompasses approximately 4,545 acres of urban development. Please see the location map Exhibit 1.0. The project area is included in four previously established stormwater drainage basins: Midport, Eastport/Tiffany, Eastport/Blackwell, and Howard Creek basins. The project area is generally bounded by US-1/Morningside Boulevard to the west, the Ballantrae Subdivision/Martin County line to the south, Green River Parkway/The Savannas to the east and Hog Pen Slough/Port St. Lucie city limits to the north. The project area includes numerous permitted residential, commercial and roadway stormwater management systems.

Portions of the Midport Basin (Permit # 56-00274-S) are located within FEMA Flood Plain AH, which has a flood elevation of 17.0 NGVD. The lower portion of Howard Creek south of Westmoreland Boulevard is within FEMA Flood Plain X having a flood elevation of 7.0 NGVD.

There are four isolated wetlands within the proposed STA sites totaling 2.42 acres. One marsh wetland (0.67 acres) is located at the Leithgow STA site, two mixed forested wetlands (1.04 and 0.11 acres) are located at the Elks -Cane Slough STA site, and one marsh wetland (0.60 acres) is located at the Loutus STA site.

PROJECT BACKGROUND:

The southeastern portion of the City of Port St. Lucie is a highly urbanized area. During hurricanes Frances and Jeanne in 2004, Wilma in 2005, and Tropical Storm Fay in 2008, the Eastern Watershed basins, including Eastport 1 and 2, Midport, and Howard Creek, experienced flooding. Rainfall data from Tropical Storm Fay indicates that the area received approximately 14 inches of rainfall in a 48 hour period which exceeds the 100-year 3-day storm rainfall. The result of Tropical Storm Fay included first floor flooding of more than six inches in homes and businesses and portions of US-1 were impassable by emergency vehicles. Debris within the storm sewer system and lack of maintenance appear to be responsible for some of the flooding. To determine the causes of the flooding and to recommend improvements to reduce future flooding, a study of the area was performed for the City of Port St. Lucie.

Results of the study showed that, during rain events including the 25 year 3 day design storm, the Eastport and Midport basins overflow and cascade into the Howard Creek basin. This basin cascading was not recognized in previous analysis of the Eastern Watershed area. The proposed Eastern Watershed Improvement Project (EWIP) will provide additional storage and water quality treatment in the watershed, reduce peak flows, improve hydraulic efficiencies, and create redundant systems.

The following is a brief permitting history of the various permitted systems:

East Port Permit No. 56-00038-S:

On August 12, 1976 the Central and Southern Florida Flood Control District authorized construction of the East Port system (Application No. 23246) serving 1,170 acres of residential development by two major canals, a 90,000 gpm pump station discharging westward to the North Fork of the St Lucie River, and a 20,000 gpm and 15,000 gpm pump stations discharging eastward to the Savannas. This permit was modified numerous times to authorize various residential and commercial developments and system modifications.

Midport Permit No. 56-00274-S:

On February 2, 1979 the Central and Southern Florida Flood Control District authorized conceptual approval of the Midport Basin (Application No. 11158-C-01) serving approximately 1,800 acres

discharging to the North Fork of the St Lucie River via Hog Pen Slough. This permit was modified numerous times to authorize various residential and commercial developments and system modifications.

South Lennard Road Permit No. 56-01501-P:

On May 8, 2001 the District authorized (Application No. 001024-8) a surface water management system serving 6.95 acres of road way resurfacing and widening within Lennard and Cane Slough Road right of ways. Discharge is to the North Fork of the St Lucie River via Howard Creek. This permit was modified several times to authorize additional road development and system modifications.

Lennard Square Permit No. 56-01745-P:

On May 13, 2004 the District authorized (Application No. 030604-5) construction of 51.75 acres of mixed use development to serve a Sam's Club, commercial, and multifamily residential projects. Discharge is to the North Fork of the St Lucie River via Howard Creek. This permit was modified several times to authorize residential and commercial developments and system modifications.

PROPOSED PROJECT:

The Eastern Watershed Improvement Project (EWIP) is a stormwater retrofit project to improve water quality treatment and provide additional flood protection. The project also includes creation of wildlife habitat and passive recreation opportunities.

Five Environmental Resource Permit (ERP) applications have been submitted for the overall EWIP project. Four applications are modifications to existing permits and one application is for a new permit. Improvements west of US-1 have been authorized by a new general permit (application No. 100322-14, Permit No. 56-03089-P, EWIP - Howard Creek Stormwater Treatment Area). The Lennard Square Stormwater Retrofit is a modification of Permit No. 56-01745-P (application no. 100322-7). The overall EWIP project, which is the subject of this application (application no. 100322-15), is a modification of the Lennard Road permit (Permit No. 56-01501-P). Since the EWIP project includes area outside of the boundary of Permit No. 56-01501-P, the modifications in these areas will be documented as letter modifications to the East Port St. Lucie Project (application no. 100323-6, Permit No. 56-00038-S) and Midport (application no. 100323-8, Permit No. 56-00274-S).

Please see the basin and structure maps Exhibit 2.3 and the following summary of each of the primary components of the EWIP projects including those being authorized under other applications. The proposed projects within the Eastport and Midport basins will provide additional storage and improve hydraulic efficiency and redundancy for these two pumped basins. The Cane Slough and Elks STA's provide additional storage in the Howard Creek basin east of US-1 prior to discharging into the Lennard Square STA. The Lennard Square STA project provides additional storage east of US-1 in the Howard Creek Basin and improves hydraulic efficiency for flows crossing US-1 from east to west prior to reaching the Howard Creek STA, Howard Creek and ultimately the North Fork of the St Lucie River.

EWIP (Application No. 100322-15, this application):

Blackwell Pump Station and Calais Street Pipe: Addition of a back up (fourth) pump to provide back-up capacity for the existing Blackwell Reservoir Pump Station (not to exceed 135,000 gpm / 300 cfs), and removal of the culvert inter-connect between the Eastport Phase 1/Tiffany and the Eastport Phase 2/Blackwell Drainage Basins. This culvert is to be removed and the canal plugged at Calais Street within the existing County Line ditch.

Tiffany Pump Station Improvement: Addition of a back up (fourth) pump to provide back-up capacity for the existing Tiffany Pump Station, (not to exceed 90,000 gpm/200 cfs) regrading/widening of the existing 13 acre pump station entrance channel, and replacement of existing culverts crossing Grand Drive with a

concrete box culvert and headwalls.

Village Green Drive at City Center: The replacement and upsizing of the Midport Drainage Basin primary outfall structure and associated culverts under Village Green Drive.

Loutus STA and inter-connect: Construction of an STA detention pond, installation of a new pump system between the Eastport Phase 1 & 2 Drainage Basins, and installation of a pressurized storm main from the new pump system to the Blackwell Reservoir.

Cane Slough/Elks STA: The construction of a wetland mitigation area and an STA detention pond (Cane Slough/Elks Parcels) and three smaller STA detention ponds (Mary, Patio & Leithgow Parcels) to provide additional storage north of the intersection of Cane Slough Road and Lennard Road, and additional culverts to improve the drainage characteristics of this area.

Lennard Square (Application No. 100322-7):

Lennard Square STA: Construction of a wetland mitigation area and an STA detention pond, retrofitting of the existing control structure in Lennard Road, regrading of the County Line ditch to improve hydraulic efficiency and improve flows to the existing US-1 box culverts south of the Lennard Road/US-1 intersection and installation of additional storm structures and piping to direct stormwater into the existing County Line ditch.

The EWIP projects as currently designed includes improvements in the Lennard Square project (application no. 100322-7). The proposed improvements require the release of conservation easements and acquisition of additional easements. While this is expected to be accomplished, in the event that it is not the EWIP project has been analyzed without the Lennard Square component. The analysis demonstrates that the EWIP project meets District criteria with or without the Lennard Square project. The water quality treatment volumes, peak flows, and flood stages are reported with and without the Lennard Square component of EWIP. No modification of this permit (EWIP) will be required if the Lennard Square component is approved in the configuration currently submitted.

Howard Creek (Application No. 100322-14, issued July 6, 2010):

Howard Creek Stormwater Treatment Area (STA): The construction of a 19-acre STA and re-alignment of the existing Howard Creek channel to the center of the platted drainage right-of-way for the area immediately downstream from the STA.

Bur Street STA: Installation of culverts and ditches for the Giffen Avenue neighborhood, the installation of larger culverts and inlets under Westmoreland Boulevard and Pyramid Road in the B-34 Canal, and construction of a 3.7 acre STA located east of Bur Street to provide additional stormwater storage and treatment volume.

This project also includes nuisance and exotic vegetation removal and shoaling removal from the existing natural creek channel, which was permitted and authorized by The US Army Corps of Engineers (ACOE) and the Florida Department of Environmental Protection (FDEP).

WATER QUANTITY :

Discharge Rate :

The applicant's engineer has provided an analysis demonstrating that the peak flow rate to Howard Creek, North Fork of the St Lucie River, and the Savannas resulting from the 25 year 3 day storm will decrease over the historical peak flow rate. Please see the pre vs.post design storm summary tables

Exhibit 2.1 for additional detail.

The Lennard Square component (application 100322-14) is not being issued concurrently with this application. The pre vs. post design storm summary tables without the Lennard Square component are included as Exhibit 2.2.

WATER QUALITY :

No adverse water quality impacts are anticipated as a result of the proposed project. The project is designed to improve the water quality entering Howard Creek and ultimately the North Fork of the St. Lucie River from an existing urban area.

The proposed EWIP components will provide the following additional water quality treatment:

Lennard Square STA = 8.27 ac-ft
Elks-Cane Slough STAs= 10.23 ac-ft
Howard Creek STA = 18.44 ac-ft

The previous construction authorizations within the Lennard Road right-of-way were authorized as a net improvement to an existing roadway system. The proposed stormwater management system will meet or exceed current District water quality treatment criteria.

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

Future development may not rely upon the water quality treatment being provided in the proposed system to meet District permitting requirements. Any proposed development or re-development in the basins shall provide water quality treatment and storm attenuation in accordance with District permit requirements in place at the time of the future permit issuance. (See Special Conditions).

WETLANDS:

Wetland Impacts:

The site contains four wetland areas, shown on Exhibit 3. The Leithgow STA contains one 0.67 acre isolated marsh wetland which will be directly impacted by the proposed project. The marsh wetland is surrounded by residential homes with a ditch located on the north side and Leithgow street to the east. The vegetation in the marsh is comprised mostly of exotic plant species including downy rose myrtle, melaleuca, and torpedo grass with a limited number of native sedge and grass species.

There are two mixed forested wetlands, 1.04 and 0.11 acres, on the Elks/Cane Slough STA site. The wetland areas are adjacent to each other, however there is no hydrologic connection between the two as a result of past hydrologic impacts from drainage activities. The vegetation in both wetlands consists of a thick Brazilian pepper overstory, cabbage palms, and a few scattered bay trees. Both wetlands will be directly impacted by the proposed project.

A 0.60 acre isolated marsh wetland exists on the Lotus STA site. The average elevation in this wetland is about 2 to 2.5 feet lower than the adjacent upland areas and is comprised of melaleuca, torpedo grass, and various native sedges and rushes. The wetland will be directly impacted by the project.

Mitigation Proposal:

Mitigation for the proposed wetland impacts includes the creation of a 5.32-acre wetland within the larger 11.85-acre Elks-Cane Slough STA (see Exhibit 4). Approximately 4.07 acres of the mitigation area will be planted with marsh vegetation and 1.25 acres will be planted with cypress trees serving as tree islands. The STA is designed to allow water quality treatment to take place in the deep sump area and in the south end of the STA before water enters the mitigation area. In addition, a 1.36 acre natural upland buffer/preserve area will surround the wetland mitigation area to provide habitat support and prevent secondary impacts. Supplemental native plantings will be installed in the upland preserve after removal of exotic/nuisance vegetation and in accordance with Exhibit 5.

The mitigation plan includes clearing and scraping down existing wetlands and uplands and then planting a diverse array of marsh plant species at 0-2 feet below the proposed control elevation of 6.0 NAVD as shown in Exhibit 4. Cypress trees will be planted in tree islands serving as the forested component of the mitigation area to provide habitat for wildlife and roosting opportunities for wading birds. The ground elevation for the tree islands will be 6.0 NAVD. Before installation of the mitigation plants, approximately 12 inches of top soil will be added to the mitigation area to help in the establishment of the plants. Please refer to Exhibit 2 for the construction plan and cross-sections showing the top soil and elevation contours in the Elks-Cane Slough mitigation area.

Preserve signs will also be installed around the perimeter of the mitigation area designating its preserve status. Please see Exhibit 6 for the location of the signs.

The onsite mitigation was scored using the Unified Mitigation Assessment Method (UMAM), as shown in the wetland inventory tables below. Overall, the proposed mitigation functional gain (1.58 UMAM functional units) will offset the proposed wetland impacts functional loss (-0.76 UMAM functional units) for the project. The proposed mitigation will result in an excess equaling an additional 0.82 herbaceous functional units. The UMAM score sheets for the wetland impacts and mitigation area can be found in the permit file.

The applicant has requested to use this project as mitigation for their Floresta Drive Segment 1 project (application 080912-4). That project includes a functional loss of 0.33 functional units.

The remaining 0.49 herbaceous functional units generated by this project may potentially be used for other city projects in the future. Use of functional units will be determined on a case-by-case basis and is contingent upon the proposed impacts meeting all other permitting requirements such as elimination and reduction of impacts, cumulative impacts analysis and appropriateness of the mitigation type and is also contingent on this project remaining in compliance and obtaining a successful outcome.

Monitoring/Maintenance:

Monitoring will be conducted for five years with annual reports sent to the District in accordance with the work schedule attached as Exhibit 8. The monitoring and maintenance methodology is discussed in Exhibit 6. Monitoring will include vegetative cover, hydrologic monitoring and success of the mitigation area, as well as wildlife usage and recommendations for maintenance work. The wetland mitigation and upland preserve areas will be maintained at less than 5% cover by exotic and nuisance species within the preservation area. In addition, all planted areas will achieve 80% survival after the first year and 80% cover by desirable wetland species by year two. All maintenance will be conducted in perpetuity by the applicant.

Wetland Inventory :**CONSTRUCTION MOD -EWIP ELKS - CANE SLOUGH MITIGATION**

Site Id	Site Type	Pre-Development				Post-Development						
		Pre Fluc cs	AA Type	Acreage (Acres)	Current Wo Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj Delta	Functional Gain / Loss
UP	ON	411	Preservation	1.36								
W-A fore	ON	411	Restoration/Creation	1.25	.00	.67	16 - 20	2.00		621	.199	.249
W-A ma	ON	411	Restoration/Creation	4.07	.00	.70	3	2.00		641	.327	1.331
Total:				6.68								1.58

Wetland Inventory :**CONSTRUCTION MOD -EWIP IMPACTS**

Site Id	Site Type	Pre-Development				Post-Development						
		Pre Fluc cs	AA Type	Acreage (Acres)	Current Wo Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj Delta	Functional Gain / Loss
elks	ON	630	Direct	1.04	.30						-.300	-.312
elks 2	ON	630	Direct	.11							.000	.000
leithgow	ON	641	Direct	.67	.33						-.330	-.221
loutus	ON	641	Direct	.60	.37						-.370	-.222
Total:				2.42								-.76

Wetland Inventory :**CONSTRUCTION MOD -FLORESTA DRIVE SEG 1 080912-4**

Site Id	Site Type	Pre-Development				Post-Development						
		Pre Fluc cs	AA Type	Acreage (Acres)	Current Wo Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj Delta	Functional Gain / Loss
FLOR	OFF	641	Direct	.63	.53	.00					-.530	-.334
Total:				.63								-.33

<u>Fluc cs Code</u>	<u>Description</u>
411	Pine Flatwoods
411	Pine Flatwoods - Hydric
411	Pine Flatwoods - Upland
621	Cypress
630	Wetland Forested Mixed
641	Freshwater Marshes

Wildlife Issues:

Wading birds, some of which are listed as threatened or endangered species, may use the isolated marsh wetlands for foraging. The proposed mitigation area will provide suitable habitat for roosting and foraging and will increase available habitat in this area as a result of being larger than the isolated marsh wetlands being impacted. Therefore, adverse impacts to these species are not anticipated.

The upland portions of the project site contain gopher tortoises, a Species of Special Concern. Gopher tortoise burrows may support commensal species such as gopher frogs and eastern indigo snakes, which are also listed species. The applicant is coordinating with the Florida Fish and Wildlife Conservation Commission for the required permits.

This permit does not relieve the applicant from complying with all applicable rules and any other agencies' requirements if, in the future, other endangered/threatened species or species of special concern are discovered on the site.

LEGAL ISSUES:

A passive recreational conservation easement will be recorded over the wetlands, upland preservation areas and upland buffers within the project as shown on Exhibit 7. A mulched nature trail will be constructed for recreational activities in the upland preserve area as shown in Exhibit 5. The executed conservation easement must be recorded and copies submitted to the District's Compliance staff in accordance with the work schedule (Exhibit 8).

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 will not be necessary for the project.

The applicant has indicated that dewatering is required for construction of this project. Water Use dewatering application number 100323-18 is being processed concurrently with this application.

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 by the project

Waste Water System/Supplier:

Wastewater service is not required by the project

Right-Of-Way Permit Status:

A District Right-of-Way Permit is not required for this project.

DRI Status:

This project is not a DRI.

Historical/Archeological Resources:

The District has received correspondence from the Florida Department of State, Division of Historical Resources indicating that the agency has no objections to the issuance of this permit.

DCA/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

Third Party Interest:

The District received an e-mail from Mr. Chuck Olson of Bluefield Mitigation Bank on June 18, 2010 objecting to the mitigation proposed by the applicant. Mr. Olson's concerns are regarding the appropriateness of the applicant's use of onsite mitigation for this and other city projects as opposed to the use of offsite mitigation at a mitigation bank. District staff met with Mr. Olsen at the Martin/St. Lucie Service Center on June 9, 2010 to discuss his concerns.

Mr. George Jones (Indian Riverkeeper) contacted District staff on behalf of the St. Lucie County Conservation Alliance to express concerns regarding the preservation of large oak trees on the two Lennard Square parcels (Application 100322-7). District staff met with Mr. Jones on June 24, 2010 and explained that the two parcels were previously approved for development prior to being purchased by the

City of Port St Lucie. The Lennard Square EWIP project (100322-7) proposes to construct a wetland and a wet detention pond on the west parcel and place a conservation easement over the wetlands and uplands on the east parcel. Mr. Jones also inquired as to whether the parcels were purchased with Florida's Community Trust (FCT) funds. District staff confirmed that the property was not purchased with FCT funds and the warranty deeds do not include any FCT deed restrictions.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF RECOMMENDATION TO EXECUTIVE DIRECTOR:

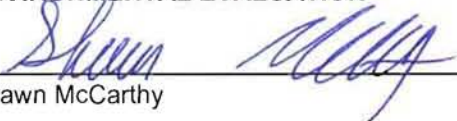
The Staff recommends that the following be issued :

Construction and operation modification of a surface water management system to serve a 4,545 acre project known as Eastern Watershed Improvement Project.

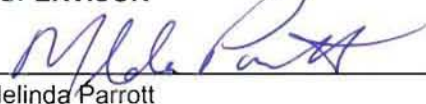
Based on the information provided, District rules have been adhered to.

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

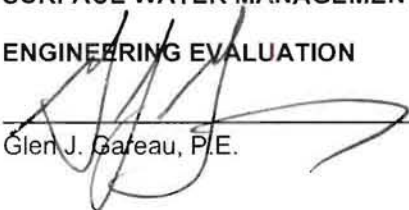
STAFF REVIEW:**NATURAL RESOURCE MANAGEMENT APPROVAL****ENVIRONMENTAL EVALUATION**


Shawn McCarthy

SUPERVISOR


Melinda Parrott

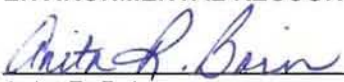
SURFACE WATER MANAGEMENT APPROVAL**ENGINEERING EVALUATION**


Glen J. Gareau, P.E.

SUPERVISOR

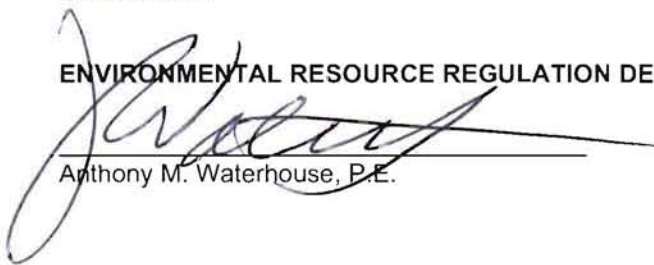

Hugo A. Carter, P.E.

ENVIRONMENTAL RESOURCE PERMITTING DIVISION DIRECTOR :


Anita R. Bain

DATE: 8/12/10

ENVIRONMENTAL RESOURCE REGULATION DEPUTY DEPARTMENT DIRECTOR :


Anthony M. Waterhouse, P.E.

DATE: 8/18/10

GENERAL CONDITIONS

1. All activities authorized by this permit shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall constitute a violation of this permit and Part IV, Chapter 373, F.S.
2. This permit or a copy thereof, complete with all conditions, attachments, exhibits, and modifications shall be kept at the work site of the permitted activity. The complete permit shall be available for review at the work site upon request by District staff. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.
3. Activities approved by this permit shall be conducted in a manner which does not cause violations of State water quality standards. The permittee shall implement best management practices for erosion and pollution control to prevent violation of State water quality standards. Temporary erosion control shall be implemented prior to and during construction, and permanent control measures shall be completed within 7 days of any construction activity. Turbidity barriers shall be installed and maintained at all locations where the possibility of transferring suspended solids into the receiving waterbody exists due to the permitted work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. All practices shall be in accordance with the guidelines and specifications described in Chapter 6 of the Florida Land Development Manual; A Guide to Sound Land and Water Management (Department of Environmental Regulation, 1988), incorporated by reference in Rule 40E-4.091, F.A.C. unless a project-specific erosion and sediment control plan is approved as part of the permit. Thereafter the permittee shall be responsible for the removal of the barriers. The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.
4. The permittee shall notify the District of the anticipated construction start date within 30 days of the date that this permit is issued. At least 48 hours prior to commencement of activity authorized by this permit, the permittee shall submit to the District an Environmental Resource Permit Construction Commencement Notice Form Number 0960 indicating the actual start date and the expected construction completion date.
5. When the duration of construction will exceed one year, the permittee shall submit construction status reports to the District on an annual basis utilizing an annual status report form. Status report forms shall be submitted the following June of each year.
6. Within 30 days after completion of construction of the permitted activity, the permittee shall submit a written statement of completion and certification by a professional engineer or other individual authorized by law, utilizing the supplied Environmental Resource/Surface Water Management Permit Construction Completion/Certification Form Number 0881A, or Environmental Resource/Surface Water Management Permit Construction Completion Certification - For Projects Permitted prior to October 3, 1995 Form No. 0881B, incorporated by reference in Rule 40E-1.659, F.A.C. The statement of completion and certification shall be based on onsite observation of construction or review of as-built drawings for the purpose of determining if the work was completed in compliance with permitted plans and specifications. This submittal shall serve to notify the District that the system is ready for inspection. Additionally, if deviation 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. Both the original and revised specifications must be clearly shown. The plans must be clearly labeled as "as-built" or "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.
7. The operation phase of this permit shall not become effective: until the permittee has complied with the requirements of condition (6) above, and submitted a request for conversion of Environmental Resource Permit from Construction Phase to Operation Phase, Form No. 0920; the District determines the system to be in compliance with the permitted plans and specifications; and the entity

GENERAL CONDITIONS

approved by the District in accordance with Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, accepts responsibility for operation and maintenance of the system. The permit shall not be transferred to such approved operation and maintenance entity until the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District, the permittee shall initiate transfer of the permit to the approved responsible operating entity if different from the permittee. Until the permit is transferred pursuant to Section 40E-1.6107, F.A.C., the permittee shall be liable for compliance with the terms of the permit.

8. Each phase or independent portion of the permitted system must be completed in accordance with the permitted plans and permit conditions prior to the initiation of the permitted use of site infrastructure located within the area served by that portion or phase of the system. Each phase or independent portion of the system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the phase or portion of the system to a local government or other responsible entity.
9. For those systems that will be operated or maintained by an entity that will require an easement or deed restriction in order to enable that entity to operate or maintain the system in conformance with this permit, such easement or deed restriction must be recorded in the public records and submitted to the District along with any other final operation and maintenance documents required by Sections 9.0 and 10.0 of the Basis of Review for Environmental Resource Permit applications within the South Florida Water Management District, prior to lot or units sales or prior to the completion of the system, whichever comes first. Other documents concerning the establishment and authority of the operating entity must be filed with the Secretary of State, county or municipal entities. Final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system and any other permit conditions.
10. Should any other regulatory agency require changes to the permitted system, the permittee shall notify the District in writing of the changes prior to implementation so that a determination can be made whether a permit modification is required.
11. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40E-4 or Chapter 40E-40, F.A.C..
12. The permittee is hereby advised that Section 253.77, F.S. states that a person may not commence any excavation, construction, or other activity involving the use of sovereign or other lands of the State, the title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund without obtaining the required lease, license, easement, or other form of consent authorizing the proposed use. Therefore, the permittee is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereignty lands or other state-owned lands.
13. 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(3), F.A.C., also known as the "No Notice" Rule.
14. 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, alteration, operation, maintenance, removal,

GENERAL CONDITIONS

abandonment or use of any system authorized by the permit.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding, unless a specific condition of this permit or a formal determination under Section 373.421(2), F.S., provides otherwise.
16. The permittee shall notify the District in writing within 30 days of any sale, conveyance, or other transfer of ownership or control of a permitted system or the real property on which the permitted system is located. All transfers of ownership or transfers of a permit are subject to the requirements of Rules 40E-1.6105 and 40E-1.6107, F.A.C.. The permittee transferring the permit shall remain liable for corrective actions that may be required as a result of any violations prior to the sale, conveyance or other transfer of the system.
17. Upon reasonable notice to the permittee, District authorized staff with proper identification shall have permission to enter, inspect, sample and test the system to insure conformity with the plans and specifications approved by the permit.
18. If historical or archaeological artifacts are discovered at any time on the project site, the permittee shall immediately notify the appropriate District service center.
19. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on August 23, 2015.
2. Operation of the surface water management system shall be the responsibility of the permittee.
3. Discharge Facilities:

Basin: Eastport

1-60 ft wide SHARP CRESTED weir with crest at elev. 11.5 ft NAVD.

Receiving body: Howard Creek via US-1 Box Culverts

Basin: Howard Creek (Lennard Road)

1-3 ft wide SHARP CRESTED weir with crest at elev. 9.5 ft NAVD.

Receiving body: Elk Cane Slough STA

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 flooding conditions.
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.
12. The permittee acknowledges that, pursuant to Rule 40E-4.101(2), F.A.C., a notice of Environmental Resource or Surface Water Management Permit may be recorded in the county public records. Pursuant to the specific language of the rule, this notice shall not be considered an encumbrance upon the property.
13. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historical Resources, Review and Compliance Section at (850) 245-6333 or (800)

SPECIAL CONDITIONS

847-7278, as well as the appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources. In the event that unmarked human remains are encountered during permitted activities, all work shall stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

14. Water quality treatment provided by the project authorized under this permit application is for the use of the area defined in the application as a retrofit and cannot be applied to new development that may discharge to the project authorized under this permit application.
15. Prior to the commencement of construction, the permittee shall conduct a pre-construction meeting with field representatives, contractors and District staff. The purpose of the meeting will be to discuss construction methods and sequencing, including type and location of turbidity and erosion controls to be implemented during construction, mobilization and staging of contractor equipment, phasing of construction, methods of vegetation clearing, construction dewatering if required, ownership documentation for eminent domain authority, coordination with other entities on adjacent construction projects, wetland/buffer protection methods, endangered species protection with the permittee and contractors. The permittee shall contact District Environmental Resource Compliance staff from the Martin St Lucie Service Center at (772) 223-2600 to schedule the pre-construction meeting.
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. 56-01501-P unless otherwise specified herein.
17. Prior to the commencement of construction activities on the site, the permittee shall provide all necessary permanent and temporary construction easements and submit a copy of the easement(s) to the District's Environmental Resource Compliance staff in the service center where the permit application was processed.
18. Permanent physical markers designating the preserve status of the wetland preservation areas and buffer zones shall be placed at the locations shown in Exhibit 6. These markers shall be maintained in perpetuity.
19. A mitigation program for the Elks-Cane Slough Mitigation Area shall be implemented in accordance with Exhibit No. 4. The permittee shall create 5.32 acres of marsh and forested wetlands and preserve a total of 6.68 acres of wetlands/ upland compensation areas.
20. A monitoring program shall be implemented in accordance with Exhibit No. 6. The monitoring program shall extend for a period of 5 years with annual reports submitted to District staff. At the end of the first monitoring period the mitigation area shall contain an 80% survival of planted vegetation. The 80% survival rate shall be maintained throughout the remainder of the monitoring program, with replanting as necessary. If native wetland, transitional, and upland species do not achieve an 80% coverage within the initial two years of the monitoring program, native species shall be planted in accordance with the maintenance program. At the end of the 5 year monitoring program the entire mitigation area shall contain an 80% survival of planted vegetation and an 80% coverage of desirable obligate and facultative wetland species.
21. A maintenance program shall be implemented in accordance with Exhibit No. 6 for the preserved upland and created wetland areas on a regular basis to ensure the integrity and viability of those areas as permitted. Maintenance shall be conducted in perpetuity to ensure that the conservation areas are maintained free from Category 1 exotic vegetation (as defined by the Florida Exotic Pest Plant Council at the time of permit issuance) immediately following a maintenance activity. Maintenance in perpetuity shall also insure that conservation areas, including buffers, maintain the species and coverage of native, desirable vegetation specified in the permit. Coverage of exotic and nuisance plant species shall not exceed 5% of total cover between maintenance activities. In addition, the permittee shall manage the conservation areas such that exotic/nuisance plant species

SPECIAL CONDITIONS

do not dominate any one section of those areas.

22. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
23. Prior to commencement of construction and in accordance with the work schedule in Exhibit 8 the permittee shall submit an electronic or hard copy version of the certified copy of the recorded conservation easement for the mitigation area and associated buffer. The electronic version of the recorded conservation easement, and associated GIS information described below, shall be submitted via the District's ePermitting/eCompliance website. The GIS data shall be supplied in a digital ESRI Geodatabase (mdb), ESRI Shapefile (shp) or AutoCAD Drawing Interchange (dxf) file format using Florida State Plane coordinate system, East Zone (3601), Datum NAD83, HARN with the map units in feet. A map depicting the Conservation Easement over the best available satellite or aerial imagery shall also be provided. If the information is provided via hard copy the GIS data shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted.

The recorded easement shall utilize the form attached as Exhibit 7. Any proposed modification to the approved form must receive prior written consent from the District. The easement must be free of encumbrances or interests in the easement which the District determines are contrary to the intent of the easement. In the event it is later determined that there are encumbrances or interests in the easement which the District determines are contrary to the intent of the easement, the permittee shall be required to provide release or subordination of such encumbrances or interests.

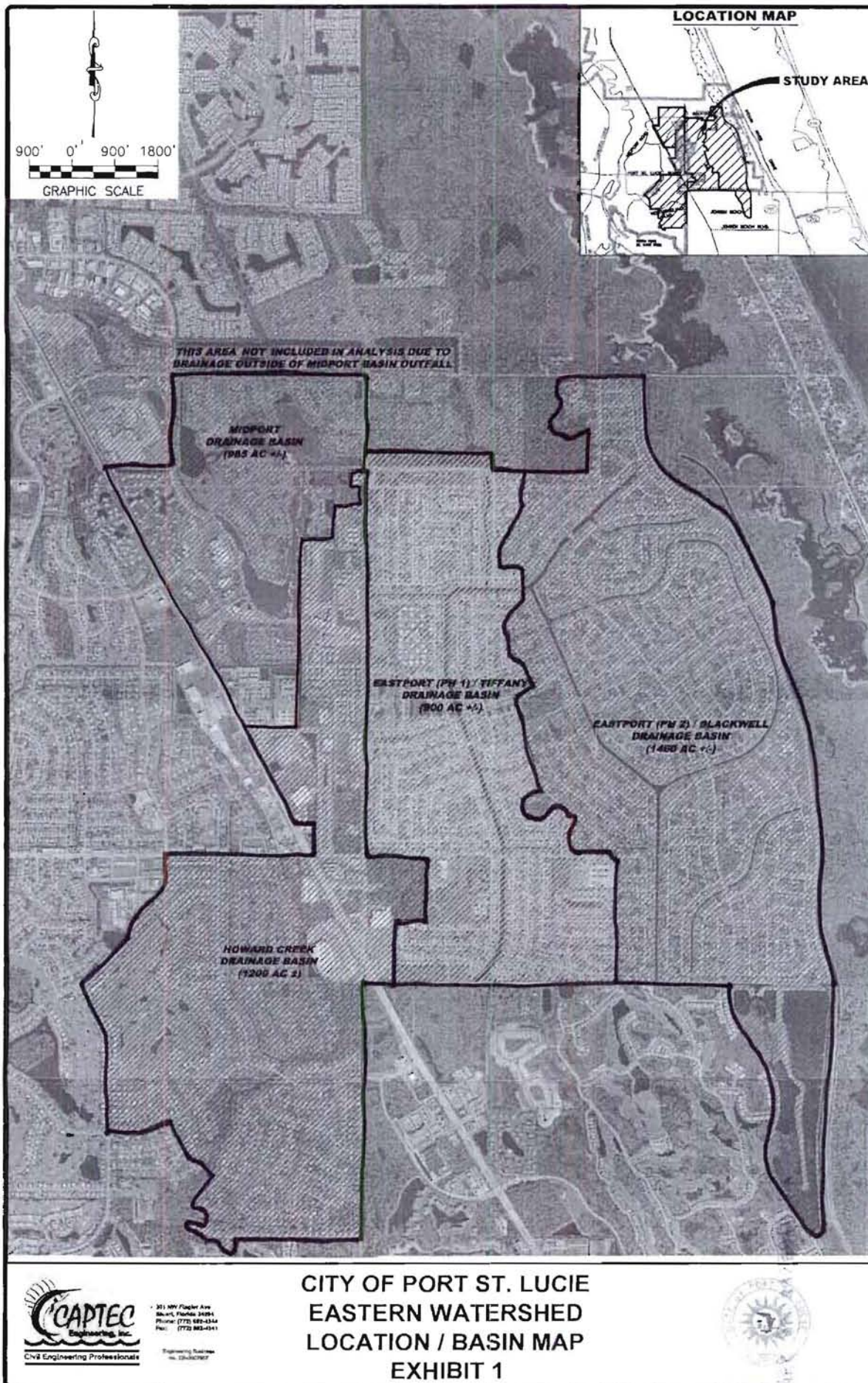
24. Activities associated with the implementation of the mitigation, monitoring and maintenance plan shall be completed in accordance with the work schedule attached as Exhibit No. 8. Any deviation from these time frames will require prior approval from the District's Environmental Resource Compliance staff. Such requests must be made in writing and shall include (1) reason for the change, (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.
25. Success of the mitigation activities proposed herein is heavily dependent on proper grading to achieve the design ground elevations necessary to recruit the expected vegetation or to sustain the proper hydrology for the targeted vegetation communities. The permittee shall submit as-built topography of the proposed mitigation area prior to planting. The permittee shall correct any deficiencies in the project grade within 14 days of being notified of such deficiencies by District staff.
26. 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.
27. The remaining 0.49 herbaceous functional units generated by this project may potentially be used for other city projects in the future. Use of functional units will be determined on a case-by-case basis and is contingent upon the proposed impacts meeting all other permitting requirements such as elimination and reduction of impacts, cumulative impacts analysis and appropriateness of the mitigation type and is also contingent on this project remaining in compliance and obtaining a successful outcome. A letter modification will be required to deduct the functional units from this permit.
28. The following exhibits for the permit are incorporated by reference herein and are located in the permit file. In addition, these exhibits can be viewed on the District's ePermitting website under this application number.

AMENDED 06/26/2010 15:49 1A

SPECIAL CONDITIONS

Exhibit Nos 2.1 and 2.2 Summary of Pre-Improved and Post Basin Analysis

SCANNED 08/26/2019 17:46:44



**CONSTRUCTION PLANS AND SPECIFICATIONS
OF
EASTERN WATERSHED
IMPROVEMENT PROJECT (EWIP)
STORMWATER RETROFIT
FOR
CITY OF PORT ST. LUCIE
LYING IN
SEC. 6-7 & 12-13, TWP. 37 S., RNG. 40-41 E.
ST. LUCIE COUNTY, FLORIDA**

NOTE: THESE PLANS ARE IN ENGLISH UNITS

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE
STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION:

DESIGN STANDARDS DATED 2010.

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE
CONSTRUCTION DATED 2007.

THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN,
CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS
(GREENBOOK) DATED MAY, 2007.



LOCATION MAP



CITY OFFICIALS

MAYOR
VICE MAYOR
COUNCILWOMAN
COUNCILMAN
COUNCILWOMAN

INTERIM CITY MANAGER
CITY ENGINEER

PATRICIA P. CHRISTENSEN
JACK KELLY
MICHELLE BERGER
CHRISTOPHER COOPER
LINDA BARTZ

JERRY BENTROTT
PATRICIA ROEBLING, P.E.

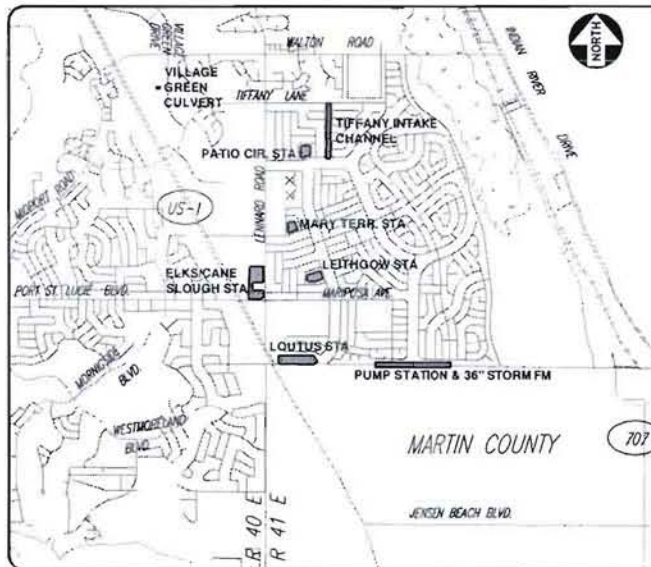
ENGINEER

MR. JOSEPH W. CAPRA, P.E.
CAPTEC ENGINEERING, INC.
301 NW FLAGLER AVENUE, STE. 201
STUART, FLORIDA 34994
PHONE: (772) 692-4344
FAX: (772) 692-4341
P.E. NO. 37638



Civil Engineering Professionals

Engineering Business
No. EB-5007937



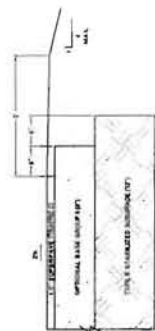
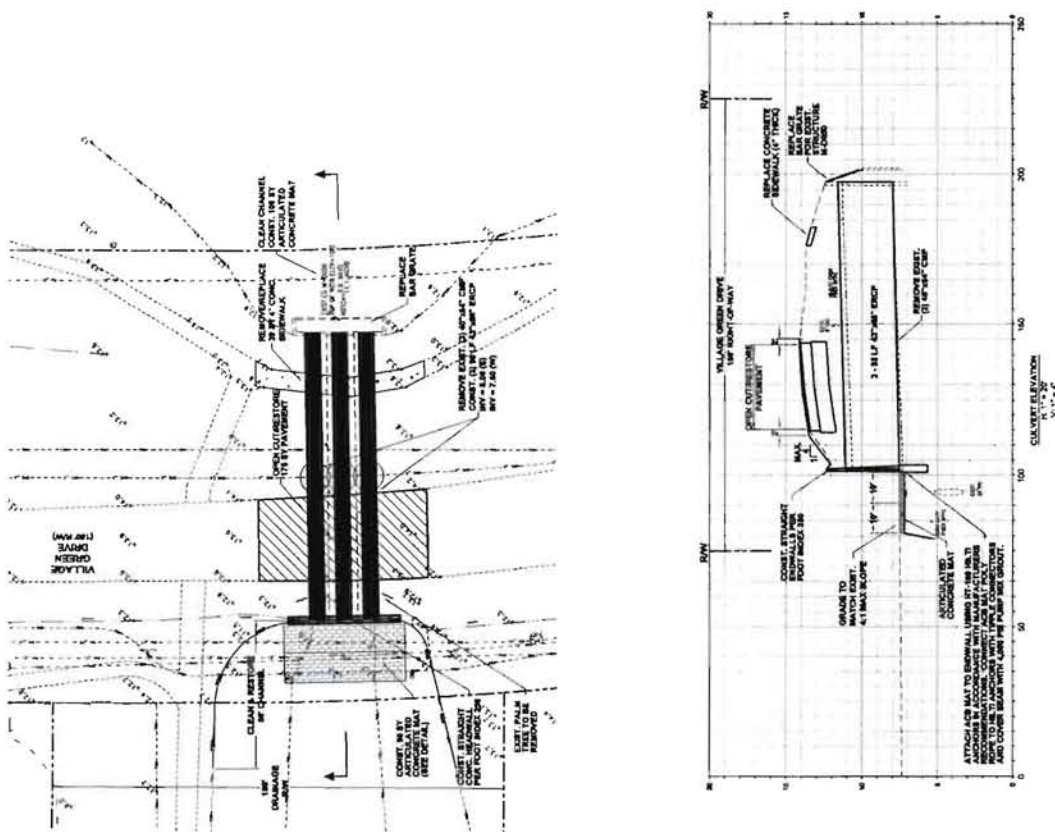
VICINITY MAP

SHEET INDEX

SHEET NUMBER	SHEET TITLE/DESCRIPTION
1	COVER SHEET
2	PLAN KEY
3	VILLAGE GREEN CULVERT
4 - 5	TIFFANY INTAKE CHANNEL WIDENING
6	PATIO CIRCLE STA
7	MARY TERRACE STA
8	LEITHGOW STA
9	ELKS/CANE SLOUGH STA
10	CANE SLOUGH ROAD/LENNARD ROAD CULVERT
11	LOUTUS STA
12	LOUTUS STA SECTIONS
13	U.S. 1 BOX CULVERT
14	DETAILS
15	GENERAL NOTES
D1 - D6	CLEARING, EROSION CONTROL & DEWATERING PLAN
PS01 - PS06	PUMP STATION / 36" STORM PRESSURE MAIN PLAN AND PROFILE

PROJECT NO. 801.18A EWIP STORMWATER RETROFIT





CRITICAL PATH METHOD (CPM)

TEMPORARY BENCHMARK
X-11
ELEV = 1033 NAVD

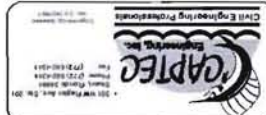
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ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1885 (NAVD 85) UNLESS OTHERWISE SPECIFIED. ADD 1.48 TO ALL ELEVATIONS TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM (NOVD 29).

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VERIFICATION

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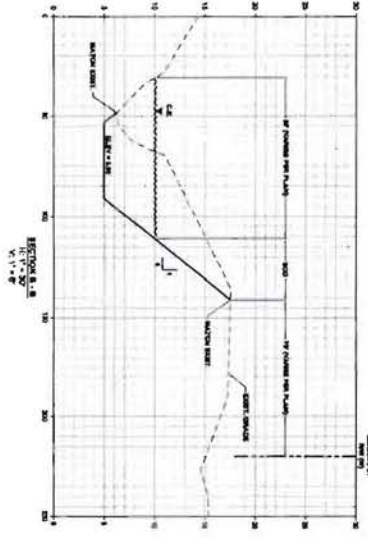
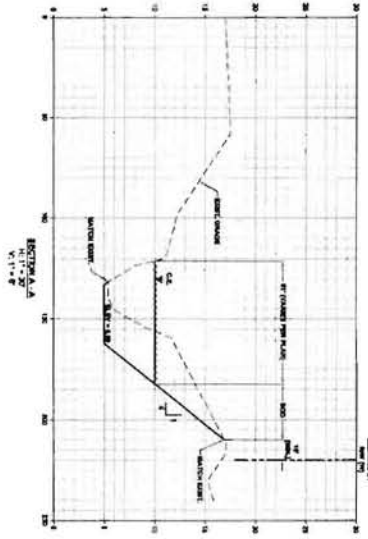
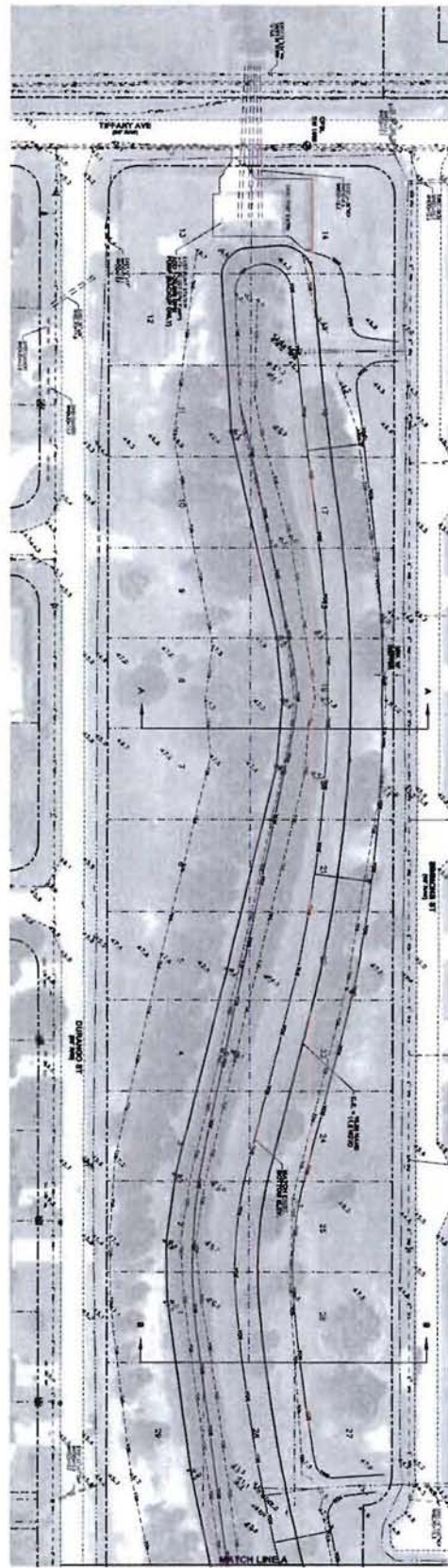
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10/12/10	BOB JONES
10/13/10	ALICE BROWN
10/14/10	CHARLIE WHITE
10/15/10	DAVID BLACK
10/16/10	EVE GREEN
10/17/10	FRANK BLUE
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12/31/10	CHARLIE TIN



**EASTERN WATERSHED IMPROVEMENT
PROJECT STORMWATER RETROFIT
CITY OF PORT ST LUCIE, FLORIDA
VILLAGE GREEN CULVERT**

Joseph W. Caura
41 N.W. Flagler Ave., Box 203
Stuart, Florida 34994
P.E. No. 27528

JOE M.D. 801.18A
SHEET
1 of 1



- LEGEND**
- Light Gray: Existing Channel
 - Dark Gray: Proposed Channel
 - White: Existing Pump Station
 - Black: Proposed Pump Station
 - Blue: Existing Utilities
 - Red: Proposed Utilities
 - Green: Existing Landscaping
 - Yellow: Proposed Landscaping
 - Orange: Existing Roadway
 - Purple: Proposed Roadway
 - Brown: Existing Topography
 - Pink: Proposed Topography
 - Light Blue: Existing Water
 - Dark Blue: Proposed Water

NOTE:
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EASTERN WATERSHED IMPROVEMENT PROJECT STORMWATER RETROFIT
 CITY OF PORT ST LUCIE, FLORIDA

TIFFANY INTAKE CHANNEL WIDENING
TIFFANT PUMP STATION

SCALE VERIFICATION

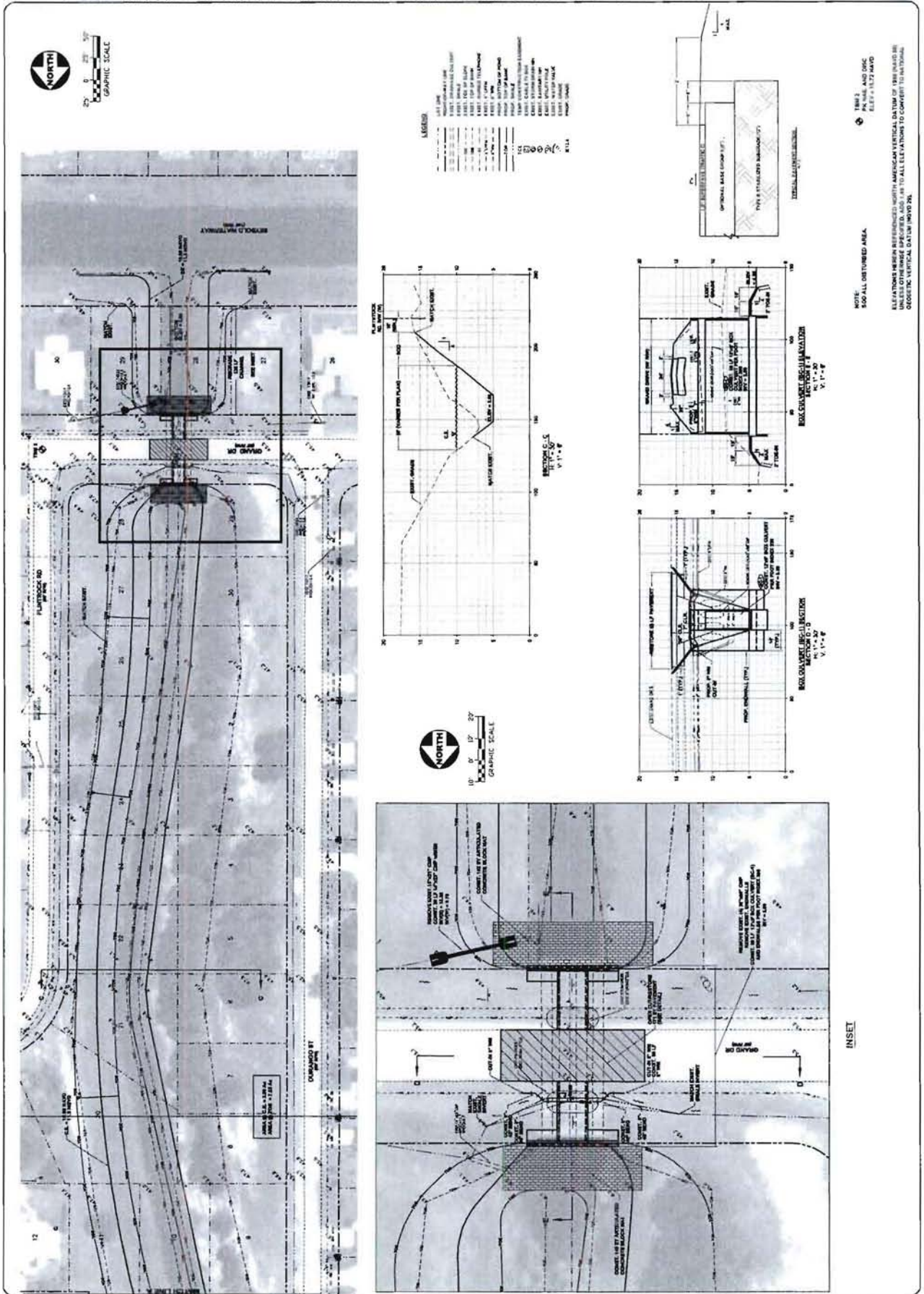
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REVISIONS

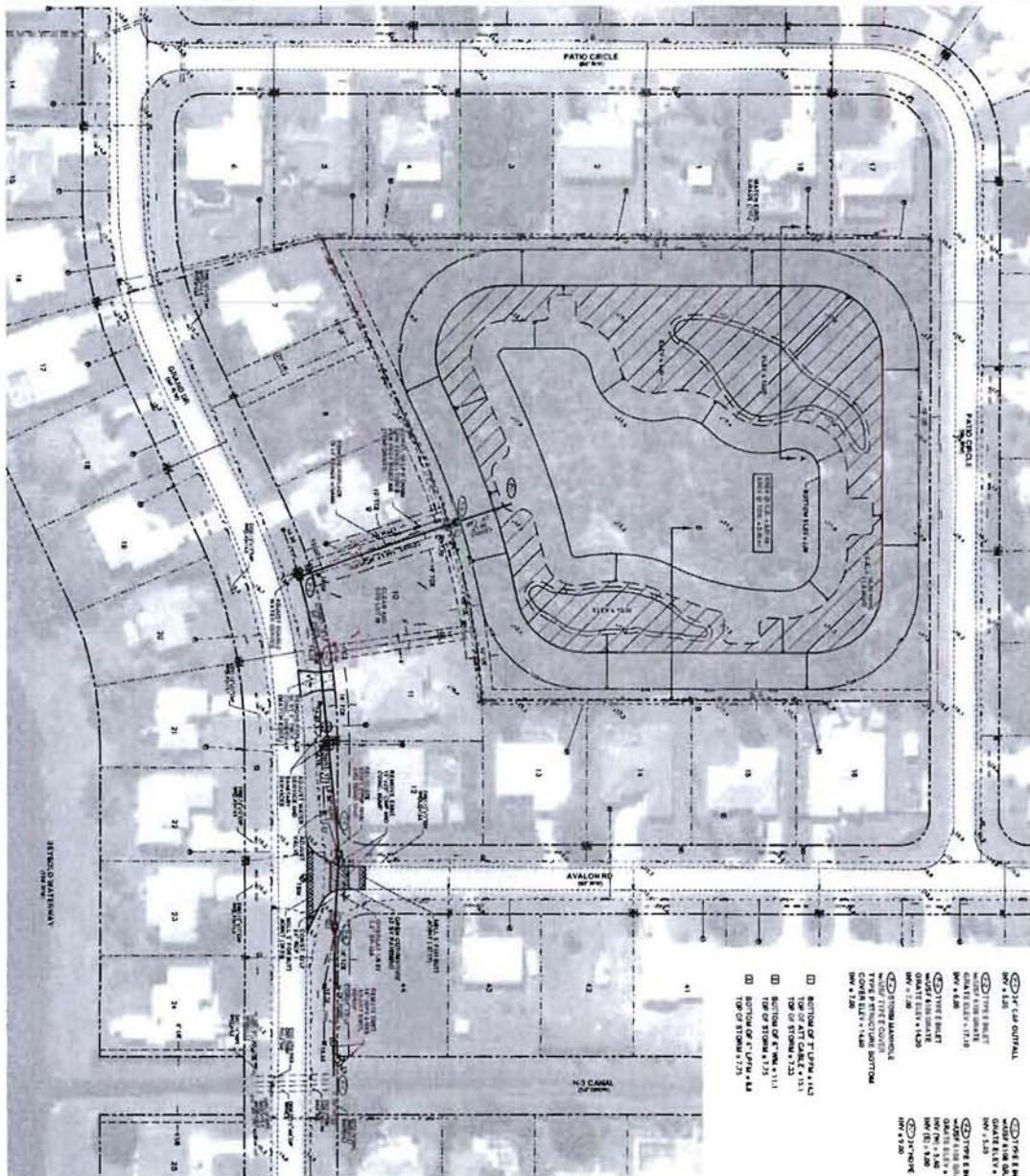
NO.	DATE	BY	REVISION
1	7/20/2010	MM	ISSUED FOR PERMIT

CAPTEC Engineering, Inc.
 Civil Engineering Professionals

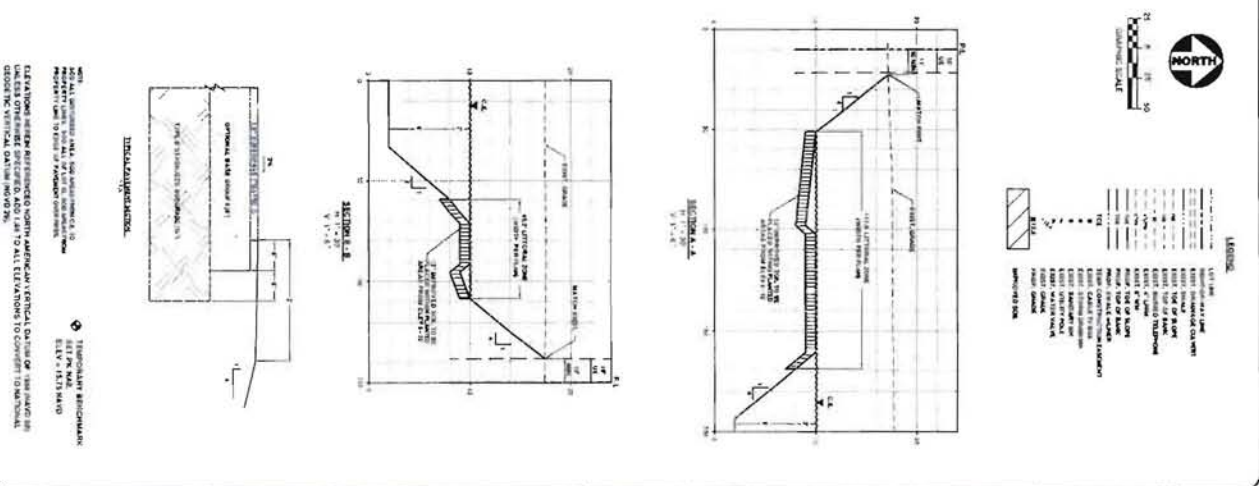
301 NW Douglas Ave., Ste. 201
 Clearwater, Florida 34616
 Phone: (772) 462-4344
 Fax: (772) 462-4344



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EASTERN WATERSHED IMPROVEMENT PROJECT STORMWATER RETROFIT
CITY OF PORT ST LUCIE, FLORIDA

PATIO CIRCLE STA

SCALE VERIFICATION

1" = 40'

DATE: 7/20/2010

BY: [Signature]

PROJECT NO: 100322-15

PROJECT NAME: EASTERN WATERSHED IMPROVEMENT PROJECT STORMWATER RETROFIT

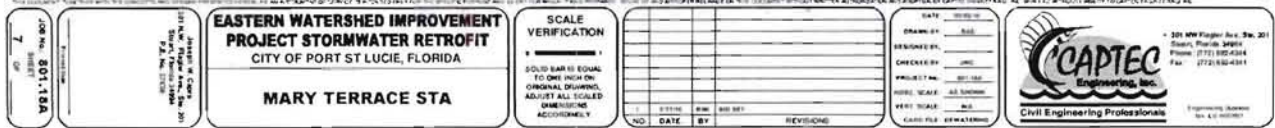
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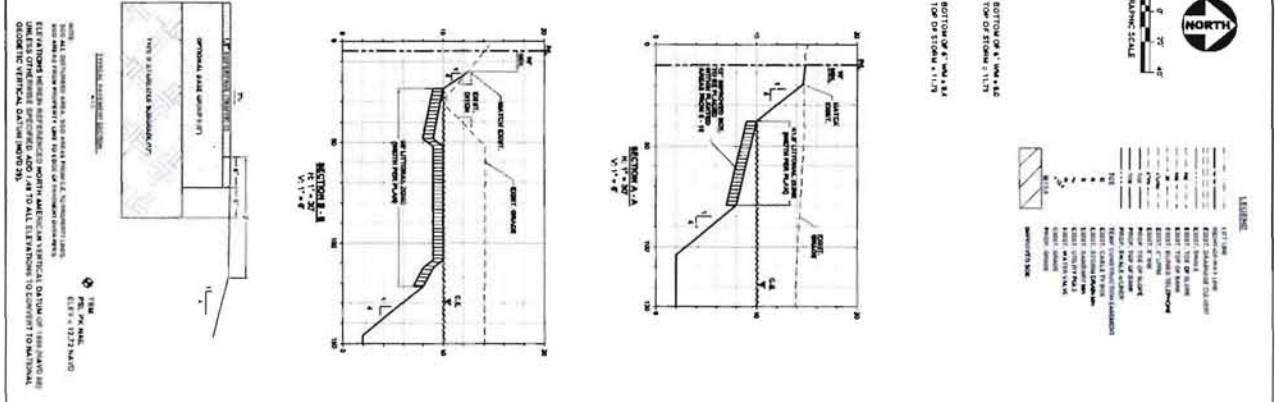
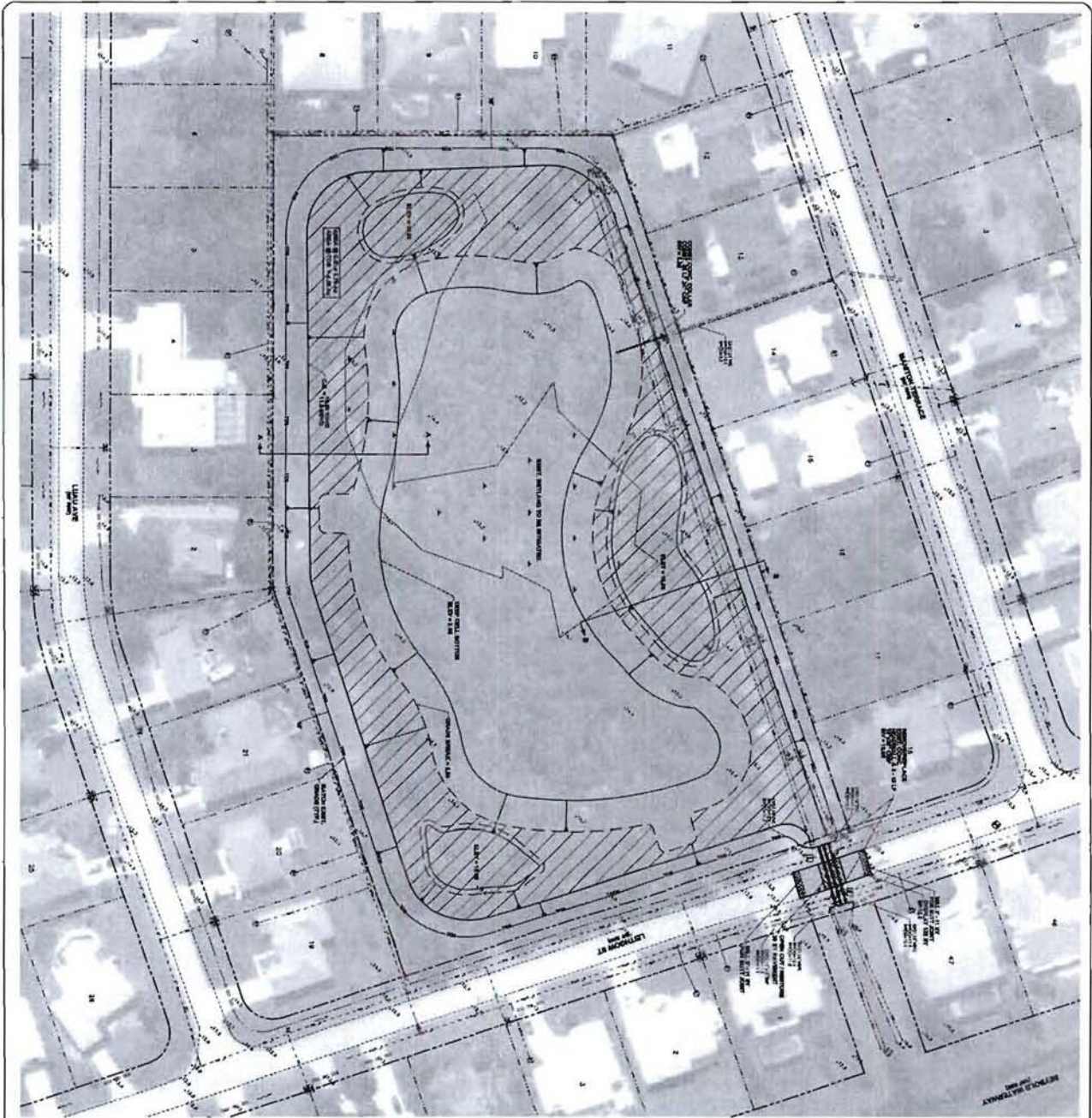
PROJECT OWNER: CITY OF PORT ST LUCIE, FLORIDA

PROJECT ENGINEER: CAPTEC ENGINEERING, INC.

CAPTEC
Engineering, Inc.
Civil Engineering Professionals

301 1st Floor, Suite 201
Port St Lucie, FL 34953
Phone: (772) 462-4344
Fax: (772) 462-4345





**EASTERN WATERSHED IMPROVEMENT
PROJECT STORMWATER RETROFIT
CITY OF PORT ST LUCIE, FLORIDA**

LEITHGOW STREETE STA

SCALE VERIFICATION

1" = 10' HORIZONTAL
1" = 1' VERTICAL

REVISIONS

NO.	DATE	BY	REVISIONS
1	7/20/10	MM	DESIGN

DATE 7/20/10

DESIGNED BY JMC

CHECKED BY JMC

PROJECT NO. 100322-15

WATER NAME STORMWATER

WATER TYPE STORMWATER

WATER SOURCE STORMWATER

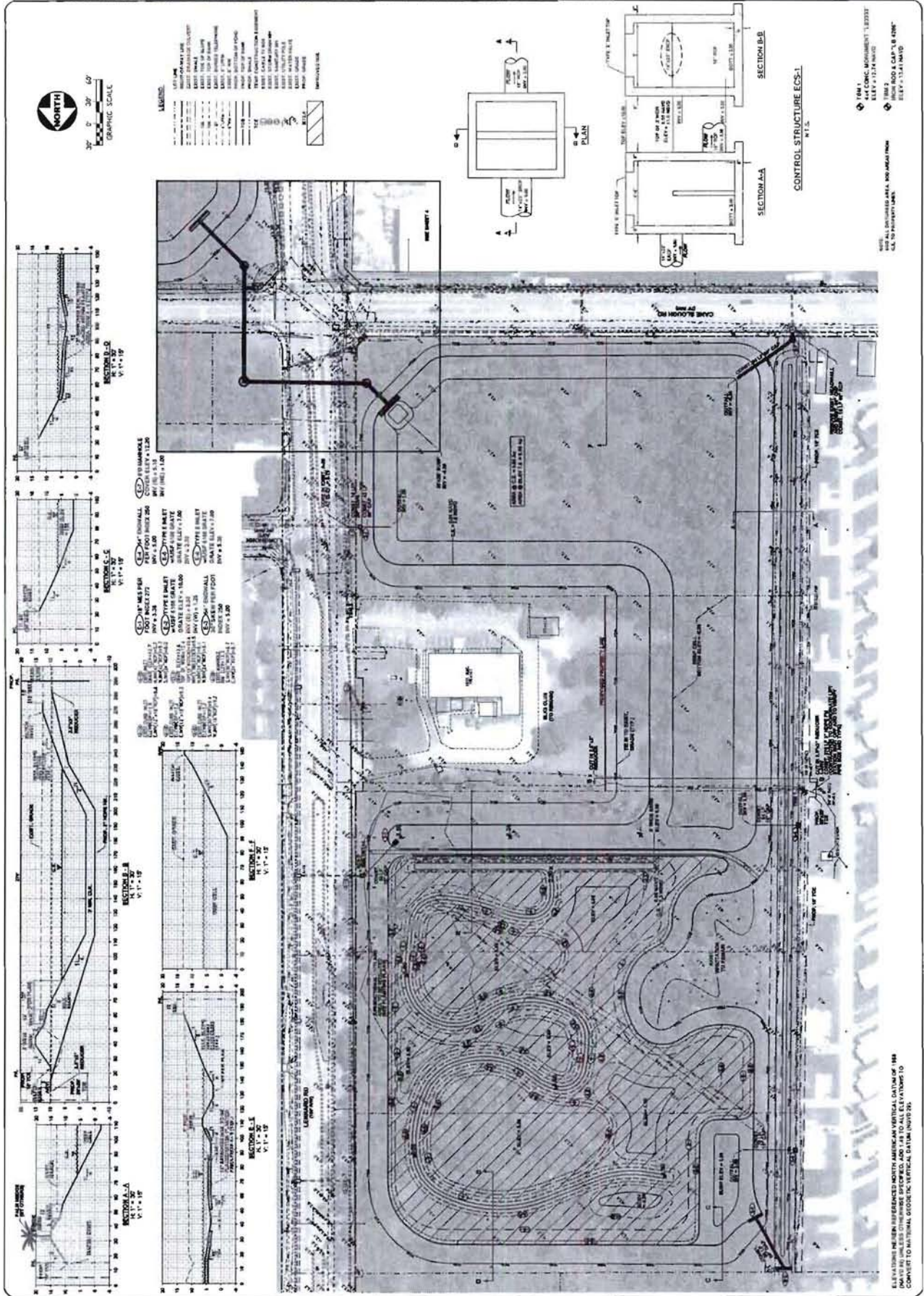
WATER DESTINATION STORMWATER

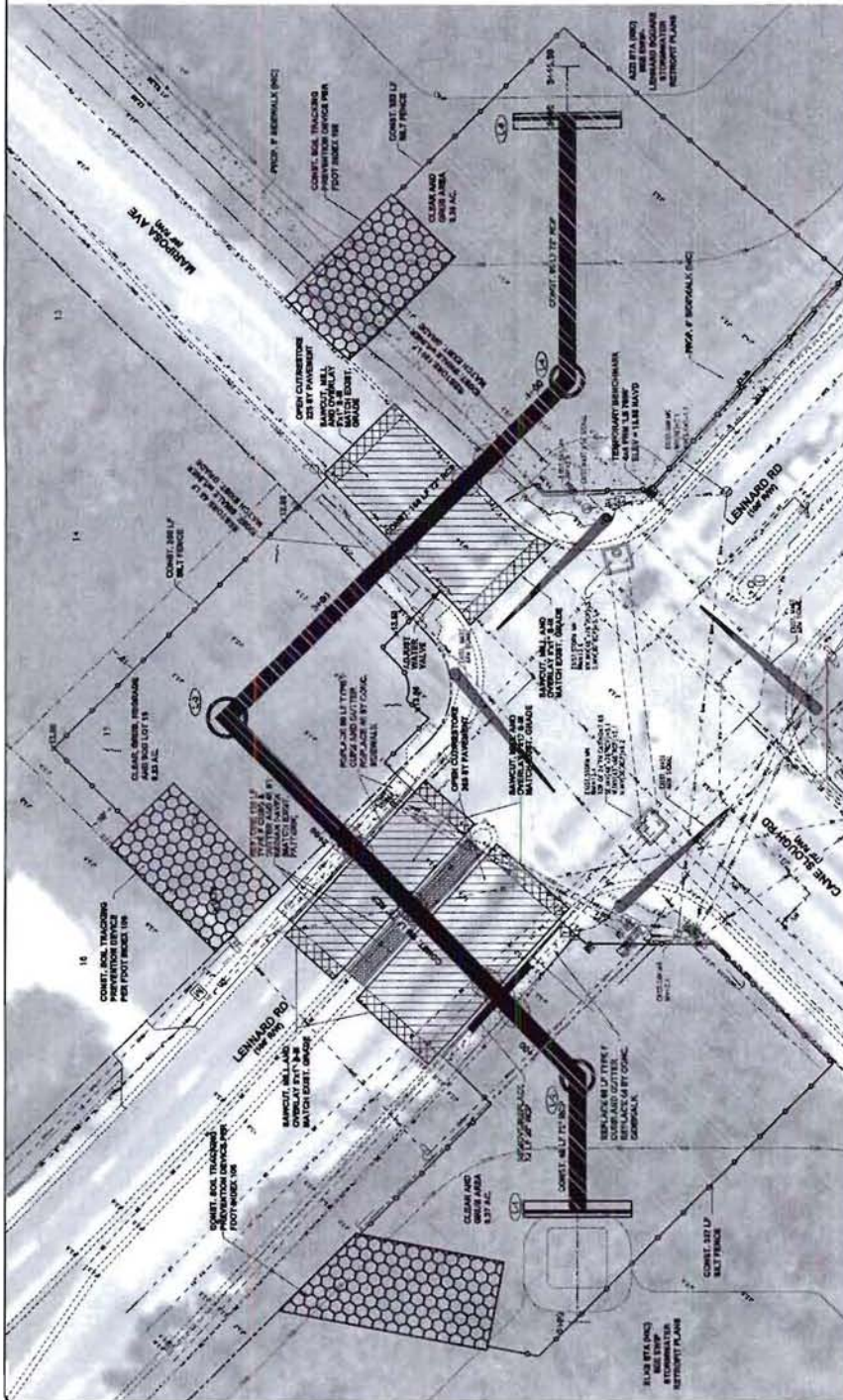
CAPTEC Engineering, Inc.

501 NW Frazier Ave., Ste. 201
Miami, Florida 33136
Phone: (772) 882-4384
Fax: (772) 882-4384

Civil Engineering Professionals

SCANNED 08/24/2010 15:48:43

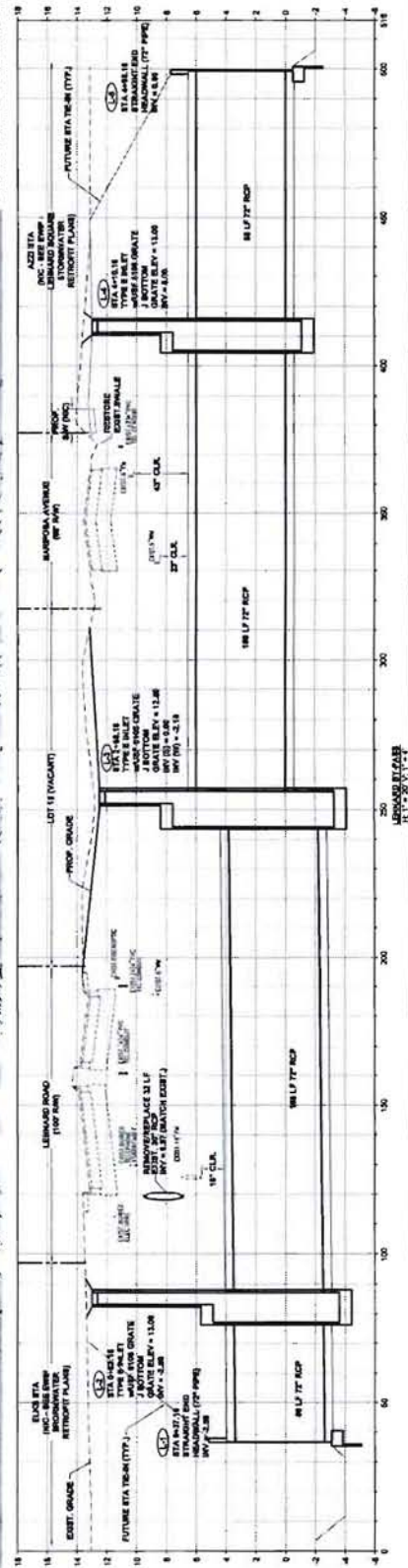


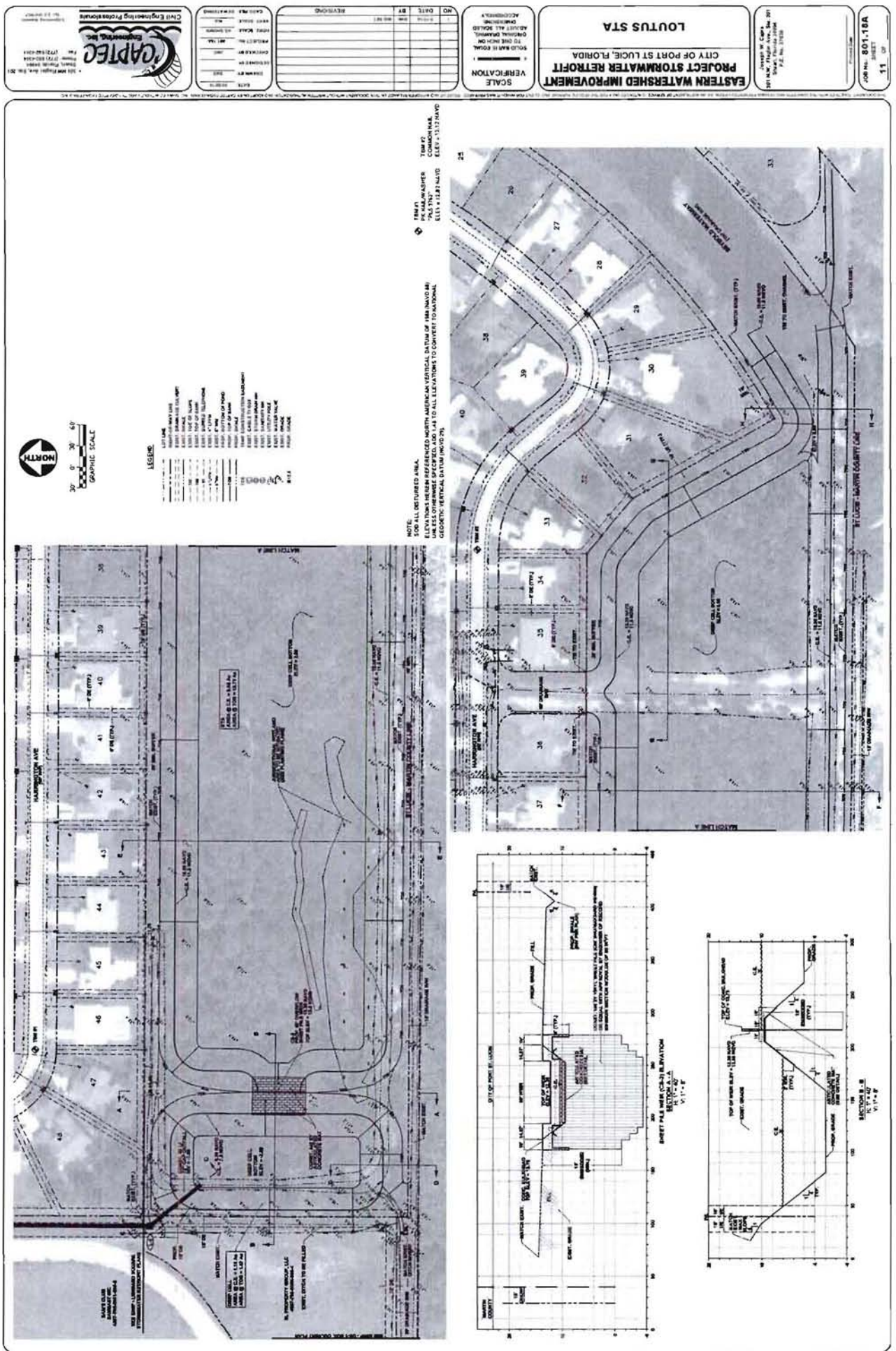


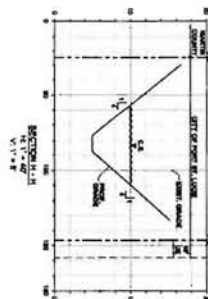
NOTES:

1. EXISTING UTILITIES TO BE RESTRAINED DURING CONSTRUCTION. COST TO THIS ITEM IS INCIDENTAL TO THIS PROJECT.
2. EXISTING MAINT ASHES TO BE PROTECTED. CONTRACTOR TO PROVIDE SHEETING/SHOULDER. COST TO THIS ITEM IS INCIDENTAL TO THIS PROJECT.
3. 500 LOT IS AND ALL DISTURBED AREAS.

ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UNLESS OTHERWISE SPECIFIED. ADD 1.48 TO ALL ELEVATIONS TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM (NGVD 88).







JOE M. 801.18A
SHEET
12 OF

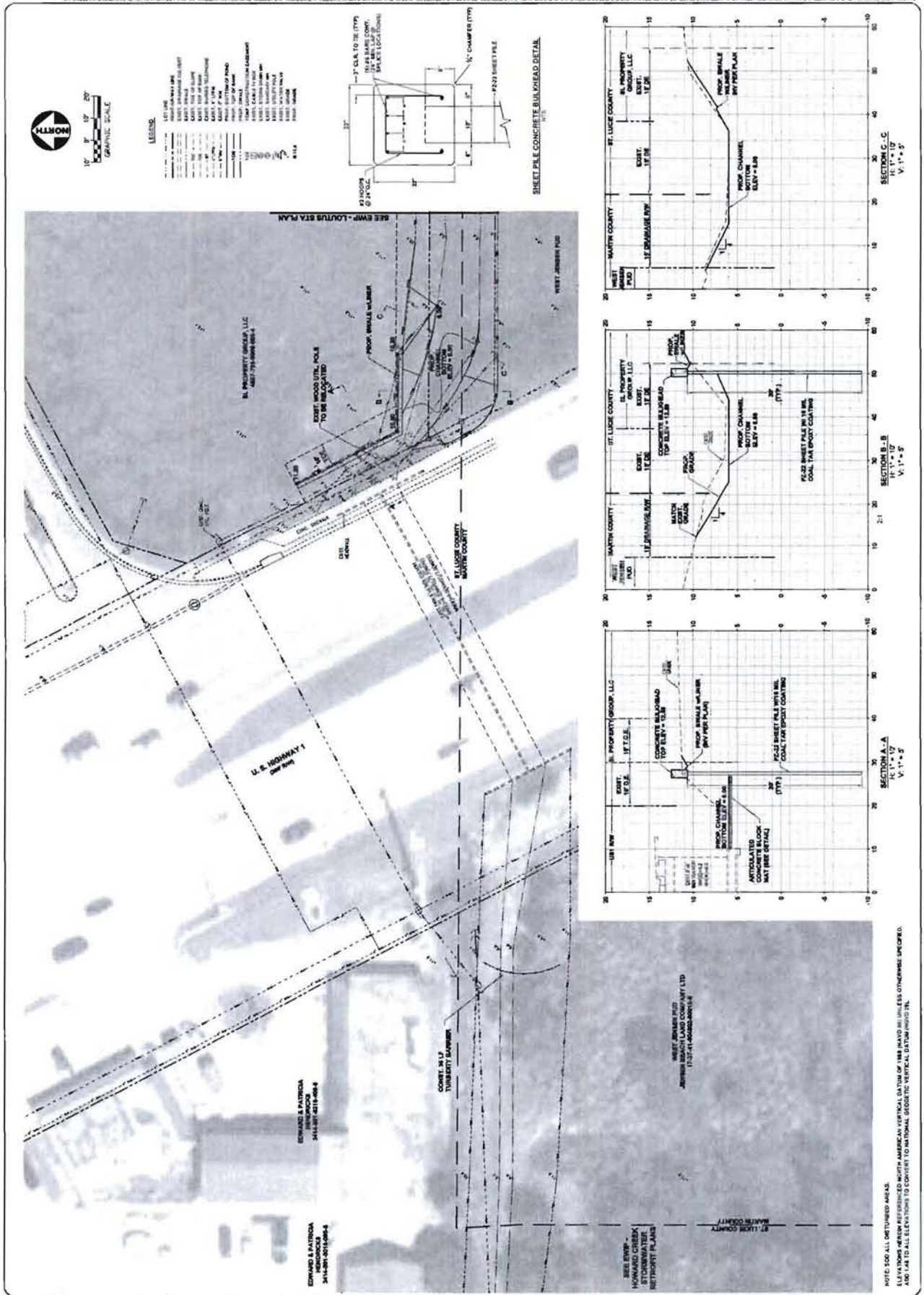
LOUTUS STA SECTIONS

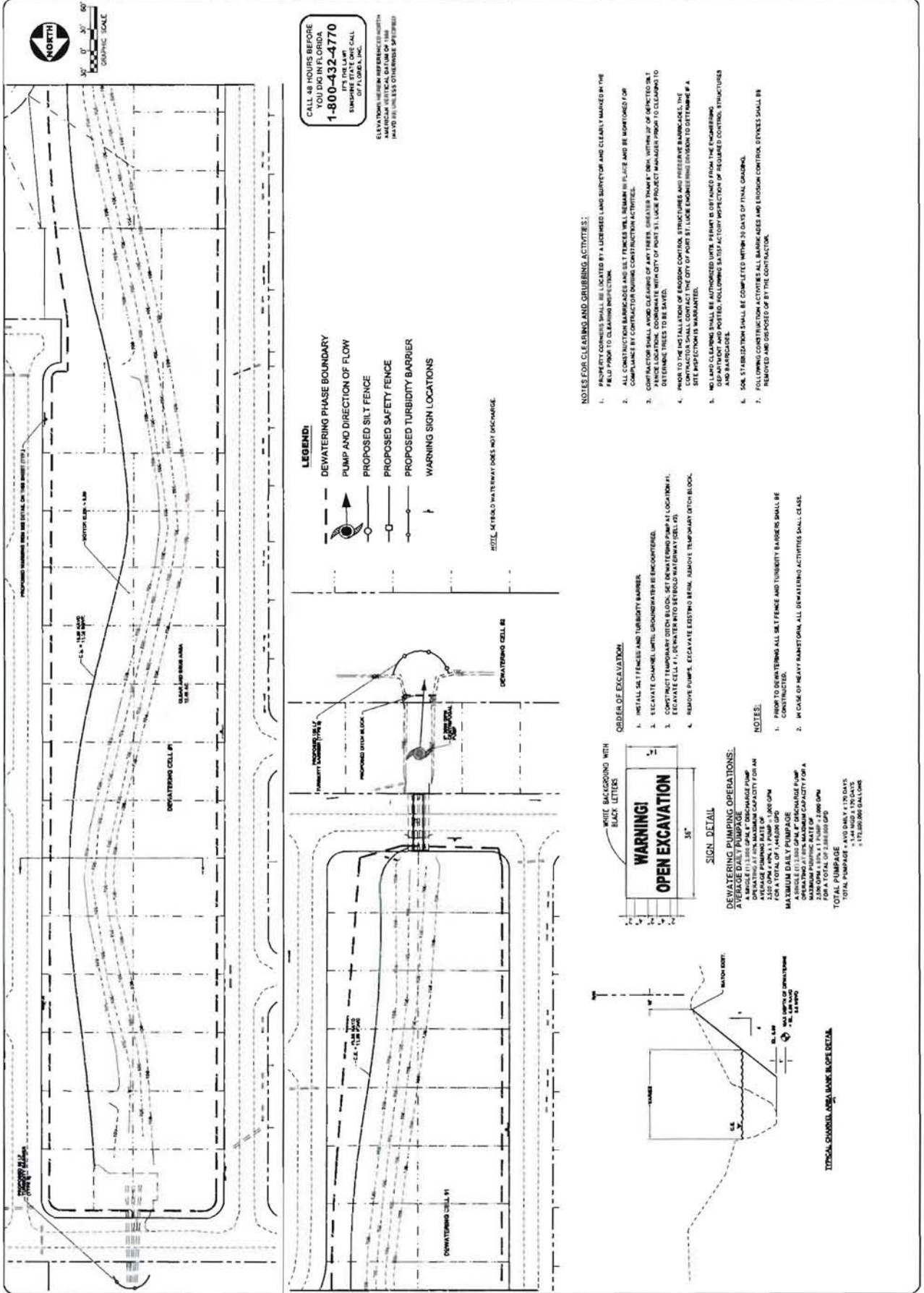
**SOLID BAR IS TOUGH
TO THE INCH ON
ORIGINAL DRAWING.
ADJUST ALL SCALED
DIMENSIONS**

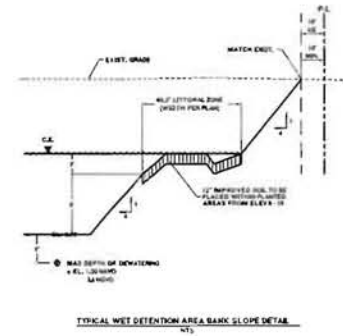
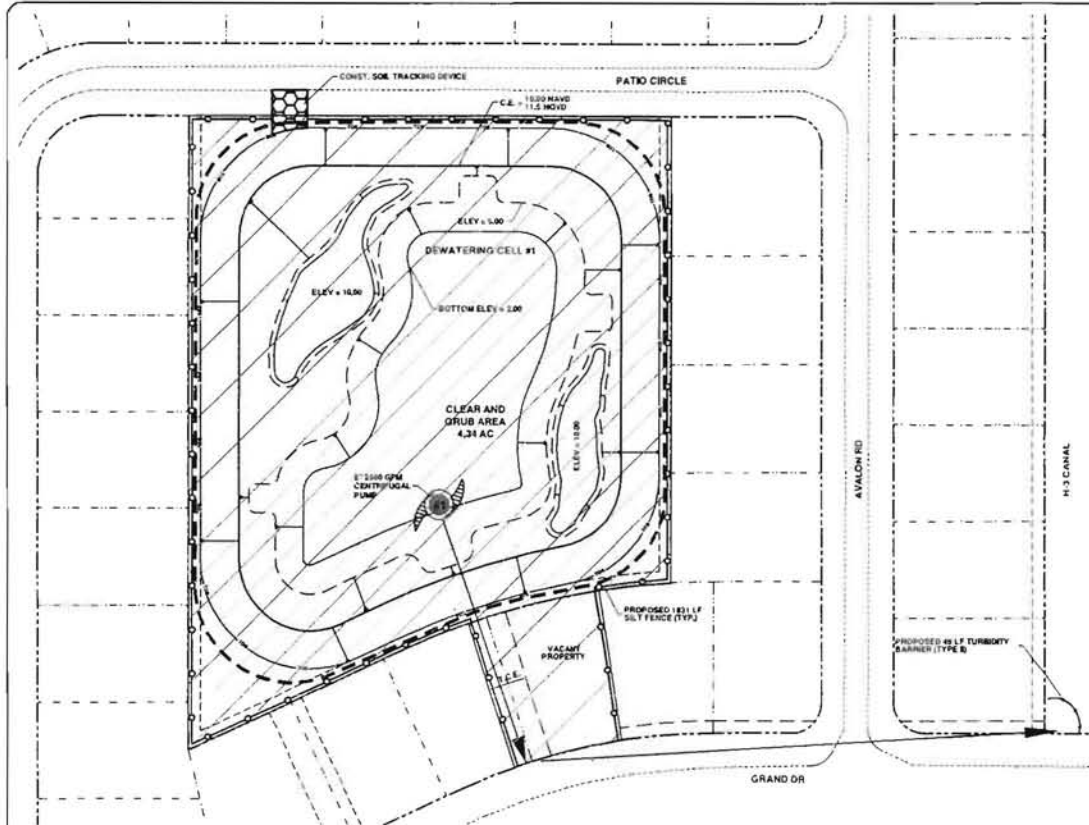
[illegible][illegible]

• 3201 HWY Flagler Ave., Ste. 201
Orlando, Florida 32804
Phone: (772) 680-4344
Fax: (772) 680-4344

Engineering Control







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FLORIDA STATE ONE CALL
OF FLORIDA, INC.

ORDER OF EXCAVATION

1. INSTALL SILT FENCES, TURBIDITY BARRIER AND SOIL TRACKING DEVICE. INSTALL UNDERGROUND SOCK DRAINS, IF USED.
2. EXCAVATE STA CELLS UNTIL GROUNDWATER IS ENCOUNTERED.
3. SET DEWATERING PUMP AT LOCATION #1. EXCAVATE CELL #1. DEWATER INTO H-3/SEYBOLD WATERWAY.
4. REMOVE PUMPS. RESTORE AND STABILIZE DISTURBED AREAS.

NOTES:

1. PRIOR TO DEWATERING ALL SILT FENCE AND TURBIDITY BARRIERS SHALL BE CONSTRUCTED.
2. THE WETLAND RECHARGE PUMP IS NOT PERFORMING ANY DEWATERING OPERATIONS AND IS ONLY UTILIZED TO MAINTAIN WATER IN THE WETLAND RECHARGE TRENCH.
3. IN CASE OF HEAVY RAINSTORM, ALL DEWATERING ACTIVITIES SHALL CEASE AND EXISTING DISCHARGE PATTERN SHALL BE RESTORED.

NOTES FOR CLEARING AND GRUBBING ACTIVITIES:

1. PROPERTY CORNERS SHALL BE LOCATED BY A LICENSED LAND SURVEYOR AND CLEARLY MARKED IN THE FIELD PRIOR TO CLEARING INSPECTION.
2. ALL CONSTRUCTION BARRICADES AND SILT FENCES WILL REMAIN IN PLACE AND BE MONITORED FOR COMPLIANCE BY CONTRACTOR DURING CONSTRUCTION ACTIVITIES.
3. CONTRACTOR SHALL AVOID CLEARING OF ANY TREES, GREATER THAN 8" DBH, WITHIN 20' OF DEPICTED SILT FENCE LOCATION. COORDINATE WITH CITY OF PORT ST. LUCIE PROJECT MANAGER PRIOR TO CLEARING TO DETERMINE TREES TO BE SAVED.
4. PRIOR TO THE INSTALLATION OF EROSION CONTROL STRUCTURES AND PRESERVE BARRICADES, THE CONTRACTOR SHALL CONTACT THE CITY OF PORT ST. LUCIE ENGINEERING DIVISION TO DETERMINE IF A SITE INSPECTION IS WARRANTED.
5. NO LAND CLEARING SHALL BE AUTHORIZED UNTIL PERMIT IS OBTAINED FROM THE ENGINEERING DEPARTMENT AND POSTED, FOLLOWING SATISFACTORY INSPECTION OF REQUIRED CONTROL STRUCTURES AND BARRICADES.
6. SOIL STABILIZATION SHALL BE COMPLETED WITHIN 30 DAYS OF FINAL GRADING.
7. FOLLOWING CONSTRUCTION ACTIVITIES ALL BARRICADES AND EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.

DEWATERING PUMPING OPERATIONS:

AVERAGE DAILY PUMPAGE

A SINGLE (1) 2500 GPM 8" DISCHARGE PUMP OPERATING AT 80% MAXIMUM CAPACITY FOR AN AVERAGE PUMPING RATE OF 2,000 GPM x 40% x 1 PUMP = 1,000 GPD FOR A TOTAL OF 1,000,000 GPD

MAXIMUM DAILY PUMPAGE

A SINGLE (1) 2500 GPM 8" DISCHARGE PUMP OPERATING AT 100% MAXIMUM CAPACITY FOR A MAXIMUM PUMPING RATE OF 2,500 GPM x 80% x 1 PUMP = 2,000 GPD FOR A TOTAL OF 2,000,000 GPD

TOTAL PUMPAGE

TOTAL PUMPAGE = AVG ONLY + 60 DAYS
= 1.44 MGD x 60 DAYS
= 86,400 GALLONS

ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UNLESS OTHERWISE SPECIFIED. ADD 1.48 TO ALL ELEVATIONS TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM (NGVD 29).

CAPTEC
CONSTRUCTION PROJECT MANAGEMENT

EASTERN WATERSHED IMPROVEMENT PROJECT STORMWATER RETROFIT CITY OF PORT ST. LUCIE, FLORIDA

PATIO CIRCLE STA CLEARING, EROSION CONTROL AND DEWATERING PLAN

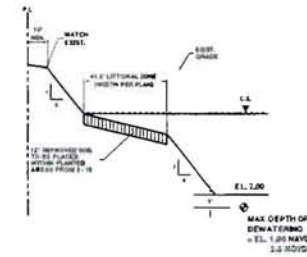
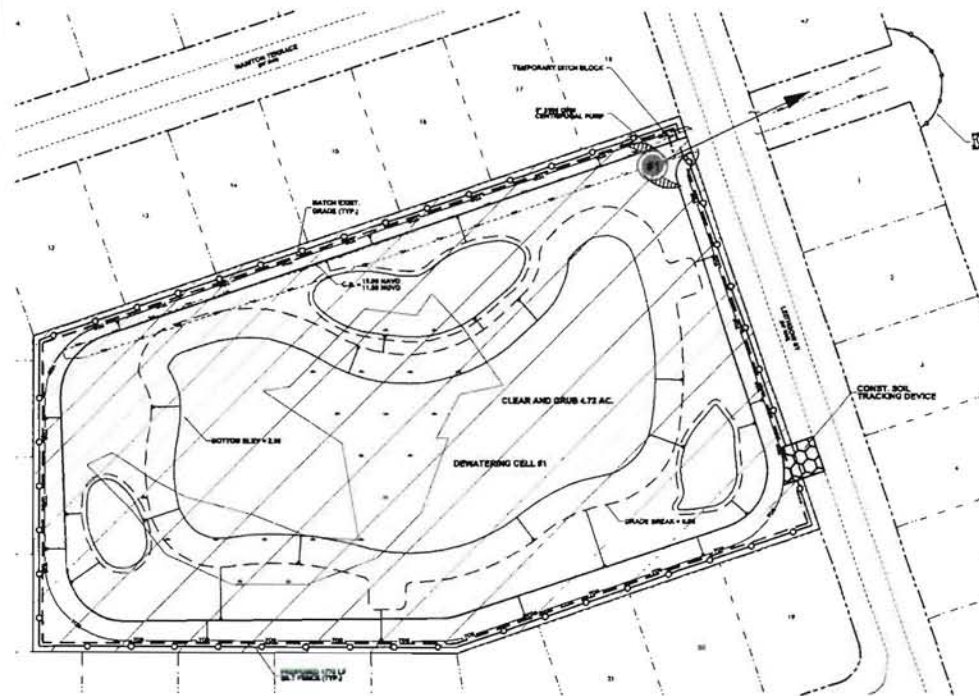
SCALE VERIFICATION

FIELD SITES EQUAL
ORIGINAL DRAWING
AS SHOWN
ACCURACY

JOSHUA W. CAPR
801 N.W. 11th Ave. Ste. 201
Fort Lauderdale, FL 33304
P.E. No. 37108

JOB NO. 801.18A
SHEET
D2 OF 6



**ORDER OF EXCAVATION**

1. INSTALL SILT FENCES, TURBIDITY BARRIER AND SOIL TRACKING DEVICE. INSTALL UNDERGROUND SOCK DRAINS, IF USED.
 2. EXCAVATE STA CELLS UNTIL GROUNDWATER IS ENCOUNTERED.
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SUNSHINE STATE ONE CALL
OF FLORIDA, INC.

DEWATERING PUMPING OPERATIONS:

AVERAGE DAILY PUMPAGE
A SINGLE (1) 3,500 GPM, 8" DISCHARGE PUMP
OPERATING AT 80% MAXIMUM CAPACITY FOR AN
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FOR A TOTAL OF 1,440,000 GPD

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OPERATING AT 80% MAXIMUM CAPACITY FOR A
MAXIMUM PUMPING RATE OF
2,500 GPM x 80% x 1 PUMP = 2,000 GPM
FOR A TOTAL OF 2,880,000 GPD

TOTAL PUMPAGE
TOTAL PUMPAGE = AVG DAILY x 60 DAYS
= 1.44 MGPD x 60 DAYS
= 86,400,000 GALLONS

ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF
1988 (NAVD 88) UNLESS OTHERWISE SPECIFIED. ADD 1.48 TO ALL ELEVATIONS
TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM (NGVD 29).



NAME	DATE	REVISIONS
DESIGNED BY		
CHECKED BY		
PROJECT NO.		
PROJECT NAME		
DATE		

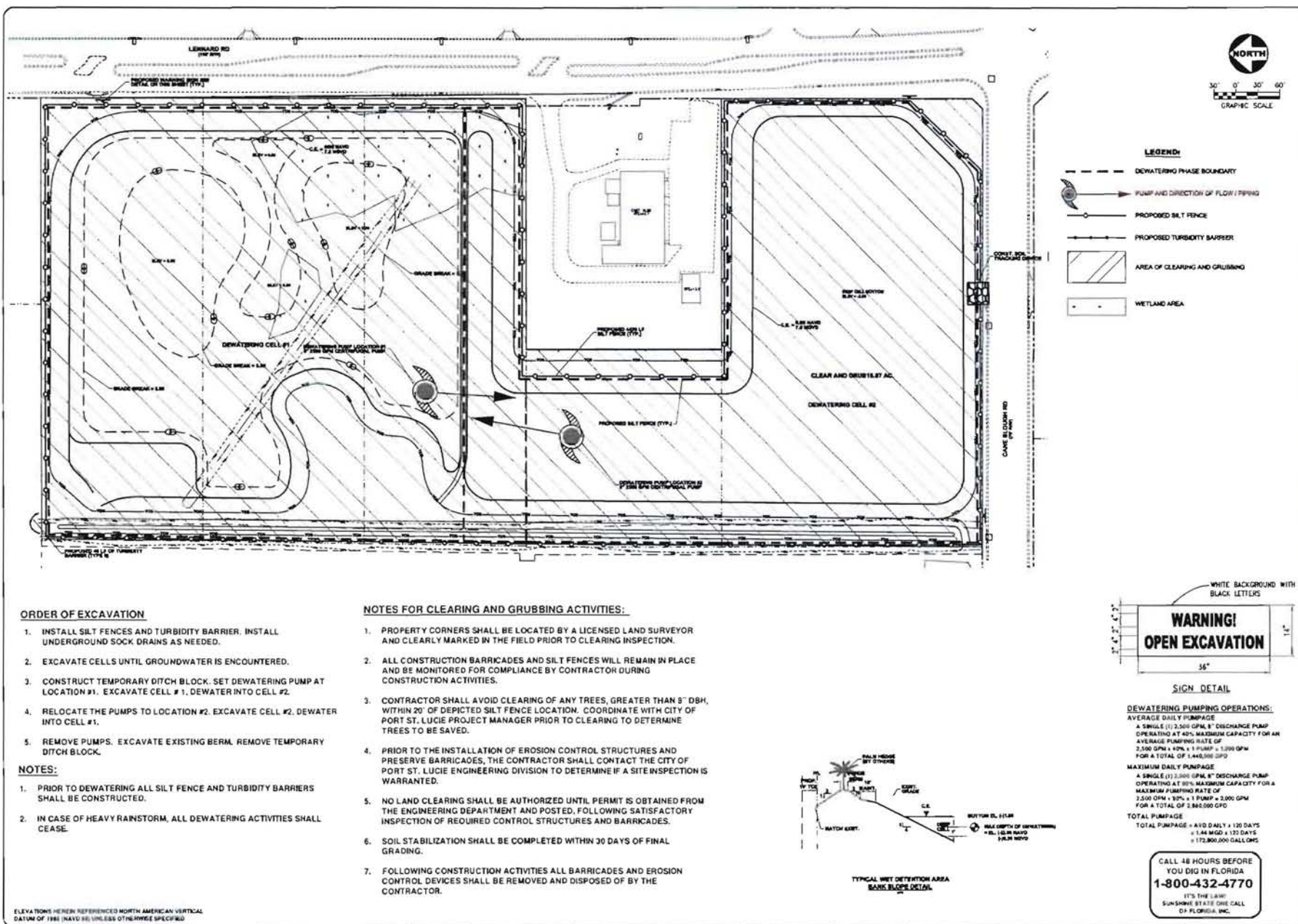
NO.	DATE	BY	REVISIONS
1			
2			
3			
4			
5			

SCALE	VERIFICATION
AS SHOWN	AS SHOWN
AS SHOWN	AS SHOWN
AS SHOWN	AS SHOWN
AS SHOWN	AS SHOWN
AS SHOWN	AS SHOWN

**EASTERN WATERSHED IMPROVEMENT
PROJECT STORMWATER RETROFIT
CITY OF PORT ST. LUCIE, FLORIDA
LEITHGOW STREET STA.
CLEARING, EROSION CONTROL
AND DEWATERING PLAN**

JOSEPH W. CAMP
301 N.W. 11th Ave., Suite 101
St. Lucie, Florida 33984
P.E. No. 27438

JOB No: **801.18A**
SHEET
D4 OF



CAPTEC
Engineering, Inc.
10000 W. US Highway 1, Suite 201
Port St. Lucie, FL 34952
Phone: (888) 777-7777
Fax: (888) 777-7777
Email: info@captec.com

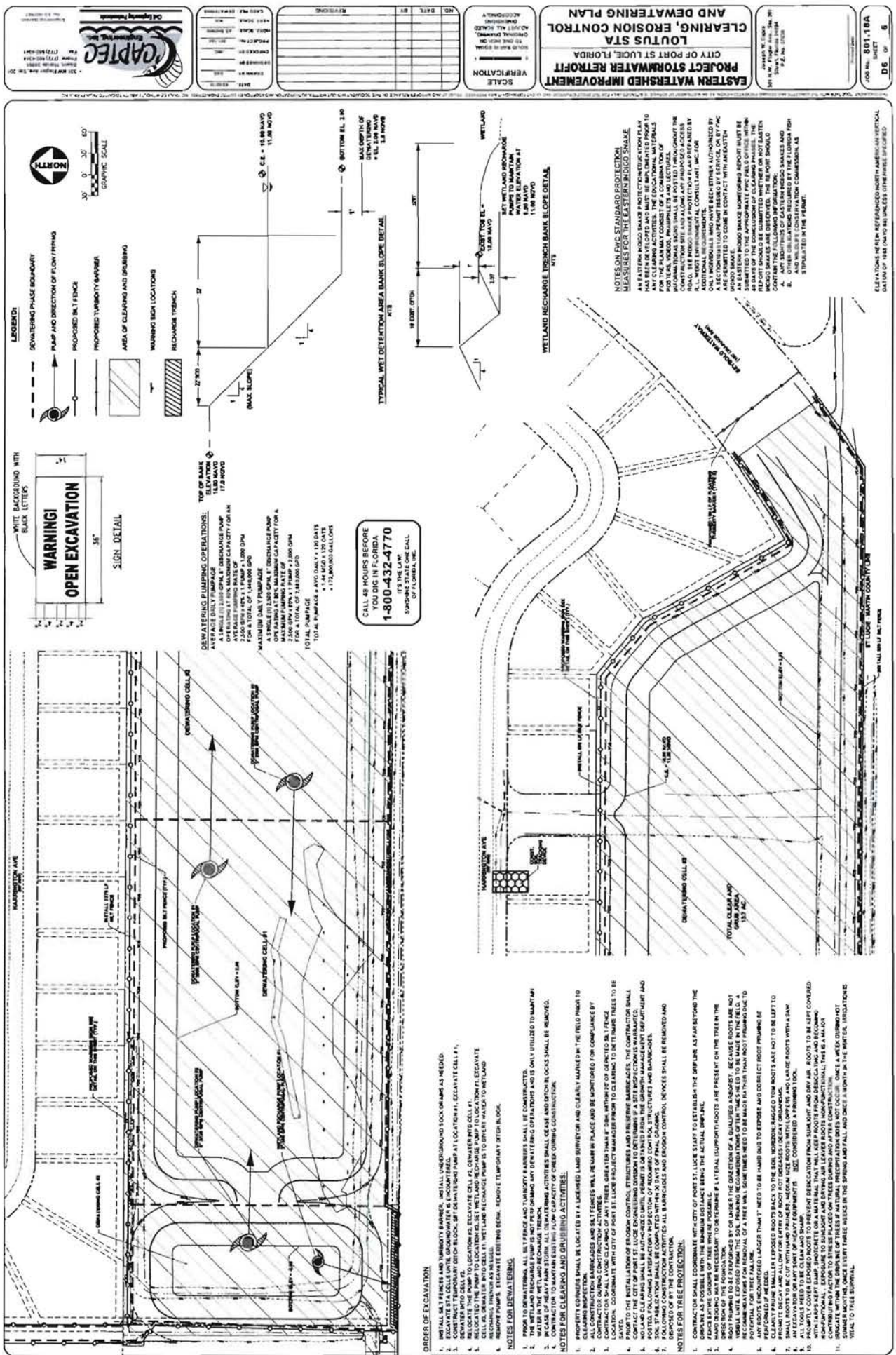
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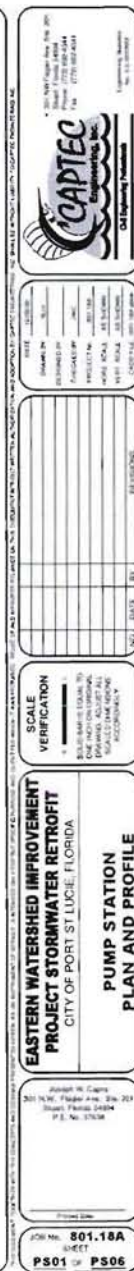
1" = 100' (HORIZONTAL)
1" = 10' (VERTICAL)

EASTERN WATERSHED IMPROVEMENT PROJECT STORMWATER RETROFIT CITY OF PORT ST. LUCIE, FLORIDA ELKS CANE-SLOUGH STATION CLEARING, EROSION CONTROL AND DEWATERING PLAN

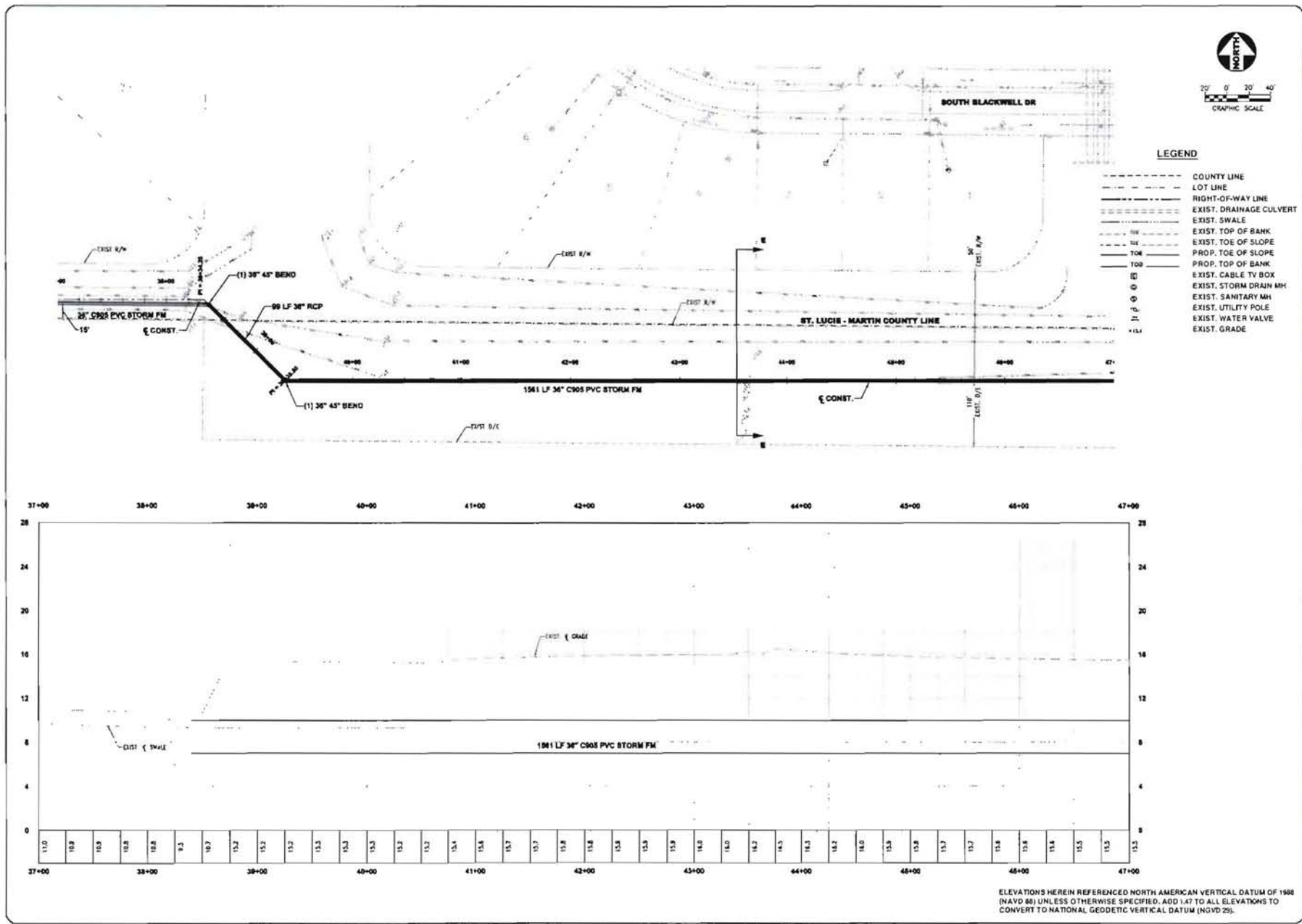
DESIGNED BY: Joseph H. Capri
CHECKED BY: Joseph H. Capri
DATE: 7/20/2010
P.L. NO.: 100322-15

JOB NO.: 801,18A
SHEET: 05 OF 05





PS 05.dwg, PS 05 Pnt, 7/20/2010 3:49:12 PM, CAPTEC Engineering, Inc., Checked and Reviewed by



ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UNLESS OTHERWISE SPECIFIED. ADD 1.47 TO ALL ELEVATIONS TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM (NGVD 29).

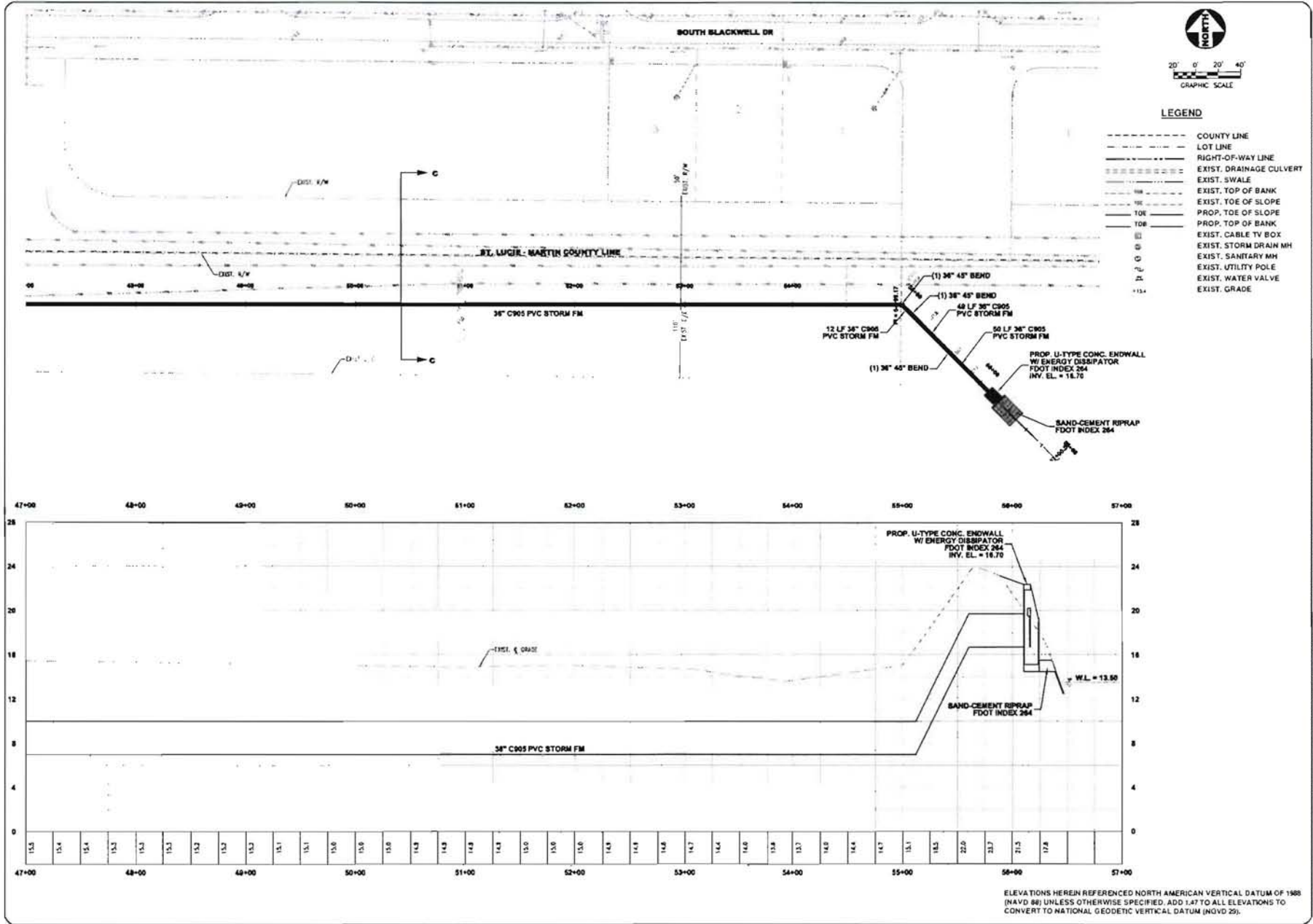
1000 N. Highway 100, Suite 201
Fort Lauderdale, FL 33304
Phone: (954) 571-1111
Fax: (954) 571-1112
www.captecinc.com

SCALE
VERIFICATION
1" = 100' HORIZ.
1" = 10' VERT.
ALL DIMENSIONS TO BE SHOWN AS NOTED UNLESS OTHERWISE SPECIFIED.

**EASTERN WATERBURY IMPROVEMENT
PROJECT STORMWATER RETROFIT**
CITY OF PORT ST. LUCIE, FLORIDA

**PUMP STATION
PLAN AND PROFILE**

Project No: **801.18A**
Sheet: **PS02** of **PS06**



CAPTEC
Engineering, Inc.
10000 US Highway 1, Suite 100
Port St. Lucie, FL 34952
Phone: (888) 288-2264
Fax: (888) 288-2265
www.captecinc.com

SCALE

1" = 10' (PLAN)
1" = 10' (PROFILE)

VERIFICATION

SCALE: 1" = 10' (PLAN)
SCALE: 1" = 10' (PROFILE)

PROPOSED PUMP STATION

PROP. U-TYPE CONC. ENDWALL W/ ENERGY DISSIPATOR
FOOT INDEX 264
INV. EL. = 16.70

EXISTING PUMP STATION

SAND-CEMENT RIPRAP
FOOT INDEX 264

STATIONING

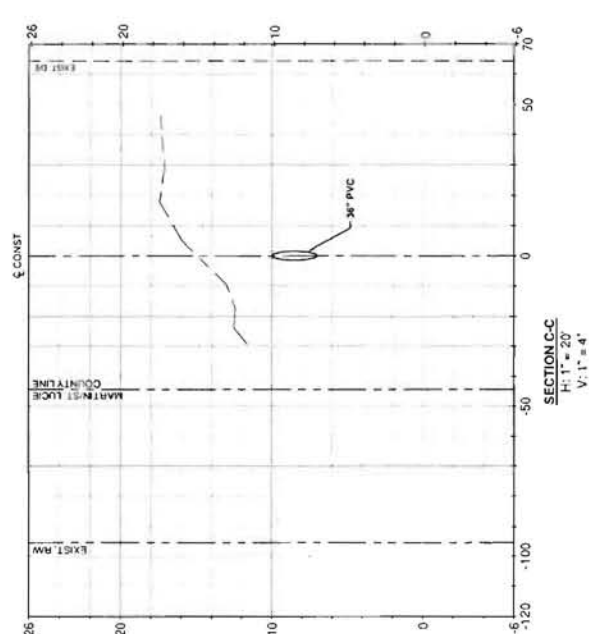
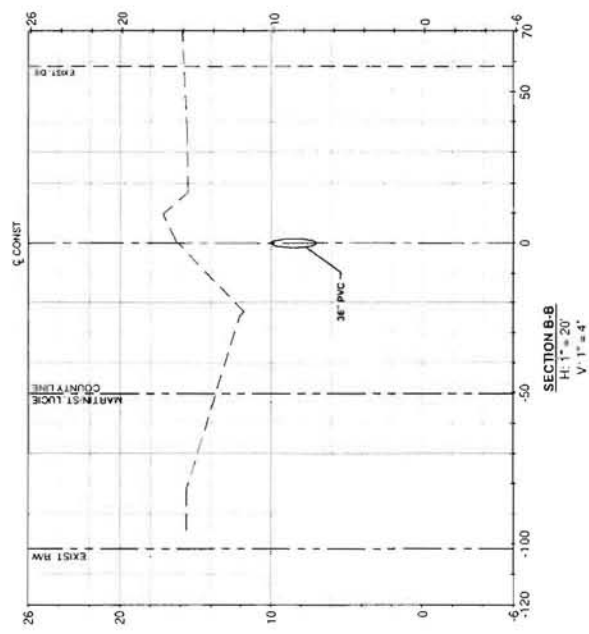
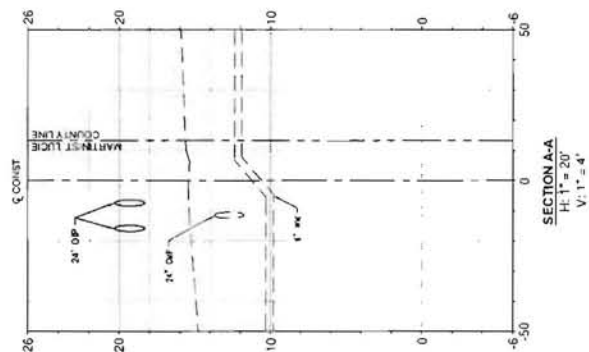
47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00

ELEVATIONS

15.3 15.4 15.4 15.2 15.2 15.2 15.1 15.1 15.0 15.0 14.9 14.9 14.8 14.8 14.7 14.7 14.6 14.6 14.5 14.5 14.4 14.4 14.3 14.3 14.2 14.2 14.1 14.1 14.0 14.0 13.9 13.9 13.8 13.8 13.7 13.7 13.6 13.6 13.5 13.5 13.4 13.4 13.3 13.3 13.2 13.2 13.1 13.1 13.0 13.0 12.9 12.9 12.8 12.8 12.7 12.7 12.6 12.6 12.5 12.5 12.4 12.4 12.3 12.3 12.2 12.2 12.1 12.1 12.0 12.0 11.9 11.9 11.8 11.8 11.7 11.7 11.6 11.6 11.5 11.5 11.4 11.4 11.3 11.3 11.2 11.2 11.1 11.1 11.0 11.0 10.9 10.9 10.8 10.8 10.7 10.7 10.6 10.6 10.5 10.5 10.4 10.4 10.3 10.3 10.2 10.2 10.1 10.1 10.0 10.0 9.9 9.9 9.8 9.8 9.7 9.7 9.6 9.6 9.5 9.5 9.4 9.4 9.3 9.3 9.2 9.2 9.1 9.1 9.0 9.0 8.9 8.9 8.8 8.8 8.7 8.7 8.6 8.6 8.5 8.5 8.4 8.4 8.3 8.3 8.2 8.2 8.1 8.1 8.0 8.0 7.9 7.9 7.8 7.8 7.7 7.7 7.6 7.6 7.5 7.5 7.4 7.4 7.3 7.3 7.2 7.2 7.1 7.1 7.0 7.0 6.9 6.9 6.8 6.8 6.7 6.7 6.6 6.6 6.5 6.5 6.4 6.4 6.3 6.3 6.2 6.2 6.1 6.1 6.0 6.0 5.9 5.9 5.8 5.8 5.7 5.7 5.6 5.6 5.5 5.5 5.4 5.4 5.3 5.3 5.2 5.2 5.1 5.1 5.0 5.0 4.9 4.9 4.8 4.8 4.7 4.7 4.6 4.6 4.5 4.5 4.4 4.4 4.3 4.3 4.2 4.2 4.1 4.1 4.0 4.0 3.9 3.9 3.8 3.8 3.7 3.7 3.6 3.6 3.5 3.5 3.4 3.4 3.3 3.3 3.2 3.2 3.1 3.1 3.0 3.0 2.9 2.9 2.8 2.8 2.7 2.7 2.6 2.6 2.5 2.5 2.4 2.4 2.3 2.3 2.2 2.2 2.1 2.1 2.0 2.0 1.9 1.9 1.8 1.8 1.7 1.7 1.6 1.6 1.5 1.5 1.4 1.4 1.3 1.3 1.2 1.2 1.1 1.1 1.0 1.0 0.9 0.9 0.8 0.8 0.7 0.7 0.6 0.6 0.5 0.5 0.4 0.4 0.3 0.3 0.2 0.2 0.1 0.1 0.0 0.0

NOTES

ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UNLESS OTHERWISE SPECIFIED. ADD 1.47 TO ALL ELEVATIONS TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM (NGVD 29).



CAPTEC
Engineering, Inc.
10000 Highway 100, Suite 100
Houston, Texas 77036-1000
Phone: (713) 865-1000
Fax: (713) 865-1001
www.captec-engineering.com

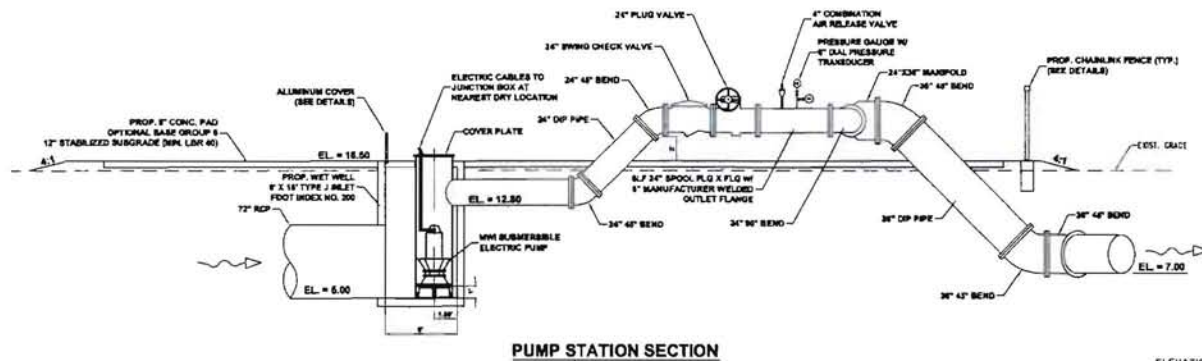
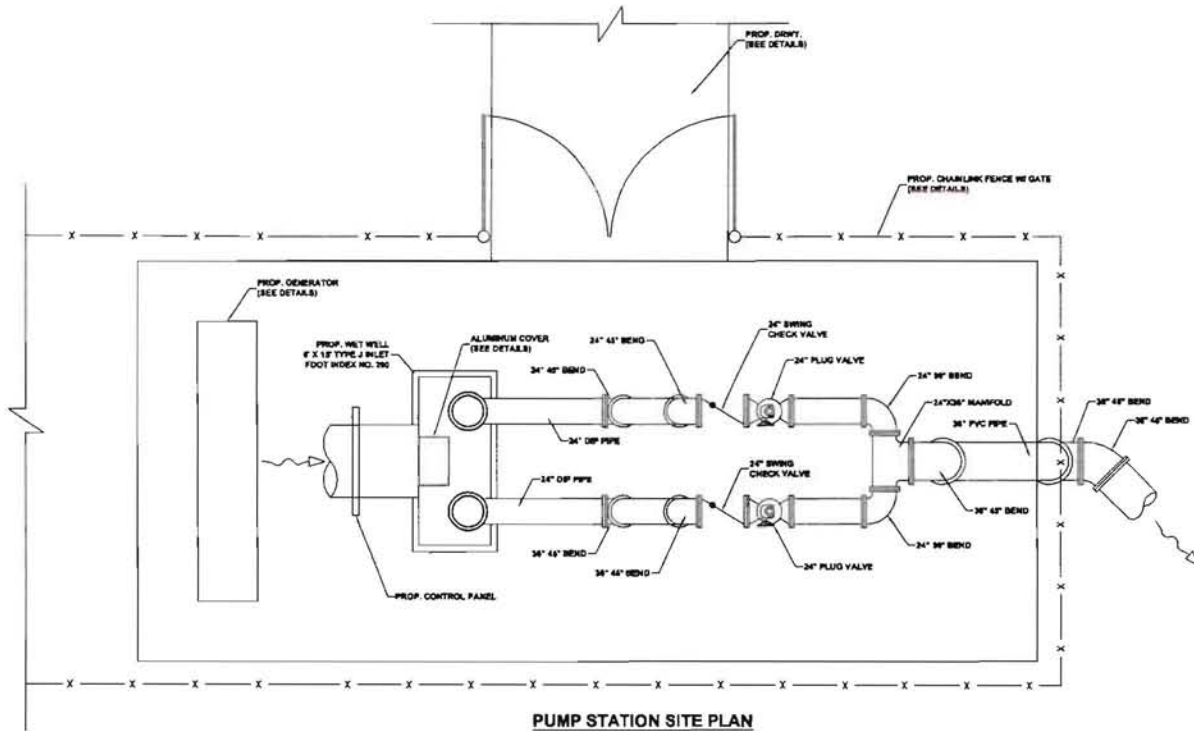
NO.	DATE	BY	REVISION

SCALE
VERIFICATION
DRAWING: 10000000
SCALE: 1" = 4'
DATE: 10/20/2010
BY: J. L. BROWN
CHECKED: J. L. BROWN
APPROVED: J. L. BROWN

PUMP STATION
CITY OF PORT ST LUCIE, FLORIDA
EASTERN WATERSHED IMPROVEMENT
PROJECT STORMWATER RETROFIT

PROJECT NO. 801.18A
SHEET 15 OF 17
P504 OF P506

ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1988
UNLESS OTHERWISE SPECIFIED AND ALL ELEVATIONS TO
CONVERT TO NATIONAL GEODETIC VERTICAL DATUM (NGVD 2011)



ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UNLESS OTHERWISE SPECIFIED. ADD 1.47 TO ALL ELEVATIONS TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM (NGVD 29).



NO.	DATE	BY	REVISIONS

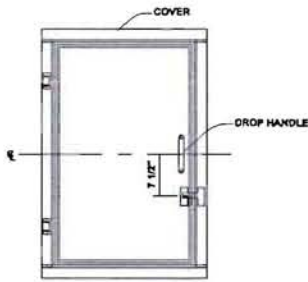
NO.	DATE	BY	REVISIONS

NO.	DATE	BY	REVISIONS

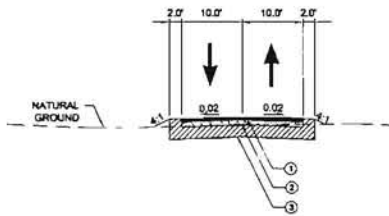
PUMP STATION DETAILS
EASTERN WATERSHED IMPROVEMENT
PROJECT STORMWATER RETROFIT
CITY OF PORT ST LUCIE, FLORIDA

2014 N. 1st St., Suite 100
Tampa, FL 33604
Phone: (813) 241-1111
Fax: (813) 241-1112
Email: info@captec.com

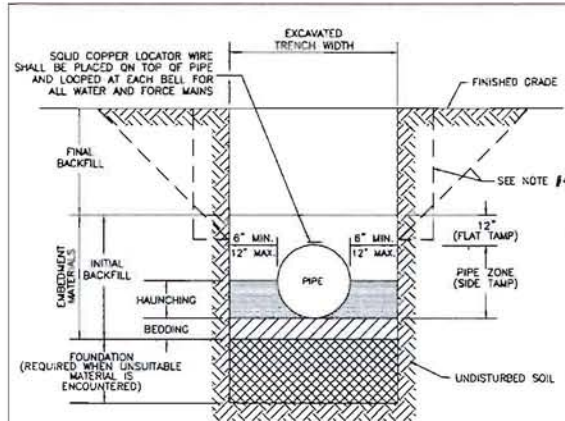
PS05 PS06

**NOTES:**

- COVER TO BE ALUMINUM DIAMOND PLATE, HINGED, TRAFFIC BEARING WITH POSITIVE LOCKING ARM AND LOCKING HASP.
- MINIMUM COVER DIMENSIONS = 30" X 44"
- COVER SHALL BE CAST IN PLACE (BULO TYPICAL).
- SPLIT COVER IS ACCEPTABLE FOR LARGER SIZES.
- RECESSED HASP IS REQUIRED IN WALKWAYS AND TRAFFIC AREAS.
- LID TO BE H-20 LOADING.
- HANDLE TO BE SECURED BY STAINLESS STEEL NUTS.

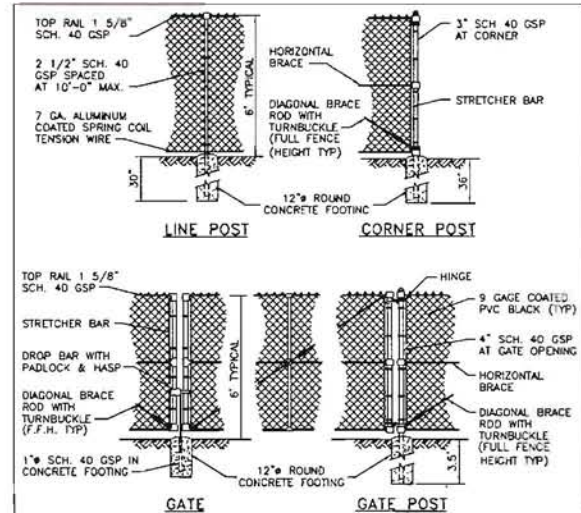
STANDARD ALUMINUM COVER
NTS**FLEXIBLE PAVEMENT SECTION****PAVEMENT DESIGN**

- 1 - TYPE SP STRUCTURAL COURSE SP-12.5 (TRAFFIC C) (2.0" THICK)
- 2 - OPTIONAL BASE GROUP B
- 3 - STABILIZED SUBGRADE (12" THICK) (MIN. LBR 40)

**NOTES:**

- FOR TRENCHES REQUIRING SHEETING, SHORING, STAY BRACING, TRENCH JACKS OR TRENCH BOX, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SUPPORTS.
- IF THE MAXIMUM TRENCH WIDTH MUST BE EXCEEDED, THE AREA OUTSIDE OF THE MAXIMUM EMBEDMENT SHALL BE COMPACTED TO FINAL BACKFILL REQUIREMENTS. IF THE PIPE IS INSTALLED IN A COMPACTED EMBANKMENT, THE EMBANKMENT SHALL BE IN PLACE AND COMPACTED TO 12" MIN. COVER BEFORE INSTALLATION OF PIPE.
- IF BEDDING IS REQUIRED TO BRING TRENCH BOTTOM UP TO GRADE AND PROVIDE UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE, THEN A MINIMUM COMPACTED DEPTH OF 4 TO 6 INCHES OF SELECT EMBEDMENT MATERIAL IS REQUIRED.
- THE CONTRACTOR SHALL COMPLY WITH REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.
- AN APPROVED LOCATOR WIRE SHALL BE USED PER THE QUALIFIED PRODUCTS LIST.
- EARTHWORK, EXCAVATION, BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH PSLUSD STANDARDS

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. GORDEN LANE PORT ST. LUCIE, FL 34883 PHONE (772) 873-4400 FAX (772) 873-4403	STANDARD PIPE TRENCH CROSS SECTION	DETAIL: 9-04 DATE: 03/09/10 SCALE: N.T.S. SHEET: 1 OF 1
---	---	--

**NOTES:**

- AN OPAQUE CHAIN LINK FENCE, AT LEAST 6' HIGH SHALL BE PROVIDED.
- COATED STEEL WOVEN WIRE FABRIC SHALL BE STRETCHED TAUT WITH STRETCHER BARS AND STRAPS. FASTENED TOP & BOTTOM AT LINE POSTS WITH GALVANIZED PIG RING TIES.
- THE GATE SHALL BE SEMI-TRANSPARENT TO ALLOW FOR VISUAL INSPECTION BY PSLUSD.
- GATES TO BE SECURED OPEN WITH GATE STOP SET IN CONCRETE.
- ALL MATERIAL SHALL BE BLACK IN COLOR.

MINIMUM CONSTRUCTION STANDARDS FOR CITY OF PORT ST. LUCIE 900 S.E. GORDEN LANE PORT ST. LUCIE, FL 34883 PHONE (772) 873-4400 FAX (772) 873-4403	FENCE DETAILS	DETAIL: 9-11 DATE: 03/09/10 SCALE: N.T.S. SHEET: 1 OF 1
---	----------------------	--

ELEVATIONS HEREIN REFERENCED NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) UNLESS OTHERWISE SPECIFIED. ADD 1.47 TO ALL ELEVATIONS TO CONVERT TO NATIONAL GEODESIC VERTICAL DATUM (NGVD 29).



NAME	ADDRESS	CITY	STATE	ZIP
PHONE	FAX	EMAIL	WEBSITE	

NO.	DATE	BY	REVISIONS

SCALE	VERIFICATION
1" = 10'-0"	1" = 10'-0"
1" = 20'-0"	1" = 20'-0"
1" = 40'-0"	1" = 40'-0"
1" = 80'-0"	1" = 80'-0"

EASTERN WATERSHED IMPROVEMENT PROJECT STORMWATER RETROFIT CITY OF PORT ST. LUCIE, FLORIDA	PUMP STATION DETAILS
---	---------------------------------

Joseph M. Capri
301 N.W. 11th Avenue, 1st Fl.
Fort Lauderdale, FL 33304
P.E. No. 27408

Printed Date

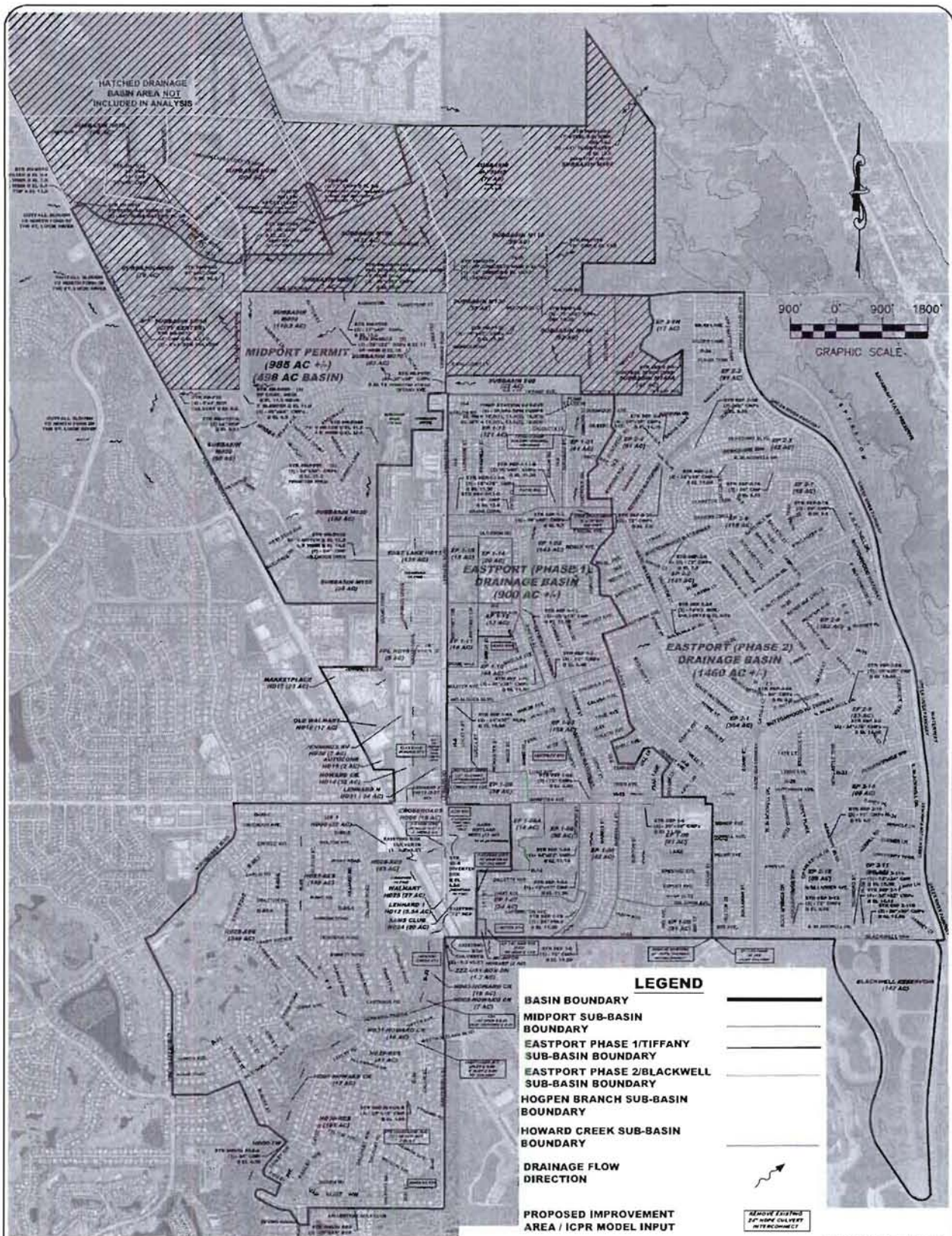
JOB NO. **801.13A**
SHEET
PS06 OF PS06

EXHIBIT 2.1 (PAGES 1-6)
EXHIBIT 2.2 (PAGES 1-6)

**EASTERN WATERSHED IMPROVEMENT
PROJECT
APPLICATION NO. 100322-15
PERMIT NO. 56-01501-P**

**SUMMARY OF PRE-IMPROVED AND
PROPOSED BASIN ANALYSIS**

INCORPORATED BY REFERENCE



• 301 NW Pinyan Ave.
Stuart, Florida 34994
Phone: (772) 592-4344
Fax: (772) 592-4341

CITY OF PORT ST. LUCIE EASTERN WATERSHED SUBBASIN/STRUCTURES MAP Exhibit 9A



FILED 05/26/2010 15:06 LA

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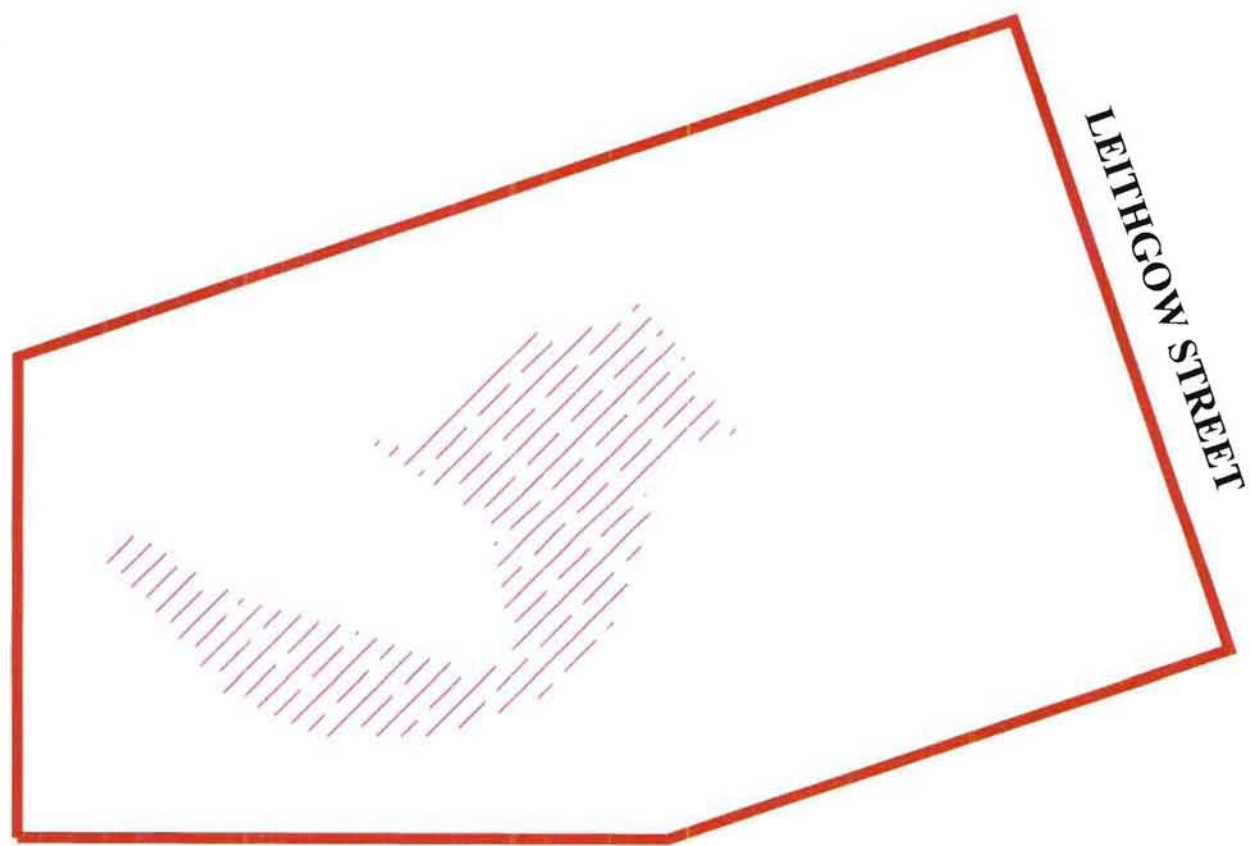
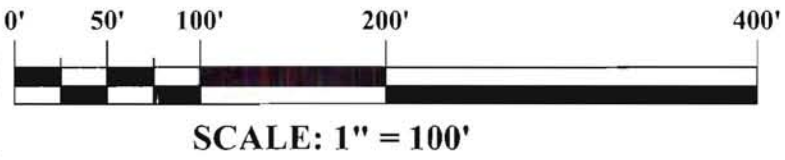
NOT A SURVEY



CAPTEC
Engineering, Inc.
Civil Engineering Professionals

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Stuart, Florida 34994
Phone: (772) 692-4344
Fax: (772) 692-4341
E-mail: Captec1@aol.com

Engineering Business
No. EB-0007657



LEGEND



WETLAND IMPACT
± 0.67 ACRES

SOURCE: RLW AND CAPTEC ENGINEERS

SOURCE: RLW AND CAP TEC ENGINEERS							
CITY OF PORT ST. LUCIE FLORIDA	SEC.	TWP.	R.	RLW JOB NO.: 09 - 032.07 ELKS	DRAWING NAME: 02 - LEITH WET IMP.DWG	DATE: 15 MAY 2010	FIGURE: 2 OF 3
	12	37S	40E				
LATITUDE: N27° 16'11.834" LONGITUDE: W080°17'01.568"					DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW
CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP) SFWMD RAI DATED 21 APRIL 2010 LEITHGOW WETLAND IMPACTS 					R. L. WEIGT ENVIRONMENTAL CONSULTANTS, INC. 8985 S.E. BRIDGE ROAD, SUITE A, HOBE SOUND, FL 33455 PHONE: (772) 546-6255 FAX: (772) 546-2316 E-MAIL: rlwenv@comcast.net		



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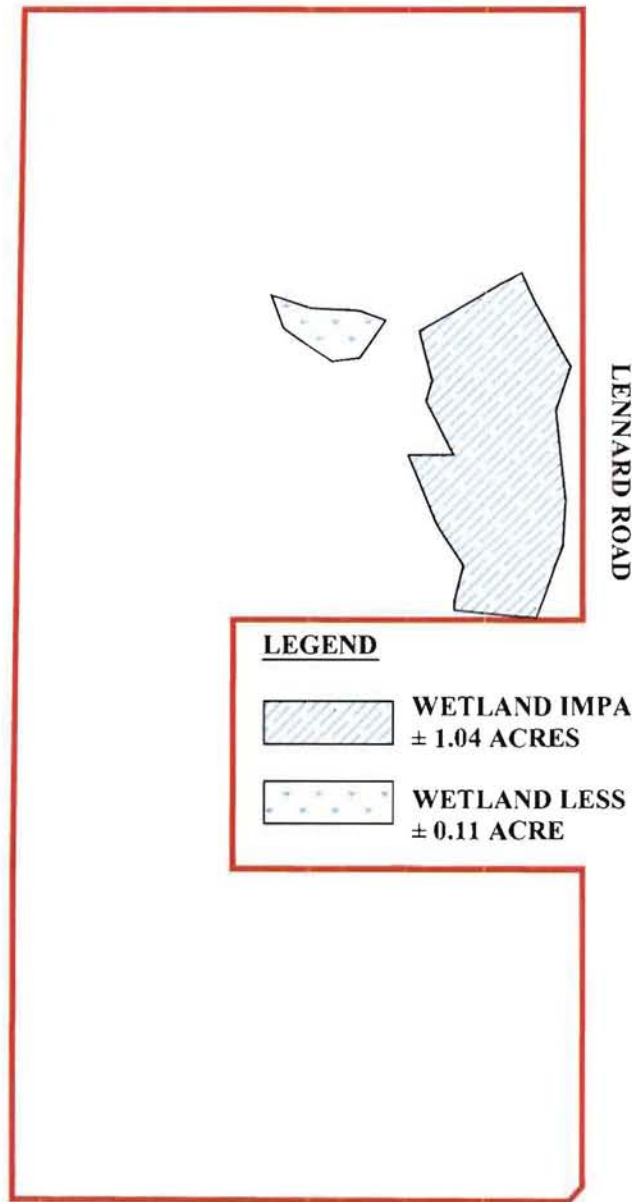


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E-mail: Captec1@aol.com

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SCALE: 1" = 200'



LEGEND



WETLAND IMPACT
± 1.04 ACRES



WETLAND LESS THAN 0.5 ACRE
± 0.11 ACRE

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC.	TWP.	R.	RLW JOB NO.: 09 - 032.07 ELKS	DRAWING NAME: 01 - ELKS IMPACT.DWG	DATE: 15 MAY 2010	FIGURE: 1 OF3			
	12	37S	40E							
LATITUDE: N27° 16'11.834"				LONGITUDE: W080°17'01.568"				DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW
 CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP) SFWMD RAI DATED 21 APRIL 2010 ELKS/CANE SLOUGH WETLAND IMPACT 					 R. L. WEIGT ENVIRONMENTAL CONSULTANTS, INC. 8985 S.E. BRIDGE ROAD, SUITE A, HOBE SOUND, FL 33455 PHONE: (772) 546-6255 FAX: (772) 546-2316 E-MAIL: rlwenv@comcast.net 					

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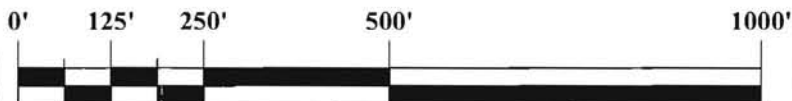


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NORTH



SCALE: 1" = 250'



LEGEND



WETLAND A IMPACTS
± 0.60 ACRES



OSW B
0.07 ACRES

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC.	TWP.	R.	RLW JOB NO.: 09 - 032.07 ELKS	DRAWING NAME: 03 -LOUTUS IMPACTS.DWG	DATE: 15 MAY 2010	FIGURE: 3 OF 3	
	12	37S	40E					
LATITUDE: N27° 16'11.834"				LONGITUDE: W080°17'01.568"		DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW
 CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP) SFWMD RAI DATED 21 APRIL 2010 LOUTUS WETLAND IMPACTS 					 R. L. WEIGT ENVIRONMENTAL CONSULTANTS, INC. 8985 S.E. BRIDGE ROAD, SUITE A, HOBE SOUND, FL 33455 PHONE: (772) 546-6255 FAX: (772) 546-2316 E-MAIL rlwenv@comcast.net			

NOT A SERVICE

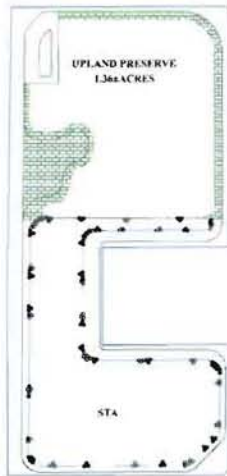


HERBACEOUS PLANT LIST

COMMON NAME	SCIENTIFIC NAME	DENSITY	SIZE	UNITS	SOFT	ACRE
CRINUM LILY	<i>Crinum americanum</i>	1' O.C.	BR	4790	4792	0.11
DUCK POTATO	<i>Sagittaria latifolia</i>	2' O.C.	BR	3380	13504	0.31
FAKAHATCHEE GRASS	<i>Tripsacum dactyloides</i>	2' O.C.	BR	330	1307	0.03
GIANT BULRUSH	<i>Scirpus californicus</i>	2' O.C.	BR	7730	30928	0.71
JOINTED SPIKERUSH	<i>Elyonurus interstinctus</i>	2' O.C.	BR	9910	39640	0.91
MAIDENCANE	<i>Panicum hemizonium</i>	2' O.C.	BR	4570	18295	0.42
MUHLI GRASS	<i>Muhlenbergia capillaris</i>	2' O.C.	1 N-2"	15030	60113	1.38
PICKERELWEED	<i>Pontederia cordata</i>	2' O.C.	BR	3160	12632	0.29
SAND CORDGRASS	<i>Spartina bakeri</i>	2' O.C.	LN-2"	2720	10890	0.25
SOFT RUSH	<i>Juncus effusus</i>	2' O.C.	BR	760	3049	0.07
SOFT-STEM BULRUSH	<i>Scirpus yulius</i>	2' O.C.	BR	4030	16117	0.37
OPEN WATER				SUB-TOTAL	4.85	
				OPEN WATER	0.27	
				TOTAL	5.12	

TREE PLANT LIST

			UNITS	UNITS	
			MITIGATION AREA	STA	
1) BALD CYPRESS	<i>Taxodium distichum</i>	10' O.C.	25G 10'x2" C	178	25
		10' O.C.	45G 12'x3" C	178	25
		10' O.C.	100G 4" C	179	26
				535	75
2) POND CYPRESS	<i>Taxodium ascendens</i>	10' O.C.	15G 6' - 8'	76	33
		10' O.C.	25G 8' - 10'	76	33
		10' O.C.	45G 10' - 12'	76	33
				228	69
UPLAND PRESERVE					41.36 ACRES



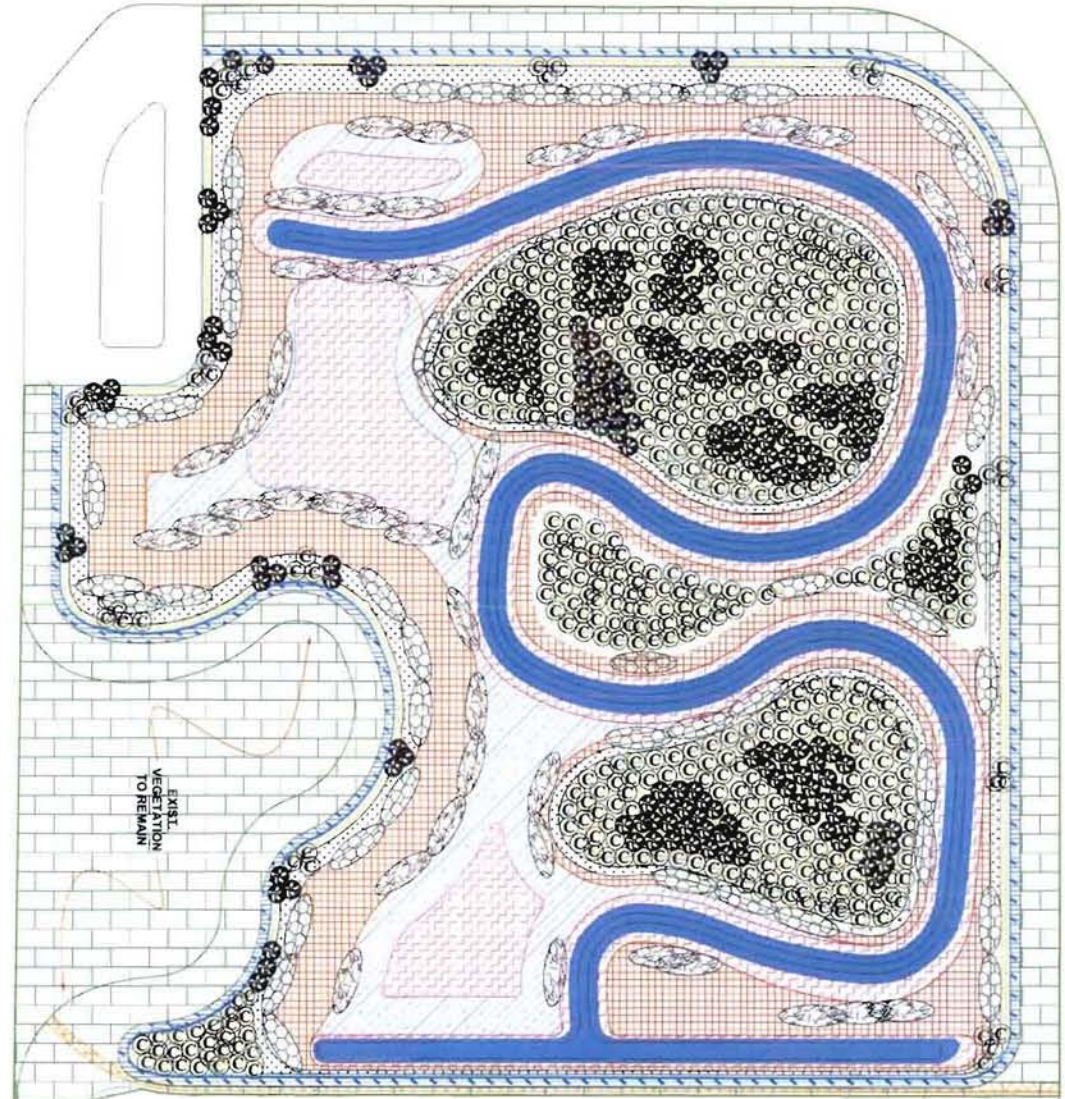
NTS

MITIGATION AREA
5.32 ACRES
4.85 ACRES HERBACEOUS

NTS

0.66 ACRES
0.11 ACRES
0.06 ACRES
0.37 ACRES
0.05 ACRES
1.25 ACRES CYPRESS/PONDAPPLE

NTS



SOURCE: GULF AND CAPTEC ENGINEERS

MITIGATION PLANTING PLAN

DATE	DATE	SCALE	BY	SEC.	TWP.	R.	COUNTY
11 MAY 2018	11 MAY 2018	AS SHOWN	AS SHOWN	12	37S	40E	FLORIDA
DRAWN BY:	DRAWN BY:	DRAWN BY:	DRAWN BY:				
BY	BY	BY	BY				

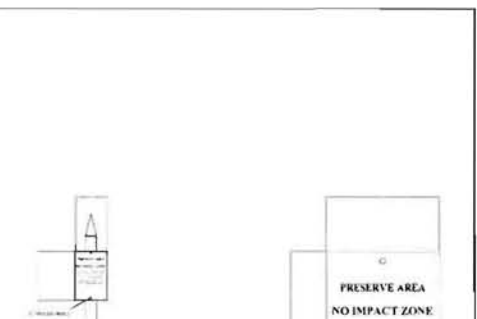
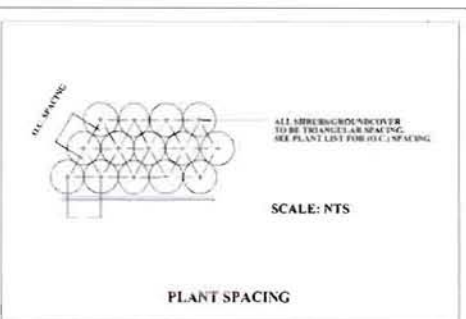
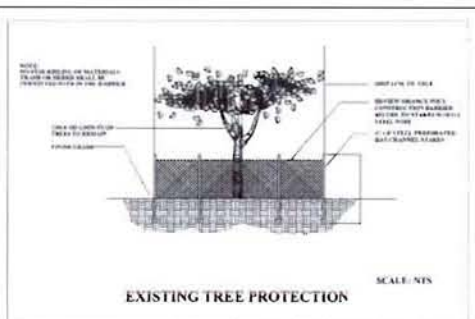
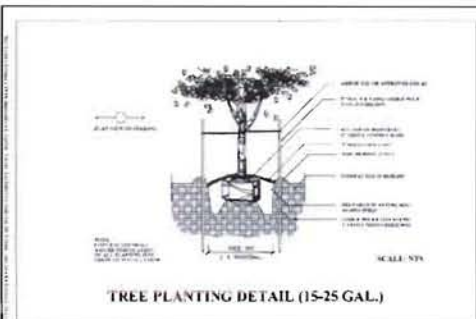
CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP)
PHASE 2 IMPROVEMENT 3 ELKS-CANE SLOUGH
PROPOSED WETLAND MITIGATION
WETLAND PLANTING PLAN



R. L. WEIGT
ENVIRONMENTAL CONSULTANTS, INC.
4000 S.E. BRIDGE ROAD, SUITE 100, PORT ST. LUCIE, FL 34951
PHONE: (772) 340-6200 FAX: (772) 340-2318 E-MAIL: info@rlweig.com



DATE: 11 MAY 2018
PAGE: 2



GENERAL NOTES

1. PLANTS NATIVE TO FLORIDA MAY BE SUBSTITUTED FOR THOSE LISTED, ACCORDING TO AVAILABILITY AND SIZE, WITH THE WRITTEN AUTHORIZATION OF THE AGENCIES AND THE ENVIRONMENTAL CONSULTANT.
2. LOCATION OF PLANTS MAY BE FIELD ADJUSTED IN ORDER TO PROVIDE THE BEST GROWING CONDITIONS.
3. PLANT MATERIAL SHALL BE INSPECTED BY THE ENVIRONMENTAL CONSULTANT PRIOR TO INSTALLATION.
4. ALL PLANTS SHALL BE INSTALLED IN HEALTHY AND VIGOROUS CONDITION, AND SHALL BE FREE OF WEEDS, DISEASE, AND INSECT PESTS, EGGS OR LARVAE.
5. CONTRACTOR IS RESPONSIBLE FOR THE PROPER WATERING AND FERTILIZATION OF THE INSTALLED PLANTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR.
6. ROOT BOUND CONTAINER PLANTS WILL NOT BE ACCEPTED.

GENERAL NOTE 1

GENERAL NOTES

GRADE STANDARDS AND QUALITY

QUALITY OF ALL PLANTS SHALL BE AT LEAST EQUAL TO THAT OUTLINED AS NO. 1 IN GRADES AND STANDARDS FOR NURSERY PLANTS, PART 1, 1963, REVISED EDITION AND PART 1, PALMS AND TREES, BY THE STATE PLANT BOARD OF FLORIDA.

ALL PLANTS SHALL BE SOUND, HEALTHY AND VIGOROUS, WELL BRANCHED, AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL HAVE HEALTHY, WELL DEVELOPED ROOT SYSTEMS, AND SHALL BE FREE OF DISEASES AND INSECT PESTS, EGGS, OR LARVAE. ALL PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED HEREIN OR INDICATED ON THE CONTRACT DRAWINGS.

TRANSPORTATION AND INSPECTION

PLANT TRANSPORTATION SHALL COMPLY WITH ALL FEDERAL AND STATE REGULATIONS, THEREFORE, AND UPON DELIVERY AT THE SITE, ALL PLANTS SHALL BE INSPECTED BY THE PROJECTS ENVIRONMENTAL CONSULTANT FOR CONFORMITY TO SPECIFICATIONS AND FOR HANDLING DAMAGE. THE CONTRACTOR SHALL PROVIDE THE ENVIRONMENTAL CONSULTANT WITH A 24-HOUR NOTICE BEFORE ANY REQUESTED INSPECTION. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE BY THE CONTRACTOR.

TREES THAT HAVE TO BE TRANSPORTED MORE THAN ONE (1) MILE TO REACH THE PROJECT SITE SHALL BE TREATED WITH "WILT PRUF" AND COVERED WITH A 70% SHADE-CLOTH-TARP OR EQUIVALENT TO PREVENT WIND BURN.

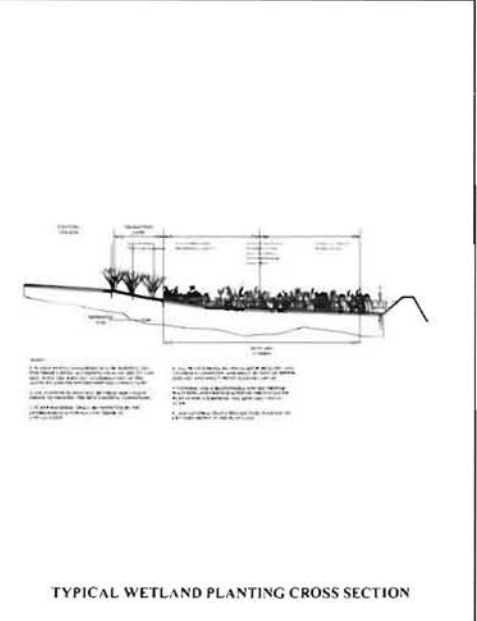
GENERAL NOTE 2

IMPROVED SOIL

THE ORGANIC MATTER OF THE IMPROVED SOIL AFTER MIXING SHALL BE A MINIMUM OF 5%, WITH A MAXIMUM OF 10% BY WEIGHT, AS DETERMINED IN ACCORDANCE WITH ASTM STANDARD TEST METHOD D 2974-08. THE IMPROVED SOIL MUST BE CAPABLE OF PASSING A 1/2" SEIVE. THE IMPROVED SOIL SHALL HAVE A PH VALUE GREATER THAN 4.5 AND LESS THAN OR EQUAL TO 8.5 AS DETERMINED IN ACCORDANCE WITH ASTM STANDARD TEST METHOD F-70.

THE IMPROVED SOIL SHALL BE SUITABLE FOR AND CAPABLE OF SUPPORTING WETLAND VEGETATION AND SHALL BE FREE OF EXOTIC OR INVASIVE PLANT SEED SOURCES. ALL IMPROVED SOIL MUST BE APPROVED BY THE PROJECT ENGINEER BEFORE PLACEMENT IN STA WETLAND PLANTING AREAS.

IMPROVED SOIL



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CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT ELKS/CANE SLOUGH MITIGATION SITE

St. Lucie County, Florida

Mitigation, Monitoring and Maintenance Plan
Revised June 2010



Prepared for:

Mr. Joseph Capra
CAPTEC Engineering, Inc.
301 NW Flagler Avenue, Suite 101
Stuart, Florida 34994

Prepared by:

R.L. Weigt Environmental Consultants, Inc.
8985 S.E. Bridge Road
Suite A
Hobe Sound, FL 33455
(772) 546-6255
FAX (772) 546-2316
E-Mail: rlwenv@comcast.net

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APPENDIX

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NOTE: This Report, together with the concepts and design presented herein, as an instrument of service, is intended only for the specific purpose and Client for which it was prepared. Reuse of and improper reliance on this Report without written authorization and adaptation by R.L. Weigt Environmental Consultants, Inc. shall be without liability to R.L. Weigt Environmental Consultants, Inc.

EASTERN WATERSHED IMPROVEMENT PROJECT
ELKS/CANE SLOUGH MITIGATION SITE
CITY OF PORT ST. LUCIE, FLORIDA
MITIGATION, MONITORING AND MAINTENANCE PLAN

1.00 INTRODUCTION

The Eastern Watershed Improvement Project (EWIP) Elks/Cane Slough project site consists of approximately 15.68 acres of land located at the northwest corner of Cane Slough Road and SE Lennard Road (**Figure 1-2 of 11**). The site is located in Section 12, Township 37S, Range 40E, City of Port St. Lucie, St. Lucie County, Florida. The additional parcels for which mitigation is being provided on the Elks/Cane Slough site include the Loutus parcel and the Leithgow parcel. The center of the parcels is located at Latitude N27°16'23.378" and Longitude W80°17'11.087".

R.L. Weigt Environmental Consultants, Inc. (RLW) has been retained by the Applicant to prepare this Mitigation, Monitoring and Maintenance Plan for the proposed on-site wetland mitigation area. The following addresses delineation of the preserve areas, prohibited activities, and mitigation, monitoring and maintenance plans for the proposed preserve areas. The Applicant proposes to create ±5.32 acres of freshwater marsh wetlands, including ±1.25 acres of cypress domes as habitat for the endangered wood stork.

2.00 MITIGATION

For mitigation purposes, the City of Port St. Lucie (the Applicant) proposes to create a ±5.32 acre freshwater marsh and cypress dome at Lennard Road and Mariposa Avenue (**Figure 3 of 11**). The water elevations of the planted marsh will range from 0-2 feet in depth, and approximately 58,630 herbaceous plants, 535 bald cypress and 228 pond cypress trees will be installed (**Figures 3 & 4 of 11**). The herbaceous plants will be bare root or liners and will be placed at 2'O.C.

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NOT A SURVEY



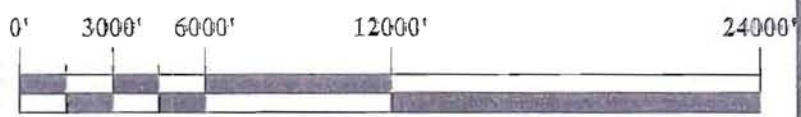
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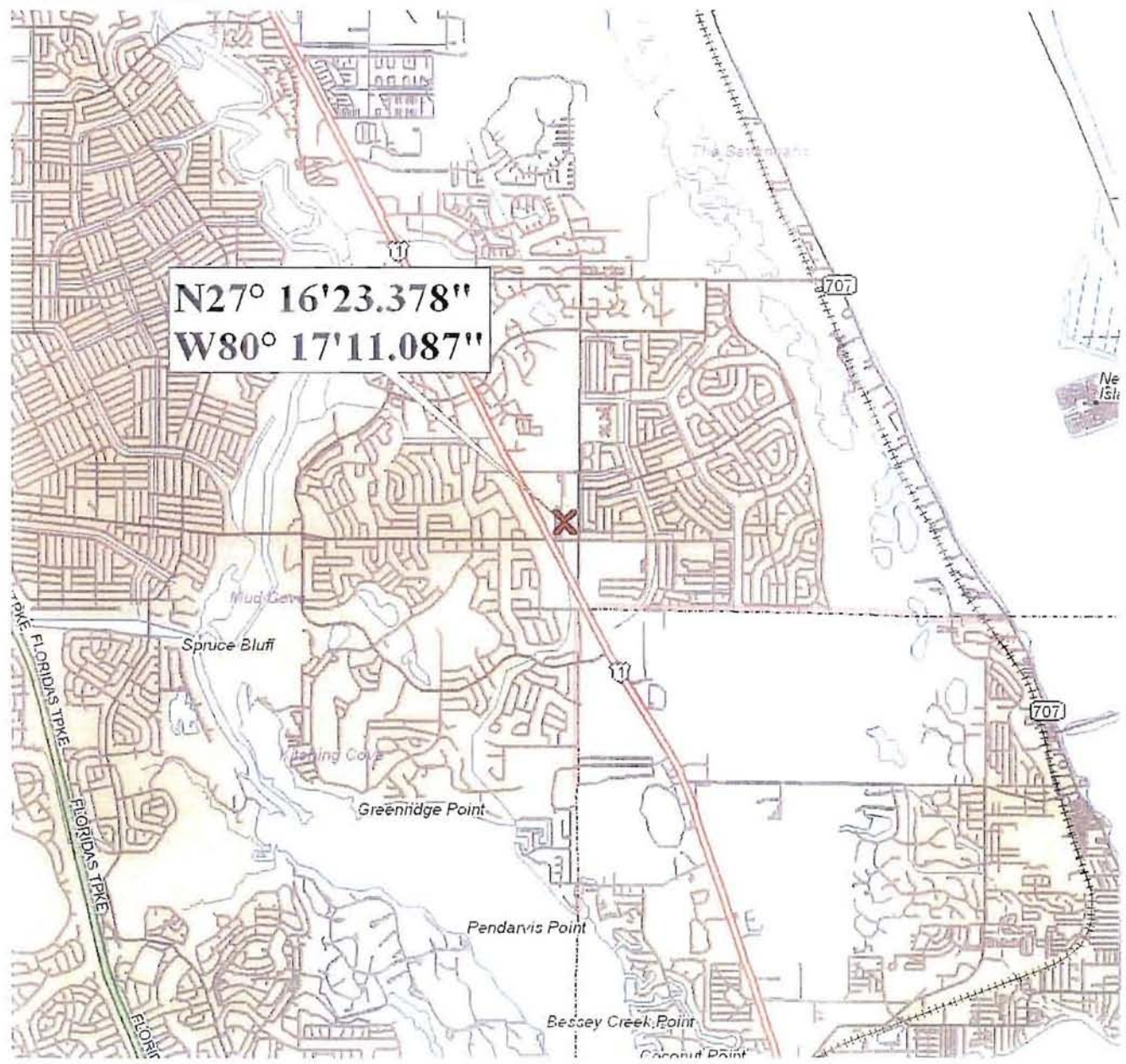
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NORTH



SCALE: 1" = 6000'



SOURCE: DELORME STREET ATLAS USA, DELUXE.

CITY OF PORT ST. LUCIE FLORIDA	SEC.	TWP.	R.	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 01 - VICINITY MAP.DWG	DATE: 13 MAY 2010	FIGURE: 1 OF 11
	12	37S	40E				
LATITUDE: N27° 16'23.378"		LONGITUDE: W080°17'11.087"			DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW

CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP)
ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN



VICINITY MAP



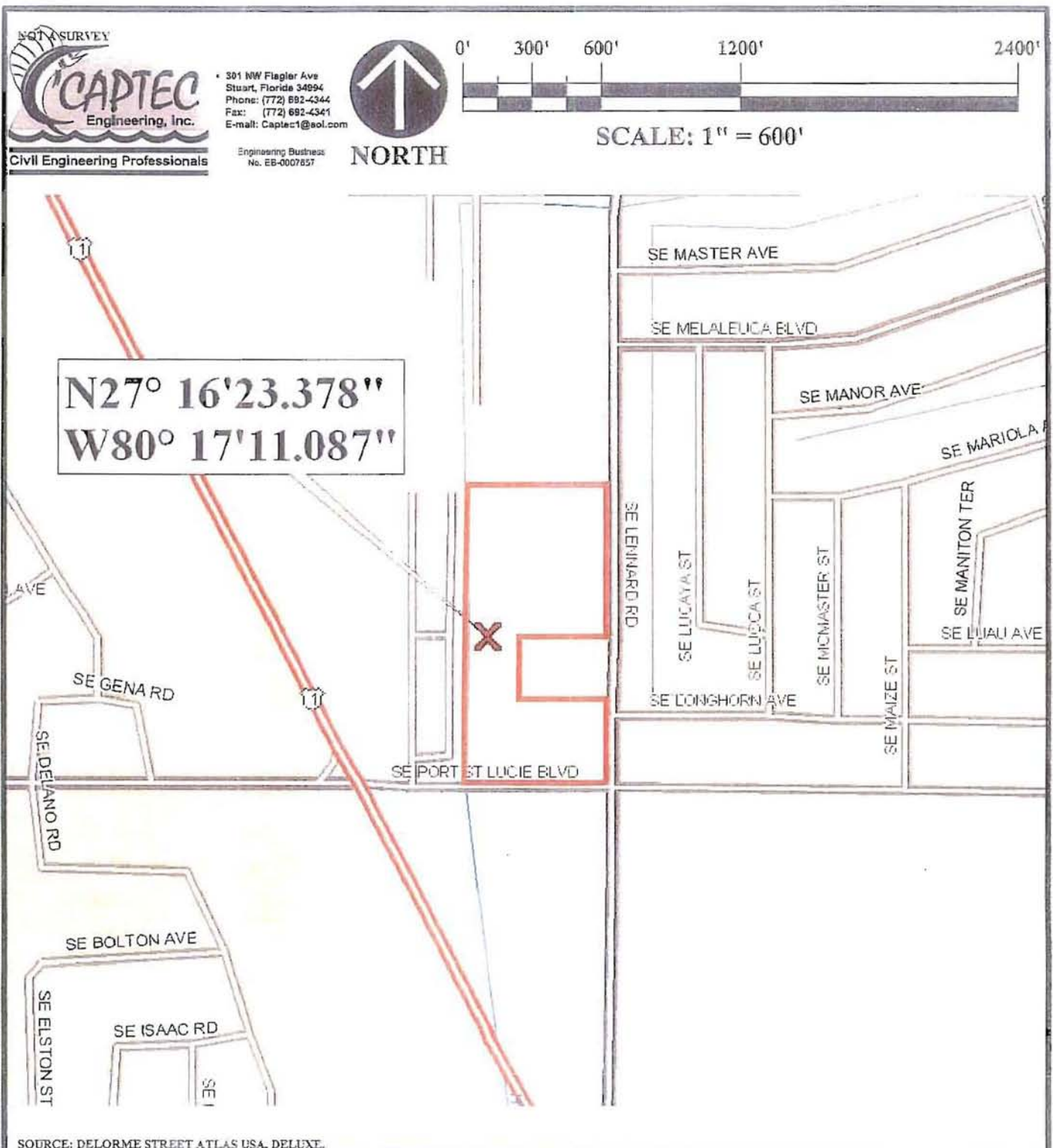
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EXHIBIT #6

Application #100322-15
Page 4 of 22

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CITY OF PORT ST. LUCIE FLORIDA				SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 02 - LOCATION MAP.DWG	DATE: 13 MAY 2010	FIGURE: 2 OF 11
LATITUDE: N27° 16'23.378"				LONGITUDE: W080°17'11.087"				DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW
CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP) ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN								R. L. WEIGT ENVIRONMENTAL CONSULTANTS, INC. 8985 S.E. BRIDGE ROAD, SUITE A, HOBE SOUND, FL 33455 PHONE: (772) 546-5255 FAX: (772) 546-2316 E-MAIL: rlwenv@comcast.net EXHIBIT #6		
 LOCATION MAP 										

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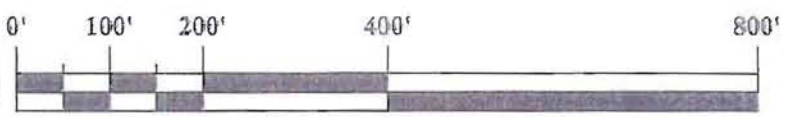
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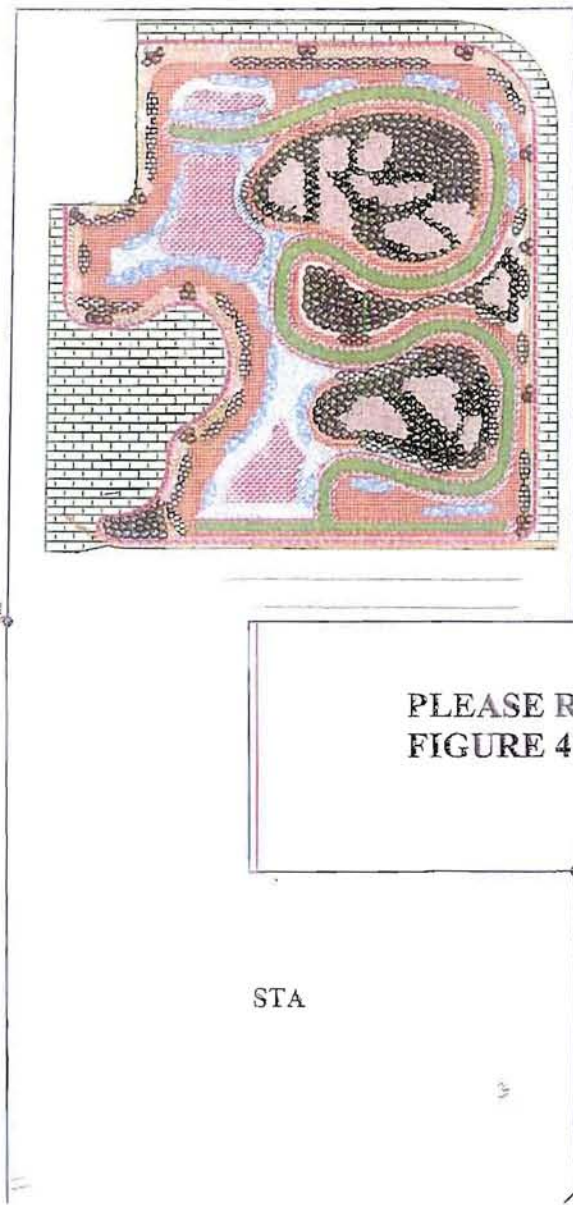
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Phone: (772) 692-4344
Fax: (772) 692-4341
E-mail: Captec1@aol.com

Engineering Business
No. EE-0007657



SCALE: 1" = 200'



PLEASE REFER TO
FIGURE 4 FOR PLANT LIST

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 03 - PLANTING PLAN	DATE: 13 MAY 2010	FIGURE: 3 OF 11
LATITUDE: N27° 16'23.378"				LONGITUDE: W080°17'11.087"		DESIGNED BY: RLW	CHECKED BY: RLW
						DRAWN BY: FRP	

CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWP)
ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN



PROPOSED MITIGATION PLANTING PLAN



R. L. WEIGT
ENVIRONMENTAL CONSULTANTS, INC.
8985 S.E. BRIDGE ROAD, SUITE A, HOBE SOUND, FL 33455
PHONE: (772) 546-6255 FAX: (772) 546-2316 E-MAIL rlweny@comcast.net

EXHIBIT #6



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Engineering Business
No. E8-0007857

HERBACEOUS PLANT LIST

COMMON NAME	SCIENTIFIC NAME	DENSITY	SIZE	UNITS	SQFT	ACRE
CRINUM LILY	<i>Crinum americanum</i>	1' O.C.	BR	4800	4792	0.11
DUCK POTATO	<i>Sagittaria latifolia</i>	2' O.C.	BR	3490	13939	0.32
FAKAHATCHEE GRASS	<i>Tripsacum dactyloides</i>	2' O.C.	BR	330	1307	0.03
GIANT BULRUSH	<i>Scirpus californicus</i>	2' O.C.	BR	8060	32234	0.74
JOINTED SPIKERUSH	<i>Eleocharis interstincta</i>	2' O.C.	BR	10350	41382	0.95
MAIDENCANE	<i>Panicum hemitomon</i>	2' O.C.	BR	4800	19166	0.44
MUHLY GRASS	<i>Muhlenbergia capillaris</i>	2' O.C.	LN-2"	15680	62726	1.44
PICKERELWEED	<i>Pontederia cordata</i>	2' O.C.	BR	3270	13068	0.30
SAND CORDGRASS	<i>Spartina bakeri</i>	2' O.C.	LN-2"	2830	11326	0.26
SOFT RUSH	<i>Juncus effusus</i>	2' O.C.	BR	770	3049	0.07
SOFT-STEM BULRUSH	<i>Scirpus validus</i>	2' O.C.	BR	4250	16988	0.39
				SUB -TOTAL		5.05
OPEN WATER				OPEN WATER		0.27
				TOTAL		5.32

TREE PLANT LIST

				UNITS MITIGATION AREA	UNITS STA
© BALD CYPRESS	<i>Taxodium distichum</i>	10' O.C.	25G 10'+2"C	178	25
		10' O.C.	45G 12'+3"C	178	25
		10' O.C.	100G 4"C	179	26
				535	75
⊗ POND CYPRESS	<i>Taxodium ascendens</i>	10' O.C.	15G 6' - 8'	76	33
		10' O.C.	25G 8' - 10'	76	33
		10' O.C.	45G 10' - 12'	76	33
				228	69
UPLAND PRESERVE	±1.36 ACRES				

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 04 - PLANT LIST.DWG	DATE REVISED: 25 JUNE 2010	FIGURE: 4 OF 11
LATITUDE: N27° 16'23.378"				LONGITUDE: W080°17'11.087"			
DESIGNED BY: RLW				DRAWN BY: FRP		CHECKED BY: RLW	

CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWP)
ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN



PROPOSED MITIGATION PLANT LIST



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PHONE: (772) 546-6255 FAX: (772) 546-2316 E-MAIL: rlwenv@comcast.net

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(10,890/acre) or 3' O.C. (4,840/acre). Trees will range from 15 gallon to 100 gallon or field grown with a 2-3" DBH.

The proposed ± 5.32 acre created wetland will provide feeding, breeding and nursery habitat for birds, reptiles and fish. Past created STAs have attracted blue and white herons, night herons, egrets, roseate spoonbills, wood storks, ducks osprey, bald eagles and various other migratory and local song birds, raptors and waterfowl. Many of the ponds are inhabited by large mouth bass, sunfish, gambusia, catfish and other fish species important to the ecosystem. Frequent reptiles and amphibians include turtles, water snakes, alligators, chorus frogs, leopard frogs, toads and sirens.

Uniform Mitigation Assessment Methodology sheets have been completed for each impact and mitigation area and can be found as Appendix A. The total functional loss (FL) for the site is 0.76 debits. The relative functional gain (RFG) is 1.58 credits, leaving a credit balance of 0.82 credits. Please refer to Appendix A for UMAM sheets for each habitat type, and to **Figures 5 and 6 of 11** for State Debit and Credit calculations.

3.00 CONSERVATION/PRESERVATION

The Applicant proposes to place a passive conservation easement over the created wetland area (± 5.32 acres) and associated upland buffer (± 1.36 acres). The total conservation easement will entail approximately 6.68 acres of land and will be preserved in perpetuity (**Figure 7 of 11**).

4.00 MONITORING AND MAINTENANCE PLAN

The proposed Preserve Area of the Elks/Cane Slough STA project site will be monitored semiannually for a five (5) year period. A time-zero monitoring report will be completed following construction and planting. Monitoring will be conducted semiannually and annual reports, documenting the results of the semiannual monitoring iterations, will be prepared to document the

**EASTERN WATERSHED IMPROVEMENT PROJECT
ELKS-CANE SLOUGH MITIGATION AREA
STATE MITIGATION DEBIT CALCULATIONS**

Impact Area- Elks- Cane Sough

Impact Size = 1.04 acres
Existing UMAM Score = 0.30
w/Project UMAM Score = 0.00
Delta = w/Project UMAM - Existing UMAM
= 0.00 - 0.30
= - 0.30
Functional Loss (FL) = Delta x Impact Acres
= -0.30 x 1.04
= -0.312

Impact Area- Leithgow

Impact Size = 0.67 acres
Existing UMAM Score = 0.33
w/Project UMAM Score = 0.00
Delta = w/Project UMAM - Existing UMAM
= 0.00 - 0.33
= - 0.33
Functional Loss (FL) = Delta x Impact Acres
= -0.33 x 0.67
= -0.221

Impact Area- Loutus

Impact Size = 0.60 acres
Existing UMAM Score = 0.37
w/Project UMAM Score = 0.00
Delta = w/Project UMAM - Existing UMAM
= 0.00 - 0.37
= - 0.37
Functional Loss (FL) = Delta x Impact Acres
= -0.37 x 0.60
= -0.222

Total FL = FL Elks/Cane Slough + FL Leithgow + FL Loutus
= -0.312 + (- 0.221) + (-0.222)
= - 0.76 Debits

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 05 - UMAM DBTS.DWG	DATE REVISED: 25 JUNE 2010	FIGURE: 5 OF 11
LATITUDE: N27° 16'23.378" LONGITUDE: W080°17'11.087"				DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW	

CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP)
ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN



UMAM DEBIT CALCULATIONS



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EASTERN WATERSHED IMPROVEMENT PROJECT
ELKS-CANE SLOUGH MITIGATION AREA
STATE MITIGATION CREDIT CALCULATIONS

Proposed State Mitigation

On-site: Created Wetland A (herbaceous)

Wetland Size = 4.07 acres

Existing UMAM Score = 0.00

w/Project UMAM Score = 0.70

Uplift (Delta) = UMAM w/mitigation - UMAM existing

$$= 0.00 - 0.70$$

$$= 0.70$$

Time lag (t-factor) = 3 years = 1.07

Risk Factor = 2.0

Relative Functional Gain (RFG) = Delta/(t-factor x risk)

$$= 0.70/(1.07 \times 2.0) = 0.33$$

On-site Credit = RFG x Mitigation Acres

$$= 0.33 \times 4.07$$

$$= 1.33$$

On-site: Created Wetland A (forested)

Wetland Size = 1.25 acres

Existing UMAM Score = 0.00

w/Project UMAM Score = 0.67

Uplift (Delta) = UMAM w/mitigation - UMAM existing

$$= 0.67 - 0.00$$

$$= 0.67$$

Time lag (t-factor) = 16-20 years = 1.68

Risk Factor = 2.0

Relative Functional Gain (RFG) = Delta/(t-factor x risk)

$$= 0.67/(1.68 \times 2.0) = 0.20$$

Off-site Credit = RFG x Mitigation Acres

$$= 0.20 \times 1.25$$

$$= 0.25$$

Total Mitigation Credit = On-site Credits Wetland A Forested + On-site Credits Wetland A Herbaceous

$$= 1.33 + 0.25$$

$$= 1.58 \text{ Total Mitigation Credits}$$

Total Mitigation Credits - Total Mitigation Debits =

$$= 1.58 - 0.76$$

$$\text{Mitigation Credit Balance} = 0.82 \text{ Credits}$$

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 06 - UMAM CRDT.DWG	DATE REVISED: 25 JUNE 2010	FIGURE: 6 OF 11
LATITUDE: N27° 16'23.378"				LONGITUDE: W080°17'11.087"		DESIGNED BY: RLW	DRAWN BY: FRP
CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP) ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN				R. L. WEIGT ENVIRONMENTAL CONSULTANTS, INC. 8985 S.E. BRIDGE ROAD, SUITE A, HOBE SOUND, FL 33455 PHONE: (772) 546-6255 FAX: (772) 546-2316 E-MAIL rlwenv@comcast.net			
UMAM CREDIT CALCULATIONS							

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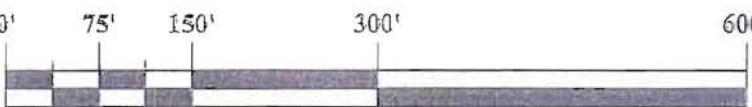
CAPTEC
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E-mail: Captec1@aol.com

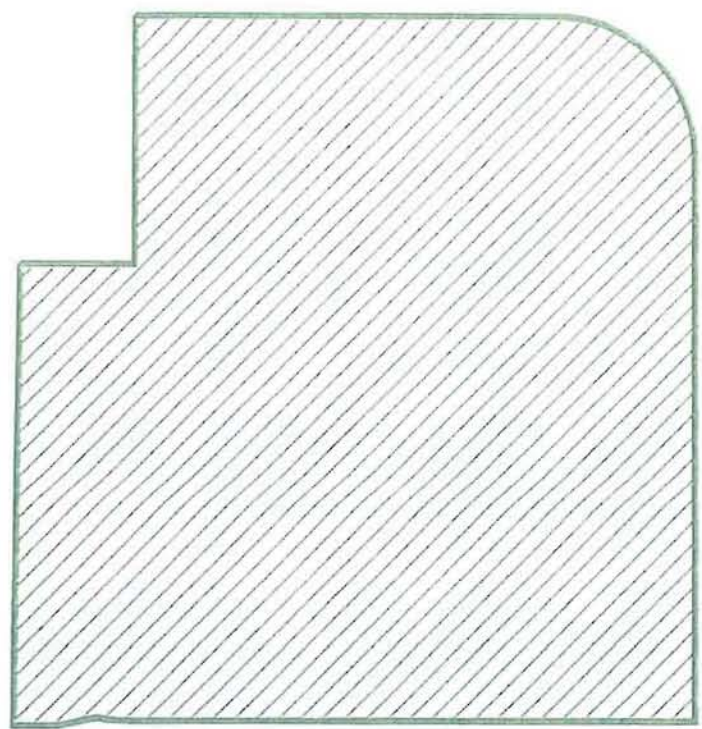
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No. ES-0007857



NORTH



SCALE: 1" = 150'



LEGEND

 **CONSERVATION EASEMENT
± 6.68 ACRES**

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: B7 - CONSERVATION AREAS.DWG	DATE: 13 MAY 2010	FIGURE: 7 OF 11	
LATITUDE: N27° 16'23.378"				LONGITUDE: W080°17'11.087"		DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW
CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP) ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN					 PROPOSED CONSERVATION AREAS  R. L. WEIGT ENVIRONMENTAL CONSULTANTS, INC. 8985 S.E. BRIDGE ROAD, SUITE A, HOBE SOUND, FL 33455 PHONE: (772) 546-6255 FAX: (772) 546-2316 E-MAIL rlwenvi@comcast.net			

EXHIBIT #6

progress of the Preserve Areas located on-site. The reports will include vegetation analysis, wildlife utilization, panoramic photographs, hydrology, and conclusions of the annual monitoring iterations.

4.01 Monitoring Set-up

R.L. Weigt Environmental Consultants, Inc. (RLW) will establish three (3) monitoring transects within the preserved wetland areas (**Figure 8 of 11**). The beginning of each transect will be established with a concrete filled PVC pipe monument in the preserve areas. The concrete filled PVC monument will also serve as the panoramic photograph locations for the preserve areas. Compass bearings from the concrete filled PVC markers will be established for each transect. A metal plate will be engraved with the transect number, compass bearing, and date. The metal plates will be attached to the concrete filled PVC monuments with stainless steel bolts. The concrete filled PVC monuments will be field-located with a hand-held GPS unit and the latitude and longitude recorded.

4.02 Vegetation Survey

RLW biologists will conduct semiannual (April/May and October/November) vegetation surveys for each of the two (2) transects for a period of five (5) years. Sample quadrats, 10 meters x 10 meters (100 square meters), will be established every 100-feet. Vegetation inside the quadrats will be identified to species where possible, and recorded. Percent-coverage of each species will be recorded. Biologists will list all the species that are observed for each particular sample quadrat.

4.03 Panoramic Transect and Quadrat Photographs

During each sample iteration, RLW will take color panoramic photographs (180°) of each transect located throughout the project site. A range-pole will be provided in each photograph for scaling vegetation growth. A single photograph will be taken of each sample

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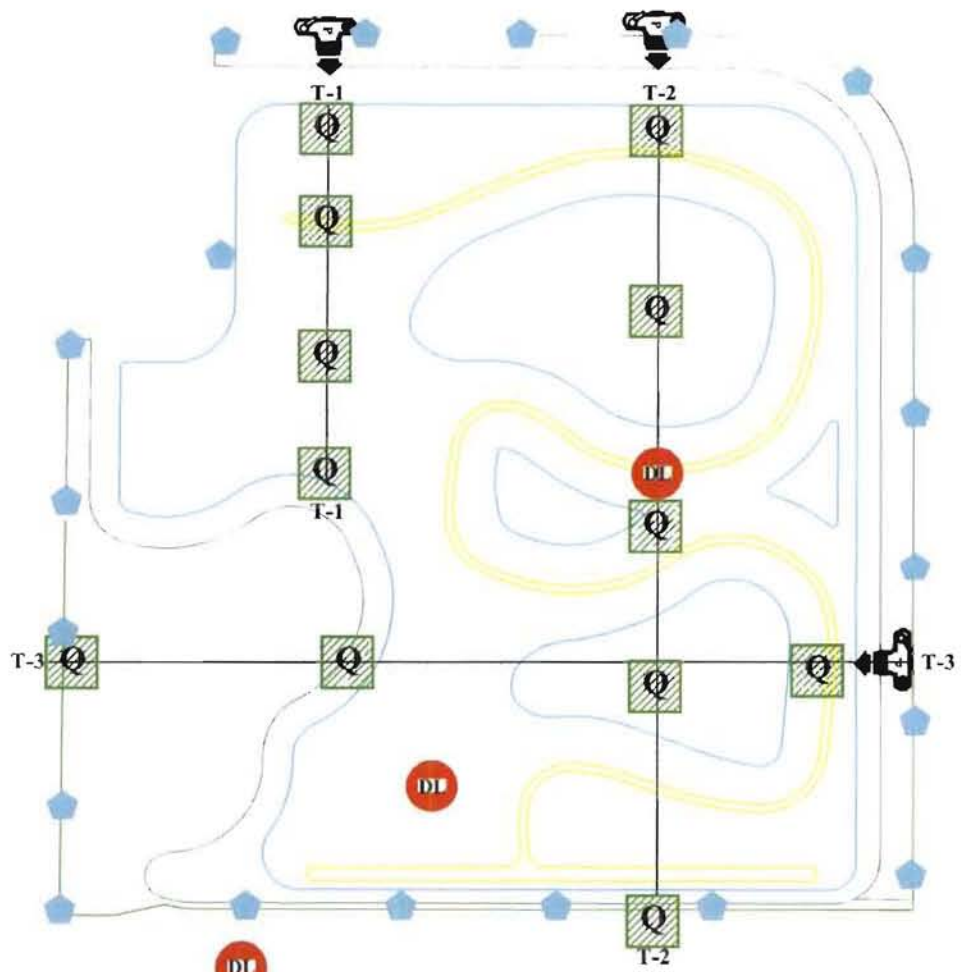
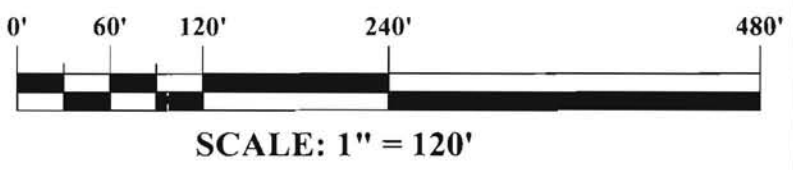


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No. EB-0007857



LEGEND

-  10X10 METER SAMPLE QUADRAT
- T-1 — TRANSECT LOCATION
-  PANORAMIC PHOTOGRAPH LOCATION
-  DATA LOGGER
-  PRESERVE SIGN

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 08 - MONITORING PLAN.DWG	DATE REVISED: 25 JUNE 2010	FIGURE: 8 OF 11
LATITUDE: N27° 16'23.378"				LONGITUDE: W080°17'11.087"		DESIGNED BY: RLW	CHECKED BY: RLW

CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (FWIP)
ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN

MITIGATION MONITORING PLAN



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quadrat. The photographs will provide physical documentation of the conditions within the preserve area. Photographs of the semiannual monitoring iterations will be included in each of the annual reports.

4.04 Wildlife Utilization

A qualitative study of wildlife utilization (birds, mammals, amphibians, and reptiles) will be conducted during each sample iteration. Wildlife utilization will be determined by sighting, scat, calls, nest, burrows, tracks, etc. A species list of observed wildlife will be compiled and included in each of the semiannual reports.

4.05 Hydrology

Three (3) Infinities USA water level data loggers shall be installed. (**Figure 9 of 11**). The data loggers will be programed to record water level within the wetlands once per day. One (1) Infinities USA rain gauge data logger with a self-emptying tipping bucket will be installed on-site to record daily rainfall data (**Figure 9 of 11**). The rainfall collector meets the guidelines and standards of the World Meteorological Organization.

Data from the recorders will be downloaded during the semi-annual monitoring iterations and graphed. The annual reports will include a discussion of the hydrological conditions within the preserved wetlands.

4.06 Fish and Aquatic Macroinvertebrate Sampling

Qualitative sampling for the presence of fish and aquatic macroinvertebrates will be conducted by biologists during each semiannual sample iteration. The fish and aquatic

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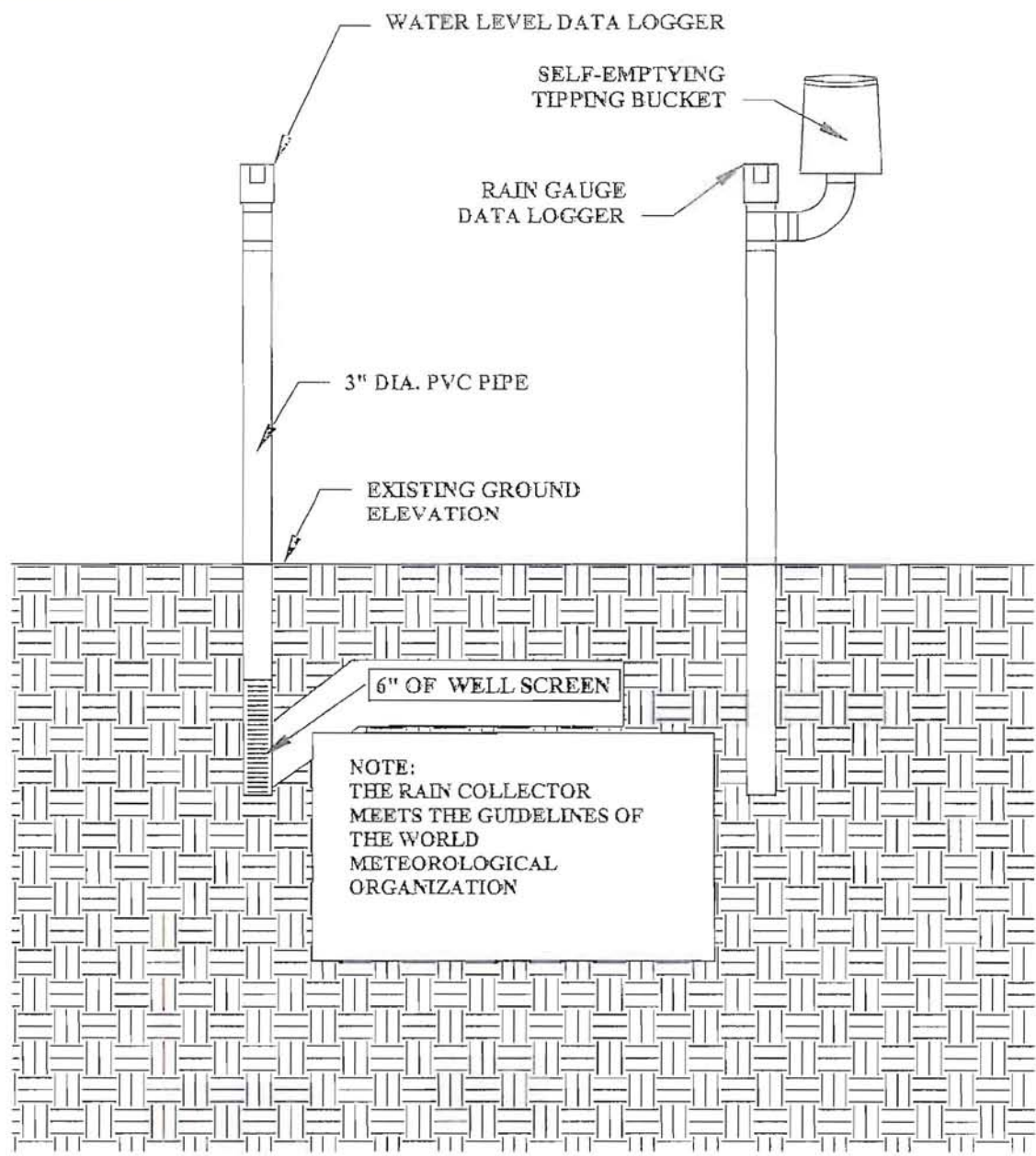


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Engineering Business
No. EB-0007557

NOT TO SCALE



SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 09 - DATA LOGGER.DWG	DATE: 13 MAY 2010	FIGURE: 9 OF 11
LATITUDE: N27° 16'23.378"		LONGITUDE: W080°17'11.087"		DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW	

CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP)
ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN



DATA LOGGER DETAILS (TYPICAL)



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EXHIBIT #6
Application #100322-15
Page 15 of 22

macroinvertebrates will be collected with cast nets, seines, and/or dipnets, whichever is more applicable at the time of sampling. A species list of the fish and aquatic macroinvertebrate sampling will be included in the annual reports.

4.07 Preserve Signage

Signs notifying the public of the conservation/preservation area will be placed along the wetland to keep the public out of these areas (**Figures 8 & 10 of 11**). The signs will warn the general public against clearing, trimming, mowing or dumping within the planted areas. Educational signs will also be placed along the mitigation area to alert the public about the presence of the protected wood stork (**Figure 11 of 11**).

4.08 Exotic Plant Species

Exotic and nuisance plant species will be controlled, in perpetuity, within the mitigation areas. Brazilian pepper, and Australian pine will either be treated with an approved herbicide and allowed to die in-place, or they will be cut and removed from site. An appropriate herbicide will be applied to the stumps to prevent regrowth. Other exotic and nuisance species will be treated with an approved herbicide or pulled by hand. Exotic maintenance will be performed on a semiannual basis, depending on the existing conditions.

The wetland areas will be maintained free of exotic vegetation defined as Category I Plants by the Florida Exotic Pest Plant Council (**Table 1**). Other exotic or nuisance vegetation will be maintained to comprise less than five percent (<5%) of the total acreage of the wetland. Maintenance will be conducted in perpetuity and will run with the land. The City of Port St. Lucie will be perpetually responsible for exotic species maintenance.

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NOT A SURVEY

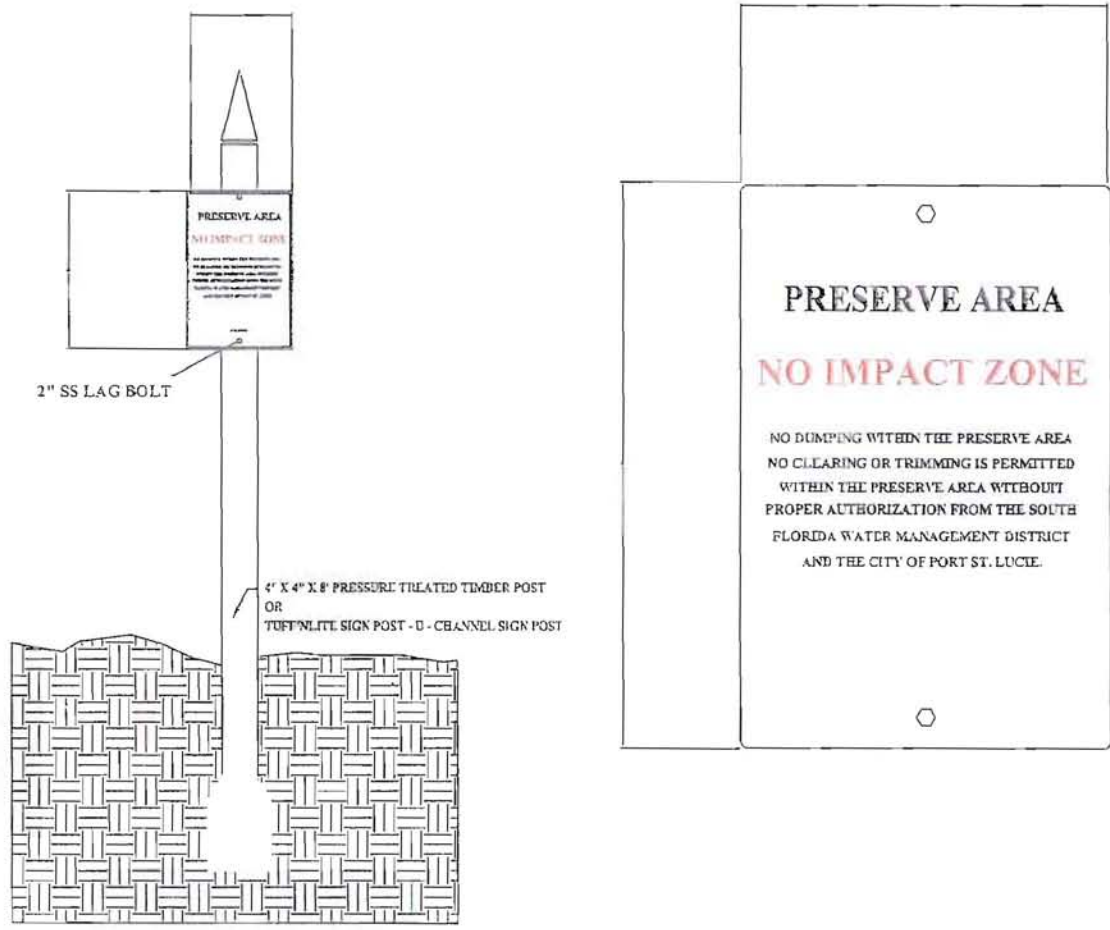


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Engineering Business
No. EB-0007657



SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC.	TWP.	R.	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 16 - CONSERVATION SIGNAGE.DWG	DATE: 13 MAY 2010	FIGURE: 10 OF 11
	12	37S	40E				
LATITUDE: N27° 16'23.378"		LONGITUDE: W080°17'11.087"		DESIGNED BY: RLW	DRAWN BY: FRP	CHECKED BY: RLW	

CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP)
ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN



PRESERVE /CONSERVATION AREA SIGNAGE



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EXHIBIT #6



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Engineering Business
No. ES-0007657

WOOD STORK *Mycteria americana*

DO NOT HARM OR HARASS
ENDANGERED SPECIES

FAMILY MIGRATORY

STATUS
ENDANGERED - C.A. BREEDING POPULATION
(FEDERAL REGISTER, FEBRUARY 11, 1994)

DESCRIPTION:
WOOD STORKS ARE LONG-LEGGED WADING BIRDS, ABOUT 50 INCHES TALL, WITH A WINGSPAN OF 60 TO 66 INCHES. THE PLUMAGE IS WHITE EXCEPT FOR BLACK PRIMARIES AND SECONDARIES AND A SHORT BLACK TAIL. THE HEAD AND NECK ARE LARGELY UNFEATHERED AND DARK GRAY IN COLOR. THE BILL IS BLACK, THICK AT THE BASE, AND SLIGHTLY DECURVED. IMMATURE BIRDS ARE DUNGY GRAY AND HAVE A YELLOWISH BELL.

FEEDING HABITS:

SMALL FISH FROM 1 TO 6 INCHES LONG, ESPECIALLY TOP MINNOWS AND RUNNERS, PROVIDE THE WOOD STORKS' PRIMARY DIET. WOOD STORKS CAPTURE THEIR PREY BY A SPECIALIZED TECHNIQUE KNOWN AS GROUSE-FEEDING OR TACO-LOCATION. FEEDING OFTEN OCCURS IN WATER 6 TO 10 INCHES DEEP, WHILE A STORK PROBES WITH THE BILL, PARTLY OPEN, WHEN A FISH TOUCHES THE BILL IT QUICKLY SNAPS SHUT. THE AVERAGE RESPONSE TIME OF THIS REFLEX IS 25 MILLISECONDS, MAKING IT ONE OF THE FASTEST REFLEXES KNOWN TO VERTEBRATES. WOOD STORKS USE THERMAL TO SOAR AS FAR AS 80 MILES FROM NESTING TO FEEDING AREAS SINCE THERMALS DO NOT FORM IN EARLY MORNING, WOOD STORKS MAY ARRIVE AT FEEDING AREAS LATER THAN OTHER WADING BIRD SPECIES SUCH AS HERONS, CORMORANTS, AND BARN SWANS. FEEDING OFTEN OCCURS IN THE BRANCHES OF LANCE OYSTERS, WHICH ARE FREQUENTLY LOCATED IN THE UPPER BRANCHES OF LANCE OYSTERS. SEVERAL NESTS ARE USUALLY LOCATED IN EACH TREE. WOOD STORKS HAVE ALSO NESTED IN MAN-MADE STRUCTURES. WOOD STORKS LAY TWO (2) TO FIVE (5) EGGS AND AVERAGE TWO (2) YOUNG FLEDGED PER SUCCESSFUL NEST UNDER GOOD CONDITIONS.

REPRODUCTION AND DEVELOPMENT:

THE WOOD STORK IS A HIGHLY COLONIAL SPECIES USUALLY NESTING IN LARGE ROOKERIES AND FEEDING FLOCKS. AGE AT FIRST BREEDING IS 4 YEARS. NESTING PERIODS VARY GEOGRAPHICALLY. IN SOUTH FLORIDA, WOOD STORKS LAY EGGS AS EARLY AS OCTOBER AND FLEDGE IN FEBRUARY OR MARCH. HOWEVER, IN NORTH CAROLINA AND CENTRAL FLORIDA, GEORGIA, AND SOUTH CAROLINA, STORKS LAY EGGS FROM MARCH TO LATE MAY, WITH FLEDGING OCCURRING IN JULY AND AUGUST. NESTS ARE FREQUENTLY LOCATED IN THE UPPER BRANCHES OF LANCE OYSTERS, WHICH ARE FREQUENTLY LOCATED IN THE UPPER BRANCHES OF LANCE OYSTERS. SEVERAL NESTS ARE USUALLY LOCATED IN EACH TREE. WOOD STORKS HAVE ALSO NESTED IN MAN-MADE STRUCTURES. WOOD STORKS LAY TWO (2) TO FIVE (5) EGGS AND AVERAGE TWO (2) YOUNG FLEDGED PER SUCCESSFUL NEST UNDER GOOD CONDITIONS.



WOOD STORK, NEST

WOOD STORKS BUILD A RATHER BULKY NEST OF TWIGG THAT ARE SIMPLY LAID IN THE FORKS OF TREES OR ON A TRAIL. NESTS GENERALLY ARE 2 TO 4 FEET IN DIAMETER AND 6 TO 10 INCHES HIGH. THE NEST IS LINED WITH SOFTER MATERIAL. IS BUILT IN 3 DAYS, WITH THE MALE PROVIDING MOST OF THE BUILDING MATERIAL AND THE FEMALE PLACING IT ON THE PLATFORM. WOOD STORKS USUALLY BUILD THEIR NEST IN TREES FLOODED BY 1 TO 3 FEET OF WATER. IN FRESHWATER SWAMPS, THESE FLOODED TREES PROVIDE A WATER BARRIER AGAINST GROUND PREDATORS SUCH AS RACCOONS AND SKUNKS.



EGGS

THE WHITE BUT OFTEN BROWN-STAINED EGGS MEASURE 2.7 BY 1.8 INCHES AND AVERAGE 302. AN AVERAGE CLUTCH IS 3 EGGS, WITH A RANGE OF 2 TO 5. THE EGGS ARE LAID AT ABOUT 1-DAY INTERVALS. A 2ND CLUTCH CAN BE PRODUCED IF THE EGGS ARE LOST EARLY IN THE NESTING SEASON.

FOR MORE INFORMATION PLEASE CONTACT:

E. L. WEIGT
U.S. FISH AND WILDLIFE SERVICE
3100 UNIVERSITY BLVD., SOUTH
SUITE 130
JACKSONVILLE, FLORIDA 32216
TELEPHONE: 904-232-2588
E. L. WEIGT
ENVIRONMENTAL CONSULTANTS, INC.
10000 N. W. 11TH AVE., SUITE 100
MIAMI, FLORIDA 33157

REASON FOR CURRENT STATUS:

THE UNITED STATES BREEDING POPULATION OF THE WOOD STORK DECLINED FROM AN ESTIMATED 70,000 PAIRS IN THE 1930S TO ABOUT 10,000 PAIRS BY 1960. SINCE 1970, FEWER THAN 5,000 PAIRS HAVE BREED EACH YEAR. IF THIS TREND WERE TO CONTINUE, THE UNITED STATES BREEDING POPULATION WOULD BE NEAR EXTINCTION BY THE TURN OF THE CENTURY. THE DECLINE IS BELIEVED TO BE DUE PRIMARILY TO THE LOSS OF SUITABLE FEEDING HABITAT. THIS IS ESPECIALLY TRUE OF SOUTH FLORIDA ROOKERIES WHERE REPEATED NESTING FAILURES HAVE OCCURRED DESPITE PROTECTION OF THE ROOKERIES. FEEDING AREAS IN SOUTH FLORIDA HAVE DECREASED BY ABOUT 35 PERCENT SINCE 1960 DUE TO MAN'S ALTERATION OF WETLANDS. OTHER SIGNIFICANT FACTORS KNOWN TO AFFECT NESTING SUCCESS INCLUDE PROLONGED DROUGHT AND FLOODING, RACCOON PREDATION ON NESTS, AND HUMAN DISTURBANCE OF ROOKERIES.

MANAGEMENT AND PROTECTION:

AT A MINIMUM, FOR THE CONTINUED SURVIVAL OF THE UNITED STATES POPULATION OF WOOD STORKS, CURRENTLY OCCUPYING NESTING, ROOKING, AND FORAGING HABITAT MUST BE PROTECTED FROM FURTHER LOSS OR DEGRADATION. A PREREQUISITE FOR RECOVERY OF THE POPULATION IS THE RESTORATION AND ENHANCEMENT OF SUITABLE HABITAT THROUGHOUT THE MOSAIC OF HABITAT TYPES USED BY THE SPECIES. RECOVERY EFFORTS OF THE WOOD STORK WILL BE MORE EFFECTIVE WITH A COMPLETE UNDERSTANDING OF POPULATION BIOLOGY, MOVEMENT PATTERNS OF THE UNITED STATES AND NEIGHBORING POPULATIONS OF STORKS, FORAGING ECOLOGY, AND BEHAVIOR. THE IMPORTANCE OF ROOST SITES, AND THE POSSIBLE IMPACTS OF CONTAMINANTS.

REFERENCES:

KARL, M.P. 1994. FOOD ECOLOGY OF WOOD STORK (*MYCTERIA AMERICANA*) IN FLORIDA. ECOL. MONOGR. 24:97-117.
KALE, J.W.D. (ED) 1976. BIRDS VOL. 2 (RARE AND ENDANGERED BIOTA OF FLORIDA). UNIV. FLORIDA PRESS, GAINESVILLE.
OGDEN, J.C. AND R.W. PATTY. 1981. THE RECENT STATUS OF THE WOOD STORK IN FLORIDA AND GEORGIA. GEORGIA DEPT. NAT. RES. GAME AND FISH DIV. TECH. BULL. WL-6:97-101.
U.S. FISH AND WILDLIFE SERVICE. 1986. RECOVERY PLAN FOR THE C.A. BREEDING POPULATION OF THE WOOD STORK. U.S. FISH AND WILDLIFE SERVICE, ATLANTA, GEORGIA 30337.

SOURCE: RLW AND CAPTEC ENGINEERS

CITY OF PORT ST. LUCIE FLORIDA	SEC. 12	TWP. 37S	R. 40E	RLW JOB NO.: 09 - 032.05 ELKS CANE	DRAWING NAME: 11 - WDSTRK SIGN.DWG	DATE: 13 MAY 2010	FIGURE: 11 OF 11
LATITUDE: N27° 16'23.378"				LONGITUDE: W080°17'11.087"		DESIGNED BY: RLW	CHECKED BY: RLW
DRAWN BY: FRP							

CITY OF PORT ST. LUCIE EASTERN WATERSHED IMPROVEMENT PROJECT (EWIP)
ELKS-CANE SLOUGH - MITIGATION, MONITORING AND MAINTENANCE PLAN



WOOD STORK SIGNAGE



R. L. WEIGT
ENVIRONMENTAL CONSULTANTS, INC.
8985 S.E. BRIDGE ROAD, SUITE A, HOBE SOUND, FL 33455
PHONE: (772) 546-6255 FAX: (772) 546-2316 E-MAIL: rlwenv@comcast.net

Table 1. Florida Exotic Pest Plant Council's Category I Invasive Exotic Species (2009).

<u>Scientific Name</u>	<u>Common Name</u>
<i>Abrus precatorius</i>	rosary pea
<i>Acacia auriculiformis</i>	earleaf acacia
<i>Albizia julibrissin</i>	mimosa, silk tree
<i>Albizia lebbek</i>	woman's tongue
<i>Ardisia crenata</i> (= <i>A. crenulata</i>)	coral ardisia
<i>Ardisia elliptica</i> (= <i>A. humilis</i>)	shoebutton ardisia
<i>Asparagus aethiopicus</i> (= <i>A. sprengeri</i> ; <i>A. densiflorus</i> misapplied)	Asparagus fern
<i>Bauhinia variegata</i>	Orchid tree
<i>Bischofia javanica</i>	bischofia
<i>Calophyllum antillanum</i> (= <i>C. calaba</i> ; <i>C. inophyllum</i> , misapplied)	santa maria (names "mast wood", "Alexandrian laurel" used in cultivation)
<i>Casuarina equisetifolia</i>	Australian pine
<i>Casuarina glauca</i>	suckering Australian pine
<i>Cinnamomum camphora</i>	camphor-tree
<i>Colocasia esculenta</i>	wild taro
<i>Colubrina asiatica</i>	lather leaf
<i>Cupaniopsis anacardioides</i>	carrotwood
<i>Dioscorea alata</i>	winged yam
<i>Dioscorea bulbifera</i>	air potato
<i>Eichornia crassipes</i>	water hyacinth
<i>Eugenia uniflora</i>	Surinam cherry
<i>Ficus microcarpa</i> (= <i>Ficus nitida</i> ; <i>F. retusa</i> var. <i>nitida</i> misapplied)	laurel fig
<i>Hydrilla verticillata</i>	hydrilla
<i>Hygrophila polysperma</i>	green hygro
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass
<i>Imperata cylindrica</i> (= <i>I. brasiliensis</i> misapplied)	cogon grass
<i>Ipomoea aquatica</i>	waterspinach
<i>Jasminum dichotomum</i>	Gold Coast jasmine
<i>Jasminum fluminense</i>	Brazilian jasmine
<i>Lantana camara</i>	lantana, shrub verbena
<i>Ligustrum lucidum</i>	glossy privet
<i>Ligustrum sinense</i>	Chinese privet, hedge privet
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Ludwigia peruviana</i>	Peruvian primrose willow
<i>Luziola subintegra</i>	Tropical American water grass
<i>Lygodium japonicum</i>	Japanese climbing fern
<i>Lygodium microphyllum</i>	Old World climbing fern
<i>Macfadyena unguis-cati</i>	cats claw vine
<i>Manilkara zapota</i>	sapodilla
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark

Melinis repens
(= *Rhynchelytrum repens*)

Mimosa pigra

Nandina domestica

Nephrolepis cordifolia

Nephrolepis brownii

(= *N. Multiflora*)

Neyraudia reynaudiana

Nymphoides cristata

Paederia cruddasiana

Paederia foetida

Panicum repens

Pennisetum purpureum

Pistia stratiotes

Psidium cattleianum

(= *P. littorale*)

Psidium guajava

Pueraria montana var. *lobata*

(= *P. lobata*)

Rhodomirtus tomentosa

Rhynchelytrum repens

(= *Melinis repens*)

Salvinia minima

Ruellia brittoniana

(*R. tweediana* misapplied)

Sapium sebiferum

(= *Triadeca sebifera*)

Scaevola taccada

(= *Scaevola sericea*;

S. frutescens)

Schefflera actinophylla

(= *Brassaia actinophylla*)

Schinus terebinthifolius

Scleria lacustris

Senna pendula var. *glabrata*

(= *Cassia coluteoides*)

Solanum tampicense

(= *S. houstonii*)

Solanum viarum

Syngonium podophyllum

Syzygium cumini

Tectaria incisa

Thespesia populnea

Tradescantia fluminensis

Urochloa mutica

(= *Brachiaria mutica*)

natal grass

catclaw mimosa

nandina, heavenly bamboo

sword fern

Asian sword fern

Burma reed, cane grass

snowflake

sewer vine, onion vine

skunk vine

torpedo grass

napier grass

water lettuce

strawberry guava

guava

kudzu

downy rose-myrtle

Natal grass

water spangles

Mexican petunia

popcorn tree, Chinese tallow tree

scaevola, half-flower, beach naupaka

schefflera, Queensland umbrella tree

Brazilian pepper

Wright's nutrush

climbing cassia, Christmas cassia, Christmas senna

wetland night shade, aquatic soda apple

tropical soda apple

Arrowhead vine

jambolan, Java plum

incised halberd fern

seaside mahoe

white-flowered wandering jew

Para grass

Source: Florida Exotic Pest Plant Council, 2009 List of Invasive Species

4.09 Success Criteria

The wetland areas will achieve an eighty-percent (80%) coverage and survival rate of desirable obligate and facultative native vegetation at the end of the second year of monitoring. Replanting of native, desirable vegetation will occur after each monitoring event if the targeted coverage for any portion of a wetland area is not achieved within the specified time-frame.

5.00 **MONITORING REPORTS**

Annual reports containing results of the semiannual monitoring iterations will be submitted to the South Florida Water Management District (SFWMD), according to the schedule of events that follows. Any alteration from these dates must first be discussed with the SFWMD and the schedule modified.

The schedule of semi-annual monitoring iterations and annual reports is as follows:

October/November 2011	Time Zero Monitoring Report
April/May 2012	Semiannual monitoring
October/November 2012	Semiannual monitoring, Report #1
April/May 2013	Semiannual monitoring
October/November 2013	Semiannual monitoring, Report #2
April/May 2014	Semiannual monitoring
October/November 2014	Semiannual monitoring, Report #3
April/May 2015	Semiannual monitoring
October/November 2015	Semiannual monitoring, Report #4
April/May 2016	Semiannual monitoring
October/November 2016	Semiannual monitoring, Final Report #5

Baseline and annual reports will be submitted within thirty (30) days of sampling the preserve areas. The monitoring reports will contain the following data:

- results of the semiannual vegetation surveys
- results of the semiannual wildlife utilization
- water level and rainfall data
- semiannual panoramic and quadrat photographs
- results of the semiannual fish and aquatic macroinvertebrate survey
- discussion of project issues related to water levels, vegetation changes, fish and wildlife utilization, percent-coverage, permit compliance, exotic species, and recommendations or proposed changes, as necessary for improving the success of the preserve areas.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

DEED OF CONSERVATION EASEMENT

Return recorded document to:
South Florida Water Management District
3301 Gun Club Road, MSC 4210
West Palm Beach, FL 33406

THIS DEED OF CONSERVATION EASEMENT is given this 13th
day of July, 2010, by
the CITY OF PORT ST. LUCIE, a political subdivision of the State of
Florida, a Florida municipal corporation ("Grantor") whose mailing address is
121 SW Port St. Lucie Boulevard, Port St. Lucie, FL 34984
to the South Florida Water Management District ("Grantee"). As used herein, the term
"Grantor" shall include any and all successors or assigns of the Grantor, and all
subsequent owners of the "Property" (as hereinafter defined) and the term "Grantee"
shall include any successor or assignee of Grantee.

WITNESSETH

WHEREAS, the Grantor is the owner of certain lands situated in
Port St. Lucie, St. Lucie County, Florida, and more
specifically described in Exhibit "A" attached hereto and incorporated herein
("Property"); and

WHEREAS, the Grantor desires to construct
a stormwater treatment area and wetland mitigation area ("Project") at a site in
Port St. Lucie, St. Lucie County, which is subject to the
regulatory jurisdiction of South Florida Water Management District ("District"); and

WHEREAS, District Permit No.
56- ("Permit") authorizes certain activities
which affect surface waters in or of the State of Florida; and

WHEREAS, this Permit requires that the Grantor preserve, enhance, restore
and/or mitigate wetlands and/or uplands under the District's jurisdiction; and

Deed of Conservation Easement – Local Governments, Incorporated by reference in Section 4.3.8, Basis of Review for
Environmental Resource Permit Applications within the South Florida Water Management District, incorporated by reference in Rule
40E-4.091, F.A.C.

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WHEREAS, the Grantor has developed and proposed as part of the Permit conditions, a conservation tract and maintenance buffer involving preservation of certain wetland and/or upland systems on the Property; and

WHEREAS, the Grantor, in consideration of the consent granted by the Permit, is agreeable to granting and securing to the Grantee a perpetual Conservation Easement as defined in Section 704.06, Florida Statutes, over the area described on Exhibit "A" ("Conservation Easement").

NOW, THEREFORE, in consideration of the issuance of the Permit to construct and operate the permitted activity, and as an inducement to Grantee in issuing the Permit, together with other good and valuable consideration, the adequacy and receipt of which are hereby acknowledged, Grantor hereby grants, creates, and establishes a perpetual Conservation Easement for and in favor of the Grantee upon the Property described on Exhibit "A" which shall run with the land and be binding upon the Grantor, and shall remain in full force and effect forever.

The scope, nature, and character of this Conservation Easement shall be as follows:

1. Recitals. The recitals hereinabove set forth are true and correct and are hereby incorporated into and made a part of this Conservation Easement.

2. Purpose. It is the purpose of this Conservation Easement to retain land or water areas in their natural, vegetative, hydrologic, scenic, open, agricultural or wooded condition and to retain such areas as suitable habitat for fish, plants or wildlife. Those wetland and/or upland areas included in the Conservation Easement which are to be preserved, enhanced or created pursuant to the Permit shall be retained and maintained in the enhanced or created conditions required by the Permit.

To carry out this purpose, the following rights are conveyed to Grantee by this easement:

a. To enter upon the Property at reasonable times with any necessary equipment or vehicles to enforce the rights herein granted in a manner that will not unreasonably interfere with the use and quiet enjoyment of the Property by Grantor at the time of such entry; and

b. To enjoin any activity on or use of the Property that is inconsistent with this Conservation Easement and to enforce the restoration of such areas or features of the Conservation Easement that may be damaged by any inconsistent activity or use.

3. Prohibited Uses. Except for restoration, creation, enhancement, maintenance and monitoring activities, or surface water management improvements, or other activities described herein that are permitted or required by the Permit, the following activities are prohibited in or on the Conservation Easement:

Deed of Conservation Easement – Local Governments, Incorporated by reference in Section 4.3.8, Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, incorporated by reference in Rule 40E-4.091, F.A.C.

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a. Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures on or above the ground;

b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;

c. Removal or destruction of trees, shrubs, or other vegetation, except for the removal of exotic or nuisance vegetation in accordance with a District approved maintenance plan;

d. Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface;

e. Surface use except for purposes that permit the land or water area to remain in its natural or enhanced condition;

f. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking and fencing;

g. Acts or uses detrimental to such aforementioned retention of land or water areas;

h. Acts or uses which are detrimental to the preservation of the structural integrity or physical appearance of sites or properties having historical, archaeological, or cultural significance.

4. Passive Recreational Facilities. Grantor reserves all rights as owner of the Property, including the right to engage in uses of the Property that are not prohibited herein and that are not inconsistent with any District rule, criteria, the Permit and the intent and purposes of this Conservation Easement. Passive recreational uses that are not contrary to the purpose of this Conservation Easement may be permitted upon written approval by the District. Without limiting the generality of the foregoing, the following rights are expressly reserved:

a. The Grantor may conduct limited land clearing for the purpose of constructing such pervious facilities as docks, boardwalks or mulched walking trails; and

b. The Grantor may construct and maintain passive public use facilities for the purpose of educating the public or allowing public access and recreation which have minimal or no impact on natural resources; and

c. Grantor may place signs and markers as necessary to identify trails, restoration areas, or other site features related to public use and land management activities; and

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d. Grantor may construct and maintain to the extent allowed by current and future permits, at grade, management roads, fire breaks, trails, walkways, piers, observation platforms or boardwalks necessary to provide public access and management activities as provided for in the site's management plan; and

e. Grantor may remove or kill by any lawful means, exotic or nuisance vegetation or animal species, conduct prescribed burns and conduct other management activities necessary to carry out management for conservation purposes; and

f. Grantor may conduct restoration and enhancement projects which do not conflict with the purpose of this easement; and

g. The construction and use of the approved passive recreational facilities shall be subject to the following conditions:

i. Grantor shall minimize and avoid, to the fullest extent possible, impact to any wetland or upland buffer areas within the Conservation Easement Area and shall avoid materially diverting the direction of the natural surface water flow in such area;

ii. Such facilities and improvements shall be constructed and maintained utilizing Best Management Practices;

iii. Adequate containers for litter disposal shall be situated adjacent to such facilities and improvements and periodic inspections shall be instituted by the maintenance entity, to clean any litter from the area surrounding the facilities and improvements;

iv. This Conservation Easement shall not constitute permit authorization for the construction and operation of the passive recreational facilities. Any such work shall be subject to all applicable federal, state, District or local permitting requirements.

5. No Dedication. No right of access by the general public to any portion of the Property is conveyed by this Conservation Easement.

6. Grantee's Liability. Grantee shall not be responsible for any costs or liabilities related to the operation, upkeep or maintenance of the Property.

7. Property Assessments. If and to the extent that the Grantor is not exempt from assessments and assessments are levied against the Easement Parcel, Grantor shall keep the assessments on the Easement Parcel current.

8. Enforcement. Enforcement of the terms, provisions and restrictions of this Conservation Easement shall be at the reasonable discretion of Grantee, and any forbearance on behalf of Grantee to exercise its rights hereunder in the event of any breach hereof by Grantor, shall not be deemed or construed to be a waiver of Grantee's

Deed of Conservation Easement - Local Governments, Incorporated by reference in Section 4.3.8, Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, incorporated by reference in Rule 40E-4.091, F.A.C.

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rights hereunder.

9. Assignment. Grantee will hold this Conservation Easement exclusively for conservation purposes. Grantee will not assign its rights and obligations under this Conservation Easement except to another organization or entity qualified to hold such interests under the applicable state laws.

10. Severability. If any provision of this Conservation Easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this Conservation Easement shall not be affected thereby, as long as the purpose of the Conservation Easement is preserved.

11. Terms, Conditions, Restrictions, Purpose. The terms, conditions, restrictions and purpose of this Conservation Easement shall be referenced by Official Record Book and Page Number by Grantor in any subsequent deed or other legal instrument by which Grantor divests itself of any interest in the Conservation Easement. Any future holder of the Grantor's interest in the Property shall be notified in writing by Grantor of this Conservation Easement.

12. Written Notice. All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.

13. Modifications. This Conservation Easement may be amended, altered, released or revoked only by written agreement between the parties hereto or their heirs, assigns or successors-in-interest, which shall be filed in the public records in

St. Lucie County.

TO HAVE AND TO HOLD unto Grantee forever. The covenants, terms, conditions, restrictions and purposes imposed with this Conservation Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Property.

The Grantor agrees to defend the title to the Conservation Easement property hereby conveyed against the lawful claims of all persons claiming by, through, or under the Grantor, except those claims created or arising from any act or omission of Grantee.

IN WITNESS WHEREOF,

CITY OF PORT ST. LUCIE, a Florida municipal corporation

(Grantor) has hereunto set its authorized hand this

13th day of July,
2010.

CITY OF PORT ST. LUCIE, a Florida municipal corporation

A political subdivision of the State of Florida

By: Patricia P. Christensen

Patricia P. Christensen, Mayor
(Print Name and Title)

ATTEST:

BY: Karen A. Phillips

City Clerk, Karen A. Phillips

DATE: 7-13-2010

APPROVED AS TO FORM AND
SUFFICIENCY

By: Roger G. Orr

Roger G. Orr, City Attorney
(Print Name and Title)

EXHIBIT A— DESCRIPTION OF PROPERTY

LEGAL DESCRIPTION

BEING A PORTION OF LOTS 1, 2, AND 3, ACCORDING TO THE PLAT OF LENNARD ROAD SQUARE, AS RECORDED IN PLAT BOOK 34, PAGE 7, OF THE PUBLIC RECORDS OF ST. LUCIE COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS;

COMMENCE AT THE NORTHWEST CORNER OF SAID LOT 1; THENCE N89°54'03"E, ALONG THE NORTH LINE OF SAID LOT 1, A DISTANCE OF 118.51 FEET; THENCE S00°12'08"W A DISTANCE OF 12.80 FEET TO THE POINT OF BEGINNING OF THE FOLLOWING DESCRIBED PARCEL;

THENCE S89°47'23"E A DISTANCE OF 339.82 FEET TO THE INTERSECTION WITH A NON TANGENT CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 112.13 FEET, THE CHORD OF WHICH BEARS S44°53'22"E; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, A DISTANCE OF 175.74 FEET THROUGH A CENTRAL ANGLE OF 89°47'58"; THENCE S00°00'37"W A DISTANCE OF 458.42 FEET; THENCE N89°45'15"W A DISTANCE OF 43.08 FEET; THENCE N89°53'55"W A DISTANCE OF 414.77 FEET; THENCE N89°35'53"W A DISTANCE OF 6.14 FEET; THENCE N84°49'20"W A DISTANCE OF 11.12 FEET; THENCE N78°32'09"W A DISTANCE OF 8.61 FEET; THENCE S78°08'37"W A DISTANCE OF 32.78 FEET; THENCE N89°37'21"W A DISTANCE OF 35.64 FEET; THENCE N00°48'59"E A DISTANCE OF 144.76 FEET; THENCE N00°55'49"E A DISTANCE OF 221.45 FEET; THENCE N00°52'27"E A DISTANCE OF 8.94 FEET; THENCE S89°57'57"E A DISTANCE OF 93.27 FEET; THENCE N00°12'08"E A DISTANCE OF 199.59 FEET TO THE POINT OF BEGINNING.

CONTAINING 6.683 ACRES, MORE OR LESS.

NOTE: THIS IS NOT A SKETCH OF SURVEY, BUT ONLY A GRAPHIC DEPICTION OF THE DESCRIPTION SHOWN HEREON. THERE HAS BEEN NO FIELD WORK, VIEWING OF THE SUBJECT PROPERTY OR MONUMENTS SET IN CONNECTION WITH THE PREPARATION OF THE INFORMATION SHOWN HEREON BY THIS OFFICE.

NOTE: LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR RIGHT-OF-WAY AND/OR EASEMENTS OF RECORD.

Michael J. Korodziejczyk
Professional Surveyor and Mapper
Florida Certificate No. 3864

6-9-2010
Signature Date

Sheet 1 of 2

DESCRIPTION
OF
EASEMENT-1

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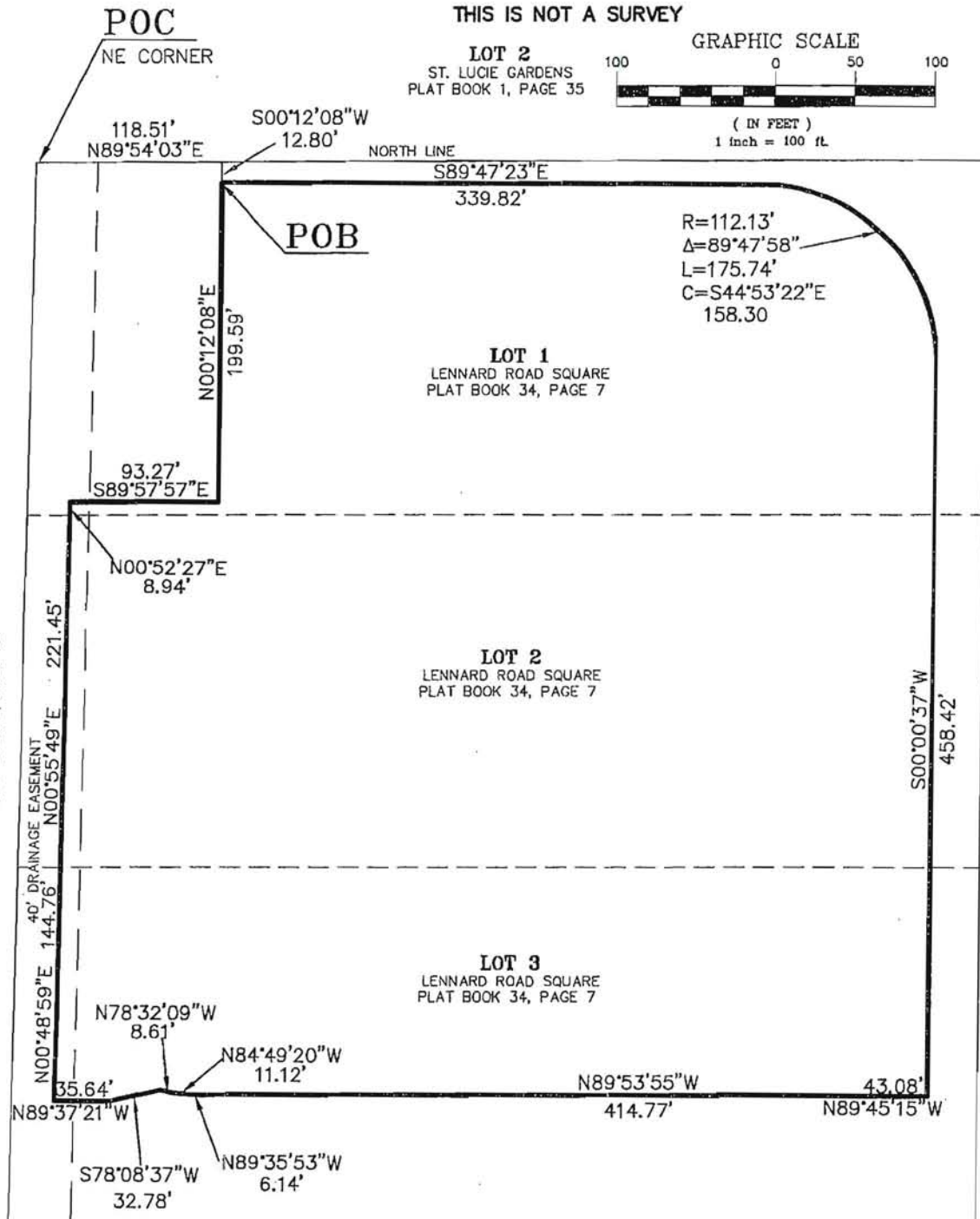
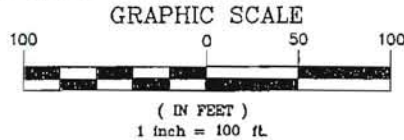
STATE OF FLORIDA CERTIFICATE OF RECORD APPLICATION #100312-15

PAGE 7 OF 8

SKETCH TO ACCOMPANY LEGAL DESCRIPTION

THIS IS NOT A SURVEY

LOT 2
ST. LUCIE GARDENS
PLAT BOOK 1, PAGE 35



LOT 14
ST. LUCIE GARDENS
PLAT BOOK 1, PAGE 35

40' DRAINAGE EASEMENT

WEST RIGHT-OF-WAY LINE

LENNARD ROAD
100' RIGHT-OF-WAY

EAST RIGHT-OF-WAY LINE

BEARINGS SHOWN HEREON ARE ASSUMED AND
RELATIVE TO THE NORTH LINE OF LOT 1 HAVING A
BEARING OF N89°54'03\"E

LOT 16
ST. LUCIE GARDENS
PLAT BOOK 1, PAGE 35

Δ = DELTA
R = RADIUS
L = ARC LENGTH
C = CHORD BEARING & DISTANCE
C = CENTERLINE
POB = POINT OF BEGINNING
POC = POINT OF COMMENCEMENT

Sheet 2 of 2

SKETCH OF DESCRIPTION OF EASEMENT-1

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STATE OF FLORIDA CERTIFICATE OF PRACTICE #100322-15

PAGE 8 OF 8

South Florida Water Management District
Work Schedule Requirements

Application No : 100322-15

Page 1 of 1

Mitigation Plan ID: ELKS-CANE SLOUGH

Activity	Due Date
SUBMIT RECORDED CONSERVATION EASEMENT	15-OCT-10
EXCAVATION AND GRADING MITIGATION AREA	30-MAY-11
SUBMIT AS-BUILT TOPOGRAPHY OF MITIGATION AREA	30-JUN-11
COMPLETE PLANTING MITIGATION AREA	30-AUG-11
SUBMIT TIME ZERO MONITORING REPORT	30-OCT-11
SUBMIT FIRST MONITORING REPORT	30-OCT-12
SUBMIT SECOND MONITORING REPORT	30-OCT-13
SUBMIT THIRD MONITORING REPORT	30-OCT-14
SUBMIT FOURTH MONITORING REPORT	30-OCT-15
SUBMIT FIFTH MONITORING REPORT	30-OCT-16

STAFF REPORT DISTRIBUTION LIST

EASTERN WATERSHED IMPROVEMENT PROJECT

Application No: 100322-15

Permit No: 56-01501-P

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- X City of Port St Lucie - Planning Div
- X Dept of Environmental Protection - Port St. Lucie
- X St. Lucie County Engineer

OTHER INTERESTED PARTIES

- X Bluefield Ranch Mitigation Bank Chuck Olson
- X Indian Riverkeeper George Jones
- X Sierra Club - Central Florida Group