



February 14, 2022
L-2022-022

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555-0001

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Updated Conditions of Certification Report

The State of Florida Department of Environmental Protection has issued on January 24, 2022 the Conditions of Certification for Florida Power & Light Company's Nuclear Power Plants Turkey Point Units 3 and 4, and Unit 5 Combined Cycle Plant.

The attached document is submitted pursuant to Turkey Point Technical Specifications, Appendix B Section 3.2.2, which states in part that changes and additions to the State 401 Certification shall be reported to NRC within 30 days following the date the change is approved.

Should there be any questions regarding this information, please contact Mr. Robert Hess, Licensing Manager, at (305) 246-4112.

Sincerely,

A blue ink handwritten signature, appearing to be "Robert J. Hess", with a long horizontal line extending to the right.

Robert J. Hess
Licensing Manager
Turkey Point Nuclear Plant

SM

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

Enclosure



FLORIDA DEPARTMENT OF Environmental Protection

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January 24, 2022

Sent by Electronic Mail – Document Access Verification Requested

Danielle L. Hall
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Florida Power & Light Company
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RE: Turkey Point Clean Energy Center
Modification to Conditions of Certification
DEP Case Number PA03-45G
OGC Case Number 21-1228

FINAL ORDER MODIFYING CONDITIONS OF CERTIFICATION

Dear Ms. Hall:

On February 8, 2005, the Florida Siting Board issued a Site Certification to Florida Power & Light Company (FPL) for the construction, operation, and maintenance of the Turkey Point Plant Unit 5 (TPP). On October 29, 2008, TPP Units 3 and 4 were Certified. The Department of Environmental Protection (Department) has modified the Conditions of Certification (Conditions) for TPP by Final Order on six other occasions.

The Department has reviewed FPL's petition, received on July 29, 2021, for a modification to the TPP's Site Certification order pursuant to §403.516(1)(c), Florida Statutes (F.S.), for the construction and operation of the FPL Miami-Dade Clean Water Recovery Center including installation of an 8-mile 42-inch diameter water pipeline from the Miami-Dade County Water and Sewer Department's South District Wastewater Treatment Plant to the Unit 5 site and a new reclaimed water treatment facility.

On December 7, 2021, all parties to the certification proceeding were provided a notice of the Department's intent to modify the Conditions for TPP. On December 15, 2021, notice of the Department's intent to modify the Conditions for TPP was also published in the Florida Administrative Register (FAR).

Pursuant to §403.516, F.S., and Rule 62-17.211, Florida Administrative Code (F.A.C.), all parties to the certification proceeding have 45 days from the issuance of notice in which to file a written objection to the modification. Pursuant to §403.516, F.S., and Rule 62-17.211, F.A.C., any person who is not already a party to the certification proceeding and whose substantial interests will be affected by the requested modification has 30 days from the date of publication of the public notice in the FAR to object in writing. Failure to act within the time frame constitutes a waiver of the right

to become a party. These timeframes have expired and no objections to the modification have been received by the Department. The final Conditions of Certification (including attachments) may be viewed and obtained from the following website:

http://publicfiles.dep.state.fl.us/Siting/Outgoing/Web/Certification/pa03_45_2022_G.pdf.

Copies of the Conditions and/or attachments may also be obtained by contacting the Department of Environmental Protection, Siting Coordination Office, 2600 Blair Stone Rd., M.S. 5500, Tallahassee, Florida, (850) 717-9000.

Any party to this Order has a right to seek judicial review of it pursuant to §120.68, F.S., by filing a Notice of Appeal, pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal, accompanied by the applicable filing fees, with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Order is filed with the Clerk of the Department of Environmental Protection.

Sincerely,

Cindy Mulkey
Program Administrator,
Siting Coordination Office

CC by Electronic Mail:

District Director, DEP – jason.andreotta@dep.state.fl.us
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FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52
Florida Statutes, with the designated
Department Clerk, receipt of which is
hereby acknowledged.

Clerk

Date

Service List: *Sent by Electronic Mail – Document Access Verification Requested*

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**STATE OF FLORIDA
DEPARTMENT
OF
ENVIRONMENTAL PROTECTION**



Conditions of Certification

**Florida Power & Light Company
Turkey Point Clean Energy Center
Units 3 and 4 Nuclear Power Plant
Unit 5 Combined Cycle Plant**

PA 03-45G

1/24/2022

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ATTACHMENTS

Attachment A	Certified Site/Facilities Delineation Map(s)
Attachment B	Surface Water Management System Plan(s)
Attachment C	Mitigation Plan(s)
Attachment D	Horizontal Directional Drilling Contingency Plan

EXHIBITS

Exhibit A.....	Emergency Response Capability Agreement
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SECTION A: GENERAL CONDITIONS

SECTION A: GENERAL CONDITIONS

These General Conditions shall be applicable to all areas of the certified site. Compliance with the General Conditions shall be the joint responsibility of Florida Power & Light Company (FPL) Turkey Point Clean Energy Center Nuclear Plant (Units 3 & 4) and Fossil Fuel Plant (Unit 5). Any violation of a General Condition shall be a violation by FPL.

I. SCOPE

A. Pursuant to the Florida Electrical Power Plant Siting Act (PPSA), Sections 403.501-.518, Florida Statutes (F.S.), and Chapter 62-17, Florida Administrative Code (F.A.C.), this Certification is issued to FPL as owner/operator and Licensee of the Turkey Point Clean Energy Center Units 3-5. The Department recognizes that Nuclear Units 3 & 4 and Fossil Unit 5 are under the control of different divisions of FPL. Unless otherwise specified, FPL shall be responsible for the compliance with the conditions herein. Violation of any conditions specific to Units 3, 4, or 5 shall solely affect the license of the responsible generating units. Subject to the requirements contained in these Conditions of Certification (Conditions), FPL will construct, operate, and maintain a nominal 1,150 megawatt (MW) facility (Unit 5) consisting of four 170 MW natural gas fired combustion turbines with light oil as back-up fuel, four heat recovery steam generators and one 470 MW steam turbine, and one nuclear plant consisting of two nominal 800 MW pressurized water reactors (Units 3 and 4), and Associated facilities as described in the Site Certification Application(s) (SCA). The electric generating units are located on an existing 11,000-acre site at 9700 S.W. 344 Street, Homestead, in Miami-Dade County, Florida. Unit 5 is located on approximately 90 acres and Units 3 & 4 are located on approximately 30 acres of the existing site. The UTM coordinates are: Zone 17, 567.2 km East and 2813.2 km North; Latitude: 25° 26' 09" North and Longitude: 80° 19' 52" West.

B. The certified facility includes but is not limited to the following major associated facilities:

- Unit 5 – Fossil Plant
 - Four combustion turbines
 - Four heat recovery steam generators
 - One steam turbine/electric generator to create four-on-one combined cycle unit
 - Emergency Diesel engines, generator engines, and emergency generators
 - Diesel Fire pump
 - Switchyard/substation
 - Stormwater pond
 - Cooling tower
 - Oil tanks
 - Demineralized water treatment plant
 - Administrative and storage buildings
 - Storage tanks
 - Reclaimed water treatment facility (Clean Water Recovery Center – CWRC)
 - Reclaimed waterline
 - Floridan production wells (PW-1 through PW-4)

SECTION A: GENERAL CONDITIONS

- Units 3 & 4 – Nuclear Plant
 - Containment building
 - Two pressurized water reactors
 - Steam generators
 - Reactor coolant pumps
 - Turbine Generator building
 - Auxiliary building
 - Waste management facilities
 - Safety components
 - Fuel handling building
 - Spent fuel storage
 - New fuel storage
 - Administrative and storage buildings
 - Switchyard
 - Demineralized water treatment plant
 - Floridan production wells F-1 through F-7

C. These Conditions, unless specifically amended or modified, are binding upon the Licensee and shall apply to the construction, operation, and maintenance of the certified facility. If a conflict should occur between the design criteria of this certified facility and the Conditions, the Conditions shall prevail unless amended or modified. In any conflict between any of these Conditions, the more specific condition governs.

D. Within 60 days after completion of construction of the electrical power plant as defined by Section 403.503(14), F.S., but excluding off-site linear and non-linear Associated facilities, the Licensee shall provide to the Department in .pdf format: a survey map signed by a professional land surveyor, or acceptable equivalent documentation such as an official legal description, delineating the boundaries of the site as defined by Section 403.503(28), F.S., and an aerial photograph delineating the boundaries of the site. The survey map and aerial photograph shall be labelled as the “Site Delineation Map” and attached hereto as part of Attachment A.

E. The Licensee shall notify the Department of any change to the site boundary depicted in the Site Delineation Map in Attachment A. The notification shall be accompanied by an updated survey map or legal description and aerial photograph delineating the new boundaries of the site for review by the Department. Such changes may constitute a modification and may require additional land use and zoning reviews by the local government. If a modification is required, it will be processed pursuant to Section 403.516, F.S.

F. If both certified and uncertified facilities lie within the boundaries of the site, the Licensee shall also comply with the requirements of this paragraph. Within 60 days after completion of construction of the plant and on-site associated facilities, but excluding off-site linear and non-linear associated facilities, the Licensee shall provide to the Department in .pdf format acceptable documentation identifying the certified and non-certified facilities within the site such as an aerial photograph. Certified facilities identified within the site shall include both the certified electrical power plant’s generating and its on-site certified associated facilities (including on-site linear facilities) as defined by Section 403.503(7), F.S. The document shall be

SECTION A: GENERAL CONDITIONS

labelled as the “Certified Facilities Identification Map” and attached hereto as part of Attachment A.

G. Within 120 days after completion of construction of any certified off-site non-linear associated facilities, the Licensee shall provide to the Department in .pdf format; a survey map signed by a professional land surveyor, or acceptable equivalent documentation such as an official legal description, delineating the site boundaries for each off-site non-linear associated facility. The survey map or other documents shall be labelled as the “Delineation of the Boundaries of the Certified Off-Site Non-Linear Facilities” and attached hereto as part of Attachment A.

H. Within 180 days after completion of construction of any new off-site linear associated facilities, as defined in Section 403.503(7), F.S., the Licensee shall provide; an aerial photograph or map at a scale of at least 1:400, or acceptable equivalent documentation such as an official legal description or survey map signed by a professional land surveyor, delineating the boundaries of the certified site for the linear associated facilities, following acquisition of all necessary property interests and the corridor narrowing as described in Section 403.503(11), F.S. These documents shall be labelled as the “Delineation of Certified Off-Site Linear Facilities” and attached as part of Attachment A.

I. Following any post-certification approvals that require a change to the boundaries of the certified facilities depicted in the Delineation of Certified Off-Site Linear Facilities in Attachment A, the Licensee shall submit an updated aerial photograph, map, survey map, or legal description.

[Sections 403.511, 403.5113, F.S.; Rules 62-4.160(1), (2), and 62-17.205(2), F.A.C.]

II. APPLICABLE DEPARTMENT RULES

The construction, operation, and maintenance of the certified facility shall be in accordance with all applicable non-procedural provisions of Florida Statutes and Florida Administrative Code, including, but not limited to, the applicable non-procedural portions of the following Department regulations, except to the extent a variance, exception, exemption, or other relief is granted in the final order of certification or in a subsequent modification to the Conditions, or under a federal permit, or as otherwise provided under Chapter 403, F.S.:

Florida Administrative Code:

- 18-2 (Management of Uplands Vested in the Board of Trustees)
- 18-14 (Administrative Fines for Damaging State Lands)
- 18-20 (Florida Aquatic Preserves)
- 18-21 (Sovereignty Submerged Lands Management)
- 62-4 (Permits)
- 62-6 (Standards for Onsite Sewage Treatment And Disposal Systems)
- 62-17 (Electrical Power Plant Siting)
- 62-40 (Water Resource Implementation Rule)
- 62-150 (Hazardous Substance Release Notification)
- 62-160 (Quality Assurance)
- 62-204 (Air Pollution Control-General Provisions)
- 62-210 (Stationary Sources-General Requirements)
- 62-212 (Stationary Sources-Preconstruction Review)

SECTION A: GENERAL CONDITIONS

- 62-213 (Operation Permits for Major Sources of Air Pollution)
- 62-256 (Open Burning)
- 62-296 (Stationary Sources-Emission Standards)
- 62-297 (Stationary Sources-Emission Monitoring)
- 62-302 (Surface Water Quality Standards)
- 62-303 (Identification of Impaired Surface Waters)
- 62-304 (Total Maximum Daily Loads)
- 62-330 (Environmental Resource Permitting)
- 62-340 (Delineation of the Landward Extent of Wetlands and Surface Waters)
- 62-342 (Mitigation Banks)
- 62-345 (Uniform Mitigation Assessment Method)
- 62-520 (Ground Water Classes, Standards, and Exemptions)
- 62-528 (Underground Injection Control)
- 62-531 (Water Well Contractor Licensing Requirements)
- 62-532 (Water Well Permitting and Construction Requirements)
- 62-550 (Drinking Water Standards, Monitoring, and Reporting)
- 62-555 (Permitting, Construction, Operation, and Maintenance of Public Water Systems)
- 62-560 (Requirements for Public Water Systems That Are Out of Compliance)
- 62-600 (Domestic Wastewater Facilities)
- 62-604 (Collection Systems and Transmission Facilities)
- 62-610 (Reuse of Reclaimed Water and Land Application)
- 62-620 (Wastewater Facilities and Activities Permitting)
- 62-621 (Generic Permits)
- 62-650 (Water Quality Based Effluent Limitations)
- 62-660 (Industrial Wastewater Facilities)
- 62-699 (Treatment Plan Classification and Staffing)
- 62-701 (Solid Waste Management Facilities)
- 62-709 (Criteria for Organics Processing and Recycling Facilities)
- 62-710 (Used Oil Management)
- 62-730 (Hazardous Waste)
- 62-737 (The Management of Spent Mercury-Containing Lamps and Devices Destined for Recycling)
- 62-740 (Petroleum Contact Water)
- 62-761 (Underground Storage Tank Systems)
- 62-762 (Aboveground Storage Tank Systems)
- 62-769 (Abandoned Tank Restoration Program)
- 62-777 (Contaminant Cleanup Target Levels)
- 62-780 (Contaminated Site Cleanup Criteria)
- 62-814 (Electric and Magnetic Fields)

III. REVISIONS TO DEPARTMENT STATUTES AND RULES

A. The Licensee shall comply with rules adopted by the Department subsequent to the issuance of the Certification under the PPSA which prescribe new or stricter criteria, to the extent that the rules are applicable to electrical power plants. Except when a variance, exception,

SECTION A: GENERAL CONDITIONS

exemption, or other relief has been granted, subsequently adopted Department rules which prescribe new or stricter criteria shall operate as automatic modifications to this Certification.

B. Upon written notification to the Department, the Licensee may choose to operate the certified electrical power plant in compliance with any rule subsequently adopted by the Department which prescribes criteria more lenient than the criteria required by the terms and conditions in the Certification which are not site-specific.

[Sections 403.511(5)(a) and (b), F.S.; Rule 62-4.160(10), F.A.C.]

IV. DEFINITIONS

Unless otherwise indicated herein, the meaning of terms used herein shall be governed by the applicable definitions contained in Chapters 253, 373, 379, and 403, F.S., and any regulation adopted pursuant thereto. In the event of any dispute over the meaning of a term used in these Conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation, or in the alternative, by the use of the commonly accepted meaning. As used herein, the following shall apply:

A. “Application” or “SCA” is defined in Section 403.503(6), F.S. For purposes of this license, “Application” shall also include materials submitted for post-certification amendments and petitions for modification to the Conditions of Certification, as well as supplemental applications.

B. “Associated facility” or “associated facilities” as defined by Section 403.503(7), F.S.

C. “Certified facility” or “certified facilities” means the certified electrical power generation facilities and all certified on- or off-site associated facilities and structures identified or described in the Application, in the final order of certification, or in a post-certification amendment or modification.

D. “DEO” means the Florida Department of Economic Opportunity.

E. “DEM” shall mean the Florida Division of Emergency Management.

F. “DEP” or “Department” means the Florida Department of Environmental Protection.

G. “DERM” shall mean the Department of Regulatory and Economic Resources Division of Environmental Resources Management of Miami-Dade County, Florida.

G. “DHR” means the Florida Department of State, Division of Historical Resources.

H. “DOT” means the Florida Department of Transportation.

I. “Emergency conditions” or “Emergency reporting” means urgent circumstances involving potential adverse consequences to human life or property as a result of weather conditions or other calamity.

J. “Feasible” or “Practicable” means reasonably achievable considering a balance of land use impacts, environmental impacts, engineering constraints, and costs.

K. “FWC” means the Florida Fish and Wildlife Conservation Commission.

SECTION A: GENERAL CONDITIONS

- L. “Licensee” means an applicant that has obtained a certification order for the subject project.
- M. “NED, NWD, CD, SED, SWD, SD” shall mean the Northeast, Northwest, Central, Southeast, Southwest, and South DEP district offices, respectively.
- N. “NRC” shall mean the United States Nuclear Regulatory Commission
- O. “NWF, SR, SJR, SWF, or SFWMD” means the Northwest Florida, Suwannee River, St. Johns River, Southwest Florida, or South Florida Water Management District, respectively.
- P. “Post-certification submittal” shall mean a submittal made by the Licensee pursuant to a Condition of certification.
- Q. “Right-of-Way” or “ROW” is defined in Section 403.503(27), F.S.
- R. “SCA” means the Site certification Application (i.e., the Application(s))
- S. “SCO” means the Department’s Siting Coordination Office.
- T. “Site” is defined in Section 403.503(28), F.S.
- U. “State Water Quality Standards” shall mean the numerical and narrative criteria applied to specific water uses or classifications set forth in Chapters 62-302 and 62-520, F.A.C.
- V. “Surface Water Management System”, “SWMS”, or “System” means a stormwater management system, dam, impoundment, reservoir, appurtenant work, or works, or any combination thereof. The terms “surface water management system”, “SWMS”, or “system” include areas of dredging or filling, as those terms are defined in Sections 373.403(13) and (14), F.S.
- W. “WASD” shall mean the Water and Sewer Department of Miami-Dade County, Florida.
- X. “Wetlands” shall mean those areas meeting the definition set forth in Section 373.019(27), F.S., as delineated pursuant to Chapter 62-340, F.A.C.

V. FEDERALLY DELEGATED OR APPROVED PERMIT PROGRAMS

Subject to the Conditions set forth herein, this certification shall constitute the sole license of the state and any agency as to the approval of the location of the site and any Associated facility and the construction and operation of the electrical power plant, except for the issuance of Department Licenses required under any federally delegated or approved permit program. This certification is not a waiver of any other Department approval that may be required under federally delegated or approved programs. In the event of a conflict between the certification process and federally required procedures, the applicable federal requirements shall control.

[Sections 403.5055, 403.508(8), and 403.511(1), F.S.]

VI. DESIGN AND PERFORMANCE CRITERIA

Certification, including these conditions, is predicated upon preliminary designs, concepts, and performance criteria described in the SCA or in testimony and exhibits in support of certification. The final engineering design of the certified facilities will be consistent and in

SECTION A: GENERAL CONDITIONS

substantial compliance with the preliminary information described in the SCA or as explained at the certification hearing (if any). Conformance to those criteria, unless specifically modified in accordance with Sections 403.516, F.S., and Rule 62-17.211, F.A.C., is binding upon the Licensee in the design, construction, operation, and maintenance of the certified facility.

[Sections 403.511(2)(a), 403.516, F.S.; Rules 62-4.160(2), and 62-17.211, F.A.C.]

VII. NOTIFICATION

A. If, for any reason, the Licensee does not comply with or will be unable to comply with any condition or limitation specified in this License, the Licensee shall provide the DEP District Office with the following information:

1. A description of and cause of noncompliance; and
2. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The Licensee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this certification.
3. All notifications which are made in writing shall additionally be provided to the SCO via email to SCO@dep.state.fl.us.

[Rule 62-4.160(8), F.A.C.]

B. The Licensee shall promptly notify the SCO in writing (email acceptable) of any previously submitted information concerning the certified facility that is later discovered to be inaccurate.

[Rule 62-4.160(15), F.A.C.]

C. Any owner or operator of a facility who has knowledge of any incident reportable to the State Watch Office regarding a certified facility shall notify the State Watch Office at (800) 320-0519 as soon as possible, but not later than 24 hours after discovery of the incident.

D. Any owner or operator of a facility who has knowledge of any reportable pollution release shall submit a Public Notice of Pollution by following the instructions at <https://prodenv.dep.state.fl.us/DepPNP/user/pnpRequest>, as soon as possible, but not later than 24 hours after discovery of the release.

[Section 403.077, F.S.]

E. Within 60 days after certification of a linear Associated facility the Licensee shall file a notice of the certified route with the Department's clerk (Office of General Counsel) and the clerk of the circuit court for each county through which the corridor will pass.

The notice shall consist of maps or aerial photographs in the scale of 1:24,000 which clearly show the location of the certified route and shall state that the certification of the corridor will result in the acquisition of rights-of-way within the corridor.

[Section 403.5112, F.S.]

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VIII. EMERGENCY CONDITION NOTIFICATION AND RESTORATION

If the Licensee is temporarily unable to comply with any of the conditions of the License due to breakdown of equipment or destruction by hazard of fire, wind, or other cause, such as an emergency as defined by Sections 252.34(4), (7), (8), or (10), F.S., the Licensee shall immediately notify the Department. Notification shall include pertinent information as to the cause of the problem, and what steps are being taken to correct the problem and to prevent its recurrence, and where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the Licensee from any liability for failure to comply with Department rules. Any exceedances and/or violations recorded during emergency conditions shall be reported as such, but the Department acknowledges that it intends to use its enforcement discretion during this timeframe. This acknowledgement by the Department does not constitute a waiver or variance from any requirements of any federal permit. Relief from any federal agency must be separately sought.

[Rule 62-4.130, F.A.C.]

IX. CONSTRUCTION PRACTICES

A. *Local Building Codes*

Subject to the conditions set forth herein, this certification constitutes the sole license of the state and any agency as to the approval of the location of the site and any Associated facility and the construction and operation of any certified facility. The Licensee is not required to obtain building permits for certified facilities. However, this certification shall not affect in any way the right of any local government to charge appropriate fees or require that construction of structures used by the electrical power plant that are not an integral part of a generating plant, substation, or control center (such as, office buildings, warehouses, garages, machine shops, and recreational buildings) be in compliance with applicable building construction codes.

[Section 403.511(4), F.S.]

B. *Open Burning*

Prior to open burning in connection with land clearing, the Licensee shall seek authorization from the Florida Forest Service in accordance with the requirements of Chapters 62-256 and 5I-2, F.A.C.

[Chapters 5I-2 and 62-256, F.A.C.]

C. *Vegetation*

For areas located in any Florida Department of Transportation (DOT) ROW, Chapter 3.18 of the 2017 Florida DOT *Utility Accommodation Manual* available on the DOT website at <https://www.fdot.gov/programmanagement/utilities/default.shtm> shall serve as guidelines for best management practices.

D. *Existing Underground Utilities*

The Licensee must follow all applicable portions of the Underground Facility Damage Prevention and Safety Act, Chapter 556, F.S. The Licensee shall provide the affected local government and the SCO with copies of valid tickets obtained from Sunshine State One

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Call of Florida upon request. Tickets shall be available for request until the underground work is completed for the affected area.

[Chapter 556, F.S.]

E. Electric and Magnetic Fields (EMF)

Any transmission lines and electrical substations that are associated facilities shall comply with the applicable requirements of Chapter 62-814, F.A.C.

[Chapter 62-814, F.A.C.]

F. Existing Wells

Any existing wells to be impacted in the path of construction of certified facilities that will no longer be used shall be abandoned by a licensed well contractor. All abandoned wells shall be filled and sealed in accordance with Rule 62-532.500(5), F.A.C., or with the rules of the authorizing agency, or consistent with these Conditions.

[Rules 62-532.400 and 62-532.500(5), F.A.C.]

G. Abandonment of Existing Septic Tanks

Any existing septic tanks that will no longer be used shall be abandoned in accordance with Rule 64E-6.011, F.A.C., unless these Conditions provide otherwise.

[Chapter 64E-6, F.A.C.]

H. Sanitary Wastes

Disposal of sanitary wastes from construction toilet facilities shall be in accordance with applicable regulations of the Department.

[Rule 62-6.0101, F.A.C.]

X. RIGHT OF ENTRY

A. Upon presentation of credentials or other documents as may be required by law, the Licensee shall allow authorized representatives of the Department or other agencies with jurisdiction over a portion of the certified facility, any authorized off-site mitigation/compensation area or Associated facility:

1. At reasonable times, to enter upon the certified facility in order to monitor activities within their respective jurisdictions for purposes of assessing compliance with this certification; or
2. During business hours, to enter the Licensee's premises in which records are required to be kept under this certification; and to have access to and copy any records required to be kept under this certification.

B. When requested by the Department, on its own behalf or on behalf of another agency with regulatory jurisdiction, the Licensee shall within 10 working days, or such longer period as may be mutually agreed upon by the Department and the Licensee, furnish any information required by law, which is needed to determine compliance with the certification.

[Rules 62-4.160(7)(a) and 62-4.160(15), F.A.C.]

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XI. DISPUTE RESOLUTION

A. *General*

If a situation arises in which mutual agreement cannot be reached between the Department and the Licensee, and/or, an agency with substantive regulatory jurisdiction over a matter, the Department may act as a facilitator in an attempt to resolve the issue. If the dispute is not resolved informally in this manner, Licensee may request one or more meetings in which both Licensee and the agency with substantive regulatory jurisdiction over the matter can participate and attempt to resolve the issue informally. If, after such meetings, a mutual agreement cannot be reached between the parties, then the matter shall be referred to the Division of Administrative Hearings (DOAH) for disposition in accordance with the provisions of Chapter 120, F.S. The Licensee or the Department may request DOAH to establish an expedited schedule for processing the dispute. Any filing with DOAH shall state with particularity the specific project and geographic location to which the dispute relates. Work unrelated to the specific project and in areas other than the location to which the dispute relates will not be affected by the dispute.

B. *Modifications*

If written objections are filed regarding a requested modification, and the objections address only a portion of a requested modification, the Department shall issue a final order approving the portion of the modification to which no objections were filed, unless that portion of the requested modification is substantially related to or necessary to implement the portion to which written objections are filed.

C. *Post-certification Submittals*

If it is determined, after assessment of a post-certification submittal, that compliance with the Conditions will not be achieved for a particular portion of a submittal, the Department may make a separate assessment of other portions of the submittal, unless those portions of the submittal are substantially related to or necessary to implement that portion for which it has been determined that compliance with the Conditions will not be achieved.

[Section 120.57, F.S.; Rule 62-17.211, F.A.C.]

XII. SEVERABILITY

The provisions of this certification are severable, and if any provision of this certification or the application of any provision of this certification to any circumstance is held invalid, the remainder of the certification or the application of such provision to other circumstances shall not be affected thereby.

XIII. ENFORCEMENT

A. The terms, conditions, requirements, limitations, and restrictions set forth in these Conditions are binding and enforceable pursuant to Sections 403.141, 403.161, 403.514, 403.727, and 403.859 through 403.861, F.S., as applicable. Any noncompliance by the Licensee with these Conditions constitutes a violation of Chapter 403, F.S., and is grounds for enforcement action, which may result in license termination, license revocation, or license revision. The Licensee is placed on notice that the Department may review this certification periodically and may initiate enforcement action for any violation of these Conditions.

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B. All records, notes, monitoring data, and other information relating to the construction or operation of the certified facility which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the certified facility and arising under the Florida Statutes or Department rules, subject to the restrictions in Sections 403.111 and 403.73, F.S. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

C. The specific terms of the Fifth Supplemental Agreement and the Revised Plan, referenced in Section B. Condition X. Units 3 & 4 Additional Monitoring of these Conditions of Certification, shall remain enforceable by the SFWMD by the terms of the Fifth Supplemental Agreement.

[Sections 403.121, 403.131, 403.141, 403.151, 403.161, and 403.514, F.S.; Rules 62-4.160(1) and (9), F.A.C.]

XIV. REVOCATION OR SUSPENSION

This certification shall be final unless revised, revoked or suspended pursuant to law. This certification may be suspended or revoked pursuant to Sections 403.512, F.S. This certification is valid only for the specific processes and operations identified in the SCA and approved in the final order of certification or indicated in the testimony and exhibits in support of certification or approved in a subsequent amendment or modification of the certification. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this approval may constitute grounds for revocation and enforcement action by the Department. Any enforcement action, including suspension and revocation, shall only affect the portion(s) of the certified facility that are the cause of such action, and other portions of the certified facility shall remain unaffected by such action.

[Sections 403.512, F.S.; Rule 62-4.160(2), F.A.C.]

XV. REGULATORY COMPLIANCE

As provided in Sections 403.087(7) and 403.722(5), F.S., except as specifically provided in the final order of certification, a subsequent modification or amendment, or these Conditions, the issuance of this License does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This License is not a waiver of or approval of any other Department license or permit that may be required for other aspects of the certified facility that are not addressed in this License. This license does not relieve the Licensee from liability for harm or injury to human health or welfare, animal, or plant life, or public or private property caused by the construction or operation of the certified facility, or from penalties therefore.

[Rules 62-4.160(3) and (5), F.A.C.]

XVI. CIVIL AND CRIMINAL LIABILITY

Except to the extent a variance, exception, exemption, or other relief is granted in a final order of certification, in a subsequent modification to these Conditions, or as otherwise provided under Chapter 403, F.S., this certification does not relieve the Licensee from civil or

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criminal penalties for noncompliance with any Condition, applicable rules or regulations of the Department, or any other state statutes or regulations which may apply.

[Sections 403.141, 403.161, and 403.511, F.S.]

XVII. USE OF STATE LANDS

A. Except as specifically provided in the final order of certification or these Conditions, the issuance of this License conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

B. If any portion of the certified facility is located on sovereign submerged lands, state-owned uplands, or within an aquatic preserve, then the Licensee must comply with the applicable portions of Chapters 18-2, 18-20, and 18-21, F.A.C., and Chapters 253 and 258, F.S., except as specifically provided in the final order of certification or these Conditions. If any portion of the certified facility is located on sovereign submerged lands, the Licensee must submit section F of Form 62-330.060(1), *Application for Individual and Conceptual Approval Environmental Resource Permit (State 404 Program Permit) and Authorization to Use State-Owned Submerged Lands* to the Department prior to construction. If any portion of the certified facility is located on state-owned uplands, the Licensee must submit an Upland Easement Application to the Department prior to construction.

C. If a portion of the certified facility is located on sovereign submerged lands or state-owned uplands owned by the Board of Trustees of the Internal Improvement Trust Fund, pursuant to Article X, Section 11 of the Florida Constitution, then the proposed activity on such lands requires a proprietary authorization. Under such circumstances, the proposed activity is not exempt from the need to obtain a proprietary authorization. Unless otherwise provided in the final order of certification or these Conditions, the Department has the responsibility to review and take action on requests for proprietary authorization in accordance with Rule 18-2.018 or 18-21.0051, F.A.C.

D. The Licensee is hereby advised that Florida law states: “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 under this chapter, until the person has received the required lease, license, easement, or other form of consent authorizing the proposed use.” Pursuant to Chapter 18-14, F.A.C., if such work is done without consent, or if a person otherwise damages state land or products of state land, the Board of Trustees may levy administrative fines of up to \$10,000 per offense.

E. The terms, conditions, and provisions of any required lease or easement issued by the State shall be met. Any construction activity associated with the certified facility shall not commence on sovereign submerged lands or state-owned uplands, title to which is held by the Board of Trustees of the Internal Improvement Trust Fund, until all required lease or easement documents have been executed.

[Chapters 253 and 258, F.S.; Chapters 18-2, 18-14, 18-21, 62-340, and Rules 62-330.060(1) and 62-4.160(4), F.A.C.]

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XVIII. PROCEDURAL RIGHTS

Except as specified in Chapter 403, F.S., or Chapter 62-17, F.A.C., no term or condition of certification shall be interpreted to preclude the post-certification exercise by any party of whatever procedural rights it may have under Chapter 120, F.S., including those related to rule-making proceedings.

[Sections 403.511(5)(c), F.S. and Chapter 62-17, F.A.C.]

XIX. AGENCY ADDRESSES FOR POST-CERTIFICATION SUBMITTALS AND NOTICES

Where a Condition requires post-certification submittals and/or notices to be sent to a specific agency, the following agency addresses shall be used unless the Conditions specify otherwise or unless the Licensee and the Department are notified in writing of an agency's change in address for such submittals and notices:

Florida Department of Environmental Protection
Siting Coordination Office, MS 5500
2600 Blair Stone Road
Tallahassee, Florida 32399-3000
SCO@dep.state.fl.us

Florida Department of Environmental Protection
Southeast District Office
3301 Gun Club Road MSC 7210-1
West Palm Beach, Florida 33406

Florida Department of Economic Opportunity
Bureau of Community Planning and Growth
107 East Madison Street
Tallahassee, Florida 32399-2100

Florida Fish & Wildlife Conservation Commission
Conservation Planning Services
620 South Meridian Street, MS 5B5
Tallahassee, Florida 32399-1600
ConservationPlanningServices@myfwc.com

Florida Department of Transportation
District Administration
605 Suwannee Street
Tallahassee, Florida 32399-0450

Florida Department of Agriculture and Consumer Services
Office of General Counsel
407 South Calhoun Street
Tallahassee, Florida 32399-0800

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South Florida Water Management District
Office of General Counsel
3301 Gun Club Road
West Palm Beach, Florida 33406
For ROW submittals: rowpermits@sfwmd.gov

Florida Department of State
Division of Historical Resources
500 South Bronough Street
Tallahassee, Florida 32399-0250

Miami-Dade County
Office of General Counsel
111 NW 1st Street
Miami, Florida 33128

[Section 403.511, F.S.]

XX. PROFESSIONAL CERTIFICATION

To ensure protection of public health, safety, and welfare, any construction, modification, or operation of an installation which may be a source of pollution, or of a public drinking water supply, shall be in accordance with sound professional engineering practices pursuant to Chapter 471, F.S.; and all final geological papers or documents involving the practice of the profession of geology shall be in accordance with sound professional geological practices pursuant to Chapter 492, F.S. Where required by Chapter 471 or 492, F.S., applicable portions of amendment requests, petitions for modifications, post certification submittals, and supporting documents which are submitted to the Department for public record shall be signed and sealed by the professional(s) who prepared or approved them.

[Rule 62-4.050, F.A.C.]

XXI. PROCEDURES FOR POST-CERTIFICATION SUBMITTALS

A. Purpose of Submittals

Conditions which provide for the post-certification submittal of information to DEP or other agencies by the Licensee are for the purpose of facilitating the agencies' monitoring of the effects arising from the location of the certified facility and the construction and maintenance of the certified facility. This monitoring is for DEP to assure, in consultation with other agencies with applicable regulatory jurisdiction, continued compliance with these Conditions, without further agency action. A submittal of information or determination of compliance pursuant to a post-certification submittal under this Condition does not provide a point of entry for a third party.

B. Filings

All post-certification submittals of information by Licensee are to be filed with the agency or office that requires the submittal pursuant to these Conditions. The SCO shall be copied on all post-certification submittals in electronic .pdf format (unless other formats are

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requested), via email to SCO@dep.state.fl.us. Each submittal shall clearly identify the Certified facility name, PA#, and the Condition number(s) (i.e. Section X, Condition XX.y.(z)) requiring the submittal. As required by Section 403.5113(2), F.S., each post-certification submittal will be reviewed by each agency with regulatory authority over the matters addressed in the submittal on an expedited and priority basis.

[Section 403.5113, F.S.; Rule 62-17.191(3), F.A.C.]

C. Completeness

DEP shall review each post-certification submittal for completeness. This review may include consultation with the other agency(ies) receiving the post-certification submittal with regulatory jurisdiction over the matter addressed in the submittal. DEP's finding of completeness shall specify the area of the certified facility affected and shall not delay further processing of the post-certification submittal for non-affected areas.

If any portion of a post-certification submittal is found to be incomplete, the Licensee shall be so notified. Failure to issue such a notice within 30 days after filing of the submittal shall constitute a finding of completeness. Subsequent findings of incompleteness, if any, shall address only the newly filed information.

[Rule 62-17.191(1)(c)2., F.A.C.]

D. Interagency Meetings

DEP may conduct an interagency meeting with other agencies that received a post-certification submittal. The purpose of such an interagency meeting shall be for the agencies with regulatory jurisdiction over the matters addressed in the post-certification submittal to discuss whether compliance with these Conditions has been provided. Failure of DEP to conduct an interagency meeting or failure of any agency to attend an interagency meeting shall not be grounds for DEP to withhold a determination of compliance with these Conditions nor to delay the timeframes for review established by these Conditions. At DEP's request, a field inspection shall be conducted with the Licensee and the agency representative in conjunction with the interagency meeting.

E. Determination of Compliance

DEP, or applicable regulatory agency in consultation with DEP, shall give written notification within 90 days, to the Licensee and the other agency(ies) to which the post-certification information was submitted of DEP's determination of whether there is demonstration of compliance with these Conditions. If it is determined that compliance with the Conditions has not been provided, the Licensee shall be notified with particularity of the deficiencies and possible corrective measures suggested. Failure to notify Licensee in writing within 90 days of receipt of a complete post-certification submittal shall constitute a determination of compliance. A post-certification compliance review may be the basis for initiating modifications to the relevant Condition or to other related Conditions.

F. Commencement of Construction

If DEP does not object within the time period specified in paragraph E., above, Licensee may begin construction pursuant to the terms of these Conditions and the subsequently submitted construction details.

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G. Revisions to Design Previously Reviewed for Compliance

If revisions to site-specific designs occur after submittal, the Licensee shall submit revised plans prior to construction for review in accordance with the post-certification process specified in this Condition.

[Sections 120.569, 373.413, 373.416, 403.511, F.S.; Rules 62-17.191 and 62-17.205, F.A.C.]

XXII. POST-CERTIFICATION SUBMITTAL REQUIREMENTS SUMMARY

Within 90 days after certification, and within 90 days after any subsequent modification or certification, the Licensee shall provide the SCO a complete summary of those post-certification submittals that are identified in these Conditions when due-dates for the information required of the Licensee have been identified. A summary shall be provided as a separate document for each transmission line, if any. Such submittals shall include, but are not limited to, monitoring reports, management plans, wildlife surveys, etc. The summary shall be provided to the SCO, in a sortable spreadsheet, electronically, in the format shown below or equivalent. For subsequent modifications and certifications, a “Post-Certification Submittal Requirements Summary” shall be required only for new or altered post-certification requirements.

Condition Number	Requirement and Timeframe	Due Date	Name of Agency or Agency Subunit to whom the submittal is required to be provided

[Section 403.5113, F.S.; Rule 62-17.191(3), F.A.C.]

XXIII. POST-CERTIFICATION AMENDMENTS

If, subsequent to certification, the Licensee proposes any material change to the SCA and revisions or amendments thereto, as certified, the Licensee shall submit a written request for amendment and a description of the proposed change to the SCA to the Department. Within 30 days after the receipt of a complete request for an amendment, the Department shall determine whether the proposed change to the SCA requires a modification to the Conditions.

A. If the Department concludes that the change would not require a modification to the Conditions, the Department shall provide written notification of the approval of the proposed amendment to the Licensee, all agencies, and all other parties to the certification.

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B. If the Department concludes that the change would require a modification to the Conditions, the Department shall provide written notification to the Licensee that the proposed change to the SCA requires a request for modification pursuant to Section 403.516, F.S.

[Section 403.5113, F.S.]

XXIV. MODIFICATION OF CERTIFICATION

A. Pursuant to Sections 403.516(1)(a), F.S., and Rule 62-17.211, F.A.C., the Siting Board hereby delegates the authority to the Secretary of the Department of Environmental Protection who further delegates to the Siting Office the authority to modify, after notice and receipt of no objection by a party to the certification within 45 days after notice by mail to the party's last address of record, and if no other person whose substantial interests will be affected by the modification objects in writing within 30 days of public notice.

B. The Department may modify Conditions, in accordance with Section 403.516(1)(b), F.S., which are inconsistent with the terms of any subsequent and separately issued DEP permits, permit amendments, permit modifications, or permit renewals under a federally delegated or federally approved permit program. Such modification may be made without further notice if the matter has been previously noticed under the requirements for any federally delegated or approved permit program.

C. The Secretary of the Department may modify any condition of this certification except those pertaining to a change in fuel.

D. The Secretary of the Department may modify any condition of this certification if the Secretary finds that an immediate danger to the public health, safety, or welfare requires the issuance of an immediate final order temporarily modifying these Conditions of Certification. If the Secretary elects to exercise this delegated authority, the Secretary shall prepare an immediate final order that recites with particularity the facts underlying the Secretary's finding of an immediate danger to the public health, safety, or welfare. The immediate final order and the modification to the Conditions of Certification shall be effective only for so long as is necessary to address the immediate danger and shall be applicable or enjoined from the date rendered.

E. In accordance with Section 403.516(1)(c), F.S., the Licensee may file a petition for modification with the Department, or the Department may initiate the modification upon its own initiative.

F. Any anticipated facility expansions, production increases, or process modifications which may result in new, different or increased discharge or emission of pollutants, change in fuel, or expansion in generating capacity must be reported by submission of an appropriate request for an amendment, modification, or certification.

G. In the event of a prolonged [thirty (30) days or more] equipment malfunction or shutdown of pollution control equipment, the Secretary of the Department may allow facility operation to resume and continue to take place under an immediate final order temporarily modifying these Conditions of Certification, provided that the Licensee demonstrates that such operation will be in compliance with all applicable ambient air quality standards and PSD increments, water quality standards and rules, solid waste rules, domestic wastewater rules and industrial wastewater rules. During such malfunction or shutdown, the operation of the facility shall comply with all other requirements of this certification and all applicable state and federal emission and effluent standards not affected by the malfunction or shutdown.

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H. Any anticipated facility change that results in a change to the Site Delineation Map, attached hereto as part of Attachment A, may be considered a modification, and must be accompanied by a map or aerial photograph showing the proposed new boundaries of the site. Within 120 days after completion of construction of the approved facility change, the Licensee shall provide the information required by Section A. General Conditions, Condition I. Scope, paragraphs D, E, F, G, H, or I, as appropriate.

[Section 403.516, F.S.; Rule 62-17.211, F.A.C.]

XXV. COASTAL ZONE CONSISTENCY

Pursuant to Sections 373.428 and 403.511, F.S., certification of the facility constitutes the State's concurrence that the licensed activity or use is consistent with the federally approved program under the Florida Coastal Management Act.

[Sections 373.428, 380.23, and 403.511(7), F.S.]

XXVI. WATER QUALITY CERTIFICATION

Pursuant to the Operating Agreement between the Department, Water Management Districts and U.S. Army Corps of Engineers, a written final order granting 'certification' constitutes certification by the Department that the project activities comply with applicable state water quality standards.

[2012 Operating Agreement, Jacksonville District USACOE, DEP and Water Management Districts, Section II.A.1.(f)]

XXVII. TRANSFER OF CERTIFICATION

A. This certification is transferable in whole or in part, upon Department approval, to an entity determined to be able to comply with these Conditions. A transfer of certification of all or part of the certified facility may be initiated by the Licensee's filing of a Notice of Intent to Transfer Certification with the Department's SCO. The notice of intent shall: identify the intended new certification holder or Licensee; identify the current and the new entity responsible for compliance with the certification; and include a written agreement from the intended new Licensee/Transferee to abide by all Conditions, as well as, applicable laws and regulations. Upon receiving a complete notice of intent, the transfer shall be approved by the Department unless the Department objects to the transfer on the grounds that the new Licensee will be unable to comply with the Conditions, specifies in writing its reasons for its objections, and gives notice and an opportunity to petition for an administrative hearing pursuant to Section 120.57, F.S. Upon approval, the Department will initiate a modification to the Conditions to reflect the change in ownership in accordance with Rule 62-17.211, F.A.C.

B. In the event of the dissolution of the Licensee, the Department may transfer certification to successor entities which are determined to be competent to construct, operate, and maintain the certified facility in accordance with the Conditions and which are proper applicants as defined by the PPSA. Upon determination that such a successor entity complies with the requirements for transfer of certification, the Department will initiate a modification to the Conditions to reflect the change in ownership in accordance with Rule 62-17.211, F.A.C.

[Chapter 120, F.S.; Rule 62-17.211, F.A.C.]

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XXVIII. LABORATORIES AND QUALITY ASSURANCE

Chemical, physical, biological, microbiological, and toxicological data collected as a requirement of these Conditions must be reliable and collected and analyzed by scientifically sound procedures. Unless otherwise specified in these Conditions, the Licensee shall adhere to the minimum field and laboratory quality assurance, methodological and reporting requirements of the Department as set forth in Chapter 62-160, F.A.C.

[Chapter 62-160, F.A.C.]

XXIX. ENVIRONMENTAL RESOURCES

A. General

1. Submittals for Construction Activities

a. Prior to the commencement of construction of new facilities and/or new Associated facilities the Licensee shall provide to the DEP SED District for review, all information necessary for a complete *Application for Individual and Conceptual Approval Environmental Resource Permit and Authorization to Use State-Owned Lands* (ERP), DEP Form 62-330.060(1), F.A.C., or other applicable ERP authorization form. A copy of the submittal shall also be provided to the SCO.

This form may: a) be submitted concurrently with a SCA; b) be submitted as part of an amendment request or a petition for modification; or c) be submitted as a post-certification submittal following approval of a Project through certification, modification, or amendment. Such ERP submittals, once received, shall be reviewed in accordance with the non-procedural standards and criteria for issuance of an ERP, including all the provisions related to reduction and elimination of impacts, conditions for issuance, additional conditions for issuance, and mitigation contained in Chapter 62-330, F.A.C., as applicable, unless otherwise stated in these Conditions. While the information is provided for review via submittal of the ERP form, consistent with Section 403.511, F.S., a separate ERP is not required for certified facilities, and therefore, a separate ERP will not be issued.

Those forms submitted as part of a SCA, an amendment, or modification, shall be processed concurrently with the respective SCA, amendment, or modification, in compliance with the applicable PPSA procedures. Those forms submitted as a post-certification submittal (after certification, modification, or amendment and prior to construction) shall be processed in accordance with Section A. General Conditions, Condition XXI., Procedures for Post-Certification Submittals. Post-certification submittal information may be submitted for discrete portions of the certified facilities for a determination of compliance with these Conditions.

No construction shall commence on a project feature, or in a particular segment of a linear facility, until the Department has determined that there is a demonstration of compliance with these Conditions. For post-certification submittal reviews, the Department's determination is governed by Section A, General Conditions, Condition XXI, Procedures for Post-Certification Submittals.

b. Concurrent with submittal of the DEP form required in subparagraph A.1.a., above, the Licensee shall submit, as applicable, a survey of wetland and surface water areas as delineated in accordance with Chapter 62-340, F.A.C., and verified by

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appropriate agency staff for Department compliance review. Available DEP-approved wetland and surface water delineations within the boundaries of a certified site or a portion thereof may be used and reproduced for this delineation submittal and verification. Formal DEP-approved wetland and surface water delineations are valid only for a period of five years.

[Section 373.416, F.S.; Chapters 62-330 and 62-340, F.A.C.]

2. Construction, operation, and maintenance of the proposed project (including any access roads and structures constructed within wetlands and other surface waters, and/or Associated facilities) shall satisfy any applicable non-procedural requirements in the Department rules.

[Section 373.414(1)(a), F.S.]

3. Any delineation of the extent of a wetland or other surface water submitted as part of the DEP ERP Application Form required by subparagraph A.1.a., above, including plans or other supporting documentation, shall not be considered binding on the Department unless a specific condition of this certification or a formal wetlands jurisdictional determination under Section 373.421(2), F.S., provides otherwise.

[Sections 373.421, 403.504, F.S.]

B. Surface Water Management Systems

1. Information regarding surface water management systems (SWMS) will be reviewed for consistency with the applicable non-procedural requirements under Part IV of Chapter 373, F.S., following submittal of Form 62-330.060(1), F.A.C., to the DEP District.

2. All construction, operation, and maintenance of the SWMS(s) for the certified facilities shall be as set forth in the plans, specifications, and performance criteria contained in the SCA and other materials presented during the certification proceeding, post-certification submittals, and as otherwise approved. If specific requirements are necessary for construction, operation, and/or maintenance of an approved SWMS, those requirements shall be incorporated into a SWMS Operation and Maintenance Requirements for that system and included in Attachment B (Surface Water Management System Requirements). Any alteration or modification to the SWMS Plan or the SWMS as certified requires prior approval from the Department.

3. To allow for stabilization of all disturbed areas, prior to construction, during construction of the SWMS, and for a period of time after construction of the SWMS, the Licensee shall implement and maintain erosion and sediment control best management practices, such as silt fences, erosion control blankets, mulch, sediment traps, polyacrylamide (PAM), temporary grass seed, permanent sod, and floating turbidity screens to retain sediment on-site and to prevent violations of state water quality standards. These devices shall be installed, used, and maintained at all locations where the possibility exists of transferring suspended solids into the receiving waterbody due to the licensed work, and shall remain in place at all locations until construction in that location is completed and soils are permanently stabilized. All best management practices shall be in accordance with the guidelines and specifications described in the *State of Florida Erosion and Sediment Control Designer and Reviewer Manual* (Florida Department of Transportation and Florida Department of Environmental Protection, by HydroDynamics Incorporated in cooperation with Stormwater Management Academy, June 2007) unless a project-specific erosion and sediment control plan is approved as part of this License. If project-specific Conditions require additional measures during any phase of

SECTION A: GENERAL CONDITIONS

construction or operation to prevent erosion or control sediments beyond those specified in the approved erosion and sediment control plan, the Licensee shall implement additional best management practices as necessary, in accordance with the guidelines and specifications in the *State of Florida Erosion and Sediment Control Designer and Reviewer Manual*. The Licensee shall correct any erosion or shoaling that causes adverse impacts to the water resources as soon as feasible. Once project construction is complete in an area, including the re-stabilization of all side slopes, embankments, and other disturbed areas, and before conversion to the operation and maintenance phase of the SWMS, all silt screens and fences, temporary baffles, and other materials that are no longer required for erosion and sediment control shall be removed.

4. The Licensee shall complete construction of all aspects of the SWMS described in the ERP Application Form, submitted as part of a post-certification submittal, amendment, modification, or SCA including water quality treatment features, and discharge control facilities prior to use of the portion of the certified facility being served by the SWMS.

5. At least 48 hours prior to beginning the authorized activities, the Licensee shall submit to the DEP District a fully executed Form 62-330.350(1), "Construction Commencement Notice," (October 1, 2013), (<http://www.flrules.org/Gateway/reference.asp?No=Ref-02505>), indicating the expected start and completion dates. A copy of this form may be obtained from the Department, as described in subsection 62-330.010(5), F.A.C., and shall be submitted electronically. However, for activities involving more than one acre of construction that also require a NPDES stormwater construction general permit, submittal of the Notice of Intent to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities, DEP Form 62-621.300(4)(b), shall also serve as notice of commencement of construction and, in such a case, submittal of Form 62-330.350(1) is not required.

6. Each phase or independent portion of the approved system must be completed in accordance with the submitted DEP ERP Application Form prior to the operation of the portion of the certified facility being served by that portion or phase of the system.

7. Within 30 days, or such other date as agreed to by DEP and the Licensee, after completion of construction of any new portions of the SWMS, the Licensee shall submit to the DEP District, and copy the SCO, a written statement of completion and certification by a registered professional engineer (P.E.), or other appropriate registered professional, as authorized by law, utilizing the required "As-Built Certification and Request for Conversion to Operation Phase" (DEP Form 62-330.310(1), F.A.C.). Additionally, if deviations from the approved drawings are discovered, the As-Built Certification must be accompanied by a copy of the approved drawings with deviations noted.

8. Any substantial deviation from the approved drawings, exhibits, specifications, or Conditions, may constitute grounds for revocation or enforcement action by the Department.

9. The operation phase of any new SWMS approved by the Department shall not become effective until the Licensee has complied with the requirements of the conditions herein, the Department determines the system to be in compliance with the approved plans, and the entity approved by the Department accepts responsibility for operation and maintenance of the system.

SECTION A: GENERAL CONDITIONS

10. The DEP District must be notified in advance of any proposed construction dewatering. If the dewatering activity is likely to result in off-site discharge or sediment transport into wetlands or surface waters, a written dewatering plan must be submitted to and approved by the Department prior to the dewatering event.

[Section 373.414, F.S.; Chapters 62-302, 62-330, and Rule 62-4.242, F.A.C.]

C. Wetland and Other Surface Water Impacts

1. All certified facilities shall be constructed in a manner which will eliminate or reduce adverse impacts to on-site and/or adjacent wetlands or other surface waters to the extent practicable or otherwise comply with the Department's substantive criteria for elimination or reduction of such impacts. When impacts to wetlands will occur as a result of a future amendment, modification, or certification, and cannot be practicably eliminated or reduced, the Licensee may propose, and the Department or Board shall consider, mitigation to offset otherwise such impacts under the ERP review process pursuant to subparagraph A.1., above.

2. Proposed mitigation requirements/plans submitted with the DEP ERP Application forms required in subparagraph A.1.a., above, or submitted as part of an amendment, modification, or certification, and that are deemed acceptable by DEP, shall include applicable construction conditions, success criteria, monitoring plans, and remedial actions (if applicable), and shall be incorporated into these Conditions as Attachment C (Wetland Mitigation Requirements/Plans).

[Sections 373.413, 373.414, 373.4145, 403.511, and 403.814(6), F.S.; Chapters 62-312, 62-330, 62-340, 62-342, and 62-345, F.A.C.]

XXX. THIRD PARTY IMPACTS

The Licensee is responsible for maintaining compliance with these Conditions even when third party activities authorized by the Licensee occur in or on the certified site.

[Sections 403.506(1), F.S.]

XXXI. FACILITY OPERATION

The Licensee shall properly operate and maintain the certified facility and systems of treatment and control (and related appurtenances) that are installed and used by the Licensee to achieve compliance with these Conditions, as required by the final order of certification, these Conditions, or a post-certification amendment or modification. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the final order of certification, these Conditions, or a post-certification amendment or modification. Further, the Licensee shall take all reasonable steps to minimize any adverse impact resulting from noncompliance with any limitation specified in this certification, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying event.

[Rule 62-4.160(6), F.A.C.]

XXXII. RECORDS MAINTAINED AT THE FACILITY

A. These Conditions or a copy thereof shall be kept at the site.

SECTION A: GENERAL CONDITIONS

B. The Licensee shall hold at the site, or other location designated by these Conditions, records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation required by these Conditions, copies of all reports required by these Conditions, and records of all data used to complete the SCA for this approval. These materials shall be retained at least 3 years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

C. Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used; and
6. the results of such analyses.

[Rules 62-4.160(12) and (14)(b), F.A.C.]

XXXIII. WATER DISCHARGES

A. Except as otherwise authorized by a permit issued by the Department under a federally approved or delegated program or to the extent a variance, exception, exemption or other relief is granted or authorized by these Conditions, the Licensee shall not discharge to surface or ground waters of the State, wastes in concentrations, which, alone or in combinations with other substances or components of discharges (whether thermal or non-thermal), are carcinogenic, mutagenic, or teratogenic to human beings (unless specific criteria are established for such components in Rule 62-520.400, F.A.C.) or are acutely toxic to indigenous species of significance to the aquatic community within surface waters affected by the ground water at the point of contact with surface waters.

B. Except as otherwise authorized by a permit issued by the Department under a federally approved or delegated program or to the extent a variance, exception, exemption, or other relief is granted or authorized by these Conditions, all discharges and activities must be conducted so as to not cause a violation of the water quality standards set forth in Chapters 62-4, 62-302, 62-520, 62-550, and 62-620, F.A.C., including the provisions of Rules 62-4.243, 62-4.244, and 62-4.246, F.A.C., the antidegradation provisions of Rules 62-4.242(1)(a), (1)(b), and 62-302.300, F.A.C., and any special standards for Outstanding Florida Waters and Outstanding National Resource Waters set forth in Rules 62-4.242(2) and (3), F.A.C.

C. Except as otherwise authorized by a permit issued by the Department under a federally approved or delegated program or to the extent a variance, exception, exemption, or other relief is granted or authorized by these Conditions, all dewatering discharges must be in compliance with Rule 62-621.300, F.A.C.

[Chapters 62-4, 62-302, 62-520, 62-550, 62-620, and 62-621, F.A.C.]

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XXXIV. SOLID AND HAZARDOUS WASTE

A. *Solid Waste*

The Licensee shall comply with all applicable non-procedural provisions of Chapter 62-701, F.A.C., for any solid waste generated within the certified facility during construction, operation, maintenance, and closure.

[Chapter 62-701, F.A.C.]

B. *Hazardous Waste, Used Oil, Petroleum Contact Water, and Spent Mercury*

The Licensee shall comply with all applicable non-procedural provisions of Chapter 62-730, F.A.C., for any hazardous waste generated within the certified facility. An EPA identification number must be obtained before beginning hazardous waste activities unless the facility is a Very Small Quantity Generator (VSQG). VSQGs generate no more than 100 kg (220 lbs) of hazardous waste in any month.

The Licensee shall comply with all applicable non-procedural provisions of Chapter 62-710, F.A.C., for any used oil and used oil filters generated within the certified facility.

The Licensee shall comply with all applicable non-procedural provisions of Chapter 62-737, F.A.C., for any spent mercury-containing lamps and devices generated within the certified facility.

The Licensee shall comply with all applicable provisions of Chapter 62-740, F.A.C., for any petroleum contact water located within the certified facility.

[Chapters 62-710, 62-730, 62-737, and 62-740, F.A.C.]

C. *Hazardous Substance Release Notification*

1. Any owner or operator of a facility who has knowledge of any release of a hazardous substance from a certified facility in a quantity equal to or exceeding the reportable quantity in any 24-hour period shall notify the Department by calling the State Watch Office, (800) 320-0519, as soon as possible, but not later than one working day of discovery of the release.

2. Any owner or operator of a facility who has knowledge of any release of a hazardous substance from a certified facility in a quantity equal to or exceeding the reportable quantity in any 24-hour period shall notify the public by submitting a Public Notice of Pollution, <https://prodenv.dep.state.fl.us/DepPNP/user/pnpRequest>, as soon as possible, but not later than 24 hours after discovery of the release.

3. Releases of mixtures and solutions are subject to these notification requirements only where a component hazardous substance of the mixture or solution is released in a quantity equal to or greater than its reportable quantity.

4. Notification of the release of a reportable quantity of solid particles of antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, or zinc is not required if the mean diameter of the particles released is larger than 100 micrometers (0.004 inches).

[Chapter 62-150, F.A.C.]

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D. Contaminated Site Cleanup

The Licensee shall comply with all applicable non-procedural provisions of Chapter 62-780, F.A.C., for any violations of relevant provisions of Chapters 376 or 403, F.S., that result in legal responsibility for site rehabilitation pursuant to those chapters. This responsibility for site rehabilitation does not affect any activity or discharge permitted or exempted pursuant to Chapters 376 or 403, F.S., or rules promulgated pursuant to Chapters 376 or 403, F.S.

[Chapter 62-780, F.A.C.]

XXXVI. STORAGE TANK SYSTEMS

Registration, construction, installation, operation, maintenance, repair, closure, and disposal of storage tank systems within a certified site that store regulated substances shall be in accordance with Chapters 62-761 and 62-762, F.A.C., in order to minimize the occurrence and environmental risks of releases and discharges. Mineral acid storage tank systems are subject only to Rule 62-762.891, F.A.C. Compression vessels and aboveground hazardous substance storage tank systems with individual capacities greater than 110 gallons are only subject to Rule 62-762.401, F.A.C.

A. Incident Notification Requirements.

Notification of any condition or situation indicating that a release or discharge of a regulated substance may have occurred from a storage tank system or system component shall be made to the County in writing or electronic format on either Form 62-761.900 (6) or Form 62-762.901(6), whichever is applicable, Incident Notification Form (INF), within 72 hours of discovery or before the close of the County's next business day. However, an INF is not required to be submitted if, within 72 hours of discovery, the investigation of the incident confirms that a discharge did not occur.

B. Discharge Reporting Requirements

Notification of the discovery of a discharge of a regulated substance shall be made to the County in writing or electronic format on either Form 62-761.900(1) or Form 62-762.901(1), whichever is applicable, Discharge Report Form (DRF) within 24 hours of the discovery or before the close of the County's next business day, unless the discovery is a non-petroleum, de minimis discharge referenced in Rule 62-780.550, F.A.C.; the discharge was previously reported to the appropriate County or the Department on a DRF; or the discovery is a petroleum or petroleum product de minimis discharge referenced in Rule 62-780.560(1), F.A.C. A de minimis discharge is exempt from the notification requirements as long as discharge is removed and properly treated or properly disposed, or otherwise remediated pursuant to the applicable provisions of Chapter 62-780, F.A.C.

C. Discharge Cleanup

If a discharge of a regulated substance occurs at the certified facility, actions shall be taken immediately to contain, remove, and abate the discharge under all applicable Department rules. The Licensee is advised that other federal, state, or local requirements may apply to these activities. If the contamination present is subject to the provisions of Chapter 62-780, F.A.C., corrective action, including free product recovery, shall be performed in accordance with that Chapter.

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D. Out of Service and Closure Requirements

Storage tank systems shall be taken out-of-service and/or closed as necessary in accordance with Rules 62-761.800, 62-762.801, and 62-762.802, F.A.C., as applicable.

[Chapters 62-761, 62-762, and 62-780, F.A.C.]

SECTION B: SPECIFIC CONDITIONS

SECTION B. SPECIFIC CONDITIONS

I. DEPARTMENT OF ENVIRONMENTAL PROTECTION

A. *Radiological – Specific to Units 3 & 4*

1. Decommissioning

Upon application to the U.S. Nuclear Regulatory Commission (NRC) for authority to decommission the plant, the applicant shall provide the Department a copy of the plan submitted to NRC for radioactive materials removal and/or containment for the site. Should the Department's review of the written plan reveal deficiencies, the Department shall bring such deficiencies to the attention of the applicant and the NRC and maintains the right to initiate a request, consistent with NRC procedural requirements that remedial action be taken to correct the deficiencies.

2. Radiological Release Limitations

The recommendation in the Power Plant Site Certification Analysis that certification be issued is based in part upon the fact that in order to obtain a construction permit and operating license from NRC, the applicant must comply with all applicable regulations, requirements, and standards of the NRC which limit the release of radioactive materials in solid waste, liquid or gaseous effluents to the environment. The above NRC regulations, requirements and standards include the following:

a. Standards for Protection Against Radiation, U.S. Nuclear Regulatory Commission Rules and Regulations, Title 10, Chapter 1, Part 20, Code of Federal Regulations, as presently in effect or hereafter amended.

b. Limitations and conditions for the controlled release of radioactive materials in solid, liquid and gaseous effluents contained in the Radiological Environmental Monitoring Program required by Title 10, 10 CFR 50, Appendix I as presently in effect or hereafter amended.

The Department has the statutory duty to insure that the location and operation of Turkey Point Nuclear Units 3 and 4 will produce minimal adverse effects on human health, the environment, the ecology and the land and its wildlife, and the ecology of State waters and their aquatic life. (Fla. Stat. Section 403.502.) The Department has determined that the construction and operation of Turkey Point Nuclear Units 3 and 4 must comply with the above radiological release limitations in order to minimize adverse effects on human health and the environment. This certification is conditioned upon full compliance by the applicant with the applicable above regulations, requirements and standards.

The NRC has the duty and responsibility imposed by statute, to enforce compliance by the applicant with NRC standards and technical specifications, to assure that the construction and operation of Turkey Point Nuclear Units 3 and 4 will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. See Section 103(d) of the Atomic Energy Act, 42 U.S.C. section 2133(d) (1970); accord. 42 U.S.C. section 2332(a) (1970) including any revisions.

However, should the Department determine that the NRC has failed to discharge its duty and responsibility, it may bring any such deficiencies to the attention of the applicant and the NRC, and maintains the right to initiate a request, consistent with NRC

SECTION B: SPECIFIC CONDITIONS

procedural requirements, that appropriate enforcement action be taken to correct the deficiencies. Should such appropriate enforcement action not be forthcoming, and the Department determines that such enforcement action is necessary to insure that adverse effects on human health and the environment by continued operation of Turkey Point Nuclear Units 3 and 4 are minimized, the Department reserves the right to take appropriate State enforcement action pursuant to Chapter 403, Florida Statutes, against the applicant for violation of any of the above radiological release limitations on the grounds that the violation of such limitations constitutes a violation of this express condition of certification.

3. Reservation of Legal Rights

The Department recognizes that the NRC has exclusive authority in certain areas related to the construction and operation of Turkey Point Nuclear Units 3 and 4. These conditions of certification do not limit, expand or supersede any federal requirement or restriction under federal law, regulation, or regulatory approval or license. Compliance with the conditions herein does not constitute a waiver of the applicant's responsibility to comply with all applicable NRC requirements. Applicant's acceptance of these radiological conditions of certification does not, in and of itself, constitute a waiver by Applicant of any claim that any such radiological conditions are invalid under the doctrine of federal preemption or otherwise by law.

4. Annual Radiological Environmental Operating Report

Upon submittal to the NRC, FPL shall provide a copy of the Annual Radiological Environmental Operating Report for Turkey Point Nuclear Units 3 & 4 to the Department's Siting Coordination Office.

5. NRC Operating Licenses

The Licensee shall notify the Department's Siting Coordination Office of any amendments, modifications, or renewals of NRC-issued Operating Licenses.

B. CWRC Solid Waste

1. Any solid waste encountered during construction of the reclaimed waterline for the CWRC shall be disposed of at a permitted solid waste landfill.

2. If waste or the liner systems for the closed South Dade Landfill are encountered during construction of the reclaimed waterline, the waste shall be disposed of at a permitted solid waste landfill, and the liner system shall be repaired to minimize infiltration.

[Chapter 62-701, F.A.C.]

C. CWRC HDD Requirements

1. Return fluid from Horizontally Directional Drilling (HDD) bores shall not be discharged into adjacent surface waters and/or wetlands, and all severed materials shall be temporarily placed within the areas authorized to be impacted, prior to removal from the site. The spoil and all severed materials shall be contained to prevent the escape of severed materials and associated effluent into adjacent storm drains, surface waters, and/or wetlands not authorized to be impacted. Where practicable, containment pits and staging areas shall be located on uplands. Construction personnel shall maintain daily logs (including a depiction of the area inspected) outlining all bore route inspections conducted during construction.

SECTION B: SPECIFIC CONDITIONS

2. There shall be no storage or stockpiling of tools and materials (i.e., lumber, pilings, debris), within wetlands or other surface waters that are not authorized to be impacted.

3. To provide an additional level of resource protection, the volume of the bentonite in the borehole, drilling mud consistency, drilling mud pressures, and return flows shall be monitored at all times during directional drilling operation. During drilling activities, daily monitoring logs shall be kept and indicate if an unanticipated or unexpected change in the bentonite borehole volume, drill mud pressures, drill mud consistency, and/or return flow volume occur during drilling activities. The monitoring logs shall be submitted quarterly to the FDEP SED. Should there be an indication of an inadvertent release, the following measures will be taken:

a. Immediately conduct a visual inspection of both terrestrial and subaqueous portions of the HDD corridor. If a frac-out is detected, notify the Southeast District Compliance Project Manager at SED_Compliance@FloridaDEP.gov, or by phone (561) 681-6600, within 2 hours of detection.

b. Should the release of drilling materials occur, the appropriate actions shall take place in strict accordance with the attached HDD Contingency Plan (aka "Frac-Out Monitoring & Emergency Management Plan"), hereby incorporated as Attachment D. Any violation of Attachment D is considered a violation of the Conditions of Certification.

4. In order to minimize the possibility of a bentonite release during punch out, the site project manager shall consider the use of water in place of bentonite during the last 30 to 50 feet of the directional bore. If practicable, the HDD operator shall stop the flow of recirculated bentonite and the borehole shall be flushed with water to remove the bentonite. Once the drill string is clear of bentonite, drilling will continue using only water as the boring medium. The monitoring logs described in Section B. Condition I. Department of Environmental Protection, paragraph C.3 submitted to the Department will discuss if water was used during the final stages of drilling and if not, the reasons why it wasn't feasible.

5. Additives to the bentonite drilling muds shall include only NSF/ANSI Standard 60 Certified materials, all other additives will require the Department's prior approval. If additional additives are needed, a post-certification submittal will be required. Safety Data Sheets of those additional proposed additives for HDD boring will be required to evaluate the post-certification submittal.

6. A fully enclosed truck shall remain onsite for frac-out assistance as well as to remove all drilling fluids prior to backfilling the containment pits. If night-time drilling and/or boring activities are performed beneath wetlands or surface waters, the permittee and/or contractor shall provide evidence to the Department that the contracted construction personnel is equipped with the best available lighting to detect a frac-out during low light conditions, which shall be utilized when tracing the HDD at night. Prior to night-time drilling and/or boring activities, the permittee and/or contractor shall contact the Department a minimum of 48 hours prior to commencement of drilling.

7. Within 60 days of construction completion Licensee shall restore all areas of temporary wetland impact associated with the pipeline installation to grade with native wetland topsoil.

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[Chapter 62-330, F.A.C and Petition to Modify (G) from FPL dated 7/29/2021]

D. Screening

1. The Licensee shall maintain existing screening of the site to the extent feasible through the use of acceptable structures, vegetated earthen walls, or existing or planted vegetation.

2. The Licensee shall develop the site so as to retain the buffer of natural vegetation as described in the Unit 5 application.

[Original certification 2/8/2005]

II. DEPARTMENT OF TRANSPORTATION

A. Access Management to the State Highway System:

Any access to the State Highway System will be subject to the requirements of Chapters 14-96, State Highway System Connection Permits, and 14-97, Access Management Classification System and Standards, F.A.C.

B. Overweight or Overdimensional Loads:

Operation of overweight or overdimensional loads by the applicant on State transportation facilities during construction and operation of the utility facility will be subject to safety and permitting requirements of Chapter 316, F.S., and Chapter 14-26, Safety Regulations and Permit Fees for Overweight and Overdimensional Vehicles, F.A.C.

C. Use of State of Florida Right of Way or Transportation Facilities:

All usage and crossing of State of Florida right of way or transportation facilities will be subject to Chapter 14-46, Utilities Installation or Adjustment, F.A.C.; Florida Department of Transportation's Utility Accommodation Manual (Document 710-020-001); Design Standards for Design, Construction, Maintenance and Utility Operation on the State Highway System; Standard Specifications for Road and Bridge Construction; and pertinent sections of the Florida Department of Transportation's Project Development and Environmental Manual. U.S. 1 has been identified as Florida Intrastate Highway System (FIHS) and Strategic Intermodal System's (SIS) facilities.

D. Standards:

The Manual on Uniform Traffic Control Devices; Florida Department of Transportation's Design Standards for Design, Construction, Maintenance and Utility Operation on the State Highway System; Florida Department of Transportation's Standard Specifications for Road and Bridge Construction; Florida Department of Transportation's Utility Accommodation Manual; and pertinent sections of the Department of Transportation's Project Development and Environmental Manual will be adhered to in all circumstances involving the State Highway System and other transportation facilities.

E. Drainage:

Any drainage onto State of Florida right of way and transportation facilities will be subject to the requirements of Chapter 14-86, Drainage Connections, F.A.C., including the attainment of any permit required thereby.

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F. Use of Air Space:

Any newly proposed structure or alteration of an existing structure will be subject to the requirements of Chapter 333, F.S., and Rule 14-60.009, Airspace Protection, F.A.C. Additionally, notification to the Federal Aviation Administration (FAA) is required prior to beginning construction, if the structure exceeds notification requirements of 14 CFR Part 77, Objects Affecting Navigable Airspace, Subpart B, Notice of Construction or Alteration. Notification will be provided to FAA Southern Region Headquarters using FAA Form 7460-1, Notice of Proposed Construction or Alteration in accordance with instructions therein. A subsequent Determination by the FAA stating that the structure exceeds any federal obstruction standard of 14 CFR Part 77, Subpart C for any structure that is located within a 10-nautical-mile radius of the geographical center of a public-use airport or military airfield in Florida will be required to submit information for an Airspace Obstruction Permit from the Florida Department of Transportation or variance from local government depending on the entity with jurisdictional authority over the site of the proposed structure. The FAA Determination regarding the structure serves only as a review of its impact on federal airspace and is not an authorization to proceed with any construction. However, FAA recommendations for marking and/or lighting of the proposed structure are made mandatory by Florida law. For a site under Florida Department of Transportation jurisdiction, application will be made by submitting Florida Department Transportation Form 725-040-11, Airspace Obstruction Permit Application, in accordance with the instructions therein.

G. Level of Service on State Roadway Facilities:

All traffic impacts to State roadway facilities on the FIHS or the SIS, or funded by Section 339.2819, F.S., will be subject to the requirements of the level of service standards adopted by local governments pursuant to Chapter 14-94, Statewide Minimum Level of Service Standards, F.A.C., in accordance with Section 163.3180(10), F.S. All traffic impacts to State roadway facilities not on the FIHS, the SIS, or funded by Section 339.2819, F.S., will be subject to adequate level of service standards established by the local governments.

H. Best Management Practices

Traffic control during facility construction and maintenance will be subject to the standards contained in the Manual on Uniform Traffic Control Devices; Chapter 14-94, Statewide Minimum Level of Service Standards, F.A.C.; Florida Department of Transportation's Design Standards for Design, Construction, Maintenance and Utility Operation on the State Highway; Florida Department of Transportation's Standard Specifications for Road and Bridge Construction; and Florida Department of Transportation's Utility Accommodation Manual, whichever is more stringent.

It is recommended that the applicant encourage transportation demand management techniques by doing the following:

1. Placing a bulletin board on site for car-pooling advertisements.
2. Requiring that heavy construction vehicles remain onsite for the duration of construction to the extent practicable.

If the applicant uses contractors for the delivery of any overweight or overdimensional loads to the site during construction, the applicant should ensure that its contractors adhere to the necessary standards and receive the necessary permits required under

SECTION B: SPECIFIC CONDITIONS

Chapter 316, F.S., and Chapter 14-26, Safety Regulations and Permit Fees for Overweight and Overdimensional Vehicles, F.A.C.

I. Railroad Spur

Any newly proposed railroad crossing must comply with the criteria established in Chapter 14-57, F.A.C. The following criteria must be considered in opening a new public highway-rail grade crossing on any state, county, or city roadway:

1. Safety
2. Necessity for rail and vehicle traffic.
3. Alternate routes.
4. Effect on rail operations and expenses.
5. Closure of one or more public railroad-grade crossings to offset opening a new crossing.
6. Design of the grade crossing and road approaches.
7. Presence of multiple tracks and their effect upon railroad and highway operations.

The installation of a new public highway-rail grade crossing must have as a minimum roadside flashing lights and gates on all roadway approaches to the crossing. The installation of the crossing surface and signals must be in accordance with current Manual of Uniform Traffic Control Devices (MUTCD), Federal Railroad Administration Rules and Regulations, American Association of State Highway and Transportation Officials (AASHTO) Policy, and the Department's Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways (Florida's Green Book).

Areas of concern to be considered in determining the rail crossing location are as follows:

1. Roads crossing the tracks at a skewed angle or where the track is curved or super-elevated;
2. Impaired sight distance for motorists and rail engineers;
3. Highway intersections within 75 feet of the crossing which create a greater potential for accidents and create minimal vehicle storage distance;
4. Crossings that are blocked for long periods of time;
5. Switching movements or turnouts;
6. Different elevations of tracks.

[Chapters 316 and 333 and Sections 163.3180 and 339.2819, F.S.; Chapters 14-26, 14-46, 14-57, 14-60, 14-86, 14-94, 14-96 and 14-97, F.A.C.]

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III. SOUTH FLORIDA WATER MANAGEMENT DISTRICT

A. *General*

1. If this Certification is transferred, pursuant to Section A. Condition XXVII. Transfer of Certification, from the Licensee to another party, the Licensee from whom the Certification is transferred shall remain liable for corrective actions that may be required as a result of any violations that occurred prior to the transfer.

2. This Certification is based in part on the Licensee's submitted information to the SFWMD which reasonably demonstrates that harm to the site water resources will not be caused by the authorized activities. The plans, drawings and design specifications submitted by the Licensee shall be considered the minimum standards for compliance with Section B. Condition X. Units 3 & 4 Additional Monitoring, paragraph C. Cooling Canal System Floridan Production Well Monitoring.

3. This project must be constructed, operated and maintained in compliance with and meet all non-procedural requirements set forth in Chapter 373, F.S., and Chapters 40E-2 (Consumptive Use), 40E-3 (Water Wells), 40E-6 (Works or Lands of the District), 40E-20 (General Water Use Permits), and 40E-21 (Water Shortage Plan) F.A.C.

4. It is the responsibility of the Licensee to ensure that harm to the water resources does not occur during the construction, operation, and maintenance of the project.

5. The Licensee shall hold and save the SFWMD harmless from any and all damages, claims, or liabilities which may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment and/or use of any system authorized by this Certification, to the extent allowed under Florida law.

6. The Licensee shall be responsible for the construction, operation, and maintenance of all facilities installed for the proposed project.

7. SFWMD representatives shall be allowed reasonable escorted access to the power plant site, the water withdrawal facilities and any associated facilities to inspect and observe any activities associated with the construction of the proposed project and/or the operation and/or maintenance of the on-site wells in order to determine compliance with these Conditions of Certification. The Licensee shall not refuse entry or access to any SFWMD representative who, upon reasonable notice, requests entry for the purpose of the above noted inspection and presents appropriate credentials.

8. Information submitted to the SFWMD subsequent to Certification, in compliance with these Conditions of Certification, shall be for the purpose of the SFWMD determining the Licensee's compliance with Section B. Conditions III. South Florida Water Management District and X. Units 3 & 4 Additional Monitoring, as well as the non-procedural criteria contained in Chapters 40E-2, 40E-3, 40E-6 (Works or Lands of the District), 40E-20 (General Water Use Permits), and 40E-21 (Water Shortage Plan), F.A.C., as applicable, prior to the commencement of the subject construction, operation and/or maintenance activity covered by this Certification.

9. The SFWMD may take any and all lawful actions that are necessary to enforce any condition of this Certification based on the authorizing statutes under Chapters 373

SECTION B: SPECIFIC CONDITIONS

and 120, F.S., and rules of the SFWMD. Prior to initiating such action, the SFWMD shall notify the Siting Coordination Office of DEP of the proposed action.

10. At least ninety (90) days prior to the commencement of construction of any portion of the project, the Licensee shall submit to SFWMD staff, for a completeness and sufficiency review under the post-certification review process as outlined in Section A. Condition XXI. Procedures for Post-Certification Submittals, any pertinent additional information required under conditions Section B. Condition III. South Florida Water Management District for that portion of project. If the information is not complete or sufficient, the SFWMD shall identify what items remain to be addressed. If SFWMD staff does not issue a written request for additional information within thirty (30) days, the information shall be presumed to be complete and sufficient.

11. Within sixty (60) days of the determination by SFWMD staff that any additional information is complete and sufficient, the SFWMD shall determine and notify the Licensee in writing, as outlined in Section A. Condition XXI. Procedures for Post-Certification Submittals, whether the proposed activities conform to SFWMD rules, as required by Chapters 40E-2, 40E-3, 40E-6 (Works or Lands of the District), 40E-20 (General Water Use Permits) and 40E-21 (Water Shortage Plan), F.A.C., and these Conditions of Certification. If the information is not complete or sufficient, the SFWMD shall identify what items remain to be addressed. No construction activities shall begin until the SFWMD has notified the Licensee in writing that the activities are in compliance with the applicable SFWMD criteria or failed to notify the Licensee in writing within sixty (60) days of finding the information to be complete and sufficient.

12. The Licensee shall submit any proposed revisions to the site-specific design authorizations specified in this Certification to the SFWMD for review and approval prior to implementation. The submittal shall include all the information necessary to support the proposed request, including detailed drawings, calculations and/or any other applicable data. Such requests may be included as part of an appropriate additional information submittal required by this Certification, provided they are clearly identified as a requested amendment or modification to the previously authorized design

B. Water Use Authorizations

1. In the event of a declared water shortage, the Licensee must comply with any water withdrawal reductions ordered by the SFWMD in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C.

2. The Licensee shall mitigate interference with existing legal uses that were caused in whole or in part by the Licensee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means. Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1 in 10-year drought event that results in the:

a. Inability to draw water consistent with provisions of the certification, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

SECTION B: SPECIFIC CONDITIONS

b. Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

c. The inability of an existing legal user to meet its permitted demands without exceeding the permitted allocation.

3. The Licensee shall mitigate harm to existing off-site land uses caused by the Licensee's withdrawals, as determined through reference to the conditions for certification. When harm occurs, or is imminent, the SFWMD will require the Licensee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to these Conditions of Certification includes:

a. Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other government authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g., fill for construction, mining, drainage canal, etc.);

b. Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use;

c. Land collapse or subsidence caused by reduction in water levels associated with consumptive use.

4. The Licensee shall mitigate harm to natural resources caused by the Licensee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the SFWMD will require the Licensee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions of Certification, includes:

a. Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/saltwater interface;

b. Reduction in water levels that harm the hydroperiod of wetlands;

d. Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond;

e. Harmful movement of contaminants in violation of state water quality standards; or

f. Harm to the natural system including damage to habitat for rare or endangered species.

5. At any time, if there is an indication that the well casing, valves, or controls associated with the on-site well system leak or have become inoperative, the Licensee shall be responsible for making the necessary repairs or replacement to restore the well system to an operating condition acceptable to the SFWMD. Failure to make such repairs shall be the cause for requiring that the well(s) be filled and abandoned in accordance with the procedures outlined in Chapter 40E-3, F.A.C.

SECTION B: SPECIFIC CONDITIONS

C. Site Specific Design Authorizations

1. This Certification authorizes an annual allocation of 15,549 million gallons per year (MGY) from the upper production zones of the Floridan aquifer. This allocation is further divided as follows:

4,599 MGY with a 90-day average withdrawal of 14.06 million gallons per day (MGD) used for cooling water for Unit 5 and process water for Units 1, 2, 3, 4, and 5.

10,950 MGY with a maximum month withdrawal of 1,033.6 million gallons for salinity reduction in the on-site cooling canal system (CCS).

2. Upon written notification from the SFWMD that a reliable source of reclaimed water is available at the project site to serve Unit 5 in a quantity and quality acceptable to the Licensee for cooling purposes for Unit 5, the Licensee shall provide the SFWMD with a schedule for use of reclaimed water, for the SFWMD’s review and approval, within 90 days of such notification. Once the use of reclaimed water has been established, the Licensee’s use of Floridan Aquifer water shall be reduced in proportion to the volume of reclaimed water made available to Unit #5, such that the combined sources meet the total demand of a 90-day average withdrawal of 14.06 MGD and an average annual withdrawal of 4,599 MGY. Should reclaimed water become temporarily unavailable, the Licensee shall notify the SFWMD within 24 hours of commencing temporary withdrawals from the Floridan aquifer.

3. The Licensee is currently authorized to construct and operate the following wells:

Floridan Aquifer Wells – Unit 5 Cooling Water and Units 1, 2, 3, 4, and 5 Process Water

ID	Casing Diameter (inches)	Cased Depth (feet)	Max Depth (feet)	Max Flow (gpm)
PW-1	24	1,003	1,242	5,000
PW-3	24	1,005	1,247	5,000
PW-4	24	1,015	1,243	5,000

Authorized (never constructed) Floridan Aquifer Wells – Unit 5 Cooling

ID	Casing Diameter (inches)	Cased Depth (feet)	Max Depth (feet)	Max Flow (gpm)
PW-2	24	1,020	1,400	5,000

(Cased and Max Depths indicated for proposed wells are estimated based on existing information and may change as needed to accommodate natural changes in the subsurface.)

Floridan Aquifer Wells – CCS Salinity Reduction

SECTION B: SPECIFIC CONDITIONS

ID	Casing Diameter (inches)	Cased Depth (feet)	Max Depth (feet)	Max Flow (gpm)
F-1	20	1,012	1,240	1,200
F-2	20	1,010	1,250	4,500
F-3	20	1,010	1,250	4,500
F-4	20	1,010	1,250	4,500
F-5	20	1,028	1,222	4,500
F-6	20	1,067	1,284	4,500
F-7	20	1,057	1,280	4,500

4. Prior to the use of any proposed withdrawal facilities authorized under this Certification, the Licensee shall equip each facility with a SFWMD-approved operating water use accounting system and submit a report of calibration to the SFWMD, pursuant to Subsection 4.1.1 of the Applicants Handbook For Water Use Permit Applications Within the South Florida Water Management District. In addition, the Licensee shall submit a report of recalibration for the water use accounting system for each water withdrawal facility (existing and proposed) authorized under this Certification every five years from each previous calibration, continuing in five-year increments. The Licensee shall report its monthly withdrawals for each withdrawal facility to the SFWMD on a quarterly basis. The Licensee shall specify the water accounting method and means of calibration in each report.

5. Prior to operating the proposed Floridan aquifer wells for the CCS salinity reduction, the Licensee shall submit an operational plan showing how the water use will vary between the wet and dry seasons.

6. Modifications

a. Pursuant to Section 373.236(4), F.S., every ten years from the date of certification issuance, the Licensee shall submit a water use compliance report for review and approval by SFWMD staff to SFWMD at www.sfwmd.gov/ePermitting, or Regulatory Support, MSC 9611, P.O. Box 24680, West Palm Beach, FL 33416-4680.

b. The Licensee may request a modification of the groundwater withdrawals for consumptive use authorized by this Certification in accordance with the provisions of Section 403.516, F.S. and Section 62-17.211, F.A.C. Any request for an increase in water withdrawals shall be made pursuant to the provisions of Section 403.516, F.S., and Section 62-17.211, F.A.C.

7. Prior to the commencement of construction of those portions of the project which involve dewatering activities, the Licensee shall submit a detailed plan for the proposed dewatering activities to the SFWMD for a determination of compliance with the non-procedural requirements of Chapters 40E-2 and 40E-3, F.A.C., in effect at the time of submittal. The following information, referenced to NGVD or NAVD where appropriate, shall be submitted:

SECTION B: SPECIFIC CONDITIONS

- a. A detailed site plan which shows the location(s) for each proposed dewatering area;
 - b. The method(s) used for each dewatering operation;
 - c. The maximum depth for each dewatering operation;
 - d. The location and specifications for all proposed wells and/or pumps associated with each dewatering operation;
 - e. The duration of each dewatering operation;
 - f. The discharge method, route, and location of receiving waters generated by each dewatering operation, including the measures (Best Management Practices) that will be taken to prevent water quality problems in the receiving water(s);
 - g. An analysis of the impacts of the proposed dewatering operations on any existing on and/or off-site legal users, wetlands, or existing groundwater contamination plumes;
 - h. The location of any infiltration trenches and/or recharge barriers;
- and
- i. All plans must be signed and sealed by a Professional Engineer or a Professional Geologist registered in the State of Florida.

8. If, during the control of these conditions of certification, any on-site wells require repair, replacement, and/or abandonment, the Licensee shall submit the information described in Chapter 40E-3, F.A.C., for review by the SFWMD prior to initiating such activities.

9. Prior to construction of the proposed on-site wells, the Licensee shall submit the drilling plans and other pertinent information required by Chapter 40E-3, F.A.C., to the SFWMD for review and approval. If the final well locations are different from those originally proposed in the site certification application, the Licensee shall also submit to the SFWMD for review and approval an evaluation of the impacts of the proposed pumpage from the alternate well location(s) on adjacent existing legal users, pollution sources, environmental features, and water bodies.

10. Groundwater Monitoring Plan

a. Within three months of issuance of this Certification, a preliminary groundwater monitoring plan shall be submitted to the SFWMD for a determination of compliance with the non-procedural requirements of Chapter 40E-2, F.A.C. In developing the monitoring plan, the Licensee shall consider well locations, depth and method of construction, types of screens, and frequency of data collection.

b. Within six months of issuance of this Certification, the Licensee shall implement the groundwater monitoring plan.

c. Data from the monitoring described in Section B. Condition X. Units 3 & 4 Additional Monitoring, paragraph B. Surface Water, Groundwater, Ecological Monitoring History of these Conditions of Certification shall be used to evaluate the effectiveness of the CCS salinity reduction in both the CCS and the underlying Biscayne aquifer. In addition, monthly sampling for chloride concentration from the Floridan aquifer production

SECTION B: SPECIFIC CONDITIONS

wells when in operation to reduce the salinity reduction in the CCS is required and shall be submitted on a quarterly basis to the SFWMD.

11. Water Conservation Plan

a. Prior to the commencement of construction of Unit 5, the Licensee shall submit a water conservation plan, as described in Chapter 40E-2, F.A.C., for review and approval by SFWMD staff.

b. The water conservation plan shall incorporate the following components:

i. An audit of the amount of water needed in the Licensee's operational processes. The following measures shall be implemented within one year of audit completion if found to be cost effective in the audit:

(1) Implementation of a leak detection and repair program;

(2) Implementation of a recovery/recycling or other program providing for technological, procedural or programmatic improvements to the Licensee's facilities; and

(3) Use of processes to decrease water consumption.

ii. Development and implementation of an employee awareness program concerning water conservation.

D. Right-of-Way

1. General

a. Prior to commencing construction of any improvements, which may cross over, on, under, or otherwise use, the SFWMD's right-of-way, the Licensee must submit complete drawings showing the proposed facilities to the SFWMD for documentation of compliance with Chapter 40E-6, F.A.C., and the Right of Way Criteria Manual for Use of Works or Lands of the District, incorporated by reference in Rule 40E-6.091(1), F.A.C. following the post-certification process outlined in Section A. Condition XXI. Procedures for Post-Certification Submittals. These drawings must depict the proposed improvements in both plan and profile views and must show, at a minimum:

i. The canal right-of-way lines;

ii. The top of the canal bank and its elevation;

iii. The centerline and toes of the levee and their respective elevations;

iv. The canal maintenance berm and its elevation at its highest point;

v. A cross-sectional survey at each proposed crossing (aerial or buried) showing the existing canal section superimposed over the canal design section. Surveys shall be taken from right of way line to right of way line with soundings or elevations taken every 10 feet.

SECTION B: SPECIFIC CONDITIONS

vi. The location of all existing and proposed improvements located within the SFWMD's right-of-way within the vicinity of the proposed work, including dimensions of all existing and proposed improvements from the top of bank and/or levee toes;

vii. The elevation of the lowest line, wire, or cable crossing over the SFWMD's right-of-way, given at the lowest point of sag in the span within the SFWMD's right-of-way;

viii. The location and elevation (depth) of any buried facilities installed within the right of way; and

ix. The location of the facilities in relation to a section line, major road or other prominent well-known landmark by which the facilities may be located in the field.

b. Any improvement which requires a waiver from the District's rules or Criteria Manual referenced in paragraph (a) above shall be prohibited under this certification, unless Licensee modifies this certification and follows the requirements for obtaining a waiver set forth in Chapter 120, F.S.

c. The Licensee shall submit all data and information as required by the above Conditions for Certification to: rowpermits@sfwmd.gov, or Right-of-Way Section, 3301 Gun Club Road, West Palm Beach, FL 33406.

[Sections 373.085, 373.086, F.S.; Rules 40E-6.091, 40E-6.201, 40E-6.221, 40E-6.381, F.A.C.]

2. Access

a. If access to the SFWMD's right-of-way is required during construction of the CWRC reclaimed waterline, and/or for inspection, maintenance, and/or operation of after construction, the Licensee shall submit to the SFWMD, following the post-certification process outlined in Section A. Condition XXI. Procedures for Post-Certification Submittals, a detailed plan identifying the following:

i. proposed route;

ii. type, weight, length, and number of vehicles to be used;

iii. daily trips for each vehicle;

iv. proposed material and/or vehicle/equipment storage within the right of way; and,

v. dates of proposed access of the right of way.

b. If travel over a District bridge or facility is required, Licensee shall submit engineering analysis required by the District to determine if the bridge or facility can support the vehicles/equipment proposed to travel over the bridge or facility.

c. Prior to the use of any portion of the SFWMD right-of-way, the Licensee must post a financial assurance, which shall be a minimum of \$5,000 per one-half mile, or a greater amount as determined by SFWMD, depending on the scope of work, the route, use of or travel over SFWMD bridges and/or facilities, types of vehicles, and duration.

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d. Licensee must obtain liability insurance covering the Licensee use of that portion of the right-of-way.

e. Licensee shall comply with all safeguards and guarantees, financial or otherwise, required by SFWMD to ensure that no damage, liability or loss occurs to the District's right of way, including its bridges and facilities.

f. All use of the SFWMD's right-of-way by Licensee shall be in accordance with Chapter 40E-6, FAC., and the Right of Way Criteria Manual for Use of Works or Lands of the District, incorporated by reference in Rule 40E-6.091(1), F.A.C.

[Sections 373.085, 373.086, F.S.; Rules 40E-6.091, 40E-6.201, 40E-6.221 40E-6.361, 40E-6.381, F.A.C.]

3. Licensee acknowledges its obligation to obtain all necessary approvals from the USACE and that Licensee's proposed activities contemplated under this certification are subject to USACE 33 U.S.C. Section 408/33 C.F.R. Section 208 approval requirements and therefore Licensee shall provide promptly to SFWMD all information required by the USACE for 33 U.S.C. Section 408/33 C.F.R. Section 208 review. Licensee further acknowledges and agrees that its proposed activities contemplated under this certification shall be subject to all USACE requirements and conditions, including but not limited to USACE setback requirements and construction standards for federal levees to ensure the integrity of the levee is not compromised. Licensee shall not commence construction of the proposed facilities on SFWMD rights of way contemplated by this certification until the USACE provides all required approvals, including but not limited to 33 U.S.C. Section 408/33 C.F.R. Section 208 approval. Licensee further acknowledges and agrees, that in the event of future USACE projects or modification of existing USACE projects, it shall be the responsibility of the Licensee to implement any and all necessary modifications to Licensee's facilities including, but not limited to, relocations thereof required by USACE at Licensee's sole cost and expense.

[Federal Water Resources Development Acts of 1992, 1996 and 2000; 33 U.S.C. 408; 33 C.F.R. 385 and 208; Sections 373.1501, 373.103 (2), F.S.; Rule 40E-6, F.A.C.]

IV. FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION

A. General Listed Species Surveys

1. Prior to start of construction of the Certified facilities, the Licensee shall follow the current survey protocols for all listed species that may occur within the Certified Facility as well as accessible appropriate buffers within the property or rights-of-way as defined by the listed species' survey protocols, prior to conducting detailed surveys. Guidance related to species-specific survey protocols can be found in the FWC's Florida Wildlife Conservation Guide at <http://myfwc.com/conservation/value/fwcg/>. Specific listed species surveys shall be conducted in accordance with U.S. Fish and Wildlife Service (USFWS)/FWC guidelines and methodologies by a person or firm that is knowledgeable and experienced in conducting flora and fauna surveys for each potentially occurring listed species.

2. FWC's survey protocols may be downloaded from <https://myfwc.com/wildlifehabitats/wildlife/species-guidelines/>.

[Article IV, Section 9, Florida Constitution; Sections 379.2291, 403.507, F.S.; Chapter 68A-27 and Rule 62-17.191, F.A.C.]

SECTION B: SPECIFIC CONDITIONS

B. Endangered and Threatened Species

Prior to start of construction, the Licensee shall survey the portion of the certified site which may be affected by construction for species of animal and plant life listed as endangered or threatened by the federal government or listed as endangered by the state. If these species are found, their presence shall be reported to the Siting Coordination Office, the SED, and the Florida Fish & Wildlife Conservation Commission's Office of Conservation Planning Services at ConservationPlanningServices@MyFWC.com. These species shall not be disturbed, if practicable. If avoidance is not practicable, the endangered species shall be treated as recommended by the appropriate agency.

[Article IV, Section 9, Florida Constitution; Sections 379.2291, F.S.; Chapters 68A-4, 68A-16, 68A-27, and Rule 62-17.191, F.A.C.]

C. Gopher Tortoise

1. The Licensee shall coordinate with and provide the FWC detailed gopher tortoise relocation information in accordance with the FWC-approved Gopher Tortoise Management Plan and Gopher Tortoise Permitting Guidelines as a post-Certification submittal. This information shall provide details on the location for on-site recipient areas and any off-site FWC-approved temporary contiguous habitat, as well as appropriate mitigation contributions per tortoise, as outlined in the Gopher Tortoise Permitting Guidelines.

2. Entombment of gopher tortoises shall not be allowed

3. To the maximum extent practicable or feasible, all staging, and storage areas shall be sited to avoid impacts to gopher tortoise burrows and habitat.

[Article IV, Sec. 9, Florida Constitution; Sections 379.2291, 403.507, 403.526, and 403.5113, F.S.; Chapter 68A-27 and Rule 62-17.191, F.A.C.]

D. Cooling Canal System Crocodile Population Protection

1. Continuation of Current Monitoring

The applicant shall continue with current crocodile monitoring efforts including identification surveys, breeding surveys, nest locations monitoring, and captures, and these efforts shall continue throughout the Unit 3 and Unit 4 uprating process.

2. Additional Monitoring

Specific protocols shall be followed for additional monitoring of crocodiles within the Turkey Point cooling canal system. These protocols based upon work by Mazzotti and Cherkiss shall be followed for the additional monitoring described below.

a. Surveys shall be conducted both pre- and post- Units 3 and 4 uprate to determine any effects of temperature and salinity changes on crocodiles in the cooling canal system. Surveys shall be initially conducted for a one-year period, after which protocols shall be reviewed for appropriateness. Any changes shall be submitted to the FWC.

b. Additional data shall be collected to determine changes in spatial distribution within the canal system. Data shall be collected monthly from the entire system. Monthly events shall consist of 3 to 4 nights per event, and data collected shall include animal size, GPS location, salinity, and air and water temperatures.

SECTION B: SPECIFIC CONDITIONS

c. Additional data shall be collected to determine changes to growth and survival of crocodiles within the cooling canal system. The entire cooling canal system shall be monitored at least twice a year for five days and four nights per event. Data collected shall include biometric data for each individual hand captured or trapped.

d. If it is determined that there is a negative effect on crocodiles within the cooling canal system due to the Uprate project, the licensee shall monitor the crocodile population outside of the system, particularly in the FPL mitigation areas, to determine if there is no net negative effect. If growth and survival is affected within the system, then using telemetry data on crocodiles moving into and out of the system may show whether or not there is an overall change in the crocodile population at Turkey Point. A summary of monitoring efforts and results shall be included in the Annual Report.

e. If negative effects on crocodile habitat occur, as evidenced by monitoring of crocodile growth, population, and survivorship, FPL shall implement corrective actions in accordance with all applicable federal, state, and local regulatory requirements for the protection of endangered species habitat.

3. Annual Report

FPL shall submit an Annual Report including all data and statistical analyses resulting from the above monitoring requirements to FWC in order for FWC to assess changes in the crocodile population. The report shall be submitted beginning 12 months from initial monitoring, and every 12 months thereafter. Copies of these annual reports shall be provided to the DEP Siting Coordination Office, DERM and the Manager of the Biscayne Bay Aquatic Preserve. FPL shall notify DERM and the Manager of the Biscayne Bay Aquatic Preserve of any meeting with FWC and DEP to address issues raised in these annual reports.

[Chapter 68A – 27, F.A.C.; Miami-Dade CDMP Coastal Management – 1E]

E. Horizontal Directional Drilling Manatee Protection Conservation Measures

1. These conditions are for the installation of pipelines (such as conduits for electrical, water, cable, etc.) by horizontal directional drilling (HDD) methodology used in waters accessible to manatees. The following scenarios are exceptions to these conditions:

- a. Trenching in manatee accessible waterways;
- b. Pipeline is intended for the transport of oil, gas or other potentially hazardous materials;
- c. Installation is expected to adversely affect submerged aquatic resources.

If the proposed project includes any of the above exceptions, these conditions do not apply and FWC should be consulted for review and comment. If none of the above-mentioned exceptions are applicable and these measures are implemented by FPL, all state requirements for the protection of manatees will be met.

2. If a manatee appears to be in distress after coming in contact with drilling mud, work vessels or equipment, it shall be reported immediately by calling the FWC Hotline at 1-888-404-3922. Any collision with or injury to a manatee shall also be reported immediately.

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A follow-up written report shall be sent to FWC as soon as practicable at ImperiledSpecies@myfwc.com, including the dates, details, and status of the event.

3. During in-water construction activities and in the event of a frac-out, the following manatee conditions shall be followed:

a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.

b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" while in the project area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible and follow any posted speed zones.

c. If used, siltation, turbidity barriers, booms, or curtains shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.

d. All on site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shut-down if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.

e. Temporary signs concerning manatees shall be posted on all vessels associated with the project. This sign shall measure at least 8 ½" by 11" and explain the requirements for "Idle Speed/No Wake" and the shutdown of in-water operations. Information on this sign is available at: <https://myfwc.com/wildlifehabitats/wildlife/manatee/education-for-marinas/>.

[Sections 379.2431(2) and 373.414(1)(a)2, F.S.]

V. DEPARTMENT OF STATE – DIVISION OF HISTORICAL RESOURCES

A. Prior to new construction of Certified facilities in areas not previously surveyed, the Licensee shall conduct a survey of sensitive cultural resource areas, as determined in consultation with the Department of State, Division of Historical Resources (DHR). A qualified cultural resources consultant will identify an appropriate work plan for this project based on a thorough review of the certified facility. Prior to beginning any field work, the work plan will be reviewed in consultation with DHR. Upon completion of the survey, the results will be compiled into a report which shall be submitted to DHR. If feasible, sites considered to be eligible for the National Register shall be avoided during construction of the project and access roads, and subsequently during maintenance. If avoidance of any discovered sites is not feasible, impact shall be mitigated through archaeological salvage operations or other methods acceptable to DHR, as appropriate.

SECTION B: SPECIFIC CONDITIONS

B. If historical or archaeological artifacts or features are discovered at any time within the certified facility, the Licensee shall notify the appropriate DEP District office(s) and the DHR, R.A. Gray Building, 500 South Bronough Street, Room 423, Tallahassee, Florida 32399-0250, telephone number (850) 245-6333, and the Licensee shall consult with DHR to determine appropriate action.

[Sections 267.061, 403.531, and 872.02, F.S.]

VI. DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

Only herbicides registered by the U.S. Environmental Protection Agency and the Florida Department of Agriculture and Consumer Services shall be used at certified facilities. Herbicide applications will be in accordance with label directions and will be carried out by a licensed applicator, in compliance with all federal, state and local regulations. Herbicide applications shall be selectively applied to targeted vegetation. Broadcast application of herbicide shall not be used unless effects on non-targeted vegetation are minimized.

[Chapter 487, F.S.]

VII. MIAMI-DADE COUNTY

A. General

Construction and operation of the certified facilities shall be in accordance with all applicable nonprocedural requirements of the laws and ordinances of Miami Dade County in effect on November 14, 2003, including, but not limited to, the Miami Dade Comprehensive Development Master Plan and Chapters 8, 11C, 14, 18A, 24, and 33 of the Code of Miami Dade County, Florida.

B. Unit 5 Expansion Project

1. Protection of Existing Legal Water Users

a. As provided in Section B. Condition III. South Florida Water Management District, paragraph B, if SFWMD determines that the potential exists for Licensee's proposed Floridan Aquifer withdrawals to cause interference with existing legal users, authorization for such withdrawals shall be contingent upon SFWMD establishing acceptable withdrawal rates and requiring necessary and appropriate mitigation, pursuant to SFWMD's Basis of Review for Water Use Permits, to prevent interference with existing legal users. Licensee shall submit copies of any reports on additional modeling, alternative water supplies, and mitigation plans to WASD.

b. Licensee shall provide a copy to WASD of any notice received from SFWMD pursuant to Section B. Condition III. South Florida Water Management District, paragraph C.2, that a reliable source of reclaimed water is available at the Project site to serve Unit 5.

c. If reclaimed water from the South District Wastewater Treatment Plant is used as a source of makeup to the Unit 5 cooling tower, blowdown from the cooling tower shall be discharged to, or disposed of, in the CWRC underground injection control system.

2. The following detailed plans must be submitted to DERM prior to initiation of work in tidal waters or wetlands:

SECTION B: SPECIFIC CONDITIONS

a. The site plan layout shall be consistent with, or have wetland impacts less than, the plans described in the document “Turkey Point Expansion Project, Refined Mitigation Proposal, FPL, April 2004” or as subsequently amended or modified.

b. Two or more sets of construction drawings and engineering calculations signed and sealed by a professional engineer registered in the State of Florida and a land survey sealed by a licensed land surveyor registered in the State of Florida for those elements of the project that involve wetlands. These plans must include sufficient detail and be prepared at a scale that clearly identifies the limits of filling in wetlands and tidal waters, on-site mitigation areas, structures other than fill in tidal waters or wetlands, and typical cross-sections of all elements of the project that affect wetlands.

c. A construction management plan which shall include methods or best management practices for preventing or controlling secondary impacts from turbidity, siltation, fugitive dust, unpermitted impacts to adjoining waters or wetlands, fill or excavated material, construction debris, noise, or artificial lighting.

d. A plan for further assessment of materials proposed to be used for filling tidal water and wetlands, including physical, chemical and biological effects tests as determined in cooperation with local and state environmental agencies. Placement of fill shall not commence until additional testing and analysis of physical, chemical, and biological characteristics of fill material have been completed in accordance with requirements of DERM.

e. A water quality and biological monitoring plan for documenting compliance with narrative and numerical water quality targets during construction.

f. A post-construction long-term water quality and biological monitoring plan for areas near or downstream of the built areas, on-site mitigation areas, and on-site restoration areas.

g. A detailed on-site mitigation and restoration plan including signed and sealed construction drawings (plan views and cross-sections), planting configuration and species list, hydraulic or tidal exchange calculations, exotic control and maintenance methods, and success criteria. This plan shall be consistent with the document “Turkey Point Expansion Project, Refined Mitigation Proposal, FPL, April 2004” or as subsequently amended or modified.

h. A plan for monitoring and responding to the occurrence of endangered (or other listed species) in the construction area.

i. A stormwater management plan, including calculations and construction drawings.

j. A plan for training all on-site construction-related workers with respect to environmental resource protection requirements.

3. The applicant shall mark in a conspicuous fashion the boundaries or limits of all work/fill areas, mitigation areas, preservation areas, or protected species habitat. This may be accomplished with fencing, flagging, buoys, silt barriers, hay bales, or other forms of durable demarcation. Field markers shall include survey benchmarks or reference points that can be compared to approved construction plans and drawings. Prior to construction in wetlands or tidal waters, the layout must be approved by DERM. The markers shall be maintained for the

SECTION B: SPECIFIC CONDITIONS

entirety of construction to facilitate compliance inspections and also to reduce the chance of unauthorized impacts to resources.

4. Seven days prior to the start of construction in wetlands or tidal waters, the Licensee shall allow prior approved third-party access for the salvage of desirable native vegetation occurring within the areas to be filled or cleared.

5. Dredging and filling of coastal wetlands shall be limited to the minimum amount for public necessity or enhancement of biological, chemical or physical characteristics of adjacent waters.

6. On-site mitigation and restoration areas shall be maintained free (less than 1% cover) of invasive exotic vegetation in perpetuity.

7. Within 90 days of the start of construction, the Licensee shall convey title of 307 acres of wetland, as defined in the "Turkey Point Expansion Project, Refined Mitigation Proposal, FPL, April 2004" or as subsequently amended or modified, to the appropriate federal, state, or local resource management agency for conservation or restoration purposes consistent with the goals of ongoing regional restoration plans.

8. Unconsolidated shorelines created as a result of the project shall be stabilized with native vegetation, such as but not limited to mangroves. If seawalls or bulkheads are constructed in or adjacent to tidal waters, they shall include the use of rip-rap or similar wave attenuation devices in their design.

9. Construction of on-site mitigation shall be initiated within 90 days of the beginning of filling of coastal wetlands or tidal waters. Construction of on-site mitigation shall be completed within 90 days of the completion of filling of wetlands except areas to be restored after completion of project construction.

10. Restoration of temporarily filled wetlands shall commence within 60 days of completion of construction on the power block or by January 2010, whichever first occurs.

11. Should upland construction damage or require removal of upland trees, the Licensee shall be required to preserve specimen trees (trunk > 18 in. DBH) and replace upland tree canopy in accordance with the requirements of Article III. Tree Preservation and Protection Sec. 24-60 of the Code of Miami-Dade County. This requirement includes trees along entrance roads and existing landscaped areas and shall be in addition to establishment of coastal hammocks proposed as part of on-site mitigation.

12. Exotic pest plant species on the development site uplands shall be removed prior to development.

13. Temporary and permanent fill pads shall be graded to slope away from tidal waters and wetlands.

14. Construction of permanent parking areas, walkways, and amenities shall use semi-pervious materials to reduce runoff where feasible and compatible with safety requirements.

15. This Certification does not replace or eliminate the need for appropriate annual operating permits from Miami-Dade County for any existing, new or improved facilities located at the Turkey Point Power Plant site but not within the area covered by this Certification

SECTION B: SPECIFIC CONDITIONS

as delineated in the Site Certification Application. If reclaimed water is used as makeup to the Unit 5 cooling tower, cooling tower blowdown shall only be discharged to, or disposed of, in the CRWC underground injection control system for disposal. Pursuant to the Agreement between Miami-Dade County and FPL approved by Resolution R-579-20, no water or waste from the CWRC shall be discharged to, or disposed of, in the cooling canal system.

C. Review and Monitoring of Additional Freshening Activities

1. The freshening authorized by PA 03-45F (Modification F) shall be in accordance with all applicable nonprocedural requirements of the Code of Miami-Dade County, and shall not result in violations of applicable surface water quality and groundwater quality standards or criteria identified in Chapter 24 of the Code. If monitoring data collected pursuant to Section B. Condition VII. Miami-Dade County, paragraph C.2 demonstrates the freshening results in violations of applicable surface or groundwater quality standards or criteria identified in Chapter 24 of the Code, FPL shall, in consultation with Miami Dade County, implement measures to abate such violation.

2. FPL shall increase monitoring in areas that are or may be influenced by seepage or movement of water into and out of the CCS as a result of the additional freshening, as follows. The sampling frequency for monitoring wells TPGW-2, TPGW-17, TPGW-L5-18, TPGW-L3-18 shall be increased from quarterly to monthly for a consecutive period of twelve (12) months starting the month in which the additional freshening activities authorized by PA 03-45F (Modification F) commences (flow rate from F-1 – F-7 first exceeds 14 mgd). Groundwater from the monitoring wells shall be sampled and analyzed for the parameters listed in the MDC Consent Agreement (CA), dated October 2015 (monitoring program modified August 20, 2019).

[Chapter 24, Code of Miami-Dade County]

D. CWRC Construction and Operation

1. Prior to construction of the CWRC, the Licensee shall submit all information necessary for a Class III permit for review by MDC under the post-certification process outlined in Section A. Condition XXI. Procedures for Post-Certification Submittals. No separate permit shall be issued.

[Section 24-42, Code Miami-Dade County]

2. Prior to initiation of dewatering activities associated with construction of the CWRC reclaimed waterline, FPL shall submit all information necessary for a Class V permit for review by MDC under the post-certification process outlined in Section A. Condition XXI. Procedures for Post-Certification Submittals. No separate permit shall be issued.

[Section 24-48, Code Miami-Dade County]

3. If sodding and/or seeding is proposed as an erosion control method, the species utilized shall not consist of those defined as exotic pest plant and nuisance species pursuant to Section 24-49.9 of the Code of Miami-Dade County.

[Section 24-49, Code Miami-Dade County]

4. Pursuant to Section 24-28.4(3), Code of Miami-Dade County, restoration of temporarily filled wetlands shall commence within 60 days of completion of construction on the CWRC reclaimed waterline or by January 2026 (or other agreed upon time frame),

SECTION B: SPECIFIC CONDITIONS

whichever first occurs. With concurrence from DEP, the County, and the Licensee, this timeline may vary, without the need for a modification of these conditions.

[Section 24-28, Code Miami-Dade County]

5. Should upland construction damage or require removal of upland trees, the Licensee shall be required to preserve specimen trees (trunk > 18 in. DBH) to the extent practicable and mitigate for impacts to tree canopy in accordance with the requirements of Sec. 24-49 of the Code of Miami-Dade County. Prior to initiation of tree clearing activities associated with construction of the CWRC waterline, FPL shall submit a tree survey and tree mitigation plan as required by Section 24-49 of the Code of Miami-Dade County following the Procedures for Post-Certification Submittals outlined in Section A. Condition XXI. No separate permit shall be issued. Trees located within wetlands are not subject to these tree canopy replacement requirements.

[Section 24-49, Code Miami-Dade County]

6. Pursuant to Section 24-41.5 of the Code of Miami-Dade County, the Licensee may conduct open burning of land clearing debris. All open burning of land clearing debris shall be conducted in accordance with the general conditions contained in the Miami-Dade Fire Rescue Department Application for Open Burning Permit. No separate permit shall be issued. The Licensee shall notify the Fire Communication Office (786-268-6635) each day prior to burning. Miami-Dade Fire Rescue Department may inspect the site where open burning is occurring to observe the burning. FPL may conduct open burning on weekends if necessary, and within 300 feet of public roads provided the visibility is not reduced to less than 1,000 ft and upon notice to the listed County officials.

[Section 24-41, Code Miami-Dade County]

7. Work within the County's public rights-of-way shall conform to applicable sections of the uniform standards established by the official Public Works Manual. Prior to construction of the reclaimed waterline within the County's public rights-of-way, FPL shall submit all information necessary for a Public Works permit for review by MDC under the post-certification process outlined in Section A. Condition XXI. Procedures for Post-Certification Submittals. No separate permit shall be issued.

[Section 2-103.1, Code Miami-Dade County]

E. Flood Control Protection

Any construction of new facilities for the certified plant and associated facilities shall be protected from flood damage by construction in such a manner as to comply with the appropriate Miami-Dade County flood protection requirements or by flood proofing or by raising the elevation of the facilities above the 100-year flood level, whichever is more stringent. However, existing facilities are not required to be modified to comply with such flood control protection standards.

F. Noise

Construction and operation noise shall not exceed noise criteria or any applicable requirements of Miami-Dade County. The Licensee shall notify area residents in advance of the onset and anticipated duration of the steam blowout of the facility's heat recovery steam generator and steam lines.

SECTION B: SPECIFIC CONDITIONS

VIII. EMERGENCY MANAGEMENT

A. *Emergency Plan – Units 3 & 4*

The applicant shall work with the State Division of Emergency Management and the State Department of Health, Bureau of Radiation Control, and Miami-Dade County in biennial updating of the emergency procedures and evacuation planning as necessary, including but not limited to improvements in communication and warning systems and in updating predicted plume overlays.

B. *Comprehensive Hurricane Preparation and Recovery Plan*

1. FPL shall incorporate the Unit 5 site into the Comprehensive Hurricane Preparation and Recovery Plan for the overall Turkey Point Clean Energy Site.

2. FPL shall submit a formal update of the Comprehensive Hurricane Preparation and Recovery Plan to the State Division of Emergency Management, the Miami-Dade County Office of Emergency Management every five (5) years following commencement of commercial operation of the Unit 5 and whenever an additional electrical generating unit is brought into service at the Turkey Point Plant site.

IX. DEPARTMENT OF HEALTH

A. *Monitoring – Units 3 & 4*

The Licensee shall comply with the most recent Department of Health Environmental Surveillance Agreement or its equivalent or future replacement. Should the Department of Health determine that additional monitoring is required, it may take appropriate action to require such monitoring by modification of this condition of certification.

B. *Interagency Agreement – Units 3 & 4*

The applicant shall comply with the Emergency Response Capability Agreement between the Florida Department of Health and the Florida Power and Light Company effective July 1, 1982, or as may be subsequently revised. (Attached as Exhibit A)

X. UNITS 3 & 4 ADDITIONAL MONITORING

A. *Biscayne Bay Surface Water Monitoring*

As proposed, the Turkey Point Units 3 and 4 uprate project may cause an increase in temperature and salinity in the cooling canal system. Field data is needed in order to determine impacts of the proposed changes in the Turkey Point cooling canal system on Biscayne Bay.

1. No later than July 31, 2009, FPL shall submit a Biscayne Bay Surface Water Monitoring Plan (Plan) pursuant to Chapter 62-302, F.A.C. to the DEP Southeast District Office for review and approval. The submittal deadline may be extended upon agreement between the Licensee, DEP, SFWMD and Miami-Dade County. Agreements for extensions shall be submitted to the Siting Office prior to the deadline. The Plan shall include, at a minimum, the following components:

a. salinity and temperature monitoring within the surface waters of the Bay, including the Biscayne Bay Aquatic Preserve; (Specific parameters to be measured,

SECTION B: SPECIFIC CONDITIONS

including specific conductance and temperature, shall be sampled in accordance with Chapter 62-160, F.A.C.);

b. a minimum of five monitoring stations located near shore in the vicinity of the Turkey Point Plant; and

c. specific monitoring locations, sampling frequencies and methods, and specific parameters to be monitored.

2. This monitoring data shall be compared to data using compatible monitoring instrumentation already in place in Biscayne Bay.

3. FPL shall continue the monitoring of salinity and temperature in the cooling canals under its industrial wastewater facility permit.

4. If the Department determines that the pre- and post-Uprate salinity and temperature monitoring data indicate potential adverse changes in the surface water in Biscayne Bay, then the Department may propose additional measures to evaluate or to abate such impacts to Biscayne Bay.

5. The Plan, including monitoring locations, shall be approved prior to implementation. The Department shall indicate its approval or disapproval of the submitted plan within 90 days of the originally submitted information. In the event that the Department requires additional information for the licensee to complete, and the Department to approve the Plan, the Department shall make a written request to the licensee for additional information no later than 30 days after receipt of the submitted information. Any changes to the approved Surface Water Monitoring Plan shall be approved by Coastal and Aquatic Managed Areas personnel in consultation with other FDEP personnel.

[formerly known as Condition IX for 5th Supplemental Agreement identification purposes; Chapters 62-160 and 62-302, Rules 62-302.700 and 62-520.600, F.A.C.]

B. Surface Water, Groundwater, and Ecological Monitoring

This is a consolidated condition agreed upon by three agencies, Department of Environmental Protection (DEP), Miami-Dade County Department of Environmental Resource Management (DERM) and the South Florida Water Management District (SFWMD). This consolidated condition sets forth the framework for new monitoring and, as may be needed, abatement or mitigation measures, for approval of FPL's Turkey Point Units 3 and 4 Uprate Application. Specific monitoring and potential modeling parameters will be identified and implemented pursuant to a monitoring plan as part of a supplemental agreement between FPL and the SFWMD as described below.

1. In addition to the monitoring framework set forth in this consolidated condition, no later than July 31, 2009, FPL shall execute a SFWMD approved Fifth Supplemental Turkey Point Agreement ("Fifth Supplemental Agreement") to the original 1972 Agreement between FPL and the SFWMD pertaining to FPL's obligation to monitor for impacts from the Turkey Point cooling canal system to the water resources of the SFWMD in general and the facilities and operations of the SFWMD (the "Agreement"). Subject to the SFWMD's approval, FPL shall also amend the Agreement's Revised Operating Manual as referenced in paragraph C. "Monitoring Provisions" (the "Revised Plan") of the Fourth Supplemental Agreement, dated July 15, 1983. The Revised Plan shall be incorporated into the Fifth

SECTION B: SPECIFIC CONDITIONS

Supplemental Agreement and shall include assessment of potential impacts to surface water and ground water including wetlands, as needed, in the vicinity of the cooling canal system. The specific monitoring boundaries shall be determined as part of the Revised Plan. The submittal deadline may be extended upon agreement between the Licensee, the SFWMD, DEP and Miami-Dade County. Agreements for extensions shall be submitted to the Siting Office prior to the deadline.

2. The Revised Plan shall be designed to be in concurrence with other existing and ongoing monitoring efforts in the area and shall include but not necessarily be limited to, surface water, groundwater and water quality monitoring, and ecological monitoring to:

a. Delineate the vertical and horizontal extent of the hyper-saline plume that originates from the cooling canal system and to characterize the water quality including salinity and temperature impacts of this plume for the baseline condition;

b. Determine the extent and effect of the groundwater plume on surface water quality as a baseline condition; and

c. Detect changes in the quantity and quality of surface and ground water over time due to the cooling canal system associated with the Uprate project. The Revised Plan shall include installation and monitoring of an appropriate network of wells and surface water stations. The Revised Plan shall be approved by the SFWMD in consultation with the DEP Office of Coastal and Aquatic Managed Areas, the DEP Southeast District Office and DERM.

3. FPL shall transmit electronic copies of all data and reports required under the Fifth Supplemental Agreement and the Revised Plan in accordance with timeframes as approved in the Fifth Supplemental Agreement to:

SFWMD, Director, Water Supply (or alternative transmittal procedures to be described in the Fifth Supplemental Agreement);

Miami-Dade County, Director, DERM;

DEP, Director, Southeast District Office;

DEP Siting Coordination Office

DEP, Director, Biscayne Bay Aquatic Preserve Manager,

4. If the DEP in consultation with SFWMD and DERM determines that the pre- and post-Uprate monitoring data: is insufficient to evaluate changes as a result of this project; indicates harm or potential harm to the waters of the State including ecological resources; exceeds State or County water quality standards; or is inconsistent with the goals and objectives of the CERP Biscayne Bay Coastal Wetlands Project, then additional measures, including enhanced monitoring and/or modeling, shall be required to evaluate or to abate such impacts. Additional measures include but are not limited to:

a. The development and application of a 3-dimensional coupled surface and groundwater model (density dependent) to further assess impacts of the Uprate Project on ground and surface waters; such model shall be calibrated and verified using the data collection during the monitoring period;

SECTION B: SPECIFIC CONDITIONS

- b. Mitigation measures to offset such impacts of the Uprate Project necessary to comply with State and local water quality standards, which may include methods and features to reduce and mitigate salinity increases in groundwater including the use of highly treated reuse water for recharge of the Biscayne Aquifer or wetlands rehydration;
- c. Operational changes in the cooling canal system to reduce any such impacts; and/or
- d. Other measures to abate impacts as may be described in the Revised Plan.

[formerly known as Condition X for 5th Supplemental Agreement identification purposes; Sections 373.016, 373.223, F.S.; Rules 40E-4.011, 40E-4.301, 40E-4.302, F.A.C.; Sections 62-302 and 62-520, F.A.C.; Section 24-42, Code of Miami-Dade County, Miami-Dade County Comprehensive Development Master Plan (CDMP) Land Use Element, Conservation Element, Intergovernmental Coordination Element, Coastal Management Element]

C. Cooling Canal System Floridan Production Well Monitoring

FPL shall monitor the existing Floridan production wells (F-1, F-2, F-3, F-4, F-5, F-6, and F-7) on a quarterly basis for: water level or pressure; temperature; pH, Total Dissolved Solids; specific conductance; major anions/cations (including chlorides); NH₃; total nitrogen; and total phosphorus. This monitoring data shall be made available to Miami-Dade County as well as FDEP and the SFWMD. On a semi-annual basis, Miami-Dade County may collect groundwater samples of the existing Floridan production wells (F-1, F-2, F-3, F-4, F-5, F-6, and F-7) for constituents including but not limited to O18/16 and Strontium (87Sr/86Sr).

[Pre-Hearing Joint Stipulation signed 11/20/15 and Final Order issued by the Siting Board signed 4/1/16]

HISTORY

Unit 5 Certified on 02/07/05; signed by Governor Bush
Modified on 06/22/06; signed by Siting Administrator Owen
Modified on 04/24/07; signed by Siting Administrator Halpin
Units 3 & 4 Certified on 10/29/08; signed by Secretary Sole
Modified on 1/6/09; signed by Siting Administrator Halpin
Modified on 06/19/09; signed by Siting Administrator Halpin
Modified on 03/19/15 (E.1); signed by Deputy Secretary Cobb
Modified on 3/29/16 (E); signed by Governor Scott
Modified on 10/19/2021 (F); signed by Siting Administrator Mulkey
Modified on 1/24/2022 (G); signed by Siting Administrator Mulkey

ATTACHMENTS

ATTACHMENT A: Maps

- 1. Site Boundary**
- 2. Certified Facilities delineation (on-site, off-site, linear and non-linear)**

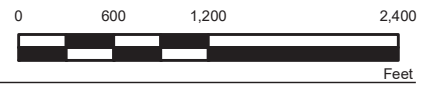
To be attached pursuant to Section A. Condition I. Scope



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

LEGEND

- - - TP 3 and 4 Uprate Certified Site
- - - Existing Original TP 5 Certified Site
- - - Turkey Point Units 6 & 7 Site
- / / / CWRC Area
- - - Unit 5 and CWRC Area Certified Boundary



REFERENCE(S)

COORDINATE SYSTEM: NAD 1983 STATEPLANE FLORIDA NORTH FIPS 0903 FEET
 PROJECTION: LAMBERT CONFORMAL CONIC
 DATUM: NORTH AMERICAN 1983

CLIENT
FLORIDA POWER & LIGHT COMPANY

PROJECT
FPL MIAMI-DADE CLEAN WATER RECOVERY CENTER PROJECT

TITLE
CERTIFIED SITE BOUNDARIES

CONSULTANT



YYYY-MM-DD	2021-06-30
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KAB
APPROVED	KK

PROJECT NO. 21453351	CONTROL C002	REV. 0	FIGURE 1-2
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PATH: G:\Projects\FPL\Turkey_Point\21453351_Unit5_ReclaimedWaterProject\9_PROJECTSIC_SCA_Modification\2_PRODUCTION\21453351_C002_CertifiedSites.mxd

1" IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI/A

ATTACHMENTS

ATTACHMENT B:

A: Surface Water Management System Operation and Maintenance Requirements for systems constructed prior to October 2013 (Unit 5 – as reviewed and accepted in Unit 5 Site Certification Application)

1. Periodic Inspections of the stormwater management system(s), to include site conveyance swales, weirs, and pond discharge control structures, shall occur.
2. Structural portions of the stormwater management system, mitered end sections, weirs, and discharge structures will be inspected for cracks or structural failures, deterioration (both the structure and supporting soils), clogging, and build-up of sediment.
3. Repairs will be completed to bring the structural unit back to the permitted conditions.
4. Stormwater conveyance systems, to include overland flow areas, swale bottoms and sideslopes, pond bottoms and sideslopes, and the pond discharge location will be inspected for erosion, stressed or overgrown vegetation, and build-up sedimentation.
5. Grassed areas will be mowed and maintained as needed.
6. Problems detected during routine inspections will be addressed and corrected as soon as possible, but in no case more than three months after detection.

B: Surface Water Management System Operation and Maintenance Requirements for systems constructed after October 2013 (effective date of Chapter 62-330, F.A.C.)

1. In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all stormwater management systems, dams, impoundments, reservoirs, appurtenant works, or works permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity. The operation and maintenance shall be in accordance with the designs, plans, calculations, and other specifications that are submitted with any amendment or modification and approved by the Department.
2. A registered professional must perform inspections annually after conversion of the project to the operation and maintenance phase to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of the stormwater management system or other surface water management systems that may endanger public health, safety, or welfare, or the water resources, and to insure that systems are functioning as designed and approved. Within 30 days of the inspection, a report shall be submitted electronically or in writing to the Department using Form 62-330.311(1), "Operation and Maintenance Inspection Certification".
3. If deficiencies are found, the Turkey Point Clean Energy Center will be responsible for correcting the deficiencies so that the project is returned to the operational functions as designed and approved. The corrections must be done in a timely manner to prevent compromises to flood protection and water quality.

ATTACHMENTS

4. If the operational maintenance and corrective measures are insufficient to enable the systems to meet the performance standards of this chapter, the Turkey Point Plant must either replace the systems or construct an alternative design.
5. The Turkey Point Clean Energy Center shall provide for periodic inspections in addition to the annual inspections, especially after heavy rain. It must maintain a record of each inspection, including the date of inspection, the name and contact information of the inspector, whether the system was functioning as designed and approved, and make such record available upon request of the Department. Within 30 days of any failure of any system or deviation from the conditions, a report shall be submitted electronically or in writing to the Department using Form 62-330.311(1), "Operation and Maintenance Inspection Certification," describing the remedial actions taken to resolve the failure or deviation.
6. The Turkey Point Clean Energy Center shall immediately notify the Department by telephone whenever a serious problem occurs at this facility. Notification shall be made to the Department's Southeast District Office at (516) 681-6600. Within 7 days of telephone notification, a report shall be submitted electronically or in writing to the Department using Form 62-330.311(1), "Operation and Maintenance Inspection Certification," describing the extent of the problem, its cause, the remedial actions taken to resolve the problem.
7. The following operational maintenance activities shall be performed on approved systems on a regular basis or as needed:
 - a. Removal of trash and debris from the surface water management systems,
 - b. Inspection of culverts, culvert risers, pipes and screwgates for damage, blockage, excessive leakage or deterioration, if applicable,
 - c. Inspection of stormwater berms, if applicable,
 - d. Inspection of pipes for evidence of lateral seepage,
 - e. Inspection of flapgates for excessive backflow or deterioration, if applicable,
 - f. Removal of sediments when the storage volume or conveyance capacity of the surface water management system is below design levels,
 - g. Stabilization and restoration of eroded areas,
 - h. Inspection of pump stations for structural integrity and leakage of fuel or oil to the ground or surface water, if applicable, and
 - i. Inspection of monitoring equipment, including pump hour meters and staff gauges, for damage and operational status, if applicable.
8. In addition to the practices listed above, specific operational maintenance activities are required, if applicable, depending on the type of approved system, as follows:
 - a. Overland flow systems shall include provisions for:
 - i. Mowing and removal of clippings, and
 - ii. Maintenance of spreader swales and overland flow areas to prevent channelization.
 - b. Spray irrigation systems for reuse/disposal shall include provisions for:

ATTACHMENTS

- i. Inspection of the dispersal system, including the sprayheads or perforated pipe for damage or clogging, and
 - ii. Maintenance of the sprayfield to prevent channelization.
- c. Treatment systems which incorporate isolated wetlands shall include provisions for:
 - i. Stabilization and restoration of channelized areas, and
 - ii. Removal of sediments which interfere with the function of the wetland or treatment system.

ATTACHMENTS

ATTACHMENT C: Mitigation Requirements/Plans

Requirements

Florida Power & Light Company (FPL) certified Turkey Point Power Plant Units 3-5 through the Florida Electric Power Plant Siting Act. The certification PA 03-45 was approved:

Unit 5 on 02/07/05; signed by Governor Bush

History of wetland impacts and mitigation:

Project	Impacts	Mitigation	Status	Project Completed
Unit 5 Expansion - Area A (Power Block and Collector Yard), Area C (Site Runoff Stormwater Ponds), Area D (Construction Laydown, Parking and Trailers), Area E (Roadway Expansion Area)	24.32 acres equating to 22.5 Functional Credit Units (FCU)	8.99 credits from Everglades Mitigation Bank 66.36 acres of on-site wetland enhancement and creation (7 FCU)	Complete	Yes
Unit 5 Expansion Secondary Impacts	9.66 acres equating to 1.66 FCUs	Transfer of 307.86 acres to Biscayne National Park (8.37 FCU)	Complete	Yes
A total of 24.16 FCUs required to offset wetland impacts associated with the construction of the Unit 5 expansion project, 22.5 credits for direct unavoidable wetland impacts and 1.66 credits for secondary impacts. Mitigation satisfied by a combination of mitigation credit purchase from the Everglades Mitigation Bank, on-site wetland enhancement and creation, and land transfer.				
CWRC (Mod G)	0.4 acre of permanent impact and 40.52 acres of temporary impact to mangrove swamp	Purchase from Everglades Mitigation Bank of 6.80 Saltwater Mitigation credits		

ATTACHMENTS

Mitigation Plan for Unit 5



Turkey Point Expansion Project

MITIGATION PLAN



FPL

0337600-0108

JANUARY 27, 2005

EXECUTIVE SUMMARY

As a result of consultation with regulatory agencies, Florida Power & Light Company (FPL) has refined some aspects of the Turkey Point Expansion Project in order to avoid and/or minimize wetland impacts. FPL's avoidance and minimization efforts have resulted in significant revisions to the Project design, which has reduced direct wetland impacts from 36.94 to 24.32 acres. The restoration of temporary construction laydown areas and removal of the temporary entrance road (5.34 acres) results in a total of 18.98 acres of permanent impacts, or a 49-percent decrease compared to the original Project design.

Wetland direct impacts and secondary impacts associated with the construction of the Project require 24.16 mitigation credits based on the Everglades Mitigation Bank (EMB) Wetland Assessment Technique for Environmental Review (W.A.T.E.R.) assessment method. FPL proposes that 7 mitigation credits of functional enhancement be performed by FPL within the immediate area, on the project site, including approximately 66.36 acres of wetland enhancement and creation. The transfer and preservation of 307.86 acres of mangrove-dominated property adjacent to Biscayne National Park would generate an additional 8.37 credits of mitigation, according to the most conservative calculation methodology [Environmental Resource Permitting (ERP) Basis of Review mitigation ratios]. An additional 8.99 credits are proposed to be purchased from the EMB. These credits result from approximately 63 acres of restored saline wetlands that would be managed and protected in perpetuity. The total mitigation package provides 24.36 credits, and includes over 430 acres of enhanced, restored, or preserved wetlands offered to offset the 24.32 acres of direct impact (including permanent and temporary). A summary of the impacts and mitigation proposed is presented in Table ES-1.

In addition to the proposed mitigation package, FPL proposes to perform additional onsite enhancement to increase the quality of habitats surrounding the Project. Additional wetland enhancement activities conducted on-site may be expected to generate an additional 5.62 credits above and beyond that which is required to offset impacts. These enhancements further support the American Crocodile, essential fish habitat, and native seagrasses as well as many other listed species of wildlife, but are not proposed to be included in the accounting for Project mitigation credits. The proposed mitigation package and additional enhancement activities represent a unique combination of enhancement, preservation, and restoration to offset unavoidable wetland impacts while still

fulfilling future electrical power demands. A summary of additional enhancement activities and potential mitigation credits generated is presented in Table ES-2.

Table ES-1. Summary of Impacts and Proposed Mitigation

Area/Activity	Acres	Functional Assessment Score		Site Suitability Multiplier	Functional Credit Units (FCUs)
		Pre-develop	Post-develop		
Direct Impacts					Impact FCU -
A (power block)	16.38	0.92	0	1.07	-16.12
D-east (temporary access road)	0.77	0.89	0	1.07	-0.73
D-west (temporary construction laydown and parking)	4.57	0.71	0	1.07	-3.47
E (permanent parking area)	2.2	0.84	0	1.07	-1.98
Green Creek Re-creation	0.12	0.92	0.45	1.07	-0.06
Green Creek West Fork Re-creation	0.273	0.92	0.45	1.07	-0.14
Scout Lagoon – tidal creek connections	0.009	0.92	0.45	1.07	-0.004
Total Direct Impacts	24.32				-22.50
Secondary Impacts (Unless noted, credits calculated as 60 percent of direct impact.)					
A	0.99	0.92	0	1.07	-0.58
D-east	0.50	0.89	0	1.07	-0.29
D-west	0.67	0.71	0	1.07	-0.31
H-east (calculated using 0.06 loss of functional value/acre)	7.5	0.89	0.83	1.07	-0.48
TOTAL CREDITS (Direct + Secondary)					-24.16
MITIGATION PROPOSAL					
Onsite Mitigation (7 credits)					Mitigation FCU +
D-mid	36.34	0.76	0.86	1.07	+2.52 ^a
D-north	13.95	0.79	0.86	1.07	+0.67 ^b
Australian Pine Ribs 1 and 2	5.6	0	0.75	1.05	+2.68 ^c
Australian Pine Ribs 3 & 4 -Wetland Creation	1.35	0	0.45	1.05	+0.40 ^d
Australian Pine Ribs 3, 4 and 5 -Upland Restoration	8.05	0	0.25	1.05	+0.41 ^e
Scout Lagoon Re-creation (Red Barn Area)	1.07	0	0.80	1.07	+0.32 ^f
Offsite Mitigation (17.36 credits)					
Property Preservation Transfer – East of L-31E	47.5	NA	NA	NA	+3.17
Property Preservation Transfer - West of L-31E	260.36	NA	NA	NA	+5.2
Purchase from EMB	63	NA	NA	NA	+8.99
MITIGATION TOTAL	437.22				+24.36

^a Total credits (3.89) divided by Time Lag and Risk of 1.54 (=2 yr.TL X 1.5R)

^b Total credits (1.04) divided by Time Lag and Risk of 1.54 (=2 yr.TL X 1.5R)

^c Total credits (4.59) divided by Time Lag and Risk of 1.71 (=5 yr.TL X 1.5R)

^d Total credits (0.64) divided by Time Lag and Risk of 1.605 (=3yr.TL X 1.5R)

^e Total credits (2.1) divided by upland restoration factor (3) and Time Lag and Risk of 1.71 (=5yr.TL X 1.5R)

^f Total credits (0.92) divided by Time Lag and Risk of 2.85 (=5yr.TL X 2.5R)

Table ES-2. Additional Onsite Enhancement Summary

Area	Acres	Functional Assessment Score		Site Suitability Multiplier	FCU + Generated through Enhancement Activity
		Pre-enhancement	Post-enhancement		
C-east	11.47	0.78	0.80	1.06	+0.24
C-west	16.77	0.71	0.79	1.06	+1.42
D-west Replanting	4.57	0	0.68	1.06	+3.29
D-east Replanting	0.77	0	0.68	1.06	+0.56
Red Barn Tree Preserve	0.905	0	0.30	1.07	+0.29
TOTAL	34.49				+5.80

Table ES-3. Mitigation and Additional Onsite Enhancement Summary Table

Area	Acres	Functional Assessment Score		Site Suitability Multiplier	Total FCU + Mitigation & Enhancement
		Pre-enhancement	Post-enhancement		
Mitigation Total (Table ES-1)	437.22				24.36
Additional Enhancement (Table ES-2)	34.49				5.80
TOTAL	471.71				30.16

TIME LAG AND RISK

Additional mitigation credits have been calculated to address time lag and risk associated with the proposed creation, enhancement, and restoration activities. The time lag associated with mitigation activities addresses the period of time between when the functions are lost at an impact site and when those functions are replaced through mitigation. Wetland creation generally has a greater time lag to establish certain wetland functions than most enhancement activities. The time lag, in years, is used to determine the time lag factor (T-factor) to reflect the additional mitigation needed to account for the delay in replacement of wetland functions. Mitigation risk accounts for the degree of uncertainty that the proposed mitigation activity will achieve the proposed conditions. Typically, mitigation projects which require longer periods of time to replace lost functions are considered to have a higher risk. Risk is scored on a scale from 1 (*de minimus* risk) to 3 (high risk). Time lag and risk factors for the proposed mitigation activities are discussed below. Offsite mitigation through the purchase of credits from the EMB already incorporates time lag and risk in the calculation of credits available for purchase. Similarly, the preservation of wetland acreage adjacent to the BNP does not include significant risk or lag time.

Area D Hydrologic Enhancement

The time lag and risk factor for the hydrologic enhancement of Area D was calculated to be 1.545. The T-factor is 1.03, based upon a 2-year lag between installation of the culverts and realization of

the functional lift associated with amelioration of hypersaline conditions, an increase in tidal flushing and connectivity with Biscayne Bay, and the resultant increase in mangrove biomass. The risk factor is 1.5, due to the low probability of enhancement failure.

Test Cooling Canal Berm Wetland Creation

The time lag and risk factor for the creation of wetlands upon the upland Test cooling Canal Berms 1 and 2 was determined to be 1.71. The T-factor is 1.14, based upon a 5-year lag between topographic grading and installation of wetland shrubs and realization of the functional lift. The risk factor is 1.5, due to the high probability of successful wetland shrub habitat creation within the surrounding test cooling canals.

The time lag and risk factor for the creation of wetland refugia for the American crocodile juveniles upon Test Cooling Canal Berms 3 and 4 was determined to be 1.605. The T-factor is 3 years, based upon the lack of wetland plantings. The freshwater refugia are designed to maximize open water areas, and will be allowed to vegetate with naturally-recruited herbaceous species. Periodic removal of exotic and non-desirable species will be conducted as necessary. The risk factor was determined to be 1.5.

Test cooling Canal Berm Upland Restoration

The time lag and risk factor for the upland restoration of Test Cooling Canal Berms 3, 4, and 5 was calculated to be 1.71. The T-factor is 1.14, based upon a 5-year lag between topographic grading and realization of the functional lift. No vegetative plantings are proposed, but the area will be allowed to naturally revegetate with desirable upland species. Periodic exotic and nuisance species removal will be conducted to maintain the habitat. The risk factor is 1.5, due to the relatively high probability of successful upland habitat creation upon the Test Cooling Canal Berms. Application of the upland to wetland conversion ratio (3:1) was utilized to calculate the overall credits generated through upland restoration.

Scout Lagoon Creation

The time lag and risk factor for the creation of the Scout Lagoon was calculated to be 2.85. The T-factor is 1.14, based upon a 5-year lag between creation of the lagoon and realization of the functional lift. The risk factor is 2.5, due to the potential difficulty in creation of the lagoon and installation of seagrasses within an area that is currently upland habitat.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACOE	U.S. Army Corps of Engineers
BNP	Biscayne National Park
CERP	Comprehensive Everglades Restoration Plan
DERM	Miami-Dade County Department of Environmental Resource Management
EMB	Everglades Mitigation Bank
EPA	U.S. Environmental Protection Agency
ERP	Environmental Resource Permitting
F.A.C.	Florida Administrative Code
FCU	Functional Credit Unit
FDEP	Florida Department of Environmental Protection
FFWCC	Florida Fish and Wildlife Conservation Commission
FPL	Florida Power & Light Company
ft	foot
lf	linear foot
NMFS	National Marine Fisheries Service
NPS	National Park Service
SFWMD	South Florida Water Management District
W.A.T.E.R.	Wetland Assessment Technique for Environmental Review
WRAP	Wetland Rapid Assessment Procedure
UMAM	Uniform Mitigation Assessment Method
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

Florida Power & Light Company (FPL) proposes to build a natural gas-fired, combined cycle power generation plant on FPL property, immediately adjacent to the existing fossil power plant. The Project has been described in the Site Certification and Federal Dredge and Fill Applications submitted to the Florida Department of Environmental Protection (FDEP) and U.S. Army Corps of Engineers (ACOE), respectively, on November 14, 2003. In consultation with regulatory agencies, including the FDEP, National Park Service (NPS), ACOE, Miami-Dade County Department of Environmental Resource Management (DERM), U.S. Environmental Protection Agency (EPA), National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (USFWS), South Florida Water Management District (SFWMD), and the Florida Fish and Wildlife Conservation Commission (FFWCC), the Project design team explored further refinements to the Project to avoid and/or minimize wetland impacts. The proposed design modifications have significantly reduced the total acreage of direct wetland impacts from 36.94 acres originally proposed in the Site Certification and Dredge and Fill Applications to 24.32 acres. Temporary wetland impacts would comprise 5.34 acres of the total, which would result in a total of 18.98 acres of permanent impact upon restoration.

The proposed Project design revisions include the removal of the proposed stormwater pond in Area C located to the southwest of the power block, minimization of wetland impact acreage proposed for construction laydown and parking within Area D-west, removal of the oil storage tank and its secondary containment from a wetland location to an upland location, and avoidance of wetlands originally designated for proposed construction laydown and parking areas in Area D-east (Figure 1).

The proposed Project refinements would result in 16.38 acres of impact to shrub and dwarf red mangrove wetlands within the power block (Area A), 0.77 acres of hypersaline mangrove marsh associated with the roadway expansion (Area D-east), 4.57 acres of dwarf red mangrove marsh for temporary construction parking and laydown within Area D-west, 2.2 acres of mangroves for permanent parking adjacent to the plant access road (Area E), 0.12 acres of wetlands to tidal creek known as the Green Creek re-creation, 0.006 acres of dwarf red mangrove marsh to establish a tidal creek connection for the re-created Area A lagoon in the upland Girl Scout Camp location, and 0.273 acres of dwarf red mangrove marsh to connect the tidal creek flowing southwest from the Area A lagoon toward Area C. Figures 2, 3, and 4 represent the final project design; Figure 2 is an

overall view, while Figures 3 and 4 are close up views of the east and west sides of the Project Area, respectively. The total direct impacts (permanent and temporary) resulting from construction of the Project would be 24.32 acres. To compensate for impacts to wetland areas adjacent to the expansion area, secondary impact acreage have been assessed at a minimum of 25 feet (ft) surrounding all fill activities.

The FPL-owned Everglades Mitigation Bank (EMB) is within the same watershed drainage basin as the proposed impacts and could be relied upon to offset all proposed unavoidable wetland impacts through the purchase of mitigation credits. However, upon consultation with regulatory agencies it was agreed that FPL was in a position to provide a unique combination of on and offsite mitigation activities due to their significant land holdings in the vicinity of the Biscayne National Park (BNP) and Comprehensive Everglades Restoration Plan (CERP) project areas. FPL has proposed a mitigation plan to compensate for direct (permanent and temporary) and secondary impacts through a combination of onsite wetland enhancement and restoration, transferring the offsite mangrove-dominated property adjacent to the BNP to the SFWMD and BNP for preservation, and purchasing the remaining mitigation credits from the EMB.

2.0 FUNCTIONAL ASSESSMENT

2.1 METHODOLOGY

Rather than an acre-for-acre mitigation or the use of mitigation ratios, the calculation of mitigation requirements involved the use of a wetland functional assessment value multiplied by the acreage of impact to determine the required number of mitigation credits.

The EMB functional assessment protocol, Wetland Assessment Technique for Environmental Review (W.A.T.E.R.), is similar to the ACOE's Wetland Rapid Assessment Procedure (WRAP) and FDEP's Uniform Mitigation Assessment Method (UMAM), but is designed to be directly applicable to the conditions present in southeast Florida. The FDEP's UMAM, effective February 2004, is designed to be used for wetland habitats occurring throughout the state, and therefore is not considered as sensitive to the regional environmental conditions present in southeastern Florida when compared to W.A.T.E.R. Furthermore, to assess impact sites for the purpose of determining mitigation credits, the applicant must use the functional assessment methodology approved for the particular mitigation bank, as described in the Florida Administrative Code (F.A.C.) Chapter 62-345.100(6).

The FDEP's UMAM functional assessment method provides quantification of the number of credits that are generated through the preservation of saline-based wetlands. As part of the mitigation package to offset unavoidable impacts associated with the Project, FPL will transfer 307.86 acres of adjacent mangrove-dominated property to BNP for preservation.

2.2 RESULTS

The proposed footprint of the Turkey Point Expansion Project was subdivided into assessment areas, determined by considering the functional parameters that make one area different from another. In some instances geographical barriers such as roadways or berms were the deciding factors in determining an assessment area, while in other instances the vegetation or hydrologic influences were the main factor in determining an assessment area's size or location.

Once each assessment area was determined, field personnel conducted site investigations to gather information to record the qualities (function) of the wetland (Figure 5). This work was performed during a series of site visits that occurred between July and November 2003. The information

gathered includes wildlife usage, hydrologic conditions, water quality, vegetative composition and species diversity, salinity, and soils. The existing, pre-development condition was evaluated with regards to each assessment category: fish and wildlife functions, vegetative functions, hydrologic functions, and salinity parameters. Scoring for the suite of variables contained within each assessment category and the site suitability evaluation is detailed in Appendix A. The following summarizes the resulting pre-development functional values, acreage of impact, and mitigation credits required for wetlands within each Project Area:

2.2.1 AREA A (POWER BLOCK AND COLLECTOR YARD)

This area is a mosaic of habitat which includes two tidal creek tributaries, an artificially created lagoon, and the surrounding dwarf red mangrove flats (Figure 6). This area is a high-quality wetland, in part due to the lagoon's artificial open water component, which enables this wetland assessment area to receive a very high score of 0.92 W.A.T.E.R. function (see Appendix A). Based upon the functional assessment, acreage of impact (16.38), and site suitability multiplier (1.07), development of this area should require 16.12 credits of mitigation. Additional impacts associated with Area A include the reconnection of the tidal creek flowing southwest toward Area C, discussed below.

2.2.2 TIDAL CREEK CONNECTION (GREEN CREEK AND GREEN CREEK WEST FORK)

The tidal creek connection that the existing lagoon currently provides will be re-established through the creation of Green Creek, which would comprise 0.12 acres of wetland impacts. When multiplied by the functional assessment score (0.92) and site suitability multiplier (1.07), the resulting number of credits is 0.06 credits, conservatively calculated using a post-development W.A.T.E.R. score of 0.45. To maintain the hydrologic functions provided by the tidal creek extending southwest from the Area A lagoon to Area C, 0.273 acres would be impacted to create a creek channel (Green Creek West Fork) connecting to the undisturbed portion of the tidal creek following construction of the power block (Figures 7 and 12). Although establishment of the Green Creek West Fork would impact additional acreage of mangroves, the maintenance of tidal creek connectivity is important in regards to improving tidal flushing throughout the Project Area. Currently, the Area A mangrove marsh receives a W.A.T.E.R. score of 0.92. It can be conservatively assumed that the Green Creek West Fork connection would achieve a post-development W.A.T.E.R. score of 0.45; therefore, the required mitigation for the loss of wetland function should be 0.14 credits, assessed as the difference

between the pre- and post-development functional assessment scores (0.47) multiplied by the acreage of impact (0.273) and site suitability multiplier (1.07).

2.2.3 TIDAL CREEK CONNECTION – SCOUT LAGOON

Although the lagoon is an artificial open water feature excavated during initial plant construction, it provides important habitat for fish and wildlife and is proposed to be re-created to maintain the diversity of habitat for fish and wildlife that currently exists at the Site following completion of the Project. Two locations for the re-creation were evaluated; the preferred location, Scout Lagoon, was selected based upon consultation with regulatory agency representatives (Figures 7 and 13). The preferred location was designed to minimize mangrove wetland impacts through re-creation of the lagoon via excavation of uplands within Area G at the northwestern tip of the Red Barn peninsula in the vicinity of the Girl Scout camp. Creating two tidal connections of Scout Lagoon with the existing tidal creek immediately northwest of the upland peninsula would require 37 linear feet (lf) of mangrove disturbance with a width of 10 ft, approximately 0.009 acre. Using an initial W.A.T.E.R. functional assessment score of 0.92, the acreage of impact (0.009), and site suitability multiplier (1.07), the resulting number of mitigation credits to offset the loss of mangroves to connect the Scout Lagoon with the tidal creek is 0.003, conservatively calculated using a post-development W.A.T.E.R. score of 0.45.

Alternatively, re-creation of the lagoon immediately north of its existing location, north of the proposed power block Area A, would have required 1.74 acres of mangrove wetland impact (Green Lagoon). Through consultation with regulatory agencies, it was determined that mitigation for the lagoon would be best achieved through the Scout Lagoon alternative, which replaces wetland functions while minimizing mangrove impacts. The acreage of impact, functional assessment, and resulting mitigation credits required are described later in this document.

2.2.4 AREA D (TEMPORARY CONSTRUCTION LAYDOWN, PARKING AND TRAILERS, ACCESS ROAD)

Construction laydown, parking, trailers, and new plant access road would impact approximately 4.57 acres within Area D west of the transmission line patrol road (Area D-west) and 0.77 acres within Area D east of the patrol road (Area D-east) (Figures 7 and 11). Construction of the patrol road has hydrologically isolated the parcel west of the road; therefore, separate functional assessment scores were calculated for the mangrove wetlands east and west of the patrol road. The

area east of the patrol road is dwarf red mangrove marsh contiguous with Area A, with a resulting W.A.T.E.R. score of 0.89 (see Appendix A). The area west of the patrol road is isolated from Area A and does not experience adequate flushing due to the elevated patrol road. As a result of the decreased flushing, salinity west of the patrol road is higher, mangroves are less dense, groundcover is sparser, and the area provides lower quality habitat for fish and wildlife. The resulting W.A.T.E.R. score for the area west of the patrol road is 0.71 (see Appendix A). Based upon the functional assessment, acreage of impact, and Site Suitability Multiplier (1.07), the construction laydown, parking, trailers, and access road area should require a total of 4.2 credits of mitigation (0.73 credits for Area D-east, 3.47 credits for Area D-west).

2.2.5 AREA E (PERMANENT PARKING)

Area E, located between the existing plant access road and the Area D-west mangrove marsh, contains mature mangrove and buttonwood trees (Figure 11). The permanent parking area would impact 2.20 acres of mangroves within Area E, which received a W.A.T.E.R. functional assessment score of 0.84 (see Appendix A). Based upon the functional assessment, acreage of impact, and Site Suitability Multiplier (1.07), a total of 1.98 credits should be required for mitigation.

Direct Impacts

Area	Direct Impact Acreage	W.A.T.E.R. Score: Pre-development	W.A.T.E.R. Score: Post-development	Site Suitability Multiplier	Direct Impact Mitigation Credits Required
A	16.38	0.92	0	1.07	16.12
D-east	0.77	0.89	0	1.07	0.73
D-west	4.57	0.71	0	1.07	3.47
E (Permanent Parking Area)	2.2	0.84	0	1.07	1.98
Green Creek Re-creation	0.12	0.92	0.45	1.07	0.06
Green Creek West Fork	0.273	0.92	0.45	1.07	0.14
Scout Lagoon	0.009	0.92	0.45	1.07	0.004
TOTAL	24.32				22.50

2.2.6 SECONDARY IMPACTS

To compensate for impacts to wetland areas adjacent to the expansion area, additional mitigation is proposed to compensate for changes to wetland function surrounding the immediate wetland fill impacts. Calculation of secondary impact acreage may be assessed at a minimum of 25 ft

surrounding all fill activities. Calculating the minimum 25 ft of surrounding secondary impact would require an additional 0.99 acre of impact adjacent to Area A, 0.50 acre adjacent to eastern Area D, and 0.67 acre adjacent to western Area D. It can be assumed that a loss of functional value can be assessed at 50 percent within the edge effect zone of 25 ft. For a level of assurance, a loss of function equivalent to 60 percent has been used to calculate secondary impact mitigation requirements for this application. Therefore, for each wetland parcel, mitigation credits required to offset secondary impact acreage were calculated as 60 percent of the credits that would be required to offset direct impact acreage. Based upon the 25-ft secondary impact zone acreages, each wetland parcel's corresponding W.A.T.E.R. score, and the site suitability multiplier, 1.18 credits of mitigation should be required. In addition to the 25-ft zone adjacent to all areas of wetland fill, additional secondary impacts were identified and quantified. As a result of the proposed construction activity and the filling of wetlands within Area A, undisturbed areas of wetlands within Area H to the east of Area A and adjacent to the upland Red Barn area would experience hydrologic secondary impacts. It can be expected that there would be a functional loss of 0.48 credits for this 7.5 acres of dwarf mangrove marsh as a result of construction activities. Therefore, the total amount of mitigation required for secondary impacts is 1.66.

Secondary Impacts

Area	Secondary Impact Acreage	W.A.T.E.R. Score: Pre-development	W.A.T.E.R. Score: Post-development	Site Suitability Multiplier	Secondary Impact Mitigation Credits Required*
A	0.99	0.92	0	1.07	0.58
D-east	0.50	0.89	0	1.07	0.29
D-west	0.67	0.71	0	1.07	0.31
H-east	7.5	0.89	0.83	1.07	0.48 (calculated using 0.06 loss of functional value/acre)
TOTAL	10.7				1.66

* Unless otherwise noted, credits for mitigation of secondary impacts calculated as 60 percent of functional loss of direct impact.

As calculated, there should be a total of 24.16 mitigation credits required to offset wetland impacts associated with the construction of the expansion project, 22.50 credits for direct (permanent and temporary) unavoidable wetland impacts and 1.66 credits for secondary impacts. It should be noted that no attempt has been made to adjust mitigation credits FPL could demonstrate for the restoration

of temporary parking/laydown areas, including installing the last culvert through the access/patrol road of this area.

3.0 MITIGATION PLAN

The EMB is within the same watershed drainage basin as the proposed impacts and could be relied upon to offset all proposed unavoidable wetland impacts through the purchase of 24.16 mitigation credits. However, due to FPL's large land holdings in the area, there is an opportunity to offer a variety of mitigation activities that would not only offset the Project's wetland impacts, but benefit the BNP and CERP projects. FPL has proposed a mitigation plan to compensate for direct and secondary impacts, involving a combination of wetland enhancement through onsite hydrological improvements; wetland restoration through removal of exotics, grading, and replanting; transfer of 307.86 acres of mangrove-dominated property adjacent to the BNP for preservation; and purchase of the remaining mitigation credits from the EMB.

3.1 ONSITE MITIGATION PLAN

The goal of the onsite hydrological improvements is to restore a more natural hydrologic regime through the addition of several culverts that would improve connectivity between each wetland parcel and Biscayne Bay. The installation of culverts would enhance tidal flushing and circulation functions that have been previously impacted. Onsite wetland restoration activities involve an area of upland spoil pile ribs associated with the pilot program cooling canals west of the Project Area, two of which are proposed to be cleared of exotic species, graded to saturated soil elevation, and planted with native wetland species. The number of mitigation credits generated through onsite mitigation activities has been adjusted to compensate for time lag and risk factors, discussed in Section 3.1.5. A description of the proposed onsite wetland mitigation conceptual design, post-mitigation functional values, and total mitigation credits gained through onsite enhancement and restoration is presented in the sections that follow.

3.1.1 AREA D-MID ENHANCEMENT

To restore hydrologic connectivity with Biscayne Bay between Area D-mid and the undisturbed mangrove marsh to the east, a series of nine 24-inch vertebrae culverts will be installed through the transmission line patrol road currently impeding water circulation (Figure 7). The patrol road separates the eastern and western portions of the mangrove marsh north of the Project Area, and only one small culvert perforates the roadway to maintain a tidal creek connecting the eastern and western parcels. The existing culvert allows saltwater to enter the 36.34-acre Area D-mid parcel but is inadequate to allow the retreat of saltwater with low tide. The result is steadily increasing salinity

when rainfall is insufficient to assist flushing. The existing round culvert connecting the tidal creek underneath the patrol road is proposed to be replaced by a larger culvert. In addition, the installation of a series of culverts underneath the patrol road north and south of the existing tidal creek culvert at topographic lows would allow a more even distribution of rising and falling tide upon this saline wetland area.

The W.A.T.E.R. functional score for area D-mid is 0.76 (see Appendix A). The functional score is a reflection of diminished wetland functions as a result of the elevated saline conditions and reduced flushing for this area. It can reasonably be expected that after the replacement of the existing undersized culvert and installation of eight additional 24-inch vertebrae culverts, the functional value of Area D-mid would improve to 0.86 as a result of increased health of the dwarf red mangrove and the subsequent increase of forage fish and macroinvertebrates. These increased forage species should promote increased utilization of wading birds as well. Utilizing the difference between the pre-and post- mitigation W.A.T.E.R. functional score (0.10), Site Suitability Multiplier (1.07), and acreage of enhancement (36.34), the functional lift associated with enhancing Area D-mid is 3.89 redits. When divided by the time lag and risk factor (1.54), the total number of credits generated is 2.52. Appendix D contains the culvert design specifications, including signed and sealed plan and cross-section views of a typical culvert and the large replacement culvert.

3.1.2 AREA D-NORTH ENHANCEMENT

This red mangrove-dominated wetland historically was connected to Biscayne Bay through the tidal influences of two creeks. The northern most creek has been reconnected with the installation of a culvert through the access roadway. The second southern tidal creek is still cut off from the flushing of saline water derived from Biscayne Bay. The result is slightly elevated chloride levels that may diminish the historic functions of this assessment area. It has been scored using W.A.T.E.R. and received a functional score of 0.79 and a site suitability score of 1.07. Placing a culvert within the footprint location of the southern tidal creek would complete a cycle of flushing for this area and therefore would reduce the isolation and elevated chloride levels (Figure 7). Following the culvert installation, the W.A.T.E.R. functional score can be expected to increase to 0.86. Utilizing the assessment acreage (13.95), lift per acre (0.07), and Site Suitability Multiplier, this mitigation activity would generate 1.04 mitigation credits. This lift can be attributed to the increased health of the dwarf red mangrove and the subsequent increase of forage fish and macroinvertebrates, which

should also promote increased utilization by wading birds. When divided by the time lag and risk factor, a total of 0.67 credits are generated through hydrologic enhancement of area D-north.

3.1.3 RESTORATION/ENHANCEMENT OF TEST COOLING CANAL BERMS

To the southwest of the Project Area are located a series of five upland spoil deposit berms (ribs) and canals constructed in the late 1960s early 1970s as a pilot program testing the efficiency of cooling canals. The upland ribs are dominated by the exotic species Australian pine (*Casuarina equisetifolia*), which provide a seed source for the infestation of other natural areas (Figure 8). FPL proposes to remove the exotic Australian pine and spoil berm from the easternmost two ribs (Ribs 1 and 2) to an elevation 4 inches above the seasonal high-water elevation. This elevation would remain saturated during the rainy season and allow native wetland species to be planted, such as buttonwood (*Conocarpus erectus*) and white mangrove (*Laguncularia racemosa*). Following removal of exotics, topographical grading, and planting, the area would be monitored for a period of 5 years to ensure survival of native wetland species and the successful removal of exotic species (Figures 8, 9, and 10). The acreage of the two upland spoil pile ribs totals 5.6 acres, with a current W.A.T.E.R. functional assessment score of 0 and Site Suitability Multiplier of 1.05. It can be reasonably expected that the area's function may attain a functional score of 0.78 after 5 years of maintenance and growth. Therefore, this restoration activity may contribute an additional 4.59 credits of mitigation to offset impacts associated with the expansion project. When divided by the time lag and risk factor (1.71), the creation of wetland habitat upon Ribs 1 and 2 will generate 2.68 credits of mitigation.

Additional enhancement activities proposed within the test cooling canal berms (Ribs) are designed to benefit the federally-endangered American Crocodile (*Crocodylus acutus*) and the Eastern Indigo Snake (*Drymarchon corais couperi*), as well as provide additional wetland functional lift. Ribs 3 and 4 are to be enhanced to provide additional suitable habitat for the crocodile, while the westernmost Rib 5 would be enhanced to improve habitat suitability for the Eastern indigo snake (Figures 8 and 10). In both cases, upland areas will be restored through eradication of exotic species and maintenance to discourage proliferation of nuisance/exotic vegetation.

Following removal of Australian pine, Ribs 3 and 4 will be graded to include depressional wetland areas that would provide freshwater refugia for juvenile crocodiles. Creation of freshwater refugia upon the test cooling canal berms will provide juvenile crocodiles with suitable habitat for avoidance

of hypersaline water found in the cooling canal system as well as aid in reduction of predation during their early life stages. Ribs 3 and 4 comprise a total of 6.3 acres, 1.35 of which are proposed to be graded as depressional wetlands. It can be conservatively estimated that the created freshwater wetlands may reach a W.A.T.E.R. functional assessment score of 0.45, which when multiplied by the acreage (1.35) and Site Suitability Multiplier (1.05), would generate 0.64 credits of mitigation. When divided by the time lag and risk factor (1.605), the resultant number of mitigation credits generated is 0.40.

To improve conditions for the Eastern indigo snake, Rib 5 would be cleared of exotics and allowed to re-vegetate naturally from the seed bank to provide upland habitat suitable for the indigo snake. Exotic species maintenance would be conducted to eradicate any re-growth of nuisance and/or exotics within all five of the test cooling canal berms. The improvement of adjacent upland habitats through removal of exotic species benefits adjacent wetlands through enhancement of fish and wildlife habitat and increases their overall functional value. Rib 5 contains 3.1 acres of uplands, while Ribs 3 and 4 would be designed with 4.95 acres of restored uplands. Using a W.A.T.E.R. functional lift score of 0.25 for enhancement of upland habitat adjacent to wetlands, the total acreage of restored uplands (8.05), and the Site Suitability Multiplier (1.05), a total of 2.1 credits of mitigation may be generated through upland restoration. Application of the upland restoration factor (3) and time lag and risk factor (1.71) results in a total of 0.41 mitigation credits generated through upland restoration.

3.1.4 SCOUT LAGOON CREATION

Creation of the lagoon within the Girl Scout camp area of the Red Barn peninsula, a filled upland area previously utilized for public recreation, would be achieved through excavation of uplands at the northwestern tip of the Red Barn peninsula (Figure 13). This "Scout Lagoon" would be designed to connect with the historic tidal creek located immediately west of the upland peninsula at the northwestern and southwestern edges of the newly created lagoon, which would provide tidal flushing and wildlife access through the open water habitat. An important aspect of the Area A lagoon is that it provides 2,958 lf of shoreline. The Scout Lagoon and Green Creek connection would provide 2,560 lf of shoreline, nearly identical to the amount currently existing within the Area A lagoon, with greatly reduced wetland impact.

In addition to maintaining the tidal connection with Biscayne Bay and providing a similar amount of shoreline habitat, sediments will be transplanted from the existing lagoon and the Scout Lagoon will be planted with seagrasses to replace the loss of 1.2 acres of seagrass associated with the existing Area A lagoon. Detailed information regarding the construction and planting of the Scout Lagoon is included in Appendix B.

Using the acreage of created lagoon (1.07), an initial W.A.T.E.R. functional assessment score of 0, a post-development W.A.T.E.R. functional assessment score of 0.80, and site suitability multiplier (1.07), the resulting number of mitigation credits generated through creation of the Scout Lagoon is 0.92. When divided by the time lag and risk adjustment factor (2.85), the resultant number of credits is 0.32.

3.1.5 TIME LAG AND RISK

Additional mitigation credits have been calculated to address time lag and risk associated with the proposed creation, enhancement, and restoration activities. The time lag associated with mitigation activities addresses the period of time between when the functions are lost at an impact site and when those functions are replaced through mitigation. Wetland creation generally has a greater time lag to establish certain wetland functions than most enhancement activities. The time lag, in years, is used to determine the time lag factor (T-factor) to reflect the additional mitigation needed to account for the delay in replacement of wetland functions. Mitigation risk accounts for the degree of uncertainty that the proposed mitigation activity will achieve the proposed conditions. Typically, mitigation projects which require longer periods of time to replace lost functions are considered to have a higher risk. Risk is scored on a scale from 1 (*de minimus* risk) to 3 (high risk). Time lag and risk factors for the proposed mitigation activities are discussed below. Offsite mitigation through the purchase of credits from the EMB already incorporates time lag and risk in the calculation of credits available for purchase. Similarly, the preservation of wetland acreage adjacent to the BNP does not include significant risk or lag time.

Area D Hydrologic Enhancement

The time lag and risk factor for the hydrologic enhancement of Area D was calculated to be 1.545. The T-factor is 1.03, based upon a 2-year lag between installation of the culverts and realization of the functional lift associated with amelioration of hypersaline conditions, an increase in tidal flushing

and connectivity with Biscayne Bay, and the resultant increase in mangrove biomass. The risk factor is 1.5, due to the low probability of enhancement failure.

Test Cooling Canal Berm Wetland Creation

The time lag and risk factor for the creation of wetlands upon the upland Test cooling Canal Berms 1 and 2 was determined to be 1.71. The T-factor is 1.14, based upon a 5-year lag between topographic grading and installation of wetland shrubs and realization of the functional lift. The risk factor is 1.5, due to the high probability of successful wetland shrub habitat creation within the surrounding test cooling canals.

The time lag and risk factor for the creation of wetland refugia for the American crocodile juveniles upon Test Cooling Canal Berms 3 and 4 was determined to be 1.605. The T-factor is 3 years, based upon the lack of wetland plantings. The freshwater refugia are designed to maximize open water areas, and will be allowed to vegetate with naturally-recruited herbaceous species. Periodic removal of exotic and non-desirable species will be conducted as necessary. The risk factor was determined to be 1.5.

Test cooling Canal Berm Upland Restoration

The time lag and risk factor for the upland restoration of Test Cooling Canal Berms 3, 4, and 5 was calculated to be 1.71. The T-factor is 1.14, based upon a 5-year lag between topographic grading and realization of the functional lift. No vegetative plantings are proposed, but the area will be allowed to naturally revegetate with desirable upland species. Periodic exotic and nuisance species removal will be conducted to maintain the habitat. The risk factor is 1.5, due to the relatively high probability of successful upland habitat creation upon the Test Cooling Canal Berms. Application of the upland to wetland conversion ratio (3:1) was utilized to calculate the overall credits generated through upland restoration.

Scout Lagoon Creation

The time lag and risk factor for the creation of the Scout Lagoon was calculated to be 2.85. The T-factor is 1.14, based upon a 5-year lag between creation of the lagoon and realization of the functional lift. The risk factor is 2.5, due to the potential difficulty in creation of the lagoon and installation of seagrasses within an area that is currently upland habitat.

3.1.6 ONSITE MITIGATION SUMMARY

The cumulative lift generated from the hydrologic improvements to undisturbed wetlands onsite, restoration of the Test Cooling Canal Berms, and creation of the Scout Lagoon is 7 credits. This amount of onsite mitigation equals 29 percent of the total mitigation requirements remaining onsite and within the same drainage basin. The remaining mitigation credits (17.16) would be acquired through offsite mitigation activities, including preservation of the mangrove habitat adjacent to the BNP north of the Project Area and purchase of mitigation credits from the EMB, Phases 1 and 2.

Onsite Mitigation Summary

Area	Acreage	Pre-mitigation W.A.T.E.R. Score	Post-mitigation W.A.T.E.R. Score	Site Suitability Multiplier	Time Lag and Risk	Credits Generated Through Onsite Mitigation
D-mid	36.34	0.76	0.86	1.07	1.54	2.52
D-north	13.95	0.79	0.86	1.07	1.54	0.67
Australian Pine Ribs 1 and 2	5.6	0	0.75	1.05	1.71	2.68
Australian Pine Ribs 3 & 4 - Wetland Creation	1.35	0	0.45	1.05	1.605	0.40
Australian Pine Ribs 3, 4 and 5 - Upland Restoration	8.05	0	0.25	1.05	5.12	0.41
Scout Lagoon Re-creation (Red Barn Area)	1.07	0	0.80	1.07	2.85	0.32
TOTAL	66.36					7

3.2 OFFSITE MITIGATION – TRANSFER OF MANGROVE-DOMINATED PROPERTY ADJACENT TO BNP

FPL-owned property adjacent to the transmission line corridor along the L-31E Levee north of the Project Area contains mangrove wetlands adjacent to the BNP boundary. FPL proposes to transfer 307.86 acres of mangrove-dominated property for preservation, 260.36 acres west of the L-31E Levee to SFWMD, and 47.5 acres east of the levee to the BNP (Figures 14A through C). The preservation of these mangroves would allow for potential additional benefit with regard to the overall regional restoration plans in the CERP, including re-establishment of historical freshwater sheetflow to estuarine areas. The transfer of property also provides a buffer to BNP against encroachment from future development.

The number of mitigation credits generated for wetland preservation through transfer of these areas to the public trust was calculated utilizing the Environmental Resource Permitting (ERP) Basis of Review mitigation ratios, FDEP's UMAM protocol, and EMB's W.A.T.E.R. functional assessment. For each assessment method, the criteria for the calculation of mitigation credits generated through preservation are described below:

3.2.1 ERP BASIS OF REVIEW (PRESERVATION)

When considering preservation as mitigation, the following factors were considered to determine whether the preservation parcel would offset the proposed impacts and to determine the appropriate mitigation ratio:

1. The reduction in quality and relative value of the functions of the areas adversely impacted, including the factors listed in the Preservation subsection of the ERP Basis of Review, as compared to the quality and value of the functions of the area to be reserved and the additional protection provided to these functions by the proposed preservation. Factors used in determining this additional level of protection include the extent and likelihood that the land to be preserved would be adversely impacted if it were not preserved, considering the protection provided by existing regulations and land use restrictions.
2. Any special designation or classification of the affected area.
3. The presence and abundance of nuisance and exotic plants within the area to be adversely impacted.
4. The ecological and hydrological relationship between wetlands, other surface waters, and uplands to be preserved.
5. The extent to which proposed management activities on the area to be preserved promote natural ecological conditions, such as natural fire patterns.
6. The proximity of the area to be preserved to areas of national, state, or regional ecological significance, such as national or state parks, Outstanding Florida Waters, and other regionally significant ecological resources or habitats, such as lands acquired or to be acquired through governmental or non-profit land acquisition programs for environmental conservation, and whether the areas to be preserved include corridors between these habitats.
7. The extent to which the preserved area provides habitat for fish and wildlife, especially listed species.
8. Any special designation or classification of the area to be preserved.

9. The extent of invasion of nuisance and exotic species within the area to be preserved.

Wetland and other surface water preservation ratios: Since wetlands and other surface waters are, to a large extent, protected by existing regulations, the ratio guideline for preservation of wetlands and other surface waters is substantially higher than for restoration and creation. The ratio guideline for wetland and other surface water preservation ranges between 10:1 and 60:1, (acreage of wetlands and other surface waters preserved to acreage of wetlands impacted).

Therefore, with the ERP Basis of Review criteria in consideration, the ratio for the 260.36 acres located west of the L-31E Levee is 50:1 as the wetland to be preserved falls into the below average level within the prescribed range due to the presence of exotic plants, most notably Australian pine, as a component of its makeup. The 47.5-acre saline based wetland to the east of the L-31E Levee has an important role in the health of Biscayne Bay, contains a diversity of mangrove species within the habitat, and is essentially free of exotic species; therefore, a ratio of 15:1 is appropriate using the ERP Basis of Review ratios. Utilizing the ERP Basis of Review mitigation ratios, the 307.86 acres of mangrove dominated property would generate a total of 8.37 credits, 3.17 credits for the 47.5 acres of high quality mangroves east of the transmission line corridor (15:1 ratio) and 5.2 credits for 260.36 acres of mangroves located west of the transmission line corridor that contain a greater amount of the exotic species Australian pine (50:1 ratio).

3.2.2 UMAM

Effective February 2004, the State of Florida has adopted a new method of assigning credits utilizing a functional assessment method termed Uniform Mitigation Assessment Methodology (UMAM). To quantify mitigation credits generated through preservation, the following criteria were utilized, as outlined in Section 62-345.500 Assessment and Scoring – Part 11:

- (1)(a) ...in the case of preservation mitigation, without preservation....
- (3)(a) When assessing preservation, the “with mitigation” assessment shall consider the potential of the assessment area to perform current functions in the long term, considering the protection mechanism proposed, and the “with preservation” assessment shall evaluate the assessment area’s functions considering the extent and likelihood of what activities would occur if it were not preserved, the temporary or permanent effects of those activities, and the protection provided by existing

easements, restrictive covenants, or state, federal, and local rules, ordinances and regulations. The gain in ecological value is determined by the mathematical differences between the Part 11 scores for the “with mitigation” and “without preservation” (the delta) multiplied by a preservation adjustment factor. The preservation adjustment factor shall be scored on a scale from 0 (no preservation value) to 1 (optimal preservation value), using one-tenth increments. The score shall be assigned based on the applicability and relative significance of the following considerations:

1. The extent to which proposed management activities within the preserve area promote natural ecological conditions such as fire patterns or the exclusion of invasive exotic species.
2. The ecological and hydrological relationship between wetlands, other surface waters and uplands to be preserved.
3. The scarcity of the habitat provided by the proposed preservation area and the degree to which listed species use the area.
4. The proximity of the area to be preserved to areas of national, state, or regional ecological significance, such as national or state parks, Outstanding Florida Waters, and other regionally significant ecological resources or habitats, such as lands acquired or to be acquired through governmental or non-profit land acquisition programs for environmental conservation, and whether the areas to be preserved include corridors between these habitats.
5. The extent and likelihood of potential adverse impacts if the assessment area were not preserved.

(3)(b) The preservation adjustment factor is multiplied by the mitigation delta assigned to the preservation proposal to yield an adjusted mitigation delta for preservation.

Following the UMAM assessment procedure and using the above criteria to assess the preservation of mangrove wetlands, a delta of 0.10 was assigned, based on the difference in functional value between the “with preservation” and “without preservation” scenarios. For the mangrove wetlands west of the L-31E Levee, the number of preservation credits is calculated by multiplying the acreage (260.36) by the delta (0.10), which then is multiplied by the preservation adjustment factor of 0.7 to yield 18.20 adjusted credits. This value is then divided by the appropriate risk factor (1.5) to

generate 12.13 total credits of mitigation for preservation of 260.36 acres transferred to the public trust. For the mangroves located east of the L-31E Levee, a delta of 0.07 may be expected, which when multiplied by the acreage and the preservation adjustment factor (0.9), yields 2.99 adjusted credits. Division of adjusted credits by the risk factor (1.50) results in a total of 1.99 credits for the preservation of 47.5 acres of mangroves. As calculated using UMAM, 14.12 credits would be generated through the transfer of 307.86 acres of mangrove-dominated property for preservation (Appendix C).

3.2.3 W.A.T.E.R.

Although the EMB W.A.T.E.R. protocol does not specifically address the value in credits resulting from preservation, a comparison of the expected “with preservation” and the existing “without preservation” functional assessment scores can be used to calculate mitigation credits generated through transfer of mangroves for preservation. The existing “without preservation” W.A.T.E.R. scores for the mangroves west and east of the corridor are 0.62 and 0.70, respectively, while in both cases the “with preservation” scores increased by 0.05, to 0.67 and 0.75, respectively. Using the assessment acreage (260.36 west, 47.5 east), lift per acre (0.05), and Site Suitability Multiplier (1.07 for east, 1.05 for west), a total of 16.19 credits are generated through preservation (see Appendix C).

3.2.4 PRESERVATION ASSESSMENT SUMMARY – MANGROVE-DOMINATED PROPERTY

The three mitigation assessment methodologies yield between 8.37 and 16.19 credits through transfer and preservation of mangrove dominated property adjacent to the FPL transmission line corridor and the L-31E Levee (Figures 14A through C). Although the entire 307.86-acres of property would generate 14.12 credits of mitigation according to UMAM or 16.19 credits according to W.A.T.E.R., it is proposed that the most conservative credit calculation be utilized, specifically the ERP Basis of Review ratios. Therefore, the transfer and preservation of this land would account for 8.37 credits of mitigation to offset Project impacts.

3.2.5 OFFSITE MITIGATION – PURCHASE OF CREDITS FROM THE EVERGLADES MITIGATION BANK

Onsite mitigation activities would generate 7 credits, while the transfer of mangrove-dominated property adjacent to the BNP for preservation would contribute an additional 8.37. An additional 8.99 credits would be purchased from the EMB to provide a total of 24.36 credits, or 0.20 more than

needed to fulfill mitigation requirements. A mosaic of habitats have been enhanced within the EMB, including the creation of Essential Fish Habitat within the eastern coastal area adjacent to Card Sound, reconnection of tidal creeks' freshwater headwaters to benefit hypersaline mangrove parcels, and removal of berms and roads that have isolated parcels of historically contiguous mangrove wetlands. The EMB is within the same watershed as the Project Area. Keeping the mitigation within the same watershed to retain lost function is a concept that minimizes the effects of cumulative impacts. The restoration work of the EMB would be protected from future development pressure by a conservation easement and a perpetual maintenance fund ensures oversight. Enhancement and restoration associated with 8.99 credits of impact shall require approximately 63 acres of restored wetlands within the EMB.

3.3 MITIGATION SUMMARY

Area/ Activity	Acreage	Pre-mitigation W.A.T.E.R. Score	Post-mitigation W.A.T.E.R. Score	Site Suitability Multiplier	Lift per Acre	Mitigation Credits Generated
Onsite						
D-mid	36.34	0.76	0.86	1.07	0.10	2.52*
D-north	13.95	0.79	0.86	1.07	0.07	0.67*
Australian Pine Ribs 1 and 2	5.6	0	0.75	1.05	0.75	2.68*
Australian Pine Ribs 3 & 4 -Wetland Creation	1.35	0	0.45	1.05	0.45	0.40*
Australian Pine Ribs 3, 4 and 5 -Upland Restoration	8.05	0	0.25	1.05	0.25	0.41*
Scout Lagoon Re-creation	1.07	0	0.80	1.07	0.80	0.32*
Offsite						
Property Preservation Transfer - East	47.5	NA	NA	NA	0.0667	3.17
Property Preservation Transfer - West	260.36	NA	NA	NA	0.02	5.2
Purchase from EMB	63	NA	NA	NA	0.118	8.99
TOTAL	437					24.36

* Incorporates time lag and risk factors

3.4 ADDITIONAL ONSITE ENHANCEMENT ACTIVITIES

The mitigation plan will fulfill the required credits to offset wetland impacts as described above. FPL will continue to conduct additional onsite enhancement activities to further increase the value of the habitat surrounding the completed Expansion Project. These activities would include hydrologic

enhancement of undisturbed Area C located southwest of the power block, planting native vegetation within the upland Girl Scout camp area, and restoration of the majority of the acreage utilized for construction parking and laydown in Area D-west upon completion of the Project. These additional site improvements are proposed to increase the ecological value and function of the area surrounding the Project Area following construction which would provide improved habitat for the American crocodile, the Eastern indigo snake and various other listed species. Although not proposed to be offered as mitigation to offset wetland impacts, a total of 5.62 credits of functional lift may be realized through these additional onsite enhancement activities. When combined with the onsite mitigation activities described above (hydrologic enhancement, test cooling canal wetland creation and upland restoration), a total of 12.62 credits of onsite mitigation would be generated, only 7 of which are being proposed for offsetting wetland impacts associated with the Project. The additional onsite enhancement activities are described in the following sections.

3.4.1 AREA C ENHANCEMENT

Area C, previously designated as the location of a proposed stormwater pond, would not be disturbed in association with the Project. However, the entire 28.24-acre parcel is receiving water through a single culvert on the eastern edge of the wetland. This culvert connects Areas A and C through a small tidal creek tributary that flows into the artificially-created lagoon and continues southwest to Area C. A portion of this tidal creek flows through Area A, which is to be impacted for location of the power block. The tidal creek connection is proposed to be maintained through re-creation of the channel on the western edge of the power block. To ensure unimpeded flow of the tidal creek towards Area C, a culvert would be placed under the temporary plant access road within Area D-east, and the existing culvert underneath the main plant access road would be enlarged. To add an extra level of assurance that Area C would not be adversely impacted, an additional culvert would be placed in the northwestern corner of Area C to increase tidal flushing and connectivity with Biscayne Bay (Figure 7). The installation of this additional tidally connected culvert will restore seagrass habitat to 0.48 acre of the western portion of Area C.

For the assessment of functional qualities, Wetland C contains two assessment areas. The wetland is surrounded by access roads and is isolated from Biscayne Bay with the exception of one small culvert that retains connection to the tidal creek flowing under the plant access road from the Area A lagoon. The culvert connection is situated in the extreme eastern most point of this wetland area, and is inadequate to flush the entire area. For this reason the wetland may easily be subdivided into

an east and a west half. Wetland C-west is a saline based mangrove marsh that is so removed from the historic effects of its tidal creek that there are freshwater plants growing between the dwarf red mangroves. Wetland C-east is a saline based mangrove marsh that is connected to the historic tidal creek and maintains the dwarf red mangroves and Widgeon seagrass living within this system. Proposed enhancement activities include enlargement of the existing culvert in Wetland C-east and installation of an additional culvert in the northwest corner of Wetland C-west. The existing W.A.T.E.R. scores for Area C-east and C-west are 0.78 and 0.71, respectively. It can be conservatively estimated that upon installation of culverts, the hydrologic improvements would result in W.A.T.E.R. functional assessment scores of 0.80 and 0.78 for Areas C-east and C-west, respectively, which when multiplied by the acreage (C-east = 11.47, C-west = 16.77) and Site Suitability Multiplier (1.06), would generate 1.48 credits of mitigation. Additional lift will be realized for Area C-west with the expansion of the Widgeon seagrass beds from Area C-east into Area C-west. A minimum of 0.48 acre of this 16.77-acre assessment area will become colonized by year 5 from commencement of installation of the enlarged culvert in the south and the new culvert in the north. The enhancement of Area C is not being proposed to generate additional mitigation credits, but in an effort to increase the interconnection between all mangrove parcels and improve tidal flushing in the vicinity of the Expansion Project. These enhancements would also improve the habitat for the American crocodile juveniles and various other listed avian and fish species. This area currently supports seagrass habitat which would be further enhanced through these activities.

3.4.2 AREA D REPLANTING

Following completion of construction, the fill material used to create laydown and parking areas and the temporary access road in Areas D-west and D-east would be removed, the area would be graded similar to pre-construction elevation, and red mangroves would be planted to replace 4.57 of impacted mangrove marsh within Area D-west and 0.77 acre within Area D-east. Although only 2.20 acres would be permanently impacted for parking areas, FPL is prepared to mitigate for the permanent loss of the entire construction parking and laydown area, and would expend resources to restore the majority of Area D-west following the completion of construction to improve the quality of habitat surrounding the Expansion Project. Following replanting, an additional culvert would be installed through the patrol road between Areas D-east and D-west to improve flushing and connectivity with Biscayne Bay, which should promote mangrove growth (Figure 11). Although no mitigation credit is being requested for the restoration of Area D-west, it can be reasonably assumed that after 5 years of growth, the replanted mangrove marsh would provide wetland functions

equivalent to a W.A.T.E.R. score of 0.68, which when multiplied by the acreage to be replanted (5.34) and Site Suitability Multiplier (1.06), would generate 3.85 credits of mitigation.

3.4.3 RED BARN TREE PRESERVE

Following completion of construction, 0.905 acres of the Red Barn peninsula area are to be planted with native tropical hammock tree species (Figure 13). To obtain suitable growing conditions, the existing limerock-dominated surface would be removed, and the area amended with suitable substrate from impacted mangrove wetlands. Following successful installation and 5 years of growth, it can be conservatively assumed that the area would possess wetland functional values equivalent to a W.A.T.E.R. score of 0.30, which when multiplied by the acreage (0.905) and Site Suitability Multiplier (1.07), should generate 0.29 credits of mitigation.

3.5 SUCCESS CRITERIA

FPL is responsible for implementing the mitigation and monitoring of the Turkey Point Expansion Project Mitigation Plan contained herein. The success criteria that will be used to judge the success of the mitigation activities is described in Appendix E, Mitigation Success Criteria. The document includes information about the success criteria. It also includes details about the re-vegetation process to be implemented and the monitoring, maintenance, and reporting requirements aimed at ensuring and monitoring the success of the mitigation.

3.6 LONG TERM ASSURANCE

3.6.1 FINANCIAL ASSURANCES

FPL is committed to the implementation of the Mitigation Plan described in this document and takes responsibility for the any risk of loss or damages associated with the Plan. FPL is fully capable and committed to the financial and legal obligations associated with the Plan and provided assurances that will meet those obligations in the commitment letter to the ACOE dated December 15, 2004 (attached in Appendix F). The ACOE has subsequently accepted this financial commitment.

3.6.2 PRESERVATION

FPL is committed to the long-term protection of the designated Preserve Areas as a result of the Mitigation Plan. Specifically, Scout Lagoon, the Test Cooling Canals, Area D-Mid, and Area D-North will be preserved in perpetuity as required by ACOE, FDEP, and DERM. The Conditions of Site Certification specify this requirement. In addition, a restrictive covenant (deed

restriction) will be recorded on the deed to the FPL Turkey Point property that will include a legal description of the Preserve Areas and specifically address the protections that will be afforded these areas. A draft of the deed restriction will be submitted for approval by the ACOE within 30 days of receipt of the 404 Permit [reference #2004-813 (IP-KBH)]. The deed restriction will be recorded in the public records of Miami-Dade County, Florida, within 60 days of receipt of the ACOE approval of the deed restriction. Copies of the public recording will be forwarded to the ACOE after recording. The deed restriction will assure that land encumbered by it is maintained in perpetuity predominantly in the vegetative and hydrologic condition as described in this Mitigation Plan.

The restricted area will be maintained in perpetuity by FPL, its heirs, successors, or assigns in the enhanced, restored, preserved, and/or created conditions specified in this Mitigation Plan. The restriction will run with the land and bind the successors and assigns of FPL and run to the benefit of the ACOE and its successors and assigns. Any deed conveyance of the land encumbered by it will include a recitation of the recording information pertaining to the recorded Declaration, which can only be released by a written instrument executed by both FPL and the ACOE that is recorded in the public records of the County. Likewise, any modification to the Declaration will also require a written instrument executed by FPL and the ACOE that is recorded in the public records of Miami-Dade County, Florida.

4.0 CONCLUSION

Mitigation for unavoidable wetland impacts is a multi-level, complicated process designed to protect and replace the functional attributes of Florida's coastal wetlands. The mitigation package as proposed has assigned a value to the saline based mangrove wetlands and determined that 29 percent of the functional values the impacted saline marsh provides would be retained within the immediate area. By concentrating on mitigation within the immediate area that promotes and increases the health and productivity of the red mangroves, the proposed mitigation plan protects the areas' tidal creeks. The increased flushing brought to so many mangroves through the installation of the culverts should retain the level of mangrove leaf detritus production that enters the tidal creeks and the Bay. The wildlife that depends on that food web would therefore be sustained and not suffer from reduced input. Keeping the remaining functions within the same watershed would protect the integrity of the system as a whole. The EMB is providing ecological lift on an extremely large scale. Mitigation activities that are notable with regard to the EMB project include the planting of thousands of red mangroves within the footprint of former roadways and berms, hydrologic enhancement through re-establishment of freshwater inputs, enhancement of isolated parcels of mangroves through removal of berms and roads, and creation of suitable nesting and juvenile refugia habitat for the American crocodile.

Wetland direct impacts and secondary impacts associated with the construction of the Project require 24.16 mitigation credits. There would be 7 mitigation credits of functional enhancement performed by FPL within the immediate area, representing approximately 66.36 acres of wetland creation, enhancement, and restoration. The transfer and preservation of 307.86 acres of mangrove dominated property adjacent to BNP would generate an additional 8.37 credits of mitigation. There shall also be 8.99 credits purchased from the EMB. These credits equal approximately 63 acres of restored saline wetlands within the EMB that would be preserved in perpetuity. The total mitigation package includes over 430 acres of enhanced, restored, or preserved wetlands, representing 24.36 credits, offered to offset the 24.32 acres of direct impact. Additional wetland enhancement activities would be conducted onsite to further increase the functional value of the surrounding area, which may be expected to generate an additional 5.62 credits above and beyond that which is required to offset impacts. These extra activities are not included in the accounting for Project mitigation credits.

FPL's avoidance and minimization efforts have resulted in significant revisions to the Project design, which has reduced direct wetland impacts from 36.94 to 24.32 acres. The restoration of temporary construction laydown areas and the temporary entrance road (5.34 acres) results in a total of 18.98 acres of permanent impacts. In addition to the mitigation package, FPL will pursue additional onsite enhancement to increase the quality of habitats surrounding the Project. These enhancements further support the American crocodile, essential fish habitat, and native seagrasses as well as many other listed species of wildlife. The mitigation package and additional enhancement activities represent a commitment to offset unavoidable wetland impacts while still providing the generation capacity required to fulfill the electric power demand forecasted within the densely populated South Florida urban landscape.

FIGURES



Initial Concept (8/03)
40 Acre Wetland Impact



Dredge & Fill Application and Site Certification Application Submittal (11/14/03)
37 Acre Wetland Impact (Seagrass Avoidance)




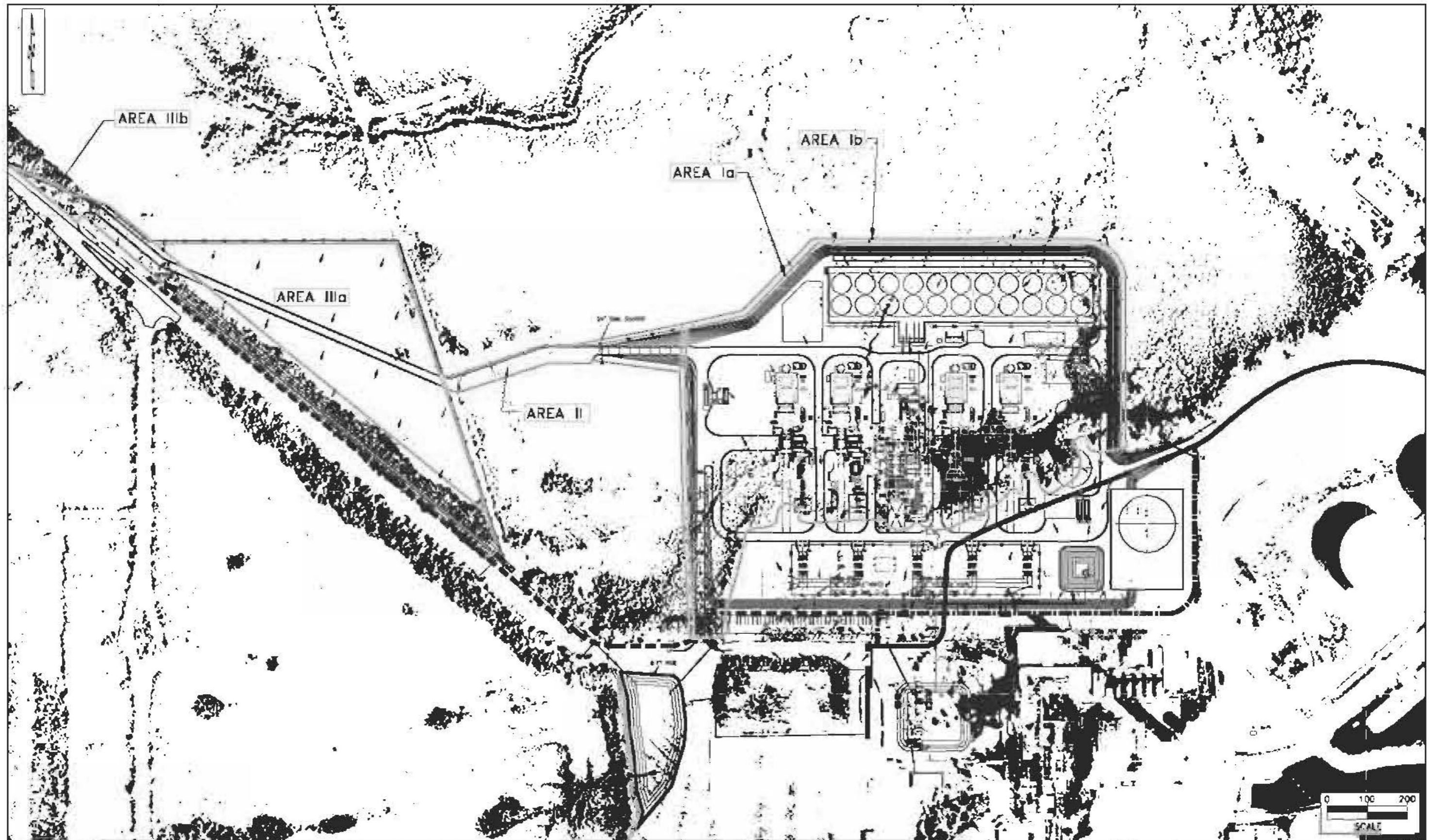
Prior to Dredge & Fill Application and Site Certification Application Submittal (9/03)
37-Acre Wetland Impact



CURRENT CONCEPT (4/01/04)
24-Acre Wetland Impact (5 Acres to be Restored)

FIGURE 1

	N/A MTS D(24"X36")	CS 0-100 Compaction N/A	TURKEY POINT EXPANSION PROJECT WETLAND IMPACT SITING PROCESS
	1 OF 1		0



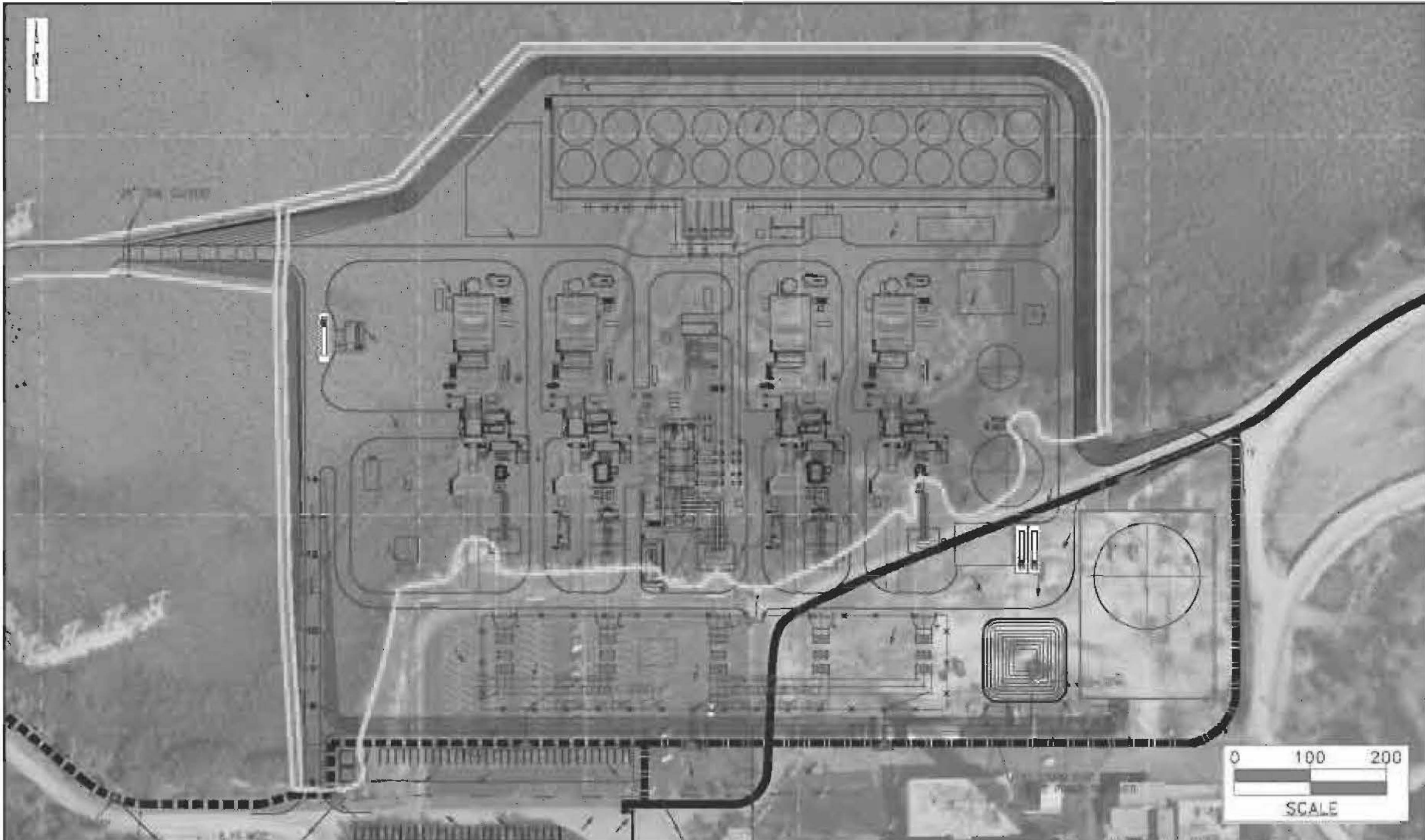
WETLAND IMPACT AREA

AREA I_a PLANT SITE = 15.75 ACRES
 AREA I_b PLANT SITE = 16.34 ACRES
 AREA II ROAD = 0.77 ACRES
 AREA III (TEMPORARY) LAYDOWN AREA = 4.57 ACRES
 AREA III (PERMANENT) LAYDOWN AREA = 2.02 ACRES
 TOTAL FOR III a & III b = 6.59 ACRES

**FIGURE 2
FINAL PROJECT DESIGN-
OVERALL VIEW**



DATE	REVISED	PROJECT	TURKEY POINT
N/A	CS		
SCALE	DATE	BY	
See Dwg	11/17/00		
DRAWN BY	PL. CHECK. DATE		
0(247357)	N/A		
PROJECT NUMBER			REV.
SK-TPF-EXP-015			1 OF 1



WETLAND IMPACT AREA
 AREA 1a PLANT SITE = 10.11 ACRES
 AREA 1b PLANT SITE = 16.89 ACRES
 AREA 1 ROAD = 0.77 ACRES
 AREA 1c (TEMPORARY) LAYDOWN AREA = 8.07 ACRES
 AREA 1d (PERMANENT) LAYDOWN AREA = 2.02 ACRES
 TOTAL FOR 1a & 1b = 27.00 ACRES

FIGURE 3
FINAL PROJECT DESIGN-EAST

1	REVISION	DATE	BY	CHK



OWNER	N/A	DESIGNER	CS	PROJECT	TURKEY POINT
SCALE	See Dwg	DATE OF WORK	04/10/03	PROJECT NO.	WETLAND IMPACT
DRAWN BY	D(247357)	DATE OF WORK	N/A		
PROJECT NAME				SK-TPF-EXP-015	REV
				1 OF 1	1



WETLAND IMPACT AREA
 AREA 1a PLANT SITE = 15.25 ACRES
 AREA 1b PLANT SITE = 18.58 ACRES
 AREA B ROAD = 0.17 ACRES
 AREA 2a (TEMPORARY) LAYDOWN AREA = 4.37 ACRES
 AREA 2b (PERMANENT) LAYDOWN AREA = 2.02 ACRES
 TOTAL FOR 2a & 2b = 6.39 ACRES

**FIGURE 4
 FINAL PROJECT DESIGN-WEST**




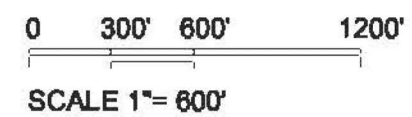
 FPL	TITLE N/A	REGION CS	FACILITY TURKEY POINT
	DATE Sec Dwg	JOB # 4-700	WETLAND IMPACT
NUMBER OF SHEETS 0 (24"x36")	PER. REVIEW DATE N/A	SHEET 1 OF 1	
PROJECT NUMBER SK-TPF-EXP-015			REV 1



FIGURE 5.

TURKEY POINT EXPANSION PROJECT
MITIGATION PLAN
WETLAND IDENTIFICATION MAP



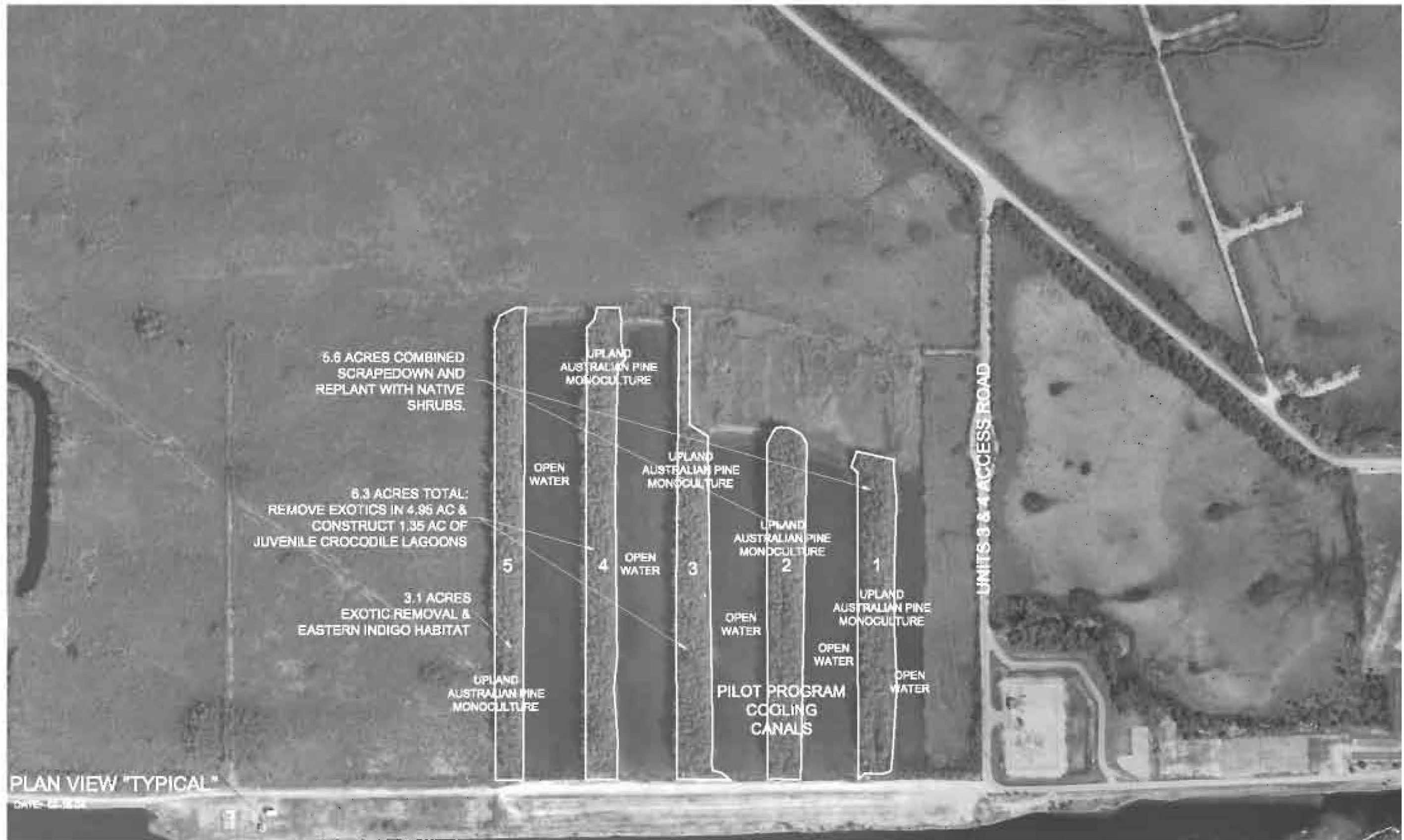
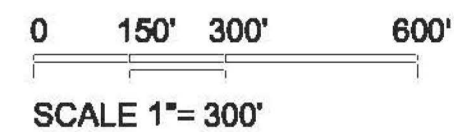
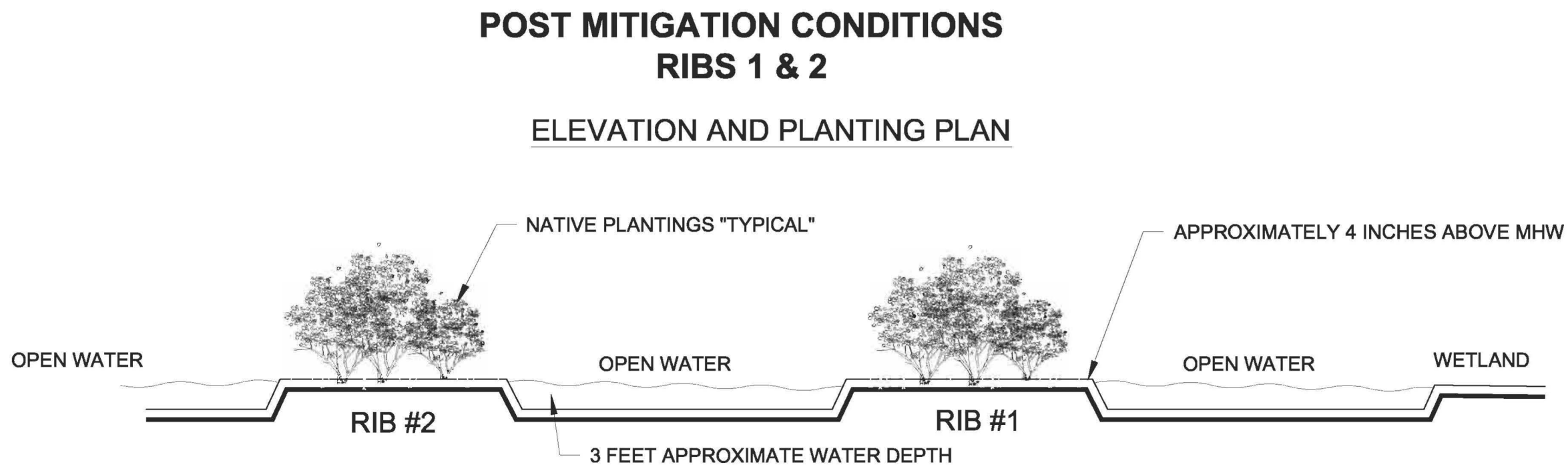
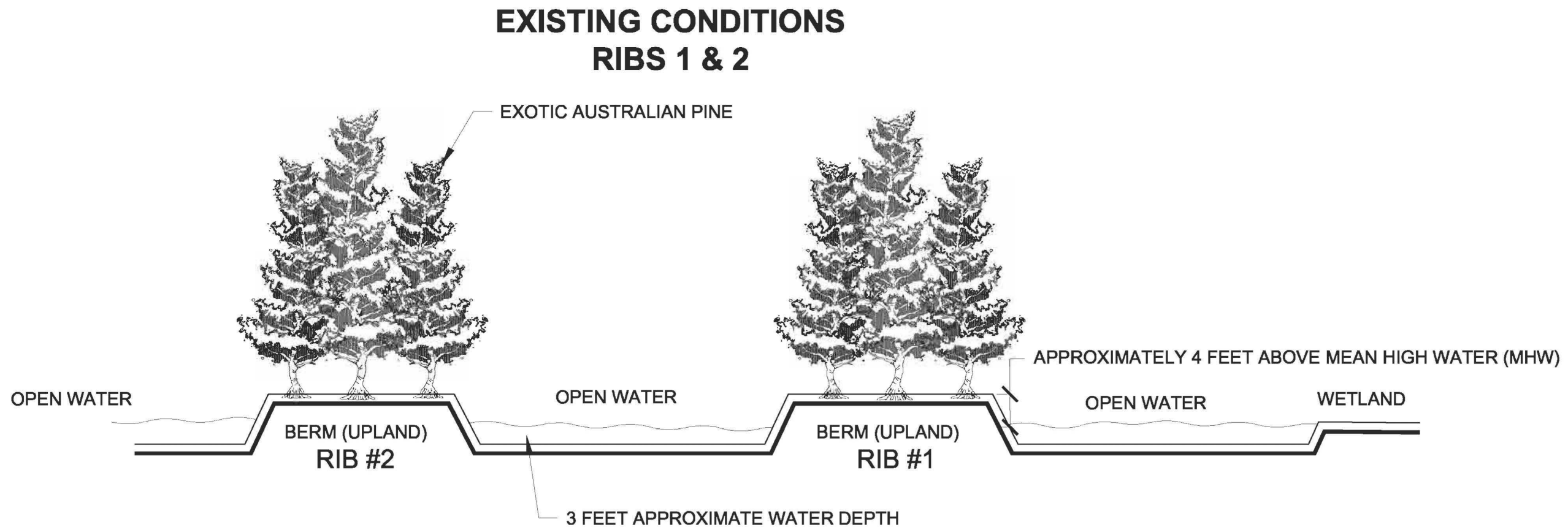


FIGURE 8.

TURKEY POINT EXPANSION PROJECT
TEST COOLING BERMS' ON-SITE MITIGATION PLAN





CROSS-SECTIONS "TYPICAL"

DATE: 02-16-04

NOT TO SCALE



FIGURE 9.

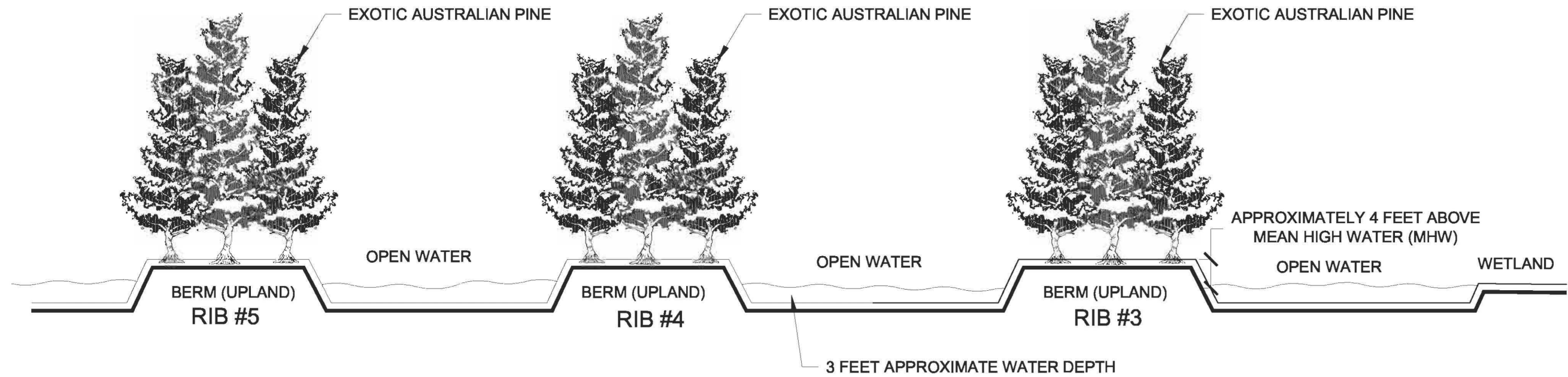
TURKEY POINT EXPANSION PROJECT

TEST COOLING BERMS' ON-SITE MITIGATION PLAN

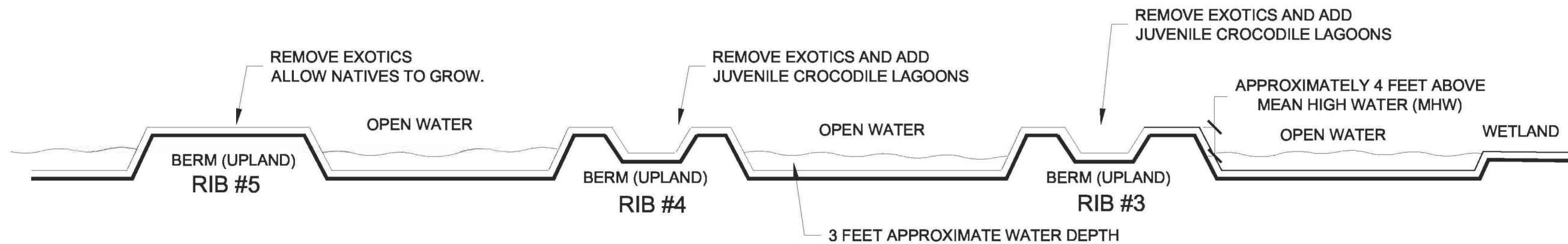


March 25, 2004 11:03:38 a.m.
Drawing: COMPOSITE.DWG

**EXISTING CONDITIONS
RIBS 3, 4 & 5**



**POST MITIGATION CONDITIONS
RIBS 3, 4 & 5**



CROSS-SECTIONS "TYPICAL"

DATE: 02-16-04

NOT TO SCALE



FIGURE 10.

**TURKEY POINT EXPANSION PROJECT
TEST COOLING BERMS' ON-SITE MITIGATION PLAN**

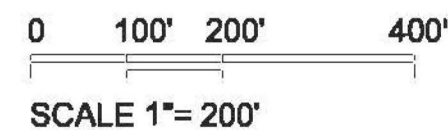


March 25, 2004 11:03:38 a.m.
Drawing: COMPOSITE.DWG



FIGURE 11.

TURKEY POINT EXPANSION PROJECT
PROPOSED LAYDOWN AREA FOR CONSTRUCTION



September 16, 2004 10:55:12 am
 Drawing: COMPOS E: 04/10/04 T: TEXT 11: 24/04 DWG

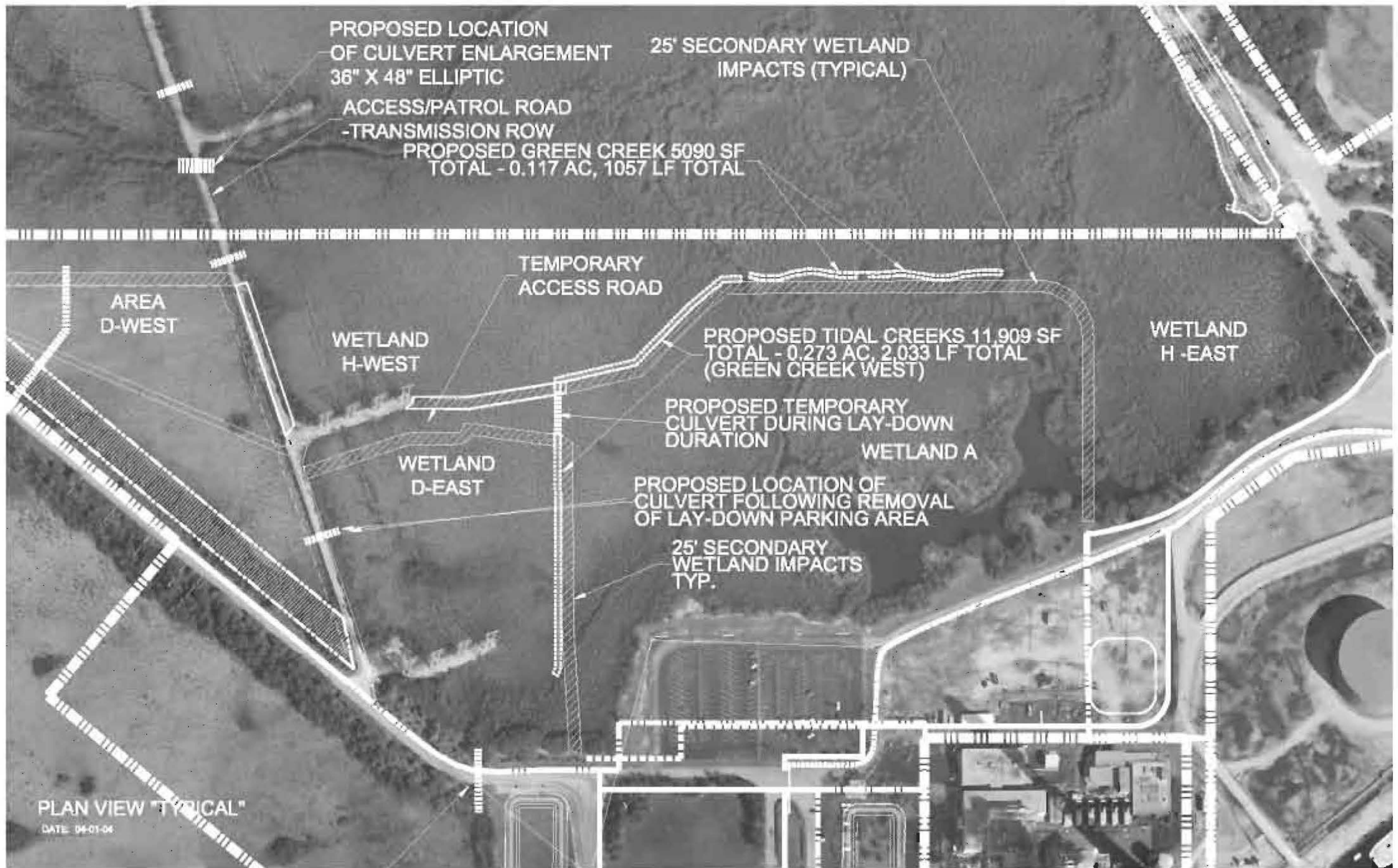
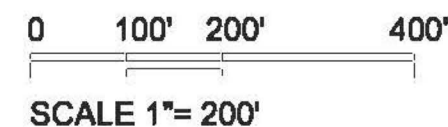
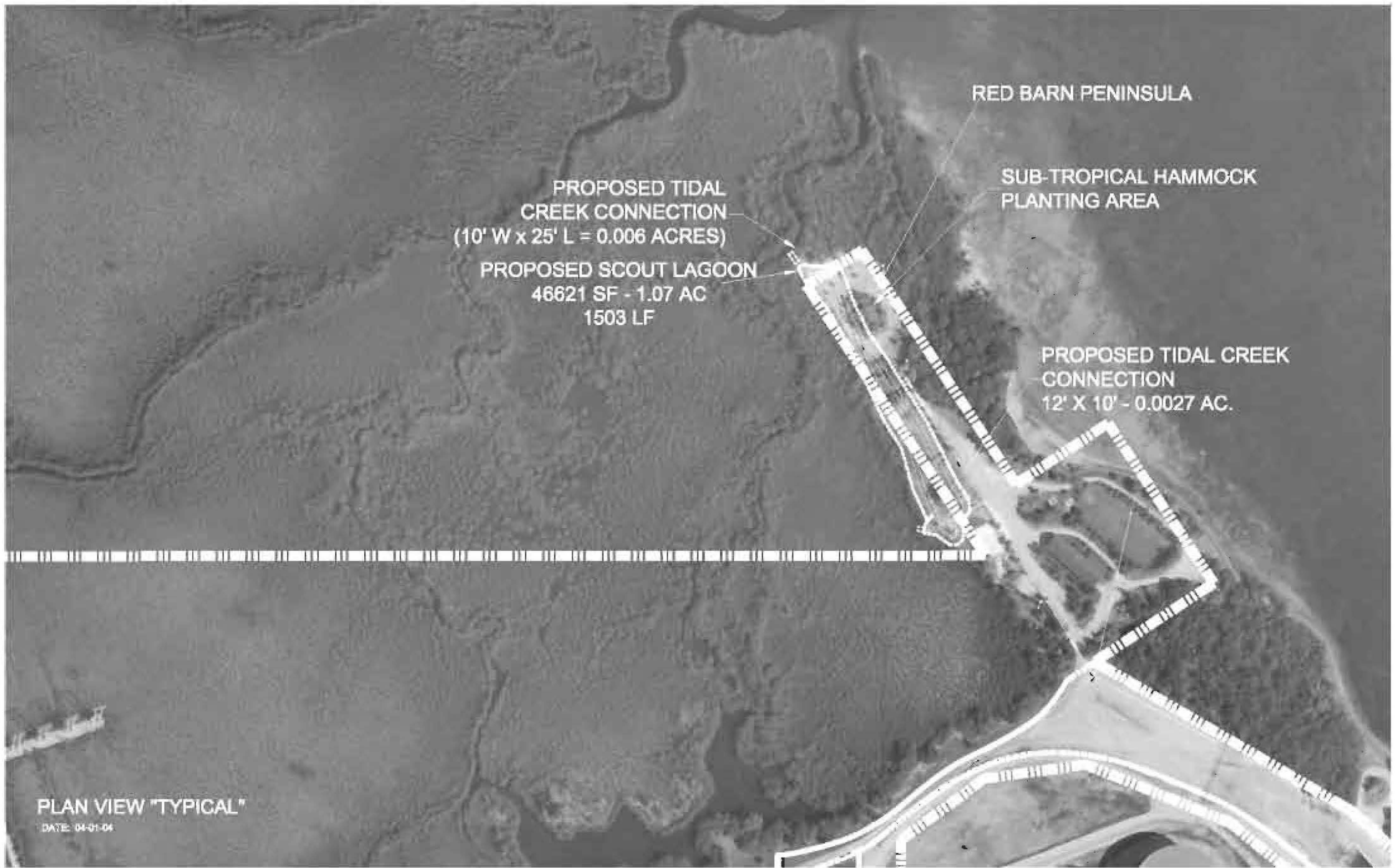


FIGURE 12.

TURKEY POINT EXPANSION PROJECT
AREA A GREEN CREEK'S ONSITE MITIGATION



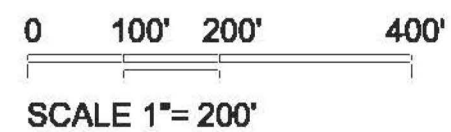


PLAN VIEW "TYPICAL"
DATE: 04-01-04

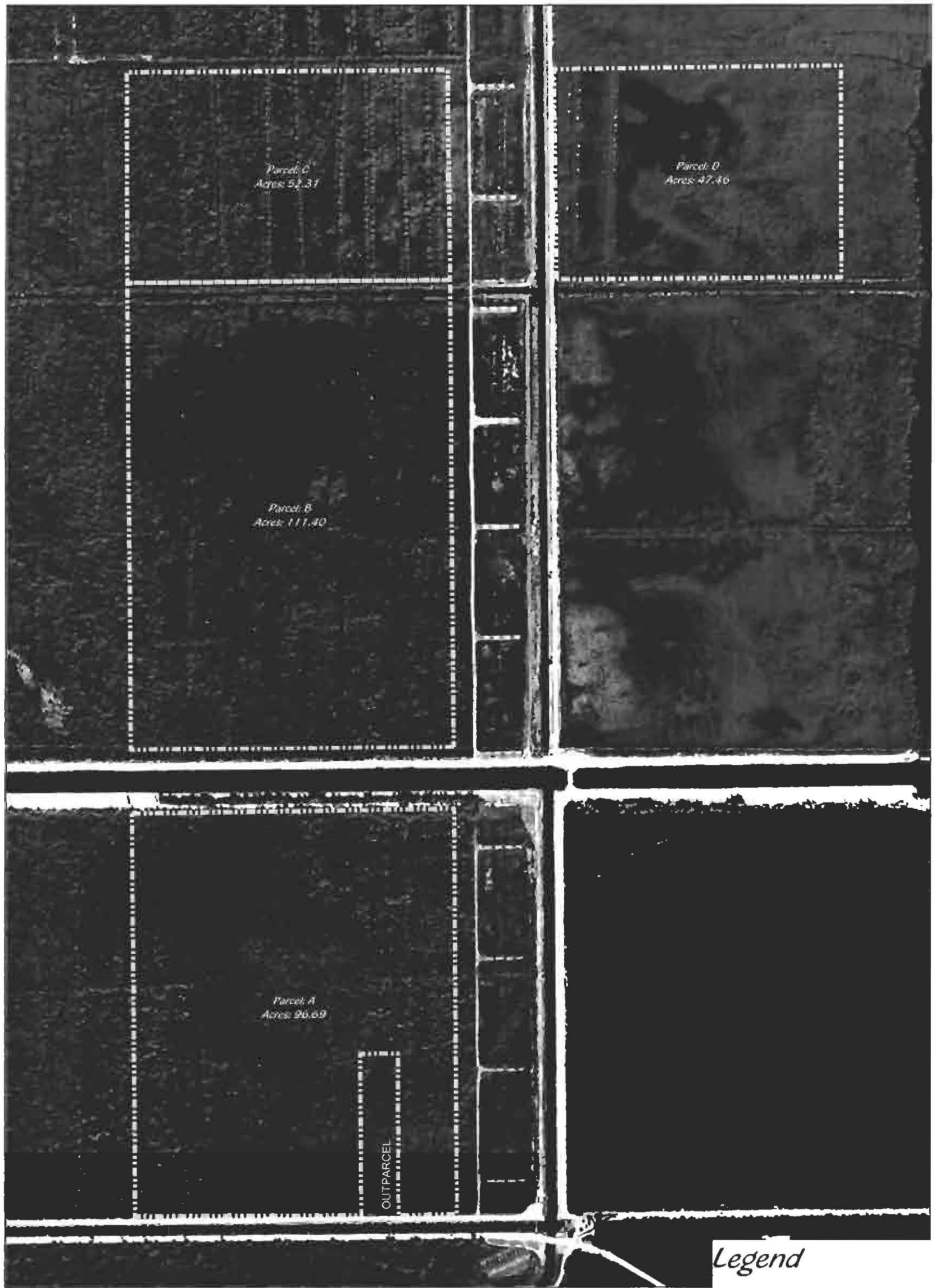


FIGURE 13.

TURKEY POINT EXPANSION PROJECT
AREA G SCOUT LAGOON ON-SITE MITIGATION



September 16, 2004 10:55:12 am
Drawing: COMPOS: T: SW: W: T: TEXT: 11: 24: 04 DWG



Boundary - 307.86 Acres



1 inch equals 600 feet

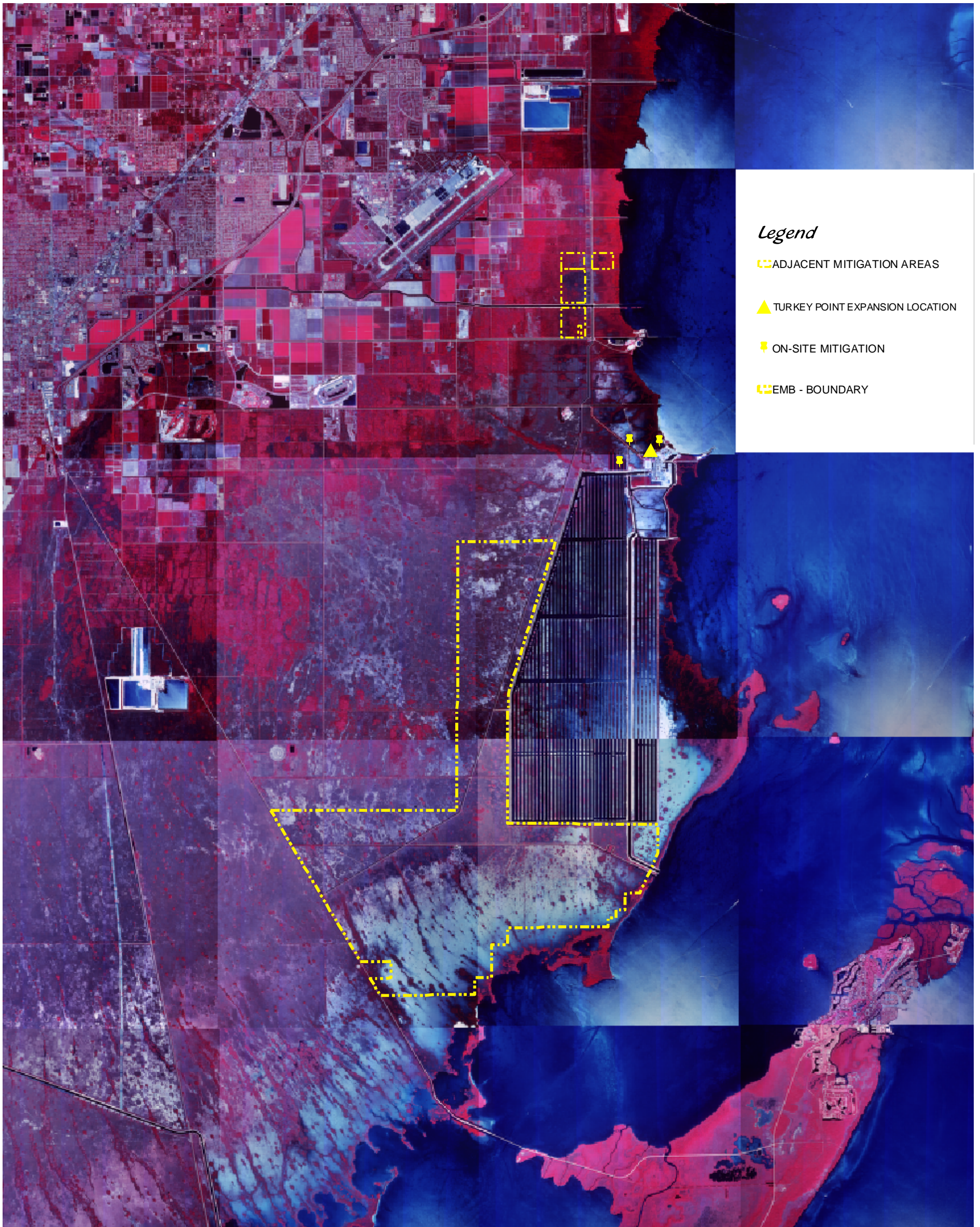
Aerial Map
Figure 14-A
Turkey Point Expansion
Adjacent Mitigation (Preservation) Areas







Cotleur & Hearing

1934 Commerce Lane
 Suite 1
 Jupiter, FL 33458
 Phone: 561-747-6336
 Fax: 561-747-1377

Aerial Map



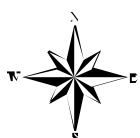
Legend

-  ADJACENT MITIGATION AREAS
-  TURKEY POINT EXPANSION LOCATION
-  ON-SITE MITIGATION
-  EMB - BOUNDARY

Note: Orthophotography obtained from ftp://146.201.97.137/doqq/1999/StatePlane_E/MrSid/.

Map Document: (F:\ArcMap_Projects\FPL-TurkeyPointAerial-Hearing-111604.mxd)
11/16/2004 - 11:27:16 AM

Polygon and point shapefiles for Miami-Dade Landfill, Atlantic Civil Project, EMB, US1 and the Card Sound Project were created by Cotleur & Hearing, Inc.



Turkey Point Expansion Project

Miami-Dade County, Florida

FPL 1 inch equals 1.5 miles

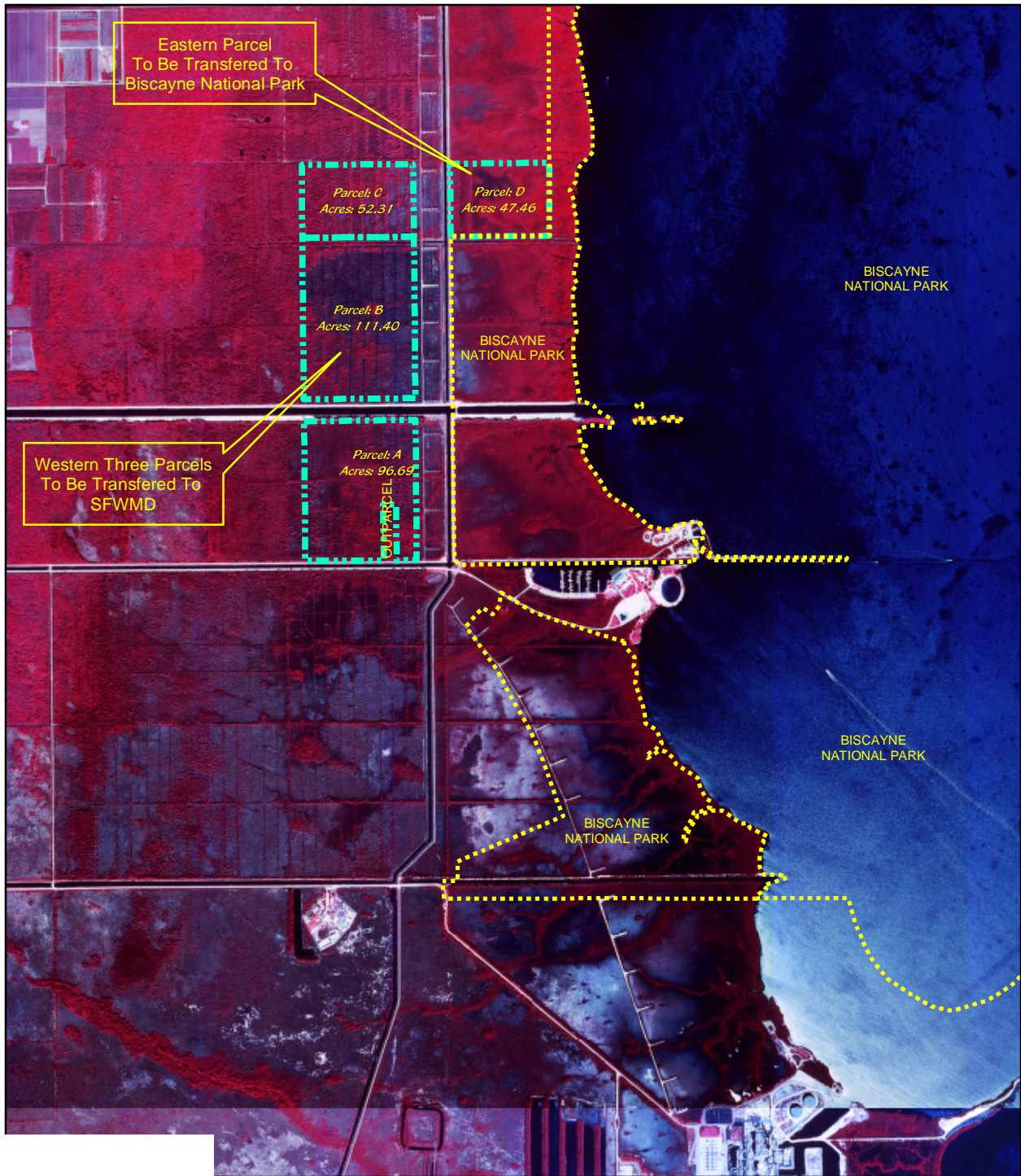


Cotleur & Hearing



Landscape Architecture
Planning
Environmental Consulting
Graphic Design

1934 Commerce Lane
Suite 1
Jupiter, FL 33458

Phone: 561-747-6336
Fax: 561-747-1377



Legend

-  Boundary - 307.86 Acres
-  Biscayne_Bay_National_Park



1 inch equals 0.5 miles

Map Document: (F:\ArcMap_Projects\FPL-TurkeyPoint\Bbase2.mxd)
11/16/2004 -- 10:45:16 AM

Aerial Map

*Turkey Point Expansion
Adjacent Mitigation Areas*



Colleur & Hearing

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Suite 1
Jupiter, FL 33458
Phone: 561-747-6336
Fax: 561-747-1377

APPENDIX A

W.A.T.E.R. FUNCTIONAL ASSESSMENT SCORING

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters (Site Suitability created by: Donaldson Hearing)		Turkey Point Expansion -- Wetland A and D Impacts	
Parameter	Scoring Criteria	Ratings	Score
1. Adjacent to lands or waters of regional importance and results in identifiable ecological benefits to adjacent lands or waters.	State Park, OFW, AP, and including but not limited to Special Waters on at least 1 boundary	1	1
	Adjacent lands contain no special designation or undesignated special value	0	
2. Property is within boundary of an acknowledged state, local or regional acquisition program	Property is within boundary of an acquisition program	1	0
	Property is not within boundary of an acquisition program	0	
3. Property contains ecological or geological features consistently considered by regional Scientist, or federal and state agencies to be unusual, unique or rare in the region and is of sufficient size	Property qualifies	1	0
	Property does not qualify	0	
4. Property designated as being of critical state or federal concern and/or contains special designations,	Property contains at least 1 special designation.	1	1
	Property contains no special designations.	0	
5. Property important to acknowledged restoration efforts	Property is important.	1	1
	Property is not important.	0	
6. Ownership and control of the property.	Property is privately owned.	1	1
	Property is publicly owned.	0	
7. Threatened, Endangered & Species of Special Concern Presence of animal species (faunal) found on site	Documented Presence of Species on site	1	1
	No documented Presence of species on site.	0	
8. Threatened, Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	0
	No documented Presence of species on site.	0	
9. Threat of loss or destruction from development activities. (Development Pressure)	High probability of development.	1	1
	Low probability of development.	0	
10. Extent to which lands are subject to Local, State, and Federal dredge and fill/ ERP Regulations	Property is regulated.	1	1
	Property is not regulated.	0	
Value Cumulative Score (CS)			7

The Mitigation Bank Site Suitability Evaluation Matrix is designed to provide a quantifiable means of determining the number of mitigation credits that should be assigned to a bank's "value" related parameters. Value related parameters are human values determined to be important to society, and therefore are not measurable in a purely functional analysis. Functional analysis will only measure the degree of functional ecological improvement (degree of ecological improvement) resulting from mitigation activities. The SS Evaluation measures and provides credit for societal values that separate one mitigation bank from another as required by Ch. 62-342.470 (a) (b) (e) (f) (g) (h) (i) F.A.C.. The SS evaluation is not to be utilized in conjunction with a functional analysis methodology which also utilizes value related parameters in its analysis.

Site Suitability	Suitability Multiplier
1.0	1.10
.9	1.09
.8	1.08
.7	1.07
.6	1.06
.5	1.05
.4	1.04
.3	1.03
.2	1.02
.1	1.01
0	0

Maximum Possible Score (MPS)	10
Cumulative Score (CS)	7

0.7

EPA, USACOE, USF & W, FDEP, NMFS, SFWMD, Dade DERM, FPL, CH

3-Apr-96

After Calculating the Site Suitability Score determine the Site Suitability Multiplier by utilizing the Evaluation Scale to the left. The Site Suitability Multiplier is to be multiplied times the number of the Functional Mitigation Credits, resulting from the (W.A.T.E.R.) Functional Assessment of the Mitigation Bank, to determine the number of Site Suitability Credits to be assigned to the Mitigation Bank.

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland A and D Impacts

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon			
			Wetland A - Pre	Wetland A - Impact	Wetland D West of Patrol Rd.- Pre	Wetland D West of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Pre	Wetland D East of Patrol Rd.- Impact
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1)	7 or more species commonly observed	3	3	0	3	0	3	0
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	0	2.5	0	3	0
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	2	0	2	0	2	0
	Medium sized mammals , (adult weight > 6 lbs.)	2						
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1						
	0 species present	0						
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	0	2.5	0	3	0
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	3	0	3	0	3	0
	Aquatic turtles	2						
	Snakes & lizards	1						
	No evidence of species present	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland A and D Impacts

Parameter/Function	Scoring Criteria	Ratings	Polygon		Polygon			
			Wetland A - Pre	Wetland A - Impact	Wetland D West of Patrol Rd.- Pre	Wetland D West of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Pre	Wetland D East of Patrol Rd.- Impact
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3						
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2	3	0	2	0	3	0
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1						
	Very little or no desirable tree/shrubs present (evidence suggests there should be)	0						
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3						
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but <30%	2	3	0	1	0	3	0
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1						
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0						
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3						
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2	2.5	0	0.5	0	1.5	0
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1						
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0						
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or = to) 1 % exotic plant cover	3						
	>1 % to 10 % exotic plant cover	2	3	0	3	0	3	0
	>10 % to 65 % exotic plant cover	1						
	> 65 % exotic plant cover	0						
e. Habitat diversity (vegetative) <i>(within assessment area)</i>	>3 native species communities on site within assessment area	3						
	2 or 3 native specie communities on site within assessment area	2	2	0	2	0	2	0
	1 native species community with 75 % to 90 % coverage within assessment area	1						
	1 native species community has > 90 % coverage within assessment area	0						
f. Biological diversity within 3000 feet <i>(approximately 1/2 mile from edge of assessment area)</i>	> 3 alternative habitats available (including upland)	3						
	2 to 3 alternative habitats	2	3	0	3	0	3	0
	1 alternative habitat	1						
	Same habitat type, or inappropriate / impacted	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland A and D Impacts

Parameter/ Function	Scoring Criteria	Ratings	Polygon					
			Wetland A - Pre	Wetland A - Impact	Wetland D West of Patrol Rd.- Pre	Wetland D West of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Pre	Wetland D East of Patrol Rd.- Impact
3. Hydrologic Functions								
a. Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3	2.5	0	1	0	2.5	0
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2						
	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1						
	Hydrologically isolated, no net lateral movement	0						
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3						
	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2						
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1						
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0						
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3						
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2						
	>2 weeks but <6 weeks of inudation, including soil saturation	1						
	<2 weeks of continuous inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides	3	3	0	3	0	3	0
	Inundated by "spring" high tides (bi-monthly)	2						
	Inundated by "extreme high" tides only (biannually)	1						
	Inundated by storm surges only	0						
b-3 Alternate to b. for High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3						
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2						
	Inundated by high "spring" tides (monthly)and exposed to rain only	1						
	Inundated by >50% high tides and exposed to rain only	0						
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3						
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2						
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1						
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland A and D Impacts

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon	
			Wetland A - Pre	Wetland A - Impact	Wetland D West of Patrol Rd.- Pre	Wetland D West of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Pre	Wetland D East of Patrol Rd.- Impact
3. Hydrologic Functions continued								
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3						
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2						
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1						
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0						
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3	3	0	2	0	2.5	0
	>6 in. water depth <1 ft. on >50% high tides	2						
	<6 in. water depth, but > than saturated	1						
	Saturated by saline water table only	0						
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3						
	>6 in. to 10in. water depth on regular basis during growing season	2						
	>1 in. to 5 in water depth on regular basis during growing season	1						
	>0.0 in. to 1 in. water depth sporadically during growing season	0						
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3						
	>2 ft. water depth (main channel) <4 ft. for 6 months	2						
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1						
	<1 ft. water depth, but dry for >4 weeks (dry season)	0						

Mitigation Bank Wetland Function – Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from
 EPA, FDEP, ACCE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland A and D Impacts

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon	
			Wetland A - Pre	Wetland A - Impact	Wetland D West of Patrol Rd.- Pre	Wetland D West of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Pre	Wetland D East of Patrol Rd.- Impact
3. Hydrologic Functions continued								
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3						
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2	2	0	1.5	0	2	0
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1						
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0						
e. Intactness of historic topography (soil disturbance)	Unaltered	3	2.5	0	3	0	2.5	0
	Slightly altered soil disturbance, < 10% of assessment area	2						
	Moderately altered soil disturbance, < 25% of assessment area	1						
	Extremely altered soil disturbance, may exceed 50% of assessment area	0						
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3						
	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2						
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1						
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0						
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3						
	Sandy soil classified hydric soil with mottling and concretions present in >20% but <40% of horizon.	2						
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1						
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0						
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >12 in. and >90 % of surface area	3	3	0	3	0	3	0
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2						
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1						
	Calcareous loam <1 in. for >50% of surface area	0						

Mitigation Bank Wetland Function – Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
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 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland A and D Impacts

Parameter/Function	Scoring Criteria	Ratings	Polygon		Polygon				
			Wetland A - Pre	Wetland A - Impact	Wetland D West of Patrol Rd.- Pre	Wetland D West of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Pre	Wetland D East of Patrol Rd.- Impact	
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1									
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. Apply to freshwater systems within 6 miles of the coast	<2 parts per thousand (ppt)	3							
	2 to 3 parts per thousand (ppt)	2							
	4 to 5 parts per thousand (ppt)	1							
	>5 parts per thousand (ppt)	0							
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. Apply to brackish (tidal) systems only	6 to 8 parts per thousand (ppt)	3							
	9 to 13 parts per thousand (ppt)	2							
	14 to 16 parts per thousand (ppt)	1							
	>16 parts per thousand (ppt)	0							
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. Apply to saline marsh (tidal) systems only	17 to 19 parts per thousand (ppt)	3							
	20 to 22 parts per thousand (ppt)	2	3	0	0.5	0	3	0	
	23 to 25 parts per thousand (ppt)	1							
	>25 parts per thousand (ppt)	0							
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. Apply to hypersaline (tidal) systems only	26 to 41 parts per thousand (ppt)	3							
	42 to 46 parts per thousand (ppt)	2							
	47 to 51 parts per thousand (ppt)	1							
	>51 parts per thousand (ppt)	0							
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high salinity for a normal year. Apply to riverine systems only	bottom (lower) third between 12 to 25 ppt	3							
	middle third between 5 to 11 ppt.								
	upper (top) third between 0 to 4 ppt.								
	bottom (lower) third between 25 to 32 ppt	2							
	middle third between 6 to 24 ppt.								
	upper (top) third between 0 to 5 ppt.								
	bottom (lower) third between 30 to 40 ppt	1							
	middle third between 8 to 29 ppt.								
upper (top) third between 0 to 7 ppt.									
bottom (lower) third between 35 to 50 ppt	0								
middle third between 10 to 34 ppt.									
upper (top) third between 0 to 9 ppt.									

W.A.T.E.R. created by: Bill L. Maus
 11/1/1995

Cumulative Score (SC)	49.5	0.0	38.5	0.0	48.0	0
Maximum Possible Score (MPS)	54.00	54.00	54.00	54.00	54.00	54.00
W.A.T.E.R. = Cumulative Score/Maximum Possible Score	0.92	0	0.71	0	0.89	0

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters <small>(Site Suitability created by: Donelson Hearing)</small>		Turkey Point Expansion – Wetland H and E Impacts	
Parameter	Scoring Criteria	Rating	Score
1. Adjacent to lands or waters of regional importance and results in identifiable ecological benefits to adjacent lands or waters.	State Park, OFW, AP, and including but not limited to Special Waters on at least 1 boundary	1	1
	Adjacent lands contain no special designation or undesignated special value	0	
2. Property is within boundary of an acknowledged state, local or regional acquisition program	Property is within boundary of an acquisition program	1	0
	Property is not within boundary of an acquisition program	0	
3. Property contains ecological or geological features consistently considered by regional Scientist, or federal and state agencies to be unusual, unique or rare in the region and is of sufficient size	Property qualifies	1	0
	Property does not qualify	0	
4. Property designated as being of critical state or federal concern and/or contains special designations,	Property contains at least 1 special designation.	1	1
	Property contains no special designations.	0	
5. Property important to acknowledged restoration efforts	Property is important.	1	1
	Property is not important.	0	
6. Ownership and control of the property.	Property is privately owned.	1	1
	Property is publicly owned.	0	
7. Threatened, Endangered & Species of Special Concern Presence of animal species (faunal) found on site	Documented Presence of Species on site	1	1
	No documented Presence of species on site.	0	
8. Threatened, Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	0
	No documented Presence of species on site.	0	
9. Threat of loss or destruction from development activities. (Development Pressure)	High probability of development.	1	1
	Low probability of development.	0	
10. Extent to which lands are subject to Local, State, and Federal dredge and fill ERP Regulations	Property is regulated.	1	1
	Property is not regulated.	0	
Value Cumulative Score (CS)			7

The Mitigation Bank Site Suitability Evaluation Matrix is designed to provide a quantifiable means of determining the number of mitigation credits that should be assigned to a bank/issue related parameters. Value related parameters are human values determined to be important to society, and therefore are not measurable in a purely functional analysis. Functional analysis will only measure the degree of functional ecological improvement (degree of ecological improvement) resulting from mitigation activities. The SS Evaluation measures and provides credit for societal values that separate one mitigation bank from another as required by Ch. 62-342.470 (a) (b) (c) (d) (e) (f) (g) (h) (i) F.A.C.. The SS evaluation is not to be utilized in conjunction with a functional analysis methodology which also utilizes value related parameters in its analysis.

Site Suitability	Suitability Multiplier
1.0	1.10
.9	1.09
.8	1.08
.7	1.07
.6	1.06
.5	1.05
.4	1.04
.3	1.03
.2	1.02
.1	1.01
0	0

Maximum Possible Score (MPS)	10
Cumulative Score (CS)	7

0.7

EPA, USACOE, USF & W, FDEP, NMFS, SFWMD, Dade DERM, FPL, CH

3-Apr-96

After Calculating the Site Suitability Score determine the Site Suitability Multiplier by utilizing the Evaluation Scale to the left. The Site Suitability Multiplier is to be multiplied times the number of the Functional Mitigation Credits, resulting from the (W.A.T.E.R.) Functional Assessment of the Mitigation Bank, to determine the number of Site Suitability Credits to be assigned to the Mitigation Bank.

Mitigation Bank Wetland Function – Evaluation Matrix

Turkey Point Expansion

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill Maus)

Data Collected on: OCT. 22, 2003

Project Wetland H and E Impacts:

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon	
			Wetland H 'east' - Pre	Wetland H 'east' - 2nd Impact	Wetland E - Pre	Wetland E - Impact
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems						
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. if's score 1)	7 or more species commonly observed	3	3	3	3	0
	3-6 species commonly observed	2				
	1-2 species commonly observed	1				
	0 species commonly observed	0				
b. Fish (Mit. Bank - High specie count w/ low pop. if's score 1 Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	3	3	0
	3-6 species commonly observed	2				
	1-2 species commonly observed	1				
	0 species commonly observed	0				
c. Mammals (Mit. Bank - High specie count w/ low pop. if's score 1 Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	2	2	2	0
	Medium sized mammals , (adult weight > 6 lbs.)	2				
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1				
	0 species present	0				
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. if's score 1 Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	3	3	0
	3-6 species commonly observed	2				
	1-2 species commonly observed	1				
	0 species commonly observed	0				
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. if's score 1 Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	3	3	3	0
	Aquatic turtles	2				
	Snakes & lizards	1				
	No evidence of species present	0				

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

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Date Collected on: OCT. 22, 2003

Project Wetland H and E Impacts:

Parameter/Function	Scoring Criteria	Ratings	Polygon		Polygon	
			Wetland H 'east' - Pre	Wetland H 'east' - 2nd Impact	Wetland E - Pre	Wetland E - Impact
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems						
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3	2.5	2	3	0
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2				
	Inappropriate trees/shrubs shading or overcoming desirable trees/shrubs	1				
	Very little or no desirable trees/shrubs present (evidence suggests there should be)	0				
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3	2.5	2.5	2.5	0
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2				
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1				
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0				
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3	2	1.5	2	0
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2				
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1				
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0				
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or =) 1 % exotic plant cover	3	3	3	3	0
	>1 % to 10 % exotic plant cover	2				
	>10 % to 65 % exotic plant cover	1				
	> 65 % exotic plant cover	0				
e. Habitat diversity (vegetative) (within assessment area)	>3 native species communities on site within assessment area	3	2	2	2	0
	2 or 3 native species communities on site within assessment area	2				
	1 native species community with 75 % to 90 % coverage within assessment area	1				
	1 native species community has > 90 % coverage within assessment area	0				
f. Biological diversity within 3000 feet (approximately 1/2 mile from edge of assessment area)	> 3 alternative habitats available (including upland)	3	3	3	3	0
	2 to 3 alternative habitats	2				
	1 alternative habitat	1				
	Same habitat type, or inappropriate / impacted	0				

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

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Data Collected on: OCT, 22, 2003

Project Wetland H and E Impacts:

Parameter/Function	Scoring Criteria	Ratings	Polygon		Polygon	
			Wetland H 'est' - Pre	Wetland H 'est' - 2nd Impact	Wetland E - Pre	Wetland E - Impact
3. Hydrologic Functions						
a. Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3	2.5	1.5	1.5	0
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2				
	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1				
	Hydrologically isolated, no net lateral movement	0				
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3				
	>6 months < 8 months or >6 years continuous inundation (look for strong water stains on persistent vegetation)	2				
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1				
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0				
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3				
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2				
	>2 weeks but <6 weeks of inundation, including soil saturation	1				
	<2 weeks of continuous inundation	0				
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides	3	3	3	3	0
	Inundated by "spring" high tides (bi-monthly)	2				
	Inundated by "extreme high" tides only (biannually)	1				
	Inundated by storm surges only	0				
b-3 Alternate to b. for High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3				
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2				
	Inundated by high "spring" tides (monthly) and exposed to rain only	1				
	Inundated by >50% high tides and exposed to rain only	0				
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or receives and maintains fresh water at least into first half of dry season	3				
	Inundated by high tides (daily) and/or receives and maintains fresh water during rainy season only	2				
	Inundated by high tides (daily) and/or receives fresh water but does not maintain (reversal) during rainy season	1				
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0				

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

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Data Collected on: OCT. 22, 2003

Project Wetland H and E Impacts:

Parameter/ Function	Scoring Criteria	Ratings	Polygon			
			Wetland H 'east' - Pre	Wetland H 'east' - 2nd Impact	Wetland E - Pre	Wetland E - Impact
3. Hydrologic Functions continued						
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3				
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2				
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1				
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0				
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3	2.5	2.5	2.5	0
	> 6 in. water depth <1 ft. on >50% high tides	2				
	< 6 in. water depth, but > than saturated	1				
	Saturated by saline water table only	0				
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3				
	>5 in. to 10in. water depth on regular basis during growing season	2				
	>1 in. to 5 in. water depth on regular basis during growing season	1				
	>0.0 in. to 1 in. water depth sporadically during growing season	0				
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3				
	>2 ft. water depth (main channel) <4 ft. for 6 months	2				
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1				
	<1 ft. water depth, but dry for >4 weeks (dry season)	0				

Mitigation Bank Wetland Function -- Evaluation Matrix

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Data Collected on: OCT. 22, 2003

Project Wetland H and E Impacts:

Parameter/Function	Scoring Criteria	Ratings	Polygon		Polygon	
			Wetland H 'east' - Pre	Wetland H 'east' - 2nd Impact	Wetland E - Pre	Wetland E - Impact
3. Hydrologic Functions continued						
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	2	2	2	0
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2				
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1				
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0				
e. Intactness of historic topography (soil disturbance)	Unaltered	3	3	2.5	1.5	0
	Slightly altered soil disturbance, < 10% of assessment area	2				
	Moderately altered soil disturbance, < 25% of assessment area	1				
	Extremely altered soil disturbance, may exceed 50% of assessment area	0				
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3				
	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2				
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1				
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0				
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3				
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2				
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1				
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0				
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >12 in. and >90 % of surface area	3	3	3	3	0
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2				
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1				
	Calcareous loam <1 in. for >50% of surface area	0				

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

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Data Collected on: OCT. 22, 2003

Project Wetland H and E Impacts:

Parameter/Function	Scoring Criteria	Ratings	Polygon		Polygon	
			Wetland H 'east' - Pre	Wetland H 'east' - 2nd Impact	Wetland E - Pre	Wetland E - Impact
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1						
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. Apply to freshwater systems within 5 miles of the coast	<2 parts per thousand (ppt)	3				
	2 to 3 parts per thousand (ppt)	2				
	4 to 5 parts per thousand (ppt)	1				
	>5 parts per thousand (ppt)	0				
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. Apply to brackish (tidal) systems only	6 to 8 parts per thousand (ppt)	3				
	9 to 13 parts per thousand (ppt)	2				
	14 to 16 parts per thousand (ppt)	1				
	>16 parts per thousand (ppt)	0				
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. Apply to saline marsh (tidal) systems only	17 to 19 parts per thousand (ppt)	3				
	20 to 22 parts per thousand (ppt)	2	3	2.5	2.5	0
	23 to 25 parts per thousand (ppt)	1				
	>26 parts per thousand (ppt)	0				
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. Apply to hypersaline (tidal) systems only	26 to 41 parts per thousand (ppt)	3				
	42 to 46 parts per thousand (ppt)	2				
	47 to 51 parts per thousand (ppt)	1				
	>51 parts per thousand (ppt)	0				
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high salinity for a normal year. Apply to riverine systems only	bottom (lower) third between 12 to 25 ppt	3				
	middle third between 5 to 11 ppt.					
	upper (top) third between 0 to 4 ppt.					
	bottom (lower) third between 25 to 32 ppt	2				
	middle third between 6 to 24 ppt.					
	upper (top) third between 0 to 5 ppt.					
	bottom (lower) third between 30 to 40 ppt	1				
	middle third between 8 to 29 ppt.					
upper (top) third between 0 to 7 ppt.						
bottom (lower) third between 35 to 50 ppt	0					
middle third between 10 to 34 ppt.						
upper (top) third between 0 to 9 ppt.						

W.A.T.E.R. created by: Bill L. Maus
 11/1/1995

Cumulative Score (SC)	48.0	45.0	45.5	0.0
Maximum Possible Score (MPS)	54.00	54.00	54.00	54.00
W.A.T.E.R. = Cumulative Score/Maximum Possible Score	0.89	0.83	0.84	0

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters (Site Suitability created by: Donaldson Hearing)		Turkey Point Expansion - Australian Pine Ribs Enhancement	
Parameter	Scoring Criteria	Ratings	Score
1. Adjacent to lands or waters of regional importance and results in identifiable ecological benefits to adjacent lands or waters.	State Park, OFW, AP, and including but not limited to Special Waters on at least 1 boundary	1	0
	Adjacent lands contain no special designation or undesignated special value	0	
2. Property is within boundary of an acknowledged state, local or regional acquisition program	Property is within boundary of an acquisition program	1	0
	Property is not within boundary of an acquisition program	0	
3. Property contains ecological or geological features consistently considered by regional Scientist, or federal and state agencies to be unusual, unique or rare in the region and is of sufficient size	Property qualifies	1	0
	Property does not qualify	0	
4. Property designated as being of critical state or federal concern and/or contains special designations.	Property contains at least 1 special designation.	1	0
	Property contains no special designations.	0	
5. Property important to acknowledged restoration efforts	Property is important.	1	1
	Property is not important.	0	
6. Ownership and control of the property.	Property is privately owned.	1	1
	Property is publicly owned.	0	
7. Threatened, Endangered & Species of Special Concern Presence of animal species (faunal) found on site	Documented Presence of Species on site	1	1
	No documented Presence of species on site.	0	
8. Threatened, Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	0
	No documented Presence of species on site.	0	
9. Threat of loss or destruction from development activities. (Development Pressure)	High probability of development.	1	1
	Low probability of development.	0	
10. Extent to which lands are subject to Local, State, and Federal dredge and fill/ ERP Regulations	Property is regulated.	1	1
	Property is not regulated.	0	
Value Cumulative Score (CS)			5

The Mitigation Bank Site Suitability Evaluation Matrix is designed to provide a quantifiable means of determining the number of mitigation credits that should be assigned to a bankwide related parameters. Value related parameters are human values determined to be important to society; and therefore are not measurable in a purely functional analysis. Functional analysis will only measure the degree of functional ecological improvement (degree of ecological improvement) resulting from mitigation activities. The SS Evaluation measures and provides credit for societal values that separate one mitigation bank from another as required by Ch. 62-342 .470 (a) (b) (e) (f) (g) (h) (i) F.A.C.. The SS evaluation is not to be utilized in conjunction with a functional analysis methodology which also utilizes value related parameters in its analysis.

Site Suitability	Suitability Multiplier
1.0	1.10
.9	1.09
.8	1.08
.7	1.07
.6	1.06
.5	1.05
.4	1.04
.3	1.03
.2	1.02
.1	1.01
0	0

Maximum Possible Score (MPS)	10
Cumulative Score (CS)	5

0.5

EPA, USACOE, USF & W, FDEP, NMFS, SFWMD, Dade DERM, FPL, CH

3-Apr-96

After Calculating the Site Suitability Score determine the Site Suitability Multiplier by utilizing the Evaluation Scale to the left. The Site Suitability Multiplier is to be multiplied times the number of the Functional Mitigation Credits, resulting from the (W.A.T.E.R.) Functional Assessment of the Mitigation Bank, to determine the number of Site Suitability Credits to be assigned to the Mitigation Bank.

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Data Collected on: OCT. 22, 2003

Creation Mitigation: Australian Pine Ribs

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	
			Upland Ribs of PilotCanals 1&2 Pre-	Ribs wetland creation1&2 'scrapedown'	Upland Ribs of PilotCanals 3&4&5 Pre-	Ribs create Juvenile Croc ponds 3&4	Upland Ribs Remove Exotics 3, 4 & 5	Polygon
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1)	7 or more species commonly observed	3	0	2	0	2	1	
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	0	N/A	0	0.5	N/A	
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	0	2	0	1	1.5	
	Medium sized mammals , (adult weight > 6 lbs.)	2						
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1						
	0 species present	0						
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	0	1	0	3	0.5	
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	0	3	0	0	1	
	Aquatic turtles	2						
	Snakes & lizards	1						
	No evidence of species present	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Date Collected on: OCT. 22, 2003

Creation Mitigation: Australian Pine Ribs

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Upland Ribs of PilotCanals 1&2 Pre-	Ribs wetland creation1&2 'scrapeddown'	Upland Ribs of PilotCanals 3&4&5 Pre-	Ribs create Juvenile Croc ponds 3&4	Upland Ribs Remove Exotics 3, 4 & 5	Flats/Canals
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3	0	3	0	N/A	N/A	
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2						
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1						
	Very little or no desirable tree/shrubs present (evidence suggests there should be)	0						
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3	0	3	0	N/A	1	
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2						
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1						
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0						
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3	0	N/A	0	0	N/A	
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2						
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1						
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0						
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or = to) 1 % exotic plant cover	3	0	3	0	N/A	3	
	>1 % to 10 % exotic plant cover	2						
	>10 % to 65 % exotic plant cover	1						
	> 65 % exotic plant cover	0						
e. Habitat diversity (vegetative) <i>(within assessment area)</i>	>3 native species communities on site within assessment area	3	0	1.5	0	0	0	
	2 or 3 native specie communities on site within assessment area	2						
	1 native species community with 75 % to 90 % coverage within assessment area	1						
	1 native species community has > 90 % coverage within assessment area	0						
f. Biological diversity within 3000 feet <i>(approximately 1/2 mile from edge of assessment area)</i>	> 3 alternative habitats available (including upland)	3	0	3	0	2	2	
	2 to 3 alternative habitats	2						
	1 alternative habitat	1						
	Same habitat type, or inappropriate / impacted	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Creation Mitigation: Australian Pine Ribs

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Upland Ribs of PilotCanals 1&2 Pre-	Ribs wetland creation1&2 'scrapedown'	Upland Ribs of PilotCanals 3&4&5 Pre-	Ribs create Juvenile Croc ponds 3&4	Upland Ribs Remove Exotics 3, 4 & 5	
3. Hydrologic Functions								
a. Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3						
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2	0	2	0	0	0	
	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1						
	Hydrologically isolated, no net lateral movement	0						
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3						
	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2				2	0	
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1						
	< 4 weeks cumulative annual inundation or <2 weeks continuous inundation	0						
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3						
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2	0	3	0			
	>2 weeks but <6 weeks of inudation, including soil saturation	1						
	<2 weeks of continuous inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides							
	Inundated by "spring" high tides (bi-monthly)	2						
	Inundated by "extreme high" tides only (biannually)	1						
	Inundated by storm surges only	0						
b-3 Alternate to b. for High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3						
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2						
	Inundated by high "spring" tides (monthly)and exposed to rain only	1						
	Inundated by >50% high tides and exposed to rain only	0						
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3						
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2						
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1						
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Data Collected on: OCT. 22,2003

Creation Mitigation: Australian Pine Ribs

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Upland Ribs of PilotCanals 1&2 Pre-	Ribs wetland creation1&2 'scrapedown'	Upland Ribs of PilotCanals 3&4&5 Pre-	Ribs create Juvenile Croc ponds 3&4	Upland Ribs Remove Exotics 3, 4 & 5	
3. Hydrologic Functions continued								
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3	0	3	0	3	0	
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2						
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1						
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0						
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3						
	> 6 in. water depth <1 ft. on >50% high tides	2						
	< 6 in. water depth , but > than saturated	1						
	Saturated by saline water table only	0						
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3						
	>5 in. to 10in. water depth on regular basis during growing season	2						
	>1 in. to 5 in. water depth on regular basis during growing season	1						
	>0.0 in. to 1 in. water depth sporadically during growing season	0						
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 6 months	3						
	>2 ft. water depth (main channel) <4 ft. for 6 months	2						
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1						
	<1 ft. water depth, but dry for >4 weeks (dry season)	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Date Collected on: OCT. 22,2003

Creation Mitigation: Australian Pine Ribs

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Upland Ribs of PilotCanals 1&2 Pre-	Ribs wetland creation1&2 'scrapedown'	Upland Ribs of PilotCanals 3&4&5 Pre-	Ribs create Juvenile Croc ponds 3&4	Upland Ribs Remove Exotics 3, 4 & 5
3. Hydrologic Functions continued							
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	0	2	0	2	N/A
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2					
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1					
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0					
e. Intactness of historic topography (soil disturbance)	Unaltered	3	0	0	0	0	0
	Slightly altered soil disturbance, < 10% of assessment area	2					
	Moderately altered soil disturbance, < 25% of assessment area	1					
	Extremely altered soil disturbance, may exceed 50% of assessment area	0					
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3					
	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2					
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1					
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0					
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3					
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2					
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1					
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0					
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam > 12 in. and >90 % of surface area	3	0	3	0	2	0
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2					
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1					
	Calcareous loam <1 in. for >50% of surface area	0					

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Creation Mitigation: Australian Pine Ribs

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Upland Ribs of PilotCanals 1&2 Pre-	Ribs wetland creation1&2 'scrapedown'	Upland Ribs of PilotCanals 3&4&5 Pre-	Ribs create Juvenile Croc ponds 3&4	Upland Ribs Remove Exotics 3, 4 & 5
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1							
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. Apply to freshwater systems within 5 miles of the coast	<2 parts per thousand (ppt)	3	0	3	0	3	N/A
	2 to 3 parts per thousand (ppt)	2					
	4 to 5 parts per thousand (ppt)	1					
	>5 parts per thousand (ppt)	0					
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. Apply to brackish (tidal) systems only	6 to 8 parts per thousand (ppt)	3					
	9 to 13 parts per thousand (ppt)	2					
	14 to 16 parts per thousand (ppt)	1					
	>16 parts per thousand (ppt)	0					
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. Apply to saline marsh (tidal) systems only	17 to 19 parts per thousand (ppt)	3					
	20 to 22 parts per thousand (ppt)	2					
	23 to 25 parts per thousand (ppt)	1					
	>25 parts per thousand (ppt)	0					
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. Apply to hypersaline (tidal) systems only	26 to 41 parts per thousand (ppt)	3					
	42 to 46 parts per thousand (ppt)	2					
	47 to 51 parts per thousand (ppt)	1					
	>51 parts per thousand (ppt)	0					
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high salinity for a normal year. Apply to riverine systems only	bottom (lower) third between 12 to 25 ppt	3					
	middle third between 5 to 11 ppt.						
	upper (top) third between 0 to 4 ppt.						
	bottom (lower) third between 25 to 32 ppt	2					
	middle third between 6 to 24 ppt.						
	upper (top) third between 0 to 5 ppt.						
	bottom (lower) third between 30 to 40 ppt	1					
	middle third between 8 to 29 ppt.						
	upper (top) third between 0 to 7 ppt.						
	bottom (lower) third between 35 to 50 ppt	0					
	middle third between 10 to 34 ppt.						
	upper (top) third between 0 to 9 ppt.						

Cumulative Score (SC)

0.0 37.5 0.0 20.5 10.0

Maximum Possible Score (MPS)

54.00 48.00 54.00 45.00 39.00

W.A.T.E.R. = Cumulative Score/Maximum Possible Score

0.00 0.78 0 0.45 0.256

W.A.T.E.R. created by: Bill L. Maus

11/11/1995

FPL Everglades Mitigation Bank Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters (Site Suitability created by: Donaldson Hearing)		Turkey Point Expansion – Wetland A and D Impacts	
Parameter	Scoring Criteria	Ratings	Score
1. Adjacent to lands or waters of regional importance and results in identifiable ecological benefits to adjacent lands or waters.	State Park, OFW, AP, and including but not limited to Special Waters on at least 1 boundary	1	1
	Adjacent lands contain no special designation or undesignated special value	0	
2. Property is within boundary of an acknowledged state, local or regional acquisition program	Property is within boundary of an acquisition program	1	0
	Property is not within boundary of an acquisition program	0	
3. Property contains ecological or geological features consistently considered by regional Scientist, or federal and state agencies to be unusual, unique or rare in the region and is of sufficient size	Property qualifies	1	0
	Property does not qualify	0	
4. Property designated as being of critical state or federal concern and/or contains special designations,	Property contains at least 1 special designation.	1	1
	Property contains no special designations.	0	
5. Property important to acknowledged restoration efforts	Property is important.	1	1
	Property is not important.	0	
6. Ownership and control of the property.	Property is privately owned.	1	1
	Property is publicly owned.	0	
7. Threatened, Endangered & Species of Special Concern Presence of animal species (faunal) found on site	Documented Presence of Species on site	1	1
	No documented Presence of species on site.	0	
8. Threatened, Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	0
	No documented Presence of species on site.	0	
9. Threat of loss or destruction from development activities. (Development Pressure)	High probability of development.	1	1
	Low probability of development.	0	
10. Extent to which lands are subject to Local, State, and Federal dredge and fill/ ERP Regulations	Property is regulated.	1	1
	Property is not regulated.	0	
Value Cumulative Score (CS)			7

The Mitigation Bank Site Suitability Evaluation Matrix is designed to provide a quantifiable means of determining the number of mitigation credits that should be assigned to a bank/ site-related parameters. Value related parameters are human values determined to be important to society, and therefore are not measurable in a purely functional analysis. Functional analysis will only measure the degree of functional ecological improvement (degree of ecological improvement) resulting from mitigation activities. The SS Evaluation measures and provides credit for societal values that separate one mitigation bank from another as required by Ch. 62-342 .470 (a) (b) (e) (f) (g) (h) (i) F.A.C.. The SS evaluation is not to be utilized in conjunction with a functional analysis methodology which also utilizes value related parameters in its analysis.

Site Suitability	Suitability Multiplier
1.0	1.10
.9	1.09
.8	1.08
.7	1.07
.6	1.06
.5	1.05
.4	1.04
.3	1.03
.2	1.02
.1	1.01
0	0

Maximum Possible Score (MPS)	10
Cumulative Score (CS)	7

0.7

EPA, USACOE, USF & W, FDEP, NMFS, SFWMD, Dade DERM, FPL, CH
3-Apr-96

After Calculating the Site Suitability Score determine the Site Suitability Multiplier by utilizing the Evaluation Scale to the left. The Site Suitability Multiplier is to be multiplied times the number of the Functional Mitigation Credits, resulting from the (W.A.T.E.R.) Functional Assessment of the Mitigation Bank, to determine the number of Site Suitability Credits to be assigned to the Mitigation Bank.

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Enhancement Mitigation:
 Wetlands D-north and D-middle

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Wetland D north - West of Patrol Rd. Pre-	Wetland D North- West of Patrol Rd. Post-	Wetland D Middle-West of Patrol Rd. Pre-	Wetland D Middle-West of Patrol Rd. Post-		
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1)	7 or more species commonly observed	3	3	3	3	3		
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	3	3	3		
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	2	2	2	2		
	Medium sized mammals , (adult weight > 6 lbs.)	2						
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1						
	0 species present	0						
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	3	3	3		
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	3	3	3	3		
	Aquatic turtles	2						
	Snakes & lizards	1						
	No evidence of species present	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

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Data Collected on: OCT. 22, 2003

Enhancement Mitigation:
 Wetlands D-north and D-middle

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Wetland D north - West of Patrol Rd. Pre-	Wetland D North- West of Patrol Rd. Post-	Wetland D Middle-West of Patrol Rd. Pre-	Wetland D Middle-West of Patrol Rd. Post-		
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3	2.5	3	2.5	3		
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2						
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1						
	Very little or no desirable tree/shrubs present (evidence suggests there should be)	0						
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3	2.5	3	2.5	3		
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2						
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1						
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0						
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3	1.5	2	1	2		
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2						
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1						
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0						
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or = to) 1 % exotic plant cover	3	3	3	3	3		
	>1 % to 10 % exotic plant cover	2						
	>10 % to 65 % exotic plant cover	1						
	> 65 % exotic plant cover	0						
e. Habitat diversity (vegetative) <i>(within assessment area)</i>	>3 native species communities on site within assessment area	3	2	2	2	2		
	2 or 3 native specie communities on site within assessment area	2						
	1 native species community with 75 % to 90 % coverage within assessment area	1						
	1 native species community has > 90 % coverage within assessment area	0						
f. Biological diversity within 3000 feet <i>(approximately 1/2 mile from edge of assessment area)</i>	> 3 alternative habitats available (including upland)	3	3	3	3	3		
	2 to 3 alternative habitats	2						
	1 alternative habitat	1						
	Same habitat type, or inappropriate / impacted	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

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Data Collected on: OCT. 22, 2003

Enhancement Mitigation:
 Wetlands D-north and D-middle

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Wetland D north - West of Patrol Rd. Pre-	Wetland D North- West of Patrol Rd. Post-	Wetland D Middle-West of Patrol Rd. Pre-	Wetland D Middle-West of Patrol Rd. Post-		
3. Hydrologic Functions								
a. Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3	1	1.5	1	1.5		
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2						
	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1						
	Hydrologically isolated, no net lateral movement	0						
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3						
	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2						
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1						
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0						
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3						
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2						
	>2 weeks but <6 weeks of inundation, including soil saturation	1						
	<2 weeks of continuous inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >80% high tides	3	2.5	3	2	3		
	Inundated by "spring" high tides (bi-monthly)	2						
	Inundated by "extreme high" tides only (biannually)	1						
	Inundated by storm surges only	0						
b-3 Alternate to b. for High Marsh (Juncus-Distichilis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3						
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2						
	Inundated by high "spring" tides (monthly) and exposed to rain only	1						
	Inundated by >50% high tides and exposed to rain only	0						
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3						
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2						
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1						
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

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Data Collected on: OCT. 22, 2003

Enhancement Mitigation:
 Wetlands D-north and D-middle

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Wetland D north - West of Patrol Rd. Pre-	Wetland D North- West of Patrol Rd. Post-	Wetland D Middle-West of Patrol Rd. Pre-	Wetland D Middle-West of Patrol Rd. Post-		
3. Hydrologic Functions continued								
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system	3						
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2						
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1						
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wetlands, or these factors cause water depth to be too deep for specific system.	0						
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3						
	>6 in. water depth <1 ft. on >50% high tides	2	2	2	2	2		
	<6 in. water depth, but > than saturated	1						
	Saturated by saline water table only	0						
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3						
	>5 in. to 10in. water depth on regular basis during growing season	2						
	>1 in. to 5 in. water depth on regular basis during growing season	1						
	>0.0 in. to 1 in. water depth sporadically during growing season	0						
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3						
	>2 ft. water depth (main channel) <4 ft. for 8 months	2						
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1						
	<1 ft. water depth, but dry for >4 weeks (dry season)	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

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Enhancement Mitigation:
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Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Wetland D north - West of Patrol Rd. Pre-	Wetland D North- West of Patrol Rd. Post-	Wetland D Middle-West of Patrol Rd. Pre-	Wetland D Middle-West of Patrol Rd. Post-		
3. Hydrologic Functions continued								
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	1.5	2	1	2		
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2						
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1						
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0						
e. Intactness of historic topography (soil disturbance)	Unaltered	3	3	3	3	3		
	Slightly altered soil disturbance, < 10% of assessment area	2						
	Moderately altered soil disturbance, < 25% of assessment area	1						
	Extremely altered soil disturbance, may exceed 50% of assessment area	0						
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3						
	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2						
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1						
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0						
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3						
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2						
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1						
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0						
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >12 in. and >90 % of surface area	3	3	3	3	3		
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2						
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1						
	Calcareous loam <1 in. for >50% of surface area	0						

Mitigation Bank Wetland Function – Evaluation Matrix

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Enhancement Mitigation:
 Wetlands D-north and D-middle

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Wetland D north - West of Patrol Rd. Pre-	Wetland D North- West of Patrol Rd. Post-	Wetland D Middle-West of Patrol Rd. Pre-	Wetland D Middle-West of Patrol Rd. Post-		
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1								
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. <i>Apply to freshwater systems within 5 miles of the coast</i>	<2 parts per thousand (ppt)	3						
	2 to 3 parts per thousand (ppt)	2						
	4 to 5 parts per thousand (ppt)	1						
	>5 parts per thousand (ppt)	0						
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. <i>Apply to brackish (tidal) systems only</i>	6 to 8 parts per thousand (ppt)	3						
	9 to 13 parts per thousand (ppt)	2						
	14 to 16 parts per thousand (ppt)	1						
	>16 parts per thousand (ppt)	0						
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. <i>Apply to saline marsh (tidal) systems only</i>	17 to 19 parts per thousand (ppt)	3						
	20 to 22 parts per thousand (ppt)	2	1	2	1	2		
	23 to 25 parts per thousand (ppt)	1						
	>25 parts per thousand (ppt)	0						
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. <i>Apply to hypersaline (tidal) systems only</i>	26 to 41 parts per thousand (ppt)	3						
	42 to 46 parts per thousand (ppt)	2						
	47 to 51 parts per thousand (ppt)	1						
	>51 parts per thousand (ppt)	0						
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high salinity for a normal year. <i>Apply to riverine systems only</i>	bottom (lower) third between 12 to 25 ppt	3						
	middle third between 5 to 11 ppt.							
	upper (top) third between 0 to 4 ppt.							
	bottom (lower) third between 25 to 32 ppt	2						
	middle third between 6 to 24 ppt.							
	upper (top) third between 0 to 5 ppt.							
	bottom (lower) third between 30 to 40 ppt	1						
	middle third between 8 to 29 ppt.							
	upper (top) third between 0 to 7 ppt.							
	bottom (lower) third between 35 to 50 ppt	0						
	middle third between 10 to 34 ppt.							
	upper (top) third between 0 to 9 ppt.							

W.A.T.E.R. created by: Bill L. Maus
 11/1/1995

Cumulative Score (SC)	42.5	46.5	41.0	46.5
Maximum Possible Score (MPS)	54.00	54.00	54.00	54.00
W.A.T.E.R. = Cumulative Score/Maximum Possible Score	0.79	0.86	0.76	0.86

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters		Turkey Point Expansion – Wetland C Enhancement	
<small>(Site Suitability created by: Donaldson Hearing)</small>			
Parameter	Scoring Criteria	Ratings	Score
1. Adjacent to lands or waters of regional importance and results in identifiable ecological benefits to adjacent lands or waters.	State Park, OFW, AP, and including but not limited to Special Waters on at least 1 boundary	1	1
	Adjacent lands contain no special designation or undesignated special value	0	
2. Property is within boundary of an acknowledged state, local or regional acquisition program	Property is within boundary of an acquisition program	1	0
	Property is not within boundary of an acquisition program	0	
3. Property contains ecological or geological features consistently considered by regional Scientist, or federal and state agencies to be unusual, unique or rare in the region and is of sufficient size	Property qualifies	1	1
	Property does not qualify	0	
4. Property designated as being of critical state or federal concern and/or contains special designations.	Property contains at least 1 special designation.	1	0
	Property contains no special designations.	0	
5. Property important to acknowledged restoration efforts	Property is important.	1	0
	Property is not important.	0	
6. Ownership and control of the property.	Property is privately owned.	1	1
	Property is publicly owned.	0	
7. Threatened, Endangered & Species of Special Concern Presence of animal species (faunal) found on site	Documented Presence of Species on site	1	1
	No documented Presence of species on site.	0	
8. Threatened, Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	0
	No documented Presence of species on site.	0	
9. Threat of loss or destruction from development activities. (Development Pressure)	High probability of development.	1	1
	Low probability of development.	0	
10. Extent to which lands are subject to Local, State, and Federal dredge and fill/ ERP Regulations	Property is regulated.	1	1
	Property is not regulated.	0	
		Value Cumulative Score (CS)	6

The Mitigation Bank Site Suitability Evaluation Matrix is designed to provide a quantifiable means of determining the number of mitigation credits that should be assigned to a bankwide related parameters. Value related parameters are human values determined to be important to society; and therefore are not measurable in a purely functional analysis. Functional analysis will only measure the degree of functional ecological improvement (degree of ecological improvement) resulting from mitigation activities. The SS Evaluation measures and provides credit for societal values that separate one mitigation bank from another as required by Ch. 62-342 .470 (a) (b) (e) (f) (g) (h) (i) F.A.C.. The SS evaluation is not to be utilized in conjunction with a functional analysis methodology which also utilizes value related parameters in its analysis.

Site Suitability	Suitability Multiplier
1.0	1.10
.9	1.09
.8	1.08
.7	1.07
.6	1.06
.5	1.05
.4	1.04
.3	1.03
.2	1.02
.1	1.01
0	0

Maximum Possible Score (MPS)	10
Cumulative Score (CS)	6

0.6

EPA, USACOE, USF & W, FDEP, NMFS, SFWMD, Dade DERM, FPL, CH
3-Apr-96

After Calculating the Site Suitability Score determine the Site Suitability Multiplier by utilizing the Evaluation Scale to the left. The Site Suitability Multiplier is to be multiplied times the number of the Functional Mitigation Credits, resulting from the (W.A.T.E.R.) Functional Assessment of the Mitigation Bank, to determine the number of Site Suitability Credits to be assigned to the Mitigation Bank.

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

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Data Collected on: OCT. 22, 2003

Wetland C Impacts and Enhancement Mitigation

Parameter/ Function	Scoring Criteria	Ratings	Runoff Pond			Polygon	
			Wetland C Runoff Pond 'East' Pre-	Wetland C Runoff Pond 'East' Post		Wetland C Runoff Pond 'West' Pre-	Wetland C Runoff Pond 'West' - Post
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems							
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1)	7 or more species commonly observed	3	3	3		3	3
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	2	2		1.5	2
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	2	2		2	2
	Medium sized mammals , (adult weight > 6 lbs.)	2					
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1					
	0 species present	0					
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	3		3	3
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	3	3		3	3
	Aquatic turtles	2					
	Snakes & lizards	1					
	No evidence of species present	0					

Mitigation Bank Wetland Function – Evaluation Matrix

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Data Collected on: OCT. 22, 2003

Wetland C Impacts and Enhancement Mitigation

Parameter/ Function	Scoring Criteria	Ratings	Polygon			Polygon		
			Wetland C Runoff Pond 'East' Pre-	Wetland C Runoff Pond 'East' Post		Wetland C Runoff Pond 'West' Pre-	Wetland C Runoff Pond 'West' Post	
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3	2.5	3		2	2.5	
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2						
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1						
	Very little or no desirable tree/shrubs present (evidence suggests there should be)	0						
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3	3	3		1	2.5	
	Assessment area contains >2% but <50% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2						
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1						
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0						
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3	1	1		1.5	1	
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2						
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1						
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0						
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or = to) 1 % exotic plant cover	3	3	3		3	3	
	>1 % to 10 % exotic plant cover	2						
	>10 % to 65 % exotic plant cover	1						
	> 65 % exotic plant cover	0						
e. Habitat diversity (vegetative) <i>(within assessment area)</i>	>3 native species communities on site within assessment area	3	2	2		2	2	
	2 or 3 native species communities on site within assessment area	2						
	1 native species community with 75 % to 90 % coverage within assessment area	1						
	1 native species community has > 90 % coverage within assessment area	0						
f. Biological diversity within 3000 feet <i>(approximately 1/2 mile from edge of assessment area)</i>	> 3 alternative habitats available (including upland)	3	2	2		2	2	
	2 to 3 alternative habitats	2						
	1 alternative habitat	1						
	Same habitat type, or inappropriate / impacted	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

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Data Collected on: OCT. 22, 2003

Wetland C Impacts and Enhancement Mitigation

Parameter/ Function	Scoring Criteria	Ratings	Polygon			
			Wetland C Runoff Pond 'East' Pre-	Wetland C Runoff Pond 'East' Post	Wetland C Runoff Pond 'West' Pre-	Wetland C Runoff Pond 'West' - Post
3. Hydrologic Functions						
a. Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3				
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2	1	2	0.5	1.5
	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1				
	Hydrologically isolated, no net lateral movement	0				
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3				
	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2				
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1				
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0				
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3				
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2				
	>2 weeks but <6 weeks of inudation, including soil saturation	1				
	<2 weeks of continuous inundation	0				
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides					
	Inundated by "spring" high tides (bi-monthly)	2	2.5	3	2	2.5
	Inundated by "extreme high" tides only (biannually)	1				
	Inundated by storm surges only	0				
b-3 Alternate to b. for High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3				
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2				
	Inundated by high "spring" tides (monthly)and exposed to rain only	1				
	Inundated by >50% high tides and exposed to rain only	0				
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3				
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2				
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1				
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0				

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Date Collected on: OCT. 22, 2003

Wetland C Impacts and Enhancement Mitigation

Parameter/ Function	Scoring Criteria	Ratings	Polygon					
			Wetland C Runoff Pond 'East' Pre-	Wetland C Runoff Pond 'East' Post		Wetland C Runoff Pond 'West' Pre-	Wetland C Runoff Pond 'West' - Post	
3. Hydrologic Functions continued								
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3						
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2						
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1						
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0						
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3						
	> 6 in. water depth <1 ft. on >50% high tides	2	2	2		2	2	
	< 6 in. water depth, but > than saturated	1						
	Saturated by saline water table only	0						
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3						
	>5 in. to 10in. water depth on regular basis during growing season	2						
	>1 in. to 5 in. water depth on regular basis during growing season	1						
	>0.0 in. to 1 in. water depth sporadically during growing season	0						
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3						
	>2 ft. water depth (main channel) <4 ft. for 6 months	2						
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1						
	<1 ft. water depth, but dry for >4 weeks (dry season)	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
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Data Collected on: OCT. 22,2003

Wetland C Impacts and Enhancement Mitigation

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		
			Wetland C Runoff Pond 'East' Pre-	Wetland C Runoff Pond 'East' Post	Wetland C Runoff Pond 'West' Pre-	Wetland C Runoff Pond 'West' - Post	
3. Hydrologic Functions continued							
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3					
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2	2	2	2	2	
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1					
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0					
e. Intactness of historic topography (soil disturbance)	Unaltered	3					
	Slightly altered soil disturbance, < 10% of assessment area	2	3	2	3	3	
	Moderately altered soil disturbance, < 25% of assessment area	1					
	Extremely altered soil disturbance, may exceed 50% of assessment area	0					
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >80% of surface area	3					
	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2					
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1					
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0					
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3					
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2					
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1					
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0					
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >12 in. and >90 % of surface area	3					
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2	3	3	3	3	
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1					
	Calcareous loam <1 in. for >50% of surface area	0					

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Wetland C Impacts and Enhancement Mitigation

Parameter/ Function	Scoring Criteria	Rating	Polygon			Polygon		
			Wetland C Runoff Pond 'East' Pre-	Wetland C Runoff Pond 'East' Post		Wetland C Runoff Pond 'West' Pre-	Wetland C Runoff Pond 'West' - Post	
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1								
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. <i>Apply to freshwater systems within 5 miles of the coast</i>	<2 parts per thousand (ppt)	3						
	2 to 3 parts per thousand (ppt)	2						
	4 to 5 parts per thousand (ppt)	1						
	>5 parts per thousand (ppt)	0						
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. <i>Apply to brackish (tidal) systems only</i>	6 to 8 parts per thousand (ppt)	3						
	9 to 13 parts per thousand (ppt)	2						
	14 to 16 parts per thousand (ppt)	1						
	>16 parts per thousand (ppt)	0						
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. <i>Apply to saline marsh (tidal) systems only</i>	17 to 19 parts per thousand (ppt)	3						
	20 to 22 parts per thousand (ppt)	2	2	2		2	2	
	23 to 25 parts per thousand (ppt)	1						
	>25 parts per thousand (ppt)	0						
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. <i>Apply to hypersaline (tidal) systems only</i>	26 to 41 parts per thousand (ppt)	3						
	42 to 46 parts per thousand (ppt)	2						
	47 to 51 parts per thousand (ppt)	1						
	>51 parts per thousand (ppt)	0						
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high salinity for a normal year. <i>Apply to riverine systems only</i>	bottom (lower) third between 12 to 25 ppt	3						
	middle third between 5 to 11 ppt.							
	upper (top) third between 0 to 4 ppt.							
	bottom (lower) third between 25 to 32 ppt	2						
	middle third between 6 to 24 ppt.							
	upper (top) third between 0 to 5 ppt.							
	bottom (lower) third between 30 to 40 ppt	1						
	middle third between 8 to 29 ppt.							
upper (top) third between 0 to 7 ppt.								
bottom (lower) third between 35 to 50 ppt	0							
middle third between 10 to 34 ppt.								
upper (top) third between 0 to 9 ppt.								

W.A.T.E.R. created by: Bill L. Maus
 11/1/1995

Cumulative Score (SC)	42.0	43.0	38.5	42.0
Maximum Possible Score (MPS)	54.00	54.00	54.00	54.00
W.A.T.E.R. = Cumulative Score/Maximum Possible Score	0.78	0.80	0.71	0.78

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Kari Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland D Restoration

Parameter/ Function	Scoring Criteria	Ratings	Polygon				Polygon	
			Wetland D West of Patrol Rd.- Impact	Wetland D West of Patrol Rd. - Restored	Wetland D East of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Restored		
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	0	2.5	0	2.5		
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	0	2	0	2		
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	0	2	0	2		
	Medium sized mammals , (adult weight > 6 lbs.)	2						
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1						
	0 species present	0						
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	0	2.5	0	2.5		
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	0	2	0	2		
	Aquatic turtles	2						
	Snakes & lizards	1						
	No evidence of species present	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland D Restoration

Parameter/ Function	Scoring Criteria	Ratings	Periphyton		Polygon		Polygon	
			Wetland D West of Patrol Rd.- Impact	Wetland D West of Patrol Rd. - Restored	Wetland D East of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Restored		
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3						
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2	0	2	0	2		
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1						
	Very little or no desirable tree/shrubs present (evidence suggests there should be)	0						
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3						
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2	0	2	0	2		
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1						
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0						
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3						
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2	0	0.5	0	0.5		
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1						
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0						
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or = to) 1 % exotic plant cover	3						
	>1 % to 10 % exotic plant cover	2	0	3	0	3		
	>10 % to 65 % exotic plant cover	1						
	> 65 % exotic plant cover	0						
e. Habitat diversity (vegetative) (within assessment area)	>3 native species communities on site within assessment area	3						
	2 or 3 native specie communities on site within assessment area	2	0	2	0	2		
	1 native species community with 75 % to 90 % coverage within assessment area	1						
	1 native species community has > 90 % coverage within assessment area	0						
f. Biological diversity within 3000 feet (approximately 1/2 mile from edge of assessment area)	> 3 alternative habitats available (including upland)	3						
	2 to 3 alternative habitats	2	0	3	0	3		
	1 alternative habitat	1						
	Same habitat type, or inappropriate / impacted	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
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 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland D Restoration

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon	
			Wetland D West of Patrol Rd.- Impact	Wetland D West of Patrol Rd. - Restored	Wetland D East of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Restored		
3. Hydrologic Functions								
a. Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3	0	1.5	0	1.5		
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2						
	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1						
	Hydrologically isolated, no net lateral movement	0						
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3						
	>6 months < 8 months or >6 years continuous inundation (look for strong water stains on persistent vegetation)	2						
	>1 month < 6 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1						
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0						
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3						
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2						
	>2 weeks but <6 weeks of inundation, including soil saturation	1						
	<2 weeks of continuous inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides		0	3	0	3		
	Inundated by "spring" high tides (bi-monthly)	2						
	Inundated by "extreme high" tides only (biannually)	1						
	Inundated by storm surges only	0						
b-3 Alternate to b. for High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3						
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2						
	Inundated by high "spring" tides (monthly) and exposed to rain only	1						
	Inundated by >50% high tides and exposed to rain only	0						
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3						
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2						
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1						
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Data Collected on: OCT. 22, 2003

Project Wetland D Restoration

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advice from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon	
			Wetland D West of Patrol Rd.- Impact	Wetland D West of Patrol Rd. - Restored	Wetland D East of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Restored		
3. Hydrologic Functions continued								
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3						
	>8 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2						
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1						
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0						
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3						
	> 6 in. water depth <1 ft. on >50% high tides	2	0	2	0	2		
	< 6 in. water depth, but > than saturated	1						
	Saturated by saline water table only	0						
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3						
	>5 in. to 10in. water depth on regular basis during growing season	2						
	>1 in. to 5 in. water depth on regular basis during growing season	1						
	>0.0 in. to 1 in. water depth sporadically during growing season	0						
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3						
	>2 ft. water depth (main channel) <4 ft. for 6 months	2						
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1						
	<1 ft. water depth, but dry for >4 weeks (dry season)	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

Scoring conducted by: Bill L. Maus & Karl Bullock

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County (W.A.T.E.R. created by: Bill L. Maus)

Data Collected on: OCT. 22, 2003

Project Wetland D Restoration

Parameter/Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon	
			Wetland D West of Patrol Rd.- Impact	Wetland D West of Patrol Rd. - Restored	Wetland D East of Patrol Rd.- Impact	Wetland D East of Patrol Rd.- Restored		
3. Hydrologic Functions continued								
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	0	2	0	2		
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2						
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1						
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0						
e. Intactness of historic topography (soil disturbance)	Unaltered	3	0	2	0	2		
	Slightly altered soil disturbance, < 10% of assessment area	2						
	Moderately altered soil disturbance, < 25% of assessment area	1						
	Extremely altered soil disturbance, may exceed 50% of assessment area	0						
f. Soils, organic (fresh systems)	Organic soil classified hydric soil > 12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3						
	Organic soil classified hydric soil > 8 in. but < 12 in. and covering > 80% of surface area	2						
	Organic soil classified hydric soil > 1 in. but < 8 in. and covering > 50% but < 90% of surface area	1						
	Organic soil classified non-hydric soil < 1 in. for > 50% of surface area	0						
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3						
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2						
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1						
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0						
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam > 12 in. and > 80% of surface area	3	0	2	0	2		
	Calcareous loam > 8 in. to < 12 in. and > 80% of surface area	2						
	Calcareous loam > 1 in. to < 8 in. and covering > 50% but < 90% of surface area	1						
	Calcareous loam < 1 in. for > 50% of surface area	0						

APPENDIX B

**SCOUT LAGOON CREATION AND
SEAGRASS RESTORATION PLAN**

SCOUT LAGOON CREATION AND SEAGRASS RESTORATION DESIGN

Objective and Benefits

The objective of the Scout Lagoon creation and seagrass restoration is to restore the site to reasonably approximate conditions that mimic an open water lagoon that will support seagrasses and provide EFH (Essential Fish Habitat). To achieve the desired restored condition, changes in the water management practices of the site will be required. A primary restoration objective is to remove the upland fill that currently exists on the site and return the area to a productive wetland open water system. Signed and sealed drawings of the Scout Lagoon Creation and Seagrass Restoration Design are attached to this document.

Implementation of changes to more closely mimic historic conditions will provide the benefits of greatly increase the biological productivity of the site and enhance regional ecology.

The Red Barn Peninsula has been used as a recreation area for approximately 40 years. The area supported a camping dormitory for the Girl Scouts and associated story telling gazebos dot the area. Numerous planted coconut palms provided a tropical setting. Prior to this dormitory use, the area historically provided a shallow sub-tropical tidal creek tributary and estuary located adjacent to a coastal ridge hammock area.

Permitting meetings designed to form a collaborative mitigation effort identified the importance of the restoration of the area to mimic historic conditions. Representatives of Everglades National Park (ENP), Biscayne National Park (BNP), South Florida Water Management District (SFWMD), Miami-Dade Department of Environmental Resources Management (DERM), United States Army Corps of Engineers (USACOE), Environmental Protection Agency (EPA), Florida Power and Light (FPL), National Marine Fisheries Service (NMFS), and Cotleur & Hearing, Inc. (CH) participated in the design of the on site elements of the mitigation plan. The group combined first hand knowledge of the South Dade Wetlands with knowledge of the Turkey Point Expansion project and determined a unified direction for acquisition, preservation and restoration for these lands. The details of the mitigation plan for the Turkey Point Expansion Project are described in the Mitigation Plan dated December 30, 2004. The Scout Lagoon is a portion of that mitigation plan.

Restoration Activities

Three major activities must be completed to meet the requirements of the Scout Lagoon Creation and Seagrass Restoration Plan: 1) removal of exotic and nuisance vegetation, 2) subsequent removal of earthen fill that is the result of past site disturbance, 3) hydrologic and seagrass restoration.

The hydrologic and seagrass restoration will consist of numerous components designed to make the Scout Lagoon site an integral component of the area ecosystem. Connection to the existing tidal creek system provides the opportunity for water exchange to and from the existing mangrove areas.

The hydrologic components include: The use of the upland peninsula for the creation of Scout Lagoon, installation of two baffle weirs, construction of the new lagoon to accommodate colonization by seagrasses, and lastly transplanting seagrasses from the existing Gardner Lagoon to the newly established Scout Lagoon.

Physical Feature Removal (Structures and buildings)

Scout Lagoon restoration activities include the removal of the physical features that are the result of past site disturbances. These physical features include abandoned buildings constructed for the purpose of providing facilities for the Girl Scout Association.

Exotic Vegetation

The restoration effort for Scout Lagoon includes a program designed to eradicate exotic vegetation in the work area.

Exotic Eradication Methodology

Photographs will be taken at selective grid intersections to effectively document conditions before and after restoration efforts have commenced. To preserve and protect desirable native species and existing wetland systems, methods of eradication will vary depending upon specific site conditions, but may include the methods described below, where appropriate. Specific methods to be utilized will be determined prior to commencement of eradication activities within the assessment area.

Foliar Application - This application technique involves applying systemic herbicide to the foliage of targeted species. Herbicide is applied using pressurized backpack sprayers that apply chemical to the foliage of targeted species. The chemical most often used with for the foliar application technique is Rodeo by Monsanto.

Mechanical Removal- This method of eradication will utilize a loader with a mounted rake or tracked vehicle with claw attachment to remove mature palm trees, with their roots, for proper disposal.

Prior to commencement of mechanical eradication activities work areas will be inspected and native vegetation appropriately protected.

Disposal of Debris

Debris will be removed from all areas where mechanical removal is utilized. If conditions allow, debris will be burned in accordance with burn permit guidelines.

Debris not burned, chipped or cut on site shall be hauled for proper disposal at approved refuse facilities.

Restoration Plantings

Part of the restoration objective is to restore vegetative associations and communities consistent with the area prior to the disruption of the area by the creation of the Red Barn Peninsula. The target goal of the year 1964 vegetative associations is an achievable goal for the Scout Lagoon. Restoration areas that will require restoration plantings to ensure their trend toward native plant associations are the floor of the Scout Lagoon and the near shoreline of the Lagoon Restoration. All restoration planting will be monitored for installation success, percent cover, and exotic species recruitment (if any exotic recruitment is present, steps outline in 1.3 will be taken).

Hydrologic Restoration/Improvements

Removal of Upland Fill

Excavated limerock material from upland will be stockpiled in another upland area on the Turkey Point plant site. Organic muck, if of suitable quality, will be mixed with adjacent limerock substrate directly east of lagoon to achieve a suitable substrate for creation of an upland Sub-Tropical Planting Area. Upland area adjacent to the lagoon will be elevated to a minimum of 14 inches above mean high high tide (MHHT) and a maximum of 36 inches above MHHT to support future creation of the upland Sub-Tropical Hammock Planting Area.

Hydrology

The tidal connection system on the north side of the Scout Lagoon will deliver the water needed to function as a conveyance system, which in turn will serve to encourage the utilization of the lagoon by forage fish for wading birds. The concentration of forage fish is often a stimulus for nesting among certain avian species.

Create Scout Lagoon Tidal Connections

Connections (tie into existing Tidal Creek) will be created at the northwest and southwest ends of Scout Lagoon. Dimensions of the northwest tidal connection will be a maximum of 25 feet long by 10 feet wide and approximately -6 feet deep Mean Low Low Water (MLLW).

An energy reducer baffle weir will be installed at the south end of the connection (northern edge of lagoon). As sediments stabilize, the baffle weir will be adjusted to control water flow, as conditions warrant.

Red mangroves will be transplanted (greater than 1" dbh) at either side of connection to allow prop roots to progress toward becoming a natural baffle.

A southwest connection to Scout Lagoon will be created (tying into existing wetlands). The maximum dimension will be 12 feet long by 10 feet wide and approximately -6 feet deep MLLW. An energy reducer baffle weir will be installed at east end of connection (western edge of lagoon).

Red mangroves will be transplanted (greater than 1" dbh) at either side of the connection to allow roots to progress toward a natural baffle.

Creation of Scout Lagoon

The work areas will be encircled with turbidity barriers as appropriate to ensure no impact on surrounding wetlands.

Sediments will be excavated using clamshell crane or other appropriate mechanical method of removing fill from Scout Lagoon area.

The interior lagoon depth of approximately -6 to -5 feet graduated depth MLLW (Mean Low Low Water) approximately 0.5 acres will be created.

An exterior lagoon depth of approximately -4 to -1 feet graduated depth MLW (Mean Low Water) will be created.

A mangrove perimeter of -0.5 feet to 0.0 feet graduated depth Mean High Water (MHW) will be created for the establishment of mangrove planter areas. Mangrove species planter area along north, east, and south perimeters will be created. (Area may require soil amendments to support mangrove growth.)

Gardner Lagoon Abandonment and Preparation for Seagrass Transplant

Gardner Lagoon is the existing lagoon located within the footprint of the Turkey Point Expansion project. The lagoon will be filled as part of the construction activities under a separate ACOE 404 permit. Gardner Lagoon is a source of seagrasses to be transplanted to the new Scout Lagoon.

Prior to beginning transplanting of seagrasses from Gardner Lagoon, a combination of sonic equipment and physical seine netting will be used to drive fish and wildlife from the area. Following inspection to verify absence of fish and wildlife, a weighted floating turbidity barrier will be placed into the body of each of the two tidal creeks to "seal off" the Lagoon and ensure no impact on surrounding wetlands.

Seagrass Transplanting

Seagrasses shall be transplanted from Gardner lagoon to Scout Lagoon once the ACOE 404 Dredge and Fill Permit is issued. The transplantation will occur in a manner to achieve success criteria identified in the Success Criteria section of this document. Seagrasses shall not be planted if turbidity in Scout Lagoon is greater than 16 N.T.U. above existing lagoon turbidity (0-5 NTU). If any section of the lagoon meets this standard, that area may be isolated so transplanting can begin.

Suitable substrate for transplant and growth of *halodule wrightii* and *ruppia maritime* seagrass exists in Gardner lagoon. Sediment will be transferred from Gardner Lagoon to Scout Lagoon, as practicable. This may be accomplished by suction dredging a portion of the existing lagoon or by any other method to achieve success criteria.

Transplant dense *halodule wrightii* macro plugs from Gardner lagoon to Scout lagoon in appropriate quantity/concentration to achieve success criteria. Macro plugs shall be kept wet after being harvested and transferred as soon as practical. Seagrasses will be deposited evenly throughout Scout Lagoon, as feasible.

Secure rhizomes as appropriate to ensure success criteria is met.

Repeat process to transplant *ruppia maritime* seagrass.

Mark seagrass monitoring areas at a practical interval to monitor future progress of habitat.

Allow seagrasses and sediment to stabilize.

Adjust Scout Lagoon weirs to minimize scouring but allow circulation of water. Remove baffle barriers as appropriate from the baffle structures incorporated into lagoon connection area at northwest and southwest. Baffles may be removed sequentially as the seagrasses progress toward percent bottom coverage.

Stabilize disturbed areas surrounding Scout lagoon to prevent sediment runoff (e.g., placement of limerock).

Mangroves

Plant red mangroves around perimeter of Scout Lagoon. If mangroves are less than 23 inches tall, plant one tree every 5 square feet in two rows (260 mangroves). If mangroves are greater than 23 inches tall, plant one tree every 5 feet (151 red mangroves). Mangroves would come from wetlands in impact area as first choice. If site conditions preclude this option, then mangroves may come from other sources.

Preparation of As Built Drawings

A land survey will be conducted of all Scout Lagoon features and subsurface contours including location of seagrass monitoring locations to allow accurate baseline and future monitoring. Construction, as built, drawings with Professional Engineer signature and stamp will be prepared.

Photo documentation of the procedure will be provided and included in the baseline report for submittal to the appropriate agencies.

Success Criteria

Plantlets and macroplugs must be present and show viability of approximately 5 % at 16 months from initial planting, or equivalent to achievement of Braun-Blanquet scale score of 0.5 to 1.0 with individual ramets of Shoal grass and Widgeon grass present 16 months following initial planting (transfer). Achievement of a score of 1.3 on the Braun-Blanquet scale will represent final success criteria.

Documented presence of colony expansion 3 years after initial planting.

Documented presence of 80% of expected bottom coverage by 5th year from initial planting fulfills success of mitigation. Moderate classified percent density within range of 26% to 74% coverage of submerged bottom as evaluated using W.A.T.E.R. completes success criteria.

Unsuccessful Colony Establishment:

By year 3, investigate why plantings are unsuccessful; proposal of options for fixing (for example, in order of preference)

- Replant seagrasses in Scout Lagoon, or
- Correct elevation problems and replant, or
- Provide alternate mitigation (for example, plant seagrasses within other site areas such as Green Creek and West Fork), or
- Utilize additional credits from EMB.

Monitoring and Reporting

Specific details of the monitoring, reporting and maintenance associated with the Scout Lagoon are included in the overall project Mitigation Plan dated December 30, 2004 (attachment E "Mitigation Success Criteria")

- Baseline time zero (confirmation of initial plantings)
- Quarterly monitoring for the first 2 years following baseline report and provide report
- Annual monitoring in years 3 through 5 with annual report

Note: Monitoring shall consist of the following plot evaluations (Plot sampling consists of john-boat surveillance utilizing view tubes and photography.)

- initial plot sampling
- between plot sampling (colony expansion)
- peripheral sampling (percent lagoon coverage)

Maintenance

Upon completion of restoration activities, routine maintenance will be initiated on an annual basis for a total period of five years or until success criteria is achieved. During these routine maintenance inspections, all noxious plant species over five inches in height

shall be manually removed. Any re-growth from roots or stumps will have herbicide applied. Where possible, without excessive damage, maintenance debris or flotsam will be collected and properly disposed. Increased flushing and elevated water levels resulting from the proposed hydrologic restoration effort will improve health of native vegetation and combined with maintenance efforts, will facilitate incorporation into the surrounding ecosystem. After the initial five-year exotic eradication maintenance, the vegetative system should be relatively self-sustaining.

Reasonable Assurance

This lagoon and seagrass restoration project can reasonably be expected to succeed based on incorporation of processes employed in the following success stories.

Seagrass Habitat Restoration, Lake Surprise, Florida Keys: James Derrenbacker Jr. and R.R. Lewis, III

Abstract:

Three methods of seagrass planting were evaluated in an area of Lake Surprise, Key Largo, Florida that had been impacted by water pipeline installation. The first method employed the use of 15 cm long steel staples to anchor 10-30 cm long runner sections of *Halodule wrightii* on 0.8m centers over a 1.35ha area. The second method utilized hand-broadcast *Thalassia testudinum* seedlings over a 0.44 ha for approximately 0.3 m center coverage. The third method relies on sections of *T. testudinum* rhizomes with attached short shoots transplanted over 0.19 ha on 0.3m centers. Total labor requirements were 370 man-hours/ha (mh/ha) for *T. testudinum* rhizomes with short shoots. Planting occurred in three types of areas. *Halodule wrightii* was planted in a moderately impacted (shell hash) area, a severely impacted (fine silt) area, and a severely impacted (rocky) area. In addition a total of 16, 2 X 2m experimental plots planted with various species combinations were monitored in the three types of areas. After 7 months *H. wrightii* had 100%, 98% and 18% coverage in the moderately, severely (fine silt) and severely (rocky) impacted experimental areas, respectively.

Peanut Island Environmental Restoration: Julie Bishop and Kenneth Dugger

Abstract:

The project plans called for the removal of stockpiled dredge material from submerged lands, thus creating a shallow lagoon that was to be colonized by seagrasses. They restored mangrove wetlands and established a rock/coral reef and restored adjacent uplands.

Restoration of Esserman Property: Jeff Marcus

Abstract:

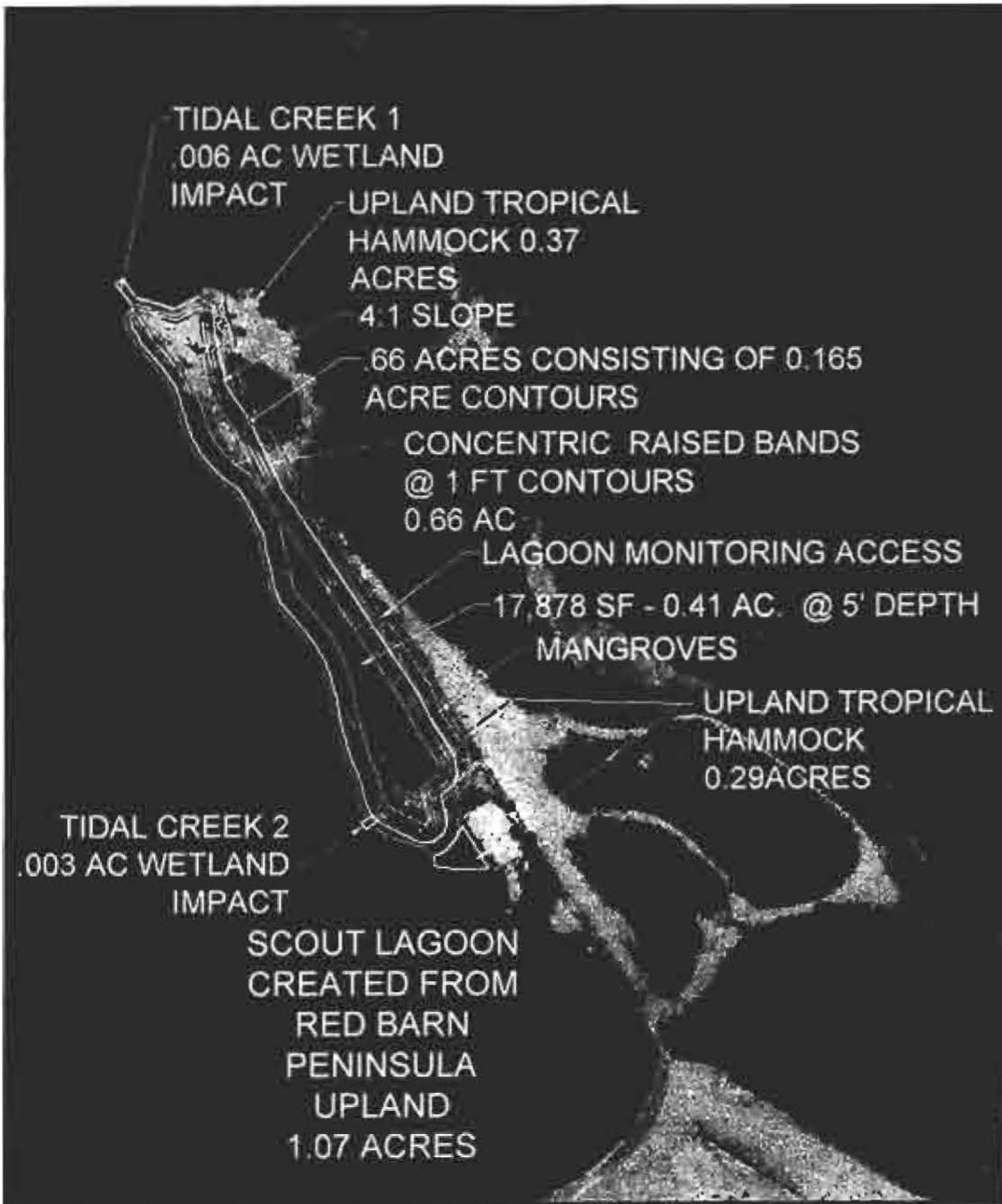
The objective of the seagrass restoration plan at the Esserman property in Coconut Grove, was to address alleged dredging violations with the restoration of approximately 1,657 square feet of seagrass habitat. The restoration effort was to back-fill the dredged area to match the existing elevation of adjacent seagrass beds that required the placement of approximately 153 cubic yards of material. In order to stabilize the sediments in the areas adjacent to an existing channel, limerock boulders were placed along the entrance on two sides of the impacted area. The next phase of the proposed plan was to wait one year to

allow for natural recruitment of seagrasses within the impacted area. At the end of the 12-month period, a status review was to be conducted. The goal was to achieve 60% coverage within a 10-foot fringe. Plantings were not required since the level of natural recruitment exceeded the 1-year requirement and at two years following project initiation, approximately 80% coverage has occurred.

Horseshoe Pit, West Summerland Key Restoration: Susanne Travis

Abstract:

The Florida Department of Transportation (FDOT) is restoring seagrass habitat within the Horseshoe Pit on West Summerland Key, at the southwestern end of the Bahia Honda in the Florida Keys. The restoration project serves as mitigation for 0.02 acres of seagrass impacts that occurred from placement of riprap and slope regarding during the Harris Gap Bridge emergency hurricane repairs. The Horseshoe Pit was created during the construction of the Bahia Honda Bridge in the 1960s, and a remnant fill pad surrounds the pit except at the opening along the northern side which is adjacent to the existing navigable channel. The project proposes to preserve a 0.3 acres island adjacent to the channel on the western side and then scrape-down 0.4 acres to the south of the island.



Turkey Point Expansion
Scout Lagoon's & Tidal Creek Connection &
Tropical Hammock Planting Area
DATE: 10-15-04
NOT TO SCALE

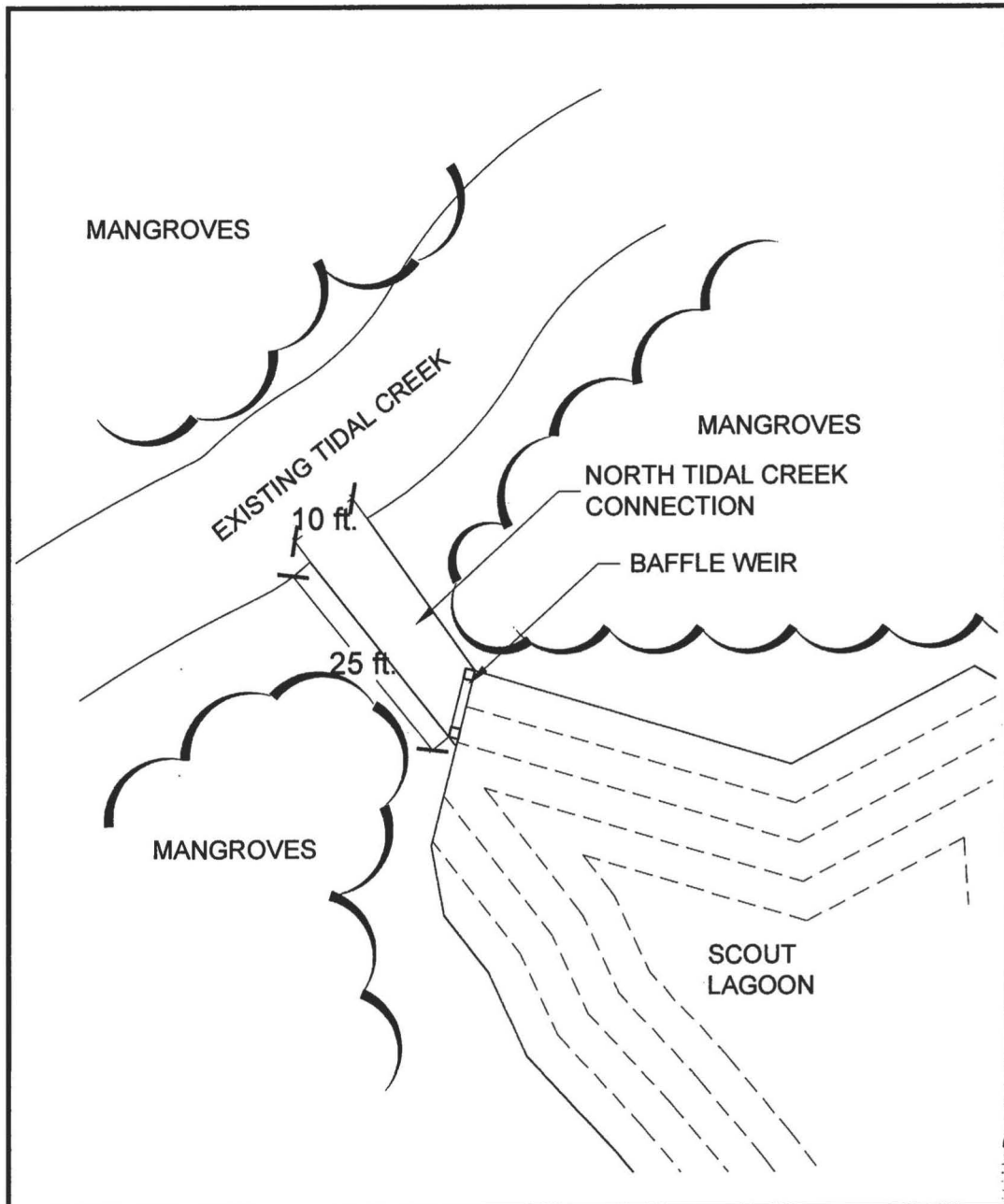


North



**Coteleur
Hearing**
1000 Quince Orchard Lane
Suite 1
Arling, Virginia 22209
811-742-2222 Fax 703-427-1277

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NOV 18 2004



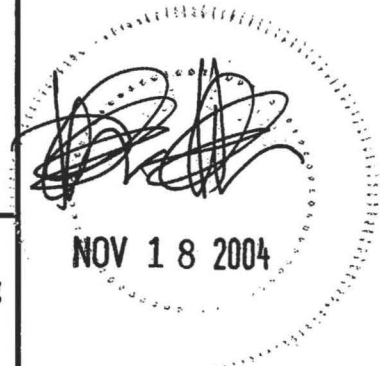
Turkey Point Expansion
 Scout Lagoon's North Tidal Creek Connection Plan View
 DATE: 10-07-04
 NOT TO SCALE

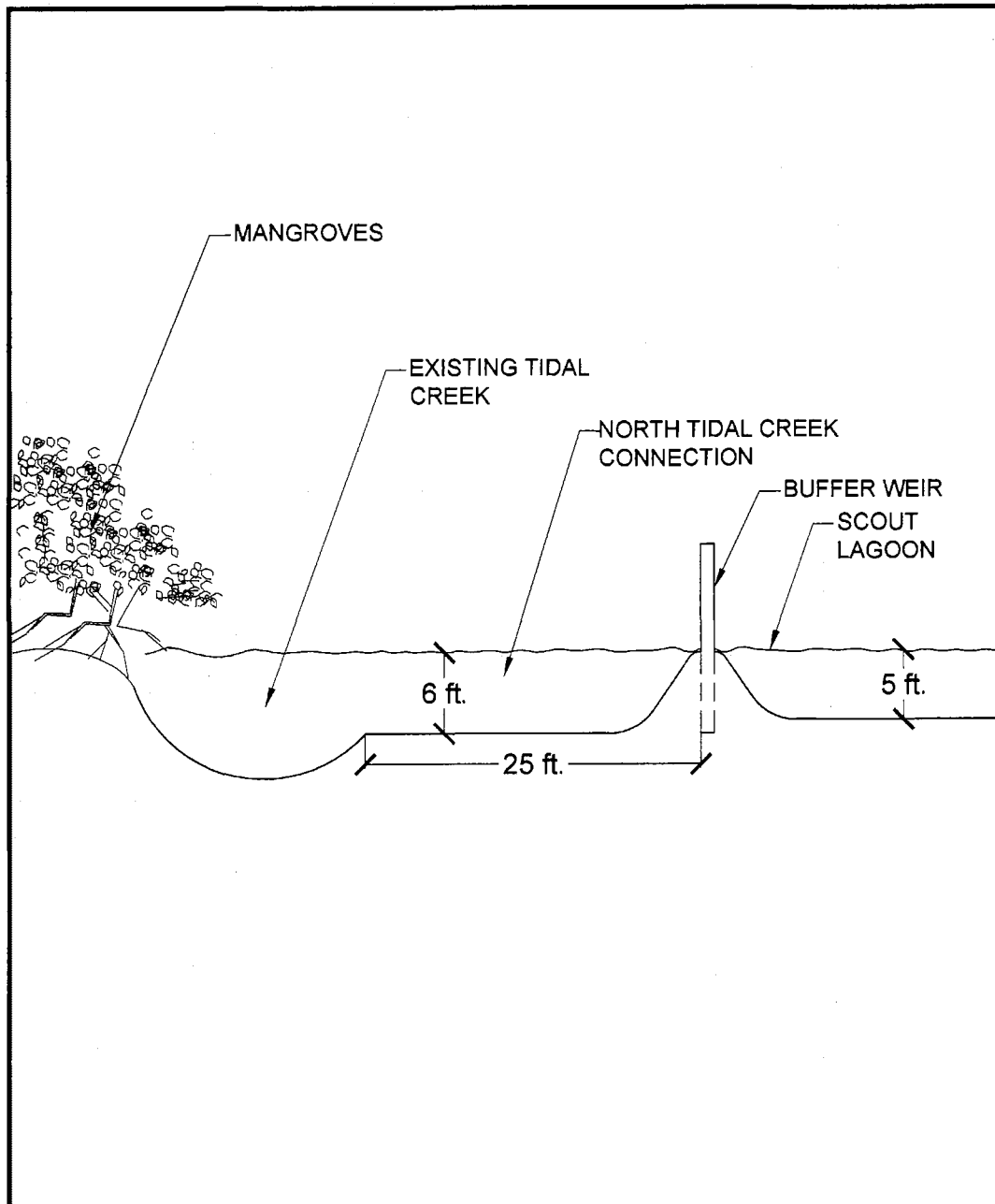


North



**Cotleur
 Hearing**
 1594 Commerce Lane
 Suite 1
 Jupiter, Florida 33458
 888-747-6286 Fax 772-1187

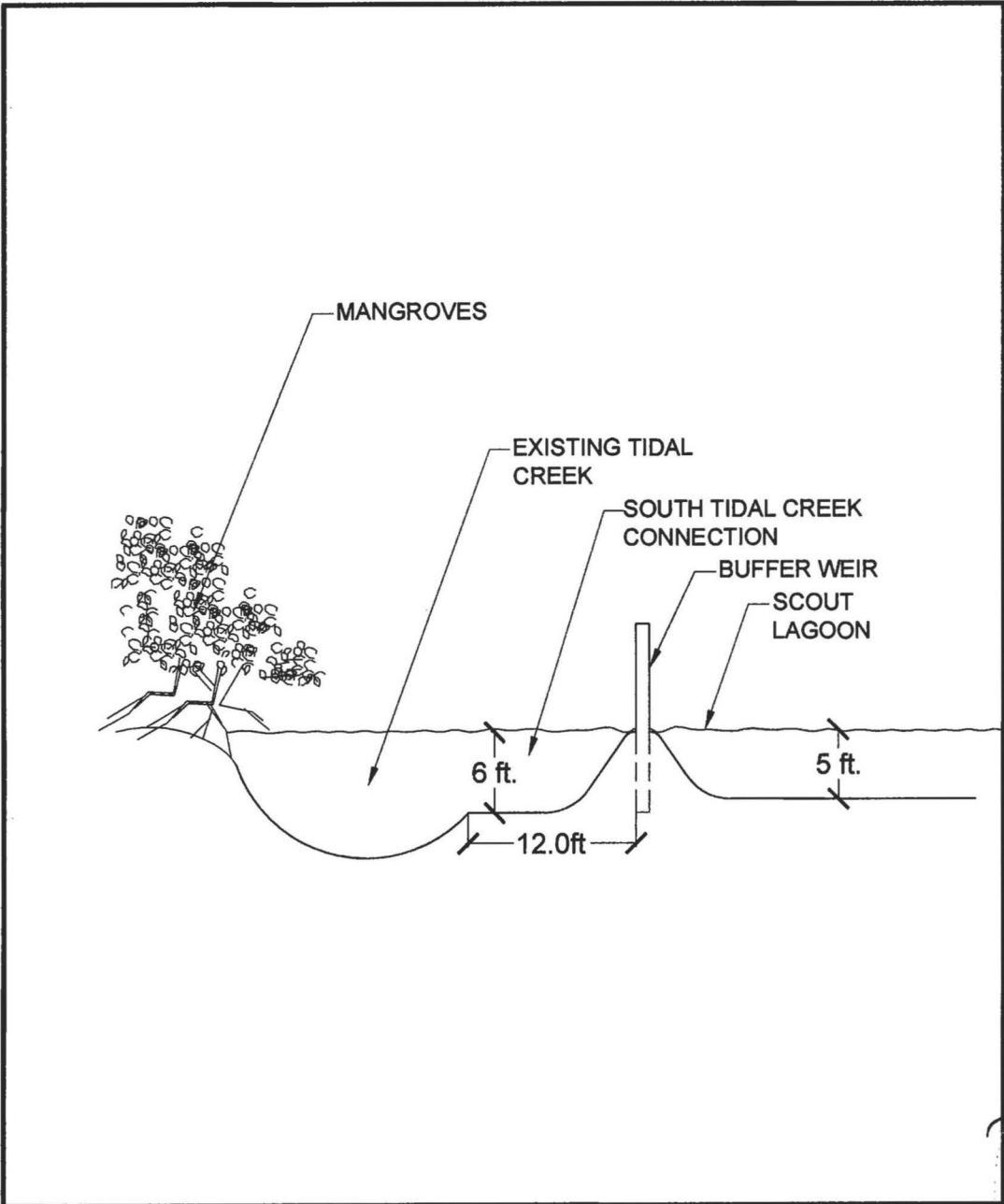





Turkey Point Expansion
 Scout Lagoon's North Tidal Creek Connection Cross Section
 DATE: 10-07-04
 NOT TO SCALE



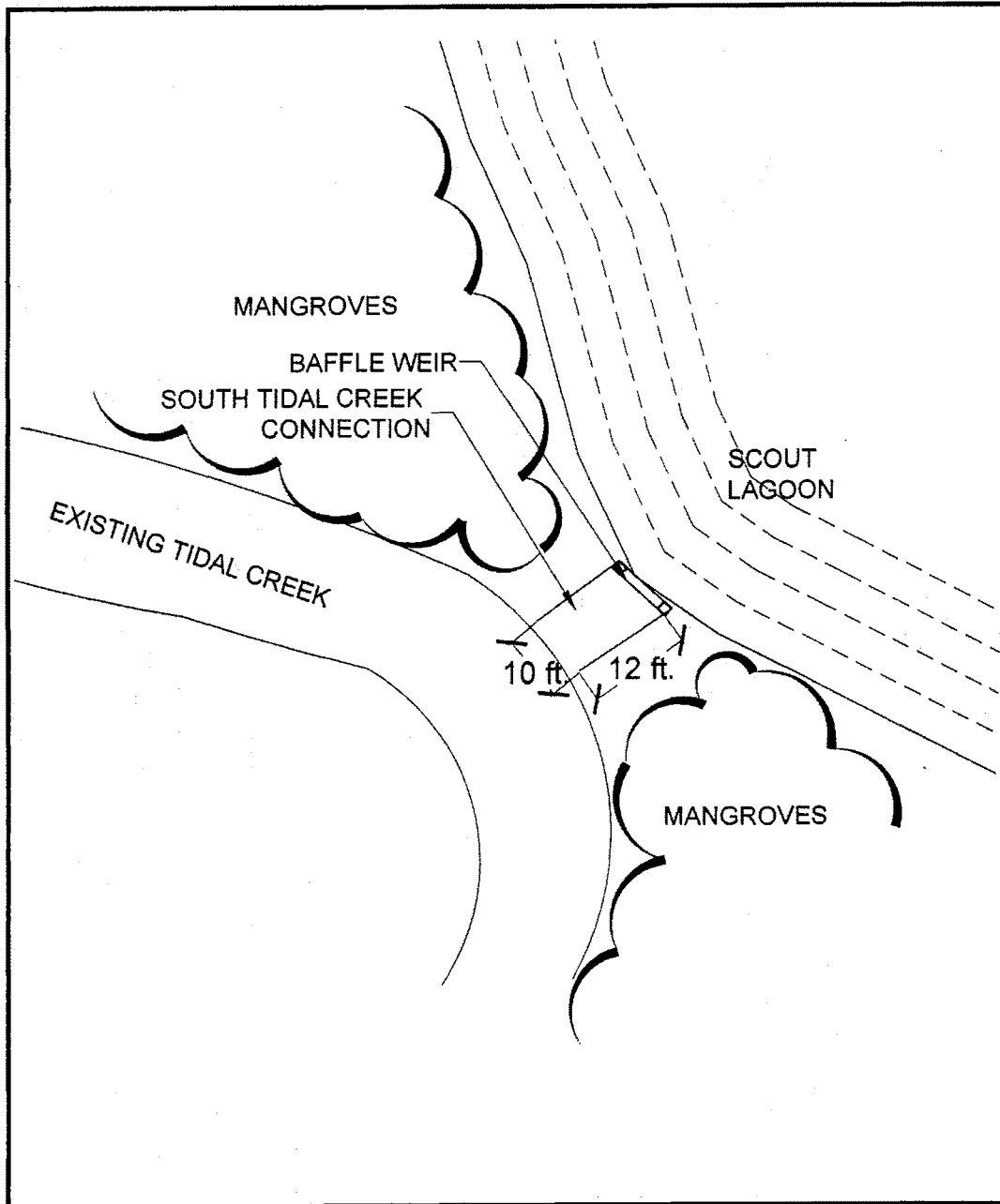
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Turkey Point Expansion
 Scout Lagoon's South Tidal Creek Connection Cross Section
 DATE: 10-07-04
 NOT TO SCALE


Cofleur Hearing
 1604 Commerce Lane
 Suite 1
 Jupiter, Florida 33408
 888-747-6288 Fax 747-1277



Turkey Point Expansion
 Scout Lagoon's South Tidal Creek Connection Plan View
 DATE: 10-07-04
 NOT TO SCALE



North



**Cotleur
 Hearing**
 1934 Commerce Lane
 Suite 1
 Jupiter, Florida 33456
 888.747.8229 Fax 888.747.1577

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APPENDIX C

**UMAM AND W.A.T.E.R. FUNCTIONAL ASSESSMENT SCORING
FOR PRESERVATION OF MANGROVE-DOMINATED PROPERTY
ADJACENT TO THE L-31E LEVEE**

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II
Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name Turkey Point Expansion	Application Number	Assessment Area Name or Number Preservation of Mangrove-dominated property west of L-31E
Impact or Mitigation Mitigation as Preservation	Assessment conducted by: Bill Maus	Assessment date: 2-Apr-04

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(7)(a) Location wo pres or current <div style="display: flex; justify-content: space-around;"> 7 8 </div>	a.	7	8
	b.	6	6
	c.	7	8
	d.	6	8
	e.	7	8
	f.	7	8
	g.	7	8
.500(7)(b)Water Environment (n/a for uplands) wo pres or current <div style="display: flex; justify-content: space-around;"> 6 7 </div>	a.	6	7
	b.	6	7
	c.	6	7
	d.	6	7
	e.	7	8
	f.	7	8
	g.	7	8
	h.	4	6
	i.	8	8
	j.	7	8
	k.	4	8
.500(7)(c)Community structure 1. Vegetation and/or 2. Benthic Community wo pres or current <div style="display: flex; justify-content: space-around;"> 5 6 </div>	i.	5	8
	II.	6	7
	III.	5	6
	IV.	4	5
	V.	5	6
	VI.	6	7
	VII.	4	6
	VIII.	5	6
	IX.	5	6
	X.	0	0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	
with	
0.6	0.7

If preservation as mitigation,
Preservation adjustment factor = 0.7
Adjusted mitigation delta = 18.2

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.10 times 260.36 acres = 26.0

If mitigation
Time lag (t-factor) =
Risk factor = 1.5

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 12.13 credits

UNIFORM WETLAND MITIGATION ASSESSMENT WORKSHEET - PART II
 Form 62-345.900(2), F.A.C. (See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name Turkey Point Expansion	Application Number	Assessment Area Name or Number Preservation of Mangrove-dominated property east of L-31E
Impact or Mitigation Mitigation as Preservation	Assessment conducted by: Bill Maus	Assessment date: 2-Apr-04

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(7)(a) Location	a.	8	8
	b.	6	6
Wo pres or current	c.	8	8
	d.	9	9
with	e.	7	8
	f.	8	8
8	g.	7	8
.500(7)(b)Water Environment (n/a for uplands)	a.	8	9
	b.	7	8
Wo pres or current	c.	7	8
	d.	5	7
with	e.	8	8
	f.	8	9
7	g.	8	8
.500(7)(c)Community structure	h.	8	8
	i.	7	8
Wo pres or current	j.	7	8
	k.	6	7
with	i.	8	9
	ii.	7	8
1. Vegetation and/or	iii.	7	7
	iv.	5	7
2. Benthic Community	v.	6	6
	vi.	6	7
Wo pres or current	vii.	5	6
	viii.	7	7
6	ix.	6	6
	x.	N/A	N/A
7			

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.7	0.77

If preservation as mitigation,
Preservation adjustment factor = 0.9
Adjusted mitigation delta = 2.99

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.07 times 47.46 acres = 3.32

If mitigation
Time lag (t-factor) =
Risk factor = 1.5

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 1.99 credits

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Data collected on March 22, 2004

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

FPL - Turkey Pt. 260.4 acres

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property West of L-31E - without Preservation	Mangrove Property - West of L-31E With Preservation			
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems							
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1)	7 or more species commonly observed	3	2	2.5			
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	2	2			
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	3	3			
	Medium sized mammals , (adult weight > 6 lbs.)	2					
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1					
	0 species present	0					
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	3			
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	1	1			
	Aquatic turtles	2					
	Snakes & lizards	1					
	No evidence of species present	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Data collected on March 22, 2004

FPL - Turkey Pt. 260.4 acres

Parameter/Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property West of L-31E - without Preservation	Mangrove Property - West of L-31E With Preservation			
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems							
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3	2	2.5			
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2					
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1					
	Very little or no desirable tree/shrubs present (evidence suggests there should be)	0					
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3	2	2.5			
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but <30%	2					
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1					
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0					
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness > 1 1/4 in. (measure active & dead layer)	3	N/A	N/A			
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2					
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1					
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0					
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or = to) 1% exotic plant cover	3	1.5	2.5			
	>1% to 10% exotic plant cover	2					
	>10% to 65% exotic plant cover	1					
	> 65% exotic plant cover	0					
e. Habitat diversity (vegetative) (within assessment area)	>3 native species communities on site within assessment area	3	2	2			
	2 or 3 native species communities on site within assessment area	2					
	1 native species community with 75% to 90% coverage within assessment area	1					
	1 native species community has > 90% coverage within assessment area	0					
f. Biological diversity within 3000 feet (approximately 1/2 mile from edge of assessment area)	> 3 alternative habitats available (including upland)	3	2	2			
	2 to 3 alternative habitats	2					
	1 alternative habitat	1					
	Same habitat type, or inappropriate / impacted	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Data collected on March 22, 2004

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

FPL - Turkey Pt. 260.4 acres

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property West of L-31E - without Preservation	Mangrove Property - West of L-31E With Preservation			
3. Hydrologic Functions							
a. Surface water hydrology / sheet flow <i>Apply to freshwater, saltwater, brackish and mitigation systems</i>	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3	1	1			
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2					
	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1					
	Hydrologically isolated, no net lateral movement	0					
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3					
	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2					
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1					
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0					
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3					
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2					
	>2 weeks but <6 weeks of inundation, including soil saturation	1					
	<2 weeks of continuous inundation	0					
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides	3	0	0			
	Inundated by "spring" high tides (bi-monthly)	2					
	Inundated by "extreme high" tides only (biannually)	1					
	Inundated by storm surges only	0					
b-3 Alternate to b. for High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3					
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2					
	Inundated by high "spring" tides (monthly) and exposed to rain only	1					
	Inundated by >50% high tides and exposed to rain only	0					
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3					
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2					
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1					
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Data collected on March 22, 2004

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

FPL - Turkey Pt. 260.4 acres

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property West of L-31E - without Preservation	Mangrove Property - West of L-31E With Preservation			
3. Hydrologic Functions continued							
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3					
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2					
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1					
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0					
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 80% high tides	3					
	> 6 in. water depth <1 ft. on >50% high tides	2					
	< 6 in. water depth, but > than saturated	1					
	Saturated by saline water table only	0	0	0			
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3					
	>5 in. to 10in. water depth on regular basis during growing season	2					
	>1 in. to 5 in. water depth on regular basis during growing season	1					
	>0.0 in. to 1 in. water depth sporadically during growing season	0					
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3					
	>2 ft. water depth (main channel) <4 ft. for 6 months	2					
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1					
	<1 ft. water depth, but dry for >4 weeks (dry season)	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Data collected on March 22, 2004

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W. SFWMD & Dade County

FPL - Turkey Pt. 260.4 acres

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property West of L-31E - without Preservation	Mangrove Property - West of L-31E With Preservation			
3. Hydrologic Functions continued							
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	2	2			
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2					
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1					
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0					
e. Intactness of historic topography (soil disturbance)	Unaltered	3	2	2			
	Slightly altered soil disturbance, < 10% of assessment area	2					
	Moderately altered soil disturbance, < 25% of assessment area	1					
	Extremely altered soil disturbance, may exceed 50% of assessment area	0					
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3					
	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2					
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1					
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0					
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3					
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2					
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1					
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0					
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >12 in. and >90 % of surface area	3	3	3			
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2					
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1					
	Calcareous loam <1 in. for >50% of surface area	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Data collected on March 22, 2004

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

FPL - Turkey Pt. 260.4 acres

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property West of L-31E - without Preservation	Mangrove Property - West of L-31E With Preservation			
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1							
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. Apply to freshwater systems within 5 miles of the coast	<2 parts per thousand (ppt)	3					
	2 to 3 parts per thousand (ppt)	2					
	4 to 5 parts per thousand (ppt)	1					
	>5 parts per thousand (ppt)	0					
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. Apply to brackish (tidal) systems only	6 to 8 parts per thousand (ppt)	3					
	9 to 13 parts per thousand (ppt)	2	3	3			
	14 to 16 parts per thousand (ppt)	1					
	>16 parts per thousand (ppt)	0					
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. Apply to saline marsh (tidal) systems only	17 to 19 parts per thousand (ppt)	3					
	20 to 22 parts per thousand (ppt)	2					
	23 to 25 parts per thousand (ppt)	1					
	>25 parts per thousand (ppt)	0					
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. Apply to hypersaline (tidal) systems only	26 to 41 parts per thousand (ppt)	3					
	42 to 46 parts per thousand (ppt)	2					
	47 to 51 parts per thousand (ppt)	1					
	>51 parts per thousand (ppt)	0					
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high salinity for a normal year. Apply to riverine systems only	bottom (lower) third between 12 to 25 ppt	3					
	middle third between 5 to 11 ppt.						
	upper (top) third between 0 to 4 ppt.						
	bottom (lower) third between 25 to 32 ppt	2					
	middle third between 6 to 24 ppt.						
	upper (top) third between 0 to 5 ppt.						
	bottom (lower) third between 30 to 40 ppt	1					
	middle third between 8 to 29 ppt.						
upper (top) third between 0 to 7 ppt.							
bottom (lower) third between 35 to 50 ppt	0						
middle third between 10 to 34 ppt.							
upper (top) third between 0 to 9 ppt.							

Cotleur Hearing, Inc.
W.A.T.E.R. created by: Bill L. Maus
11/1/1998

Cumulative Score (SC)	31.5	34
Maximum Possible Score (MPS)	51.00	51.00
W.A.T.E.R. = Cumulative Score/Maximum Possible Score	0.62	0.67

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Data collected on March 22, 2004

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

FPL-Turkey Pt. Expansion 47.42 acres

Parameter/Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property - East of L-31E Without Preservation	Mangrove Property - East of L-31E With Preservation			
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems							
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1)	7 or more species commonly observed	3	3	3			
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	2	2			
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	2	2			
	Medium sized mammals . (adult weight > 6 lbs.)	2					
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1					
	0 species present	0					
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	3	3			
	3-6 species commonly observed	2					
	1-2 species commonly observed	1					
	0 species commonly observed	0					
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1) Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	2	2			
	Aquatic turtles	2					
	Snakes & lizards	1					
	No evidence of species present	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

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Mitigation Bank Wetland Function Evaluation Matrix

Data collected on March 22, 2004

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

FPL-Turkey Pt. Expansion 47.42 acres

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property - East of L-31E Without Preservation	Mangrove Property - East of L-31E With Preservation			
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems							
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3	2	2.5			
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2					
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1					
	Very little or no desirable tree/shrubs present (evidence suggests there should be)	0					
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3	2	3			
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but <30%	2					
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1					
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0					
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3	N/A	N/A			
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2					
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1					
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0					
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or = to) 1 % exotic plant cover	3	2	2.5			
	>1 % to 10 % exotic plant cover	2					
	>10 % to 65 % exotic plant cover	1					
	> 65 % exotic plant cover	0					
e. Habitat diversity (vegetative) (within assessment area)	>3 native species communities on site within assessment area	3	2	2			
	2 or 3 native specie communities on site within assessment area	2					
	1 native species community with 75 % to 90 % coverage within assessment area	1					
	1 native species community has > 90 % coverage within assessment area	0					
f. Biological diversity within 3000 feet (approximately 1/2 mile from edge of assessment area)	> 3 alternative habitats available (including upland)	3	3	3			
	2 to 3 alternative habitats	2					
	1 alternative habitat	1					
	Same habitat type, or inappropriate / impacted	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W. SFWMD & Dade County

Data collected on March 22, 2004

FPL-Turkey Pt. Expansion 47.42 acres

Parameter/Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property - East of L-31E Without Preservation	Mangrove Property - East of L-31E With Preservation			
3. Hydrologic Functions							
a. Surface water hydrology / sheet flow Apply to freshwater, saltwater, brackish and mitigation systems	Major connection (Flowing water/ river or floodplain/ uniform flow through natural systems)	3	1	1.5			
	Moderate connection (Natural restriction of flow or Flowing water due to hydrologic engineering)	2					
	Minor connection (Runoff collection point, or uneven flow due to berms, ditches, roadways etc.)	1					
	Hydrologically isolated, no net lateral movement	0					
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3					
	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2					
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1					
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0					
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3					
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2					
	>2 weeks but <6 weeks of inundation, including soil saturation	1					
	<2 weeks of continuous inundation	0					
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides		2.5	2.5			
	Inundated by "spring" high tides (bi-monthly)	2					
	Inundated by "extreme high" tides only (biannually)	1					
	Inundated by storm surges only	0					
b-3 Alternate to b. for High Marsh (Juncus-Distichlis)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 10 days average	3					
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheetflow every 30 days on the average	2					
	Inundated by high "spring" tides (monthly) and exposed to rain only	1					
	Inundated by >50% high tides and exposed to rain only	0					
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3					
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2					
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1					
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

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Mitigation Bank Wetland Function Evaluation Matrix

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FPL-Turkey Pt. Expansion 47.42 acres

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property - East of L-31E Without Preservation	Mangrove Property - East of L-31E With Preservation			
3. Hydrologic Functions continued							
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3					
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2					
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1					
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0					
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3	1	1			
	> 6 in. water depth <1 ft. on >50% high tides	2					
	< 6 in. water depth, but > than saturated	1					
	Saturated by saline water table only	0					
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3					
	>5 in. to 10in. water depth on regular basis during growing season	2					
	>1 in. to 5 in. water depth on regular basis during growing season	1					
	>0.0 in. to 1 in. water depth sporadically during growing season	0					
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3					
	>2 ft. water depth (main channel) <4 ft. for 6 months	2					
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1					
	<1 ft. water depth, but dry for >4 weeks (dry season)	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Scoring conducted by: Bill L. Maus

Mitigation Bank Wetland Function Evaluation Matrix

Data collected on March 22, 2004

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FPL-Turkey Pt. Expansion 47.42 acres

Parameter/Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property - East of L-31E Without Preservation	Mangrove Property - East of L-31E With Preservation			
3. Hydrologic Functions continued							
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	1	1.5			
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2					
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1					
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0					
e. Intactness of historic topography (soil disturbance)	Unaltered	3	2.5	2.5			
	Slightly altered soil disturbance, < 10% of assessment area	2					
	Moderately altered soil disturbance, < 25% of assessment area	1					
	Extremely altered soil disturbance, may exceed 50% of assessment area	0					
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3					
	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2					
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1					
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0					
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3					
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2					
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1					
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0					
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam > 12 in. and >90 % of surface area	3	3	3			
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2					
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1					
	Calcareous loam <1 in. for >50% of surface area	0					

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

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Mitigation Bank Wetland Function Evaluation Matrix

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Data collected on March 22, 2004

FPL-Turkey Pt. Expansion 47.42 acres

Parameter/Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon
			Mangrove Property - East of L-31E Without Preservation	Mangrove Property - East of L-31E With Preservation			
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1							
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. Apply to freshwater systems within 5 miles of the coast	<2 parts per thousand (ppt)	3					
	2 to 3 parts per thousand (ppt)	2					
	4 to 5 parts per thousand (ppt)	1					
	>5 parts per thousand (ppt)	0					
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. Apply to brackish (tidal) systems only	6 to 8 parts per thousand (ppt)	3					
	9 to 13 parts per thousand (ppt)	2	1.5	1.5			
	14 to 16 parts per thousand (ppt)	1					
	>16 parts per thousand (ppt)	0					
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. Apply to saline marsh (tidal) systems only	17 to 19 parts per thousand (ppt)	3					
	20 to 22 parts per thousand (ppt)	2					
	23 to 25 parts per thousand (ppt)	1					
	>25 parts per thousand (ppt)	0					
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. Apply to hypersaline (tidal) systems only	26 to 41 parts per thousand (ppt)	3					
	42 to 46 parts per thousand (ppt)	2					
	47 to 51 parts per thousand (ppt)	1					
	>51 parts per thousand (ppt)	0					
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high salinity for a normal year. Apply to riverine systems only	bottom (lower) third between 12 to 25 ppt	3					
	middle third between 5 to 11 ppt.						
	upper (top) third between 0 to 4 ppt.						
	bottom (lower) third between 25 to 32 ppt	2					
	middle third between 6 to 24 ppt.						
	upper (top) third between 0 to 5 ppt.						
	bottom (lower) third between 30 to 40 ppt	1					
	middle third between 8 to 29 ppt.						
upper (top) third between 0 to 7 ppt.							
bottom (lower) third between 35 to 50 ppt	0						
middle third between 10 to 34 ppt.							
upper (top) third between 0 to 9 ppt.							

Cattell Hearing, Inc.
W.A.T.E.R. created by: Bill L. Maus
11/1/1998

Cumulative Score (SC)	35.5	38.5
Maximum Possible Score (MPS)	51.00	51.00
W.A.T.E.R. = Cumulative Score/Maximum Possible Score	0.7	0.75

APPENDIX D

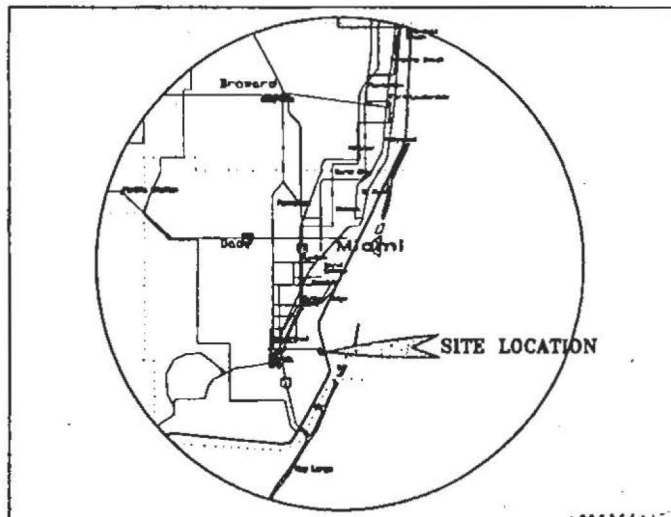
CULVERT DESIGN SPECIFICATIONS

CONSTRUCTION PLANS AND SPECIFICATIONS FOR TURKEY POINT EXPANSION PROJECT AREA D - CONNECTIVITY PIPES

FLORIDA POWER & LIGHT COMPANY
SECTION 28, TOWNSHIP 57S., RANGE 40E.
DADE COUNTY, FLORIDA

SHEET INDEX

SHEET NUMBER	SHEET TITLE/DESCRIPTION
C1	COVER SHEET
P1	PROPOSED SITE PLAN
P2	PROPOSED SITE PLAN
DTL1	DETAILS
DTL2	DETAILS
DTL3	DETAILS
DTL4	DETAILS
SP1	NOTES AND SPECIFICATIONS
SP2	NOTES AND SPECIFICATIONS
SP3	NOTES AND SPECIFICATIONS



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Sean C. Donahue, P.E.
No. 53849
05C 06/2004
LBH Inc. No. 959
3550 S.W. Corporate Parkway
Palm City, FL 34990

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DATE	BY	REVISION

TURKEY POINT EXPANSION PROJECT
PROJECT NO.: 01-0074

P:\01-0074\Turkey Point Expansion\Sheeting\LBH\14242004\1-95-02-AM-Russ-C-LBHI Inc.

MATCHLINE STATION 16+00
SEE SHEET P-2

REMOVE EXISTING
SULVERT AND REPLACE
WITH 24" DIA
SULVERT

WETLAND
FLOWLINE

PLAN VIEW

Scale as noted



Drawing Name: P:\01\0074\Turkey Point\0074 Turkey Point Proposed-Site-Plan P-1.dwg Date: 11/23/2004 11:02 AM LBFH

Sean C. Donahue
Sean C. Donahue
No. 53840
DEC 0-6-2004
Palm City, FL 34990
3550 S.W. Corporate Parkway
Palm City, FL 34990

DWARF
MANGROVE



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Scale: 1"=200'
Sheet P-1
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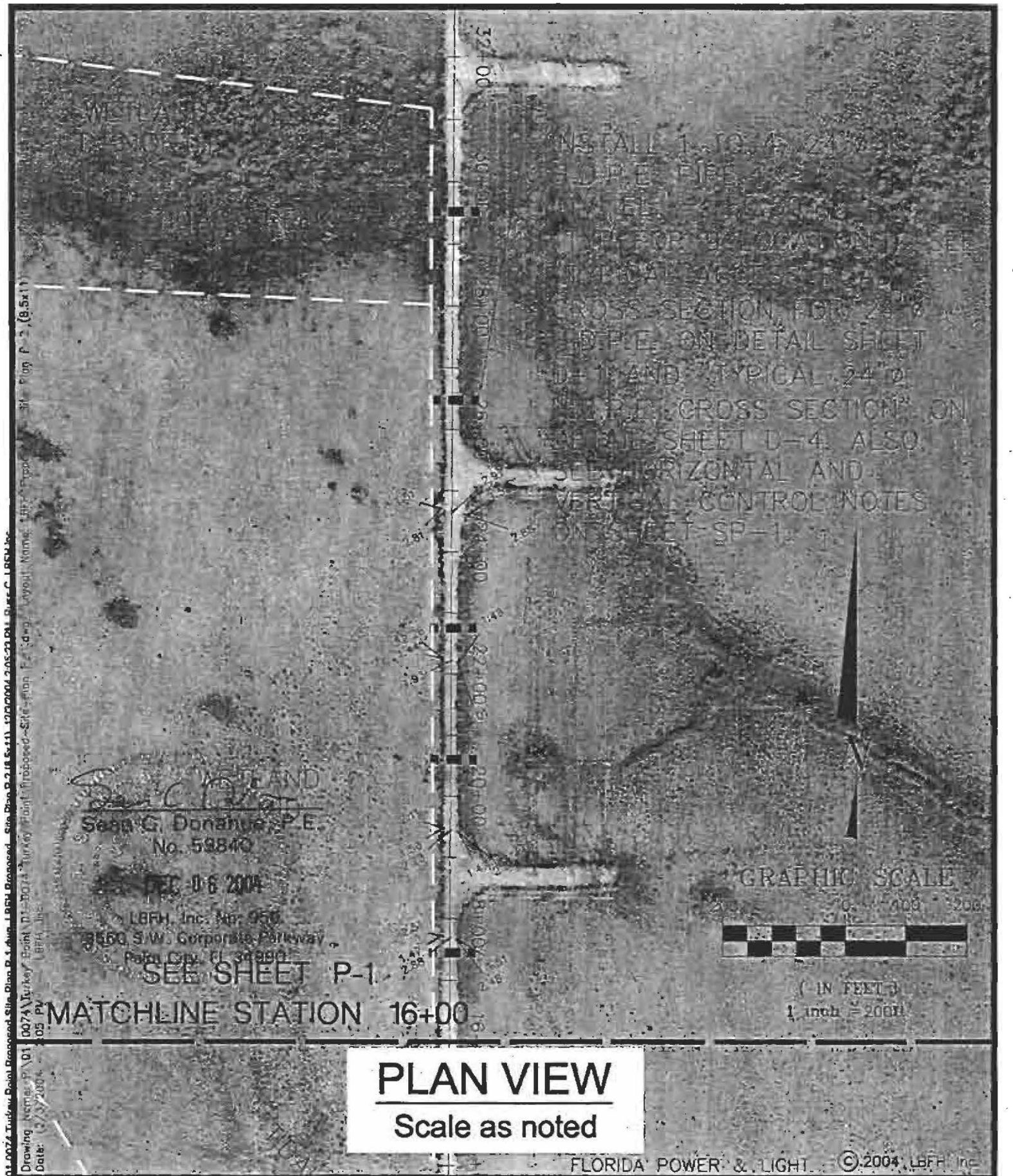
PROJECT NAME: TURKEY POINT EXPANSION PROJECT
AREA D - CONNECTIVITY PIPES

Date
11/23/2004

FILE NO.
01-0074 Turkey Point Proposed-Site-Plan P-1

Project No.
01-0074

DATE PLOTTED: 11/23/2004 11:02 AM LBFH, Inc.



INSTALL 1 TO 4 24" DIA. PIPES
 1.5% SLOPE PIPE
 TYPE OF PIPE TO BE DETERMINED
 TYPE OF PIPE TO BE DETERMINED
 TYPE OF PIPE TO BE DETERMINED
 TYPE OF PIPE TO BE DETERMINED
 CROSS SECTION FOR 24" DIA. PIPE ON DETAIL SHEET D-1 AND TYPICAL 24" DIA. PIPE CROSS SECTION ON DETAIL SHEET D-4. ALSO SEE HORIZONTAL AND VERTICAL CONTROL NOTES ON SHEET SP-1.

SEAN G. DONOHUE, P.E.
 No. 58840

DEC 06 2004

LBFH, Inc. No. 959
 3550 S.W. Corporate Parkway
 Palm City, FL 34989

SEE SHEET P-1

MATCHLINE STATION 16+00

GRAPHIC SCALE



(IN FEET)
 1 inch = 200ft

PLAN VIEW
 Scale as noted

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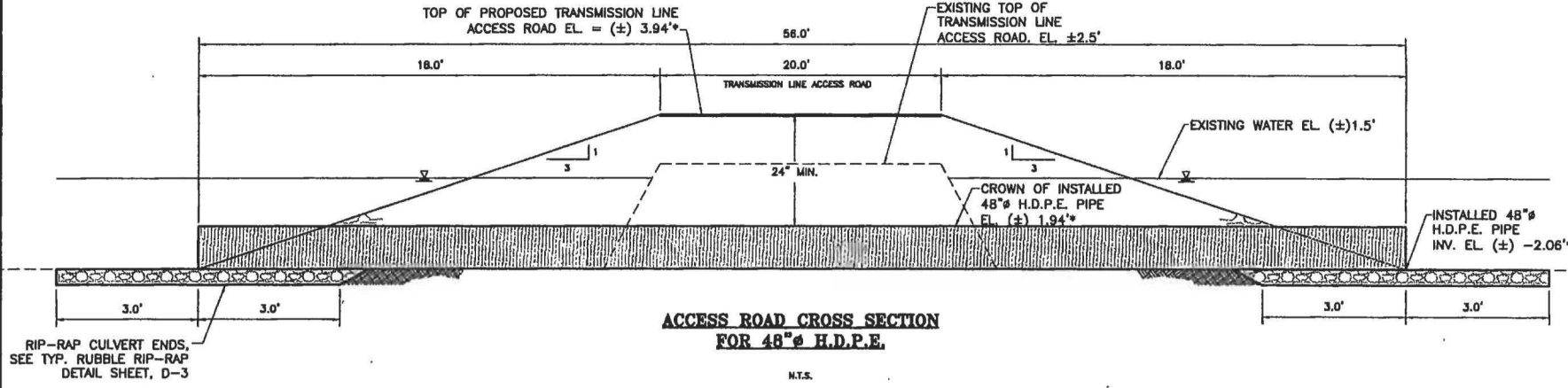
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Scale: 1" = 200'
Sheet P-2
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PROJECT NAME: TURKEY POINT EXPANSION PROJECT AREA D - CONNECTIVITY PIPES	
Date 11/23/2004	Project No. 01-0074
FILE NO. 01-0074 Turkey Point Proposal-Site-Plan P-1	

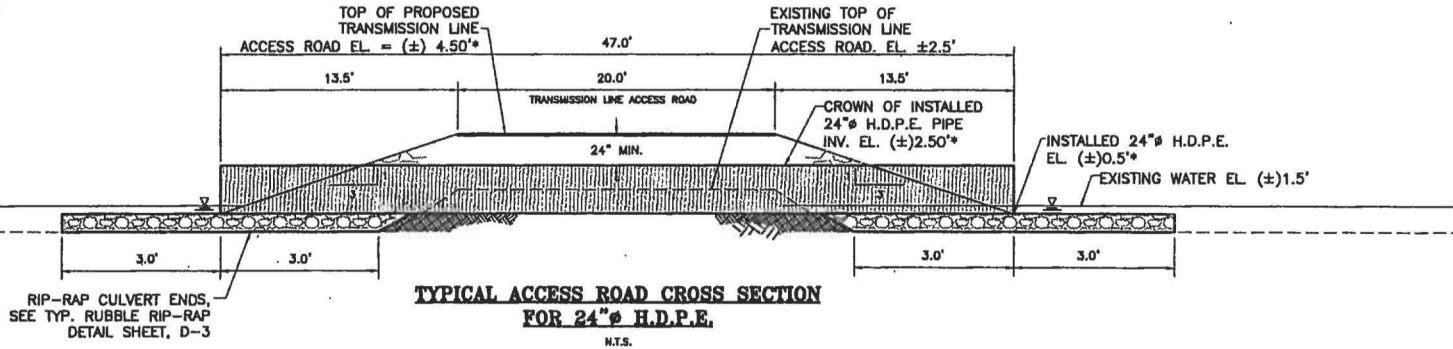
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 Drawing Name: P-1
 Date: 11/23/2004
 05 PV
 0074 Turkey Point Expansion Project-Site-Plan P-1.dwg, Layout Name: 01-0074
 Drawing Name: P-1
 Date: 11/23/2004
 05 PV

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Scale: 1"=200'
 Sheet D-1
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 Date 11/22/2004
 FILE NO. 01-0074 Turkey Point Dtl D-1
 Project No. 01-0074

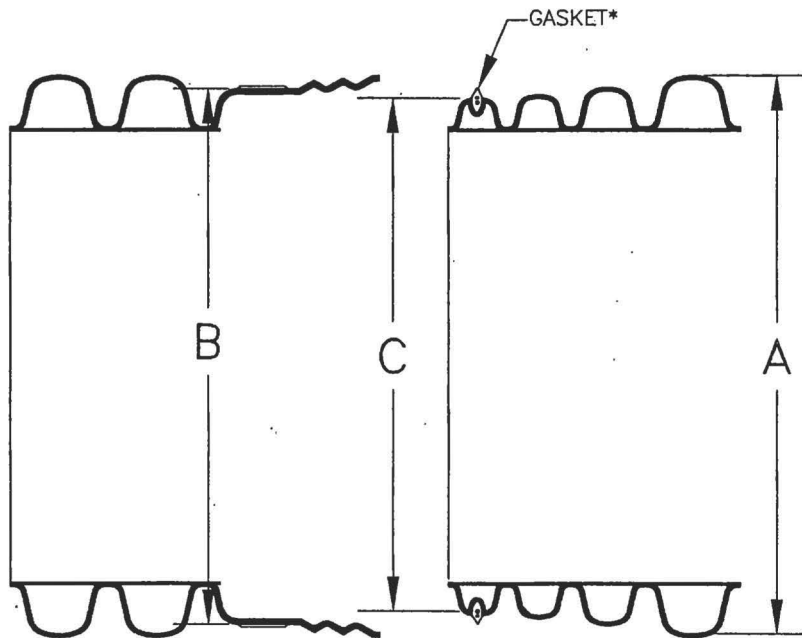
Sean C. Donahue
Sean C. Donahue, P.E.
 No. 53840
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PROJECT NAME: TURKEY POINT EXPANSION PROJECT
 AREA D - CONNECTIVITY PIPES

N-12 IB JOINT
12"-60" DIAMETER

PIPE SIZE	A	B	C
12 in (300 mm)	14.45 in (367 mm)	14.02 in (356 mm)	13.63 in (346 mm)
15 in (375 mm)	17.57 in (446 mm)	16.98 in (431 mm)	16.54 in (420 mm)
18 in (450 mm)	21.20 in (538 mm)	20.58 in (523 mm)	20.02 in (509 mm)
24 in (600 mm)	27.80 in (706 mm)	29.90 in (759 mm)	26.33 in (669 mm)
30 in (750 mm)	35.10 in (892 mm)	33.82 in (859 mm)	33.27 in (845 mm)
36 in (900 mm)	41.70 in (1059 mm)	39.60 in (1006 mm)	39.29 in (998 mm)
42 in (1050 mm)	47.70 in (1212 mm)	46.18 in (1173 mm)	45.83 in (1164 mm)
48 in (1200 mm)	53.60 in (1361 mm)	52.16 in (1325 mm)	51.72 in (1314 mm)
60 in (1500 mm)	66.30 in (1684 mm)	64.58 in (1640 mm)	64.32 in (1634 mm)



* GASKET MEETS ASTM F477;
LUBRICATION REQUIRED FOR ASSEMBLY

** B = OD OF BELL

ALL SIZES ARE ALSO AVAILABLE
IN WATER TIGHT

NOTE: ALL DIMENSIONS ARE NOMINAL

Sean C. Donahue
Sean C. Donahue, P.E.
No. 53840

PIPE JOINT DETAIL

N.T.S.

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Sheet D-2

Computed: FRC

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PROJECT NAME: TURKEY POINT EXPANSION PROJECT
AREA D - CONNECTIVITY PIPES

Date
11/22/2004

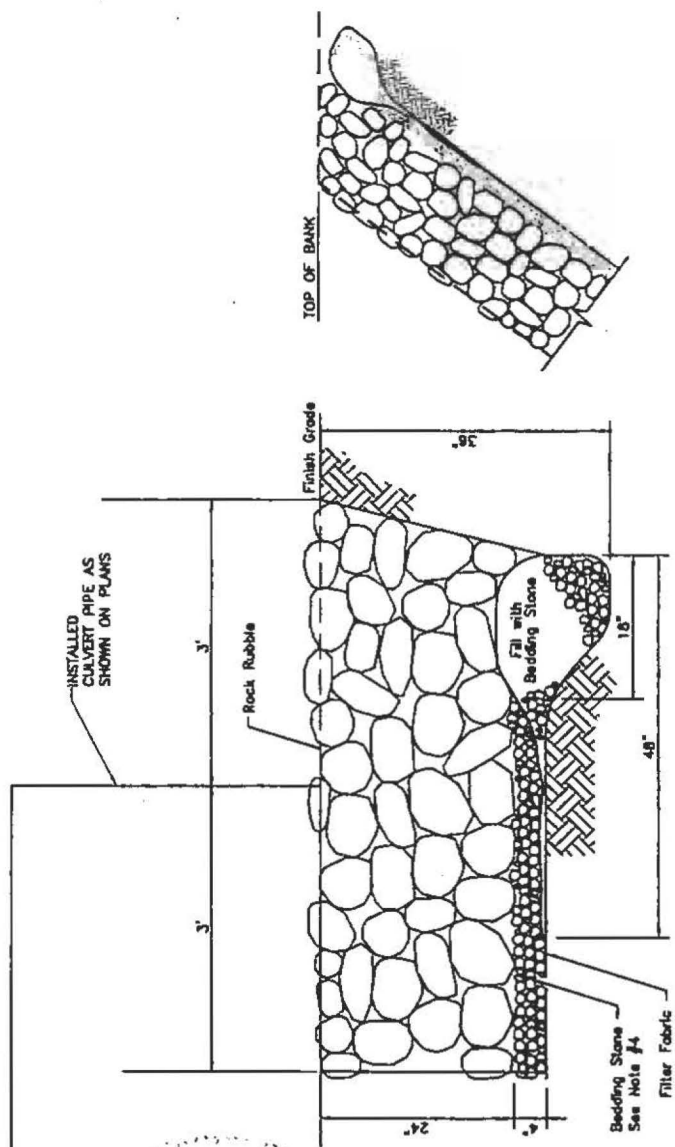
FILE NO.

01-0074 Turkey Point DI D-1

Project No.

01-0074

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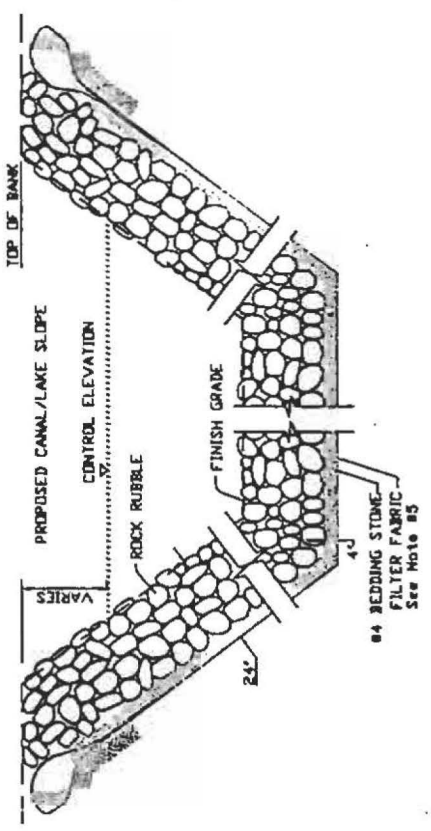


**SECTION VIEW
SLOPED**

**SECTION VIEW
FLAT**

- NOTES:**
1. Installation shall be in accordance with Section 530-3.3 of the FDOT Specifications. The areas to receive riprap shall be lined with filter fabric and 4" inches of bedding stone. Rock rubble shall be placed in 2 layers for a total depth of 24" to produce a reasonably well graded mass of stone with the minimum practical percentage of voids.
 2. The rock rubble shall be broken stone conforming to Section 530-2.3 of the FDOT Specifications. Broken concrete shall not be allowed.
 3. The bedding stone shall conform to Section 901-1 of the FDOT Specifications for Number 4 Course Aggregate.
 4. The filter fabric materials shall conform to Section 985 of the FDOT Specifications for Class 3 Fabric. Installations shall conform to Section 514-4, FDOT Specifications.
 5. Contractor shall determine proper foundation material based on geotechnical investigation (i.e. Geotextile Fabric, etc.) prior to construction.

TYPICAL RIPRAP INSTALLATION
N.T.S.



TYPICAL RUBBLE RIP-RAP INSTALLATION
N.T.S.

Sean C. Donahue
Sean C. Donahue, P.E.
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DETAILS

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Scale: 1"=200'
Sheet D-3
Computed: FRC
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PROJECT NAME: TURKEY POINT EXPANSION PROJECT AREA D - CONNECTIVITY PIPES	
Date 11/22/2004	FILE NO. 01-0074 Turkey Point Dtl D-1
Project No. 01-0074	

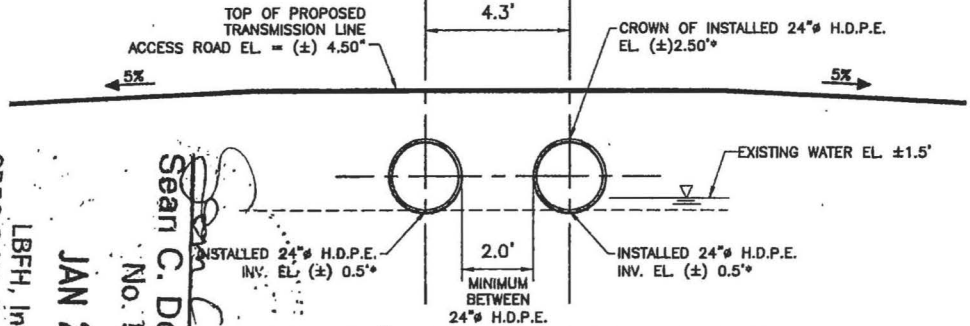
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Revision: 1/26/05 8:00 Manatee
 LBFH, Inc. No. 959
 3550 S.W. Corporate Parkway
 Palm City, FL 34990
JAN 26 2005
 Sean C. Donahue, P.E.
 No. 53840

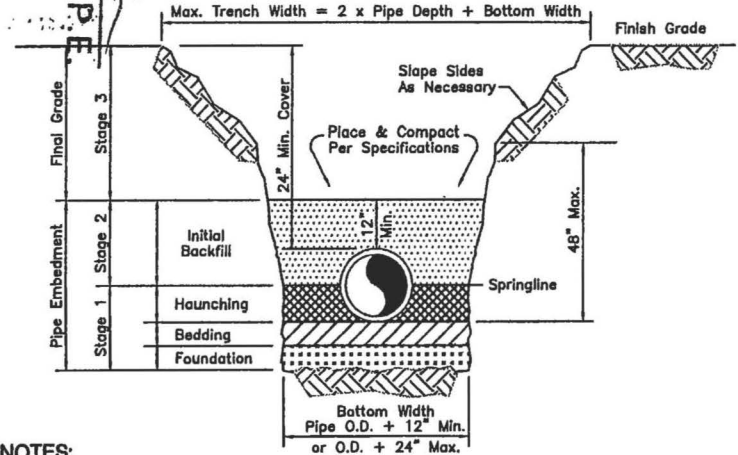
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PROJECT NAME: TURKEY POINT EXPANSION PROJECT
AREA D - CONNECTIVITY PIPES
FILE NO. 01-0074 Turkey Point Dtl D-1
Date 11/22/2004
Project No. 01-0074



*NUMBER OF PIPES, INVERTS AND LOCATION TO BE DETERMINED IN THE FIELD BY FP&L'S ENVIRONMENTAL CONSULTANT AND AN ENGINEER OF RECORD.

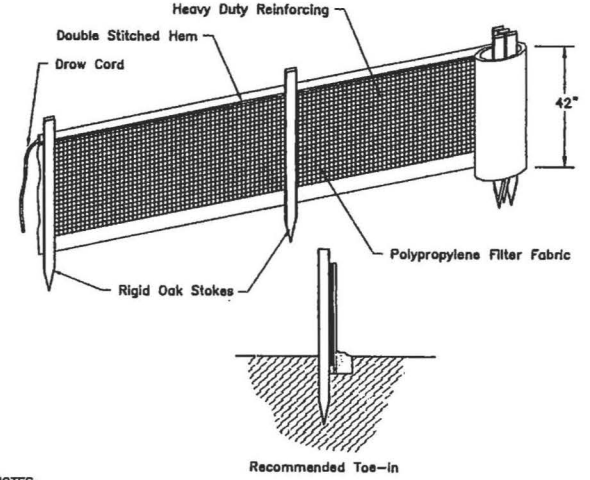


NOTES:

1. Depth of pipe may be field adjusted to meet special conditions as determined by the Owner's Representative.
2. All trenching shall comply with the requirements of the Florida Trench Safety Act.
3. **FOUNDATION:** Where the trench bottom is unstable, the contractor shall excavate to a depth required by the engineer and replace with a foundation of class I or II material as defined in ASTM D2321, "Standard Practice for Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications," latest edition; as an alternative and at the discretion of the engineer, the trench bottom may be stabilized using a woven geotextile fabric.
4. **BEDDING:** Suitable material shall be class I, II or III and installed as required in ASTM D2321, latest edition.
 Unless otherwise specified by the engineer, minimum bedding thickness shall be 4" (100mm) for 4"-24" (100-600mm) and 42"-48" (1050-1200mm) corrugated polyethylene pipe (CPEP); 6" (150mm) for 30"-36" (750-900mm) CPEP.
5. **HAUNCHING AND INITIAL BACKFILL:** Suitable material shall be class I, II or III and installed as required in ASTM D2321, latest edition.
6. **INITIAL BACKFILL:** Initial backfill shall be hand placed to 12" above the top of the pipe. The soil shall be consolidated by hand tamping or walking the soil in place.
7. **FINAL BACKFILL:** Final backfill material may be machine placed. Material under roadways may require special compaction and density tests.
8. **DENSITY:** All backfill shall be compacted to the requirements of the Specifications.

TYPICAL TRENCHING & BACKFILLING

N.T.S.

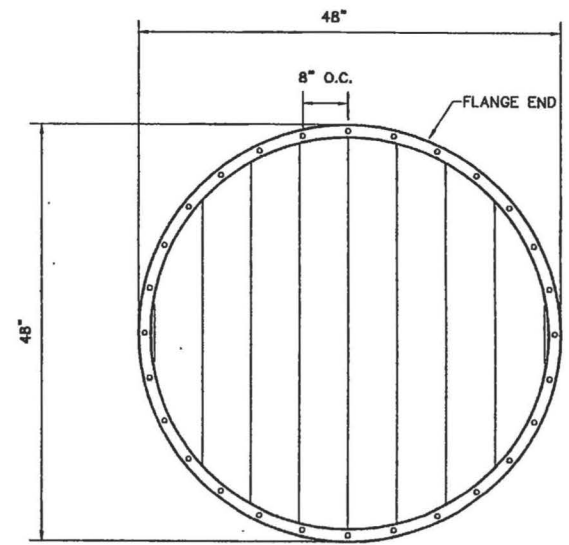


NOTES:

1. Silt Fence shall be installed per manufactures specifications prior to the start of construction and shall not be removed until construction is complete.
2. The Contractor shall inspect and repair the silt fence after each rain event and remove sediment when necessary.
3. Removed sediment shall be deposited in an area that will not contribute sediment offsite and can be permanently stabilized.
4. The silt fence shall be placed on slope contour to maximize its ponding efficiency.
5. If ditch level is deeper than 30", then a Floating Silt Screen shall be used.

SILT FENCE DETAIL

N.T.S.



MANATEE EXCLUSION DEVICE DETAIL FOR 48" H.D.P.E.

N.T.S.

SUPPLEMENTARY CONDITIONS (SHORT FORM)

Notes:

For additional and/or more detailed specifications and conditions, please see the owner's PROJECT MANUAL. The owner's PROJECT MANUAL shall supercede this and any subsequent plans in the event of a conflict.

GENERAL

Scope of Work:

The Contractor shall furnish all materials, labor, equipment, tools, supervision, transportation and incidentals necessary to construct grading, drainage and roadways in accordance with the provisions of these Supplementary Conditions, Specifications and the Drawings entitled, Construction Plans and Specifications for The TURKEY POINT EXPANSION PROJECT - AREA D CONNECTIVITY PIPES consisting of 9 sheets, issued November, 2004 and prepared by LBFH Inc., Consulting Engineers.

It is the objective of these documents to assure the total completion of the work required to provide grading, roadways and operable drainage and stormwater management improvements on the "TURKEY POINT EXPANSION PROJECT - AREA D CONNECTIVITY PIPES"

Location:

The work is located in Dade County, Florida consisting of approximately 9,000 acres, Section 28, Township 57S., Range 40E.

Permits and Licenses:

Construction permits for certain elements of the project work have been obtained by the Owner, and the design and construction requirements of the PROJECT reflect constraints and conditions imposed by these permits. These include construction permits from the South Florida Water Management District. The Contractor shall perform all work and shall construct the PROJECT in accordance with the requirements of these permits and approvals, copies of which are available for their review and use from the Engineer, upon request. Additionally, the Contractor shall secure all other work permits, approvals or licenses required to perform the work, and they shall perform the work in strict accordance with those permits, approvals, or licenses.

Reference To Other Documents:

For brevity, reference may be made to other specifications or documents which will be used to specify or control the materials placed in the work, the construction methods to be used, the tolerances that will be acceptable, and contractual or legal obligations. The specifications or documents shall include:

- "Standard General Conditions of the Construction Contract," 1983 Edition, prepared by the Engineers' Joint Contract Documents Committee and published by the National Society of Professional Engineers. Reference shall be made: "General Conditions."
- "Florida Department of Transportation Standard Specifications for Road and Bridge Construction, 2000 edition," published by the Florida Department of Transportation. Reference shall be made: "FDOT Specifications."
- "Florida Department of Transportation Roadway and Traffic Design Standards, January 2000 edition," published by the Florida Department of Transportation. Reference shall be made: "FDOT Index."
- "Detail Design Memorandum, Leaves 31E, Section 3, and Control Structures 20 and 20A," C&S Florida Project, Part V, Supplement 42. U.S. Army Corps of Engineers, Jacksonville District, 30 July 1965. Reference shall be made: "Detail Design Memorandum or DDM."
- "American Society for Testing and Materials Specifications," latest edition. Reference shall be made: "ASTM."

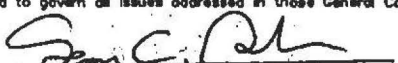
By reference, the documents cited above are made part of these Supplementary Conditions and Specifications. The Contractor shall have copies of each in their possession for use throughout this project work.

Additionally, the work shall be performed in accordance with all other applicable local, regional, state and Federal laws, regulations and codes including, but not limited to, the Federal Occupational Safety and Health Act.

CONTRACT ISSUES

General Conditions:

Unless otherwise stated in these Supplementary Conditions, the provisions of the "Standard General Conditions of the Construction Contract," referenced above, shall be used to govern all issues addressed in these General Conditions for this project.


Sean C. Donahue, P.E.
No. 53840

DEC 06 2004

LBFH, Inc. No. 959
3550 S.W. Corporate Parkway
Palm City, FL 34990

Owner-Engineer Relationship:

Any agreement between Owner and Engineer shall not be construed to provide any obligation from the Engineer to any third parties including, but not limited to, any contractors (general or sub), nor to any successors in title to the Owner. The rights under any agreement between owner and Engineer inure only to those two parties.

Performance Bond:

Refer to the owner's PROJECT MANUAL for bond requirements.

Insurance:

Refer to the owner's PROJECT MANUAL for insurance requirements.

Partial Payments:

Refer to the owner's PROJECT MANUAL for partial payment information.

Liquidated Damages:

If the Contractor fails to complete the work within the time stated in the Agreement and as computed in General Conditions, the Contractor shall pay the Owner fixed and liquidated damages as established in the owner's PROJECT MANUAL.

THE DRAWINGS

Errors or Omissions in the Drawings or Specifications:

Prior to initiation of the work, the Contractor shall check dimensions, grades and elevations shown on the Drawings and summary of estimated quantities to assure themselves that they are correct and that the work can be accomplished as intended. The Contractor shall take no advantage of any apparent error or omission which might be discovered, but will immediately notify the Engineer who will then make such corrections and interpretations as deemed necessary for reflecting the actual split and intent of the Drawings and Specifications.

Soil and Sub-Soil Conditions:

It is the sole and exclusive responsibility of the Contractor to:

- Place own interpretation on any and all soil and sub-soil data portrayed on the Drawings;
- Perform own soil and sub-soil investigation to determine the nature, character, location and extent of all soil and sub-soil conditions that may affect the work; and
- Include in the contract price considerations for all work necessary to assure that the soil and sub-soil conditions will meet the requirements of the Specifications and the applicable regulations of Dade County.

THE WORK

Pre-construction Conference:

Refer to the owner's PROJECT MANUAL for pre-construction conference requirements.

Commencement and Completion of the Work:

Refer to the owner's PROJECT MANUAL for commencement and completion requirements.

Estimated Quantities:

The quantities estimated for various items of work are only estimates, and may not reflect all the items of work or the final quantities needed to complete the project. These quantities are subject to increase or decrease by the Owner to make them conform to the program of work selected and the responsibility of the Contractor to do all work and to furnish and install all improvements shown on the Drawings, whether they are shown in the estimated quantities, or whether the final quantities are more or less than those estimated. Payment of all unit price work shall be on the basis stated in Paragraph 11.9.1 of the General Conditions.

Horizontal and Vertical Control:

The Contractor shall construct the required improvements in the location shown on the Drawings, and shall use as horizontal control points the parcel corners and benchmarks at the site for use in establishing the necessary elevations and grades. The exact locations and invert elevations of the pipes and number of pipes shall be determined by Florida Power and Light Company's (FPL's) approved environmentalist and engineer of record prior to construction.

Coordination of Work With Others:

The Contractor shall coordinate their work with the work or improvements of others with regard to new construction, or for the need of removal, relocation or alteration of existing facilities. This includes, but is not limited to, Dade County, Electric Companies, Bell South, Cable, Gas, and other Utility Companies, and their contractors, subcontractors, or agents.

Standards for Quality and Workmanship:

All materials, equipment and supplies furnished by the Contractor for permanent incorporation in the work shall be new and of quality standards specified. Workmanship shall be first-class and the finished product equal to the best accepted standards of the trade for the category of work performed.

Power and Water:

All arrangements and costs for temporary power and water during construction shall be the responsibility of the Contractor.

NOTES AND SPECIFICATIONS

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Scale: 1"=200'

Sheet SP-1

Computed: FRC

Checked: SD

PROJECT NAME: TURKEY POINT EXPANSION PROJECT
AREA D - CONNECTIVITY PIPES

Date
11/22/2004

FILE NO.

01-0074 Turkey Point Notes and Specifications SP-1

Project No.

01-0074

3550 S.W. Corporate Parkway, Palm City, Florida 34990
(772) 286-3883 Fax: (772) 286-3925
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Drawing Name: P:\01-0074\Turkey Point\01-0074 Turkey Point Notes and Specifications SP-1.dwg
 Date: 12/3/2004 - 1:31 PM
 Layout Name: LBFH Notes and Specifications SP-1.dwg
 Plotted by: Russ
 LBFH, Inc.

Observing the Work:

At the election of the Owner, the progress and quality of the work may be observed by the Owner's Engineer or Engineer's appointed employee. No observer is authorized to change any provisions of the Specifications without written authorization of the Owner's Engineer, nor shall the presence nor absence of an observer relieve the Contractor from any requirements of the Drawings and Specifications.

The Contractor shall give the Engineer a minimum of 48 hours notice prior to required inspections, and shall supply all equipment necessary to properly test and inspect the completed work.

In addition to the inspection requirements stated in the Dade County Specifications, previously referenced, the following minimum construction inspection checkpoints shall be adhered to, and the Contractor shall notify the Engineer for inspection:

1. Prior to any significant deviation from the Drawings;
2. Prior to backfilling trenches containing hydraulic conduits, so that jointing may be inspected;
3. Upon encountering organic material in excavations;
4. Upon delivery of select drainage or stabilization material;
5. Lamping of lines for all hydraulic conduits;
6. Upon completion of construction for final inspection with the Contractor or their representative.

Existing Utilities and Structures:

Existing utilities, structures and facilities shown on the Drawings were located as accurately as possible from the records examined. No guarantee is made that all existing facilities are shown or that those shown are entirely accurate. The Contractor shall be assured of the actual location of the utilities, structures or facilities prior to performance of any work in the vicinity. The utility companies or utility agencies will cooperate with the Contractor in locating underground utilities that may be subject to damage or interruption of services during the Contractor's operations. Prior to start of the work, the Contractor shall request each utility agency to advise them of the location of their facilities in the vicinity. The Owner will assume no liability for damages sustained or costs incurred because of the Contractor's operation in the vicinity of existing utilities or structures, or to the temporary bracing and shoring of same. In the event that it is necessary to shore, brace or swing utility, the utility company or department affected should be contacted and their permission secured as to the method used for any such work.

Restoration of Damaged Physical Features, Structures or Utilities:

It shall be the responsibility of the Contractor to repair, rebuild or restore to its former condition, any and all portions of existing utilities, structures, equipment, appurtenances or physical features, other than those to be paid for under this Contract, which may be disturbed or damaged due to this construction operation, at no cost to the Owner.

Environmental Features:

It shall be understood by the Contractor and further incorporated into their plan of work, the area surrounding the work is an environmentally sensitive area. Additional requirements for construction procedures may apply in order to protect any and all listed species within the project area.


Final Cleanup:

Upon completion of the work but before final payment will be made, the Contractor shall clear and remove from the project area, all false work, equipment, surplus and discarded materials, rubbish and temporary structures which result from the work under this Agreement, and shall restore in an acceptable manner all property which has been damaged during the prosecution of the work.

Record Information:

Upon completion of the work, but prior to submittal of the request for final payment, the Contractor shall obtain and submit record information to the Owner. This information shall include the following:

1. Drainage System:
 - a) Location and dimensions, inverts and other data for control structures;
 - b) Location, size, type, length and invert of all culverts;
 - c) Topographic survey of assessment areas.
2. Grading:
 - a) Topographic survey to define drainage basins.
3. Miscellaneous:
 - a) Locations and profile information of all major roadways and levees and dikes;
 - b) Locations and profile information of all canals and ditches.


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 LBFH, Inc., No. 959
 3550 S.W. Corporate Parkway
 Palm City, FL 34990

The record information shall be certified by a Florida Professional Surveyor and Mapper. Locations shall be made by reference to centerline stationing and offset or by other means acceptable to the Owner. Elevations shall be according to National Geodetic Vertical Datum (NGVD). The information shall be submitted on a clean set of construction drawings which can be obtained from the Engineer.

Guarantee:

Refer to the owner's PROJECT MANUAL for workmanship guarantee requirements.

CONSTRUCTION CONDITIONS

1. If any previously unknown historic or archaeological remains are discovered on the site at any time, the FP&L shall be immediately notified of what has been found. The FP&L will initiate the federal and state coordination required to determine if the remains warrant a recovery effort or if the state is eligible for listing in the National Register of Historic Places.
2. Activities shall be conducted in a manner that does not cause violations of State Water Quality Standards. The Contractor 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 sensitive lands exists due to the proposed work. Turbidity barriers shall remain in place at all locations until construction is completed and soils are stabilized and vegetation has been established. Thereafter the contractor shall be responsible for the removal of the barriers. The contractor shall correct any erosion or shoaling that causes adverse impacts to the water resources.
3. 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. and, as a minimum, in keeping with these plans and the associated construction specifications.
4. The Contractor shall notify FP&L, ACOE and SFWMD of the anticipated construction start date. At least 48 hours prior to commencement of activity, the Contractor shall submit to FP&L, ACOE and SFWMD a written notice of commencement indicating the actual start date and the expected completion date. When the duration of construction will exceed one year, the Contractor shall submit construction status reports on an annual basis.
5. Within 30 days after completion of construction, the Contractor shall submit a written statement of completion and certification by a registered professional engineer or other appropriate individual as authorized by law. 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 the plans and specifications. Deviations from the bid drawings must be clearly shown on the "record" drawings. All surveyed dimensions and elevations shall be certified by a registered surveyor.
6. The Contractor must obtain any required Federal, State, Local and special District authorizations prior to the start of any activity.
7. The Contractor 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 Contractor is responsible for obtaining any necessary authorizations from the Board of Trustees prior to commencing activity on sovereign lands or other State-owned lands.
8. The Contractor must allow representatives from the South Florida Water Management District to inspect the construction activity at any time deemed necessary to ensure that it is being, or has been accomplished in accordance with the plans and specifications.

GENERAL CONSTRUCTION NOTES

1. The Contractor shall identify the limits of the construction site for FP&L maintenance equipment by placing barricades, flashers or other suitable day/night markers around levee road construction area. Solid barricades or flashers shall be installed within 48 hours of commencement of construction.
2. Other than fueling and routine servicing of the pump power units, no maintenance of vehicles or equipment will take place within the right of way nor shall the FP&L's right of way be used for storage or parking of vehicles or equipment.
3. The FP&L's vehicular access shall be maintained at all times throughout all phases of the project.
4. All pipe joints shall be wrapped with filter fabric per the FDOT Index No. 280. The cost for filter fabric and joint wrapping shall be included in the cost for the pipe.
5. Pipe shall be installed in accordance to FDOT Standard Specifications for Road and Bridge Construction, Section 430.
6. All embankment placed shall be compacted to a minimum density of 98% maximum density as determined by the AASHTO T-180.
7. Sod all slopes 4:1 or steeper per FDOT Index and specifications.
8. Install all drainage pipe per details and FDOT Specifications.
9. Any conflicts in the contract documents, details, notes, specifications, etc. shall be resolved meeting the more stringent requirement.

NOTES AND SPECIFICATIONS

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Sheet SP-2

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Checked: SD

**PROJECT NAME: TURKEY POINT EXPANSION PROJECT
AREA D - CONNECTIVITY PIPES**

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Date
11/22/2004

FILE NO.
01-0074 Turkey Point Notes and Specifications SP-1

Project No.
01-0074

Drawing Name: P:\01-0074\Turkey Point\01-0074 Turkey Point Notes and Specifications SP-1.dwg, LBFH Notes and Specifications SP-1 (8.5x11) (2), 12/3/2004 1:31:56 PM, Russ-C, LBFH Inc. Plotted by: Russ Cook Date: 12/3/2004 1:31 PM

CONTRACT SPECIFICATIONS

1. SITework

GENERAL

A. MOBILIZATION: Mobilization shall meet the requirements of FDOT Section 101. This work shall include, but is not limited to, operations necessary for the movement of personnel, equipment, supplies and incidentals to the project site, and for the establishment of temporary offices, buildings, safety equipment and first aid supplies, sanitary and other facilities, as required by State and local laws and regulations. The costs of bonds and any required insurance, and any other pre construction expense necessary for the start of work, excluding the cost of construction materials, shall also be included in this section. This section also includes any and all work related to the final cleanup.

B. CONSTRUCTION SURVEYING: The Contractor is responsible for all construction surveying.

C. CLEARING AND GRUBBING: Clearing and grubbing shall be performed within the limits of the project work in accordance with Section 110, FDOT Specifications, for "Standard Clearing and Grubbing," defined in Paragraphs 110-2 and 110-3. This item of work shall include, but is not limited to, the complete removal and disposal of all trees, brush, stumps, roots, grass, weeds, rubbish and all other obstructions to a depth of 18 inches below natural ground or design grade, whichever is lower. The areas to be cleared and grubbed generally consists of the area to be filled, drainage and utility easements. However, it should be noted that prior to the removal of any trees, the Contractor shall confirm their removal with the Owner. All material shall be removed from the site of the project, and shall be disposed of in accordance with all local, regional, State and Federal laws, regulations or ordinances. Material may be burned upon receiving all required permits. Any unburned remains shall be legally disposed of.

D. EARTHWORK AND GRADING:

a. All earthwork and grading shall be performed as required to obtain the final grades, typical sections and elevations shown on the Plans for the proposed project work. In all other respects, materials and construction methods for earthwork, embankment, excavation and grading shall conform to the requirements of Section 120, FDOT Specifications. There will be some offsite to onsite hauling and some fill will be generated from onsite excavation. Any plastic material (A-2-6, A-2-7, A-4, A-5, A-6, A-7 and muck) exposed on the face of the lake slopes shall be completely removed or removed to a distance of 20' from the face of the lake slope and replaced with compacted A-3 material. Building pads shall be filled, compacted and graded to 4" below finished floor and extended 5' beyond edges of buildings.

b. Contractor must confirm subsurface conditions and provide foundation recommendations, if required prior to construction.

E. EROSION AND SEDIMENTATION CONTROL: Hay bales and turbidity screens shall be placed as required to prohibit turbid waters from leaving the site.

2. DRAINAGE IMPROVEMENTS:

All labor, materials and methods of construction shall be in strict accordance with the minimum engineering and construction standards of Dade County, local agencies and FDOT Specifications. The Contractor shall provide all materials and labor needed to complete that project work for drainage improvements at the locations, size and type shown on the Plans for the following items. Trench excavation and backfilling operations shall meet the requirements of FDOT Specifications, Section 125. Particular emphasis is given to Article 125.8.3, backfilling operations. The Contractor shall provide for the necessary density tests to comply with this section. Pipe trench shall be dry while pipe is being laid and "bedded" as per detail and FDOT Section 430. The contractor shall comply to Chapter 90-96, Laws of Florida, which requires the Contractor performing trench excavation in excess of 5 feet deep comply with all applicable trench safety standards and shoring requirements as set forth in the Occupational Safety and Health Administrations excavation safety standards, 29 C.F.R. 1926.650 Subpart P and incorporated as the State of Florida Standard, as revised or updated.

A. Corrugated Aluminum Pipe (CAP): All CAP shall be aluminum alloy round (or other as specified in the Plans) pipe helically-wound corrugated pipe conforming to AASHTO-M 196-74 and FDOT Section 945. Pipe ends at joint shall be reinforced to the annular corrugation. All joints in the aluminum storm sewer pipe shall be made water tight. All connecting bonds shall be corrugated annular coupling bonds. The joints shall be made water tight by use of Neoprene Gosket at least seven inches (7") wide by 3/8" thick for culverts 36" diameter or smaller, and not less than 10 1/2" wide for all other diameters. All CAP shall be installed with maximum lengths to minimize joints.

3. BACKFILL AND GRADING:

This section specifies the manner in which the Contractor shall perform: 1) Backfill of trenches, and 2) Grading of limerock road over the culverts.

A. Limerock Backfill: Where called for on the Plans, the surface course shall be local bank run shellrock meeting FDOT gradation requirements and specifications, limerock or coquina rock. Materials and construction methods for the surface course shall conform to the requirements of Sections 200 and 250, DOT Specifications; whichever is applicable for the material provided. Cross sections of the finished shell surface shall conform to those shown on and detailed in the Plans.

All construction methods shall conform to the applicable paragraphs of Sections 120 and 125, DOT Specifications.

B. Compaction Requirements: All compaction shall meet the requirement of 98 percent of the maximum density as determined by AASHTO T-180.

One Density test shall be performed every 250 LF of road or 5000 S.F., for each 1 foot lift. Density test in trench back fill shall occur at each 12" lift starting from 1' above the crown of pipe.

4. DEWATERING

A. GENERAL

SUMMARY: This Section includes requirements for the removal of all surface and subsurface waters from structure and canal excavation areas together with requirements for steel sheet piling cofferdams and temporary bracing.

- Except as otherwise specified or indicated, selection of equipment, materials, and methods shall be the Contractor's responsibility. The dewatering of any excavation areas and disposal of all water handled shall be in strict accordance with all local and state government rules and regulations.
- Related Work Specified Elsewhere: none specified
- The contractor shall make efforts to construct improvements without dewatering (i.e. at low tide or in wet hole)

B. PERMITS:

The Contractor shall make applications and obtain all required permits to install and operate dewatering operations for the project.

C. JOB CONDITIONS:

Canal and groundwater levels at the structure location are highly variable depending on canal operation schedules, hydrologic conditions, existing site drainage works, and other factors. The Contractor shall be familiar with site-specific conditions at the structure location and develop dewatering requirements accordingly.

D. PRODUCTS (NOT APPLICABLE)

E. EXECUTION

DEWATERING:


- Provide adequate equipment for removal of storm, subsurface or cofferdam leakage waters which may accumulate in the interiors of the cofferdams or the open excavations.
- All work for installation of piping and structures shall be performed in areas free from water. Furnish, install, maintain, and operate all necessary pumping and other equipment necessary for dewatering the work areas.
- All dewatering equipment shall be in first-class condition and shall at all times be maintained and operated at the efficiency and capacity necessary for maintaining cofferdam and open excavation interiors free of water.
- Temporary fuel storage and pumping facilities located within the FP&L right of way shall be equipped with a suitably designed and installed, functional, lined containment area sufficient to contain leaking or spilled fuels and oils. The contractor is solely responsible for maintenance of soil lined containment areas.
- The contractor is put on notice that should a spill or leak occur, the contractor will take immediate action, in accordance with Department of Environmental Protection, Miami-Dade County Environmental Resources Management or any other entity exercising legitimate jurisdiction, to contain and clean up the spill. All costs associated with the cleanup procedures will be borne solely by the contractor. Costs associated with restoration and follow-up testing to assure conformance to agency standards is the permittee's responsibility. Any spills shall be immediately brought to FP&L's attention.

F. DEWATERING DISCHARGE

- All dewatering discharge shall be coordinated with Florida Power & Light Company.
- Dewatering discharge shall not adversely impact Florida Power & Light Company operations.
- All dewatering discharge and associated water quality shall be in strict accordance with all applicable regulations having jurisdiction and all applicable permits.
- All dewatering discharge shall be free and clear of silts, fines and turbidity as required by applicable regulations having jurisdiction

G. REMOVAL OF DEWATERING SYSTEM AND COFFERDAMS:

Remove dewatering system in such a manner as to allow groundwater elevations to slowly return to natural elevations, and as indicated. Except as otherwise indicated or specified, steel sheet piling shall be removed from the project.


Sean C. Donahue, P.E.
No. 53840

DEC 06 2004

LBFH, Inc. No. 959
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NOTES AND SPECIFICATIONS

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Sheet SP-3

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Checked: SD

PROJECT NAME: TURKEY POINT EXPANSION PROJECT
AREA D - CONNECTIVITY PIPES

Date
11/22/2004

FILE NO.
01-0074 Turkey Point Notes and Specifications SP-1

Project No.
01-0074

Drawing Name: P:\01-0074\Turkey Point\01-0074 Turkey Point Notes and Specifications SP-1.dwg, LBFH, Inc. Date: 12/3/2004 - 1:56 PM
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APPENDIX E

MITIGATION SUCCESS CRITERIA

FPL Turkey Point Expansion Project - Mitigation Plan

MITIGATION SUCCESS CRITERIA December 10, 2004 Re-Vegetation, Monitoring, Maintenance and Reporting

INTRODUCTION

FPL is responsible for implementing the mitigation and monitoring of the Turkey Point Expansion Project Mitigation Plan. The success criteria listed below will be used to judge the success of the mitigation activities. FPL is also responsible for perpetual maintenance and management, and for practicing good stewardship for this program.

This section includes information about the criteria to be considered to determine success of the mitigation activities described throughout the Mitigation Plan. Also included are details about the re-vegetation process to be implemented, and the monitoring, maintenance and reporting requirements aimed at ensuring and monitoring success of the mitigation.

Preserve Areas have been established as a result of the Turkey Point Expansion Project Mitigation Plan. They include culvert installation areas west of the Transmission Right of Way (defined as Areas D-Mid and D-North), Scout Lagoon, and the five Cooling Canal Test Berms (ribs). These areas will be monitored and maintained as described in this section and shall be preserved in perpetuity. The only alteration allowed in Mitigation Preserve Areas will be removal of exotic plant material, refuse and debris, and planting of compatible vegetation unless required in the normal maintenance activities related to FPL transmission line systems in the area.

Prohibited activities in the Preserve Areas include, but are not limited to: construction or placing of building materials on or above the ground, dumping or placing soil (other than as required to plant native vegetation) or other substances such as garbage, trash and cuttings, removal or destruction of native trees, shrubs or other vegetation, excavation, and/or dredging or removal of soil material. No diking, recreational vehicle use and any other activities detrimental to drainage and/or water conservation shall be allowed.

Any other type of alteration to Preserve Areas shall require the approval of the United States Army Corps of Engineers (ACOE) and the Florida Department of Environmental Protection (FDEP).

WETLAND AND SEAGRASS MITIGATION SUCCESS CRITERIA

The mitigation activities shall be deemed successful when the following criteria have been continuously met on the mitigation site for a period of at least two growing seasons (but no earlier than two years after the initial planting). The success criteria are expected to be met without intervention in the form of artificial manipulation of water levels (e.g., irrigation, dewatering). However, routine maintenance operations including the eradication of undesirable vegetation or replanting of desirable vegetation would be expected.

Success Criteria:

- Initial mitigation, by planting wetland plant species at test cooling canal berms and hydrologic improvements (culvert installation), shall occur within 90 days of completion of filling of wetlands for Unit 5 construction.
- Acreage: A minimum of 6.95 acres of wetlands within the Test Cooling Canal area and 1.07 acres within the Scout Lagoon area shall be determined to be jurisdictional pursuant to Section 373.421, F.S.
- Initial mitigation, by creation of Scout Lagoon and associated plantings shall be completed within 90 days of completion of filling of wetlands for Unit 5. However, the portions of the Scout Lagoon construction involving wetlands connections will begin as soon as practical after receipt of the Site Certification and the ACOE Nationwide 27 permit or the ACOE 404 Dredge and Fill Permit. Seagrass transplantation will commence after receipt of the ACOE 404 Dredge and Fill Permit.
- Hydrologic connection (culverted) areas: Mangrove flats (Areas D-Mid & D-North) - >60% cover & 20% detrital cover for total 80%; growing naturally (propogules present), demonstrating improved overall health and biomass (size and leaf counts comparable to those east of transmission line patrol road).
- Mangrove/distichlis flats (temporary laydown restoration)- >40 % cover; growing naturally after planting 80% of cover that was present prior to disturbance.
- Seagrass restoration shall meet success criteria based on submerged substrate achieving Braun-Blanquet scale score of 0.5 to 1.0 with individual ramets of Shoal grass and Widgeon grass present. Final success criteria would achieve Braun-Blanquet scale of greater than or equal to 1.3.

- Seagrass enhancement within Area C-West shall meet success criteria based on the submerged substrate achieving 0.5 to 1.0 interim with individual ramets of Widgeon grass present. Final success criteria would achieve Braun-Blanquet scale of greater than or equal to 1.3.
- On-site mitigation and restoration areas shall be maintained free (no more than 5% cover) of invasive exotic vegetation in perpetuity. Desirable plants shall be reproducing naturally, either by normal, healthy vegetative spread, or through seedling establishment, growth and survival.
- Size distribution of installed trees, shrubs and mangroves shall demonstrate height increases with time as compared to measurements taken at baseline monitoring.
- The functional assessment scores (as defined by W.A.T.E.R. analysis) shall indicate that the functional value of the wetlands, after implementation of the mitigation plan, have accounted for the functional loss of the project's impacts.
- Habitat enhancement: Complete juvenile crocodile habitat enhancements as proposed in test cooling canal ribs 3 & 4. Attain wildlife utilization within test cooling canal ribs.
- Water Quality: Salinity, conductivity, turbidity, pH measures within the mitigation areas of D-Mid and D-North shall support the assumption of reduction of salinity associated with the installation of the vertebrae culverts within the access patrol road. Salinity shall be reduced over 60% of mitigation area by minimum of 1 score point within WATER criteria – as scored within mitigation proposal.
- Culverted structures installed as part of this mitigation plan shall operate as designed.

The agencies (e.g., ACOE, NMFs, FDEP (Southeast District), etc) shall be notified whenever the mitigation is believed to be successful as defined by the success criteria listed above, but in no event earlier than two years after the mitigation is implemented. FPL may request a successful mitigation determination that shall include a copy of the most recent Annual Progress and Mitigation Success Report and a narrative that describes how the reported data support the claim that each of the mitigation success criteria have been met.

WATER Assessment: Utilizing the monitoring data and reports and in conjunction with FPL, the ACOE and FDEP may inspect the site and request that FPL conduct a WATER analysis to determine that all polygons within the mitigation areas have reached the

criteria required to attain the “with mitigation” scores, as shown in Appendix A – Mitigation Plan, that were used to determine the potential credits for the mitigation areas.

FPL shall submit a revised mitigation plan if, three (3) years after completion of plantings, it is determined by FPL that the mitigation site will not meet the success criteria. The revised plan shall be submitted to ACOE and FDEP for review and approval. The new plan shall discuss why the mitigation site is not meeting the success criteria and propose a plan of action by which to correct any deficiencies in the original plan. The plan shall present a new proposed schedule for implementation and completion of the revised mitigation plan.

RE-VEGETATION WITH COMPATIBLE NATIVE VEGETATION

Within the wetland creation areas (test cooling canal berms and Scout Lagoon mangrove planting area) and following removal of the laydown area (D-west), re-vegetation will be necessary because of exotic removal and the anticipated scrape down of these areas. All re-vegetation shall consist of native plant species indicative of the natural plant communities of that location to ensure continuity of indigenous plant associations. Re-vegetation may be achieved through the use of nursery stock plant materials or on-site transplants using the impact area as a donor site. If transplants are used, adequate water for temporary irrigation must be in place prior to transplant operation commencement unless irrigation is to be accomplished manually. Irrigation shall continue until transplants are established in new locations.

Plant species may be selected from Tables 1, 2 and 3. Scout Lagoon seagrass species may be selected from Table 3.

Prohibited exotic plant species, as defined in Table 4, and designated by the 2004 list of Florida Exotic Pest Plant Council shall be removed or eradicated from the Preserve Areas and the Project Area concurrent with permitted vegetation removal and site development. Periodic follow-up removal/eradication will be required as specified in the maintenance section.

Table 1 - Potential Species for Re-vegetation

Common Name	Botanical Name
Test Cooling Canal Ribs	
Green Buttonwood	<i>Conocarpus erecta</i>
Leather fern	<i>Acrostichum danaeifolium</i>
Pond apple	<i>Annona glabra</i>
White Mangrove	<i>Laguncularia racemosa</i>
Wax Myrtle	<i>Myrica cerifera</i>
Canna	<i>Canna spp.</i>
Spike rush	<i>Eleocharis spp.</i>
Dahoon Holly	<i>Ilex cassine</i>
Muhly grass	<i>Muhlenbergia capillaries</i>
Water lily	<i>Nymphaea spp.</i>
Cinnamon fern	<i>Osmunda cinnamomea</i>
Pickerel weed	<i>Pontedeira cordata</i>
Beakrush	<i>Rhynchospora spp.</i>
Duck potato	<i>Sagittaria lancifolia</i>
Cordgrass	<i>Spartina bakeri</i>
Chainfern	<i>Woodwardia spp.</i>

Table 2 - Potential Species for Re-vegetation

Common Name	Botanical Name
Area D west (temporary laydown)	
Red mangrove	<i>Rhizophora mangle</i>
Salt grass	<i>Distichlis spicata</i>

Table 3 - Potential Species for Re-vegetation

Common Name	Botanical Name
Scout Lagoon (not including upland plantings)	
Widgeon-grass	<i>Ruppia maritime</i>
Shoal-grass	<i>Halodule wrightii</i>
Spike rush	<i>Eleocharis spp.</i>
Red Mangrove	<i>Rhizophora mangle</i>
White Mangrove	<i>Laguncularia racemosa</i>
Green Buttonwood	<i>Conocarpus erecta</i>
Cordgrass	<i>Spartina patens</i>

Table 4 – Prohibited and Invasive Non-Native Plant Species

Common Name	Botanical Name
Earleaf acacia	<i>Acacia auriculiformis</i>
Woman's tongue	<i>Albizia lebeck</i>
Shoebuttton ardisia	<i>Ardisia solanaceae</i>
Bishop-wood	<i>Bischofia javanica</i>
Australian pine	<i>Casuarina spp.</i>
Leather leaf	<i>Colubrina asiatica</i>
Carrotwood	<i>Cupaniopsis anacardioides</i>
Air potato	<i>Dioscorea bulbifera</i>
Lofty fig	<i>Ficus altissima</i>
Banyan	<i>Ficus bengalensis</i>
Mahoe	<i>Hibiscus tiliaceus</i>
Jasmine	<i>Jasminum dichotomum</i>
Small-leaved climbing fern	<i>Lygodium microphyllum</i>
Melaleuca, punk tree or paper tree	<i>Melaleuca quinquenervia</i>
Cat's claw	<i>Mimosa pigra</i>
Kudzu	<i>Pueraria montana (P. Lobata)</i>
Downy rose myrtle	<i>Rhodomyrtus tomentosus</i>
Chinese tallow tree	<i>Sapium sebiferum</i>
Schefflera	<i>Schefflera actinophylla</i> <i>(Brassaia actinophylla)</i>
Brazilian pepper	<i>Schinus terebinthifolius</i>
Java plum	<i>Syzygium cumini</i>
Cork tree	<i>Thespesia populnea</i>

MONITORING PROGRAM

Field sampling (monitoring) is an integral part of this mitigation plan and will be used to evaluate and demonstrate mitigation success. The Turkey Point Expansion Project Mitigation Preserve Areas will be monitored to ensure the integrity and stability of the existing and restored native communities. All monitoring activities shall be conducted in accordance with requirements of the ACOE, and FDEP and the program shall utilize the following methodology for collection of data.

- A transect shall be established through the mitigation areas to cross the full range of existing water depths, vegetative interfaces, topographic gradients, and other environmental variants. To monitor vegetative re-colonization, stations shall be established at reasonable intervals and as necessary, at the interface of vegetative communities within the areas of proposed planting. Each station size shall be established and appropriately marked for future reference. These stations shall remain consistent over the monitoring period.
- During each monitoring session, information shall be collected concerning species composition, percent coverage, and relative health of vegetation. Data sheets shall be developed to record data collected during each monitoring session.

The following vegetation strata shall be monitored at each station:

Canopy Species
Shrub Layer
Ground Layer

Photographic Documentation

Fixed points shall be established that will provide a consistent location for repetition of photographs that record conditions and changes within the Preserve Areas.

Hydrology Monitoring

Water levels shall be recorded during monitoring survey session and reported on an annual basis.

Seagrass monitoring will be conducted as described below. Plant communities will be sampled for either: 1) species composition and relative abundance of each species in the entire system, or 2) biomass and relative importance of each species to the system. Both are measures of the structure of the community or ecosystem.

Seagrass monitoring within Area C-west shall be accomplished by similar methods as described below with emphasis placed upon non-intrusive methods of quantification. Photography shall play an integral part of the verification process. The soft marine sediments require monitoring to be performed with timely caution.

The Braun-Blanquet method will be employed to evaluate a specific area (called a "plot" or "quadrat"), identifying all species represented in that area, then assigning each a code based on its contribution to the total area. An example of Braun-Blanquet codes is:

- 0: Species not present (Absent)
- 0.1: Solitary individual ramet, less than 5% cover
- 0.5: Few individual ramets, less than 5% cover
- 1: Species <5% of total
- 2: Species=5-10% of total
- 3: Species=10-25% of total
- 4: Species=25-50% of total
- 5: Species=50-90% of total
- 6: Species>90% of total

A second way to sample plant species composition involves identifying a plot or quadrat, as with Braun-Blanquet, but then counting the total number of individuals of each species within that area.

We will measure both species composition and biomass using the following sampling techniques:

1. **Plot sampling**, or quadrat sampling, to intensively study a small portion of the system in question in order to obtain a representative sample. Most often plot samples are replicated a number of times, in a random or haphazard way, to ensure that the data represent an unbiased picture of the system.
2. **Point-quarter sampling** expands on plot sampling in an attempt to reduce the amount of intensive labor involved in plot sampling. Rather than quantify the exact make-up of a specific plot, a random number of individuals are selected to provide the unbiased picture of the system. Replicate samples using this method should also be taken to ensure statistical validity.
3. **Transect sampling** may be thought of as a long, narrow plot sample. Measurements are taken for all individuals who fall along the transect line.

A combination of these sampling methods will be employed to meet the objective of identifying and monitoring important environmental factors (i.e., pH, conductivity, turbidity, salinity, conductivity and water depth) that may control plant species composition and biomass patterns in Scout Lagoon.

MAINTENANCE

A quarterly maintenance program shall be implemented in the Preserve Areas to control invasive prohibited exotic plant species (Table 4) and maintain upland preserves as a functioning habitat for a period of at least two years. Maintenance activities will be pursued on a semi-annual basis for an additional three years. Following the five-year maintenance and monitoring period, FPL shall implement a long-term maintenance program as part of normal site maintenance operations. At a minimum, annual maintenance activities will be pursued.

Maintenance programs shall be conducted in an environmentally sensitive manner by hand or chemically. During these routine maintenance inspections, trees and shrubs may be maintained by pruning, as required for healthy growth. Work efforts shall control and eradicate regrowth or seed germination of exotic and invasive species. Maintenance activities shall aim to achieve <1 % cover of exotic and invasive species and shall not exceed 5% cover between maintenance events. Coverage of nuisance species shall not exceed 10% between maintenance events. Chemicals used must be EPA registered products approved for use in the State of Florida that have been shown to present a wide

margin of safety for fish, waterfowl and human life. Trash and debris shall be removed during each maintenance event.

REPORTING

Baseline Reports

A Baseline Report will be produced for the Scout Lagoon and Seagrass Restoration Project. A separate Baseline Report will be produced for vegetation and hydrologic improvements, except those to be completed after construction of power plant. A third Baseline Report will be produced for those areas to be restored after completion of power plant construction. Each report shall be submitted within 30 days of completion of the various mitigation activities. The reports shall include details on the progress of the improvements, a list of species planted, the number of individuals planted, and the date of the plantings. The report shall contain photographs, taken from referenced locations, to represent the entire mitigation site. Additionally, a drawing shall be included to show the location and direction of the camera.

Quarterly and Semi-Annual Reports

Monitoring/progress reports shall be submitted quarterly approximately 90 days after the baseline reports are submitted. The quarterly reports shall include a brief description of the work completed since the previous report and work anticipated for the next period. Observations shall be noted from sampling locations and shall include an approximate number of plants surviving from the initial planting, additional seedlings planted, and explanations if survivorship trends. The reports shall include photographs from the locations referenced in the baseline reports. These reports will describe any changes in vegetation species composition or dominance, survival of planted species, wildlife utilization, or other relevant conditions observed. Quarterly reports shall be produced during years one and two after initial plantings. Semi-annual reports shall be produced during years 3, 4, and 5. The content of semi-annual reports will be the same as quarterly reports. Reports shall be submitted within 30 days after the monitoring event.

Annual Success Monitoring and Progress Reports

Annual Success Monitoring and Progress Reports shall be submitted each year for 5 years after the baseline reports are submitted, unless the mitigation project is deemed successful by the ACOE and FDEP prior to year 5 (but not sooner than year 2). Annual reports shall contain an update of the features included in the Baseline Reports. The annual report shall serve as the quarterly and/or semi-annual report during the relevant period.

APPENDIX F

FINANCIAL ASSURANCE COMMITMENT LETTER TO ACOE



Mr. Kenneth Huntington, Project Manager
US Army Corps of Engineers
Palm Beach Regulatory Office
4400 PGA Blvd., Suite 500
Palm Beach Gardens, FL 33410

December 15, 2004

Re: Turkey Point Expansion Project Mitigation Plan

Dear Mr. Huntington:

Florida Power & Light Company (FPL) is pursuing the permitting and licensing of a natural gas, combined cycle power plant at the Turkey Point site. A comprehensive Mitigation Plan has been developed to address unavoidable wetland impacts associated with the Project. As part of the Mitigation Plan, under review by the Army Corps of Engineers (ACOE), the ACOE has requested that FPL provide financial assurance that the mitigation and associated monitoring and maintenance will be performed as specified in the plan.

FPL is a public utility regulated by the Florida Public Service Commission (FPSC). As such, the FPSC reviewed and approved the need for this Project, including the Mitigation Plan costs, and recovery of the associated costs from FPL's customers. This approval is documented in the Need Determination issued by the FPSC on June 18, 2004 (see Attachment 1). The need order recognizes the public necessity of providing reliable electric generation to the customers of South Florida and the specific need to reduce the generation/load imbalance that exists in the system. This Project will meet that need.

FPL Group is an "A" rated, public company as designated by Standard and Poor's, with a strong financial position and a significant standing in the business and environmental community. FPL maintains a comprehensive property and liability insurance program including excess Workers Compensation, auto, general liability, and professional liability with substantial self-insured retention. Additionally, FPL is a qualified self-insurer in Florida for Worker's Compensation.

For your reference, we are attaching a copy of our (1) the latest 10-K report for FPL; (2) FPL's annual reports for the last three years; (3) the latest debt ratings from the three major ratings agencies; and (4) documents related to FPL's recognized standing as an environmental steward in Florida, all of which demonstrate the financial strength and environmental leadership of FPL and its ability to assume the financial responsibility for the referenced mitigation plan including land transfer, Everglades Mitigation Bank mitigation credit purchases and the installation of the on-site aspects of the plan. The Mitigation Plan requirements are legal obligations as well as financial obligations under both the federal 404 permit and state site certification under the Florida Power Plant Siting Act. FPL is committed to fulfill those obligations.

FPL agrees to be responsible for the implementation of the Mitigation Plan and any risk of loss, or damages associated with that plan. We request that the ACOE accept this commitment letter and attached documentation as evidence of FPL's assurance that it will meet the legal and financial obligations associated with the Turkey Point Expansion Project Mitigation Plan.

Sincerely,

Paul I. Cutler
Treasurer

Barbara P. Linkiewicz
Environmental Licensing Manager

Florida Power & Light Credit Ratings

	<u>Moody's</u>	<u>S&P</u>	<u>Fitch</u>
Corporate Credit Rating	A1	A/A-1	N/A
First Mortgage Bonds	Aa3	A	AA-
Pollution control, solid waste disposal and industrial development revenue bonds	Aa3/VMIG-1	A/A-1	A+
Commercial paper	P-1	A-1	F1

BEFORE THE PUBLIC SERVICE COMMISSION

In re: Petition to determine need for Turkey Point Unit 5 electrical power plant, by Florida Power & Light Company. | DOCKET NO. 040206-EI
ORDER NO. PSC-04-0609-FOF-EI
ISSUED: June 18, 2004

The following Commissioners participated in the disposition of this matter:

BRAULIO L. BAEZ, Chairman
J. TERRY DEASON
LILA A. JABER
RUDOLPH "RUDY" BRADLEY
CHARLES M. DAVIDSON

APPEARANCES:

CHARLES A. GUYTON, ESQUIRE, Steel, Hector & Davis LLP, Suite 601, 215 S. Monroe St., Tallahassee, Florida 32301; R. WADE LITCHFIELD, ESQUIRE, and NATALIE F. SMITH, ESQUIRE, 700 Universe Boulevard, Juno Beach, Florida 33408-0420; SUSAN F. CLARK, ESQUIRE, Radey Thomas Yon & Clark, P.A., 313 North Monroe Street, Suite 200, Tallahassee, Florida 32301; and KENNETH HOFFMAN, ESQUIRE, Rutledge Law Firm, P. O. Box 551, Tallahassee, Florida 32302, appearing on behalf of Florida Power & Light Company.

STEPHEN C. BURGESS, DEPUTY PUBLIC COUNSEL, Office of Public Counsel, c/o The Florida Legislature, 111 W. Madison Street, Room 812, Tallahassee, Florida 32399-1400, appearing on behalf of the Citizens of the State of Florida.

JENNIFER BRUBAKER, ESQUIRE, Florida Public Service Commission, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, appearing on behalf of the Florida Public Service Commission.

ORDER GRANTING DETERMINATION OF NEED

BY THE COMMISSION:

Pursuant to Section 403.519, Florida Statutes, and Rule 25-22.081, Florida Administrative Code, Florida Power & Light Company (FPL) filed a petition on March 8, 2004, for determination of need for a proposed electrical power plant located in Dade County. In support of its petition, FPL submitted a detailed Need Study and appendices that develop more fully the information required by Rule 25-22.081, Florida Administrative Code. Based on a detailed reliability assessment discussed in the Need Study, FPL projects that it will need 1,066

megawatts (MW) of additional capacity to meet the needs of its customers and provide adequate reserve margins in 2007.

Consistent with the requirements in Rule 25-22.082, Florida Administrative Code, FPL developed a request for proposals (RFP), which was issued on August 25, 2003. FPL notified potential participants that it would evaluate the RFP proposals against or potentially in conjunction with a self-build option located at FPL's existing Turkey Point site in Dade County, Florida. On October 24, 2003, FPL received five capacity proposals from four entities offering resource options that differed in size, type, and economic terms. Although some proposals did not satisfy the RFP's minimum requirements, FPL evaluated all proposals received. Where proposals did not meet the minimum requirements, FPL provided notice of the nature and extent of the non-compliance and provided an opportunity for the respondents to make changes to bring the proposals into compliance. Final analysis of the proposals demonstrated that FPL's self-build option, Turkey Point Unit 5, offered the lowest generation and transmission cost of all alternatives.

Turkey Point Unit 5 is estimated to produce a summer net capacity of approximately 1,144 MW, and an approximate winter rating of 1,181 MW. The proposed plant is to be located adjacent to FPL's existing Turkey Point complex, approximately 8 miles east of Florida City and 4.5 miles east of the eastern boundary of the city of Homestead, in Dade County, Florida. The proposed unit consists of a new natural gas fired, four-on-one combined cycle facility, designed to utilize four combustion turbines, four heat recovery steam generators, and one steam turbine generator, and other related facilities. The proposed plant is estimated to commence commercial operation by June 2007.

In accordance with Section 403.519, Florida Statutes, this docket was established to determine whether the proposed Turkey Point Unit 5 meets the need for electric system reliability and integrity, the need for adequate electricity at a reasonable cost, whether the proposed plant is the most cost-effective alternative available, whether there are any conservation measures that can mitigate the proposed power plant, and any other matters within the Commission's jurisdiction that it deems relevant. By Order No. PSC-04-0325-PCO-EI, issued March 30, 2004, a procedural schedule was established for this docket and a hearing was set for June 2, 2004. By Order No. PSC-04-0432-PCO-EI, issued April 28, 2004, Calpine Energy Services, L.P. (Calpine) was granted intervention in this proceeding. The intervention of the Office of Public Counsel (OPC) was acknowledged by Order No. PSC-04-0506-PCO-EI, issued May 17, 2004. On May 21, 2004, Calpine filed a Notice of Voluntary Dismissal from this proceeding.

At the June 2, 2004, hearing, the parties presented a series of stipulations which serve to address each of the eight issues that had been identified for hearing. We have reviewed the stipulations proposed by the parties, and find that they are appropriate based on the record

development of this docket, and that they provide a reasonable resolution of the outstanding issues regarding FPL's petition. We therefore approve the stipulations, as set forth below:

1. FPL has complied with all aspects of Rule 25-22.082, Florida Administrative Code, "Selection of Generating Capacity." In a September 2003 preliminary RFP objections proceeding initiated by PACE [Partnership for Affordable Competitive Energy], the Commission concluded that PACE's objections to FPL's RFP did not demonstrate that FPL's RFP violated the Bid Rule [Rule 25-22.083, Florida Administrative Code]. The uncontested evidence filed by FPL in this docket shows FPL complied with the Bid Rule.
2. There is a need for the proposed Turkey Point Unit 5, taking into account the need for electric system reliability and integrity, as this criterion is used in Section 403.519, Florida Statutes. Absent the timely addition of Turkey Point Unit 5, FPL's summer reserve margins will fall to 14.7 percent in the summer of 2007, well below the Commission-approved 20 percent reserve margin planning criterion. Further, the addition of Turkey Point Unit 5 will enhance FPL's operating flexibility and system reliability in Southeast Florida by reducing the growing imbalance between generation and load in this region.
3. There is a need for the proposed Turkey Point Unit 5, taking into account the need for adequate electricity at a reasonable cost, as this criterion is used in Section 403.519, Florida Statutes. Turkey Point Unit 5 will be a highly efficient and reliable, state-of-the-art unit producing low-cost electricity for FPL's customers. It is the lowest cost option available to meet the 2007 needs of FPL's customers.
4. There are no additional conservation measures taken by or reasonably available to Florida Power & Light Company which might mitigate the need for the proposed Turkey Point Unit 5. In assessing its 2007 need, FPL assumed implementation of all reasonably achievable, cost-effective conservation and load management measures previously determined by the Commission to be available to FPL.
5. The proposed Turkey Point Unit 5 is the most cost-effective alternative available, as this criterion is used in Section 403.519, Florida Statutes. In evaluating its next planned generating unit, FPL quantified and evaluated each alternative's impact on FPL's system production costs and transmission-related costs. Ultimately, FPL selected the Turkey Point combined cycle option as the best, most cost-effective alternative and identified it as its next planned generating unit.

FPL also engaged in an extensive capacity solicitation process through its RFP in compliance with the Bid Rule. Proposals received in response to its RFP were used to develop candidate portfolios in configurations that satisfied the 2007 need. FPL's and the independent evaluator's extensive economic evaluations of these proposals included

quantifying and considering generation-related costs, transmission-related costs (including transmission interconnection and integration costs, energy and capacity losses and increased operational costs), as well as the impact of each portfolio on FPL's capital structure minus mitigating factors offered by purchased power options. FPL calculated each option's transmission-related costs by calculating the revenue requirements associated with transmission interconnection and integration for each option as well as each option's impact on FPL's transmission losses and costs of operating less efficient gas turbines in Southeast Florida.

The impact of purchased power portfolios on FPL's capital structure was recognized by an equity adjustment according to the methodology contained in the RFP. Because rating agencies treat a portion of a purchasing utility's firm capacity payment as an off-balance sheet obligation, the equity adjustment represents a real cost associated with purchasing power that must be recognized in assessing purchased power options. Purchased power options provide some mitigation, through completion and performance security, to potential costs the purchasing utility might otherwise incur through a self-build alternative. This mitigating value was estimated and factored into the evaluation. The value of the mitigation is applied in the equity adjustment calculation to offset the cost of portfolios containing purchased power options. The sum of each portfolio's generation costs, transmission costs, and cost impact on capital structure minus the mitigating factors represented the total system costs to FPL customers for the portfolio.

Final cost comparisons from the RFP evaluation demonstrated that Turkey Point Unit 5 offered a \$271 million (cumulative present value revenue requirements, CPVRR) advantage compared to the next most competitive proposal. An independent evaluation confirmed FPL's conclusions. Turkey Point Unit 5 is FPL's best, most cost-effective alternative for meeting the 2007 needs of FPL's customers.

6. Based on the resolution of the foregoing issues, and as more fully developed in FPL's Need Study and direct testimony, the Commission should grant Florida Power & Light Company's petition to determine the need for the proposed Turkey Point Unit 5.
7. If an affirmative determination of need is granted, FPL should be required to annually report the budgeted and actual cost compared to the \$580.3 million estimated total in-service cost of Turkey Point Unit 5. Although the Bid Rule does not require that a utility annually report budgeted and actual costs associated with a proposed power plant, FPL is amenable to providing such information on an annual basis. Some costs may be higher than estimated and other costs may be lower, but FPL agrees that providing this information on an annual basis will allow Commission Staff to monitor FPL's progress towards achieving its estimated total cost of \$580.3 million. The categories to be reported are: Major Equipment/EPC, Permitting, Transmission Interconnection and Integration, FGT Infrastructure Upgrades, Operations and Start-Up, Project Management,

Owners Costs, and AFUDC. In providing this information by category FPL wants to clarify that the capital cost used in the evaluation that resulted in selecting Turkey Point Unit 5 as the most cost-effective resource option to meet FPL's 2007 need is the total estimated cost of \$580.3 million and that any underruns in one category will be used to off-set any overruns in another category. Per the Bid Rule, FPL would need to demonstrate that costs in addition to the \$580.3 million were prudently incurred and due to extraordinary circumstances for such additional costs to be recoverable. If, on the other hand, the actual total cost is less than \$580.3 million, customers will receive the benefit of such cost underruns.

8. Following the issuance of an affirmative determination of need for Turkey Point Unit 5, this docket shall be closed.

We note that our approval of these stipulations is based on the stipulated record in this case, and that our decision herein is not intended to bind future Commissions to follow any particular methodology in evaluating future need applications.

Upon consideration of the evidence adduced at hearing and in light of the criteria set forth in Section 403.519, Florida Statutes, we grant the petition for a determination of need for Turkey Point Unit 5. This order constitutes our final agency action and report as required by Section 403.507(2)(a)2, Florida Statutes, and as provided for in Section 403.519, Florida Statutes.

Based on the foregoing, it is

ORDERED by the Florida Public Service Commission that the stipulations proposed at the June 2, 2004, hearing are approved as set forth in the body of this Order. It is further

ORDERED that Florida Power & Light Company's petition to determine need for Turkey Point Unit 5 electrical power plant is hereby granted. It is further

ORDERED that each of the findings made in the body of this Order is hereby approved in every respect. It is further

ORDERED that all outstanding issues in this docket have been addressed as final agency action. With the issuance of this Order, no further action by this Commission is necessary, and this docket shall therefore be closed.

ORDER NO. PSC-04-0609-FOF-EI
DOCKET NO. 040206-EI
PAGE 6

By ORDER of the Florida Public Service Commission this 18th day of June, 2004.

BLANCA S. BAYÓ, Director
Division of the Commission Clerk
and Administrative Services

By: /s/ Kay Flynn
Kay Flynn, Chief
Bureau of Records

This is a facsimile copy. Go to the Commission's Web site,
<http://www.floridapsc.com> or fax a request to 1-850-413-
7118, for a copy of the order with signature.

(SEAL)

JSB

NOTICE OF FURTHER PROCEEDINGS OR JUDICIAL REVIEW

The Florida Public Service Commission is required by Section 120.569(1), Florida Statutes, to notify parties of any administrative hearing or judicial review of Commission orders that is available under Sections 120.57 or 120.68, Florida Statutes, as well as the procedures and time limits that apply. This notice should not be construed to mean all requests for an administrative hearing or judicial review will be granted or result in the relief sought.

Any party adversely affected by the Commission's final action in this matter may request:

- 1) reconsideration of the decision by filing a motion for reconsideration with the Director, Division of the Commission Clerk and Administrative Services, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850, within fifteen (15) days of the issuance of this order in the form prescribed by Rule 25-22.060, Florida Administrative Code; or
- 2) judicial review by the Florida Supreme Court in the case of an electric, gas or telephone utility or the First District Court of Appeal in the case of a water and/or wastewater utility by filing a notice of appeal with the Director, Division of the Commission Clerk and Administrative Services and filing a copy of the notice of appeal and the filing fee with the appropriate court. This filing must be completed within thirty (30) days after the issuance of this order, pursuant to Rule 9.110, Florida Rules of Appellate Procedure. The notice of appeal must be in the form specified in Rule 9.900(a), Florida Rules of Appellate Procedure.

In 2003, FPL won the Edison Award – the electric power industry's highest honor – for clean energy, environmental excellence, customer satisfaction and increasing shareholder value.

Platts, the energy information unit of McGraw-Hill honored FPL Group as "Renewable Co. of the Year" in 2003.

In 2002, FPL Group won an award from The Council for Sustainable Florida for its sea turtle programs at the St. Lucie nuclear plant.

FPL has been named no. 1 among leading electric utilities for environmental performance by Innovest, an investment research firm, in its last three surveys of the industry.

FPL Group is a charter partner in the Environmental Protection Agency's voluntary Climate Leaders program aimed at reducing greenhouse gas emissions. The program will begin by inventorying six greenhouse gases produced by fossil fuel-burning facilities and other greenhouse gas contributors. Over the past decade, we voluntarily have made significant reductions in plant emissions, and today we're among the lowest emitters of sulfur dioxide, nitrogen oxide and carbon dioxide in the industry. Partnering with the EPA in Climate Leaders is an important next step for FPL Group to take along our journey to assess and reduce emissions at our power plants in Florida and throughout the country.

In 2001, the Fort Myers and Sanford repowering projects were honored for innovative energy management with an environmental award from the Florida Ocean Alliance, a nonpartisan organization dedicated to protecting and enhancing the state's coastal and ocean resources. The repowering projects were recognized for significant reductions in air emissions and barge traffic as well as for the wise use of existing land.

Eamed the 2001 Waste Reduction and Pollution Prevention Award from the Florida Sunshine Chapter of the Solid Waste Association of North America (SWANA) for efforts to conserve resources and protect the environment.

1st electric utility to win William M. Benkert Award, U.S. Coast Guard's highest honor for excellence in marine environmental protection (1998).

Florida Department of Environmental Protection named FPL a Partner for Ecosystem Protection, in recognition of the company's emission-reducing "repowering" projects at Fort Myers and Sanford.

FPL's emissions rate of greenhouse gases is among the lowest in the country. Following the repowering of Ft. Myers and Sanford plants with more efficient natural gas fired units, FPL's CO2 emissions rate will meet the reduction proposal called for by the Kyoto Protocol.

In the past two decades, FPL's Demand-Side Management Program has avoided the environmental impacts of building 3000 MWs of generation.

FPL received EEI's top award for outstanding achievements in land management and environmental stewardship activities in 2001 for its wetlands mitigation bank and crocodile protection and research program at Turkey Point.

FPL's overall emissions are among lowest in the country, based on the amount of electricity it produces.

More than 50% of FPL's generation – and 80% of FPL Energy's – is from clean sources.

FPL's award-winning efforts for the past 25 years have enabled a large number of endangered and threatened species to thrive in their natural habitat.

FPL donated 18-acre Manatee Island to the U.S. Fish and Wildlife Service in 2001

Our Environment @ www.FPL.com

Overview

Numerous national and state awards have been presented to FPL in recognition of its sustained emphasis on upgrading its environmental record. More information on FPL's commitment and actions to preserve, protect and enhance our environment is available by clicking on "Our Environment" at our Web site: www.FPL.com.

Our Commitment to the Environment

Among the cleanest and most efficient utilities in the world, FPL strives for continuous improvement. In *Building a Sustainable Future*, we explain our vision as we're

- your neighbors
 - taking care of business
 - enhancing our commitment and
 - building better communities through stronger relationships.
-

Recycling Spotlight

FPL's Central Reclamation and Salvage Department is committed to cost effectively recover and market surplus assets, maximizing value while protecting the environment.

Power Plant Operations and Toxic Release Inventory

We at FPL want to be the first and best source of information about our power plant operations, including our environmental performance. In doing that, we want to share information on how the FPL system works and what FPL is doing to provide electricity that is clean, safe, reliable and affordable.

Barley Barber Swamp

The Barley Barber Swamp is a 400-acre freshwater cypress swamp preserved by FPL in western Martin County. FPL took great care in making it accessible through a boardwalk.

Endangered Species

One of the pillars of FPL's environmental efforts is its programs to protect endangered species. At several power plant sites, FPL maintains active programs for protecting endangered or threatened species, such as

- American crocodiles and alligators
 - Florida manatees
 - southern bald eagles
 - wood storks
 - sea turtles and
 - Florida panthers.
-

Common Exotic and Invasive Species Found in Florida

In Fiscal Year 1999-2000, the State of Florida spent \$90,836,680 on exotic plant and animal and insect control. Approximately 1.7 million acres of Florida's remaining natural areas have been invaded by exotic plant species that reduce biodiversity and strain endangered species.

We list some of the exotic species that are affecting Florida's flora and fauna.

Environmental Resources

A list of Web resources on environmental

- agencies
 - organizations
 - parks and
 - education and wildlife resources.
-

Everglades Mitigation Bank

FPL's Everglades Mitigation Bank is returning more than 13,000 acres of wetlands to their natural, historical condition. As a result, FPL can offer developers and private land owners mitigation credits in one of Florida's most environmentally important areas.

Nuclear Power Serves You

FPL's nuclear power plants provide a clean energy resource. Since nuclear power plants do not burn fuel, there are virtually no air emissions, such as greenhouse gases that may contribute to global warming.

FPL Group Companies Honored for Environmental and Operational Excellence



Innovest
Strategic Value Advisors

Top environmental electric utility in U.S.

platts

2003 Renewables Company of the Year. Platts Global Energy Award



EDISON ELECTRIC INSTITUTE



2003 Electric Utility of the Year Award

2003 National Land Management Award



Pioneer Partner
World Wildlife Fund's
PowerSwitch! Program to
reduce greenhouse gases



FPL Energy



U.S. COAST GUARD

U.S. Coast Guard
Benkert Award for
excellence in protecting
marine environments



Outstanding
Stewardship Award
of America's rivers



Charter partner,
1st utility member

AP
April 17, 1998

Coast Guard issues environmental protection awards

WASHINGTON (AP) - Companies as well known as Princess Cruises and others like the CARCO Savannah Asphalt Refinery in Georgia received U.S. Coast Guard awards Friday for outstanding marine environmental protection programs.

Princess Cruises Inc., based in Los Angeles, received the 1997 William M. Benkert Award in the large vessel category for its nine-course environmental training program required of all crew members. Also receiving an award in that category was Maritrans Inc. of Philadelphia, one of the largest independent petroleum transporters in the world.

The Coast Guard issued a Benkert award in the small-vessel category to American Electric Power of Lakin, W.Va., for its mandatory training program and creation of its "Fast Response" video for internal and external training.

In the large facility category, Florida Power & Light Co. of Juno Beach, Fla., was the award winner. It has made environmental awareness a top corporate priority. The small facility award went to CARCO, which has spent \$6.5 million over the past three years for environmental upgrades.

The awards are named after the late Rear Adm. William M. Benkert, a Coast Guard officer who had a passion for marine environmental protection.

ATTACHMENTS

ATTACHMENT D: CWRC HDD Contingency Plan (aka “Frac-Out Monitoring & Emergency Management Plan”)

HDD Contingency Plan

FPL Miami-Dade Clean Water Recovery Center Project

1 Introduction

Florida Power & Light Company (FPL) in partnership with Miami-Dade County, is developing an advanced reclaimed water treatment facility called the FPL Miami-Dade Clean Water Recovery Center (CWRC). The CWRC will further treat up to 15 million gallons per day (MGD) of reclaimed water from Miami-Dade County South District Wastewater Treatment Plant for use in Turkey Point Clean Energy Center Unit 5's cooling towers. The project will consist of the CWRC, located at the Turkey Point Clean Energy Center, and an ~8-mile reclaimed waterline that will deliver the treated reclaimed water to the Turkey Point site. The proposed reclaimed waterline will cross Central and Southern Florida Flood Control Project (C&SF Project) canals and/or levees via trenchless methods such as horizontal directional drills ("HDD's"). This HDD Contingency Plan identifies procedures that will be implemented in the event an HDD is deemed not viable at any of the proposed locations and provides procedures for monitoring and containing an inadvertent release of drilling fluids or muds.

2 Alternative Construction to HDD

HDDs have been in use since the 1970s. The technology has become relatively common and is a proven installation method for the proposed reclaimed waterline associated with the CWRC Project.

Problems with HDDs are generally associated with subsurface conditions where, in some cases, non-uniformity may exist in the underlying formations—notably those containing scattered rock, sands, or gravel—or cavities where the drilling fluid pressures on the drill head cannot be maintained. In these cases, the pilot hole or reaming hole may become unstable or collapse, causing a sudden increase or loss in bore hole pressure and associated loss of drilling fluid returns during the drilling operation.

If, for any reason, it becomes necessary to suspend HDD operations and/or abandon a partially completed drill hole, the drill will be withdrawn, and the hole will be filled and plugged at the surface. If it is determined necessary to abandon the original HDD location, the proposed alignment may be shifted and retried.

FPL may also adopt alternative construction methods to suit site-specific conditions including open-cut excavation, or conventional jack and bore. Such alternative methods would only be used after notifying applicable regulatory agencies and obtaining the necessary approvals as appropriate in accordance with the permit conditions. No alternative crossing methods will be implemented without proper agency notification and approval.

3 HDD Monitoring Procedures

During the HDD process, there is a potential risk of an inadvertent release of drilling muds or fluids to the surface. Preventative measures to reduce and/or contain inadvertent releases within wetlands and waterbodies will be implemented. Preventative measures include the installation of silt fence around HDD entry and exit work, access to onsite deployable turbidity booms, and access to a wetland scientist will be within a two-hour drive to assess impacts and make recommendations to mitigate impacts.

The HDD supervisory personnel will be on site at all times during HDD activities to continuously monitor all operations during drilling activities for any anomalous conditions. Drilling parameters will be established to maximize circulation and minimize risk of inadvertent releases. Monitoring of HDD activities will be done in accordance with procedures to be provided by the Project's drilling

HDD Contingency Plan

contractor. Personnel involved with the HDD process will be trained in the identification of inadvertent releases and the implementation of this contingency plan prior to commencing HDD activities. HDD monitoring and sampling procedures will include:

- Visual inspection along the drill path, including monitoring the wetlands and waterbodies for evidence of a release;
- Continuous monitoring of drilling mud consistency, drilling mud pressures, and return flows; and
- Periodic recording of drill status information regarding drill conditions, pressures, returns, and progress during the course of drilling activities.

Once the drilling activities are completed, the site will be inspected after equipment removal to identify any visual signs of release.

The drilling mud likely to be used for the Project would generally consist of fresh water, with a high yield bentonite added to achieve the necessary properties, such as viscosity. Bentonite is composed of clay minerals, and it is not considered a hazardous material by the U.S. Environmental Protection Agency (“USEPA”) or Florida Department of Environmental Protection (“FDEP”). Therefore, in the event of a release into a wetland or waterbody, there would be a temporary impact due to an increase in turbidity from the bentonite and the efforts to contain and clean up the released drilling mud.

4 Drilling Fluids Control and Containment

4.1 Storage of Fluids and Lubricants

Storage of fluids and lubricants that could potentially harm the environment will be handled in accordance with applicable federal, state, and local regulations. A Spill Prevention Control and Countermeasures (“SPCC”) Plan will be developed and kept onsite during drilling operations.

4.2 Containment and Cleanup of Drilling Fluids

HDD procedures demand that highly accurate monitoring and control systems be used to track the progress and exact location of the drilling head at all times. Drilling fluid is used during the advancement of the drill string to penetrate the formation, aid in stabilizing the bore hole, and maintain cutting suspension. The specific weight of the drilling fluid is adjusted throughout the procedure to ensure hydrological stability of the drill hole, while effectively transporting the cuttings to the return pit. Only experienced personnel trained in the HDD process will be assigned the task of conducting and monitoring HDD drilling operations. If a release of drilling fluid should occur in the Project area, the following measures will be implemented.

HDD Contingency Plan

4.2.1 Measures to Contain a Release of Drilling Fluid in a Wetland or Waterbody

- Install silt fence around HDD entry and exit work.
- Have deployable turbidity booms available onsite during waterbody crossings.
- Have access to a wetland scientist within a two-hour drive to assess impacts and make recommendations to mitigate impacts if they occur.
- A sample of the drilling slurry will be collected and held for future analysis in the event that an analysis is requested by regulatory agencies.
- If an inadvertent release of drilling fluid occurs within a wetland, waterbody or sensitive area, appropriate regulatory agencies will be contacted in accordance with applicable regulations and requirements. Drilling fluid pressure will be reduced and operations will be suspended to assess the extent of the release and to implement necessary corrective actions.
- Inspection will be initiated to determine the potential movement of released drilling mud within the wetland or waterbody.
- The Project's drilling contractor will determine and implement modifications to the drilling technique or composition of drilling fluid (e.g., thickening of mud by increasing bentonite content) as appropriate to minimize or prevent further releases of drilling mud.
- The release will be evaluated to determine if containment structures, such as sediment barriers or erosion controls, are warranted and can effectively contain the release. When making this determination, the potential that placement of containment structures will cause additional adverse environmental impacts will also be considered.
- If accessible, the Project contractor will clean up and remove all drilling fluid from the site and dispose of it in accordance with the applicable regulations.
- Upon completion of the drilling operations, applicable regulatory agencies will be consulted to determine any final cleanup requirements for the inadvertent release.

4.2.2 Measures to Contain a Release of Drilling Fluid on Land

- If a land release is detected, corrective action will be taken to contain and recover the release.
- If public health and safety are threatened by an inadvertent release, drilling operations will be shut down until the threat is effectively addressed or eliminated.
- The Project's drilling contractor will determine and implement modifications to the drilling technique or composition of drilling fluid (e.g., thickening of mud by increasing bentonite content) as appropriate to minimize or prevent further releases of drilling mud.

5 Notification Procedures

Agency contact names and telephone numbers will be maintained by FPL's Construction Manager. If a release occurs, the Project's contractor will immediately notify FPL's Construction Manager. Notifications will include any affected agencies with jurisdiction over the Project. FPL will work with the appropriate jurisdictional agencies to develop suitable response and clean-up measures.

ATTACHMENTS

EXHIBIT A: EMERGENCY RESPONSE CAPABILITY AGREEMENT

EMERGENCY RESPONSE CAPABILITY AGREEMENT

This Agreement, shall be effective as of July 1, 1982, by and between the Parties hereto, to wit: the State of Florida Department of Health and Rehabilitative Services (hereinafter "Department"), and Florida Power & Light Company (hereinafter "Company").

WITNESSETH

WHEREAS, the Department is an agency designated under Chapter 252, Florida Statutes, to protect the public health and safety in the State of Florida regarding matters relating to radioactive materials; and

WHEREAS, the Company owns and operates the Turkey Point and St. Lucie Nuclear Power Plants (hereinafter "the Plants"); and

WHEREAS, the Parties desire to enter into an Agreement by which the Department, pursuant to applicable federal and state regulations, will maintain an adequate capability to respond to radiological emergencies at the Plants.

NOW THEREFORE, in consideration of the mutual promises contained herein, the Parties agree as follows:

1.0 DUTIES OF THE DEPARTMENT

1.1 The Department shall receive and record all reports of radiological emergencies at the Plants, as provided in the State of Florida Radiological Emergency Management Plan for Nuclear Power Plants (hereinafter referred to as "the Plan" and incorporated herein by reference); assess the impact or potential impact of such emergencies; and activate provisions of the Plan to assess levels of

radioactivity in off-site areas. Off-site areas are all areas other than owner-controlled areas as that term is defined in Company's Radiological Emergency Plans. The Department will be guided but not bound by the criteria of 10 CFR 140.84 in establishing that there has been substantial discharge or dispersal of radioactive material to off-site areas or owner-controlled areas occupied by members of the general public.

1.2 The Department shall coordinate the provisions of the Plan as applicable to the required emergency response capability of the Department.

1.3 The Department shall coordinate action taken pursuant to the Plan with similar applicable plans of federal, state and local governmental agencies with jurisdiction.

1.4 The Department shall train Department personnel, and assist in training other state and local governmental personnel, in order to familiarize them with the health hazards and emergency operating procedures applicable to radiological emergencies and to assure an adequate emergency response capability on the part of the Department.

1.5 The Department shall assist state and local governmental agencies in planning for required protective actions.

1.6 The Department shall provide radiological laboratory capability, including mobile laboratory facilities, and field radiological instrumentation, equipment and supplies for use by the Department to ensure that measures outlined above are properly and effectively carried out.

1.7 In the event of an on-site radiological emergency, the Department shall aid and advise the Company in its efforts to contain the release of radioactive materials.

2.0 DUTIES OF THE COMPANY

- 2.1 The Company shall pay the Department in accordance with Section 3.0 - "Payment".
- 2.2 The Company shall comply with the insurance requirements of Section 4.0 - "Insurance".

3.0 PAYMENT

- 3.1 Company shall pay to Department actual costs incurred by Department's Office of Radiation Control in the implementation of Florida Statutes Section 252.60 "Radiological Emergency Preparedness" on behalf of the Company.
- 3.2 The Department shall submit to the Company for its approval an annual budget for expenses to be incurred hereunder.
- 3.3 Payment by the Company shall be made in advance on a quarterly basis. The Department shall submit an invoice for such payments. Upon receipt of such invoice, the Company will review same for approval and use reasonable effort to make payment to the Department no later than thirty days from receipt of said invoice, provided such invoiced costs are within budget limits set forth herein. Supporting documentation shall be made available to the Company upon request.
- 3.4 The Department shall provide to the Company a quarterly accounting of all costs incurred by the Department during the quarter immediately prior thereto. Should the amount of such costs differ from the amount paid to the Department by the Company for such quarter, the difference in payment shall be added to or subtracted from Department's next invoice, as applicable.
- 3.5 The Company will allow flexibility for the Department to increase the budget, without the necessity of approval by the Company, in an amount not to

exceed 5% of the Company's portion of total budget. In addition, the Department may transfer up to 10% among expense categories without prior approval of the Company upon the condition that: (a) such transfers will only be authorized by the Department in the event of an unexpected need in a particular category; and (b) such transfers will be reported to the Company in the quarterly accounting provided for herein. Said transfers shall be made only to enhance the Department's capability to perform its obligations under this Agreement.

4.0 INSURANCE

4.1 For the purposes of this Section only, the terms below shall be defined as follows:

- 4.1.1 Act: Atomic Energy Act of 1954, as amended.
- 4.1.2 ANI/MAELU: American Nuclear Insurers/Mutual Atomic Energy Liability Underwriters.
- 4.1.3 Government Indemnity: An indemnity agreement between the Company and the NRC entered into pursuant to Subsection 170(c) of the Act.
- 4.1.4 NML: Nuclear Mutual Limited
- 4.1.5 NRC: Nuclear Regulatory Commission
- 4.1.6 Nuclear Damage: Any loss, damage, or loss of use, which in whole or in part is caused by, arises out of, results from, or is in any way related, directly or indirectly to the hazardous properties of source, special nuclear or byproduct material, as those materials are defined in the Act.
- 4.1.7 Nuclear Liability Protection System: Liability insurance from ANI/MAELU or other financial protection in such amount and such

form as shall meet the financial protection requirements of the NRC pursuant to Subsection 170(b) of the Act.

4.1.8 Nuclear Energy Hazard: Shall be as defined in the ANI/MAELU insurance policies held by Company.

4.1.9 Nuclear Facility: Shall be as defined in the ANI/MAELU insurance policies held by Company.

4.1.10 Nuclear Plant Site: The description and location of property insured contained on the Declarations page of the NML policy held by Company.

4.2 Company shall, at its expense, maintain Nuclear Liability Protection and Government Indemnity to meet the requirements of Section 170 of the Act. Department shall be included as an insured under the liability insurance. Company waives any right of recourse that it may have against Department on account of liability of Company to third parties caused by or arising out of the Nuclear Energy Hazard to the extent it is indemnified for such liability. This Agreement shall not be construed to be a waiver of the state's sovereign immunity or protection afforded to the state by Chapter 768, Florida Statutes.

In the event that the Act expires, is repealed, or the protection provided is reduced, Company shall, without cost to Department, procure on the date the protection is so effected, and maintain in effect during the period of time Company owns the Nuclear Facility, to the extent available on reasonable terms and consistent with then current customary U.S. electric utility industry practice, contractual indemnity, limitation of liability and/or liability insurance from a recognized market, or in lieu thereof, equivalent protection from alternate sources in order to minimize impairment of the protection afforded Department as set forth above.

4.3 Company shall maintain, at its expense, nuclear property damage insurance

covering property on the Nuclear Plant Site from NML or other acceptable markets. Terms of coverage shall be at the discretion of Company. Company waives and will require its insurers to waive all rights of recovery against Department and its suppliers of every tier for Nuclear Damage to any property located at the Nuclear Plant Site to the extent Company is indemnified for such damage by its nuclear property damage insurers. To the extent that Company recovers damages from a third party for Nuclear Damage to any property located at the Nuclear Plant Site, Company shall indemnify Department and its suppliers against any liability for any damages which such third party recovers from Department or suppliers for such Nuclear Damage. This Agreement shall not be construed to be a waiver of the state's sovereign immunity or protection afforded to the state by Chapter 768, Florida Statutes.

5.0 MISCELLANEOUS

5.1 Nothing expressed or implied in this Agreement shall relieve the Company of its legal responsibilities under the laws of Florida or from compliance with any law, regulation or requirement of the U. S. Nuclear Regulatory Commission or other governmental agency having jurisdiction over the licensing or operation of the Plants.

5.2 The Company and the Department shall use their best efforts to implement provisions of the Company's Radiological Emergency Plans and the Plan in a coordinated manner.

5.3 The Parties shall notify each other, as provided in this Agreement, of any and all changes made in their respective plans.

5.4 This Agreement shall not serve to limit any action of the Department or

other State agencies under the laws of Florida to protect the public health and safety not specifically prohibited by law.

5.5 All notices pertaining to or affecting the provisions of this Agreement shall be in writing and delivered either in person or by registered or certified mail to the Parties at the following addresses:

The Department

Mailed or Delivered: Department of Health and Rehabilitative Services
Assistant Secretary for Operations
1317 Winewood Blvd.
Tallahassee, Florida 32301

The Company

Mailed: Florida Power & Light Company
Vice President Nuclear Energy
P. O. Box 529100
Miami, Florida 33152

Delivered: Florida Power & Light Company
Vice President Nuclear Energy
9250 West Flagler Street
Miami, Florida 33174

Either Party may, at any time, by written notice to the other Party, designate different or additional persons or different addresses for the giving of notices hereunder.

5.6 This Agreement is intended as the exclusive statement of the agreement between the Parties. Parol or extrinsic evidence shall not be used to vary or contradict the express terms of this Agreement, and recourse shall not be had to alleged prior dealings, usage of trade, course of dealing, or course of performance to explain or supplement the express terms of this Agreement. This Agreement shall not be amended or modified, and no waiver of any provision hereof shall be effective unless set forth in a written instrument authorized and executed by duly designated and authorized officers of the Parties with the same formality as this Agreement.

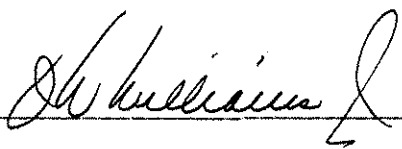
5.7 In the event of a default in any of the terms or conditions of this Agreement, within ten days after receipt of written notice of the existence and nature of the default, the defaulting Party shall take all steps necessary to cure such default as promptly and completely as possible.

5.8 The effective date of this Agreement is July 1, 1982. The term of this Agreement shall be fifty years from the effective date hereof, or until decommissioning of the Plants is completed, whichever is later; provided, however, that either Party may cancel this Agreement at any time, with reasonable cause, upon ninety days prior written notice to the other Party. "Reasonable cause" shall include, but not be limited to, substantial amendment to Chapter 252 of the Florida Statutes.

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be executed .

FLORIDA POWER & LIGHT COMPANY

STATE OF FLORIDA
DEPARTMENT OF HEALTH AND
REHABILITATIVE SERVICES

BY: 

BY: 

TITLE: Vice President, Nuclear Energy

TITLE: Assistant Secretary for
Operations

STATE OF FLORIDA



DEPARTMENT OF

Health & Rehabilitative Services

Bob Graham, Governor

1317 WINEWOOD BOULEVARD

TALLAHASSEE, FLORIDA 32301

April 18, 1983

Mr. Jay J. Maisler
Florida Power & Light Company
Post Office Box 529100
Miami, Florida 33152


Dear Mr. Maisler:

Enclosed is the original fully executed copy of the Emergency Response Capability Agreement between the State of Florida, Department of Health & Rehabilitative Services and Florida Power & Light Company.

A proposed budget of our funding requirements for Fiscal Year 1983-84 has been finalized and is presently in review by the Department. We anticipate that it will be returned to us in the near future, at which time we will send to FPL for review and approval.

We are pleased to have finalized the Agreement under which our emergency response plans and preparedness will operate.

Sincerely,


Lyle E. Jerrett, Ph.D.
Director, Office of
Radiation Control

Enclosure

Copy to Wallace B. Johnson, HRS