



**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
STANDARD GENERAL PERMIT NO. 56-00944-S
DATE ISSUED: June 21, 2011**

Form #0941
08/95

PERMITTEE: ST LUCIE COUNTY
2300 VIRGINIA AVENUE
FORT PIERCE, FL 34982

CITY OF FORT PIERCE
P.O. BOX 1480
FORT PIERCE, FL 34950

PROJECT DESCRIPTION: Construction and operation of a surface water management system to serve a 50.7-acre project known as Heathcote Botanical - Sand Mine Lake Expansion.

PROJECT LOCATION: ST LUCIE COUNTY, SEC 15,22,23 TWP 35S RGE 40E

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 Notice of Intent for Permit Application No. 110525-2, dated May 25, 2011. This action is taken pursuant to Rule 40E-1.603 and Chapter 40E-40, Florida Administrative Code (F.A.C.).

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

1. Not receiving a filed request for a Chapter 120, Florida Statutes, administrative hearing.
2. the attached 19 General Conditions (See Pages : 2 - 4 of 7),
3. the attached 22 Special Conditions (See Pages : 5 - 7 of 7) and
4. the attached 4 Exhibit(s)

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. 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.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a "Notice of Rights" has been mailed to the Permittee (and the persons listed in the attached distribution list) no later than 5:00 p.m. on this 21st day of June, 2011, in accordance with Section 120.60(3), Florida Statutes.

BY: Jayne E. Bergstrom
Jayne Bergstrom
Director/Martin/St. Lucie Service Center
Martin / St Lucie Service Center

Certified mail number 7005 0390 0005 9818 7781, 7005 0390 0005
9818 7774

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

GENERAL CONDITIONS

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

GENERAL CONDITIONS

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 June 21, 2016.
2. Operation of the surface water management system shall be the responsibility of the permittees.
3. Discharge Facilities:

Structure: Alum injection
1-49' W X 36' L drop inlet with crest at elev. 17.5' NGVD 29.

Receiving body : Virginia Ave Canal
Control elev : 8 feet NGVD 29.

Structure: Gate valve
1-36' wide X ' high slide gate with invert at elev. 8' NGVD 29 AND
with crest at elev. 14' NGVD 29.

Receiving body : Virginia Ave Canal
Control elev : 8 feet NGVD 29.

Structure: Weir relocation
1-33' W X 2' H SHARP CRESTED weir with crest at elev. 12' NGVD 29.
1-56' W X 2' H SHARP CRESTED weir with crest at elev. 14' NGVD 29.
1-90' WIDE SHARP CRESTED weir with crest at elev. 16' NGVD 29.
1-1' W X 1' H RECTANGULAR ORIFICE with invert at elev. 8' NGVD 29.

Receiving body : Virginia Ave Canal
Control elev : 8 feet NGVD 29.
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

SPECIAL CONDITIONS

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. Silt screens, hay bales, turbidity screens/barriers or other such sediment control measures shall be utilized during construction. The selected sediment control measures shall be installed prior to the commencement of construction in accordance with Exhibit 2 and shall remain in place until all adjacent construction is completed. All areas shall be stabilized and vegetated immediately after construction to prevent erosion into the surface waters.
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, and methods of vegetation clearing, 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. No construction dewatering is authorized. The lakes shall be constructed without dewatering as indicated in the application submittal.
17. 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. 56-00944-S unless otherwise specified herein.
18. This permit does not eliminate the need to obtain any and all necessary easements and rights of way prior to the start of any activity approved herein. This permit does not convey to the permittee, or create for 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..

Prior to the commencement of construction activities on the site, the permittee shall obtain authorization from Fort Pierce Utilities Authority for water and gas main abandonment and construction in the utility easement, and submit a copy of the authorization to the District's Environmental Resource Compliance staff in the service center where the permit application was processed.

SPECIAL CONDITIONS

19. 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.
20. The authorization for construction of the surface water management system is issued pursuant to the water quality net improvement provisions referenced in Rule Section 40E-4.303(1), Florida Administrative Code; therefore, the state water quality certification is waived.
21. A monitoring program shall be implemented in accordance with Exhibit No. 3.0. 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.
22. A maintenance program shall be implemented in accordance with Exhibit No. 3.0 for the created littoral shelf 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 littoral shelf is 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. Coverage of exotic and nuisance plant species shall not exceed 5% of total cover between maintenance activities. In addition, the permittee shall manage the littoral shelf such that exotic/nuisance plant species do not dominate any one section of those areas.

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.

40E-4.321 Duration of Permits

(1) Unless revoked or otherwise modified pursuant to Rules 40E-4.331 and 40E-4.441, F.A.C., the duration of a surface water management permit issued under this chapter is as follows:

(a) Two years from the date of issuance for Conceptual Approval, unless within that period an application for a construction and operation permit is filed for any portion of the project. If an application for a construction and operation permit is filed, then the Conceptual Approval remains valid until final action is taken on the application. If the application is granted, then the Conceptual Approval is valid for an additional two years from the date of issuance of the construction and operation permit. Conceptual Approvals which have no applications for construction and operation filed for a period of two years will expire automatically.

(b) Five years from the date of issuance for a construction permit.

(c) Perpetual for an operation permit.

(2) The Governing Board shall issue permit extensions provided that a permittee files a written request with the District showing good cause. 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.

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

(a) the effective date of the local government's comprehensive plan amendment,

(b) the effective date of the local government development order, or

(c) the date on which the district issues the Conceptual Approval, or

(d) the latest date of the resolution of any Chapter 120 or other legal appeals.

(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) Modifications to construction permits issued pursuant to a formal permit application extend the duration of the permit for three years from the date of issuance of the modification. Construction permit modifications do not extend the duration of a Conceptual Approval.

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

110525-2
07/21/2011
Last Date For Agency Action: July 24, 2011

GENERAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Heathcote Botanical - Sand Mine Lake Expansion

Permit No.: 56-00944-S

Application No.: 110525-2 900501-10 SWM Related

Application Type: Environmental Resource (General Permit Modification)

Location: St Lucie County, S15,22,23/T35S/R40E

Permittee : St Lucie County
City Of Fort Pierce

Operating Entity : City Of Fort Pierce
St Lucie County

Project Area: 50.70 acres

Project Land Use: Institutional

Drainage Basin: NORTH ST LUCIE

Receiving Body: Indian River Lagoon

Class: OFW

Special Drainage District: NA

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT PURPOSE:

This application is a request for an Environmental Resource Permit (ERP) modification of a Surface Water Management Permit to authorize construction and operation of a surface water management system to serve 50.7 acres of institutional development. Approval is granted with conditions.

PROJECT EVALUATION:**PROJECT SITE DESCRIPTION:**

The site is located on Savannah Road in the southeastern portion of Fort Pierce, St. Lucie County, Florida. Please refer to Exhibit 1, Location Map. The site is bounded to the east by the FEC railroad and the Fort Pierce Public Works Department facilities, on the south by the Savannas and the FEC, on the west by residential development, and the north by a golf course. Under the current application, no work is proposed south of Savannah Road.

There are permitted surface water management facilities within the project area. The site contains Sand Mine Lake, which is approximately 25 acres and 25 feet deep. The eastern lake banks are steep (2H:1V). There are littoral shelves on the western and southern sides of the lake. The Virginia Avenue Canal passes through the site, and connects to the Sand Mine Lake prior to discharging through a pipe system into the Indian River Lagoon. In addition, the site consists of open disturbed upland habitats, Public Works facilities, and canals. South of Savanna Road there are wetlands associated with the north Savannas system. No impacts to wetlands are proposed or anticipated as part of this project.

PROJECT BACKGROUND:

On September 13, 1990, Permit 56-00944-S (App. No. 900501-10) was issued for improvements to the Virginia Avenue Canal System. The Virginia Avenue Canal flow was routed through the Sand Mine Lake, thus providing additional water quality treatment and stormwater attenuation. The diversion of flow from the Virginia Avenue Canal was accomplished by a 25-foot wide, sharp crested weir spanning the canal at 12.0' NGVD. The weir was also outfitted with two 24" manually operated gate valves at elevation 8.0' NGVD, to facilitate lake bypass and direct flow to the Indian River Lagoon prior to large storm events. The control structure on the southwestern bank of the Sand Mine Lake was installed to provide water quality treatment volume and stormwater attenuation under normal operating conditions. The permitted control elevation of the lake, and one-foot square bleeder, was set at 8.0' NGVD. This permit also required the establishment of a 3.5-acre littoral margin to the Sand Mine Lake.

On March 23, 2007, St Lucie County, the City of Fort Pierce and Heathcote Botanical Gardens, Inc. entered into an interlocal agreement (Interlocal Agreement) addressing the expansion of Heathcote Botanical Gardens, and the creation of Heathcote Botanical Park, located on properties owned by the County and the City. The Interlocal Agreement contains an understanding of all parties' responsibilities for the Gardens and Park properties.

PROPOSED PROJECT:

The proposed permit modification includes three components of a water quality improvement (TMDL grant) project, specifically: Sand Mine Lake enlargement, weir relocation, and an alum injection plant. Please refer to Exhibit 2 [sixteen (16) pages]. The enlargement of Sand Mine Lake by three (3) acres will provide 12 acre-feet of additional water quality treatment and stormwater attenuation volume. The existing weir and control structure will be removed and a portion of the Virginia Avenue canal, running east-west south of Sand Mine Lake, will be filled. The proposed control structure bleeder, water quality, and overflow elevations will be set at 8.0, 12.0 and 16.0 feet NGVD, respectively. The proposed control structure will discharge to the new outfall canal to be excavated at the southeastern corner of the lake. The proposed excavation and filling activities will require the relocation of utilities (water main and gas lines).

The proposed project will affect two interconnected drainage basins: the Virginia Avenue Canal drainage system, which drains 1242 acres within the City of Fort Pierce, and the northernmost reach of the 5000-acre Savannas wetland prairie. The Sand Mine Lake provides water quality treatment, stormwater attenuation, and flood control for both basins. The City of Fort Pierce currently has the ability to bypass the lake and discharge directly to the Indian River Lagoon if necessary for flood protection. The proposed

project will preserve the ability of the City of Fort Pierce and St. Lucie County to provide flood protection by managing water levels in the Savannas and Fort Pierce canals, while reducing untreated, freshwater discharges to the Indian River Lagoon.

The proposed alum injection plant, to be operated by St. Lucie County, will provide treatment for the water entering the lake. The specific pollutants to be affected by the alum treatment are nitrogen, phosphorus, bacteria and turbidity. Alum will be injected at 5 to 10 mg/L within the Virginia Avenue Canal, upstream of Sand Mine Lake. Flocculent will be allowed to settle in this canal section, accommodating maintenance dredging. Stormwater runoff from the alum plant will be routed to the adjacent, proposed dry retention area which will be designed to overflow to the Virginia Avenue Canal upstream of Sand Mine Lake.

LAND USE:

"IMPERVIOUS" represents the Alum Injection Pump Station (0.05 acres), a net increase of 0.05 acres. "WATER MANAGEMENT AREAS" includes Lakes and Canals, a net increase of 3.15 acres, given the proposed excavation and fill.

Construction:

Project:

Total Project

Driveway	.20	acres
Impervious	.05	acres
Open Space	20.20	acres
Water Mgmt Acreage	30.25	acres
Total:	50.70	

WATER QUANTITY :

Discharge Rate :

The proposed project is divided into two separate drainage basins. The property south of Savannah Road is part of the Savannas basin. No construction is proposed in this basin. The property north of Savannah Road is part of the Virginia Avenue Canal System basin, which includes 1242 acres of Fort Pierce west of the Heathcote Botanical Gardens and Park, a portion of US 1, continuing to Five Mile Creek. There is no significant change to this drainage basin.

The proposed project control structure is consistent with the overall dimensions of the two control structures from the original design of the surface water management system. Specifically, the existing and proposed bleeder is one-foot square at elevation 8.0' NGVD. The proposed weir, 33-feet wide at elevation 12.0' NGVD, will replace the 25' diversion weir and 8' control structure weir. The two existing 24" manually operated gate valves, used for lake bypass and to direct flow to the Indian River Lagoon prior to large storm events, will be replaced with one-36" gate valve set at the same elevation (8.0' NGVD). The proposed changes to the surface water management system for this project are not expected to increase the previously permitted design storm discharge rate.

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
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Virginia Ave Canal	50.70	8	8.00	Previously Permitted
--------------------	-------	---	------	----------------------

Receiving Body :

Basin	Str.#	Receiving Body
Virginia Ave Canal	Alum injectic	Virginia Ave Canal
Virginia Ave Canal	Gate valve	Virginia Ave Canal
Virginia Ave Canal	Weir relocat	Virginia Ave Canal

Discharge Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)**Bleeders:**

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
-------	------	-------	------	-------	--------	--------	------	-----------------	--------------

Virginia Ave Canal	Weir relocation	1	Rectangular Orifice	1'	1'				8
--------------------	-----------------	---	---------------------	----	----	--	--	--	---

Weirs:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
Virginia Ave Canal	Weir relocation	1	Sharp Crested	33'	2'			12 (crest)
Virginia Ave Canal	Weir relocation	1	Sharp Crested	56'	2'			14 (crest)
Virginia Ave Canal	Weir relocation	1	Sharp Crested	90'				16 (crest)

Emergency Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)**Gates:**

Basin	Str#	Count	Type	Width	Height	Invert Elev.
-------	------	-------	------	-------	--------	--------------

Virginia Ave Canal	Gate valve	1	Other	36'		8
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Water Quality Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)**Inlets:**

Basin	Str#	Count	Type	Width	Length	Dia.	Crest Elev.
-------	------	-------	------	-------	--------	------	-------------

Virginia Ave Canal	Alum injection	1	Fdot Mod C Drop Inlet	49'	36'		17.5
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WATER QUALITY :

The Sand Mine Lake enlargement by three (3) acres will provide 12 acre-feet of additional water quality treatment and stormwater attenuation volume. Water quality treatment volume, equivalent to 2.5 inches times the percent impervious, increased by 150 percent, given discharge to the Indian River Lagoon, is provided for the alum injection plant (0.05 acres).

Water quality treatment provided by the project authorized under this permit application is for the use of the area defined in the application as the project <a retrofit> and cannot be applied to new development that may discharge to the project authorized under this permit application. Future development in the basin cannot use the additional treatment being provided in this application to meet state water quality standards. The authorization for construction of the surface water management system is issued

pursuant to the water quality net improvement provisions referenced in Rule Section 40E-4.303(1), Florida Administrative Code; therefore, the state water quality certification is waived.

A water quality analysis of the existing lake to the proposed lake expansion shows that the additional lake volume will result in a reduction of nitrogen and phosphorus. In addition, a comparison was conducted for the performance of the existing control structures to the proposed control structure during 5-year, one-day and 10-year, one-day storm events. The comparison showed that there was a reduction in nutrients discharged from Sand Mine Lake attributed to the proposed control structure relocation/reconfiguration.

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

The water quality treatment shown in the table below is for the proposed alum injection facility.

Basin	Treatment Method			Vol Req.d (ac-ft)	Vol Prov'd
Virginia Ave Canal	Treatment	Dry Retention	.02 acres 1.5 ft deep	.01	.01

WETLANDS:

There are no wetlands within the proposed construction areas for this project. However, Permit # 56-00944-S required the creation of a 3.5- acre littoral shelf for water quality treatment purposes. The littoral shelf was created and planted with wetland species. Today, it provides some habitat value for wetland-dependent species in addition to water quality treatment. The proposed project will impact 1.82 acres of the existing shelf and replace it with 2.25 acres of new littoral area.

Monitoring/Maintenance:

Permit # 56-00944-S required that the 3.5 acres of created littoral shelves around the Sand Mine Lake be monitored and maintained to remove exotic vegetation and debris. The applicant has submitted a new monitoring maintenance plan (Exhibit 3.0). The monitoring and maintenance plan is for the 2.25 acres of new creation and describes exotic species control, monitoring and reporting.

Monitoring will be submitted in accordance with the work schedule attached as Exhibit 4.0 to demonstrate that the littoral shelf has been planted and the plantings have successfully reached 80% coverage.

LEGAL ISSUES:

This permit does not eliminate the need to obtain any and all necessary easements and rights of way prior to the start of any activity approved herein. This permit does not convey to the permittee, or create for 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..

The permittees shall obtain authorization from Fort Pierce Utilities Authority for water and gas main

abandonment and construction in the utility easement. Further, the permittees shall obtain authorization for the construction of discharge piping from the proposed alum plant dry retention area to the Virginia Avenue Canal upstream of Sand Mine Lake which occurs through the drainage and maintenance easement.

If required, the permittees shall revise the Interlocal Agreement dated March 23, 2007, to reflect the proposed Sand Mine Lake boundaries, revised control structures, and alum injection system operation and maintenance.

OPERATING ENTITY:

Operation and maintenance of the surface water management system shall be the responsibility of the City of Fort Pierce and St. Lucie County. The Interlocal Agreement between the City of Fort Pierce, St. Lucie County and the Heathcote Botanical Gardens addresses the development and maintenance of the proposed improvements. The proposed improvements are located on County property; the City is the co-applicant.

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.

Page 7 of 8

NATURAL RESOURCE MANAGEMENT:



Melinda Parrott

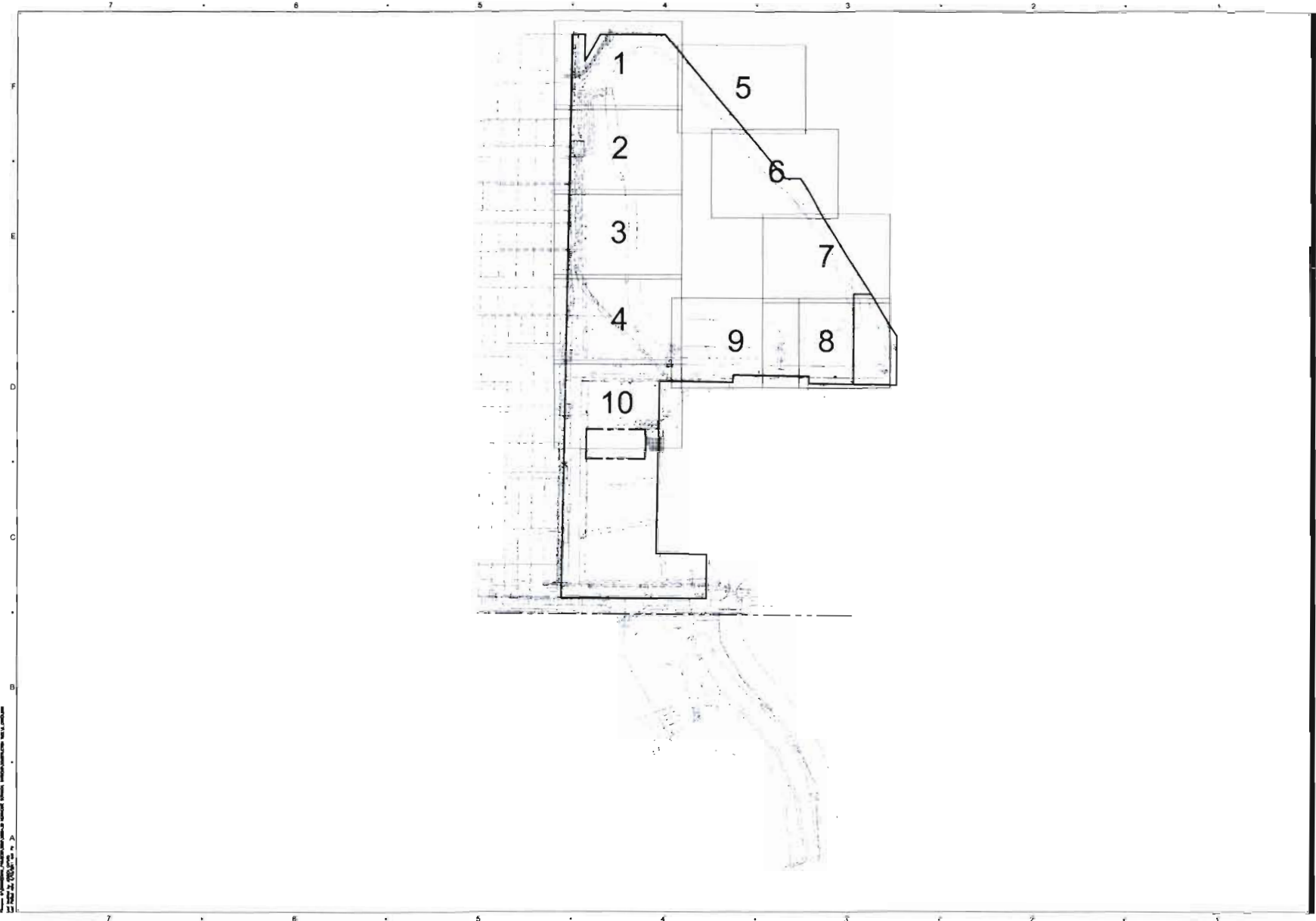
DATE: June 20 2011

SURFACE WATER MANAGEMENT:

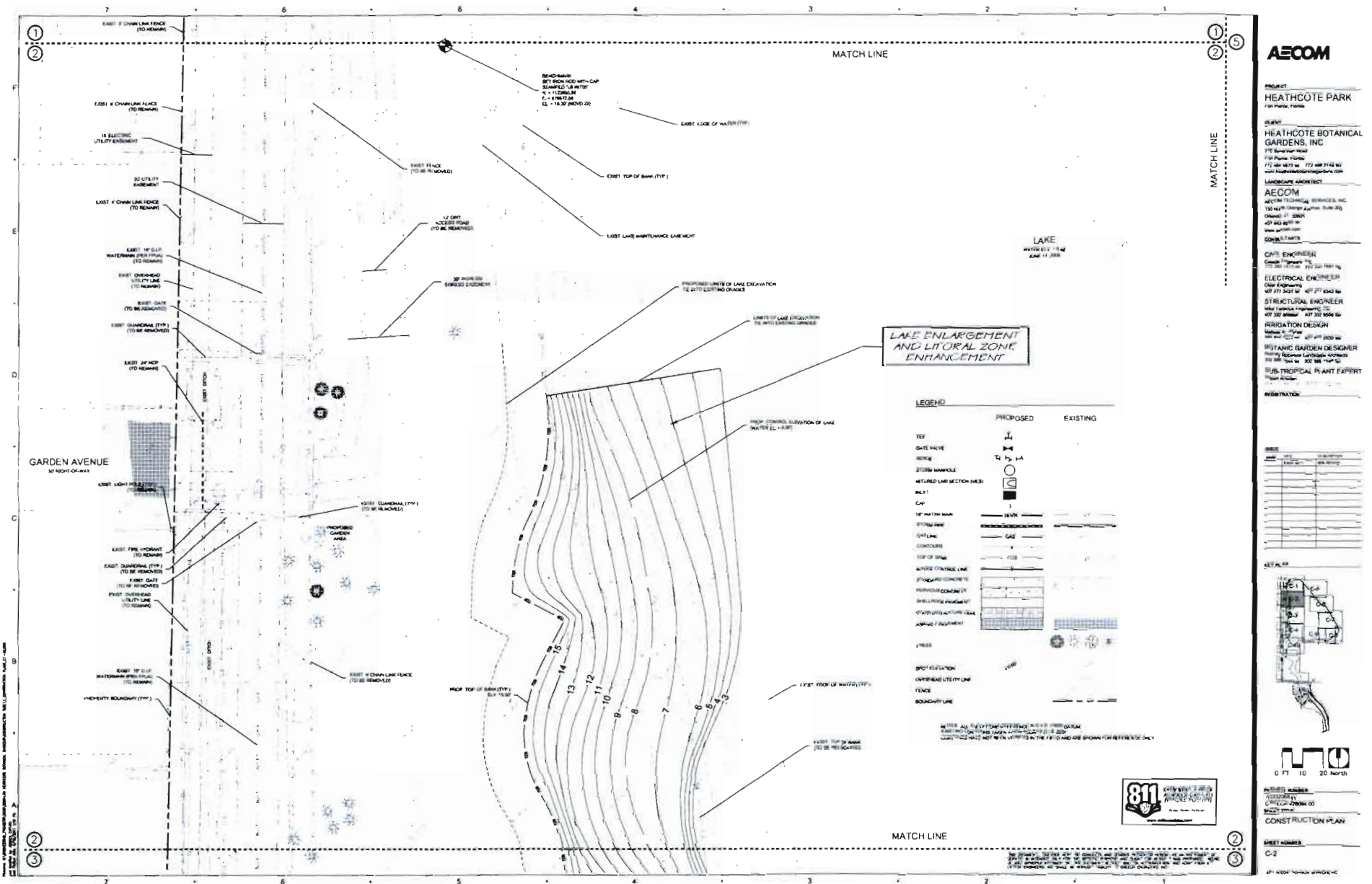


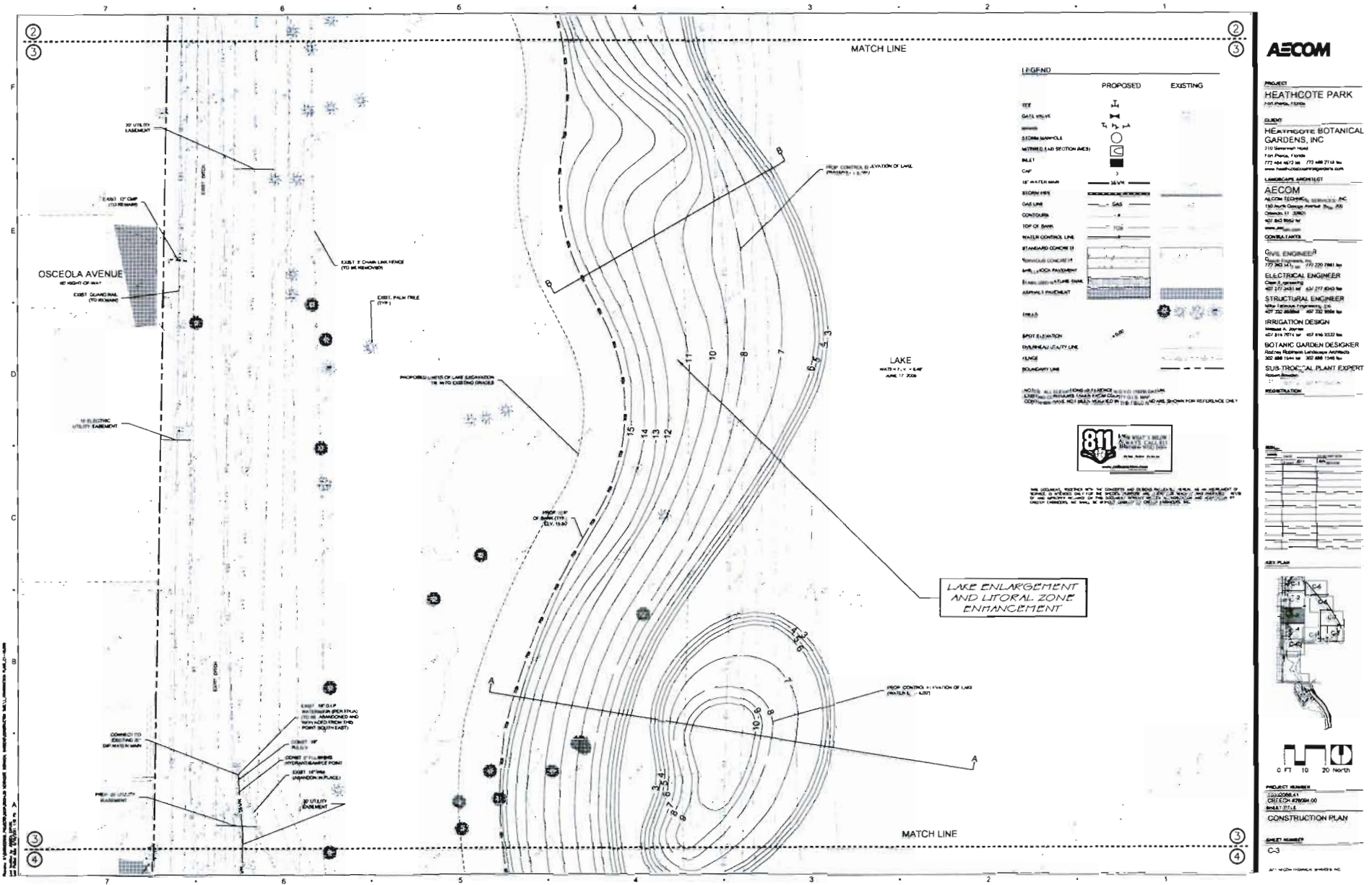
Hugo A. Carter, P.E.

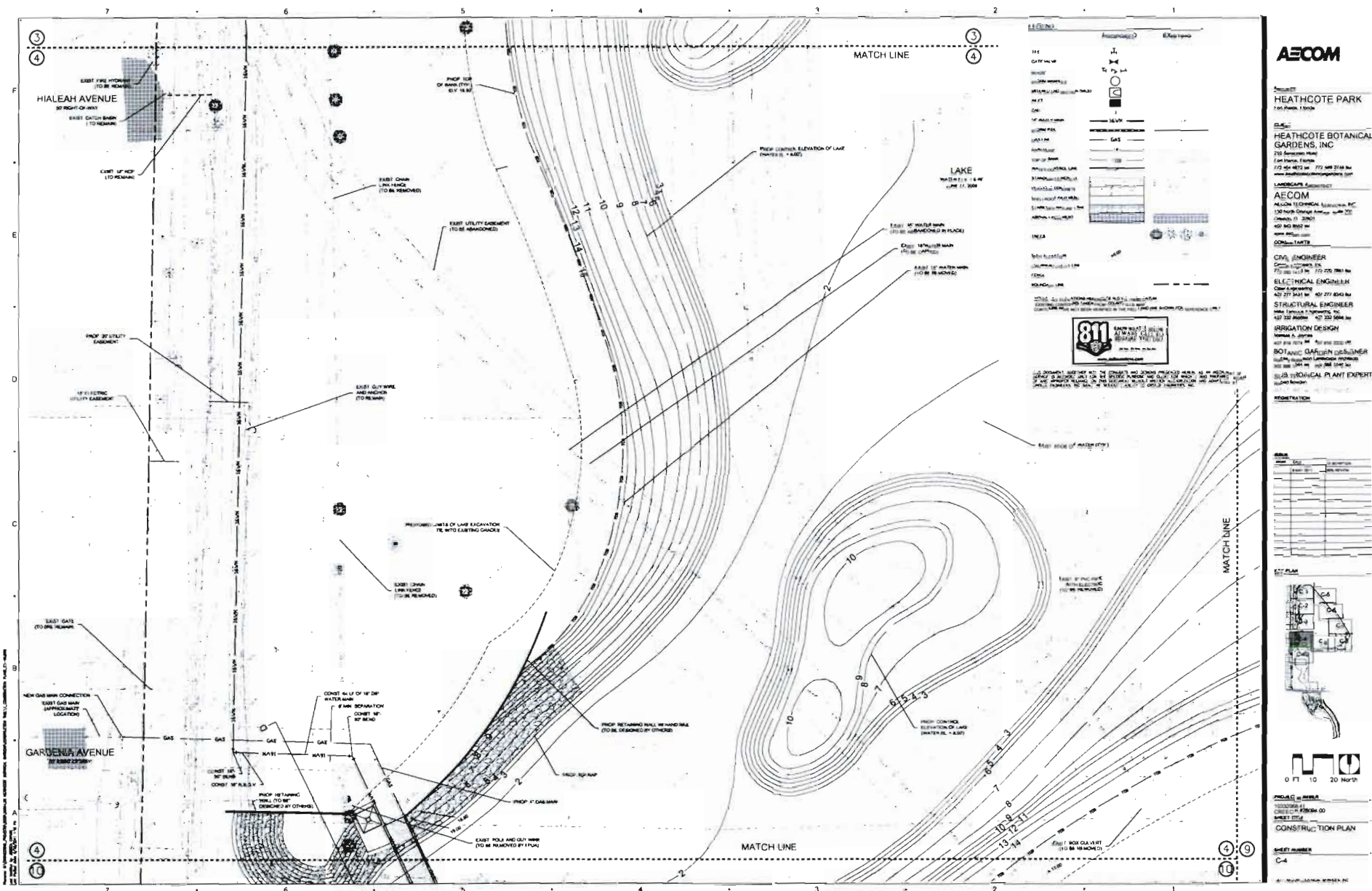
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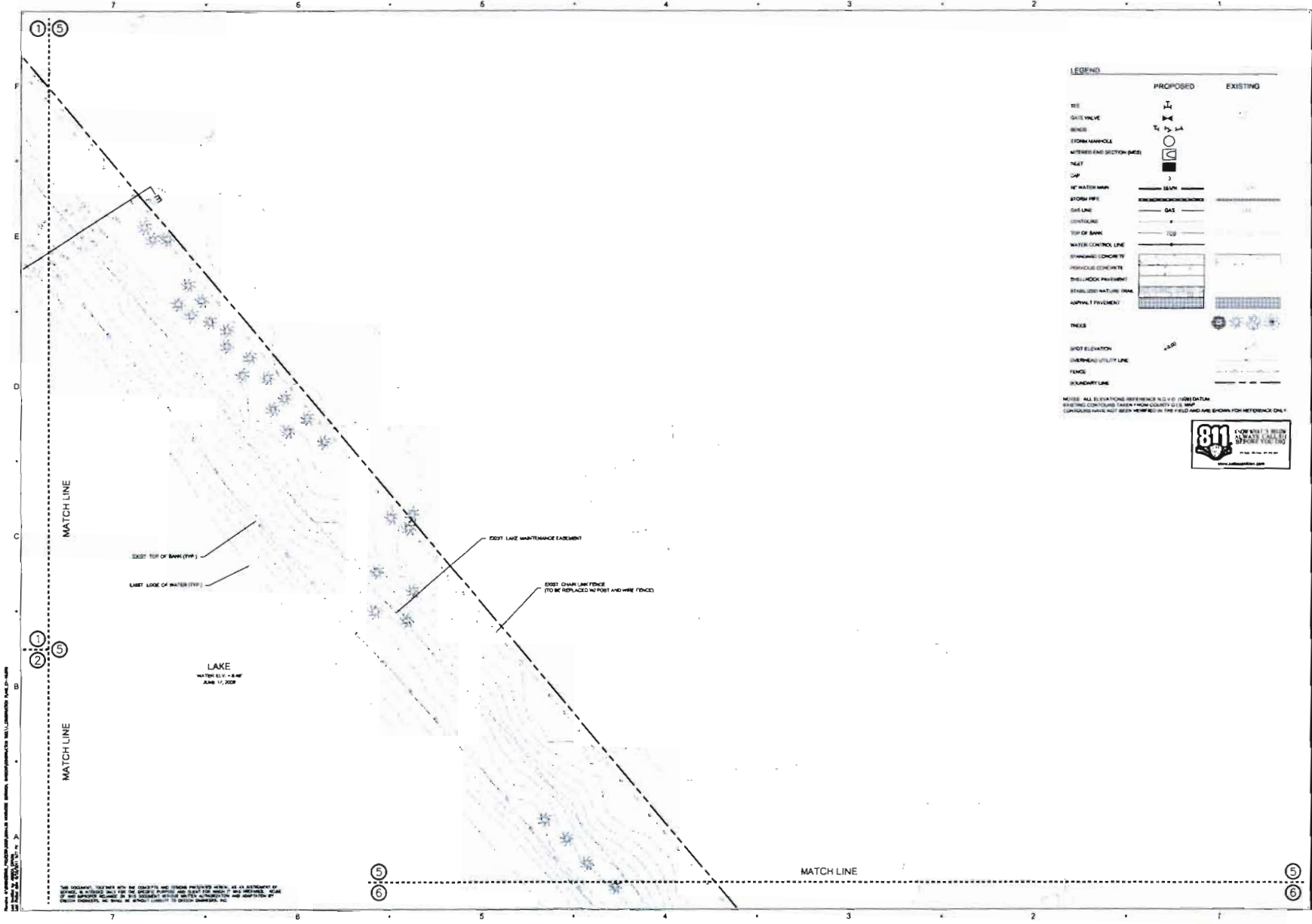


2011年12月15日 星期四









LEGEND		PROPOSED	EXISTING
PIPE			
GATE VALVE			
SEWER			
STORM MANHOLE			
WATERED END SECTION (WES)			
TRAIL			
CAP			
16" WATER MAIN			
STORM PIPE			
PIPE LINE			
CONCRETE			
TOP OF BANK			
WATER CONTROL LINE			
PERMANENT CONCRETE			
PERMANENT CONCRETE			
SHEDDING PAVEMENT			
STABILIZED NATURAL PAVEMENT			
ASPHALT PAVEMENT			
THICK			
SPOT ELEVATION			
OVERHEAD UTILITY LINE			
FENCE			
BOUNDARY LINE			

NOTES: ALL ELEVATIONS REFERENCE NAD 83 DATUM.
EXISTING CONDITIONS TAKEN FROM COUNTY 21.5 MAP.
CONTOURS HAVE NOT BEEN VERIFIED IN THE FIELD AND ARE SHOWN FOR REFERENCE ONLY.



AECOM

PROJECT:
HEATHCOTE PARK
Fort Myers, Florida

CLIENT:
HEATHCOTE BOTANICAL GARDENS, INC.
2710 University Road
Fort Myers, Florida
941-487-1111 or 941-487-2710
www.heathcotebotanicalgardens.com

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150 North Orange Avenue, Suite 200
Orlando, FL 32801
407-843-8800
www.aecom.com

CONSULTANTS:

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Charles E. Jones, Inc.
772-383-1413 or 772-271-1881

ELECTRICAL ENGINEER:
Cable Engineering
407-277-3631 or 407-277-5043

STRUCTURAL ENGINEER:
Wheeler Engineers
407-332-8888 or 407-332-5555

IRRIGATION DESIGN:
William A. Jones, Inc.
407-878-2524 or 407-878-2522

BOTANICAL GARDEN DESIGNER:
The Botanical Gardeners Association
300 NW 55th Ave. #300 NW 55th Ave.
Fort Myers, FL 33901

SUB-TROPICAL PLANT EXPERT:
Robert J. Jones, Inc.
407-332-5555

REVISIONS:

NO.	DATE	DESCRIPTION
1	05/17/08	ISSUED FOR PERMIT

KEY PLAN:

SCALE:
0 FT 10 20 North

PROJECT NUMBER:
110525-2

DATE OF ISSUE:
05/17/08

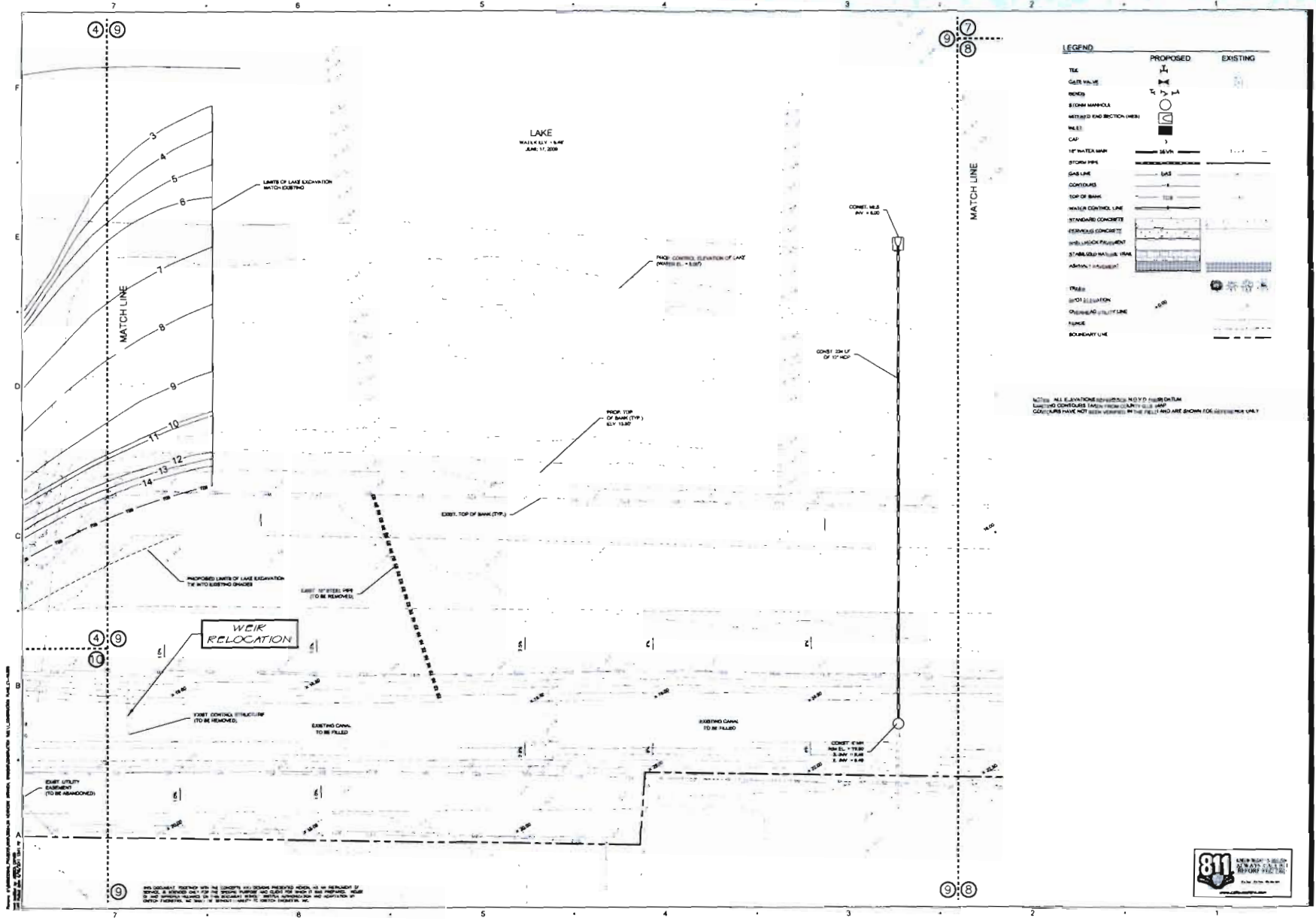
SHEET TITLE:
CONSTRUCTION PLAN

SHEET NUMBER:
C-5

BY: J. JONES
CHECKED: J. JONES
DATE: 05/17/08







LEGEND

	PROPOSED	EXISTING
TEE		
GATE VALVE		
WELLS		
EXISTING MANHOLE		
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CAP		
18" WATER MAIN		
STORM PIPE		
SEW. LINE		
CONTINUOUS		
TOP OF BANK		
WATER CONTROL LINE		
STANDARD CONCRETE		
REINFORCED CONCRETE		
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STANDARD MANHOLE		
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NOTES: ALL ELEVATIONS UNLESS NOTED OTHERWISE
 EXISTING CONTOURS TAKEN FROM COUNTY GIS DATA
 CONTOURS HAVE NOT BEEN VERIFIED IN THE FIELD AND ARE SHOWN FOR REFERENCE ONLY

AECOM

PROJECT
 HEATHCOTE PARK
 1st Phase, 1 of 2

CLIENT
 HEATHCOTE BOTANICAL GARDENS, INC.
 710 Somerset Road
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 770 W. 4th St. #200
 770 W. 4th St. #200

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 770 W. 4th St. #200

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 407.777.3431

STRUCTURAL ENGINEER
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 407.777.3431
 407.777.3431

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 407.777.3431

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 407.777.3431
 407.777.3431

REVISION

NO.	DATE	DESCRIPTION
1	08/21/2011	ISSUED FOR PERMIT

KEY PLAN

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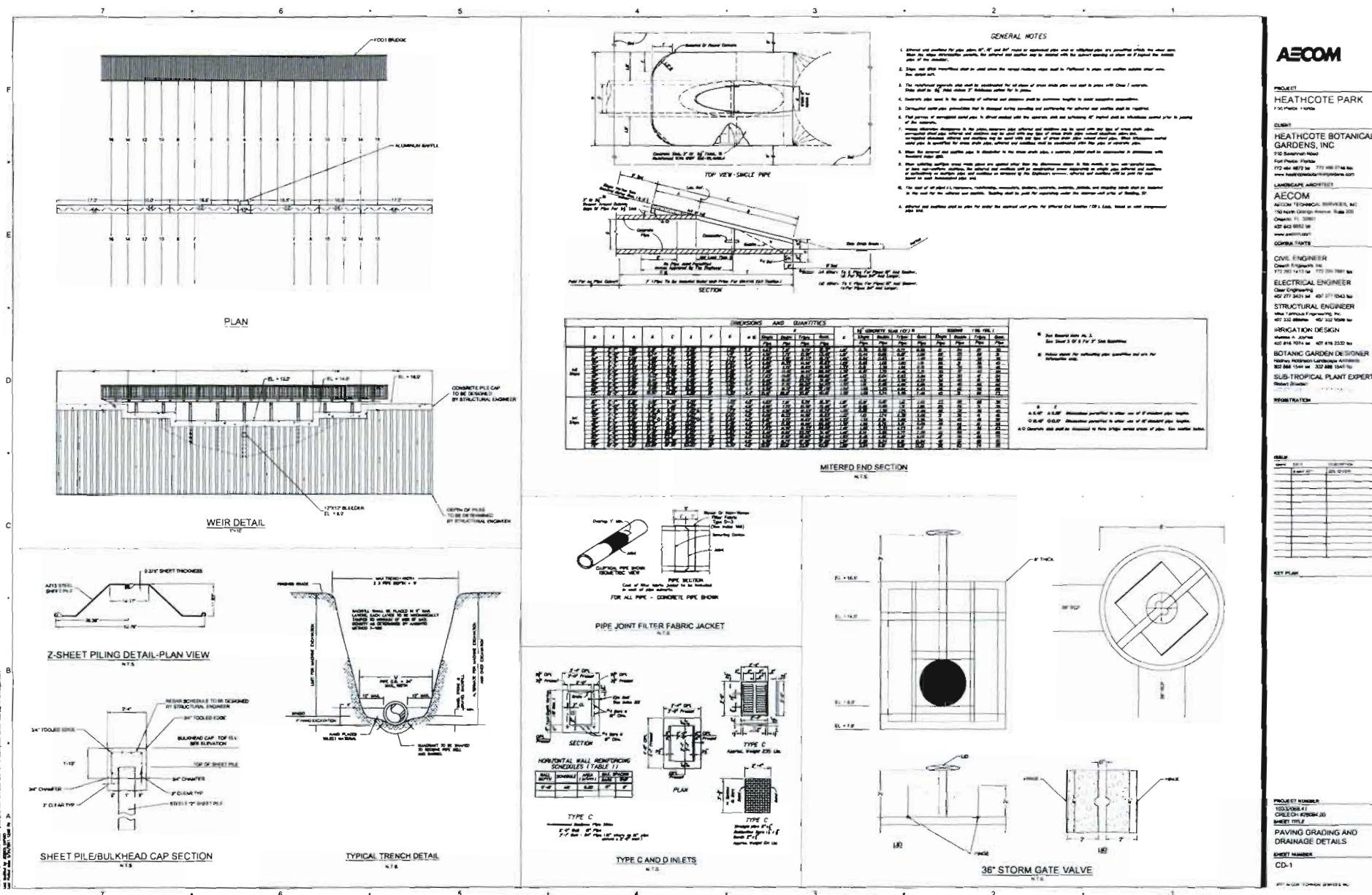
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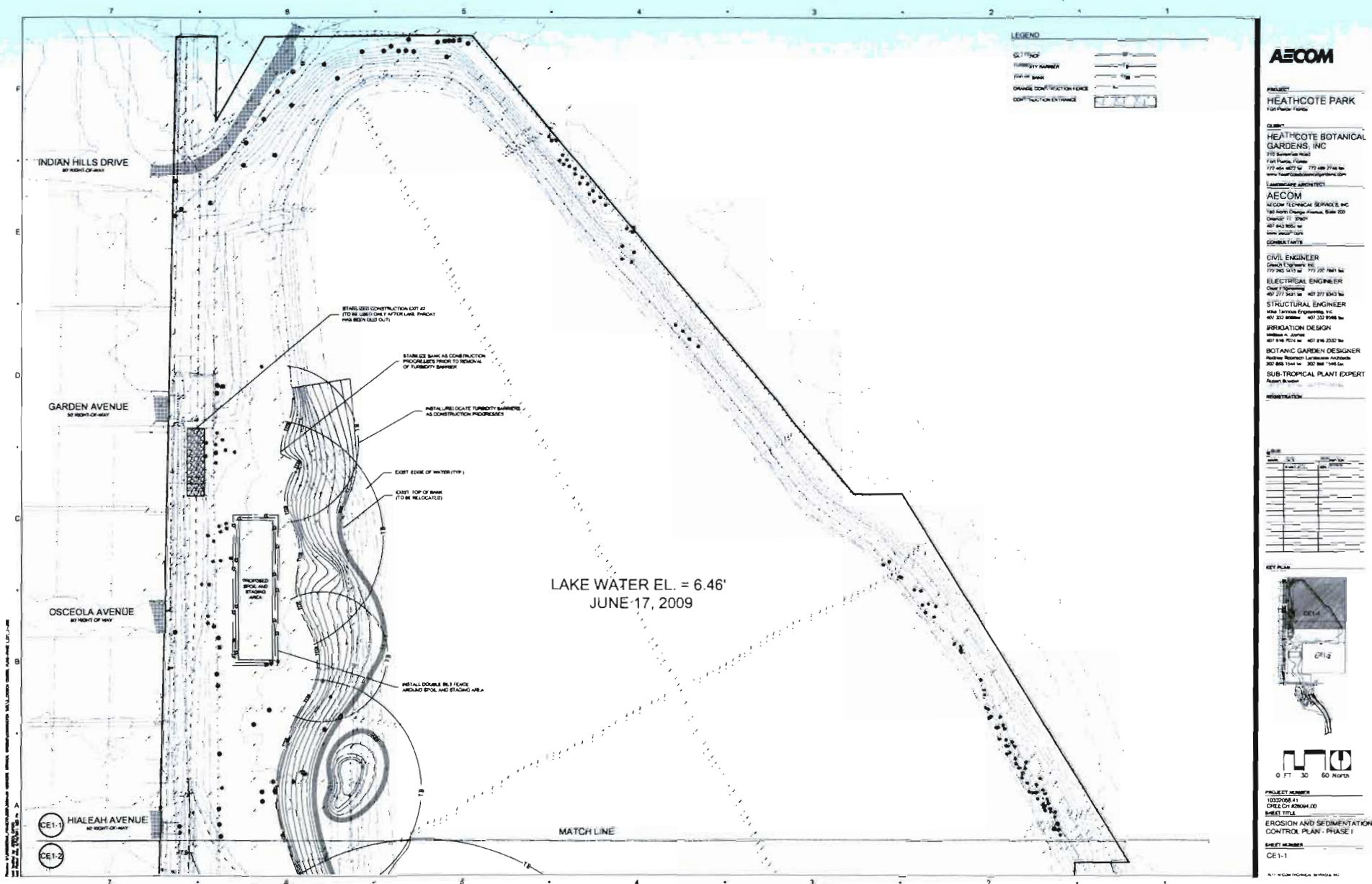
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SHEET TITLE
 CONSTRUCTION PLAN

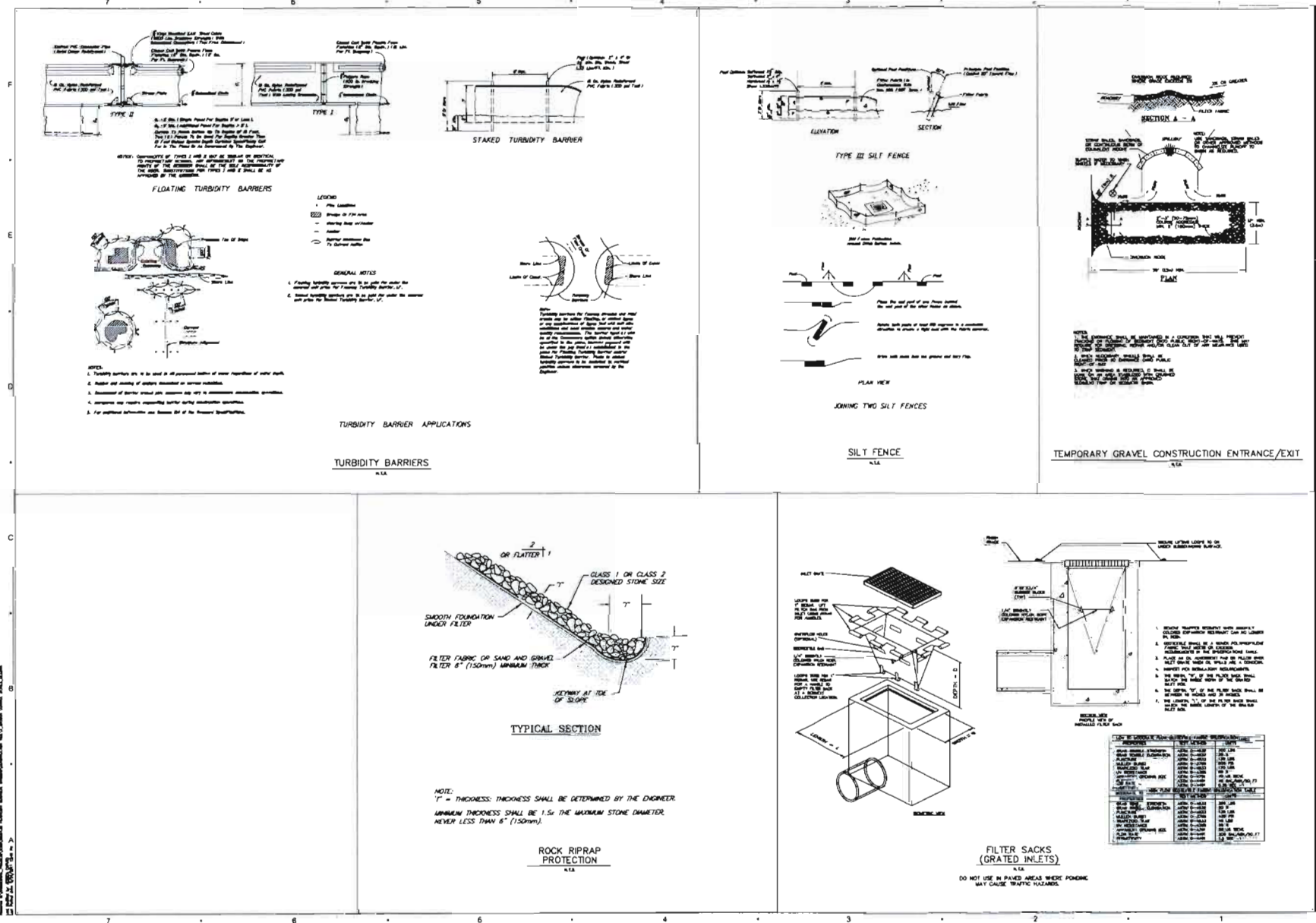
SHEET NUMBER
 C-9











AECOM

PROJECT:
HEATHCOTE PARK
1.01 Heathcote Park

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Exhibit A
Littoral Zone Planting and Monitoring Plan
Heathcote Botanical Gardens Park – Stormwater Improvements

Proposed Littoral Zone Creation: Sand Mine Lake (2.25 acres)

As part of the lake expansion efforts and routing of the VAC into the sand mine lake described above, the TOB of the lake will be moved west and input and discharge points for the sand mine lake will be altered. In addition, the slope leading to the lake will be decreased to at least a 4:1 slope to enhance safe access to the waters for the park. This expansion of the lake will include the establishment of littoral edges below the 12.0 ft. NGVD elevation (water quality control elevation) on the west side of the lake and the inflow and outflow channels as well as the creation of low-lying "islands" in the lake that will inundate for portions of the year as shown on **Figure 10**.

A total of 6 areas of littoral zone planting (**Figure 10**) will include relatively flat to gently sloping land located between the elevations of 6.0 and 12.0 ft NGVD. It is anticipated that the ground elevation of the "islands" will be located at or near the normal pool elevation of 8.0 ft. NGVD. It is intended that the lower elevation areas will remain relatively permanently inundated throughout the year as they occur approximately 2.0 feet below the normal pool elevation. The remainder of the littoral zones will exhibit variable hydrology ranging from seasonally inundated to permanently inundated except for drought periods. The hydrology for these systems will be maintained by the lake levels and inputs from the VAC.

After grading is completed, native herbaceous and canopy species will be planted throughout the littoral areas. Bare root individuals of herbaceous species including pickerelweed, duck potato (*Sagittaria* sp.), maidencane, sawgrass, bulrush, white water lily, and cordgrass will be planted on 4 foot centers throughout the littoral zone creation areas with particular species located based on anticipated inundation regime (i.e. white water lily in the deepest areas and cordgrass along the 12 ft NGVD elevation) consistent with the typical elevation view (**Attachment A-1**). Additional plantings of canopy species will be installed in select locations in addition to the herbaceous species, including the islands, with a density of plantings targeted at approximately 35 trees per acre. Canopy species anticipated to be installed include cypress (*Taxodium* sp.), red maple (*Acer rubrum*), blackgum (*Nyssa biflora*), sweetbay (*Magnolia virginiana*), and loblolly bay (*Gordonia lasianthus*). Saplings will be installed in clumps throughout the littoral zones.

Exotic Species Control

In addition to the specific creation activities noted above, management efforts to remove Category 1 and 2 species listed on the 2009 FLEPPC list (**Attachment A-2**) will be conducted on a regular basis throughout the banks of the sand mine lake. Initial efforts for up to five years of the project will be focused on reducing the cover of these species to below 5% areal coverage, although the goal will be eradication of these species from the site. Annual maintenance efforts will be conducted after the initial five year period following construction on an as needed basis to treat new populations of exotic species as they occur. If littoral areas do not obtain 80% cover of desirable native species within 5 years of establishment, the applicant will work with the District to identify appropriate supplemental planting activities within the littoral zones.

Conservation Activities

Because the site is owned by the County for the specific purpose of providing park space as proposed, no conservation easement is proposed for the natural resource enhancement activities on the site. Implementation of the proposed wetland restoration



activities adjacent to the proposed mitigation site will serve as a long-term commitment to protection and enhancement of this system in lieu of a conservation easement.

Monitoring and Reporting

Qualitative monitoring events will be conducted annually in the fall of each year for up to five years, or until released by the SFWMD, within the proposed mitigation area. Monitoring activities will include review of littoral zone creation areas through pedestrian transects and photo-documentation at selected points. Visual assessments of the cover of exotic/invasive species and a qualitative assessment of the general health and growth of vegetation planted within the littoral zone will be conducted on the approximate transect locations depicted on **Figure 10**. Three photo-documentation stations will be established during the baseline monitoring event at which photographs will be taken in the four cardinal directions during each monitoring event. An initial baseline monitoring event will occur prior to the initial planting in the Fall of 2011 (Table A-1) to document conditions prior to plant installation. A brief monitoring report documenting existing site conditions, exotic species requiring control as well as proposed control efforts to be conducted over the following year for those species, and status reports on the littoral zone establishment will be provided to the SFWMD after the baseline monitoring event and annually for up to five years after the annual fall monitoring events, or until released by the SFWMD.

Table A-1: Schedule for Heathcote Botanical Gardens Park – Stormwater Improvements Monitoring and Maintenance Implementation Schedule

Date by which Activity Implemented	Task
Prior to plant installation (Anticipated October 31, 2011)	Baseline monitoring event
1 month after baseline monitoring event (anticipated November 30, 2011)	Baseline ^{Time zero} monitoring report
October 31, 2012	1 st annual monitoring event
November 30, 2012	1 st annual maintenance event (as needed) and First Annual Monitoring Report
October 31, 2013	2 nd annual monitoring event
November 30, 2013	2 nd annual maintenance event (as needed) and Second Annual Monitoring Report
October 31, 2014	3 rd annual monitoring event
November 30, 2014	3 rd annual maintenance event (as needed) and Third Annual Monitoring Report
October 31, 2015	4 th annual monitoring event
November 30, 2015	4 th annual maintenance event (as needed) and Fourth Annual Monitoring Report
October 31, 2016	5 th annual monitoring event
November 30, 2016	5 th annual maintenance event (as needed) and Fifth Annual Monitoring Report

SCANNED 06/24/2011 4:11



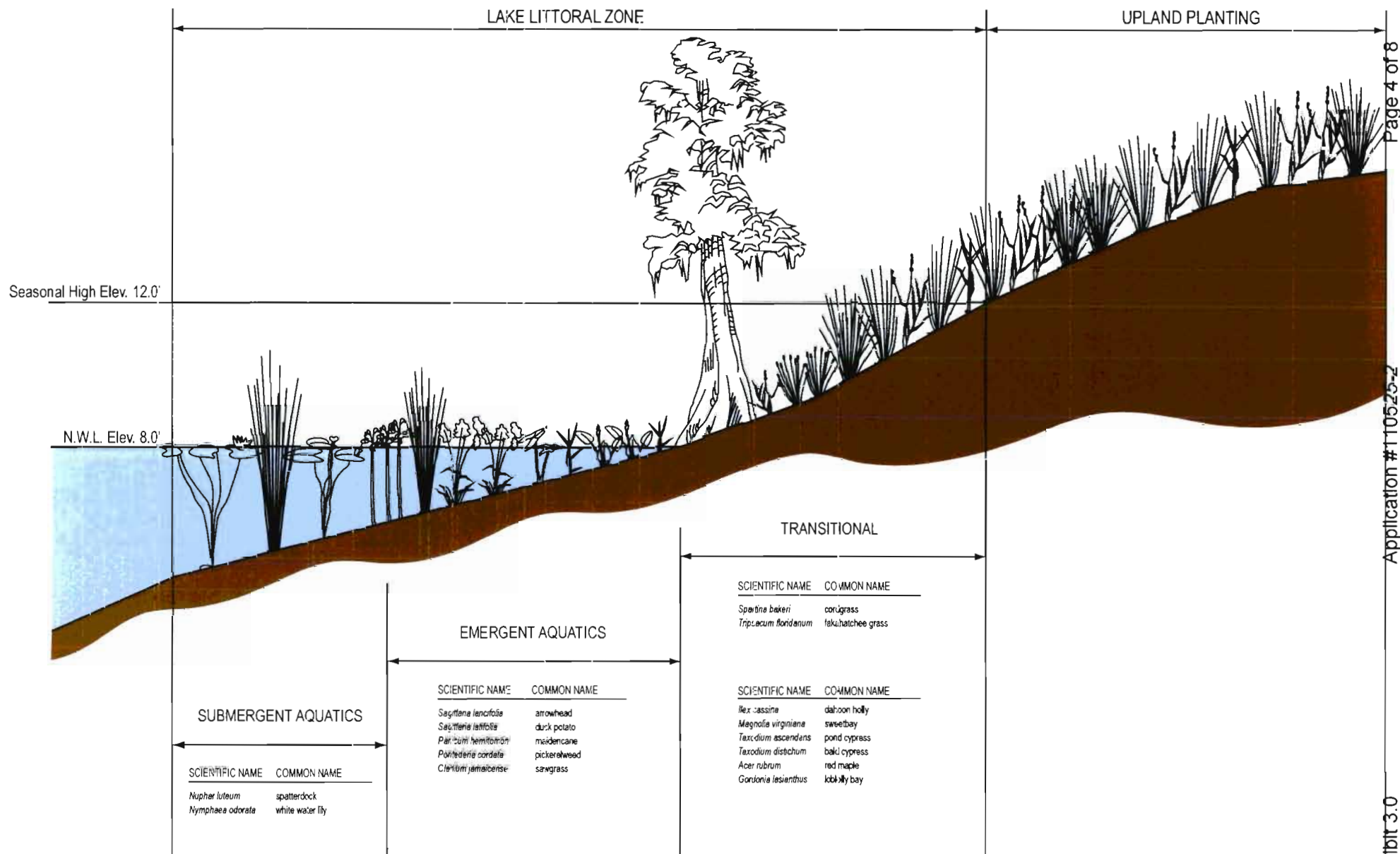
Figure 10

AECOM

Job: #60210999/10332068.41
Date: June 2011



Littoral Zone Planting Area and Monitoring Plan
SFWMD Water Quality Environmental Resource Permit
Heathcote Botanical Gardens - Phase I



Drawing is NCT to scale.

Attachment A-1

June 2011

Proposed Sand Mine Lake Planting Plan - Typical Elevation View

SCANNED 06/21/2011 L 1

Florida Exotic Pest Plant Council's 2009 List of Invasive Plant Species

Exhibit A -2

Purpose of the List: To focus attention on —

- ▶ the adverse effects exotic pest plants have on Florida's biodiversity and plant communities,
- ▶ the habitat losses from exotic pest plant infestations,
- ▶ the impacts on endangered species via habitat loss and alteration,
- ▶ the need to prevent habitat losses through pest-plant management,
- ▶ the socio-economic impacts of these plants (e.g., increased wildfires in certain areas),
- ▶ changes in the seriousness of different pest plants over time,
- ▶ the need to provide information that helps managers set priorities for control programs.

CATEGORY I

Invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives. This definition does not rely on the economic severity or geographic range of the problem, but on the documented ecological damage caused.

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Abrus precatorius</i>	rosary pea	I	N	C, S
<i>Acacia auriculiformis</i>	earleaf acacia	I		C, S
<i>Albizia julibrissin</i>	mimosa, silk tree	I		N, C
<i>Albizia lebbek</i>	woman's tongue	I		C, S
<i>Ardisia crenata</i> (A. crenulata misapplied)	coral ardisia	I		N, C, S
<i>Ardisia elliptica</i> (A. humilis misapplied)	shoebutton ardisia	I	N	C, S
<i>Asparagus aethiopicus</i> (A. sprengeri, A. densiflorus misapplied)	asparagus-fern	I		N, C, S
<i>Bauhinia variegata</i>	orchid tree	I		C, S
<i>Bischofia javanica</i>	bishopwood	I		C, S
<i>Calophyllum antillanum</i> (C. calaba and C. inophyllum misapplied)	santa maria (names "mast wood," "Alexandrian laurel" used in cultivation)	I		S
<i>Casuarina equisetifolia</i>	Australian-pine, beach sheoak	I	P, N	N, C, S
<i>Casuarina glauca</i>	suckering Australian-pine, gray sheoak	I	P, N	C, S
<i>Cinnamomum camphora</i>	camphor tree	I		N, C, S
<i>Colocasia esculenta</i>	wild taro	I		N, C, S
<i>Colubrina asiatica</i>	lather leaf	I	N	S
<i>Cupaniopsis anacardioides</i>	carrotwood	I	N	C, S
<i>Dioscorea alata</i>	winged yam	I	N	N, C, S
<i>Dioscorea bulbifera</i>	air-potato	I	N	N, C, S
<i>Eichhornia crassipes</i>	water-hyacinth	I	P	N, C, S
<i>Eugenia uniflora</i>	Surinam cherry	I		C, S
<i>Ficus microcarpa</i> (F. nitida and F. retusa var. nitida misapplied) ¹	laurel fig	I		C, S
<i>Hydrilla verticillata</i>	hydrilla	I	P, U	N, C, S
<i>Hygrophila polysperma</i>	green hygro	I	P, U	N, C, S
<i>Hymenachne amplexicaulis</i>	West Indian marsh grass	I		C, S
<i>Imperata cylindrica</i> (I. brasiliensis misapplied)	cogon grass	I	N, U	N, C, S
<i>Ipomoea aquatica</i>	water-spinach	I	P, U	C
<i>Jasminum dichotomum</i>	Gold Coast jasmine	I		C, S
<i>Jasminum fluminense</i>	Brazilian jasmine	I		C, S
<i>Lantana camara</i> (= L. strigocamara)	lantana, shrub verbena	I		N, C, S
<i>Ligustrum lucidum</i>	glossy privet	I		N, C
<i>Ligustrum sinense</i>	Chinese privet, hedge privet	I		N, C, S
<i>Lonicera japonica</i>	Japanese honeysuckle	I		N, C, S
<i>Ludwigia peruviana</i>	Peruvian primrosewillow	I		N, C, S
<i>Luziola subintegra</i>	Tropical American water grass	I		S
<i>Lygodium japonicum</i>	Japanese climbing fern	I	N	N, C, S
<i>Lygodium microphyllum</i>	Old World climbing fern	I	N	C, S

¹Does not include *Ficus microcarpa* subsp. *fuyuensis*, which is sold as "Green Island Ficus"

FLEPPC List Definitions:

Exotic — a species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida.

Native — a species whose natural range includes Florida.

Naturalized exotic — an exotic that sustains itself outside cultivation (it is still exotic; it has not "become" native).

Invasive exotic — an exotic that not only has naturalized, but is expanding on its own in Florida native plant communities.

Abbreviations:

Government List (Gov. List):

P = Prohibited aquatic plant by the Florida Department of Agriculture and Consumer Services;

N = Noxious weed listed by Florida Department of Agriculture & Consumer Services;

U = Noxious weed listed by U.S. Department of Agriculture.

Regional Distribution (Reg. Dist.):

N = north, C = central, S = south, referring to each species' current distribution in general regions of Florida (not its potential range in the state). Please refer to the map below.



Changes to the 2009 List:

Luziola subintegra, added to list as Category I

Luziola subintegra (rice grass) was first discovered in Lake Okeechobee by Mike Bodle in 2007. This aquatic grass is spreading in the lake. It grows in water 2-3 m deep, spreads vegetatively and by seed, and aggressively outcompetes other native and exotic species. To date, 2,000 acres have been treated.

Nymphoides cristata, moved from Category II to Category I

Snowflake (*Nymphoides cristata*) is an Asian aquatic that became problematic in southwest Florida in the 1990s. It is now an abundant weed in canals and ponds in southwest Florida, and has spread throughout the peninsula where it has been documented in seven counties, from Collier to St. Johns. It has colonized the Big Cypress National Preserve where it is invading several strand swamps along Tamiami Trail, presumably introduced by fisherman using cast nets infested from waters outside of the preserve.

Salvinia minima, added to list as Category I

Water spangles (*Salvinia minima*), first found in Florida in 1928, remained a cryptic species during a period when opinions differed on its status as native or introduced in Florida. In 2001, a study of early herbarium voucher data revealed the introduction points and systematic spread of this free-floating fern into and throughout Florida. *S. minima* outcompetes more nutritive native duckweeds by overtopping their thinner fronds, which float flat upon the water surface.

Scleria lacustris, moved from Category II to Category I

Wright's nutrush (*Scleria lacustris*) is an annual tropical sedge that was first collected in Florida in 1988. In Florida, its distribution extends to more than 20 distinct natural areas in eight counties within four major drainage regions of the central and southern peninsula. Its unique growth habit obscures open water and drastically alters the naturally sparse and upright structure of preexisting native vegetation. Such domination may even displace native prey for the endangered Florida snail kite, a sight feeder inhabiting many locations where invasive colonization occurs.

Exhibit A -2

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Macfadyena unguis-cati</i>	cat's claw vine	I		N, C, S
<i>Manilkara zapota</i>	sapodilla	I		S
<i>Melaleuca quinquenervia</i>	melaleuca, paper bark	I	P, N, U	C, S
<i>Melinis repens</i> (= <i>Rhynchelytrum repens</i>)	Natal grass	I		N, C, S
<i>Mimosa pigra</i>	catclaw mimosa	I	P, N, U	C, S
<i>Nandina domestica</i>	nandina, heavenly bamboo	I		N, C
<i>Nephrolepis cordifolia</i>	sword fern	I		N, C, S
<i>Nephrolepis brownii</i> (= <i>N. multiflora</i>)	Asian sword fern	I		C, S
<i>Neyraudia reynaudiana</i>	Burma reed, cane grass	I	N	S
<i>Nymphoides cristata</i>	snowflake	I		C, S
<i>Paederia cruddasiana</i>	sewer vine, onion vine	I	N	S
<i>Paederia foetida</i>	skunk vine	I	N	N, C, S
<i>Panicum repens</i>	torpedo grass	I		N, C, S
<i>Pennisetum purpureum</i>	Napier grass	I		N, C, S
<i>Pistia stratiotes</i>	water-lettuce	I	P	N, C, S
<i>Psidium cattleianum</i> (= <i>P. littorale</i>)	strawberry guava	I		C, S
<i>Psidium guajava</i>	guava	I		C, S
<i>Pueraria montana</i> var. <i>lobata</i> (= <i>P. lobata</i>)	kudzu	I	N	N, C, S
<i>Rhodomyrtus tomentosa</i>	downy rose-myrtle	I	N	C, S
<i>Rhynchelytrum repens</i> (See <i>Melinis repens</i>)				
<i>Ruellia brittoniana</i> ² (<i>R. tweediana</i> misapplied)	Mexican petunia	I		N, C, S
<i>Salvinia minima</i>	water spangles	I		N, C, S
<i>Sapium sebiferum</i> (= <i>Triadica sebifera</i>)	popcorn tree, Chinese tallow tree	I	N	N, C, S
<i>Scaevola taccada</i> (= <i>Scaevola sericea</i> , <i>S. frutescens</i>)	scaevola, half-flower, beach naupaka	I	N	C, S
<i>Schefflera actinophylla</i> (= <i>Brassaia actinophylla</i>)	schellera, Queensland umbrella tree	I		C, S
<i>Schinus terebinthifolius</i>	Brazilian pepper	I	P, N	N, C, S
<i>Scleria lacustris</i>	Wright's nutrush	I		C, S
<i>Senna pendula</i> var. <i>glabrata</i> (= <i>Cassia coluteoides</i>)	climbing cassia, Christmas cassia, Christmas senna	I		C, S
<i>Solanum tampicense</i> (= <i>S. houstonii</i>)	wetland nightshade, aquatic soda apple	I	N, U	C, S
<i>Solanum viarum</i>	tropical soda apple	I	N, U	N, C, S
<i>Syngonium podophyllum</i>	arrowhead vine	I		N, C, S
<i>Syzygium cumini</i>	jambolan plum, Java plum	I		C, S
<i>Tectaria incisa</i>	incised halberd fern	I		S
<i>Thespesia populnea</i>	seaside mahoe	I		C, S
<i>Tradescantia fluminensis</i>	small-leaf spiderwort	I		N, C
<i>Urochloa mutica</i> (= <i>Brachiaria mutica</i>)	Para grass	I		C, S

CATEGORY II

Invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by Category I species. These species may become ranked Category I, if ecological damage is demonstrated.

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Adenanthera pavonina</i>	red sandalwood	II		S
<i>Agave sisalana</i>	sisal hemp	II		C, S
<i>Aleurites jordanii</i> (= <i>Vernicia jordanii</i>)	tung oil tree	II		N, C
<i>Alstonia macrophylla</i>	devil tree	II		S
<i>Alternanthera philoxeroides</i>	alligator weed	II	P	N, C, S
<i>Antigonon leptopus</i>	coral vine	III		N, C, S
<i>Aristolochia littoralis</i>	calico flower	II		N, C, S
<i>Asystasia gangetica</i>	Ganges primrose	II		C, S

²The Plant List Committee is uncertain as to the correct name for this species. Plants cultivated in Florida, all representing the same invasive species, have in the past been referred to as *Ruellia brittoniana*, *R. tweediana*, *R. caerulea*, and *R. simplex*.

Exhibit A -2

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Begonia cucullata</i>	wax begonia	II		N, C, S
<i>Blechnum pyramidalum</i>	green shrimp plant, Browne's blechnum	II		N, C, S
<i>Broussonetia papyrifera</i>	paper mulberry	II		N, C, S
<i>Callisia fragrans</i>	inch plant, spironema	II		C, S
<i>Callistemon viminalis</i>	bottlebrush, weeping bottlebrush	II		S
<i>Casuarina cunninghamiana</i>	river sheoak, Australian-pine	II	P	C, S
<i>Cecropia palmata</i>	trumpet tree	II		S
<i>Cestrum diurnum</i>	day jessamine	II		C, S
<i>Chamaedorea seifrizii</i>	bamboo palm	II		S
<i>Clematis terniflora</i>	Japanese clematis	II		N, C
<i>Cryptostegia madagascariensis</i>	rubber vine	II		C, S
<i>Cyperus involucratus</i> (<i>C. alternifolius</i> misapplied)	umbrella plant	II		C, S
<i>Cyperus prolifer</i>	dwarf papyrus	II		C, S
<i>Dactyloctenium aegyptium</i>	Durban crowfootgrass	II		N, C, S
<i>Dalbergia sissoo</i>	Indian rosewood, sissoo	II		C, S
<i>Elaeagnus umbellata</i>	silverberry, autumn olive	II		N
<i>Elaeagnus pungens</i>	silverthorn, thorny olive	II		N, C
<i>Epipremnum pinnatum</i> cv. Aureum	pothos	II		C, S
<i>Ficus altissima</i>	false banyan, council tree	II		S
<i>Flacourtia indica</i>	governor's plum	II		S
<i>Hemarthria altissima</i>	limpo grass	II		C, S
<i>Hibiscus tiliaceus</i> (See <i>Talipariti tiliaceum</i>)				
<i>Hyparrhenia rufa</i>	jaragua	II		N, C, S
<i>Ipomoea carnea</i> ssp. <i>fistulosa</i> (= <i>I. fistulosa</i>)	shrub morning-glory	II	P	C, S
<i>Jasminum sambac</i>	Arabian jasmine	II		S
<i>Kalanchoe pinnata</i>	life plant	II		C, S
<i>Koeleria elegans</i> ssp. <i>formosana</i> (= <i>K. formosana</i> ; <i>K. paniculata</i> misapplied)	flamegold tree	II		C, S
<i>Leucaena leucocephala</i>	lead tree	II	N	N, C, S
<i>Landoltia punctata</i> (= <i>Spirodela punctata</i>)	Spotted duckweed	II		N, C, S
<i>Limnophila sessiliflora</i>	Asian marshweed	II	P, U	N, C, S
<i>Livistona chinensis</i>	Chinese fan palm	II		C, S
<i>Melia azedarach</i>	Chinaberry	II		N, C, S
<i>Melinis minutiflora</i>	Molassesgrass	II		C, S
<i>Merremia tuberosa</i>	wood-rose	II		S
<i>Murraya paniculata</i>	orange-jessamine	II		S
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	II	P	N, C, S
<i>Panicum maximum</i> (= <i>Urochloa maxima</i> , <i>Megathyrsus maximus</i>)	Guinea grass	II		N, C, S
<i>Passiflora biflora</i>	two-flowered passion vine	II		S
<i>Pennisetum setaceum</i>	green fountain grass	II		S
<i>Phoenix reclinata</i>	Senegal date palm	II		C, S
<i>Phyllostachys aurea</i>	golden bamboo	II		N, C
<i>Pittosporum pentandrum</i>	Philippine pittosporum, Taiwanese cheesewood	II		S
<i>Pteris vittata</i>	Chinese brake fern	II		N, C, S
<i>Ptychosperma elegans</i>	solitaire palm	II		S
<i>Rhoeo spathacea</i> (see <i>Tradescantia spathacea</i>)				
<i>Ricinus communis</i>	castor bean	II		N, C, S
<i>Rotala rotundifolia</i>	roundleaf toothcup, dwarf Rotala	II		S
<i>Sansevieria hyacinthoides</i>	bowstring hemp	II		C, S
<i>Sesbania punctata</i>	purple sesban, rattlesbox	II		N, C, S
<i>Solanum diphyllum</i>	two-leaf nightshade	II		N, C, S
<i>Solanum jamaicense</i>	Jamaica nightshade	II		C
<i>Solanum torvum</i>	susumber, turkey berry	II	N, U	N, C, S

Callistemon viminalis, added to list as Category II

Bottlebrush (*Callistemon viminalis*), a popular landscape tree, is now invading undisturbed short hydroperiod wetland communities in Miami-Dade, Collier, and Martin Counties, including those in Big Cypress National Preserve and Everglades National Park.

Dactyloctenium aegyptium, added to list as Category II

Durban crowfootgrass (*Dactyloctenium aegyptium*) is an annual grass that is a widely distributed weed throughout the southeastern US. In Florida, this species has been documented in 54 counties. While it is primarily a weed of disturbed areas, it also invades beach dune communities in southern Florida, including those located within Everglades and Dry Tortugas National Parks. Dense growth of this species interferes with ground nesting birds in Dry Tortugas and competes with state and federally listed plant species on the mainland.

Elaeagnus umbellata, added to list as Category II

Autumn-olive (*Elaeagnus umbellata*) is an aggressive shrub capable of replacing entire native ecosystems, which it has done in numerous locations in other states. There are three known native locations in the eastern Florida panhandle; two are local escapes from cultivation. The third is a mixture of mature upland sand hill and pine communities where a wildlife planting has escaped. The entire 2,081 acre site is infested. The infestation ranges from 100% (12.5 acres), to 50% (49.9 acres), to 25% (38.3 acres), to 10% or less (1,683.4 acres).

Hyparrhenia rufa, added to list as Category II

Jaragua (*Hyparrhenia rufa*) is an annual grass that is known from 14 Florida counties. In Miami-Dade County it has been found in intact habitat in at least 12 pine rockland fragments, outcompeting native plant species.

Landoltia punctata, added to list as Category II

Spotted duckweed (*Landoltia punctata*) is a small floating aquatic plant that is native to Australia and Southeast Asia. Since it was first found in Missouri in the 1930s, it has spread to 22 states and been documented in 36 Florida counties. It invades a wide range of undisturbed aquatic habitats and outcompetes native species.

Syzygium jambos, formerly Category II, removed from List

The Committee has not been able to locate data showing this species behaves as a Category II invasive.

Use of the FLEPPC List

FLEPPC encourages use of the Invasive Species List for prioritizing and implementing management efforts in natural areas, for educating lay audiences about environmental issues, and for supporting voluntary invasive plant removal programs. When a non-native plant species is to be restricted in some way by law, FLEPPC encourages use of the List as a first step in identifying species worth considering for particular types of restriction. For more information on using the FLEPPC List of Invasive Plant Species, see *Wildland Weeds* Summer 2002 issue (Vol. 5, No. 3), pp. 16-17, or <http://www.fleppc.org/list/list.htm>

NOTE: Not all exotic plants brought into Florida become pest plants in natural areas. The FLEPPC List of Invasive Plant Species represents only about 10% of the nearly 1,400 exotic species that have been introduced into Florida and have subsequently established outside of cultivation. Most escaped exotics usually present only minor problems in highly disturbed areas (such as roadsides). And there are other exotics cultivated in Florida that are "well-behaved" — that is, they don't escape cultivation at all.



Exhibit A -2

Scientific Name	Common Name	FLEPPC Cat.	Gov. List	Reg. Dist.
<i>Sphagneticola trilobata</i> (= <i>Wedelia trilobata</i>)	wedelia	II		N, C, S
<i>Stachytarpheta cayennensis</i> (= <i>S. urticifolia</i>)	nettle-leaf porterweed	II		S
<i>Syagrus romanzoffiana</i> (= <i>Arecastum romanzoffianum</i>)	queen palm	II		C, S
<i>Talipariti tiliaceum</i> (= <i>Hibiscus tiliaceus</i>)	mahoe, sea hibiscus	II		C, S
<i>Terminalia catappa</i>	tropical-almond	II		C, S
<i>Terminalia muelleri</i>	Australian-almond	II		C, S
<i>Tradescantia spathacea</i> (= <i>Rhoeo spathacea</i> , <i>Rhoeo discolor</i>)	oyster plant	II		S
<i>Tribulus cistoides</i>	puncture vine, burr-nut	II		N, C, S
<i>Urena lobata</i>	Caesar's weed	II		N, C, S
<i>Vitex trifolia</i>	simple-leaf chaste tree	II		C, S
<i>Washingtonia robusta</i>	Washington fan palm	II		C, S
<i>Wedelia</i> (see <i>Sphagneticola</i> above)				
<i>Wisteria sinensis</i>	Chinese wisteria	II		N, C
<i>Xanthosoma sagittifolium</i>	malanga, elephant ear	II		N, C, S

Citation example:
FLEPPC. 2009. List of Invasive Plant Species. Florida Exotic Pest Plant Council. Internet: <http://www.fleppc.org/list/list.htm> or *Wildland Weeds* Vol. 12(4): 13-16. Fall 2009.

The 2009 list was prepared by the FLEPPC Plant List Committee:
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FLEPPC Database – The Florida Exotic Pest Plant Database contains over 75,000 sight records of infestations of FLEPPC Category I and Category II species in Florida public lands and waters. 211 species are recorded. Nearly all of the records are from local, state, and federal parks and preserves; a few records document infestations in regularly disturbed public lands such as highways or utility rights-of-way. Natural area managers and other veteran observers of Florida's natural landscapes submit these records, with many supported further by voucher specimens housed in local or regional herbaria for future reference and verification. New and updated observations can be submitted online at www.eddmaps.org/florida/. This database, along with other plant-data resources such as the University of South Florida Atlas of Florida Vascular Plants at www.plantatlas.usf.edu, the Florida Natural Areas Inventory database at www.fnaai.org, and The Institute for Regional Conservation Floristic Inventory of South Florida database at www.regionalconservation.org, provides important basic supporting information for the FLEPPC List of Invasive Plant Species.

Images and/or distributional data of FLEPPC-listed species may be found at one or more of the following websites: University of South Florida Atlas of Florida Vascular Plants, www.plantatlas.usf.edu; the University of Florida Herbarium collection catalog, <http://www.flmnh.ufl.edu/herbarium/cat/>, and image gallery, <http://www.flmnh.ufl.edu/herbarium/cat/imagesearch.asp>; at Fairchild Tropical Botanic Garden's Virtual Herbarium, www.virtualherbarium.org/vhportal.html, The Robert K. Godfrey Herbarium at Florida State University, <http://herbarium.bio.fsu.edu/index.php>, the University of Florida's IFAS Center for Aquatic and Invasive Plants, <http://plants.ifas.ufl.edu>, and the USDA PLANTS database, <http://plants.usda.gov/>. Please note that greater success and accuracy in searching for plant images is likely if you search by scientific name rather than a common name. Common names often vary in cultivation and across regions. For additional information on plants included in this list, see related links and pages at www.fleppc.org.

South Florida Water Management District
Work Schedule Requirements

Application No : 110525-2

Page 1 of 1

Mitigation Plan ID: LITTORAL SHELF

Activity	Due Date
SUBMIT TIME ZERO MONITORING REPORT	30-NOV-11
SUBMIT FIRST MONITORING REPORT	30-NOV-12
SUBMIT SECOND MONITORING REPORT	30-NOV-13
SUBMIT THIRD MONITORING REPORT	30-NOV-14
SUBMIT FOURTH MONITORING REPORT	30-NOV-15
SUBMIT FIFTH MONITORING REPORT	30-NOV-16

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Application No: 110525-2

Permit No: 56-00944-S

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- X City of Port St Lucie - Planning Div
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- X Sierra Club - Central Florida Group

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City Engineer, City of Fort Pierce
Po Box 1480
Fort Pierce FL 34954

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City of Port St Lucie - Planning Div
121 Sw Port St Lucie Blvd
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