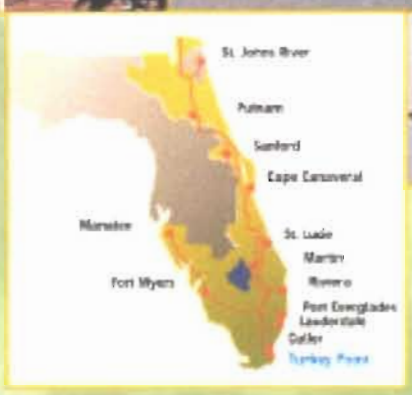
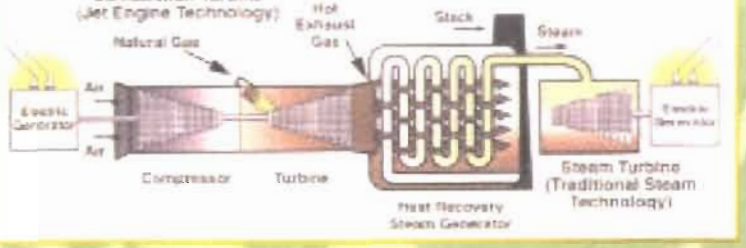
Turkey Point

expansion project



How does a combined-cycle power plant work?



Volume 2 of 3

FPL

SITE CERTIFICATION APPLICATION
TURKEY POINT EXPANSION PROJECT

VOLUME 2 OF 3

Submitted by:

Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408

Kennard F. Kosky, P.E.
Professional Registered Engineer No. 14996

Golder Associates Inc.
6241 NW 23rd Street, Suite 500
Gainesville, Florida 32653-1500

November 2003
0337600

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LIST OF ACRONYMS AND ABBREVIATIONS

AADT	Average Annual Daily Traffic
AAQS	Ambient Air Quality Standards
ANSI	American National Standard Institute
BACT	best available control technology
Btu/lb	British thermal units per pound
°C	degrees Celsius
CAA	Clean Air Act
CEM	continuous emission monitoring
CFR	Code of Federal Regulations
cfs	cubic feet per second
Cl	chloride
cm	centimeter
CO	carbon monoxide
CO_2	carbon dioxide
dB	decibel
dBA	A-weighted decibel
DEM	Digital Elevation Model
DLN	dry-low NO_x
EPA	U.S. Environmental Protection Agency
°F	degrees Fahrenheit
F.A.C.	Florida Administrative Code
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FFWCC	Florida Fish and Wildlife Conservation Commission
FLM	Federal Land Manager
FLUCFCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Area Inventory
FPL	Florida Power & Light Company

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LIST OF ACRONYMS AND ABBREVIATIONS - continued

F.S.	Florida Statutes
ft	foot
ft^2	square foot
ft^2/day	square feet per day
ft-bls	feet below land surface
ft-msl	feet above mean sea level
gpd	gallons per day
gpm	gallons per minute
H_2O	water vapor
HRSG	heat recovery steam generator
HSH	highest, second-highest
Hz	hertz
I	Interstate Highway
IRP	integrated resource planning
IWAQM	Interagency Workgroup on Air Quality Models
kg	kilogram
km	kilometer
kWh	kilowatt hour
lb/hr	pounds per hour
lb/yr	pounds per year
LOS	Level of Service
m	meter
mgd	million gallons per day
mg/L	milligrams per liter
mi^2	square mile
MM4	Mesoscale Model - Generation 4
MMBtu/hr	million British thermal units per hour
MMcf/hr	million cubic feet per hour
mph	miles per hour
MW	megawatt

TABLE OF CONTENTS - continued

LIST OF ACRONYMS AND ABBREVIATIONS - continued

NEPA	National Environmental Policy Act
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NP	National Park
NSPS	New Source Performance Standards
NWS	National Weather Service
O_2	oxygen
O_3	ozone
OFW	Outstanding Florida Waters
ppt	parts per thousand
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter of 10 micrometers or less
ppm	parts per million
ppmvd	parts per million-dry conditions
PSD	prevention of significant deterioration
QA/QC	quality assurance/quality control
RO	reverse osmosis
S	sulfur
SCA	Site Certification Application
SHPO	State Historic Preservation Officer
SIP	site implementation plan
SO_2	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasure
SPL	sound pressure level
SR	State Road
SFWMD	South Florida Water Management District
TDS	total dissolved solids
TPY	tons per year

TABLE OF CONTENTS - continued

LIST OF ACRONYMS AND ABBREVIATIONS - continued

TRB	Transportation Research Board
TTN	Technical Transfer Network
$\mu g/m^3$	micrograms per cubic meter
µg/gdw	micrograms per gram dry weight
µm	micrometer
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound

APPENDIX 10.1

FEDERAL PERMIT
APPLICATIONS AND APPROVALS

APPENDIX 10.1.1

316 DEMONSTRATIONS

[Note: The project does not require a 316 demonstration. Intake monitoring was performed in 1978 to address Section 316(b) of the Federal Water Pollution Control Act of 1972, as amended (P.L.92-500).]

APPENDIX 10.1.2

NPDES APPLICATION/PERMITS

[Note: An NPDES Industrial Wastewater Permit is not required for the Project.]

APPENDIX 10.1.3

HAZARDOUS WASTE DISPOSAL APPLICATION/PERMIT

[Note: No Federal or State application or permit for hazardous waste disposal is required for the Project.]

APPENDIX 10.1.4

SECTION 10 OR 404 APPLICATIONS/PERMITS

[Note: Attached are the approvals that cover the Project Area.]

Form 0971
08/95

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION/

WATER MANAGEMENT DISTRICTS/

U.S. ARMY CORPS OF ENGINEERS

JOINT APPLICATION FOR

ENVIRONMENTAL RESOURCE PERMIT/

AUTHORIZATION TO USE STATE OWNED SUBMERGED LANDS/

FEDERAL DREDGE AND FILL PERMIT

Form 0971

INSTRUCTIONS FOR JOINT APPLICATION FOR ENVIRONMENTAL RESOURCE PERMIT/AUTHORIZATION TO USE STATE OWNED SUBMERGED LANDS/FEDERAL DREDGE AND FILL PERMIT

INTRODUCTION

Attached is a joint application for:
1) activities regulated under Part IV of Chapter 373, F.S.;
2) activities which require authorization to use state owned submerged lands; and
3) activities which require a federal dredge and fill permit.
Certain activities may qualify for an exemption. If an activity qualifies for an exemption, an application is not required, although the use of this application form is the most expeditious way for the agencies to make the determination that the activity qualifies for an exemption. Attachment 2 lists activities and type of permit required for each activity.
If you have any questions please contact the staff of the nearest office of either the Florida Department of Environmental Protection (DEP) or a Water Management District (WMD).

PROCESSING AGENCY/DISTRICT SERVICE CENTERS

The Department of Environmental Protection ("Department" or "DEP") permits some types of activities, and the Water Management Districts ("WMDs") permits others. See Attachment 1, DEP/WMD Permitting Responsibilities, if you do not know which agency should receive your application. Environmental Resource Permit Applications shall be made to the appropriate District/ Department Service Center serving the area in which the activity is proposed. Attachment 4 designates the appropriate Services Centers for each geographic area.

COPIES/APPLICATION FEES

Submit an original signed application form plus **four** copies of the form, and **five** complete sets of all the requested drawings and other information to the appropriate DEP or WMD office. Submit the appropriate fee with your application. Application fees are listed in Attachment 3.

DISTRIBUTION TO THE U.S. ARMY CORPS OF ENGINEERS

When activities are proposed in, on or over wetlands or other surface waters, a copy of the application will be forwarded to the Army Corps of Engineers (ACOE) by the reviewing agency. The ACOE will advise you of any additional information required to obtain a federal dredge and fill permit. It is not necessary for the applicant to submit a separate application to the ACOE. The information requested in this application form may be more than required to make a complete application to the Corps. However, it is useful and essential for subsequent evaluation. Reducing unnecessary paperwork and delays is a continuing Corps goal.

DISTRIBUTION TO THE DEP FOR STATE LAND APPROVAL

If the applicant checks the box to request authorization to use state owned lands, the WMD will forward a copy of the application to the DEP, which will process the state land approval. Additionally, if at any time during the processing of the application, it appears that the proposed activities may take place on state owned lands, the WMD will send a copy of the application to DEP. For an explanation of state land approval see Attachment 5.

FOR AGENCY USE ONLY

ACOE Application # _____
Date Application Received _____
Proposed Project Lat. ____° ____' ____"

Proposed Project Long. ____° ____' ____"

DEP/WMD Application # _____
Date Application Received _____
Fee Received
$ _____
Fee Receipt
_____

SECTION A

Are any of the activities described in this application proposed to occur in, on, or over wetlands or other surface waters? ☒ yes ☐ no
Is this application being filed by or on behalf of a government entity or drainage district?
☐ yes ☒ no

A. Type of Environmental Resource Permit Requested (check at least one)

☐ Noticed General - include information requested in Section B.
☐ Standard General (Single Family Dwelling)-include information requested in Sections C and D.
☐ Standard General (all other projects) - include information requested in Sections C and E.
☐ Individual (Single Family Dwelling) - include information requested in Sections C and D.
☒ Individual (all other projects) - include information requested in Sections C and E.
☐ Conceptual - include information requested in Sections C and E.
☐ Mitigation Bank Permit (construction) - include information requested in Section C and F.
(If the proposed mitigation bank involves the construction of a surface water management system requiring another permit defined above, check the appropriate box and submit the information requested by the applicable section.)
☐ Mitigation Bank (conceptual) - include information requested in Section C and F.

B. Type of activity for which you are applying (check at least one)

☒ Construction or operation of a new system including dredging or filling in, on or over wetlands and other surface waters.
☐ Alteration or operation of an existing system which was not previously permitted by a WMD or DEP.
☐ Modification of a system previously permitted by a WMD or DEP. Provide previous permit numbers. _____
☐ Alteration of a system ☐ Extension of permit duration ☐ Abandonment of a system
☐ Construction of additional phases of a system ☐ Removal of a system

C. Are you requesting authorization to use State Owned Lands. ☐ yes ☒ no
(If yes include the information requested in Section G.)

D. For activities in, on or over wetlands or other surface waters, check type of federal dredge and fill permit requested:
☒ Individual ☐ Programmatic General
☐ General ☐ Nationwide ☐ Not Applicable

E. Are you claiming to qualify for an exemption? ☐yes ☒ no
If yes provide rule number if known._____

OWNER(S) OF LAND	ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)
NAME **Florida Power & Light Company (FPL)**	NAME
ADDRESS **700 Universe Boulevard**	ADDRESS
CITY, STATE, ZIP **Juno Beach, Florida 33408**	CITY, STATE, ZIP
COMPANY AND TITLE **Florida Power & Light Company**	COMPANY AND TITLE
TELEPHONE (**561**) **691-7518** FAX (**561**) **691-7049**	TELEPHONE ( ) FAX ( )
AGENT AUTHORIZED TO SECURE PERMIT (IF AN AGENT IS USED)	**CONSULTANT (IF DIFFERENT FROM AGENT)**
NAME **Barbara Linkiewicz**	NAME
COMPANY AND TITLE **FPL, Environmental Licensing Manager**	COMPANY AND TITLE
ADDRESS	ADDRESS
CITY, STATE, ZIP	CITY, STATE, ZIP
TELEPHONE ( ) FAX ( )	TELEPHONE ( ) FAX ( )

Name of project, including phase if applicable **Turkey Ppoint Expansion Project**
Is this application for part of a multi-phase project? ☒ yes ☐ no
Total applicant-owned area contiguous to the project **11,000** ac
Total project area for which a permit is sought **90** ac
Impervious area for which a permit is sought **29** ac
What is the total area (metric equivalent for federally funded projects) of work in, on, or over wetlands or other surface waters?
36.94 acres **1,606,890** square feet **14.95** hectares **149,496** square meters
Number of new boat slips proposed. **NA**

Project location (use additional sheets, if needed)
County(ies) **Miami-Dade**
Section(s) **27** Township **57S** Range **40E**
Section(s) **28** Township **57S** Range **40E**
Land Grant name, if applicable **NA**
Tax Parcel Identification Number
Street address, road, or other location
City, Zip Code if applicable

Describe in general terms the proposed project, system, or activity.

Construction of a 1,150-MW electric generating facility co-located at the existing FPL Turkey Point Plant. Sections C and E of this application form are applicable to the Project and Sections B and D are not applicable. Refer to Appendix A.

If there have been any pre-application meetings, including at the project site, with regulatory staff, please list the date(s), location(s), and names of key staff and project representatives. NA

Please identify by number any MSSW/Wetland resource/ERP/ACOE Permits pending, issued or denied for projects at the location, and any related enforcement actions.

Agency	Date	No.\Type of Application		Action Taken
ACOE	9/30/92	199201570	Section 10/404	Approved (see Appendix A)

Note: The following information is required **only** for projects proposed to occur in, on or over wetlands that need a federal dredge and fill permit and/or authorization to use state owned submerged lands and is not necessary when applying solely for an Environmental Resource Permit. Please provide the names, addresses and zip codes of property owners whose property directly adjoins the project (excluding applicant). Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

None. The Project Area is entirely within and surrounded by property owned by FPL.

By signing this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relieve me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of my corporation, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

H.O. Nunez
Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

_____
Signature of Applicant/Agent Date

Plant General Manager, FPL Turkey Point Fossil Plant, 9700 SW 344th Street, Homestead, FL 33035
(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:
I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirement which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

_____
Typed/Printed Name of Applicant

_____ _____
Signature of Applicant/Agent Date

_____
(Corporate Title if applicable)

Please note: The applicant's original signature (not a copy) is required above.

PERSON AUTHORIZING ACCESS TO THE PROPERTY MUST COMPLETE THE FOLLOWING:

I either own the property described in this application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection, the Water Management District and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

H.O. Nunez
Typed/Printed Name of Applicant

_____
Signature of Applicant/Agent Date

Plant General Manager, FPL Turkey Point Fossil Plant, 9700 SW 344th Street, Homestead, FL 33035
(Corporate Title if applicable)

SECTION C
Environmental Resource Permit Notice of Receipt of Application

This information is required in addition to that required in other sections of the application. Please submit five copies of this notice of receipt of application and all attachments with the other required information. **PLEASE SUBMIT ALL INFORMATION ON PAPER NO LARGER THAN 2' x 3'.**

Project Name: **Turkey Point Expansion Project**
County: **Miami-Dade**
Owner: **Florida Power & Light Company**
Applicant: **Florida Power & Light Company**
Applicant's Address: **700 Universe Blvd., Juno Beach, Florida 33408**

Section C Appendix.

1. Indicate the project boundaries on a USGS quadrangle map. Attach a location map showing the boundary of the proposed activity. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it. **See C-1**

2. Provide the names of all wetlands, or other surface waters that would be dredged, filled, impounded, diverted, drained, or would receive discharge (either directly or indirectly), or would otherwise be impacted by the proposed activity, and specify if they are in an Outstanding Florida Water or Aquatic Preserve: **See C-2**

3. Attach a depiction (plan and section views), which clearly shows the works or other facilities proposed to be constructed. Use multiple sheets, if necessary. Use a scale sufficient to show the location and type of works. **See C-3**

4. Briefly describe the proposed project (such as "construct a deck with boat shelter", "replace two existing culverts", "construct surface water management system to serve 150 acre residential development"): **See C-4**

5. Specify the acreage of wetlands or other surface waters, if any, that are proposed to be disturbed, filled, excavated, or otherwise impacted by the proposed activity: **See C-5**

6. Provide a brief statement describing any proposed mitigation for impacts to wetlands and other surface waters (attach additional sheets if necessary): **See C-6**

FOR AGENCY USE ONLY

Application Name:
Application Number:
Office where the application can be inspected:

SECTION E

INFORMATION FOR STANDARD GENERAL, INDIVIDUAL AND CONCEPTUAL ENVIRONMENTAL RESOURCE PERMITS FOR PROJECTS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

Please provide the information requested below if the proposed project requires either a standard general, individual, or conceptual approval environmental resource permit and is not related to an individual, single family dwelling unit, duplex or quadraplex. The information listed below represents the level of information that is usually required to evaluate an application. The level of information required for a specific project will vary depending on the nature and location of the site and the activity proposed. Conceptual approvals generally do not require the same level of detail as a construction permit. However, providing a greater level of detail will reduce the need to submit additional information at a later date. If an item does not apply to your project, proceed to the next item. **PLEASE SUBMIT ALL INFORMATION ON PAPER NO LARGER THAN 24" X 36".**

Refer to Appendix E.

I. Site Information

A. Provide a map(s) of the project area and vicinity delineating USDA/SCS soil types. **See I-A**

B. Provide recent aerials, legible for photointerpretation with a scale of 1" = 400 ft, or more detailed, with project boundaries delineated on the aerial. **See I-B**

C. Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each on site wetland or surface water, including receiving waters into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations.**See I-C**

D. Identify the wet season high water tables at the locations representative of the entire project site. Include dates, datum, and methods used to determine these elevations. **See I-D**

II. Environmental Considerations

A. Provide results of any wildlife surveys that have been conducted on the site, and provide any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service. **See II-A**

B. Provide a description of how water quantity, quality, hydroperiod, and habitat will be maintained in on-site wetlands and other surface waters that will be preserved or will remain undisturbed. **See II-B**

C. Provide a narrative description of any proposed mitigation plans, including purpose, maintenance, monitoring, and construction sequence and techniques, and estimated costs. **See II-C**

D. Describe how boundaries of wetlands or other surface waters were determined. If there has ever been a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination, or a revalidated jurisdictional determination, provide the identifying number. **See II-D**

E. Impact Summary Tables: **See II-D**

1. For all projects, complete Table 1, 2 and 3 as applicable.

2. For docking facilities or other structures constructed over wetlands or other surface waters, provide the information requested in Table 4.

3. For shoreline stabilization projects, provide the information requested in Table 5.

III. Plans

Provide clear, detailed plans for the system including specifications, plan (overhead) views, cross sections (with the locations of the cross sections shown on the corresponding plan view), and profile (longitudinal) views of the proposed project. The plans must be signed and sealed by an appropriate registered professional as required by law. Plans must include a scale and a north arrow. These plans should show the following:

A. Project area boundary and total land area, including distances and orientation from roads or other land marks; **See III-A**

B. Existing land use and land cover (acreage and percentages), and on-site natural communities, including wetlands and other surface waters, aquatic communities, and uplands. Use the Florida Land Use Cover & Classification System (FLUCCS)(Level 3) for projects proposed in the South Florida Water Management District, the St. Johns River Water Management District, and the Suwannee River Water Management District and use the National Wetlands Inventory (NWI) for projects proposed in the Southwest Florida Water Management District. Also identify each community with a unique identification number which must be consistent in all exhibits. **See III-B**

C. The existing topography extending at least 100 feet off the project area, and including adjacent wetlands and other surface waters. All topography shall include the location and a description of known benchmarks, referenced to NGVD. For systems waterward of the mean high water (MHW) or seasonal high water lines, show water depths, referenced to mean low water (MLW) in tidal areas or seasonal low water in non-tidal areas, and list the range between MHW and MLW. For docking facilities, indicate the distance to, location of, and depths of the nearest navigational channel and access routes to the channel. **See III-C**

D. If the project is in the known flood plain of a stream or other water course, identify the flood plain boundary and approximate flooding elevations; Identify the 100-year flood elevation and floodplain boundary of any lake, stream or other watercourse located on or adjacent to the site; **See III-D**

E. The boundaries of wetlands and other surface waters within the project area. Distinguish those wetlands and other surface waters that have been delineated by any binding jurisdictional determination; **See III-E**

F. Proposed land use, land cover and natural communities (acreage and percentages), including wetlands and other surface waters, undisturbed uplands, aquatic communities, impervious surfaces, and water management areas. Use the same classification system and community identification number used in III (B) above. **See III-F**

G. Proposed impacts to wetlands and other surface waters, and any proposed connections/outfalls to other surface waters or wetlands; **See III-G**

H. Proposed buffer zones; **See III-H**

I. Pre and post-development drainage patterns and basin boundaries showing the direction of flows, including any off-site runoff being routed through or around the system; and connections between wetlands and other surface waters; **See III-I**

J. Location of all water management areas with details of size, side slopes, and designed water depths; **See III-J**

K. Location and details of all water control structures, control elevations, any seasonal water level regulation schedules; and the location and description of benchmarks (minimum of one benchmark per structure); **See III-K**

L. Location, dimensions and elevations of all proposed structures, including docks, seawalls, utility lines, roads, and buildings; **See III-L**

M. Location, size, and design capacity of the internal water management facilities; **See III-M**

N. Rights-of-way and easements for the system, including all on-site and off-site areas to be reserved for water management purposes, and rights-of-way and easements for the existing drainage system, if any; **See III-N**

O. Receiving waters or surface water management systems into which runoff from the developed site will be discharged; **See III-O**

P. Location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-development conditions; **See III-P**

Q. Location, grading, design water levels, and planting details of all mitigation areas; **See III-Q**

R. Site grading details, including perimeter site grading; **See III-R**

S. Disposal site for any excavated material, including temporary and permanent disposal sites; **See III-S**

T. Dewatering plan details; **See III-T**

U. For marina facilities, locations of any sewage pumpout facilities, fueling facilities, boat repair and maintenance facilities, and fish cleaning stations; **Not Applicable**

V. Location and description of any nearby existing offsite features which might be affected by the proposed construction or development such as stormwater management ponds, buildings or other structures, wetlands or other surface waters. **See III-V**

W. For phased projects, provide a master development plan. **Not Applicable**

IV. Construction Schedule and Techniques

Provide a construction schedule, and a description of construction techniques, sequencing and equipment. This information should specifically include the following:

A. Method for installing any pilings or seawall slabs; **See IV-A**

B. Schedule of implementation of a temporary or permanent erosion and turbidity control measures; **See IV-B**

C. For projects that involve dredging or excavation in wetlands or other surface waters, describe the method of excavation, and the type of material to be excavated; **See IV-C**

D. For projects that involve fill in wetlands or other surface waters, describe the source and type of fill material to be used. For shoreline stabilization projects that involve the installation of riprap, state how these materials are to be placed, (i.e., individually or with heavy equipment) and whether the rocks will be underlain with filter cloth; **See IV-D**

E. If dewatering is required, detail the dewatering proposal including the methods that are proposed to contain the discharge, methods of isolating dewatering areas, and indicate the period dewatering structures will be in place (**Note a consumptive use or water use permit may by required**); **See IV-E**

F. Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge; and **See IV-A**

G. Demolition plan for any existing structures to be removed; **Not Applicable**

H. Identify the schedule and party responsible for completing monitoring, record drawings, and as-built certifications for the project when completed. **See IV-H**

V. Drainage Information

A. Provide pre-development and post-development drainage calculations, signed and sealed by an appropriate registered professional, as follows:

1. Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin; **See V-A1**

2. Water table elevations (normal and seasonal high) including aerial extent and magnitude of any proposed water table drawdown; **See V-A2**

3. Receiving water elevations (normal, wet season, design storm); **See V-A3**

4. Design storms used including rainfall depth, duration, frequency, and distribution; **See V-A4**

5. Runoff hydrograph(s) for each drainage basin, for all required design storm event(s); **See V-A5**

6. Stage-storage computations for any area such as a reservoir, close basin, detention area, or channel, used in storage routing; **See V-A6**

7. Stage-discharge computations for any storage areas at a selected control point, such as control structure or natural restriction; **See V-A7**

8. Flood routings through on-site conveyance and storage areas; **See V-A8**

9. Water surface profiles in the primary drainage system for each required design storm event(s); **See V-A9**

10. Runoff peak rates and volumes discharged from the system for each required design storm event(s); and **See V-A10**

11. Tail water history and justification (time and elevation); **See V-A11**

12. Pump specifications and operating curves for range of possible operating conditions (if used in system). **See V-A12**

B. Provide the results of any percolation tests, where appropriate, and soil borings that are representative of the actual site conditions; **See V-B**

C. Provide the acreage, and percentages of the total project, of the following:

1. impervious surfaces, excluding wetlands, **See V-C1**

2. pervious surfaces (green areas, not including wetlands), **See V-C2**

3. lakes, canals, retention areas, other open water areas, **See V-C3**

4. wetlands;

D. Provide an engineering analysis of floodplain storage and conveyance (if applicable), including:

1. Hydraulic calculations for all proposed traversing works; **See V-D1**

2. Backwater water surface profiles showing upstream impact of traversing works; **See V-D2**

3. Location and volume of encroachment within regulated floodplain(s); and **See V-D3**

4. Plan for compensating floodplain storage, if necessary, and calculations required for determining minimum building and road flood elevations. **See V-D4**

E. Provide an analysis of the water quality treatment system including:

1. A description of the proposed stormwater treatment methodology that addresses the type of treatment, pollution abatement volumes, and recovery analysis; and **See V-E1**

2. Construction plans and calculations that address stage-storage and design elevations, which demonstrate compliance with the appropriate water quality treatment criteria. **See V-E2**

F. Provide a description of the engineering methodology, assumptions and references for the parameters listed above, and a copy of all such computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, a description of the program, input and output data, two diskette copies, if available, and justification for model selection. **See V-F**

VI. Operation and Maintenance and Legal Documentation

A. Describe the overall maintenance and operation schedule for the proposed system. **See VI-A**

B. Identify the entity that will be responsible for operating and maintaining the system in perpetuity if different than the permittee, a draft document enumerating the enforceable affirmative obligations on the entity to properly operate and maintain the system for its expected life, and documentation of the entity's financial responsibility for long term maintenance. If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity, or the future acceptance of the system by an entity which will operate and maintain the system. If a property owner's association is the proposed operation and maintenance entity, provide copies of the articles of incorporation for the association and copies of the declaration, restrictive covenants, deed restrictions, or other operational documents that assign responsibility for the operation and maintenance of the system. Provide information ensuring the continued adequate access to the system for maintenance purposes. Before transfer of the system to the operating entity will be approved, the permittee must document that the transferee will be bound by all terms and conditions of the permit. **See VI-B**

C. Provide copies of all proposed conservation easements, storm water management system easements, property owner's association documents, and plats for the property containing the proposed system. **See VI-C**

D. Provide indication of how water and waste water service will be supplied. Letters of commitment from off-site suppliers must be included. **See VI-D**

E. Provide a copy of the boundary survey and/or legal description and acreage of the total land area of contiguous property owned/controlled the applicant. **See VI-E**

VII. Water Use

A. Will the surface water system be used for water supply, including landscape irrigation, or recreation. **See VII-A**

B. If a Consumptive Use or Water Use permit has been issued for the project, state the permit number. **See VII-B**

C. If no Consumptive Use or Water Use permit has been issued for the project, indicate if such a permit will be required and when the application for a permit will be submitted. **See VII-C**

D. Indicate how any existing wells located within the project site will be utilized or abandoned. **Not Applicable**

APPENDICES FOR THE FEDERAL DREDGE AND FILL PERMIT APPLICATION

SECTION A APPENDIX

FPL has identified the Turkey Point Expansion Project (also referred to as the Turkey Point Unit 5 Combined Cycle Project or the Project) as the best self-build option to meet its customers' increased need for electricity in 2007. The Project involves construction of a new natural gas fired combined cycle generating unit that would provide approximately 1,150 additional megawatts (MW) at its existing Turkey Point power plant site in Miami-Dade County, Florida. The new unit (Unit 5) will utilize four new combustion turbines (CTs), four new heat recovery steam generators (HRSGs) and a new steam turbine/electric generator.

FPL is seeking approval of the Turkey Point Expansion Project under the Florida Electrical Power Plant Siting Act (PPSA), Chapter 403, Part II, Florida Statutes (F.S.). The Florida Department of Environmental Protection (FDEP) acts as the coordinator for the environmental review of the site certification process, with input from various state, regional and local agencies, along with interested citizens. Ultimate disposition of the SCA is by the Governor and Cabinet sitting as the Siting Board. The Environmental Resource Permit (ERP) required for the Project will be issued as part of the site certification process. This Federal Dredge and Fill Permit application, which is submitted and will be reviewed by the Army Corp of Engineers under it's requirements, is Appendix 10.1.4 of the Site Certification Application and contains, along with other information in the SCA, the requirements for an ERP and Federal Dredge and Fill Permit.

The site for the Project is the existing 11,000-acre FPL Turkey Point Plant Site, located in unincorporated Miami-Dade County (see Figure 1). Four steam electric generating units (two fossil, two nuclear) presently operate at the Plant Site which includes a 5,900-acre cooling canal system for the existing units. The existing power generating facilities are primarily located in portions of Sections 27, 28, 33, and 34 of Township 57S, Range 40E. The Plant site lies approximately 8 miles east of Florida City, Florida, and 4.5 miles east of eastern municipal limits of Homestead. It is approximately 9 miles east of the intersection of U.S. 1 and Palm Drive (SW 344th Street). The site is adjacent to the 13,000-acre Everglades Mitigation Bank (EMB) that is also owned by FPL.

The Project will be located north of the existing steam Units 1 and 2 on the existing 11,000-acre Turkey Point Plant Site. Figures 2 and 3 present the Project Areas and an overall plot plan (i.e., arrangement), respectively. The new CTs and associated HRSGs will be north of existing fossil fuel

fired steam generating units (Units 1 and 2). Within the Project Area, approximately 24 acres will be utilized for Unit 5 (Project Area A) and 28 acres for construction (laydown, parking, and construction trailers—Project Areas D, F, and G). The area designated for the power block (Project Area A) contains the four CT/HRSG trains, steam turbine/electric generator, cooling tower, light oil tank, and other associated facilities. About 21 acres will be used for roadway expansion, system substation, stormwater pond, parking lot, and roads (Project Areas B, C, E, I, J, and K). About 17 acres of the Project Area will be unaffected by the Project (Project Area H).

The proposed site improvements for the Project include the construction and operation of a stormwater management system to treat the stormwater generated from site development and improvements. The stormwater management plan presented with this application will maintain the water quality and quantity requirements as outlined by federal, state, and local governing agencies.

The proposed 90-acre Project Area currently has an existing ground elevations of approximately elevation 6.0 to 1.0 NGVD (1929). All elevations in this application are referenced to the National Geodetic Vertical Datum of 1929 (NGVD 1929) based on the benchmark presented in the Project boundary survey. The proposed development is designed for elevations of approximately 14.0 for the Power Block and 6.0 for other areas. The fill required to raise the Project Site will primarily be generated from the existing stockpiles on Turkey Point Plant Site or from offsite sources.

The majority of the proposed Project Site (approximately 60-acres) is classified as scrub red mangrove swamp, established within a shallow, tidally flushed area adjacent to Biscayne Bay. Existing roads have altered historical sheet flow across the mangrove area. The scrub mangrove swamp community contains mangroves generally less than 24-inches in height, stunted in response to decreased nutrient availability and increased salinity. A small portion of the Project Area have mangroves that are up to 20 ft in height due to the exposure to nutrient-rich tidal creek water with lower salinities.

The proposed Project will result in filling approximately 36.94-acres within the mangrove wetland system. Compensatory mitigation to offset the loss of wetland acreage will be accomplished through onsite and offsite mitigation. Offsite mitigation will involve purchase of mangrove habitat from the FPL Everglades Mitigation Bank, located immediately south and west of the FPL Turkey Point Plant Site.

SECTION C APPENDIX

C-1. Refer to Figure 1 Site Location Map for the proposed Project location identified on the Arsenicker Keys, FL United State Geological Survey (USGS) Quadrangle Map (1997).

C-2. The wetland area is not considered an Outstanding Florida Water or part of the Biscayne Bay Aquatic Preserve. Portions of the Biscayne Bay Aquatic Preserve and Biscayne National Park are located to the east of the Project Area. Site runoff will be detained on-site in an onsite stormwater pond with release directed towards adjacent wetlands areas for rehydration. Section E presents detailed information on the stormwater management system.

C-3. Figures 3 and 4 present the plot and development plan for the Project, respectively.

C-4. Construction of a 1,150 MW combined cycle unit using natural gas, referred to as the Turkey Point Expansion Project or Unit 5.

C-5. The Project Site will require filling approximately 36.94-acres of scrub red mangrove wetlands.

C-6. Compensatory mitigation to offset the loss of wetland acreage will be accomplished through onsite and offsite mitigation. Offsite mitigation will involve purchase of mangrove habitat from the FPL Everglades Mitigation Bank, located immediately south and west of the FPL Turkey Point Plant Site. A detailed description of onsite mitigation is presented in Section E of this application.

SECTION E APPENDIX

I. SITE INFORMATION

I-A. Three soil series are found on the Project Site according to the 1996 Soil Survey of Dade County, United States Department of Agriculture, Soil Conservation Service. The three series include two hydric soils found in coastal areas, Terra Ceia muck, tidal and Pennsuco marl, tidal, as well as the upland soils series underlying the existing plant facilities, Urban Land. Figure 5 USDA/SCS Soil Survey delineates the United States Department of Agriculture (USDA)/Soil Conservation Service (SCS) soil survey types in the vicinity of the proposed Project.

I-B. Refer to Figure 6 Aerial Photograph for a photo-interpretation of the Project Area with an overlay of the proposed Project Site boundary.

I-C. A boundary survey was completed by Toussaint & Associates, Inc. dated October 2003 identifying the proposed Project Site boundary and delineated wetlands (Attachment 1). The seasonal high groundwater table (SHGWT) was assumed to be at the existing ground surface elevation approximately elevation 1.0. The mean high tide elevation of the mangrove wetland area is 1.33, and the mean low tide elevation in the mangrove area is 0.31 (National Oceanic Atmospheric Administration, 2003).

I-D. The wet seasonal high groundwater table (WSHGWT) was estimated in the mangrove area to be at the existing ground surface elevation approximately elevation 1.0. This estimate was based upon the wetland boundary elevation, the USGS topography map, and the USDA Soil Survey of Miami-Dade County which indicates that Terra Ceia soil remains saturated throughout the year.

SECTION E APPENDIX

II Environmental Considerations

II-A. During field reconnaissance activities on April 24, July 10th, July 11th, and October 22nd, 2003, wildlife observations within the Project Area were recorded. A description of the methodology and a summary of the results are presented below:

Evaluation of wildlife utilization, including the potential for listed species occurrence, was analyzed through a combination of existing habitat conditions, review of previous studies, and pedestrian transects within the Project Area. Direct observations were recorded, as well any calls, scat, burrows, or skeletal remains. Listed species includes those plant and animal species designated by the U.S. Fish and Wildlife Service (USFWS), the Florida Fish and Wildlife Conservation Commission (FFWCC), or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened, species of special concern, or commercially exploited. The Florida Natural Areas Inventory (FNAI) was consulted prior to field visits to collect lists of threatened and endangered plants and animals known to occur in Miami-Dade County. A site-specific Element Occurrence Report was also requested from FNAI, which consults the listed species database and provides the locations of any documented observations of protected species on-site and in the surrounding vicinity. The FDACS Notes on Florida's Endangered and Threatened Plants was consulted to determine the protection status of plants observed onsite. Previous reports of surveys conducted in and near the site were also reviewed.

During the field reconnaissance conducted in April, July, and October 2003, four species classified by the FFWCC as species of special concern were observed on the Project Site, the white ibis (*Eudocimus albus*), snowy egret (*Egretta thula*), tricolor heron (*Egretta tricolor*), and roseate spoonbill (*Ajaja ajaja*). All four of these species are listed as species of special concern in the State of Florida, but none are listed federally by the USFWS. Non-listed avian species observed on the site include red winged blackbird (*Agelaius phoeniceus*), mourning dove (*Zenaida macroura*), rock dove (*Columba livia*), European starling (*Sturnus vulgaris*), mockingbird (*Mimus polyglottis*), double-crested cormorant (*Phalacrocorax auritius*), common nighthawk (*Chordeiles minor*), red winged blackbird (*Agelaius phoeniceus*), cattle egret (*Bubulcus ibis*), green heron (*Butorides striatus*), black vulture (*Coragyps atratus*), black-crowned night heron (*Nycticorax nycticorax*), and great egret (*Ardea albus*). Within the open water habitat immediately north of the existing parking area, marsh killifish

(*Fundulus confluentus*), spotfin mojarra (*Eucinostomus argenteus*), mangrove snapper (*Lutjanus griseus*), mullet (*Mugil sp.*), snook (*Centropomus undecimalis*), bonefish (*Albula vulpes*), and a small tarpon (*Megalops atlanticus*) were observed.

Listed species known to occur in the nearby Biscayne National Park that could potentially utilize the site include the peregrine falcon (*Falco peregrinus*), wood stork (*Mycteria americana*), American crocodile (*Crocodylus acutus*), mangrove rivulus (*Rivulus marmoratus*), limpkin (*Aramus guarauna*), little blue heron (*Egretta caerulea*), American oystercatcher (*Haematopus palliates*), least tern (*Sterna antillarum*), brown pelican (*Pelicanus occidentalis*), and bald eagle (*Haliaeetus leucocephalus*). The FFWCC's bald eagle nest locator database was queried and resulted in no known nests in the vicinity of the Site (http://wld.fwc.state.fl.us/eagle/eaglenests/Default.asp#criterialocator).

Additional evening and daytime crocodile surveys were conducted within the proposed expansion area and vicinity in November 2003. During the nighttime survey, no individuals were observed, although the windy weather conditions were not ideal to evening crocodile observation. Signs of crocodile tracks were observed in the Project Area during the daytime survey, which included claw marks and draglines onto the Australian pine spoil piles along the northern boundary of the open water area. No nests were observed within this area and no individuals were observed during this or previous surveys. Near the Girl Scout Camp, the northwest portion of Area G, an inactive historical nest was observed in an area not designated for Project use.

The Project Site is located immediately north of the USFWS-designated critical habitat area for the American crocodile. According to the USFWS (Federal Register, Vol. 42, No. 184, September 1977), the following area (exclusive of those existing man-made structures or settlements which are not necessary to the normal needs or survival of the species) is critical habitat for the American crocodile:

> "All land and water within the following boundary in Florida beginning at the easternmost tip of Turkey Point, Dade County, on the coast of Biscayne Bay; then southeastward along a straight line to Christmas Point at the southernmost tip of Elliott Key; then southwest along a line following the shores of the Atlantic Ocean side of Old Rhodes Key, Palo Alto Key, Anglefish Key, Key Largo, Plantation Key, Windley Key, Upper Matecumbe Key, Lower Matecumbe Key, and Long Key, to the

westernmost tip of Long Key; then northwestward along a straight line to the westernmost tip of Middle Cape; then northward along the shore of the Gulf of Mexico to the north side of the mouth of Little Sable Creek; then eastward along a straight line to the northernmost point of Nine-Mile Pond; then northeastward along a straight line to the point of beginning".

Although not contained within the USFWS-designated critical habitat for the American crocodile, small portions of Project Area A could potentially be utilized by the American crocodile. According to Section 7 of the Endangered Species Act, federal agencies must consult with the USFWS to ensure that actions they authorize do not jeopardize the continuing existence of any listed species or adversely modify designated critical habitats. FPL's successful crocodile management program conducted within the Turkey Point Plant Site has increased the population of resident crocodiles and continues to provide habitat utilized by the crocodile. The loss of any potential habitat associated with the expansion Project will not jeopardize the continuing existence of the American crocodile nor will it impact designated critical habitats.

Effective August 2003, the USACE has implemented an Interim Florida Panther Key to aid in consultations with the USFWS regarding potential adverse impacts to the Florida Panther from proposed projects. A map of the Panther Protection Area and the Florida Panther Effect Determination Key is presented in Figure 7.

As shown in Figure 7, consultation area does not include the existing Turkey Point Plant, the cooling canal system, or the Project Area. According to the Florida Panther Effect Determination Key, the Project would not be expected to have any effect on the Florida panther. Further, the Project Area is greater than 2 miles from the closest telemetry point and does not contain land cover suitable for dispersal (i.e., forested, forested mixed with row crops/groves, or rural with forested cover).

The consultation area does not include the Turkey Point facility, the cooling canal system, or the Expansion Project Area, therefore according to the Florida Panther Effect Determination Key, the Project will have no effect on the Florida panther. Further, the Project Area is greater than 2 miles from the closest telemetry point and does not contain land cover suitable for dispersal, i.e, forested, forested mixed with row crops/groves, or rural with forested cover.

No threatened or endangered plants were observed, although the potential exists for the occurrence of several epiphytic species known to occur in association with tidal mangrove swamps, such as the Giant wild-pine (*Tillandsia utriculata*), banded wild-pine (*Tillandsia flexuosa*), and powdery strap airplant (*Catopsis berteroniana*).

Comments from the Florida Fish and Wildlife Conservation Commission and the U.S. Fish and Wildlife Service have been solicited, and will be forwarded upon receipt.

II-B. The proposed Project will require the filling of 36.94 acres of mangrove wetlands. Water quantity, quality, hydroperiod, and habitat will be maintained in the adjacent mangrove areas that will remain undisturbed through the installation of silt fences during construction and placement of several culverts to improve hydrologic connectivity between undisturbed wetlands and Biscayne Bay. A description of the hydrologic enhancement activities is presented in Section E, II-C, Mitigation Plans.

II-C. Compensatory mitigation for 36.94 acres of wetland impact will be achieved through a combination of on-site wetland enhancement and use of the FDEP and USACE-approved Everglades Mitigation Bank, located to the southwest of the Project Area and west-southwest of the cooling canal system. Rather than an acre-for-acre mitigation or the use of mitigation ratios, the calculation of mitigation requirements involves use of a wetland functional assessment value multiplied by the acreage of impact to determine the required number of mitigation credits. Wetland functional assessments typically involve ranking the subject wetland relative to several variables, such as vegetation, wildlife utilization, hydrology, and surrounding landscape conditions. The goal of the functional assessment is to determine the ecological value of the wetland prior to disturbance, to ensure that mitigation is designed to replace the wetland's ecological functions rather than merely the acreage of fill. Using this rationale, a 2-acre wetland dominated by exotic vegetation with altered hydrology and little wildlife utilization would have a lower functional value and thus require fewer mitigation credits as compared to a 2-acre wetland supporting a diverse assemblage of native flora and fauna and unaltered hydrologic regime.

The functional assessment, acreage of impact, resulting mitigation credits required to offset the loss of wetlands within the Project Area, and a description of FPL's proposed wetland mitigation plan are described below.

The Everglades Mitigation Bank functional assessment protocol, Wetland Assessment Technique for Environmental Review (W.A.T.E.R.), is similar to the Wetland Rapid

Assessment Procedure (WRAP) utilized by the USACE for functional assessment, but is designed to be directly applicable to the conditions present in southeast Florida.

The FDEP's Florida Uniform Mitigation Assessment Method (FUMAM), effective February 2004, is designed to be used 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, in order 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 Chapter 62-345.100 (6), F.A.C.:

> *Pursuant to paragraph 373.414(18)(b), F.S., an entity that has received a mitigation bank permit issued by the Department of Environmental Protection or a water management district under Sections 373.4135 and 373.4136, F.S., prior to the adoption of this rule (Uniform Mitigation Assessment Method, Chapter 62-345, F.A.C.) must have impact sites assessed for the purpose of deducting bank credits using the credit assessment method, including any functional assessment methodology, that was in place when the bank was permitted. A permitted mitigation bank has the option to modify the mitigation bank permit to have its credits re-assessed under the method in this chapter, and thereafter have its credits deducted using the method adopted in this chapter.*

The W.A.T.E.R. functional evaluation matrix includes four main categories: fish and wildlife; vegetation; landscape/hydrology; and salinity. These main categories are further subdivided to represent most of the important ecological components and factors of the Everglades and coastal ecosystems of southeast Florida. In addition, a site suitability evaluation is incorporated, which is designed to provide a quantifiable means of determining mitigation credits that should be assigned for societal value parameters. The resulting Site Suitability Multiplier is to be multiplied by the number of functional mitigation credits to determine the total number of credits required.

A functional assessment of each wetland parcel in the Project Area was conducted utilizing the W.A.T.E.R. protocol. 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

Attachment 2. The following summarizes the resulting pre-development functional values, acreage of impact, and mitigation credits required for wetlands within each Project Area (Figure 2):

Area A (Power Block and Collector Yard)

Approximately 17.37 acres of dwarf red mangrove marsh, created lagoon, and tidal creek within Area A will be impacted. The W.A.T.E.R. score (see Attachment 2) for this parcel of mangrove wetlands was estimated at 0.90. Based upon the functional assessment, acreage of impact, and Site Suitability Multiplier (1.07), development of this area should require 16.72 credits of mitigation.

Area D (Construction Laydown, Parking and Trailers)

The approximately 15.79-acre construction laydown area is located immediately to the west of the power block area, and is bisected by the existing transmission line patrol road. Area D contains 2 wetland parcels, comprising 15.20 acres. 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 (7.44 acres) is dwarf red mangrove marsh contiguous with Area A, with a resulting W.A.T.E.R. score of 0.89 (see Attachment 2). The area west of the patrol road (7.76 acres) is isolated from Area A and does not experience adequate flushing due to the elevated patrol road. As a result of the decreased flushing, mangroves west of the patrol road 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 Attachment II-C-1). Based upon the functional assessment, acreage of impact, and Site Suitability Multiplier (1.07), the construction laydown, parking, and trailers area should require a total of 12.99 credits of mitigation (7.09 credits for Area D-east, 5.90 credits for Area D-west).

Area C (Site Runoff Stormwater Ponds)

The 3.6-acre area proposed for site runoff and stormwater ponds is located to the southwest of Areas A and D and the primary plant access road. This parcel is hydrologically isolated, with exception of a single culvert located on the eastern edge of the parcel that connects a small tidal creek originating from within Area A. The influence of the tidal creek is evident within the eastern portion of Area C, while the western half of Area C appears to be

influenced by increased input of freshwater from the surrounding roads. The groundcover vegetation within Area C displays marked zones correlating to salinity, with freshwater/brackish species appearing on the western portion and saline species present within the eastern portion. To accurately quantify functional values for Area C, the eastern and western portions were scored individually. The resulting W.A.T.E.R. score for the eastern portion of Area C is 0.78, whereas the score for the western portion is 0.71 (see Attachment II-C-1). The stormwater pond will occupy 1.63 acres of the eastern, saline portion of Area C and 1.97 acres within the western, brackish portion of Area C. Based upon the functional assessment, acreage of impact, and Site Suitability Multiplier (1.06), a total of 2.83 credits should be required as mitigation.

Area E (Roadway Expansion Area)

The expansion of the access road will impact 0.77 acres of mangrove wetlands located adjacent to the existing plant access road. The area of impact is the western edge of the mangrove parcel adjacent to the plant entrance road, located north of Area D and west of the transmission line patrol road. The W.A.T.E.R. score for this area is 0.80 (see Attachment 4A). Based upon the functional assessment, acreage of impact, and Site Suitability Multiplier (1.07), a total of 0.66 credits should be required for mitigation.

Secondary Impacts

In order to compensate for impacts to wetland areas adjacent to the expansion area, additional mitigation will be required 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 will require an additional 1.07 acres of impact adjacent to Area A, 0.19 acres adjacent to eastern Area D, 0.40 acres adjacent to western Area D, 0.45 acres adjacent to Area C-east, 0.52 acres adjacent to C-west, and 0.57 acres adjacent to Area E. It can be assumed that a loss of functional value can be assessed at 50% within the edge effect zone of 25 ft. For a level of assurance, a loss of function equivalent to 60% 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% 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, 1.65 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 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 will suffer hydrologic secondary impacts. It can be expected that there will 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 2.13.

As calculated there should be a total of 35.33 mitigation credits required to offset wetland impacts associated with the construction of the expansion project, 33.20 credits for direct unavoidable wetland impacts and 2.13 credits for secondary impacts.

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	17.37	0.90	0	1.07	16.72
C-east	1.63	0.78	0	1.06	1.35
C-west	1.97	0.71	0	1.06	1.48
D-east	7.44	0.89	0	1.07	7.09
D-west	7.76	0.71	0	1.07	5.90
E	0.77	0.80	0	1.07	0.66
TOTAL	36.94				33.20

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	1.07	0.90	0	1.07	0.62
C-east	0.45	0.78	0	1.06	0.22
C-west	0.52	0.71	0	1.06	0.23
D-east	0.19	0.89	0	1.07	0.11
D-west	0.40	0.71	0	1.07	0.18
E	0.57	0.80	0	1.07	0.29
H-east	7.5	0.89	0.83	1.07	0.48 (calculated using 0.06 loss of functional value/acre)
TOTAL	10.7				2.13

- Unless otherwise noted, credits for mitigation of secondary impacts calculated as 60% of functional loss of direct impact

Mitigation Plan

To offset the unavoidable loss of wetland functions, FPL proposes to utilize a combination of on-site mitigation in the form of hydrological improvements and restoration as well as off-site mitigation through the purchase of credits from the Everglades Mitigation Bank. The goal of on-site hydrological improvements is to restore a more natural hydrologic regime through the addition of several culverts that will improve connectivity between each wetland parcel and Biscayne Bay. The installation of culverts will enhance tidal flushing and circulation functions that have been impacted as a result of the initial plant construction. In addition, an area of upland spoil pile ribs associated with the pilot program cooling canals west of Area C are proposed to be cleared of exotic species, graded to saturated soil elevation, and planted with native wetland species. A description of the on-site wetland mitigation conceptual design, post-mitigation functional values, and total mitigation credits gained through on-site enhancement and restoration is presented below:

To restore hydrologic connectivity with Biscayne Bay between Areas A, C, and D, a series of eleven vertebrae culverts may be installed through the access roadways currently impeding water circulation (Figure 8). The patrol road associated with the transmission line corridor separates the eastern and western halves of Area D. The raised patrol road has no culverts within Area D, and only three culverts north of Area D, one culvert located at the tidal creek location, a second culvert located further north along the patrol road, and a third culvert associated with the recent improvements to the

Palm Drive canal along the northern edge of FPL's property boundary. The remainder of the roadway is an impediment to free tidal exchange and flow. Tidal water flows into Area D through the tidal creek culvert, but the single culvert is not able to facilitate the outflow of saline water during low tide. The net effect is that the chloride levels increase and lower the functional attributes of this wetland. This condition is further exacerbated during the dry winter season when summer rains are less likely to flush the salinity of this marsh back through the tidal creek. A similar condition exists within Area C, where the entire 28.24-acre parcel is receiving water through a single culvert on the eastern edge of the parcel.

► *Area D-mid and D-north Enhancement* - Hydrologic enhancement will be achieved through the installation of a series of eleven 24" vertebrae culverts through the transmission line patrol road north of the impact zone. An elliptic culvert will need to be installed to replace the existing inadequate round culvert within the tidal creek connection. Additional new culverts will be installed along the patrol road north of the tidal creek to increase the free exchange of tidal waters, which will provide an improvement to an area of approximately 86 acres (Area D-mid: 44.34 acres, Area D-north: 41.85 acres). The W.A.T.E.R. functional scores for these areas are 0.76 and 0.79, respectively, for Areas D-mid and D-north (Attachment 4A). It can reasonably be expected that after the installation of eleven 24" vertebrae culverts, the functional value of Area D will improve to 0.86 for both Area D-mid and Area D-north. Therefore the functional lift associated with enhancing this wetland area should be 7.87 credits

►*Area H Enhancement* - As a result of the 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 will suffer hydrologically as a result of secondary impacts. It can be expected that there will be a functional loss of 0.48 credits for this 7.5 acres of dwarf mangrove marsh as a direct result of construction activities. To improve the hydrologic connectivity with Biscayne Bay, this area may be enhanced through the installation of a culvert through the Red Barn area just south of the Red Barn structure. Installing a culvert from Biscayne Bay connecting to the mangrove marsh will alleviate this functional loss and elevate the function of this area overall. Successfully establishing the new point of flushing and contact with Biscayne Bay should regain 0.56 credits.

►*Area C Enhancement* – The mangrove wetland area proposed for the location of the project's stormwater ponds is currently connected to Area A and Biscayne Bay through a single tidal creek that flows through a small culvert underneath the primary plant access

road to the northeast corner of the parcel. This connection will be preserved through extension of the existing culvert under the construction laydown Area D to maintain the tidal creek influence within Area C. A second culvert would be installed in the northwest corner of the parcel near the intersection of the plant's entrance road and the contractor's Unit 3&4 road. This culvert would provide a connection between Area C and the undisturbed wetlands within Area H, west of the transmission line patrol road and north of the construction laydown Area D. The location of the newly proposed culvert could further enhance the mitigation aspects of undisturbed areas located to the west of the transmission line patrol road if stormwater pretreatment and adequate water storage allow the discharge of stormwater through the wetland system. Cleansed freshwater inputs will enhance the mangrove wetlands and mimic historic conditions. A total of 3.08 credits of mitigation should be regained through the hydrologic improvements to Area C.

► *Restoration of Australian pine test cooling canals* - To the west of Area C are located a series of five upland spoil deposit ribs and canals constructed in the late 1960's-early 1970's 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. FPL proposes to remove the exotic Australian pine and spoil berm from the easternmost two ribs to an elevation 4 inches above the seasonal high water elevation. This elevation will remain saturated during the high waterfall months (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 will be monitored for a period of 5 years to ensure survival of native wetland species and the successful removal of exotic species. The acreage of the two upland spoil pile ribs totals 6.5 acres, with a current W.A.T.E.R. functional assessment score of 0. It can be reasonably expected that the area's function may attain a functional score of 0.84 after five years of maintenance and growth. Therefore this restoration activity may contribute an additional 5.73 credits of mitigation to offset impacts associated with the expansion project.

► *Optional Mitigation*

Another mitigation option under consideration involves continuing the vertebrae culvert installation along the transmission line patrol road further north to the Malrey Canal, where the transmission line turns west and intersects with the L 31E levee. This property is owned by Biscayne National Park. This option would require coordination and

cooperation with the Park Service. Under this option, 24 inch culverts would be placed at a spacing of approximately 200 ft to provide connection between the dwarf red mangrove wetlands located east of the levee of the L 31 E canal and the open waters of Biscayne Bay. This hydrological enhancement would allow for potential additional benefit with regards to the overall Comprehensive Everglades Restoration Plan (C.E.R.P.), including re-establishment of historical freshwater sheetflow to estuarine areas. This mitigation option would be a positive step toward goals of C.E.R.P. and could generate an additional 9.06 credits of enhancement mitigation.

The cumulative lift generated from the hydrologic improvements to undisturbed wetlands on site and the restoration of the Australian pine ribs is 17.24 credits. This amount of on-site mitigation equals 48.8% of the total mitigation requirements remaining on site and within the same drainage basin. The remaining mitigation credits (18.09) will be acquired from the FPL Everglades Mitigation Bank, Phases 1 & 2, which is also within the same drainage basin as the Project Area.

Onsite Mitigation Summary

Area	Undisturbed Acreage	Pre-mitigation W.A.T.E.R. Score	Post-mitigation W.A.T.E.R. Score	Site Suitability Multiplier	Lift per Acre	Credits Generated through On-Site Mitigation
C-east	9.84	0.78	0.85	1.06	0.07	0.73
C-west	14.8	0.71	0.86	1.06	0.15	2.35
D-mid	44.34	0.76	0.86	1.07	0.10	4.74
D-north	41.85	0.79	0.86	1.07	0.07	3.13
H-east	7.5	0.83	0.90	1.07	0.07	0.56
Australian Pine Ribs	6.5	0	0.84	1.05	0.84	5.73
TOTAL						17.24

II-D. Wetland boundaries were delineated in July and October 2003 at the Project Site by a trained wetland ecologist in accordance with applicable federal and state wetland criteria as set forth by the U.S. Army Corps of Engineers (USACE) and the Florida Department of Environmental Protection (FDEP). Specifically, the Project Site was examined for the presence of hydrophytic vegetation, hydric soils, and hydrological indicators, by which the landward extent of wetlands were determined. The landward extent of wetlands were marked in the field with sequentially numbered, high visibility flagging tape, and subsequently surveyed. The existing plant was constructed upon fill material; therefore the wetland boundary closely follows the interface between upland fill and surrounding mangrove wetlands. The wetland boundary survey prepared by A.R. Toussaint and Associates, Inc. October 2003 is provided in Attachment I.

II-E. Impact Summary Tables

See Attachment 3.

SECTION E APPENDIX

III. Plans

III-A. The proposed Project Area boundary and total land area, including distances and orientation relative to existing roads or other land marks is presented in Figures 1 and 2. The total land area for proposed Project is approximately 90-acres.

III-B. Existing vegetation/land use within the 90-acre Project Area (Figure 9) includes mangrove tidal marsh (FLUCFCS 612), electrical utility facilities (FLUCFCS 831) associated with the existing Turkey Point plant, access roads (FLUCFCS 814), recreational areas (FLUCFCS 180), open land (FLUCFCS 190), and a transmission line (FLUCFCS 832). The majority of the Project Area (approximately 60 acres) supports mangrove marsh tidally inundated with waters from Biscayne Bay. Existing plant facilities are located along the southern and eastern perimeter of the mangroves, including parking areas and access roads. The transmission line corridor and associated patrol road is located along the western boundary of the Project Area.

AREA DESIGNATION	FLUCCS	Area (Acres)	Area (%)
Electrical Utilities and Associated Facilities	831	19.56	21.7%
Mangrove Marsh	612	61.81	68.7%
Access Roads	814		
Recreational Areas	180	5.30	5.9%
Open Land	190		
Transmission Line	832		
TOTAL		90	100

III-C. A boundary survey prepared by A.R. Toussaint and Associates, Inc., October 2003 is provided in Attachment 1. The survey depicts the Project boundaries, existing topography, delineated wetlands and other surface features. All elevations are referenced to the NGVD (1929) based on benchmark presented in the attached survey.

III-D. The current Flood Insurance Rate Maps (FIRM), Panel 12105C0330 F and dated , Miami-Dade County, Florida that cover the Project Area (north of the existing Turky Point Plant shown on the figures) is presented as Attachment 4.

III-E. A survey plan prepared by Toussaint & Associates, Inc. dated October 2003, provided in Attachment 1, depicts the delineated wetlands on the Project Site. No binding jurisdictional determination has been issued for the mangrove wetland area.

III-F. The proposed land uses, land cover, and acreage are presented below:

AREA DESIGNATION	FLUCCS	Area (Acres)	Area (%)
Electrical Utilities and Associated Facilities	831	58.84	65.4%
Mangrove Marsh	612	24.87	27.6%
Access Roads	814		
Transmission Line	832		
Stormwater Pond/Access Road	534	3.6	4%
TOTAL		90	100

III-G. The proposed Project entails the filling of approximately 36.94-acres of wetlands located immediately north of the existing Turkey Point facility. Connections/outfalls to other surface waters or wetlands are proposed are described in SCA Appendix 10.8. The proposed impact to wetlands is presented SCA Section 4.4.

III-H. The Project lies entirely within FPL property and has an approximately 1200 ft buffer to the north. Within the Project Area, a 17 acre buffer covering the northern portion of the site has been allocated.

III-I. The pre-development and post-development drainage patterns and basin boundaries showing the direction of flows, including any off-site runoff being routed through or around the system; and connections between wetlands and other surface waters, are depicted in SCA Appendix 10.8.

III-J. The stormwater management and various drainage components are presented in SCA Section 3.8. Additional information pertaining to engineering calculations is provided in the stormwater management calculations is presented in SCA Appendix 10.8.

III-K. The location and details of all stormwater control structures and stormwater control elevations are presented in SCA Section 3.8 and Appendix 10.8.

III-L. The location of proposed paved access roads, parking areas and maintenance areas are contained in SCA Section 3.2.

III-M. The stormwater management facility components, location, size, and design capacity are shown in SCA Section 3.8. Drainage calculations for the stormwater mamagement system are included SCA Appendix 10.8. The stormwater management controls are designed to comply with applicable federal, state, and local regulations. Onsite drainage will be accomplished through gravity or pumped flow. The general site grading will establish a working surface for construction and provide positive drainage from paved and non paved

areas. The drainage system will consist of a wet detention pond, swales and discharge control structures. The detention pond is designed to detain the 25-year, 72-hour storm peak runoff flow without producing a headwater elevation above the bottom of the roadway base course. The required treatment volume will be detained within the pond and allowed to discharge per SFWMD Basis of Review (BOR) requirements.

III-N. Onsite right-of-ways and easements are not required for the proposed stormwater management system at the proposed site. All stormwater management system components are contained within the Project limits. Refer to SCA Section 3.8 for the location of stormwater management system components.

III-O. Stormwater runoff will be detained onsite in a wet detention pond with on-line detention of the required treatment volume. The design storm, 25-year 72-hour, will be routed through internal stormwater management structures and swales to the detention pond. The detention pond will discharge stormwater runoff per SFWMD BOR requirements.

III-P. Temporary measures will be used during the construction phase to control erosion and sediment transport from the Project Site. These measures will be implemented in accordance with the Best Management Practices (BMPs) and guidelines for construction activities. Refer to Section E IV Construction Schedule and Techniques for additional information.

III-Q. Refer to Appendix E, Section III for the details regarding the mitigation areas.

III-R. Proposed site grading and drainage are discussed in Chapter 4 of the SCA.

III-S. Refer to Section E Appendix IV-C.

III-T. Dewatering, if required, will be accomplished by localized pumping of the shallow aquifer to reduce the water table during the site filling. The dewatering system will be conducted using pumps or other appropriate methods designed to control turbidity. Refer to Section E IV Construction Schedule and Techniques for additional information.

III-U. Not applicable, the proposed development is not a marina facility.

III-V. The proposed Project was designed to prevent or minimize offsite impacts.

III-W. The Project will not be constructed in phases.

SECTION E APPENDIX

IV. CONSTRUCTION SCHEDULE AND TECHNIQUES

IV-A. Not applicable, no pilings or seawall slabs are required for this project.

IV-B. Prior to beginning any construction or earth disturbing activities, adjacent open lands will be protected by sediment containment and erosion controls. These shall include silt fences, hay bales, sediment basins, and/or grassing. Along the perimeter of areas that will be filled and are presently tidal (Areas A, D, and E on Figure 2), silt fence may not be appropriate. Therefore, an impermeable barrier (e.g., Fabriform, soil, cement bags, or sheet piling) or silt fence will be placed along the perimeter of those areas to prevent tidal circulation and to keep sediment within the Project Area. The erosion controls will be installed at the beginning of the Project and relevant environmental protection features will be maintained throughout the construction period.

IV-C. Material unsuitable for the power block and associated structures will be removed from the Project Area. This material, primarily organic soils and muck, will be transported to the Everglades Mitigation Bank for use in improving the wetland systems as approved by FDEP and ACOE permit requirements.

IV-D. Fill material will include materials such as limerock from existing stockpiles at the Turkey Point Plant Site and offsite. The existing stockpiles are a result of the construction of the existing cooling canal system. All material will be transported by truck via existing and new access roads. Concurrent with the installation of the impermeable barrier, the new stormwater detention pond will be installed along the south side of the existing plant access road (Area C on Figure 2), and two new culverts will connect the otherwise isolated area adjacent to the new stormwater pond with tidal exchange to the north. One of these culverts will be placed to connect an existing culvert under the plant access road at the southeast corner of Area C with non-impacted Area H (on Figure 2). The second tidal culvert will be placed under the northwest corner of Area H and will also connect Area C with Area H. Stormwater will be released to the north via the new culverts after traversing the new 3.6-acre stormwater pond. Filling will be performed within the confines of the impermeable barrier, which may then be left in place to protect the toe of the slope from tidal erosion when filling is complete.

IV-E. Temporary dewatering effluent for initial site preparation will be routed to the existing cooling canal system or contained onsite. Dewatering, when required, will be accomplished by localized pumping surface water in the de-mucked area. The dewatering system will be designed to control turbidity. Lowering the water table in the de-mucked area allows

backfilling with structural fill (i.e., limerock or limestone). After initial filling of sites for deep foundations, additional dewatering may be required.

The duration of each dewatering task will generally be limited to 6 months. Based on the location of dewatering areas within the Project Area, no offsite impacts to groundwater are anticipated. There will be no impacts to the underlying deeper aquifers because excavation and dewatering activities will be limited to the surficial aquifer system. Once the detailed design is completed, a dewatering plan, if required, will be submitted prior to commencing dewatering activities.

IV-F. The equipment and materials will primarily be transported to the site by trucks and trailers that will reach the site by existing roadways. The Turkey Point Plant Site has barge access near the Project location. Barge deliveries of large sized construction materials and equipment for the Project may be delivered to the existing barge area and transported by truck to the Project Area.

IV-G. Not applicable, no demolition is required for the Project.

IV-H. The work will be supervised by FPL personnel and contractors. A general contractor, to be selected after bids for the Project are received and reviewed, will perform the actual construction for the project. Construction phase of the Project is estimated to occur between spring 2005 and summer 2007. FPL will be responsible for monitoring, record drawings, and as-built certifications for the Project.

SECTION E APPENDIX

V. DRAINAGE INFORMATION

V-A. Information pertaining to the drainage calculations and supporting documents as discussed below are presented in the SCA Appendix 10.8. All engineering calculations are signed and sealed by a registered Professional Engineer in the State of Florida.

1. Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin.
2. A survey was completed by Toussaint & Associates, Inc. dated October 2003 identifying the proposed Project Site boundary and delineated wetlands.
3. Refer to SCA Appendix 10.8 water elevations (normal, wet season, design storm);
4. The Design Storm used for the proposed Project design was a 25-Year 72-Hour event as required by the SFWMD BOR.
5. Runoff hydrograph(s) for each drainage basin for the required design storm event has been determined and presented in SCA Appendix 10.8.
6. Stage-storage computations for each basin, detention area, and channel used in storage routing has been verified and presented in SCA Appendix 10.8.
7. Stage-discharge computations for storage areas at selected control points such as control structure or natural restriction was determined and presented in SCA Appendix 10.8.
8. Flood routings through on-site conveyance and storage areas were determined and are presented in SCA Appendix 10.8.
9. Calculations to determine the water surface profiles for the stormwater drainage system have been determined and are presented in SCA Appendix 10.8.
10. Runoff peak rates and volumes discharged from the system for the 25-Year 72-Hour design storm are presented in SCA Appendix 10.8.
11. Tail water history and justification (time and elevation) is provided.
12. Not applicable, pumps will not be utilized in the stormwater management system, the system will operate entirely by gravity flow.

V-B. Information pertaining to the soil boring conditions at the site is contained in SCA Appendix 10.5.3.

V-C. Information pertaining to the following acreages and percentages of the total Project are presented in SCA Appendix 10.8. All engineering plans are calculations are signed and sealed by a registered Professional Engineer in the State of Florida.

1. The impervious surfaces, excluding wetlands;

2. The pervious surfaces (green areas, not including wetlands);.
3. The lakes, canals, retention areas, other open water areas;
4. The delineated wetland area.

V-D. The Project will not affect floodplain storage and conveyance (see SCA Appendix 10.8).

V-E. Refer to SCA Appendix 10.8 for an analysis of the water quality treatment system.

1. A description of the proposed stormwater treatment methodology that addresses the type of treatment, pollution abatement volumes, and recovery analysis.
2. Construction plans and calculations that address stage-storage and design elevations, that demonstrate compliance with the appropriate water quality treatment criteria .

V-F. The stormwater model selected for estimating the stormwater runoff from the developed site is described in SCA Appendix 10.8. The model was used to simulate design storm events, rainfall flow rates throughout the watershed, changes in surface storage water levels throughout the Project Area and discharge rates as a function of time. The model allowed the user to direct subbasins into nodes and then route the incoming hydrographs with other interconnected subbasins. This allows the computation backwater effects on the control structures, referred to as links. All of the engineering computations including the methodology, assumptions made and references are in SCA Appendix 10.8.

SECTION E APPENDIX

VI. OPERATION AND MAINTENANCE AND LEGAL DOCUMENTATION

VI-A. The Project will be operated and maintained by FPL.

VI-B. Regular maintenance is crucial to the effectiveness of the proposed system. Sufficient access to stormwater management devices has been provided in the design of the system for maintenance personnel and equipment. The maintenance program will include periodic inspections of stormwater management system, to include site conveyance swales, weirs, and pond discharge control structures. 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. Repairs will be completed to bring the structural unit back to the permitted conditions. 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. Grassed areas will be mowed and maintained as needed. Problems detected during routine inspections will be addressed and corrected as soon as possible, but in no case more than three months after detection.

VI-C. Conservation easements, stormwater management system easements, and property owner's association documents are not required for the proposed stormwater management system at the proposed site. All stormwater management system components are contained within the Project limits. Refer to SCA Appendix 10.8 for the location of stormwater management system components.

VI-D. Refer to Sections 3.4 through 3.6 of the SCA.

VI-E. A boundary survey of the Project Area was completed by Toussaint & Associates, Inc. dated October 2003, delineated wetlands (Attachment 1). The property owned by FPL is shown in Attachment 5.

SECTION E APPENDIX

VII. WATER USE

VII-A. Not applicable.

VII-B. A Consumptive Use or Water Use permit has not been issued for the project (see VII-B).

VII-C. Consumptive use is being sought as part of the site certification for this Project. Refer to Section 3.5, 5.3 and Appendix 10.9 of the SCA.

VII-D. Not applicable, there are no existing wells present in the Project Area.

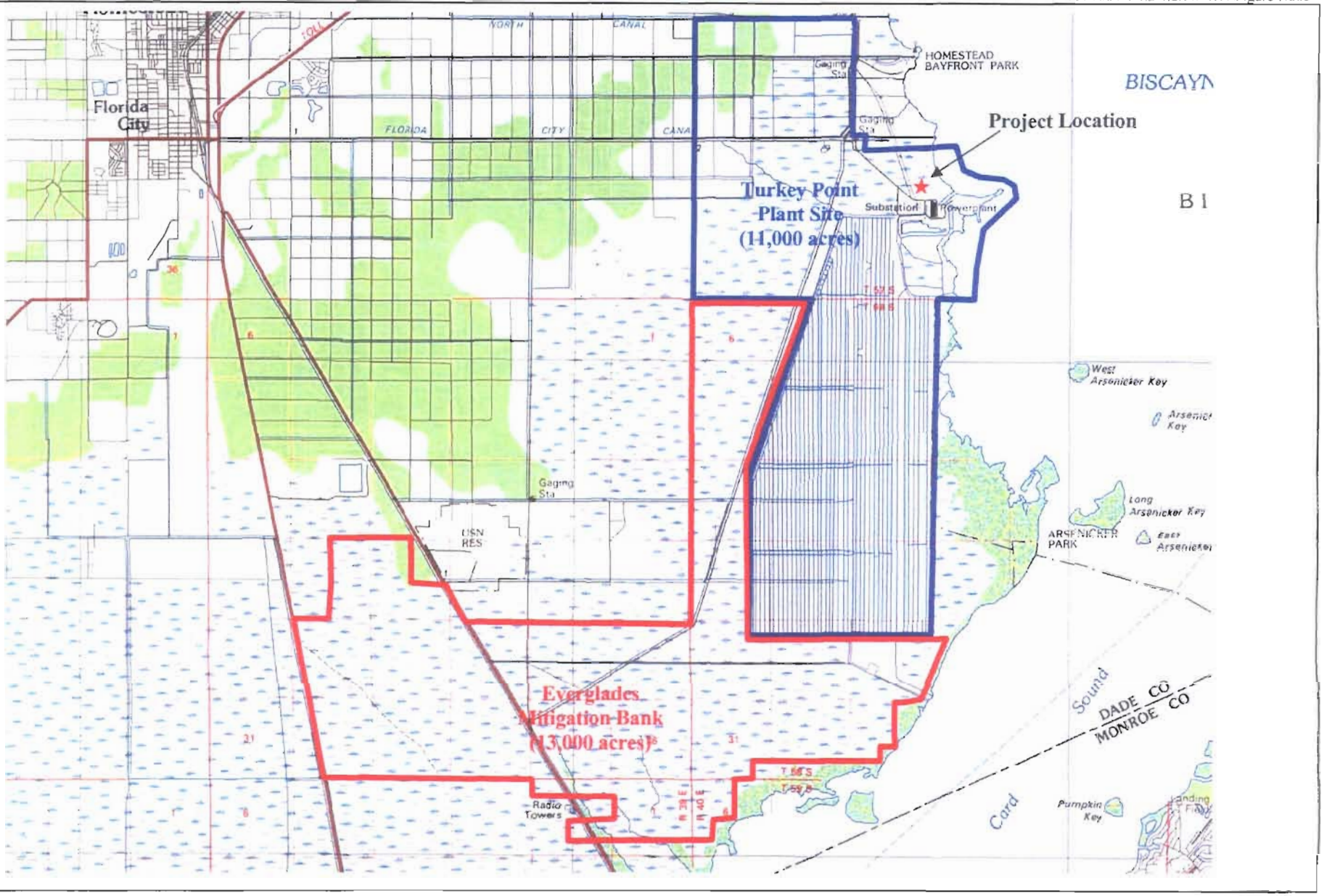
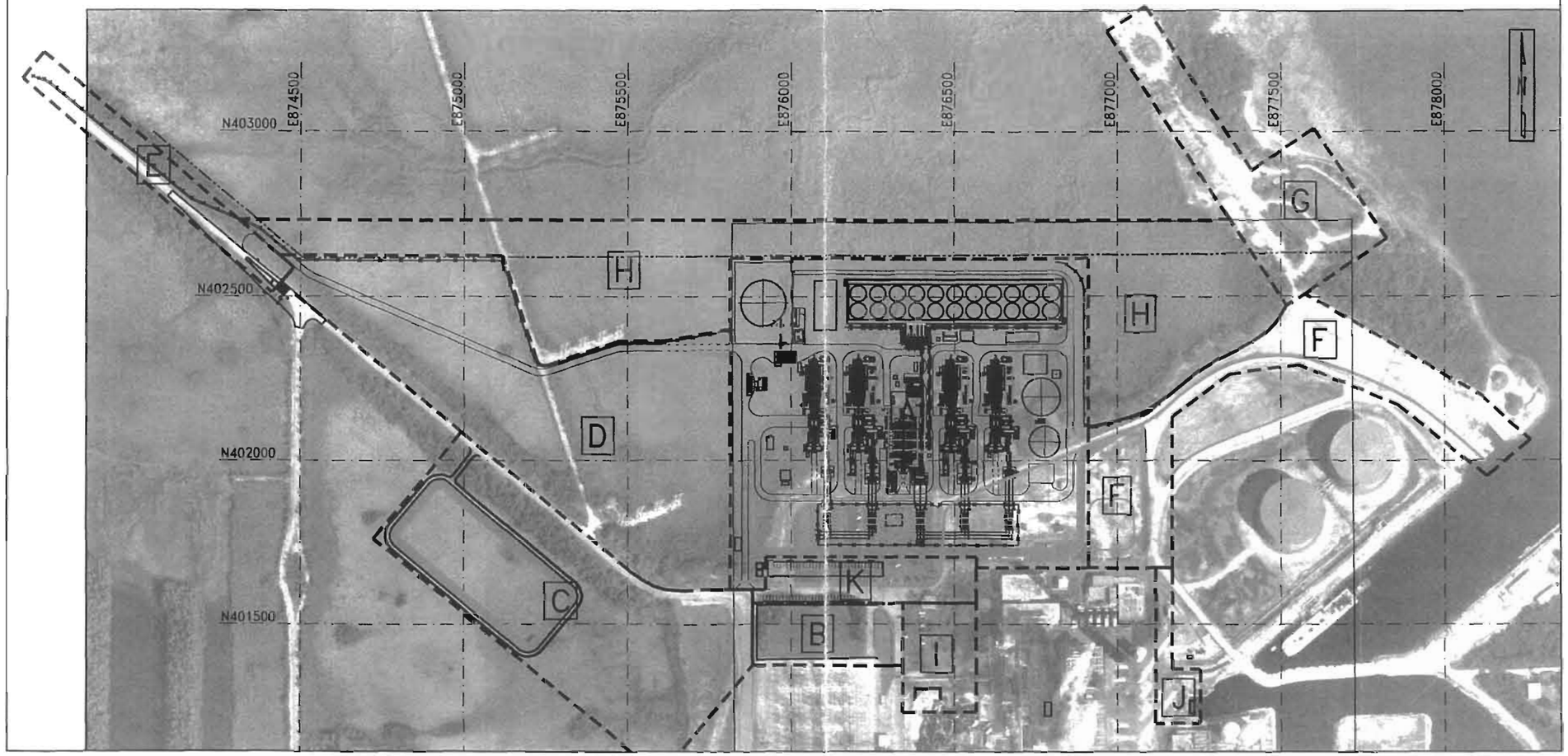


Figure 1.
FPL Turkey Point Plant Site Location, Project Location, and Everglades Mitigation Bank

Source: National Geographic, 2003; Golder, 2003.

FPL



PROJECT AREAS

A– POWER BLOCK AND COLLECTOR YARD	23.53 AC.
B– SYS. SUBSTATION ADDITION	2 AC.
C– SITE RUNOFF STORMWATER POND	12 AC.
D– CONST. LAYDOWN, PARKING & TRAILERS	15.62 AC.
E– ROADWAY EXPANSION AREA	2.32 AC.
F– CONST. LAYDOWN, PARKING & TRAILERS	6.66 AC.
G– CONST. LAYDOWN, PARKING & TRAILERS	5.30 AC.
H– NON IMPACTED AREA	16.84 AC.
I– OUTFALL STRUCTURE, PARKING	1.7 AC.
J– TIE–INS TO EXIST. PLANT	.9 AC.
K– PARKING LOT & ROADS	2.12 AC.
TOTAL PROJECT AREA --------	88.99 AC.

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG
0	11/05/03	Revised Figure Box/Update Rename Code	JEJ			TDU	PGBU

FPL

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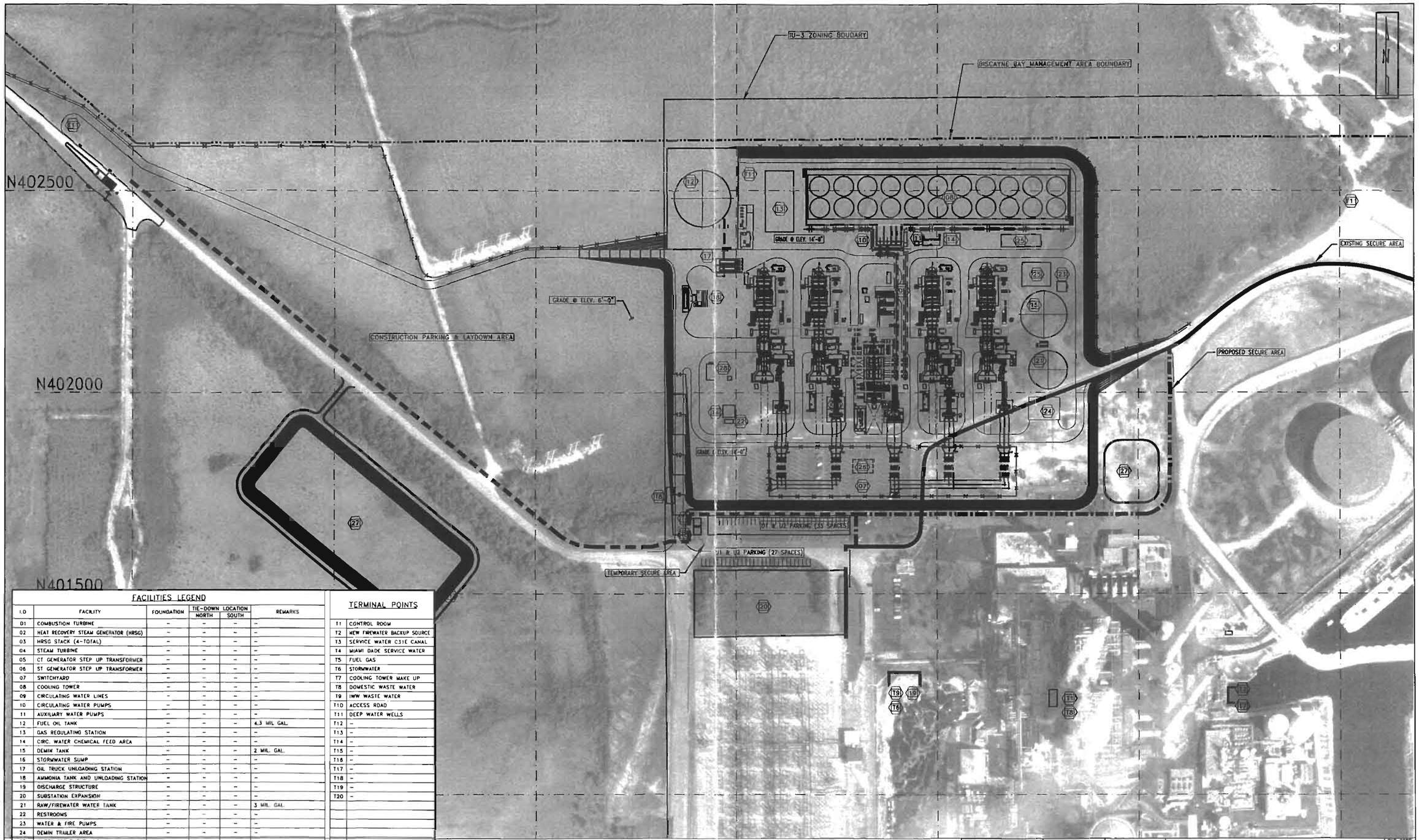

FACILITIES LEGEND

I.D	FACILITY	FOUNDATION	TIE-DOWN LOCATION NORTH	TIE-DOWN LOCATION SOUTH	REMARKS
01	COMBUSTION TURBINE	–	–	–	–
02	HEAT RECOVERY STEAM GENERATOR (HRSG)	–	–	–	–
03	HRSG STACK (4-TOTAL)	–	–	–	–
04	STEAM TURBINE	–	–	–	–
05	CT GENERATOR STEP UP TRANSFORMER	–	–	–	–
06	ST GENERATOR STEP UP TRANSFORMER	–	–	–	–
07	SWITCHYARD	–	–	–	–
08	COOLING TOWER	–	–	–	–
09	CIRCULATING WATER LINES	–	–	–	–
10	CIRCULATING WATER PUMPS	–	–	–	–
11	AUXILIARY WATER PUMPS	–	–	–	–
12	FUEL OIL TANK	–	–	–	4.3 MIL GAL.
13	GAS REGULATING STATION	–	–	–	–
14	CIRC. WATER CHEMICAL FEED AREA	–	–	–	–
15	DEMIN TANK	–	–	–	2 MIL. GAL.
16	STORMWATER SUMP	–	–	–	–
17	OIL TRUCK UNLOADING STATION	–	–	–	–
18	AMMONIA TANK AND UNLOADING STATION	–	–	–	–
19	DISCHARGE STRUCTURE	–	–	–	–
20	SUBSTATION EXPANSION	–	–	–	–
21	RAW/FIREWATER WATER TANK	–	–	–	3 MIL. GAL.
22	RESTROOMS	–	–	–	–
23	WATER & FIRE PUMPS	–	–	–	–
24	DEMIN TRAILER AREA	–	–	–	–
25	WATER TREATMENT AREA	–	–	–	–
26	RELAY VAULT	–	–	–	–
27	STORMWATER POND	–	–	–	POTENTIAL
28	H2 BULK STORAGE	–	–	–	

ASPHALT PAVING

AGGREGATE SURFACING

CONCRETE SURFACING

EXISTING FENCING

NEW FENCING

TERMINAL POINTS

T1	CONTROL ROOM
T2	NEW FIREWATER BACKUP SOURCE
T3	SERVICE WATER C31E CANAL
T4	MIAMI DADE SERVICE WATER
T5	FUEL GAS
T6	STORMWATER
T7	COOLING TOWER MAKE UP
T8	DOMESTIC WASTE WATER
T9	IWW WASTE WATER
T10	ACCESS ROAD
T11	DEEP WATER WELLS
T12	–
T13	–
T14	–
T15	–
T16	–
T17	–
T18	–
T19	–
T20	–

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG
0	10/31/03	ISSUED FOR SCA USE	GMG			TDJ	PGBU

FPL

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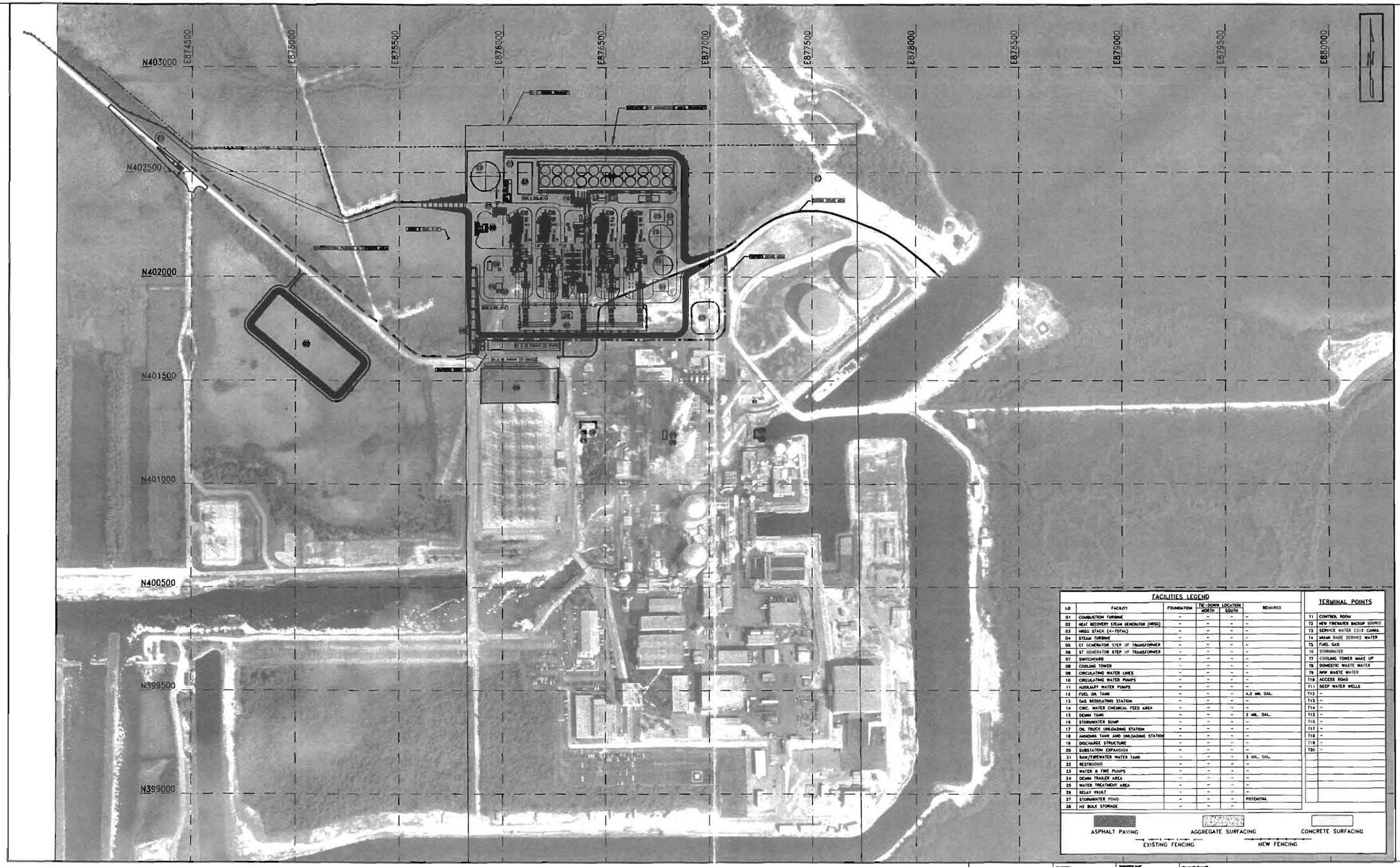


FACILITIES LEGEND					
I.D	FACILITY	FOUNDATION	TIE-DOWN LOCATION NORTH	TIE-DOWN LOCATION SOUTH	REMARKS
01	COMBUSTION TURBINE	-	-	-	-
02	HEAT RECOVERY STEAM GENERATOR (HRSG)	-	-	-	-
03	HRSG STACK (4-TOTAL)	-	-	-	-
04	STEAM TURBINE	-	-	-	-
05	CT GENERATOR STEP UP TRANSFORMER	-	-	-	-
06	ST GENERATOR STEP UP TRANSFORMER	-	-	-	-
07	SWITCHYARD	-	-	-	-
08	COOLING TOWER	-	-	-	-
09	CIRCULATING WATER LINES	-	-	-	-
10	CIRCULATING WATER PUMPS	-	-	-	-
11	AUXILIARY WATER PUMPS	-	-	-	-
12	FUEL OIL TANK	-	-	-	4.3 MIL GAL.
13	GAS REGULATING STATION	-	-	-	-
14	CIRC. WATER CHEMICAL FEED AREA	-	-	-	-
15	DEMIN TANK	-	-	-	2 MIL GAL.
16	STORMWATER SUMP	-	-	-	-
17	OIL TRUCK UNLOADING STATION	-	-	-	-
18	AMMONIA TANK AND UNLOADING STATION	-	-	-	-
19	DISCHARGE STRUCTURE	-	-	-	-
20	SUBSTATION EXPANSION	-	-	-	-
21	RAW/FIRE WATER WATER TANK	-	-	-	3 MIL. GAL.
22	RESTROOMS	-	-	-	-
23	WATER & FIRE PUMPS	-	-	-	-
24	DEMIN TRAILER AREA	-	-	-	-
25	WATER TREATMENT AREA	-	-	-	-
26	RELAY HHAT	-	-	-	-
27	STORMWATER POND	-	-	-	POTENTIAL
28	H2 BULK STORAGE	-	-	-	-

TERMINAL POINTS	
T1	CONTROL ROOM
T2	NEW FIRE/WATER BACKUP SOURCE
T3	SERVICE WATER C31E CANAL
T4	MIAMI DADE SERVICE WATER
T5	FUEL GAS
T6	STORMWATER
T7	COOLING TOWER MAKE UP
T8	DOMESTIC WASTE WATER
T9	NEW WASTE WATER
T10	ACCESS ROAD
T11	DEEP WATER WELLS
T12	-
T13	-
T14	-
T15	-
T16	-
T17	-
T18	-
T19	-
T20	-

ASPHALT PAVING
AGGREGATE SURFACING
CONCRETE SURFACING
EXISTING FENCING
NEW FENCING

REV	DATE	REVISION DESCRIPTION	GMG BY	CH	COR	TDJ APR	PGEU ORG
0	10/31/13	ISSUED FOR SCA USE					

FPL

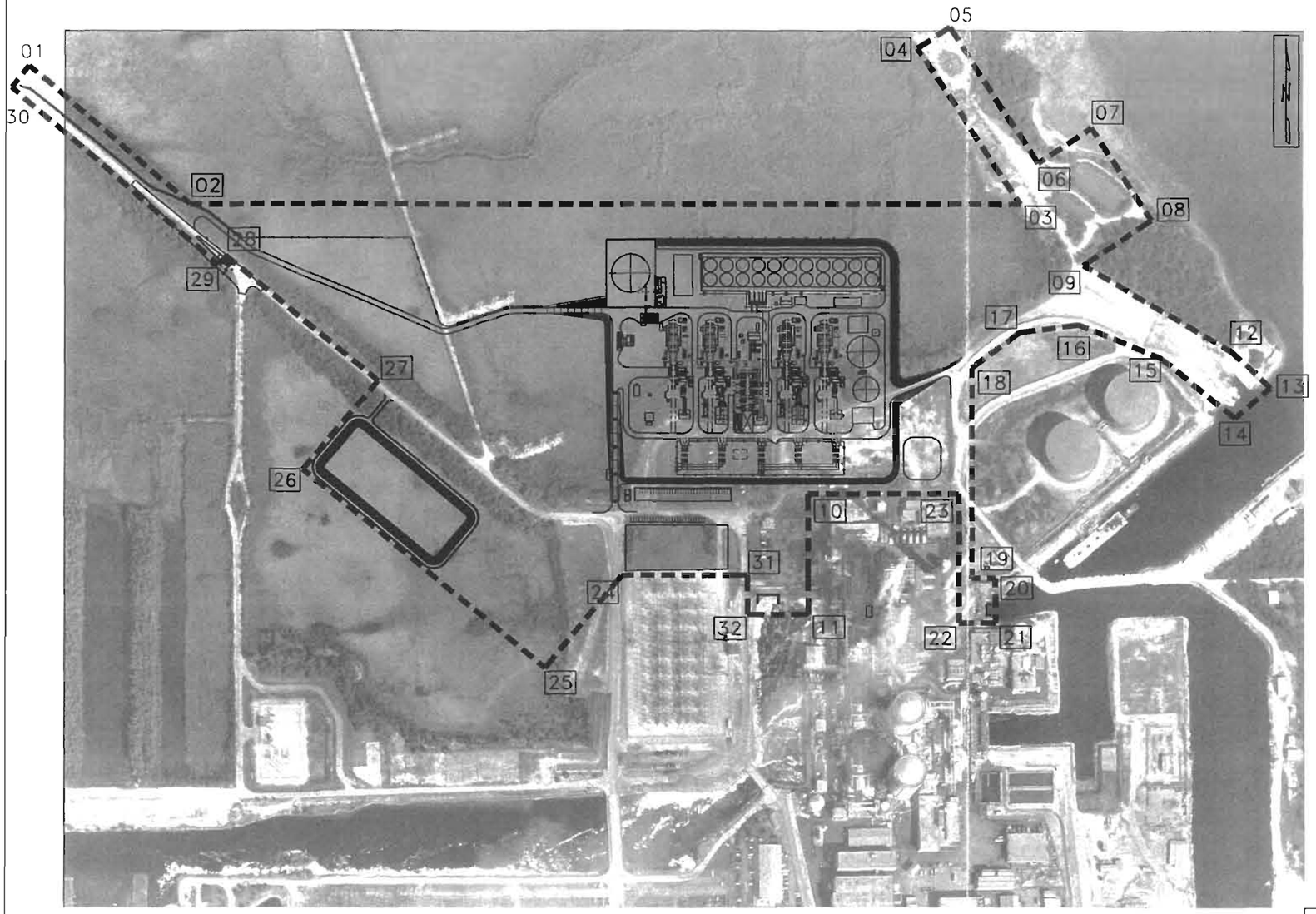
SYSTEM: N/A	DISCIPLINE: CS	PLANT/UNIT: TURKEY POINT	BAR CODE
SCALE: 1"=200'	CAD FILE NAME: Figure 4.dwg	TITLE: FIGURE 4 EXPANSION PROJECT AERIAL DERIVED DEVELOPMENT PLAN	
DRAWING SIZE: D(24"X36")	FPL ARCHIVE NAME:		
DRAWING NUMBER: 0337800/4/4.2/4.2.1/10.1.4/Figure 4.dwg		SHEET: 1 OF 1	REV: 0

Legend:

.....		Approximate Project Boundary
9	-	Udorthents-water complex
15	-	Urban Land
31	-	Perrine marl, tidal
32	-	Terra Ceia muck, tidal

Figure 5
USDA/SCS Soil Survey

Source: Soil Survey of Dade County Area Florida - Sheet Number 51



PROJECT AREA BOUNDARY
STATE PLANE COORDINATES

01	N403236.84	E873718.92
02	N402732.84	E874310.24
03	N402732.84	E877344.10
04	N403301.24	E876966.72
05	N403374.35	E877084.01
06	N402882.85	E877409.01
07	N403010.84	E877602.63
08	N402674.79	E877824.82
09	N402509.67	E877575.08
10	N401673.13	E876565.21
11	N401230.29	E876565.21
12	N402196.12	E878114.22
13	N402062.33	E878261.50
14	N401950.84	E878127.61
15	N402171.13	E877858.72
16	N402292.86	E877555.97
17	N402263.35	E877341.84
18	N402134.48	E877167.01
19	N401362.79	E877167.01
20	N401362.79	E877253.01
21	N401197.07	E877253.01
22	N401197.07	E877116.63
23	N401673.13	E877116.63
24	N401374.77	E875881.81
25	N401035.48	E875601.25
26	N401761.97	E874722.66
27	N402087.28	E874991.66
28	N402542.56	E874441.06
29	N402512.09	E874412.74
30	N403158.06	E873655.84
31	N401374.76	E876341.55
32	N401230.29	E876341.55

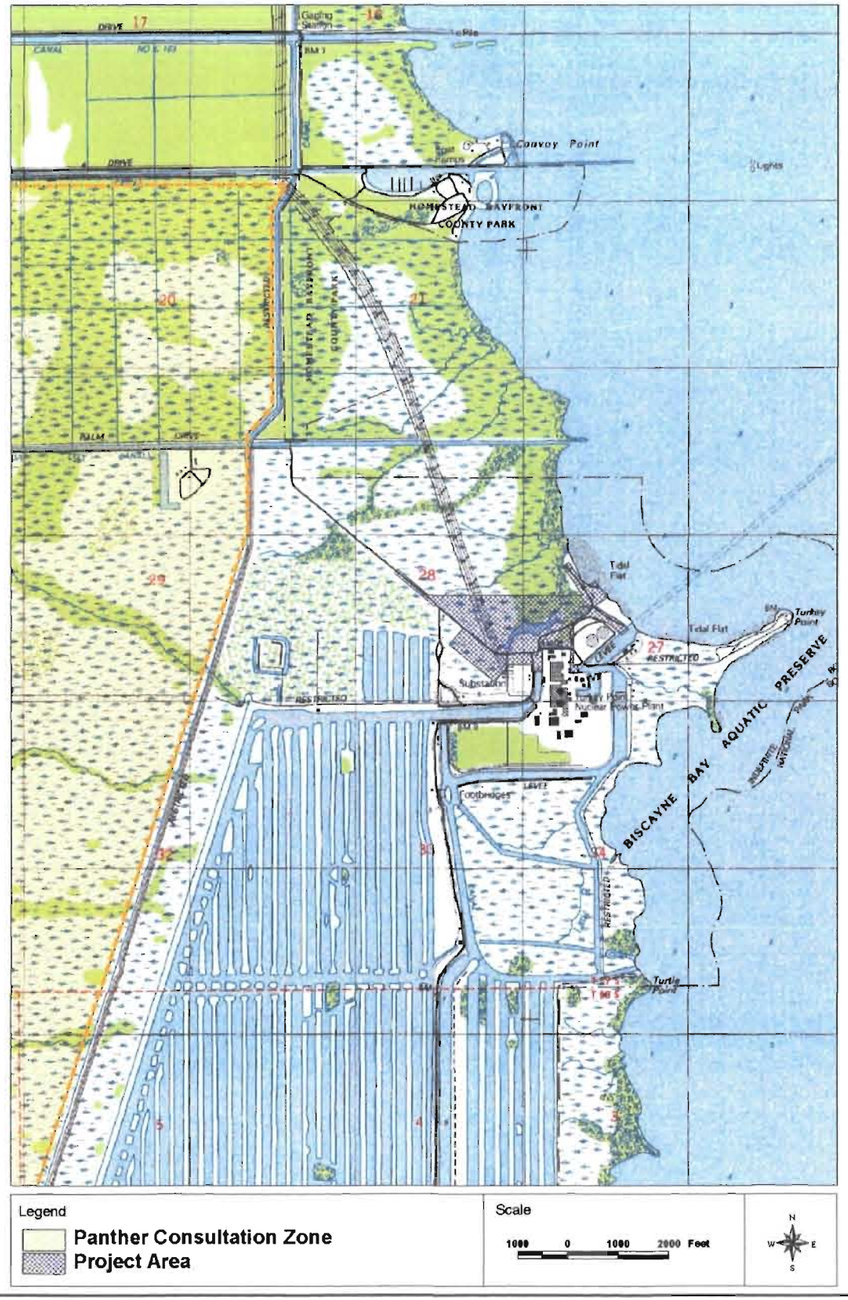
BEARINGS AND COORDINATES SHOWN HEREIN REFER TO THE STATE OF FLORIDA TRANSVERSE MERCATOR GRID SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983.

COORDINATE LOCATIONS WERE DERRIVED FROM A DIGITAL ORTHO PHOTOGRAPH THAT HAS BEEN RECTIFIED AND SPATIALLY LOCATED TO STATE PLANE COORDINATES PER NAD, 83. THE DIGITAL ORTHO WAS PURCHASED FROM THE MIAMI DADE COUNTY PUBLIC ACCESS DEPT., GIS DIVISION.

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	DRG
0	10/31/13	ISSUED FOR SCA USE	GMG			TDJ	PCBU

FPL

SYSTEM: N/A	DISCIPLINE: CS	PLANT/UNIT: TURKEY POINT	BAR CODE
SCALE: N/A	CAD FILE NAME: Figure 6.dwg	TITLE: FIGURE 6 EXPANSION PROJECT BOUNDARIES OF PROJECT SITE	
DRAWING SIZE: D(24"X36")	FPL ARCHIVE NAME: N/A		
DRAWING NUMBER: 0337600/4/4.2/4.2.1/10.1.4/Figure6.dwg		SHEET: 1 OF 1	REV: 0



Florida Panther Effect Determination Key

A. Project is within the consultation area[1].....B
Project is not within the consultation area..... ... *No effect*

B. Project is within 2 miles of a telemetry point[1]..... ...D
Project is not within 2 miles of a telemetry point.....C

C. Surrounding land cover within 1 mile **is suitable**[2] for panther dispersal.....D
Surrounding land cover within 1 mile **is not suitable**[3] for panther dispersal.....*No effect*

D. Project is for a single-family residence on a lot > 1 acre.....*May affect not likely to adversely affect*
Project is not for a single-family residence on a lot > 1 acre..... E

E. Project is for a single-family[4] residence on a lot < 1 acre.....*May affect*
Project is not for a single-family[4] residence on a lot < 1 acre.....F

F. Project is for a new subdivision or is other than a single-family residence and is constructed on 1-40 acres.....G
Project is for a new subdivision or is other than a single-family residence and is constructed on < 1 or > 40 acres.....*May affect*

G. Project will preserve a portion of the site of sufficient size and configuration to maintain panther crossing the property.....*May affect not likely to adversely affect*
Project will not preserve a portion of the site of sufficient size and configuration to maintain panther crossing the property. .....*May affect*

1 - See map shows the boundary of the consultation area and the telemetry points.

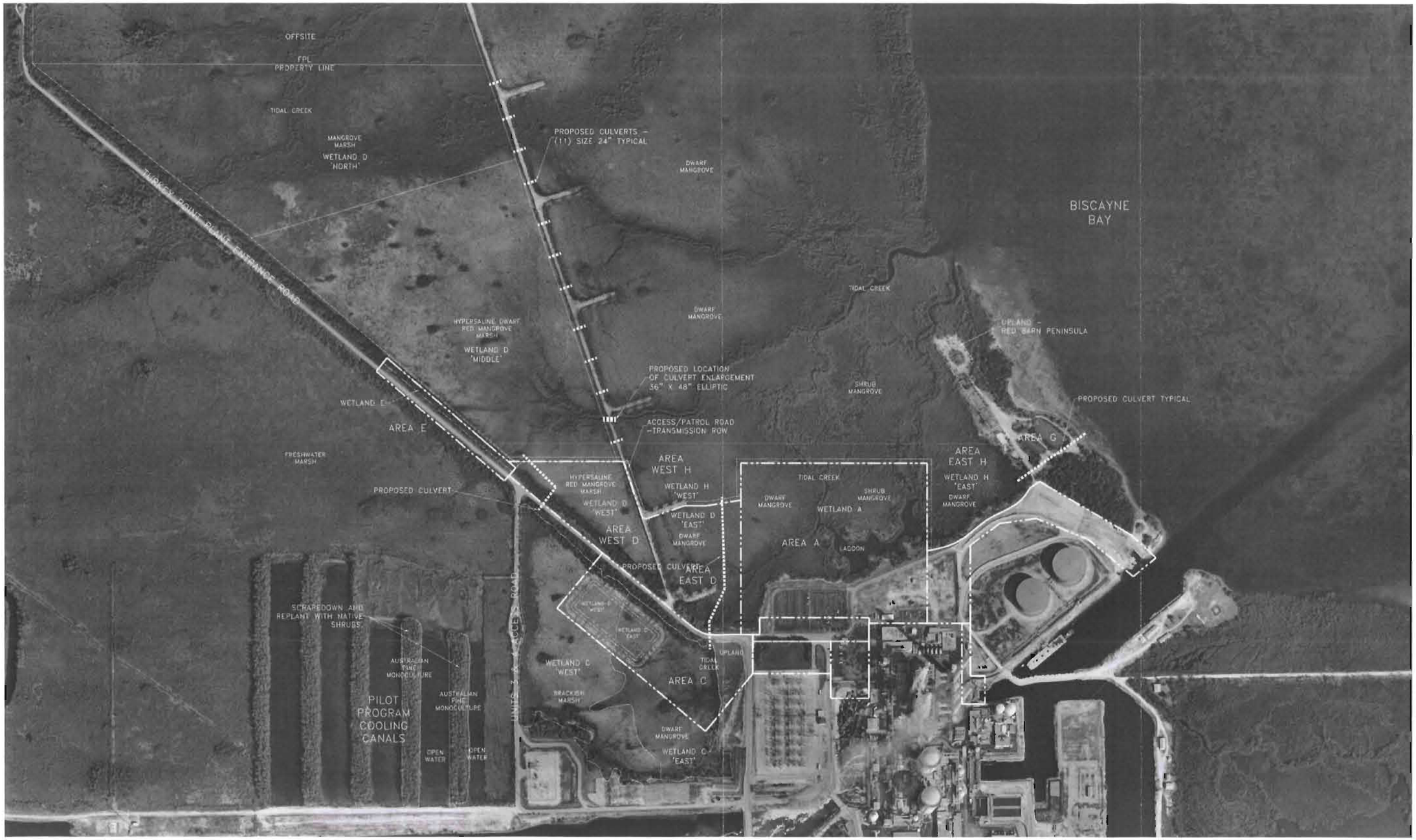
2 - Land cover suitable for dispersal contains one or more of the following: forested; forested and row crop mixture; forested and grove mixture; generally rural in nature (residential with > 1 acre lots with forested cover, with or without small farms, tree nurseries, pasture)

3 - Land cover not suitable for dispersal is generally urban, i.e., > 50% developed with: (1) residential subdivisions with lot sizes < 1 acre; (2) industrial sites; (3) commercial sites.

4 - If project site was in a >50% built-out subdivision, then it would be considered "not suitable for dispersal" under couplet C above. Couplet E is for existing platted subdivisions that are < 50% build out.

Figure 7
Florida Panther Consultation Area Near Project Area

Source: Golder, 2003.



FPL

FIGURE 8

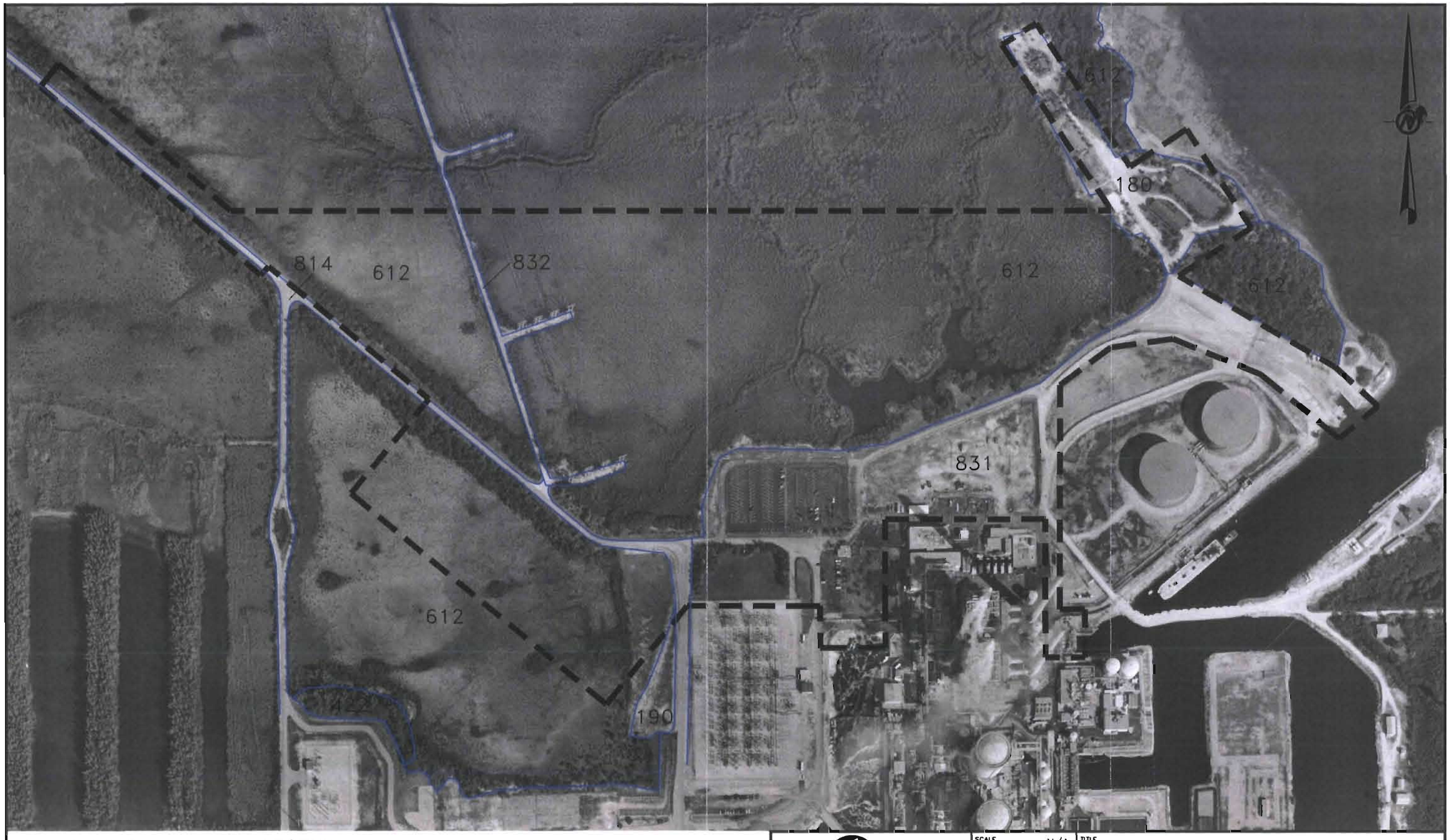
TURKEY POINT EXPANSION PROJECT
ELECTRICAL GENERATING FACILITY
ON-SITE MITIGATION PROPOSAL

0 250' 500' 1000'

SCALE 1"= 500'

NORTH

Cotleur Hearing
1934 Commerce Lane
Suite 1
Jupiter, Florida 33458
561-747-6336 Fax-747-1377



REFERENCES

1.) Florida Power and Light, 2003.

LEGEND

— — — PROPERTY BOUNDARY

180 – Recreational
190 – Open Land
422 – Brazilian Pepper
612 – Mangroves
814 – Roads
831 – Electric Power Facilities
832 – Transmission Line

FPL

FILE No.	Figure 9.dwg
PROJECT No.	033-7600
REV.	0
SCALE	N/A
DATE	10/24/03
DESIGN	
CADD	JEJ
CHECK	
REVIEW	

TITLE

FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEM (FDOT, 1999) MAP OF TURKEY POINT PROJECT AREA.

0337600/4/4.2/4.2.1/10.1.4/Figure 9.dwg

FIGURE 9

ATTACHMENT 1

BOUNDARY AND WETLAND SURVEY

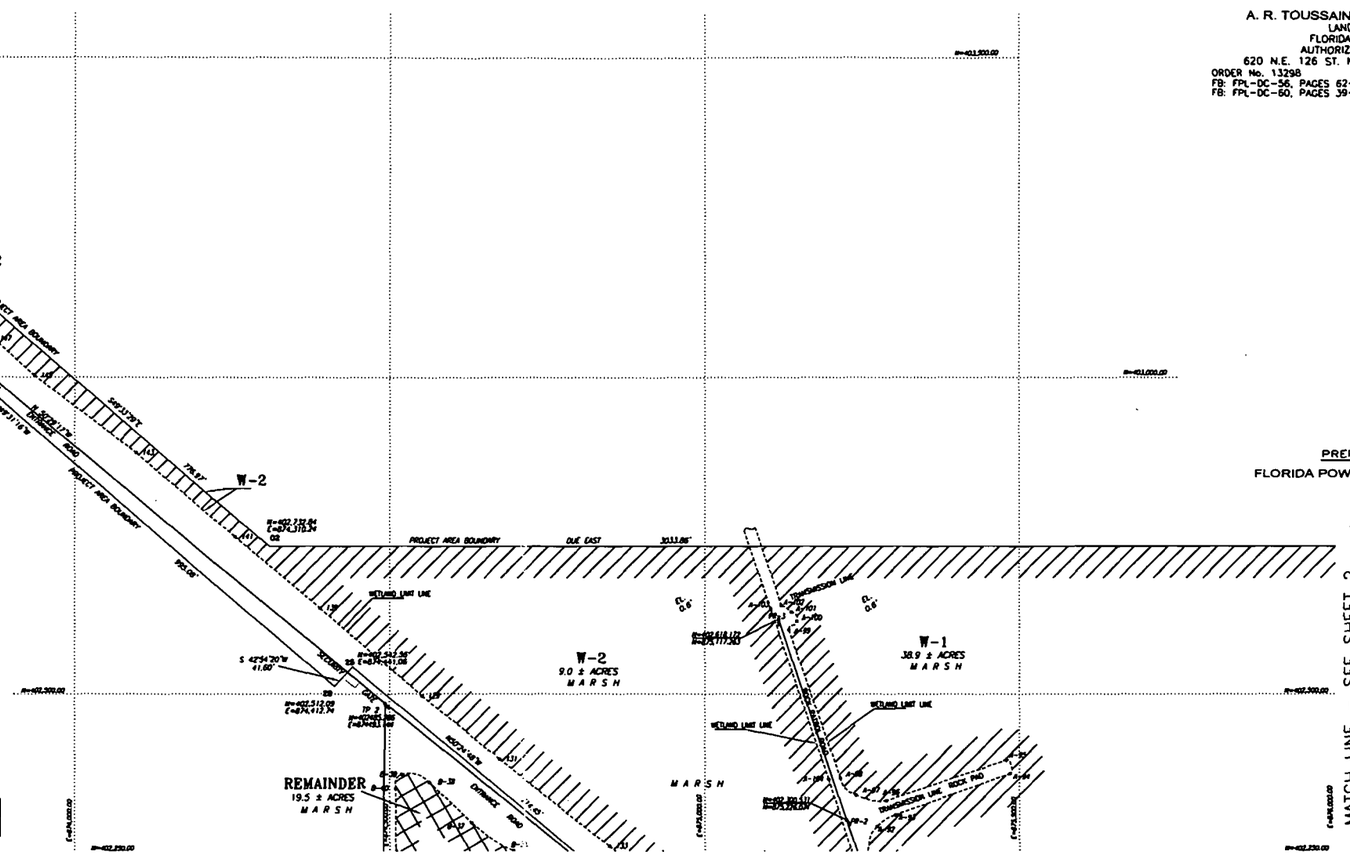
WALKDOWN INFORMATION	ORG	BY	DATE
AS-BUILT INFORMATION			

TECHNICAL ACCEPTANCE	ORG	BY	DATE
ENGINEERING ORGANIZATION			

A. R. TOUSSAINT & ASSOCIATES, INC.
LAND SURVEYORS
FLORIDA CERTIFICATE OF
AUTHORIZATION No. LB-273
620 N.E. 126 ST. NORTH MIAMI, FLORIDA 33161
ORDER No. 13298
FB: FPL-DC-56, PAGES 62-74
FB: FPL-DC-60, PAGES 39-53
DATE: JULY 31, 2003
SCALE: 1" = 100'

N

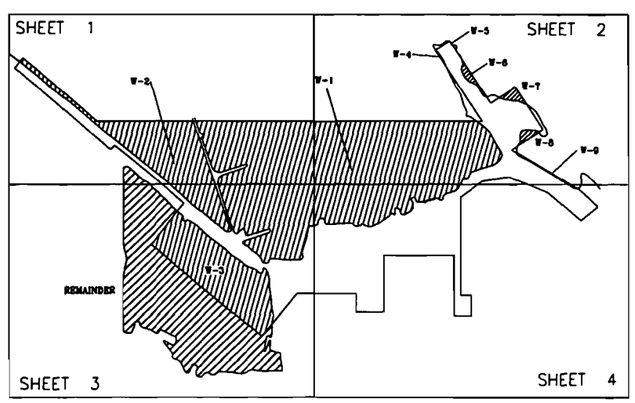
PREPARED FOR:
FLORIDA POWER & LIGHT COMPANY



ACREAGE TABULATION WETLAND AREAS		
AREA	SQUARE FEET	ACRES
W-1	1,694,311.11 ±	38.9 ±
W-2	390,277.98 ±	9.0 ±
W-3	352,344.85 ±	8.8 ±
W-4	1,110.82 ±	0.3 ±
W-5	91.03 ±	0.002±
W-6	11,070.16 ±	0.25 ±
W-7	12,286.03 ±	0.3 ±
W-8	8,035.90 ±	0.2 ±
W-9	1,728.36 ±	0.4 ±
TOTAL	2,502,278.29 ±	57.85 ±

	SQUARE FEET	ACRES
REMAINDER	847.67 ±	19.5 ±

SPECIFIC PURPOSE SURVEY



SCALE: 1 INCH = 100 FEET

LEGEND:

- CENTERLINE
- EAST
- ELEVATION
- FOUND
- LAND SURVEYOR BUSINESS
- NORTH
- P.K. NAIL AND DISK
- REGISTERED LAND SURVEYOR No.
- SOUTH
- WEST

SURVEYOR'S NOTES:

(1) COORDINATES AND BEARINGS, REFER TO THE STATE PLANE COORDINATE SYSTEM, EAST ZONE, STATE OF FLORIDA, NORTH AMERICAN DATUM 1983/90.

(2) ELEVATIONS SHOWN REFER TO THE NATIONAL GEODETIC VERTICAL DATUM, 1929.

(3) "PROJECT AREA BOUNDARY" LIMITS AS SHOWN WERE OBTAINED FROM FLORIDA POWER AND LIGHT COMPANY DRAWING NUMBER SK-TPP-EXP-006, SHEET 1 OF 1, TURKEY POINT, DATE 05/28/03.

(4) THIS DOCUMENT CONSIST OF FOUR SHEETS AND EACH SHEET SHALL NOT BE CONSIDERED VALID WITHOUT THE OTHER, DATA ON ONE SHEET IS INTERCHANGEABLE AND APPLIES TO ALL SHEETS.

SURVEYOR'S CERTIFICATION:

WE HEREBY CERTIFY THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF AS RECENTLY SURVEYED AND PLATTED UNDER OUR DIRECTION AND THAT THIS SURVEY COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA, UNDER CHAPTER 61G17-6 FLORIDA ADMINISTRATIVE CODE, CHAPTER 472.07 FLORIDA STATUTES.
NOT VALID WITHOUT THE SIGNATURE AND RAISED SEAL OF THE REGISTERED LAND SURVEYOR SHOWN HEREON.

A.R. TOUSSAINT & ASSOCIATES, INC.

BY: _____ PRES.

ALBERT R. TOUSSAINT
REGISTERED ENGINEER NO. 8939
REGISTERED SURVEYOR AND MAPPER NO. 907
STATE OF FLORIDA
FLORIDA CERTIFICATE OF AUTHORIZATION LB-273

REV	DATE	REVISION DESCRIPTION	BY	CH	CDF	APR	ORG
2	10/31/03	REVISED TO SHOW WETLAND ACERAGE	MT	AT			
1	10/27/03	REVISED TO SHOW LEGAL DESCRIPTION, CORRECT DISTANCE POINT11 TO POINT 32, CORRECT POINT NUMBERS 29 AND 30	MT	AT			

FPL

SYSTEM: ACAD 2002/14	FLORIDA POWER & LIGHT CO.
SCALE: AS SHOWN	TITLE: TURKEY POINT PLANT, UNIT 5 PROJECT AREA BOUNDARY & WETLAND SURVEY
DATE: JULY 31, 2003	
DRAWN BY: WKT	DRAWING NUMBER: 13351 / 13298
SHEET: 1 OF 4	REV

BAR CODE

WALKDOWN INFORMATION			
AS-BUILT INFORMATION	DRG.		
	BY:		
	DATE		

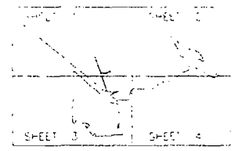
TECHNICAL ACCEPTANCE			
ENGINEERING ORGANIZATION	DRG.		
	BY:		
	DATE		

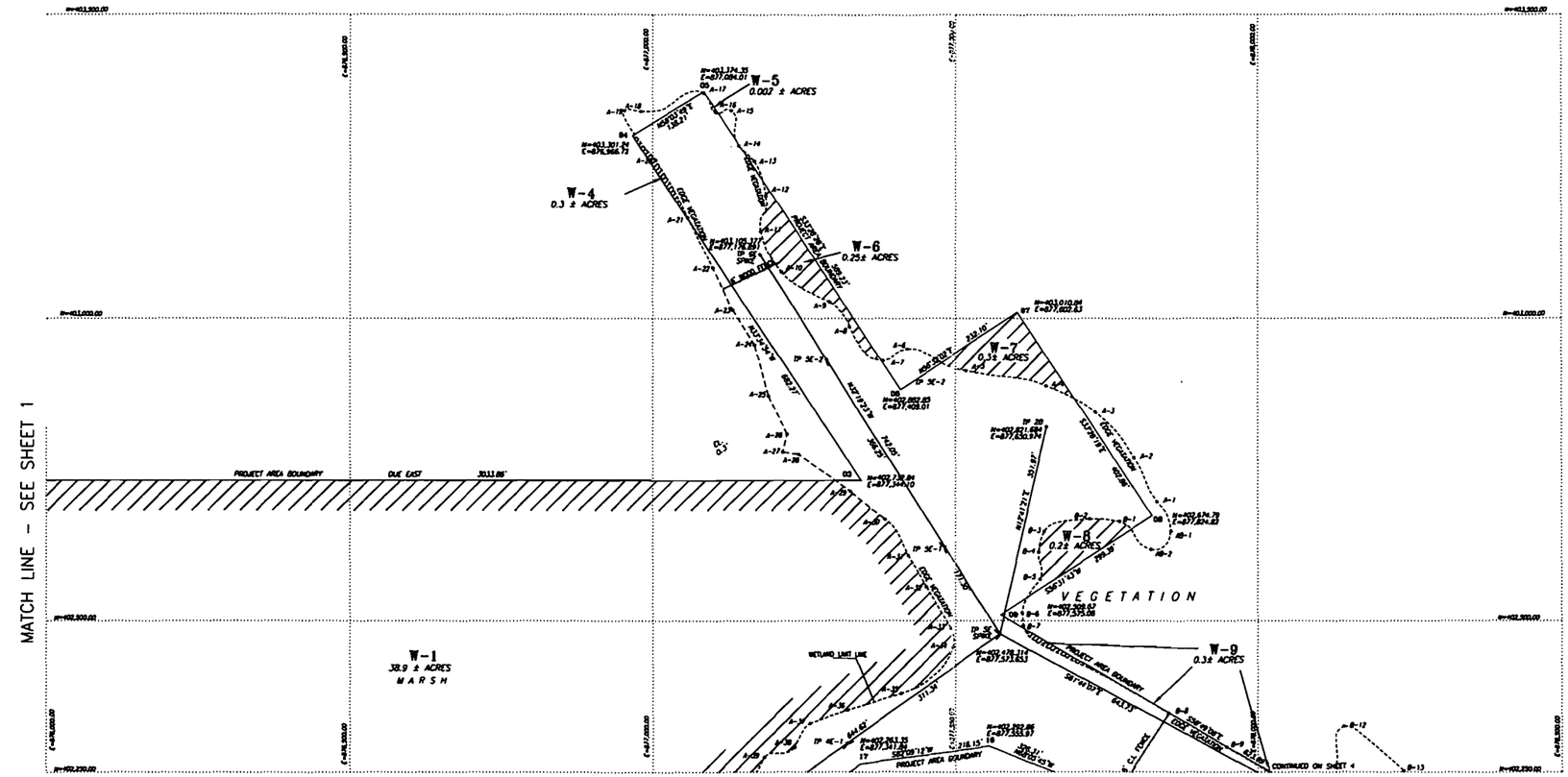
A. R. TOUSSAINT & ASSOCIATES, INC.
LAND SURVEYORS
FLORIDA CERTIFICATE OF
AUTHORIZATION No. LB-273
620 N.E. 126 ST. NORTH MIAMI, FLORIDA 33161

ORDER No. 13298 — DATE: JULY 31, 2003
FB: FPL-DC-56, PAGES 62-74 — SCALE: 1" = 100'
FB: FPL-DC-60, PAGES 39-53

N

PREPARED FOR:
FLORIDA POWER & LIGHT COMPANY





LEGEND:

C-L	=	CENTERLINE
E	=	EAST
ELEV	=	ELEVATION
F&C	=	FOUND
LS	=	LAND SURVEYOR BUSINESS
N	=	NORTH
NAD	=	NAIL AND DISK
RLS	=	REGISTERED LAND SURVEYOR No.
S	=	SOUTH
W	=	WEST

SURVEYOR'S NOTES:

(1) COORDINATES AND BEARINGS, REFER TO THE STATE PLANE COORDINATE SYSTEM, EAST ZONE, STATE OF FLORIDA, NORTH AMERICAN DATUM 1983/90.

(2) ELEVATIONS SHOWN REFER TO THE NATIONAL GEODETIC VERTICAL DATUM, 1929.

(3) "PROJECT AREA BOUNDARY" LIMITS AS SHOWN WERE OBTAINED FROM FLORIDA POWER AND LIGHT COMPANY DRAWING NUMBER SK-TPF-EXP-006, SHEET 1 OF 1, TURKEY POINT, DATE 05/28/03.

(4) THIS DOCUMENT CONSIST OF FOUR SHEETS AND EACH SHEET SHALL NOT BE CONSIDERED VALID WITHOUT THE OTHER, DATA ON ONE SHEET IS INTERCHANGEABLE AND APPLIES TO ALL SHEETS.

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NOT VALID WITHOUT THE SIGNATURE AND RAISED SEAL OF THE REGISTERED LAND SURVEYOR SHOWN HEREON.

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BY: _____ PRES.

ALBERT R. TOUSSAINT
REGISTERED ENGINEER NO. 8839
REGISTERED SURVEYOR AND MAPPER NO. 907
STATE OF FLORIDA
FLORIDA CERTIFICATE OF AUTHORIZATION LB-273

SCALE: 1 INCH = 100 FEET

SCALE: 1"= 1'-0"

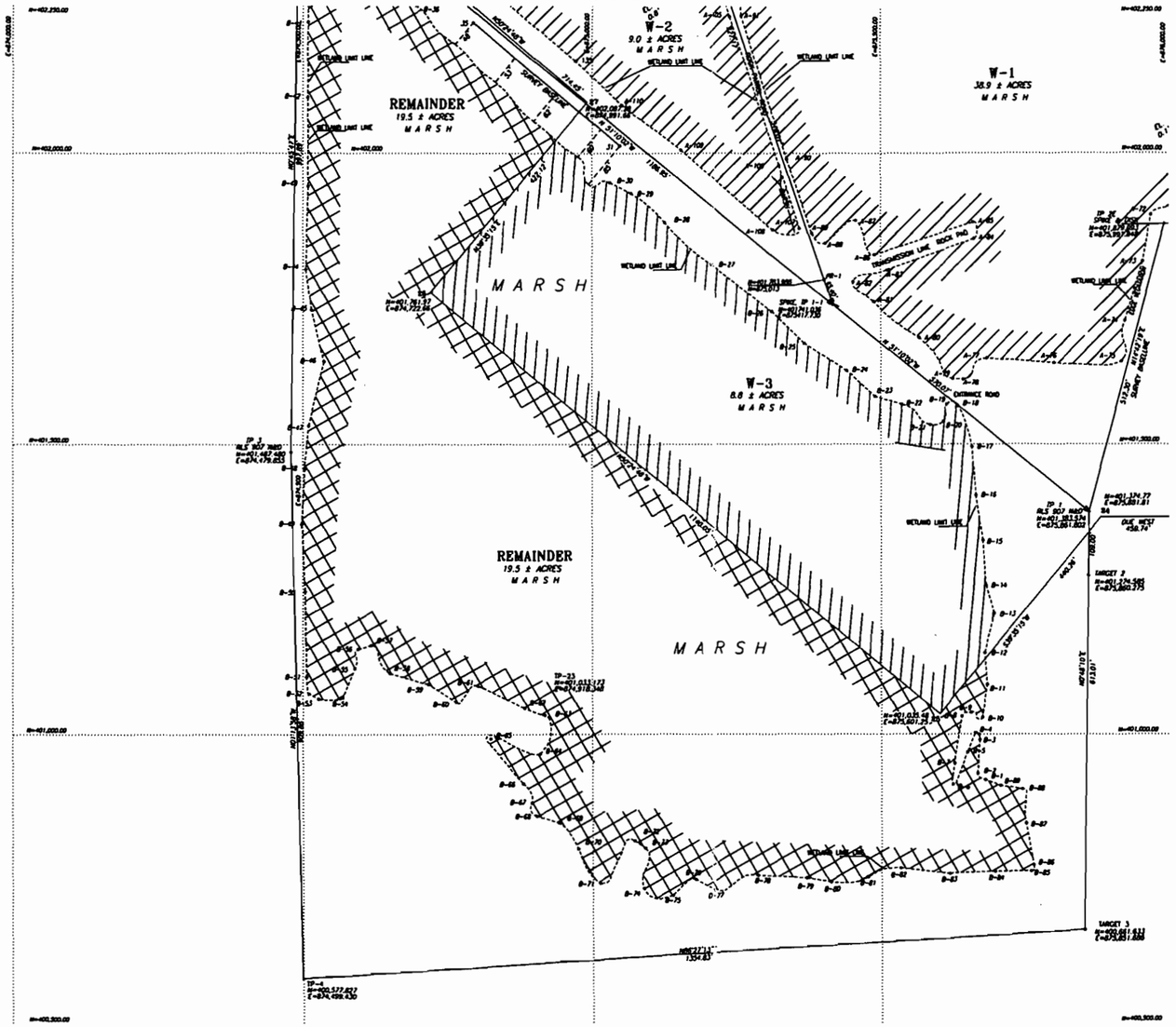
SPECIFIC PURPOSE SURVEY

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	DRG
2	10/31/03	REVISED TO SHOW WETLAND ACCRAGE	MT	AJ			
1	10/27/03	REVISED TO SHOW LEGAL DESCRIPTION, CORRECT DISTANCE POINT11 TO POINT 32, CORRECT POINT NUMBERS 29 AND 30	MT	AJ			

FPL

SYSTEM: ACAD 2002/14	FLORIDA POWER & LIGHT CO.		BAR CODE
SCALE: AS SHOWN	TITLE: TURKEY POINT PLANT, UNIT 5 PROJECT AREA BOUNDARY & WETLAND SURVEY		
DATE: JULY 31, 2003			
DRAWN BY: MMT	DRAWING NUMBER: 13351 / 13298	SHEET: 2 OF 4	REV

WALKDOWN INFORMATION			TECHNICAL ACCEPTANCE		
AS-BUILT INFORMATION	ORG		ENGINEERING ORGANIZATION	ORG	
	BY			BY	
	DATE			DATE	



SCALE: 1 INCH = 100 FEET

SCALE 1/4"= 1'-0"

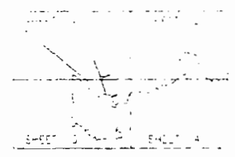
SCALE 1/8"= 1'-0"

FULL SCALE

A. R. TOUSSAINT & ASSOCIATES, INC.
LAND SURVEYORS
FLORIDA CERTIFICATE OF AUTHORIZATION No. LB-273
620 N.E. 126 ST. NORTH MIAMI, FLORIDA 33161
ORDER No. 13298 DATE: JULY 31, 2003
FB: FPL-DC-56, PAGES 62-74 SCALE: 1" = 100'
FB: FPL-DC-60, PAGES 39-53

N

PREPARED FOR:
FLORIDA POWER & LIGHT COMPANY



LEGEND:

- ℄ = CENTERLINE
- E = EAST
- ELEV = ELEVATION
- FD = FOUND
- LB = LAND SURVEYOR BUSINESS
- N = NORTH
- NAIL = NAIL AND DISK
- RLS = REGISTERED LAND SURVEYOR No.
- S = SOUTH
- W = WEST

SURVEYOR'S NOTES:

(1) COORDINATES AND BEARINGS, REFER TO THE STATE PLANE COORDINATE SYSTEM, EAST ZONE, STATE OF FLORIDA, NORTH AMERICAN DATUM 1983/90.

(2) ELEVATIONS SHOWN REFER TO THE NATIONAL GEODETIC VERTICAL DATUM, 1929.

(3) "PROJECT AREA BOUNDARY" LIMITS AS SHOWN WERE OBTAINED FROM FLORIDA POWER AND LIGHT COMPANY DRAWING NUMBER SK-TPF-EXP-006, SHEET 1 OF 1, TURKEY POINT, DATE 05/28/03.

(4) THIS DOCUMENT CONSIST OF FOUR SHEETS AND EACH SHEET SHALL NOT BE CONSIDERED VALID WITHOUT THE OTHER, DATA ON ONE SHEET IS INTERCHANGEABLE AND APPLIES TO ALL SHEETS.

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NOT VALID WITHOUT THE SIGNATURE AND RAISED SEAL OF THE REGISTERED LAND SURVEYOR SHOWN HEREON.

A.R. TOUSSAINT & ASSOCIATES, INC.

BY: _____ PRES.

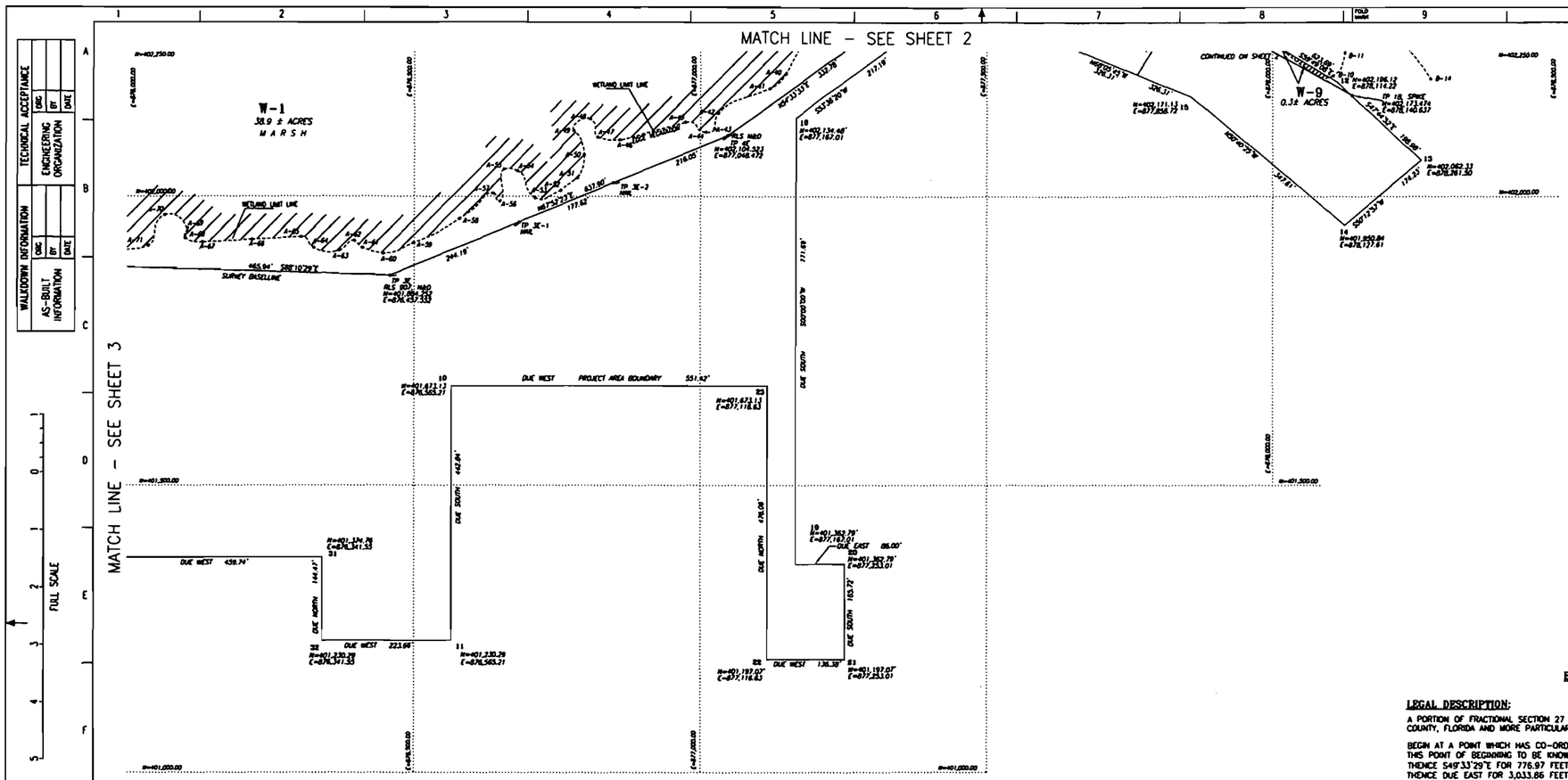
ALBERT R. TOUSSAINT
REGISTERED ENGINEER NO. 0839
REGISTERED SURVEYOR AND MAPPER NO. 907
STATE OF FLORIDA
FLORIDA CERTIFICATE OF AUTHORIZATION LB-273

SPECIFIC PURPOSE SURVEY

REV	DATE	REVISION DESCRIPTION	BY	CH	COR	APR	ORG
2	10/31/03	REVISED TO SHOW WETLAND ACERAGE	WT	AT			
1	10/27/03	REVISED TO SHOW LEGAL DESCRIPTION, CORRECT DISTANCE POINT11 TO POINT 32, CORRECT POINT NUMBERS 28 AND 30	WT	AT			

FPL

SYSTEM: ACAD 2002/14	FLORIDA POWER & LIGHT CO.		BAR CODE
SCALE: AS SHOWN	TITLE: TURKEY POINT PLANT, UNIT 5 PROJECT AREA BOUNDARY & WETLAND SURVEY		
DATE: JULY 31, 2003			
DRAWN BY: WHT	DRAWING NUMBER: 13351 / 13298	SHEET: 3 OF 4	REV



A. R. TOUSSAINT & ASSOCIATES, INC.
LAND SURVEYORS
FLORIDA CERTIFICATE OF
AUTHORIZATION No. LB-273
620 N.E. 126 ST. NORTH MIAMI, FLORIDA 33161
ORDER No. 13298 DATE: JULY 31, 2003
FB: FPL-DC-56, PAGES 62-74 SCALE: 1" = 100'
FB: FPL-DC-60, PAGES 39-53

N

PREPARED FOR:
FLORIDA POWER & LIGHT COMPANY

F. P. L. TURKEY POINT
PROJECT AREA
BOUNDARY AND WETLANDS SURVEY

SPECIFIC PURPOSE SURVEY

LEGAL DESCRIPTION:

A PORTION OF FRACTIONAL SECTION 27 AND SECTION 28, OF TOWNSHIP 57 SOUTH, RANGE 40 EAST, OF MIAMI-DADE COUNTY, FLORIDA AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGIN AT A POINT WHICH HAS CO-ORDINATES OF N=403,236.84, E=873,718.92',
THIS POINT OF BEGINNING TO BE KNOWN AS POINT NO. 1;
THENCE S49°33'29"E FOR 776.97 FEET TO POINT NO. 2, WHICH HAS COORDINATES OF N=402,732.84, E=874,310.24;
THENCE DUE EAST FOR 3,033.86 FEET TO POINT NO. 3, WHICH HAS COORDINATES OF N=402,732.84, E=877,344.10;
THENCE N13°34'54"W FOR 682.27 FEET TO POINT NO. 4, WHICH HAS COORDINATES OF N=403,301.24, E=876,966.72;
THENCE N58°03'49"E FOR 138.21 FEET TO POINT NO. 5, WHICH HAS COORDINATES OF N=403,374.35, E=877,084.01;
THENCE S33°28'28"E FOR 589.23 FEET TO POINT NO. 6, WHICH HAS COORDINATES OF N=402,882.85, E=877,409.01;
THENCE N56°32'02"E FOR 232.10 FEET TO POINT NO. 7, WHICH HAS COORDINATES OF N=403,010.84, E=877,602.63;
THENCE S33°28'19"E FOR 402.86 FEET TO POINT NO. 8, WHICH HAS COORDINATES OF N=402,674.79, E=877,824.82;
THENCE S56°31'43"W FOR 299.39 FEET TO POINT NO. 9, WHICH HAS COORDINATES OF N=402,509.67, E=877,575.08;
THENCE S59°49'08"E FOR 623.89 FEET TO POINT NO. 12, WHICH HAS COORDINATES OF N=402,196.12, E=878,114.22;
THENCE S47°44'52"E FOR 198.98 FEET TO POINT NO. 13, WHICH HAS COORDINATES OF N=402,062.33, E=878,261.50;
THENCE S50°12'57"W FOR 174.23 FEET TO POINT NO. 14, WHICH HAS COORDINATES OF N=401,950.84, E=878,127.61;
THENCE N50°40'25"W FOR 347.61 FEET TO POINT NO. 15, WHICH HAS COORDINATES OF N=402,171.13, E=877,858.72;
THENCE N68°05'45"W FOR 326.31 FEET TO POINT NO. 16, WHICH HAS COORDINATES OF N=402,292.86, E=877,555.97;
THENCE S82°09'12"W FOR 216.15 FEET TO POINT NO. 17, WHICH HAS COORDINATES OF N=402,263.35, E=877,341.84;
THENCE S53°36'20"W FOR 217.19 FEET TO POINT NO. 18, WHICH HAS COORDINATES OF N=402,134.48, E=877,167.01;
THENCE DUE SOUTH FOR 771.69 FEET TO POINT 19, WHICH HAS COORDINATES OF N=401,362.79, E=877,167.01;
THENCE DUE EAST FOR 86.00 FEET TO POINT NO. 20, WHICH HAS COORDINATES OF N=401,362.79, E=877,253.01;
THENCE DUE SOUTH FOR 165.72 FEET TO POINT NO. 21, WHICH HAS COORDINATES OF N=401,197.07, E=877,253.01;
THENCE DUE WEST FOR 136.38 FEET TO POINT NO. 22, WHICH HAS COORDINATES OF N=401,197.07, E=877,116.63;
THENCE DUE NORTH FOR 478.06 FEET, TO POINT NO. 23, WHICH HAS COORDINATES OF N=401,673.13, E=877,116.63;
THENCE DUE WEST FOR 551.42 FEET TO POINT NO. 10, WHICH HAS COORDINATES OF N=401,873.13, E=876,565.21;
THENCE DUE SOUTH FOR 442.84 FEET TO POINT NO. 11, WHICH HAS COORDINATES OF N=401,230.29, E=876,565.21;
THENCE DUE WEST FOR 223.66 FEET TO POINT NO. 32, WHICH HAS COORDINATES OF N=401,230.29, E=876,341.55;
THENCE DUE NORTH FOR 144.47 FEET TO POINT NO. 31, WHICH HAS COORDINATES OF N=401,374.76, E=876,341.55;
THENCE DUE WEST FOR 459.74 FEET TO POINT NO. 24, WHICH HAS COORDINATES OF N=401,374.77, E=875,881.81;
THENCE S39°35'15"W FOR 440.26 FEET TO POINT NO. 25, WHICH HAS COORDINATES OF N=401,035.48, E=875,601.25;
THENCE N50°24'48"W FOR 1,140.05 FEET TO POINT NO. 26, WHICH HAS COORDINATES OF N=401,761.97, E=874,722.66;
THENCE N39°35'15"E FOR 422.12 FEET TO POINT NO. 27 WHICH HAS COORDINATES OF N=402,087.28, E=874,991.66;
THENCE N50°24'48"W FOR 714.45 FEET TO POINT NO. 28, WHICH HAS COORDINATES OF N=402,542.56, E=874,441.06;
THENCE S42°54'20"W FOR 41.60 FEET TO POINT NO. 29, WHICH HAS COORDINATES OF N=402,512.09, E=874,412.74;
THENCE N49°31'18"W FOR 995.08 FEET TO POINT NO. 30, WHICH HAS COORDINATES OF N=403,158.06, E=873,655.84;
THENCE N38°41'05"E FOR 100.92 FEET TO POINT NO. 1 AND THE POINT OF BEGINNING.

CONTAINS 3,876,398 SQUARE FEET OR 88.990 ACRES OF LAND, MORE OR LESS.

SURVEYOR'S NOTE:

CO-ORDINATES SHOWN WITHIN THIS LEGAL DESCRIPTION BASED ON STATE OF FLORIDA TRANSVERSE MERCATOR GRID SYSTEM, NORTH AMERICAN DATUM OF 1983/90.

LEGEND:

- ℄ = CENTERLINE
- E = EAST
- ELEV = ELEVATION
- FD = FOUND
- LB = LAND SURVEYOR BUSINESS
- N = NORTH
- R&D = RING AND DISK
- RLS = REGISTERED LAND SURVEYOR No.
- S = SOUTH
- W = WEST

SURVEYOR'S NOTES:

(1) COORDINATES AND BEARINGS, REFER TO THE STATE PLANE COORDINATE SYSTEM, EAST ZONE, STATE OF FLORIDA, NORTH AMERICAN DATUM 1983/90.

(2) ELEVATIONS SHOWN REFER TO THE NATIONAL GEODETIC VERTICAL DATUM, 1929.

(3) "PROJECT AREA BOUNDARY" LIMITS AS SHOWN WERE OBTAINED FROM FLORIDA POWER AND LIGHT COMPANY DRAWING NUMBER SK-TPF-EXP-006, SHEET 1 OF 1, TURKEY POINT, DATE 05/28/03.

(4) THIS DOCUMENT CONSIST OF FOUR SHEETS AND EACH SHEET SHALL NOT BE CONSIDERED VALID WITHOUT THE OTHER, DATA ON ONE SHEET IS INTERCHANGEABLE AND APPLIES TO ALL SHEETS.

SURVEYOR'S CERTIFICATION:

WE HEREBY CERTIFY THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF AS RECENTLY SURVEYED AND PLATTED UNDER OUR DIRECTION AND THAT THIS SURVEY COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA, UNDER CHAPTER 61G17-6 FLORIDA ADMINISTRATIVE CODE, CHAPTER 472.07 FLORIDA STATUTES.

NOT VALID WITHOUT THE SIGNATURE AND RAISED SEAL OF THE REGISTERED LAND SURVEYOR SHOWN HEREON.

A.R. TOUSSAINT & ASSOCIATES, INC.

BY: _____ PRES.

ALBERT R. TOUSSAINT
REGISTERED ENGINEER NO. 6939
REGISTERED SURVEYOR AND MAPPER NO. 907
STATE OF FLORIDA
FLORIDA CERTIFICATE OF AUTHORIZATION LB-273

WALKDOWN INFORMATION				TECHNICAL ACCEPTANCE			
AS-BUILT INFORMATION	DRC	BY	DATE	ENGINEERING ORGANIZATION	DRC	BY	DATE

REV	DATE	REVISION DESCRIPTION	WT	AT	CH	COR	APR	DRC
2	10/31/03	REVISED TO SHOW WETLAND ACCRAGE	WT	AT				
1	10/27/03	REVISED TO SHOW LEGAL DESCRIPTION, CORRECT DISTANCE POINT11 TO POINT 32, CORRECT POINT NUMBERS 29 AND 30	WT	AT				

SYSTEM: ACAD 2002/14
SCALE: AS SHOWN
DATE: JULY 31, 2003
DRAWN BY: WKT
DRAWING NUMBER: 13351 / 13298
SHEET: 4 OF 4
REV:
TITLE: FLORIDA POWER & LIGHT CO. — TURKEY POINT PLANT, UNIT 5 PROJECT AREA BOUNDARY & WETLAND SURVEY
BAR CODE

ATTACHMENT 2

W.A.T.E.R

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	
	Property is not within boundary of an acquisition program	0	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	
	Property does not qualify	0	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	0
8. Threatened , Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	
	No documented Presence of species on site.	0	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 maans of determining the number of mitigation credits that should be assigned to a bank for **"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.

Evaluation Scale

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

Site Suitability Matrix		
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

Data Collected on: OCT. 22,2003

Project Wetland A and D Impacts:

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

Mitigation Bank Wetland Function -- Evaluation Matrix

Turkey Point Expansion

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

Data Collected on: OCT. 22,2003

Project Wetland A and D Impacts:

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 Wetland A Pre-	Polygon Wetland A Post-	Polygon Wetland D West of Patrol Rd. Pre-	Polygon Wetland D East of Patrol Rd. Pre-	Polygon Wetland D West of Patrol Rd. Post-	Polygon Wetland D East 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	3	0	2	3	0	0
	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	0	1	3	0	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	0	0.5	1.5	0	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 pressent 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	0	3	3	0	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 assesssment area	3	2	0	2	2	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 *(approximately 1/2 mile from edge of assessment area)*	> 3 alternative habitats available (including upland)	3	3	0	3	3	0	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

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 A and D Impacts:

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 Wetland A Pre	Polygon Wetland A Post	Polygon Wetland D West of Patrol Rd. Pre-	Polygon Wetland D East of Patrol Rd. Pre-	Polygon Wetland D West of Patrol Rd. Post-	Polygon Wetland D East 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	2.5	0	1	2.5	0	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 continuos inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides		3	0	3	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						

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 A and D Impacts:

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 Wetland A Pre-	Polygon Wetland A Post-	Polygon Wetland D West of Patrol Rd. Pre-	Polygon Wetland D East of Patrol Rd. Pre-	Polygon Wetland D West of Patrol Rd. Post-	Polygon Wetland D East 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 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	0	2	2.5	0	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

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	Polygon Wetland A Post	Polygon Wetland D West of Patrol Rd. Pre-	Polygon Wetland D East of Patrol Rd. Pre-	Polygon Wetland D West of Patrol Rd. Post-	Polygon Wetland D East 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	2	0	1.5	2	0	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	2.5	0	3	2.5	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	3	0	3	3	0	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 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-	Polygon Wetland A Post-	Polygon Wetland D West of Patrol Rd. Pre-	Polygon Wetland D East of Patrol Rd. Pre-	Polygon Wetland D West of Patrol Rd. Post-	Polygon Wetland D East 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. *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	0	0.5	3	0	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 slainity for a normal year. *Apply to riverine systems only*	bottom (lower) third between 12 to 25 ppt middle third between 5 to 11 ppt. upper (top) third betweem 0 to 4 ppt.	3						
	bottom (lower) third between 25 to 32 ppt middle third between 6 to 24 ppt. upper (top) third betweem 0 to 5 ppt.	2						
	bottom (lower) third between 30 to 40 ppt middle third between 8 to 29 ppt. upper (top) third betweem 0 to 7 ppt.	1						
	bottom (lower) third between 35 to 50 ppt middle third between 10 to 34 ppt. upper (top) third betweem 0 to 9 ppt.	0						
	Cumulative Score (SC)		48.5	0.0	38.5	48.0	0.0	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		**0.90**	**0**	**0.71**	**0.89**	**0**	**0**

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

FPL Everglades Mitigation Bank

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters

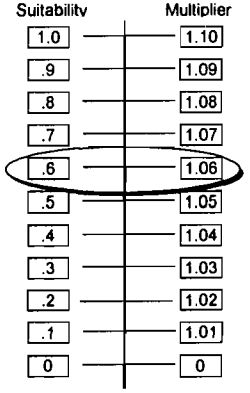
(Site Suitability created by: Donaldson Hearing)

Turkey Point Expansion -- Wetland C 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	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	
	Property is not within boundary of an acquisition program	0	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	
	Property does not qualify	0	1
4. Property designated as being of critical state or federal concern and/or contains special designations,	Property contains at least 1 special designation.	1	
	Property contains no special designations.	0	*0*
5. Property important to acknowledged restoration efforts	Property is important.	1	
	Property is not important.	0	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	
	No documented Presence of species on site.	0	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	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 bank for **"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.

Evaluation Scale



Site Suitability Matrix		
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

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: Unimpacted Wetland C

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland C Runoff Pond 'East' Pre-	Polygon Wetland C Runoff Pond 'East' Post-	Polygon Wetland C Runoff Pond 'West' Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	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	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	3	1.5	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 ibs.)	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

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: Unimpacted Wetland C

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland C Runoff Pond 'East' Pre-	Polygon Wetland C Runoff Pond 'East' Post-	Polygon Wetland C Runoff Pond 'West' Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
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	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	3	3	1	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	2	1.5	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 pressent 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) *(within assessment area)*	>3 native species communities on site within assesssment 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 *(approximately 1/2 mile from edge of assessment area)*	> 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

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: Unimpacted Wetland C

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland C Runoff Pond 'East' Pre-	Polygon Wetland C Runoff Pond 'East' Post-	Polygon Wetland C Runoff Pond 'West' Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
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	2	0.5	2		
	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 continuos inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides		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-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

Enhancement Mitigation: Unimpacted Wetland C

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland C Runoff Pond 'East' Pre-	Polygon Wetland C Runoff Pond 'East' Post-	Polygon Wetland C Runoff Pond 'West' Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
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	2	2	2		
	> 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

Turkey Point Expansion

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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: Unimpacted Wetland C

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland C Runoff Pond 'East' Pre-	Polygon Wetland C Runoff Pond 'East' Post-	Polygon Wetland C Runoff Pond 'West' Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
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	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 quailty observed or lab verified (values are out of acceptable range)	0						
e. Intactness of historic topography (soil disturbance)	Unaltered	3	3	2	3	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	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

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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Data Collected on: OCT. 22,2003

Enhancement Mitigation: Unimpacted Wetland C

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland C Runoff Pond 'East' Pre-	Polygon Wetland C Runoff Pond 'East' Post-	Polygon Wetland C Runoff Pond 'West' Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
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	2	3	2	3		
	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 slainity for a normal year. *Apply to rivarine systems only*	bottom (lower) third between 12 to 25 ppt middle third between 5 to 11 ppt. upper (top) third betweem 0 to 4 ppt.	3						
	bottom (lower) third between 25 to 32 ppt middle third between 6 to 24 ppt. upper (top) third betweem 0 to 5 ppt.	2						
	bottom (lower) third between 30 to 40 ppt middle third between 8 to 29 ppt. upper (top) third betweem 0 to 7 ppt.	1						
	bottom (lower) third between 35 to 50 ppt middle third between 10 to 34 ppt. upper (top) third betweem 0 to 9 ppt.	0						
	Cumulative Score (SC)		42.0	46.0	38.5	46.5		
	Maximum Possible Score (MPS)		54.00	54.00	54.00	54.00		
	W.A.T.E.R. = Cumulative Score/Maximum Possible Score		**0.78**	**0.85**	**0.71**	**0.86**		

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

FPL Everglades Mitigation Bank

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters — **Turkey Point Expansion -- Wetland D Enhancement**

(Site Suitability created by: Donaldson Hearing)

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	
	Property is not within boundary of an acquisition program	0	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	
	Property does not qualify	0	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	0
8. Threatened , Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	
	No documented Presence of species on site.	0	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 for **"value"** related parameters. Value related parameters are human values determined to be important to society; and therefore ere 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.

Evaluation Scale

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

Site Suitability Matrix		
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 Wetland D north - West of Patrol Rd. Pre-	Polygon Wetland D North- West of Patrol Rd. Post-	Polygon Wetland D Middle-West of Patrol Rd. Pre-	Polygon Wetland D Middle-West of Patrol Rd. Post-	Polygon	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	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

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 Wetland D north - West of Patrol Rd. Pre-	Polygon Wetland D North- West of Patrol Rd. Post-	Polygon Wetland D Middle-West of Patrol Rd. Pre-	Polygon Wetland D Middle-West of Patrol Rd. Post-	Polygon	Polygon
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 pressent 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) *(within assessment area)*	>3 native species communities on site within assesssment 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 *(approximately 1/2 mile from edge of assessment area)*	> 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

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 Wetland D north - West of Patrol Rd. Pre-	Polygon Wetland D North- West of Patrol Rd. Post-	Polygon Wetland D Middle-West of Patrol Rd. Pre-	Polygon Wetland D Middle-West of Patrol Rd. Post-	Polygon	Polygon
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 inudation, including soil saturation	1						
	<2 weeks of continuos inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% 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-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

Enhancement Mitigation: Wetlands D-north and D-middle

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland D north - West of Patrol Rd. Pre-	Polygon Wetland D North- West of Patrol Rd. Post-	Polygon Wetland D Middle-West of Patrol Rd. Pre-	Polygon Wetland D Middle-West of Patrol Rd. Post-	Polygon	Polygon
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	2	2	2		
	> 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

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 Wetland D north - West of Patrol Rd. Pre-	Polygon Wetland D North- West of Patrol Rd. Post-	Polygon Wetland D Middle-West of Patrol Rd. Pre-	Polygon Wetland D Middle-West of Patrol Rd. Post-	Polygon	Polygon
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 quailty 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

Turkey Point Expansion

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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 Wetland D north - West of Patrol Rd. Pre-	Polygon Wetland D North- West of Patrol Rd. Post-	Polygon Wetland D Middle-West of Patrol Rd. Pre-	Polygon Wetland D Middle-West of Patrol Rd. Post-	Polygon	Polygon
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	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. *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 slainity for a normal year. *Apply to riverine systems only*	bottom (lower) third between 12 to 25 ppt middle third between 5 to 11 ppt. upper (top) third betweem 0 to 4 ppt.	3						
	bottom (lower) third between 25 to 32 ppt middle third between 6 to 24 ppt. upper (top) third betweem 0 to 5 ppt.	2						
	bottom (lower) third between 30 to 40 ppt middle third between 8 to 29 ppt. upper (top) third betweem 0 to 7 ppt.	1						
	bottom (lower) third between 35 to 50 ppt middle third between 10 to 34 ppt. upper (top) third betweem 0 to 9 ppt.	0						
	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**	**0.78**		

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

FPL Everglades Mitigation Bank

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters — **Turkey Point Expansion -- Wetland H and E Impacts**

(Site Suitability created by: Donaldson Hearing)

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	
	Property is not within boundary of an acquisition program	0	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	
	Property does not qualify	0	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	0
8. Threatened , Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	
	No documented Presence of species on site.	0	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 for **"value"** related parameters. Value related parameters are human values determined to be important to society; and therefore are not measurable in e 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.

Evaluation Scale

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

Site Suitability Matrix		
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

Data Collected on: OCT. 22,2003

Project Wetland H and E Impacts:

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 Wetland H 'east' Pre-	Polygon Wetland H 'east' 2nd impact-	Polygon Wetland H 'east'enhancement post-	Polygon Wetland E Pre-	Polygon Wetland E Post-	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	3	3	3	3	0	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	3	3	3	0	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	2	2	2	0	0
	Medium sized mammals , (adult weight > 6 ibs.)	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	0	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	3	3	3	0	0
	Aquatic turtles	2						
	Snakes & lizards	1						
	No evidence of species present	0						

Mitigation Bank Wetland Function -- Evaluation Matrix

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Project Wetland H and E Impacts:

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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 Wetland H 'east' Pre-	Polygon Wetland H 'east' 2nd impact-	Polygon Wetland H 'east'enhancement post-	Polygon Wetland E Pre-	Polygon Wetland E Post-	Polygon
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	3	0	0
	Dasirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2						
	Inappropriate trees/shrubs shading or overcoming dasirable 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	2.5	3	2.5	0	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	1	0	0
	Periphyton (Blue-green algaa) 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 pressent 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	0	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 assesssment area	3	2	2	2	2	0	0
	2 or 3 native specie communitias 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 *(approximataly 1/2 mile from edge of assessment area)*	> 3 alternative habitats available (including upland)	3	3	3	3	3	0	0
	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

Project Wetland H and E Impacts:

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland H 'east' Pre-	Polygon Wetland H 'east' 2nd Impact-	Polygon Wetland H 'east'enhancement post-	Polygon Wetland E Pre-	Polygon Wetland E Post-	Polygon
3. Hydrologic Functions								
a. Surface water hydrology / sheet flow *Apply to freshwater, saltwater, breckish and mitigation systems*	Major connection *(Flowing water/ river or floodplain/ uniform flow through natural systems)*	3	2.5	2	2	1	0	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 continuos inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides		3	3	3	2	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						

Mitigation Bank Wetland Function -- Evaluation Matrix

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Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland H 'east' Pre-	Polygon Wetland H 'east' 2nd impact-	Polygon Wetland H 'east'enhancement post-	Polygon Wetland E Pre-	Polygon Wetland E Post-	Polygon
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	2	0	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

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 H and E Impacts:

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 Wetland H 'east' Pre-	Polygon Wetland H 'east' 2nd impact-	Polygon Wetland H 'east'enhancement post-	Polygon Wetland E Pre-	Polygon Wetland E Post-	Polygon
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	1	0	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 quailty observed or lab verified (values are out of acceptable range)	0						
e. Intactness of historic topography (soil disturbance)	Unaltered	3	3	3	3	3	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	3	3	3	3	0	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 **Data Collected on: OCT. 22,2003** **Project Wetland H and E Impacts:**

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 Wetland H 'east' Pre-	Polygon Wetland H 'east' 2nd Impact-	Polygon Wetland H 'east'enhancement post-	Polygon Wetland E Pre-	Polygon Wetland E Post-	Polygon
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	3	1	0	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 slainity for a normal year. *Apply to riverine systems only*	bottom (lower) third between 12 to 25 ppt middle third between 5 to 11 ppt. upper (top) third betweem 0 to 4 ppt.	3						
	bottom (lower) third between 25 to 32 ppt middle third between 6 to 24 ppt. upper (top) third betweem 0 to 5 ppt.	2						
	bottom (lower) third between 30 to 40 ppt middle third betwean 8 to 29 ppt. upper (top) third betweem 0 to 7 ppt.	1						
	bottom (lower) third between 35 to 50 ppt middle third between 10 to 34 ppt. upper (top) third betweem 0 to 9 ppt.	0						
	Cumulative Score (SC)		48.0	45.0	48.5	41.5	0.0	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		**0.89**	**0.83**	**0.9**	**0.77**	**0**	**0**

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

FPL Everglades Mitigation Bank

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters

(Site Suitability created by: Donaldson Hearing)

Turkey Point Expansion -- Wetland C 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	
	Property is not within boundary of an acquisition program	0	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	
	Property does not qualify	0	1
4. Property designated as being of critical state or federal concern and/or contains special designations,	Property contains at least 1 special designation.	1	
	Property contains no special designations.	0	0
5. Property important to acknowledged restoration efforts	Property is important.	1	
	Property is not important.	0	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	
	No documented Presence of species on site.	0	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	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 bank for **"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.

Evaluation Scale

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

Site Suitability Matrix		
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

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

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland C Runoff Pond Eastern Pre-	Polygon Wetland C Runoff Pond Eastern Post-	Polygon Wetland C Runoff Pond Western Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	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	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	2	0	1.5	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		
	Medium sized mammals , (adult weight > 6 ibs.)	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	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		
	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

Data Collected on: OCT. 22,2003 **WETLAND C IMPACTS**

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 Wetland C Runoff Pond Eastern Pre-	Polygon Wetland C Runoff Pond Eastern Post-	Polygon Wetland C Runoff Pond Western Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
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	0	2	0		
	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	0	1	0		
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2						
	Assessment aree 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 averege mat thickness >1 1/4 in. (measure active & dead layer)	3	1	0	1.5	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 pressent 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	0	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 assesssment area	3	2	0	2	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 *(approximately 1/2 mile from edge of assessment area)*	> 3 alternative habitats available (including upland)	3	2	0	2	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

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

WETLAND C IMPACTS

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 Wetland C Runoff Pond Eastern Pre-	Polygon Wetland C Runoff Pond Eastern Post-	Polygon Wetland C Runoff Pond Western Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
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	0	0.5	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 possibla 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 continuos inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides		2.5	0	2	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

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

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Data Collected on: OCT. 22,2003

WETLAND C IMPACTS

Parameter/ Function	Scoring Criteria	Ratings	Polygon Wetland C Runoff Pond Eastern Pre-	Polygon Wetland C Runoff Pond Eastern Post-	Polygon Wetland C Runoff Pond Western Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
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	0	2	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 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

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** **WETLAND C IMPACTS**

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 Wetland C Runoff Pond Eastern Pre-	Polygon Wetland C Runoff Pond Eastern Post-	Polygon Wetland C Runoff Pond Western Pre-	Polygon Wetland C Runoff Pond Western Post-	Polygon	Polygon
3. Hydrologic Functions continued								
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	2	0	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 quailty observed or lab verified (values are out of acceptable range)	0						
e. Intactness of historic topography (soil disturbance)	Unaltered	3	3	0	3	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		
	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

Data Collected on: OCT. 22,2003 — **WETLAND C IMPACTS**

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 **Wetland C Runoff Pond Eastern Pre-**	Polygon **Wetland C Runoff Pond Eastern Post-**	Polygon **Wetland C Runoff Pond Western Pre-**	Polygon **Wetland C Runoff Pond Western Post-**	Polygon	Polygon
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	2	0	2	3		
	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 slainity for a normal year. *Apply to riverine systems only*	bottom (lower) third between 12 to 25 ppt middle third between 5 to 11 ppt. upper (top) third betweem 0 to 4 ppt.	3						
	bottom (lower) third between 25 to 32 ppt middle third between 6 to 24 ppt. upper (top) third betweem 0 to 5 ppt.	2						
	bottom (lower) third between 30 to 40 ppt middle third between 8 to 29 ppt. upper (top) third betweem 0 to 7 ppt.	1						
	bottom (lower) third between 35 to 50 ppt middle third between 10 to 34 ppt. upper (top) third betweem 0 to 9 ppt.	0						
	Cumulative Score (SC)		42.0	0.0	38.5	0.0		
	Maximum Possible Score (MPS)		54.00	54.00	54.00	54.00		
	W.A.T.E.R. = Cumulative Score/Maximum Possible Score		**0.78**	**0**	**0.71**	**0**		

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

FPL Everglades Mitigation Bank

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

Parameters — **Turkey Point Expansion - Australian Pine Ribs Enhancement**

(Site Suitability created by: Donaldson Hearing)

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	
	Adjacent lands contain no special designation or undesignated special value	0	0
2. Property is within boundary of an acknowledged state, local or regional acquisition program	Property is within boundary of an acquisition program	1	
	Property is not within boundary of an acquisition program	0	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	
	Property does not qualify	0	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	
	Property contains no special designations.	0	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	
	No documented Presence of species on site.	0	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 bank for **"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.

Evaluation Scale

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

Site Suitability Matrix		
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 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 Upland Ribs of PilotCanals Pre-	Polygon Ribs wetland creation 'scrapedown'	Polygon	Polygon	Polygon	Polygon
1. Fish & Wildlife Functions *Apply to freshwater, saltwater, brackish and mitigation systems*								
	7 or more species commonly observed	3						
a. Waterfowl, wading birds, wetland dependent, or aquatic	3-6 species commonly observed	2	0	3				
birds of prey.	1-2 species commonly observed	1						
(Mit. Bank - High specie count w/ low pop. #'s score 1	0 species commonly observed	0						
	7 or more species commonly observed	3						
b. Fish	3-6 species commonly observed	2	0	3				
(Mit. Bank - High specie count w/ low pop. #'s score 1	1-2 species commonly observed	1						
Restoration that causes 12% pop. Increases-higher score)	0 species commonly observed	0						
	Top predator (carnivore) &/or large mammals	3						
c. Mammals	Medium sized mammals , (adult weight > 6 ibs.)	2	0	3				
(Mit. Bank - High specie count w/ low pop. #'s score 1	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1						
Restoration that causes 12% pop. Increases-higher score)	0 species present	0						
	7 or more species commonly observed	3						
d. Aquatic macroinvertebrates, amphibians	3-6 species commonly observed	2	3	3				
(Mit. Bank - High specie count w/ low pop. #'s score 1	1-2 species commonly observed	1						
Restoration that causes 12% pop. Increases-higher score)	0 species commonly observed	0						
	Large species observed	3						
e. Aquatic reptiles	Aquatic turtles	2	0	3				
(Mit. Bank - High specie count w/ low pop. #'s score 1	Snakes & lizards	1						
Restoration that causes 12% pop. Increases-higher score)	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

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 Upland Ribs of PilotCanals Pre-	Polygon Ribs wetland creation 'scrapedown'	Polygon	Polygon	Polygon	Polygon
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				
	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 erea exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3	0	3				
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2						
	Assessment erea 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				
	Periphyton (Blue-green algae) present with everage 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 pressent 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				
	>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 assesssment area	3	0	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	0	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

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 Upland Ribs of PilotCanals Pre-	Polygon Ribs wetland creation 'scrapedown'	Polygon	Polygon	Polygon	Polygon
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	2				
	Moderate connection *(Natural restriction of flow or Flowing water due to hydrologic engineering)*	2						
	Minor connection *(Runoff collection point, or unaven 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	0	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 continuos 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 Upland Ribs of PilotCanals Pre-	Polygon Ribs wetland creation 'scrapedown'	Polygon	Polygon	Polygon	Polygon
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	1				
	>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 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

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 Upland Ribs of PilotCanals Pre-	Polygon Ribs wetland creation 'scrapedown'	Polygon	Polygon	Polygon	Polygon
3. Hydrologic Functions continued								
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	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 quailty observed or lab verified (values are out of acceptable range)	0						
e. Intactness of historic topography (soil disturbance)	Unaltered	3	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 teble 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 mechanicel 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				
	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

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 Upland Ribs of PilotCanals Pre-	Polygon Ribs wetland creation 'scrapedown'	Polygon	Polygon	Polygon	Polygon
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				
	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 slainity for a normal year. *Apply to riverine systems only*	bottom (lower) third between 12 to 25 ppt middle third between 5 to 11 ppt. upper (top) third betweem 0 to 4 ppt.	3						
	bottom (lower) third between 25 to 32 ppt middle third between 6 to 24 ppt. upper (top) third betweem 0 to 5 ppt.	2						
	bottom (lower) third between 30 to 40 ppt middle third between 8 to 29 ppt. upper (top) third betweem 0 to 7 ppt.	1						
	bottom (lower) third between 35 to 50 ppt middle third between 10 to 34 ppt. upper (top) third betweem 0 to 9 ppt.	0						
	Cumulative Score (SC)		0.0	43.0				
	Maximum Possible Score (MPS)		54.00	51.00				
	W.A.T.E.R. = Cumulative Score/Maximum Possible Score		**0.00**	**0.84**				

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

ATTACHMENT 3

IMPACT TABLES

TABLE ONE: **PROJECT IMPACT SUMMARY**

WL & SW ID	WL & SW TYPE	WL & SW SIZE (acres)	WL & SW NOT IMPACTED	TEMPORARY WL & SW IMPACTS			PERMANENT WL & SW IMPACTS			MITIGATION AREA ID
				WL & SW TYPE	IMPACT SIZE	IMPACT TYPE	WL & SW TYPE	IMPACT SIZE (acres)	IMPACT TYPE	
A	612 - Tidal mangrove marsh	WL = 17.37	0				612 - Tidal mangrove marsh	17.37	Fill	Everglades Mitigation Bank
C-east	612 - Tidal mangrove marsh	WL = 11.47	9.84				612 - Tidal mangrove marsh	1.63	Fill	On-site Area C-east
C-west	612 - Brackish mangrove marsh	WL = 16.77	14.80				612 - Brackish mangrove marsh	1.97	Fill	On-site Area C-west
D-east	612 - Tidal mangrove marsh	WL = 7.44	0				612 - Tidal mangrove marsh	7.44	Fill	On-site Area D-mid/Area D-north
D-west	612 - Hypersaline mangrove marsh	WL = 7.76	0				612 - Hypersaline mangrove marsh	7.76	Fill	On-site Area D-mid/Area D-north
E	612 - Tidal mangrove marsh	WL = 1.0	0.27				612 - Tidal mangrove marsh	0.77	Fill	Everglades Mitigation Bank
PROJECT TOTALS:		61.81	24.91					36.94		

Comments: Florida Land Use, Cover and Forms Classification System (1999)

Note:

WL=Wetland SW=Other Surface Water ID=Identification number, letter, etc.
Wetland Type: from an established wetland classification system
Impact Type: D=dredge; F=fill; H=change hydrology; S=shading; C=clearing; O=other
Multiple entries per cell not allowed, except in the "Mitigation ID" column. If more than one impact is proposed in a given area, indicate the final impact.

TABLE TWO: **ON-SITE MITIGATION SUMMARY**

MITIGATION AREA ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA (acres)	TYPE	AREA	TYPE	AREA	TARGET TYPE
Wetland C-east					9.84	612 - Tidal mangrove marsh						
Wetland C-west					14.8	612 - Tidal mangrove marsh						
Wetland D-mid					44.34	612 - Tidal mangrove marsh						
Wetland D-north					41.85	612 - Tidal mangrove marsh						
H-east					7.5	612 - Tidal mangrove marsh						
Australian Pine Ribs	6.5	612 - Freshwater mangrove & buttonwood										
PROJECT TOTALS	6.5				118.33							

COMMENTS: Mitigation credits calculated using acreage and results of functional assessment protocol (W.A.T.E.R.); details presented in ERP Section E-II-C

NOTE:

Target Type or Type=target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation.
Multiple entries per cell not allowed.

TABLE THREE: **OFF-SITE MITIGATION SUMMARY**

MITIGATION AREA ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA (acres)	TYPE	AREA	TYPE	AREA	TARGET TYPE
Everglades Mitigation Bank							18.09 credits = 180.9 acres	Tidal mangrove marsh				
PROJECT TOTALS							180.9					

COMMENTS: For each credit of tidal mangrove mitigation within the Everglades Mitigation Bank, 10 acres of habitat are preserved and maintained.

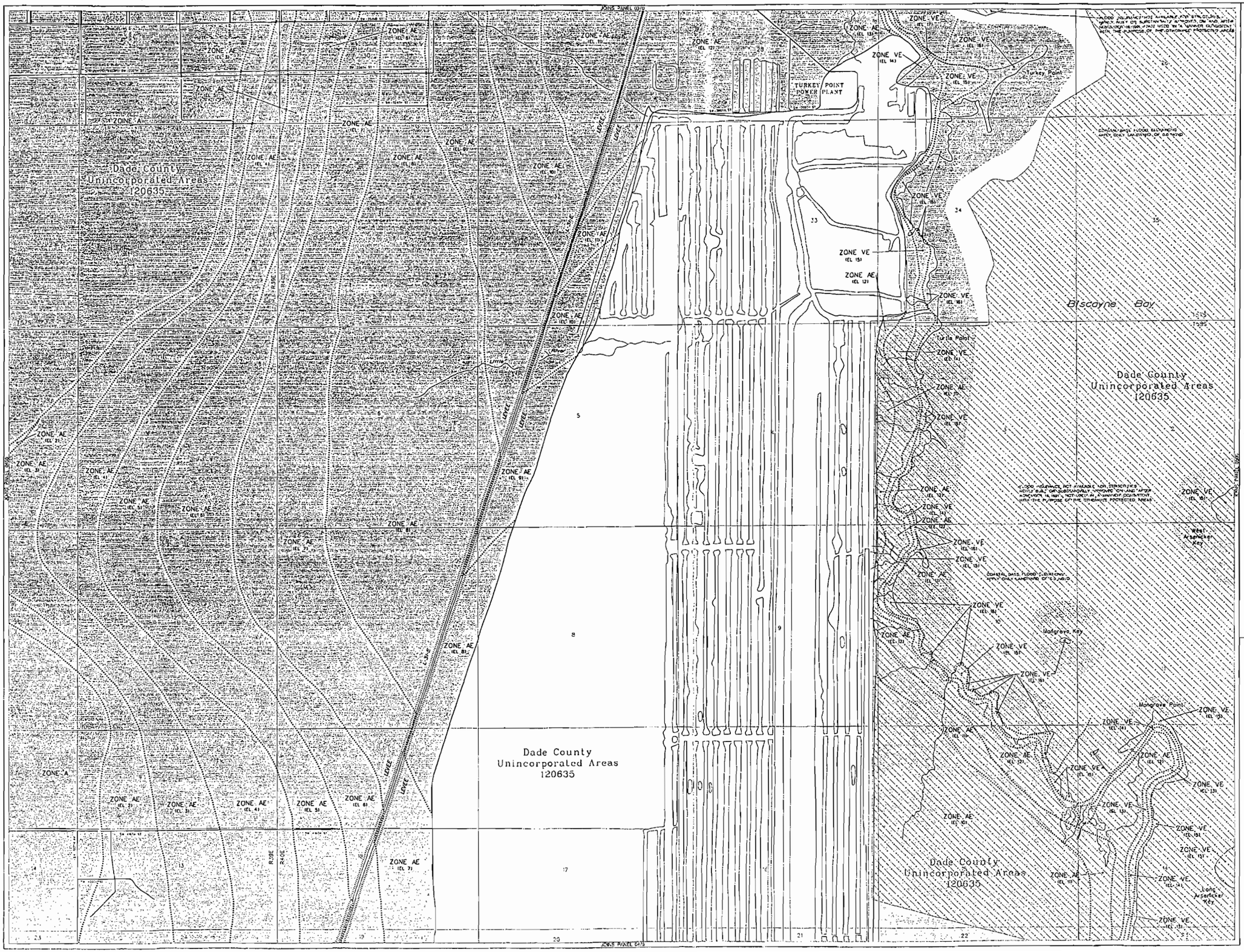
NOTE:

Target Type or Type=target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation.
Multiple entries per cell not allowed.

ATTACHMENT 4

FLOOD PLAN MAPS

BEST AVAILABLE COPY



LEGEND

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

OTHER AREAS

UNDEVELOPED COASTAL BARRIERS

NOTES

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

DADE COUNTY,
FLORIDA
AND INCORPORATED AREAS

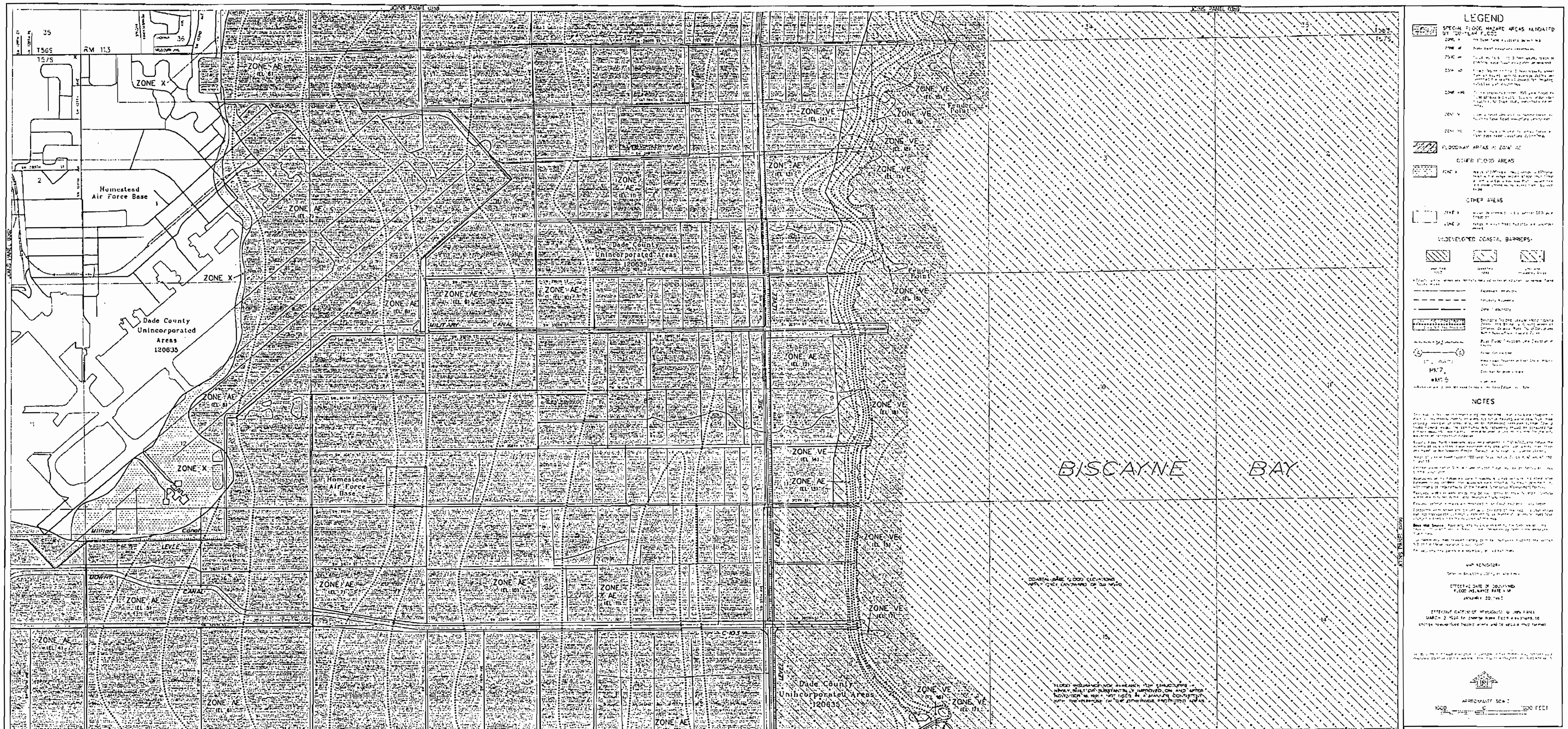
PANEL 460 OF 675

MAP NUMBER
120635 0460 J

MAP REVISED:
MARCH 2, 1994

Federal Emergency Management Agency

BEST AVAILABLE COPY



NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

DADE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 370 OF 625

MAP NUMBER 12025C0370 J

MAP REVISED: MARCH 2, 1994

Federal Emergency Management Agency

ATTACHMENT 5

FPL PROPERTY SURVEY

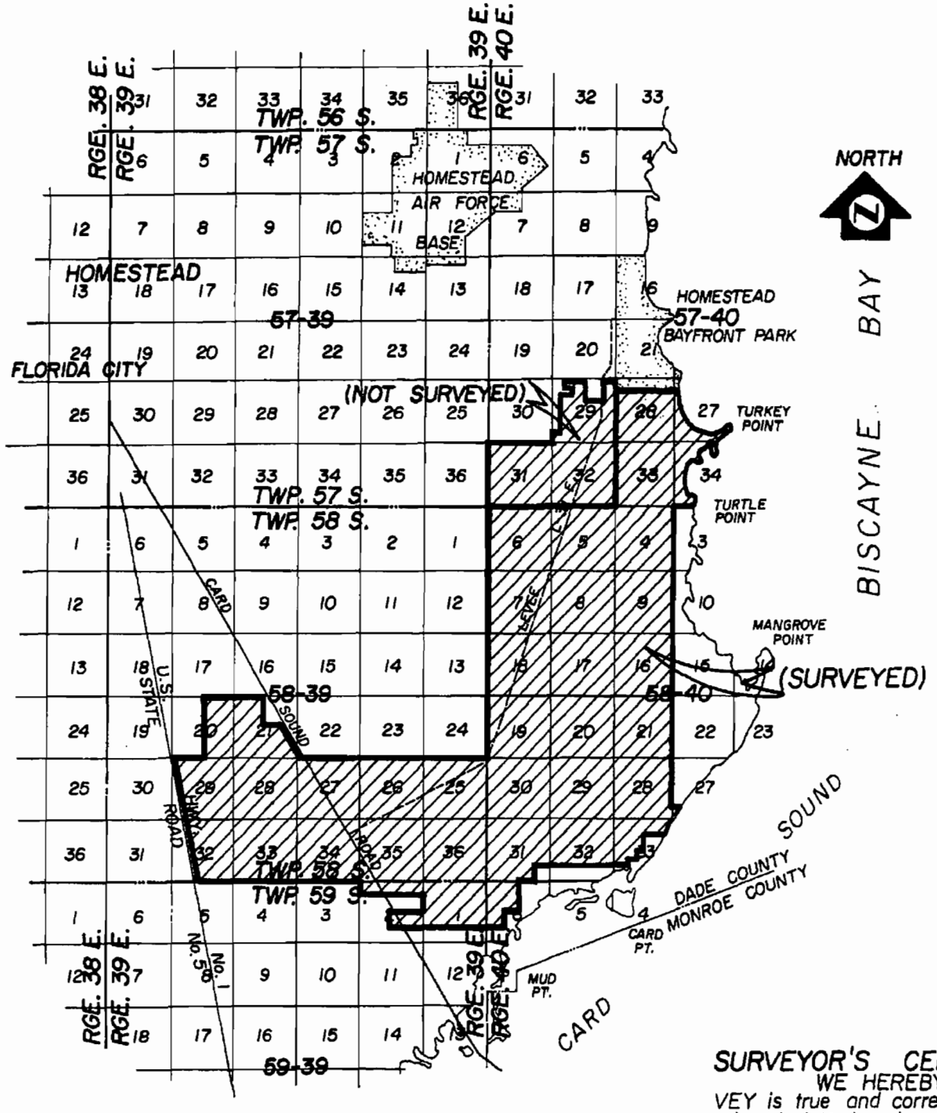
ENG 3/93

23-OCT-2003 14:03

SURVEY OF

SOUTH DADE - TURKEY POINT PROPERTY

DADE COUNTY FLORIDA



LOCATION MAP :
SCALE : 1" = 10,000'

LEGAL DESCRIPTION OF OWNERSHIP:

Sections 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, 21, 29 and 30; Fractional Section 28, including Government Lots 1 and 2 thereof; Section 31, except the SE 1/4 of the SE 1/4; Fractional Section 32, except Government Lots 1 and 2 and except the South 1/2 of the SW 1/4; the NW 1/4 and NW 1/4 of SW 1/4, the North 1/2 of Government Lot 1, and the North 660 feet of the West 660 feet of Government Lot 2 of Section 33 and together with all alluvion, avulsion, reliction, littoral, accretions and riparian rights belonging or appertaining thereto. All being in Township 58 South, Range 40 East of Dade County, Florida.

Government Lots 3, 4, 5, 6 and 11 of Section 6 of Township 59 South, Range 40 East of Dade County, Florida.

Fractional Section 27, lying South of the Easterly extension of the South line of Government Lot 1 of Section 28 of Township 58 South, Range 40 East of Dade County, Florida.

Sections 25, 26, 27, 28, 33, 34, 35 and 36 of Township 58 South, Range 39 East of Dade County, Florida.

The West 1/2 and that portion of the SE 1/4 lying West of Card Sound Road of Section 21; the East 1/2 of Section 20; that portion of Sections 29 and 32, lying East of U.S. Highway No. 1, of Township 58 South, Range 39 East of Dade County, Florida.

The North 1/4 and the North 1/2 of the SE 1/4 of Section 2; the North 3/4 of Section 1, of Township 59 South, Range 39 East of Dade County, Florida.

That portion of the SW 1/4 of Section 22, lying Southwest of Card Sound Road, of Township 58 South, Range 39 East of Dade County, Florida.

Together with an Easement over, through and across all lands lying between the open waters of Card Sound and the mean high water line of Fractional Section 27, lying South of the Easterly extension of Government Lot 1, of Fractional Section 28, and the North 1/2 of Government Lot 1 of Section 33, Township 58 South, Range 40 East of Dade County, Florida.

Parcel 1 : (O.R.B. 4244 P. 715) Fractional Section 27, except the North 1/2 of the North 1/2 of the North 1/2 thereof, and all of Fractional Section 34, together with all of the submerged lands in Biscayne Bay not more than 3 feet deep at mean high tide in said Section 27, less the North 1/2 of the North 1/2 of the North 1/2 thereof, and Section 34, all in Township 57 South, Range 40 East of Dade County, Florida.

Parcel 2 : (O.R.B. 4244 P. 715) Section 28, except the North 1/2 of the North 1/2 of the North 1/2 thereof, and all of Section 33, of Township 57 South, Range 40 East of Dade County, Florida.

NOTE : F.P.&L. Co. ownership in Sec. 29, 31 and 32, T. 57 S., R. 40 E. is not included in above legal description and was not a part of this survey.

All of the above described property is subject to drainage reservations and oil, gas and mineral reservations of record, if any, to governmental agencies; to rights of way of Central and Southern Florida Flood Control District; to Road Right of Way of Dade County and of the State of Florida of record; to taxes for current year.

SEE SHEET 2 OF 43 FOR ACREAGE TABULATION

SURVEYOR'S CERTIFICATION :

WE HEREBY CERTIFY that the attached SKETCHES OF SURVEY is true and correct to the best of our knowledge and belief as surveyed and platted under our direction.

A. R. TOUSSAINT & ASSOCIATES, INC.
by: Albert R. Toussaint Pres.
Albert R. Toussaint
Registered Land Surveyor No. 907
Registered Engineer No. 8939
State of Florida

C 071088
000001 001 1055598

(TPS, G, SP)

TURKEY POINT PLANT
SOUTH DADE PROPERTIES
BOUNDARY SURVEY
DADE COUNTY, FLORIDA

DATE 12/01/76
SCALE 1"=10,000'

SHEET _1_ OF _43

C-71088-1_____

APPROVED _____ CHIEF ENGINEER

DRAWN BY	HCG
CHECKED	ARI
CORRECT	

ER	NO	DATE	REVISION	BY	CH	COR	APP
	1		93ES0751: REVISED TITLE FROM SOUTH DADE-TURKEY PT.	CFC			

BEST AVAILABLE COPY

DEEDS TO F.P.L.	17-57-40 SE 1/4	17-57-40 SW 1/4	18-57-40 SE 1/4	19-57-40 NE 1/4	19-57-40 NW 1/4	19-57-40 SE 1/4	19-57-40 SW 1/4	20-57-40 NE 1/4	20-57-40 NW 1/4	20-57-40 SE 1/4	20-57-40 SW 1/4	30-57-40 NE 1/4	30-57-40 NW 1/4	30-57-40 SE 1/4	30-57-40 SW 1/4	TOTALS
ORB 13023-662 MC CULLOUGH										4.837						4.837
ORB 13023-684 KERSTEN										4.824						4.824
ORB 13023-366 TURNER, ET AL										4.834						4.834
ORB 13097-3751 LOUYS, ET AL.											19.929					19.929
ORB 13119-4360 ARMAN											20.259					20.259
ORB 13276-23 PHILLIPPI										4.835						4.835
ORB 13387-216 NEWMAN								9.186								9.186
ORB 13842-720 TAX DEED											9.812					9.812
ORB 13920-2915 YAHIA											14.275					14.275
ORB 14023-212 GROSSMAN, I	65.005	87.759	92.539	8.838		19.172		13.550	19.882	30.211	19.316	39.294		58.014		423.675
ORB 14225-1014 RAAYMANN									8.868							8.868
ORB 14273-793 FITZROY												36.109	19.936			56.045
ORB 14302-2563 CITY NAT. BANK													53.897			53.897
ORB 14302-2554 GROSSMAN, II	9.080			20.164	28.788	10.016	69.503	25.067				29.081	15.100	30.880	127.647	389.036
ORB 14400-240 ANDRADE					9.923											9.923
ORD 14400-242 ALVEAR														8.166		8.166
ORB 14406-2817 ALVEAR-ANDRADE					9.930											9.930
ORB 14445-335 ISECKE														18.961		18.961
ORB 14473-2521 ALVEAR-VILLAMAR						9.639										9.639
ORB 14516-434 LOAYZA						10.080										10.080
ORB 14713-772 MAYFLOWER	40.022															40.022
ORB 14728-481 BRESSER								17.569								17.569
ORB 14747-2336 KINHULT														9.946		9.946
ORB 14747-2343 MIERSCH												8.680				8.680
ORB 14747-2344 KINHULT														9.887		9.887
ORB 14808-481 HUTNER	5.727															5.727
ORB 14843-2571 BEHLE									9.282							9.282
ORB 14884-662 ANDREA, I						19.298	8.905									28.203
ORB 14892-430 GROSSMAN, III				29.970		34.234	19.065	27.367	48.112	29.028	23.939	38.235	19.767		7.580	278.307
ORB 14896-136 BENTZ									10.083							10.083
ORB 14908-409 RATH									8.261							8.261
ORB 14962-92 CITY NAT. BANK								9.932		9.004	18.637					37.573
ORB 14980-830 HOFMANN										27.678						27.678
ORB 15033-81 KEMPER								9.264	8.279							17.543
ORB 15033-82 KEMPER								9.925								9.925
ORB 15039-2794 ROLAND																
ORB 15660-3529 SUSSMAN																
TOTALS	119.894	87.759	92.539	89.069	48.641	102.499	87.483	121.993	112.707	116.061	126.166	152.329	112.700	138.574	135.327	1679.391

SEC. 17, 18, 19, 20 & 30-57-40

ACREAGE TABULATION SHEET

(TPS,G,SP)

TURKEY POINT PLANT
SOUTH DADE PROPERTIES
BOUNDARY SURVEY
DADE COUNTY, FLORIDA

APPROVED [signature]

FPL

DRAWN BY	CHECKED	CORRECT	ER	NO	DATE	REVISION	BY	CH	COR	APP

C 117137

DATE 10-7-93
SCALE N.T.S.
SCAN

SHEET 2 OF 30

C- 117137

"SPECIFIC PURPOSE SURVEY"

OF

PORTIONS OF SECTIONS 17, 18, 19, 20, 29, 30, 31 & 32,
OF TOWNSHIP 57 SOUTH, RANGE 40 EAST
DADE COUNTY FLORIDA

ORDER NO. 10051 DATE : OCTOBER , 1991

PREPARED BY

A. R. TOUSSAINT & ASSOCIATES, INC.
LAND SURVEYORS
650 N.E. 125 STREET NORTH MIAMI, FL. 33161

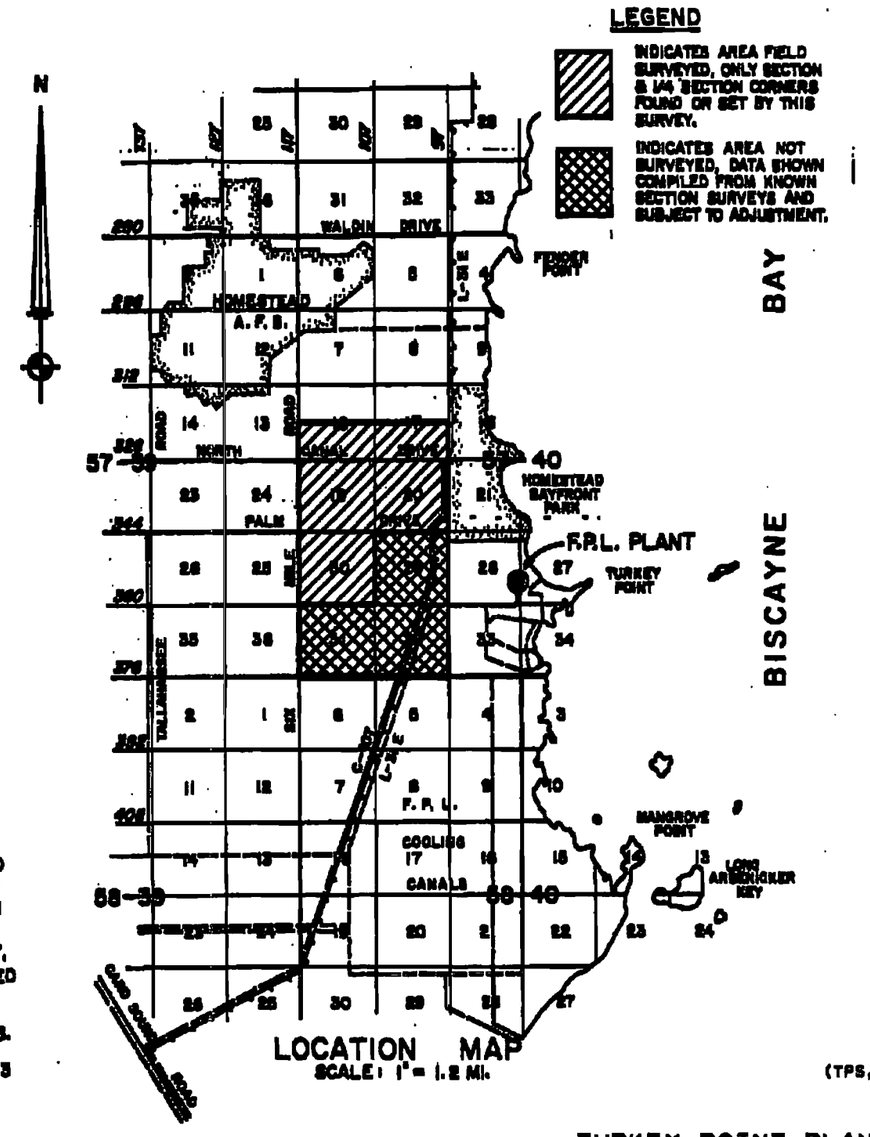
SHEET INDEX

SURVEYOR'S CERTIFICATION

WE HEREBY CERTIFY : THAT THIS 'SPECIFIC PURPOSE SURVEY' IS TRUE AND CORRECT TO THE BEST OF KNOWLEDGE AND BELIEF AS RECENTLY SURVEYED AND MAPPED UNDER OUR DIRECTION AND THAT THIS SURVEY COMPLIES WITH THE MINIMUM TECHNICAL STANDARDS FOR LAND SURVEYING IN THE STATE OF FLORIDA UNDER CHAPTER 472 OF STATE STATUTES. ONLY SECTIONS 17, 18, 19, 20 & 30 WERE FIELD SURVEYED, SECTIONS 29, 31 & 32 WERE COMPILED FROM AVAILABLE SECTION SURVEY RECORDS.

SIGNED : H. C. Gamble V. PRES.
HOWARD C. GAMBLE
REGISTERED LAND SURVEYOR 1683
STATE OF FLORIDA

MAPPING COMPLETED IN MAY, 1993.



(TPS,G,SP)

TURKEY POINT PLANT
SOUTH DADE PROPERTIES
BOUNDARY SURVEY
DADE COUNTY, FLORIDA

C 117137

DATE 10-7-93
SCALE 1"=1.2MI
SCAN

SHEET 1 OF 30

C-117137

ER	NO	DATE	REVISION	BY	CH	COR	APP

DRAWN BY
CHECKED
CORRECT

APPROVED Mark Stevens

ENG 3/93

23-OCT-2003 14:04

SURVEYED BY :
A. R. TOUSSAINT & ASSOCIATES, INC.
LAND SURVEYORS
ORDER NO. 4667 DATE : MAY 1975

REF. : F. B. PGS.

APPROVED _____
CHIEF ENGINEER

DRAWN BY	HCG
CHECKED	ARI
CORRECT	

ER	NO	DATE	REVISION	BY	CH	COR	APP
	1		93ES0751; REVISED TITLE FROM SOUTH DADE-TURKEY PT.	CFC			

ACREAGE TABULATION OF F. P. & L. CO. OWNERSHIP

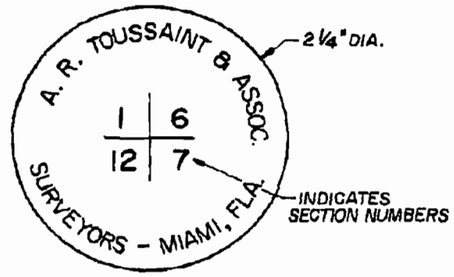
SHEET	SECTION			ACRES
3	SEC. 20	TWP. 58 S.,	RGE. 39 E.	328.809 AC.
4	SEC. 21	"	"	460.818 AC.
5	SEC. 22	"	"	21.627 AC.
6	SEC. 25	"	"	634.179 AC.
7	SEC. 26	"	"	635.939 AC.
8	SEC. 27	"	"	630.048 AC.
9	SEC. 28	"	"	629.583 AC.
10	SEC. 29	"	"	534.896 AC.
11	SEC. 32	"	"	403.361 AC.
12	SEC. 33	"	"	631.291 AC.
13	SEC. 34	"	"	624.931 AC.
14	SEC. 35	"	"	628.661 AC.
15	SEC. 36	"	"	661.151 AC.
16	SEC. 1	TWP. 59 S.,	RGE. 39 E.	488.117 AC.
17	SEC. 2	"	"	233.540 AC.
18	SEC. 4	TWP. 58 S.,	RGE. 40 E.	658.157 AC.
19	SEC. 5	"	"	639.358 AC.
20	SEC. 6	"	"	657.760 AC.
21	SEC. 7	"	"	641.276 AC.
22	SEC. 8	"	"	658.087 AC.
23	SEC. 9	"	"	659.876 AC.
24	SEC. 16	"	"	653.843 AC.
25	SEC. 17	"	"	656.155 AC.
26	SEC. 18	"	"	618.334 AC.
27	SEC. 19	"	"	630.961 AC.
28	SEC. 20	"	"	654.210 AC.
29	SEC. 21	"	"	654.551 AC.
30	SEC. 28	"	"	619.223 AC. ⚠
31	SEC. 29	"	"	648.558 AC.
32	SEC. 30	"	"	653.168 AC.
33	SEC. 31	"	"	616.953 AC.
34	SEC. 32	"	"	490.980 AC.
35	SEC. 33	"	"	262.513 AC. ⚠
36	SEC. 6	TWP. 59 S.	RGE. 40 E.	202.200 AC.
37	SEC. 27	TWP. 57 S.	RGE. 40 E.	210.690 AC. ⚠
38	SEC. 28	"	"	578.447 AC.
39	SEC. 33	"	"	658.278 AC.
40	SEC. 34	"	"	265.656 AC. ⚠
41	SEC. 29	"	"	484.175 AC. *
42	SEC. 31	"	"	640.861 AC. *
43	SEC. 32	"	"	634.256 AC. *

TOTAL ACREAGE : **22,295.477** AC.

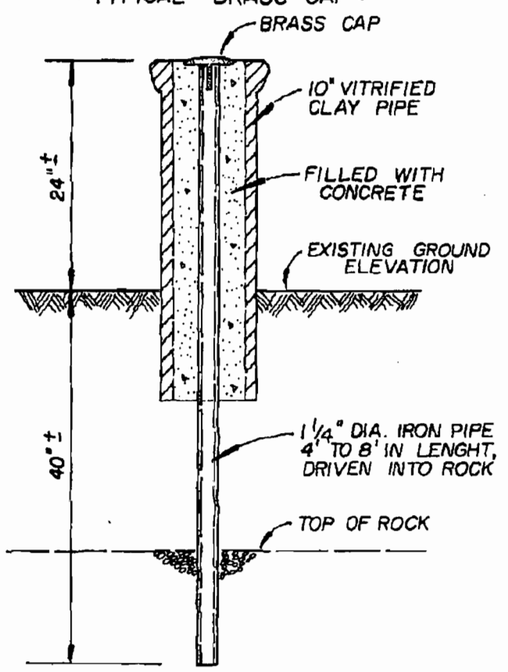
DATA SHOWN COMPILED FROM AVAILABLE RECORDS, ACCURACY OF WHICH IS SUBJECT TO FIELD SURVEY.

Easements from State of Florida consist of the following:
2.41 Ac. in Sec. 27-58-40; 11.980 Ac. in Sec. 28-58-40
and 13.29 Ac. in Sec. 33-58-40. Total : 27.68 Ac.
* Indicates compiled data, not surveyed by Toussaint & Assoc.

⚠ Indicates Acreage based on interpretation of Deed Description of Property, subject to legal review. See other data information on each individual Section Sheet.



* TYPICAL BRASS CAP *



* TYPICAL *
TILE & CONC. MONUMENT
WITH BRASS CAP

SHEET INDEX & ACREAGE TABULATION

(TPS, G, SP)

TURKEY POINT PLANT
SOUTH DADE PROPERTIES
BOUNDARY SURVEY
DADE COUNTY, FLORIDA

C 071088
000002 001 1055599

DATE 12/01/76
SCALE _____
SCALE

SHEET 2 OF 43
C-71088-1

APPENDIX 10.2

ZONING DESCRIPTIONS

MIAMI-DADE COUNTY, FLORIDA

MIAMI-DADE

DP&Z

DEPARTMENT OF PLANNING AND ZONING

MAIN OFFICE
❑ 111 NW 1 STREET, SUITE 1210
MIAMI, FLORIDA 33128
(305) 375-2800

PERMITTING AND INSPECTION OFFICE
11805 S.W. 26 Street
MIAMI, FLORIDA 33175
❑ IMPACT FEE SECTION
(786) 315-2670 • SUITE 145
❑ ZONING INSPECTION SECTION
(786) 315-2660 • SUITE 223
❑ ZONING PERMIT SECTION
(786) 315-2666 • SUITE 106
❑ ZONING PLANS PROCESSING SECTION
(786) 315-2650 • SUITE 113

July 3, 2003

Mr. Ramon Ferrer
FPL
P.O. Box 025209
Miami, Florida 33102-5209

RE: FPL'S TURKEY POINT PLANT SITE

Dear Mr. Ferrer:

This is in response to your letter dated June 24, 2003, in which you have requested confirmation that the proposed installation of a new 1100 Megawatt Combined Cycle expansion project is permitted in the IU-3 (Unlimited Industrial District).

This letter shall confirm that the proposed expansion project at the FPL's Turkey Point Plant is permitted in the IU-3 zoning classification as a matter of right. Please be advised that any renovations to the existing facility on the site will require a building permit. Plans for the proposed expansion project must be submitted to the Building Department at which time the Department of Planning and Zoning will also review same to determine compliance with the zoning code. You may contact the Building Department at (786) 315-2100 for further information on the permit procedure.

I trust that this information is of assistance to you, however, please do not hesitate to contact me in the event that you require further assistance.

Sincerely,

Alberto J. Torres
Assistant Director for Zoning

AJT:dah

P.O. Box 025209, Miami, FL 33102-5209

FPL

June 24, 2003

Mr. Alberto J. Torres
Assistant Director of Zoning
Miami-Dade County Department of Planning and Zoning
111 N.W. First Street, 11th Floor
Miami, Florida 33128

Dear Mr. Torres:

It was a pleasure to meet with you and Ms. Fojo on June 17, 2003. As we discussed, FPL is currently performing Due Diligence on various, potential power plant sites within our service territory to accommodate projects to meet our identified energy needs for the year 2007. Each year FPL submits an updated ten year siting plan to the Florida Public Service Commission (FPSC) indicating several preferred and potential power plant sites to meet our forecasted energy demands for the future.

FPL's Turkey Point Plant is one of the proposed sites being considered for the installation of a new 1100 Megawatt Combined Cycle expansion project. The existing Plant site houses four generating units (two fossil units and two nuclear units) located within an area that is zoned IU-3. The new project would be located just to the north of the existing fossil fuel units within the IU-3 area. The installation of this proposed expansion project at this site has many positive benefits such as the proximity to the projected increased load center (Miami-Dade County) as well as the use of existing infrastructure such as warehousing, control center, roads, canals, physical office and administrative facilities.

The expansion project at our Turkey Point Power Plant Site (if selected) would be included in the Florida Power Plant Siting Act (FPPSA) permitting process. This would require FPL to provide a "determination of need" before the FPSC. This is intended to be a one stop process with the Florida Department of Environmental Protection (FDEP) for Licensing and permitting. In this process all interested parties such as the Regional FDEP, South Florida Water Management District, Miami-Dade County, Fish and Wildlife Service, the EPA and the general public will be notified and offered the opportunity to express an interest in the project and provide their comments. FPL plans to establish a dialogue with these groups before the Site Certification Application (SCA) is filed with the FDEP in Tallahassee to discuss the project.

Mr. Torres, thank you for taking the time to meet with us. We are respectfully requesting confirmation from your office that the proposed expansion project is a permitted use under the existing zoning IU-3. We are also requesting information regarding the applicable process to be followed to meet your department's requirements. Your consideration and assistance to this matter will be sincerely appreciated. If you have any questions or need additional information, please call me at 305-552-2514.

Sincerely,

Ramon Ferrer
Corporate and External Affairs Manager

Cc: Ken Simmons – FPL
Maria Fojo – Miami-Dade County Department of Planning and Zoning

the industrial activity should be routed in such a manner as to minimize impact on residential development.

(6) *Energy conservation:* Applicants are advised to consider requirements of Chapter 52 of the South Florida Building Code.

(7) *Visual screening for decorative walls:* In an effort to prevent graffiti vandalism, the following options shall be utilized for walls abutting zoned or dedicated rights-of-way:

(a) *Wall with landscaping.* The wall shall be setback two and one-half (2½) feet from the right-of-way line and the resulting setback area shall contain a continuous extensively landscaped buffer which must be maintained in a good healthy condition by the property owner, or where applicable, by the condominium, homeowners or similar association. The landscape buffer shall contain one (1) or more of the following planting materials:

(1) *Shrubs.* Shrubs shall be a minimum of three (3) feet in height when measured immediately after planting and shall be planted and maintained to form a continuous, unbroken, solid, visual screen within one (1) year after time of planting.

(2) *Hedges.* Hedges shall be a minimum of three (3) feet in height when measured immediately after planting and shall be planted and maintained to form a continuous, unbroken, solid, visual screen within one (1) year after time of planting.

(3) *Vines.* Climbing vines shall be a minimum of thirty-six (36) inches in height immediately after planting.

(b) *Metal picket fence.* Where a metal picket fence abutting a zoned or dedicated right-of-way is constructed in lieu of a decorative wall, landscaping shall not be required.

(Ord. No. 79-98, § 1, 11-20-79; Ord. No. 95-19, § 14, 2-7-95; Ord. No. 95-215, § 1, 12-5-95; Ord. No. 95-223, § 1, 12-5-95; Ord. No. 96-127, § 20, 9-4-96; Ord. No. 98-125, § 21, 9-3-98; Ord. No. 99-38, § 15, 4-27-99)

Sec. 33-263.3. Reserved.

Editor's note—Section 33-263.3, pertaining to the expansion of existing commercial structures, has been deleted as obsolete. It was derived from Ord. No. 79-98, § 1, adopted Nov. 20, 1979.

Sec. 33-263.4. Validity of site plans.

Where a site plan has been or is submitted to the Department for review and approval, and the same has been or is approved, and no construction has yet commenced, the site plan shall be valid for a period of twelve (12) months within which time the applicant must file complete plans for building permit.

(Ord. No. 79-98, § 1, 11-20-79; Ord. No. 95-215, § 1, 12-5-95)

ARTICLE XXXI. IU-3, INDUSTRIAL, UNLIMITED MANUFACTURING DISTRICT*

Sec. 33-264. Uses permitted.

No land, body of water or structure shall be used or permitted to be used, and no structure shall be hereafter erected, constructed, moved or reconstructed, structurally altered or maintained for any purpose in an IU-3 District which is designed, arranged or intended to be used or occupied for any purpose, except for any one (1) or more of the uses listed in this section.

(1) Every use permitted in the IU-1 and IU-2 Districts, except adult entertainment uses as defined in Section 33-259.1, and pri-

*Editor's note—Barbed-wire fences in IU Districts, § 33-11(f); height of fences, walls and hedges in IU Districts, § 33-11(i); fence in lieu of wall in IU Districts, § 33-11(j); metal buildings in IU Districts, § 33-32.

vate schools and nonpublic educational facilities as defined in Section 33-151.11 are prohibited in the IU-3 District.

(2) Residential uses as a watchman's or caretaker's quarters used in connection with an existing industrial use located on the premises concerned but for no other residential use.

(3) Uses listed below, subject to the provisions of Section 33-265.

Acetylene, generation and storage.

Acids and derivatives.

Alcohol, industrial.

Aluminum, powder and paint manufacture.

Ammonia.

Animal reduction plants.

Asphalt or asphalt products.

Atomic reactor.

Blast furnace.

Bleaching products.

Blooming mill.

Boiler manufacture (other than welded).

Brass and bronze foundries.

Calcium carbide.

Casein.

Caustic soda.

Celluloid.

Cellulose products.

Cement, lime, gypsum or plaster of Paris.

Charcoal, lampblack or fuel briquettes.

Charcoal pulverizing.

Chlorine.

Cider and vinegar.

Cleaning and polishing preparation: dressings and blackings.

Coal tar product.

Coke oven products (including fuel gas) and coke oven product storage.

Cotton wadding.

Cottonseed oil, refining.

Creosote.

Distillation, manufacture or refining of coal, tar, asphalt, wood, bones.

Distillery (alcoholic), breweries and alcoholic spirits.

Dyestuff.

Dynamite storage.

Excelsior.

Explosives.

Fat rendering.

Fertilizer, organic or inorganic, manufacture.

Film, photographic.

Fireworks.

Fish cannery or curing.

Fish oils, meal and by-products.

Flour, feed and grain milling.

Forge plant, pneumatic drop and forging hammering.

Foundries.

Gelatin products.

Glue, gelatin (animal) or glue and size (vegetable).

Graphite.

Guncotton (explosive).

Hair, felt or feathers, washing, curing and dyeing.

Hair, hides and raw fur, curing, tanning, dressing, dyeing and storage.

Hydrogen and oxygen manufacturing.

Insecticides, fungicides, disinfectants, or related industrial and household products (depending on materials and quantities used).

Ink manufacture from primary raw materials (including colors and pigments).

Jute, hemp and sisal products.

Lampblack, carbonblack and boneblack.

Lead oxide.

Linoleum and other similar hard surface floor coverings (other than wood).

Locomotive and railroad car building and repair.

Match manufacture and storage.

Metal and metal ores, reduction, refining, smelting and alloying.

Molasses.

Nitrate (manufactured and natural) of an explosive nature; and storage.

Nitroleng of cotton or other materials.

Nylon.

Oil cloth, oil treated products and artificial leather.

Oil refinery.

Oil wells.

Oils, shortening and fats (edible).

Ore pumps and elevators.

Paint manufacture, depending upon materials and quantities used.

Paper and paperboard (from paper machine only).

Paper and pulp mills.

Petroleum, gasoline and lubricating oil—refining and wholesale storage.

Phenol.

Pickles, vegetable relish and sauces, sauerkraut.

Plastic material and synthetic resins.

Potash.

Poultry slaughtering and packing (wholesale).

Pyroxylin.

Radioactive waste handling.

Rayon and rayon yarns.

Refractories (coal fired).

Refuse disposal.

Rendering and storage of dead animals, offal, garbage and waste products.

Rubber—natural or synthetic, including tires, tubes, or similar products, gutta percha, chickle and valata processing.

Sawmill.

Scrap metal reduction.

Shoddy.

Slaughterhouse.

Smelting.

Soaps (other than from vegetable by-products) or detergents, including fat rendering.

Solvent extraction.

Starch manufacture.

Steel works and rolling (ferrous).

Stockyards.

Storage batteries, wet cell.

Sugar refining.

Testing—jet engines and rockets.

Textiles bleaching.

Turpentine and resin.

Wallboard and plaster, building insulation.

Wire ropes and cable.

Wood preserving treatment.

Wool pulling or scouring.

Yeast.

(Ord. No. 57, § 25(A), 10-22-57; Ord. No. 64-66, §§ 1, 2, 12-15-64; Ord. No. 69-51, § 3, 9-3-69; Ord. No. 01-227, § 4, 12-20-01; Ord. No. 02-23, § 5, 2-12-02; Ord. No. 02-103, § 4, 6-18-02)

Cross references—Use, possession and storage of explosives, Ch. 13; circuses and carnivals permitted in IU Districts without public hearing, § 33-13(f).

Sec. 33-265. Control of uses.

Any person, firm, corporation or other legal entity desiring to use any property or premises situated in an IU-3 District for the manufacture, assembly, processing or packaging of any article or matter enumerated in Section 33-264(3), or for the storage of relatively large quantities of such article or matter (not to include storage where

storage is relatively small and incidental to the use of small quantities of such article or matter in connection with manufacture, processing or use permitted in more restrictive districts), or manufacture, assembly, processing, packaging or storage of similar articles or matter, or for any use or operation enumerated in said Section 33-264(3) or for similar use or operation, shall file with the Director a written application setting forth a full description of the proposed use or occupancy, and accurate legal description of the property or premises, a description of the structure or structures to be constructed or occupied, satisfactory proof that the proposed use will conform to the requirements of the Miami-Dade County Pollution Control Ordinance, and such other information as may be reasonably required by the Director, who shall determine from such information, whether or not the proposed use will, in fact, create objectionable influences ordinarily associated with the general type of such uses. If it is found that such use because of the method of operation, or type of materials used, the usual degree of hazardous conditions will not be created, the Director may assign the use to the IU-3 District or to a less restrictive zoning district. However, if it is determined that the high hazards usually anticipated in connection with the uses listed involving fire, explosions, noise, vibration, dust or emissions of smoke, odors, or toxic gases, or other hazards to public health, safety or welfare will be created, the Director shall require approval as result of a public hearing before such use is permitted. Upon filing of the application, the Director shall transmit such application, together with his recommendations, to the Community Zoning Appeals Board, who shall consider the application in accordance with the zoning procedure prescribed by article XXXVI of this chapter, and transmit its recommendations to the County Commission. Provided, however, no use specified in Section 33-264(3) shall be established within five hundred (500) feet of any RU or EU District except after approval after public hearing. Provided, that the spacing limitation shall be two hundred fifty (250) feet if the use is confined within a building and an exterior wall or walls of the building located on the establishment is not penetrated with any openings directly facing the RU or EU District. It is further provided that, except for exterior uses, such distances shall be measured from the closest point of the subject use in the building to the RU or EU District. In connection with exterior uses, the distance of five hundred (500) feet shall be measured from the closest point of the IU District to the RU or EU District. For purposes of establishing such distances, the applicant for such use shall furnish a certified survey from a registered surveyor, which shall indicate such distances. In case of dispute, the measurement scaled by the Director of the Department of Planning and Zoning shall govern.

(Ord. No. 57-19, § 25(B), 10-22-57; Ord. No. 69-51, § 3, 9-3-69; Ord. No. 96-129, § 1, 9-10-96; Ord. No. 98-125, § 21, 9-3-98; Ord. No. 00-74, § 1, 6-6-00)

Sec. 33-266. Wall or dike for storage of petroleum products.

The premises used by gasoline, oil and petroleum storage tanks shall be surrounded by an unpierced fire wall or dike of such height and dimensions as to contain the maximum capacity required by current applicable Miami-Dade County codes. Where an abandoned rock pit is located in an IU-2 or IU-3 District, a permit may be issued to use such pits for oil storage tanks in which dikes may be omitted if the pit has the required capacity. All storage tanks and adjacent structures shall meet the requirements of the current applicable Miami-Dade County codes.

The foregoing paragraph requiring an unpierced fire wall or dike shall not apply to storage tanks containing liquefied petroleum, commonly known as bottled gas; such tanks may be erected without said wall or dike.

(Ord. No. 57-19, § 25(C), 10-22-57; Ord. No. 69-51, § 3, 9-3-69)

Sec. 33-266.1. Uses confined to buildings or within wall enclosures.

At all manufacturing establishments or rebuildings, storage or repair places permitted in an IU-3 District, all materials and products shall be stored and all manufacturing, rebuilding, storing or renovating operations shall be carried on entirely within an enclosed building or confined and completely enclosed within masonry walls, at least six (6) feet in height but no higher than eight (8) feet,

excepting only shipyards, dry docks, boat slips, and the like, where necessary frontage on the water may be open.
(Ord. No. 68-3, § 4, 2-6-68; Ord. No. 69-51, § 3, 9-3-69)

Sec. 33-266.2. Minimum landscaped open space, greenbelts, trees, maintenance.

(a) *Landscaped open space.* A minimum of ten (10) percent of the net lot area of the site shall be developed as landscaped open space; provided, however, that an industrial-zoned site that abuts residentially zoned or developed property shall provide fifteen (15) percent of the net lot area as landscaped open space. Said landscaped open space may include entrance features, greenbelts, unpaved passive and active recreation areas, and other similar landscaped open space at ground level. Open space areas may also include tree preservation zones of "natural forest communities" as defined in Section 26B-1, Code of Miami-Dade County. Tree preservation zones shall be delineated on all plans submitted to Miami-Dade County for site plan review under Section 33-266.3 of the Code of Miami-Dade County, for the purpose of determining overall preservation area and percent of overall landscaped area. The requirements contained herein do not replace or substitute for any requirements contained within Chapter 18A, Code of Miami-Dade County.

Water bodies may be used as part of the required landscaped open space, but such water areas shall not be credited for more than twenty (20) percent of the required open space. The specific areas within enclosed or unenclosed malls which are landscaped with grass, trees and/or shrubbery, water areas therein and areas therein with permanent landscaped open space, but such areas shall not be credited for more than ten (10) percent of the required landscaped open space. For approved structures exceeding four (4) stories in height, additional landscaped open space shall be provided equivalent to twenty-five (25) percent of the gross floor area of each floor above four (4) stories.

(b) *Greenbelts.* Continuous, extensively planted greenbelts, penetrated only at approved points for ingress or egress to the property, shall be provided along all property lines abutting public rights-of-way or properties zoned residential, in accordance with the following minimum standards:

Size of Net Lot Area	*Width of Greenbelts*
Up to 3 acres	8 feet
More than 3 acres	10 feet

(c) *Trees.* Landscaping and trees shall be provided in accordance with Chapter 18A of this Code.

(d) *Maintenance.* All landscaped areas shall be continuously maintained in a good, healthy condition, and sprinkler systems of sufficient size and spacing shall be installed to serve all required landscaped areas except within tree preservation zones of "natural forest communities," as defined in Section 26B-1, Code of Miami-Dade County. Tree preservation zones shall also be maintained in a healthy natural condition free from trash, debris and disturbance of understory vegetation.
(Ord. No. 79-99, § 1, 11-20-79; Ord. No. 85-87, § 6, 10-1-85; Ord. No. 95-223, § 1, 12-5-95)

Sec. 33-266.3. Site plan review.

(A) *[Responsibility; purpose; procedures generally.]* The Department shall review plans for compliance with zoning regulations and for compliance with the size plan review criteria. The purpose of the site plan review is to encourage logic, imagination, innovation and variety in the design process and encourage the congruity of the proposed development and its compatibility with the surrounding area. All plans submitted to the Department shall be reviewed and approved or denied within fifteen (15) days from the date of submission. The applicant shall have the right to extend the fifteen-day period by an additional fifteen (15) days upon request made in writing to the Department. Denials shall be in writing and

shall specifically set forth the grounds for denial. Receipt of applicant's plans for fifteen (15) days without formal written denial shall constitute approval. If the plan is disapproved, the applicant may appeal to the appropriate Community Zoning Appeals Board. Appeals by the applicant shall be filed within thirty (30) days of the date the project was denied.

(B) *Required exhibits.* The following exhibits shall be prepared by design professionals such as architects and landscape architects and submitted to the Department of Planning and Zoning:

(1) Dimensioned site plan(s) indicating, as a minimum, the following information:

(a) Existing zoning on the site and on adjacent properties.

(b) The basic use, height, bulk and location of all buildings and other structures with setbacks.

(c) Vehicular and pedestrian circulation systems including connection(s) to existing or proposed roadway and sidewalk system and the layout of parking, service and loading areas.

(d) Graphics and/or notations indicating the site planning or structure design methods used to minimize the impact of those industrial activities that could have a negative impact on existing or proposed adjacent land uses.

(e) Sketches of design elements to be used for buffering surrounding uses.

(2) Elevation of the proposed buildings and other major design elements.

(3) Landscape plans: Landscaping and trees shall be provided in accordance with Chapter 18A of this Code.

(4) Figures indicating the following:

(a) Proposed uses.

(b) Gross floor area: ..... square feet

(c) Gross floor area above four (4) floors: ..... square feet

(d) Land area:
Gross:
..... square feet
..... acres
Net:
..... square feet
..... acres

(e) Landscaped open space:
Required:
..... square feet
..... % of net land area
Provided:
..... square feet
..... % of net land area

(f) Trees:
Required:.....
Provided:.....

(g) Off-street parking spaces:
Required:.....
Provided:.....

(C) *Criteria.* The following shall be considered in the plan review process:

(1) *Planning studies:* Planning studies approved by the Board of County Commissioners that include development patterns or environmental and other design criteria shall be considered in the plan review process.

(2) *Landscape:* Landscape shall be preserved in its natural state insofar as is practicable by minimizing removal of existing vegetation. Landscape shall be used to shade and cool, enhance architectural features, relate structure design to the site, visually screen noncompatible uses, and ameliorate the impact of noise.

(3) *Compatibility:* The architectural design and scale of the proposed structures shall be compatible with surrounding existing or proposed uses or shall be made compatible by the use of screening elements. Screening elements can include such devices as trees and shrubs, walls and fencing, berming or any combination of these elements. Visual buffering shall be provided between parking and service areas and adjacent nonindustrial uses.

(4) *Emergency access:* Unobstructed on-site access for emergency equipment shall be considered.

(5) *Circulation:* Internal vehicular and pedestrian circulation systems shall be designed to function with existing and/or approved systems outside the development. Vehicular traffic generated from the industrial activity should be routed in such a manner as to minimize impact on residential development.

(6) *Energy conservation:* Applicants are advised to consider requirements of Chapter 52 of the South Florida Building Code.

(7) *Visual screening for decorative walls:* In an effort to prevent graffiti vandalism, the following options shall be utilized for walls abutting zoned or dedicated rights-of-way:

(a) *Wall with landscaping.* The wall shall be setback two and one-half (2½) feet from the right-of-way line and the resulting setback area shall contain a continuous extensively landscaped buffer which must be maintained in a good healthy condition by the property owner, or where applicable, by the condominium, homeowners or similar association. The landscape buffer shall contain one (1) or more of the following planting materials:

(1) *Shrubs.* Shrubs shall be a minimum of three (3) feet in height when measured immediately after planting and shall be planted and maintained to form a continuous, unbroken, solid, visual screen within one (1) year after time of planting.

(2) *Hedges.* Hedges shall be a minimum of three (3) feet in height when measured immediately after planting and shall be planted and maintained to form a continuous, unbroken, solid, visual screen within one (1) year after time of planting.

(3) *Vines.* Climbing vines shall be a minimum of thirty-six (36) inches in height immediately after planting.

(b) *Metal picket fence.* Where a metal picket fence abutting a zoned or dedicated right-of-way is constructed in lieu of a decorative wall, landscaping shall not be required.

(Ord. No. 79-99, § 1, 11-20-79; Ord. No. 95-19, § 15, 2-7-95; Ord. No. 95-215, § 1, 12-5-95; Ord. No. 95-223, § 1, 12-5-95; Ord. No. 96-127, § 21, 9-4-96; Ord. No. 98-125, § 21, 9-3-98; Ord. No. 99-38, § 16, 4-27-99)

Sec. 33-266.4. Reserved.

Editor's note—Section 33-266.4, pertaining to expansion of existing commercial structures, has been deleted as obsolete. The section was derived from Ord. No. 79-99, § 1, adopted Nov. 20, 1979.

Sec. 33-266.5. Validity of site plans.

Where a site plan has been or is submitted to the Department for review and approval, and the same has been or is approved, and no construction has yet commenced, the site plan shall be valid for a period of twelve (12) months, within which time the applicant must file complete plans for building permit.

(Ord. No. 79-99, § 1, 11-20-79; Ord. No. 95-215, § 1, 12-5-95)

ARTICLE XXXII. IU-C, INDUSTRIAL DISTRICT, CONDITIONAL*

Sec. 33-267. Intent.

IU-C District shall be applied only to those lands that appropriately may be used and utilized for the development, construction and operation of large industrial projects and industrial park development of the nature, type and character commensurate with the public health, safety, comfort, convenience, and the general welfare of the

*Cross references—Barbed-wire fences in IU Districts, § 33-11(f); height of fences, walls and hedges in IU Districts, § 33-11(i); fence in lieu of wall in IU Districts, § 33-11(j); metal buildings in IU Districts, § 33-32.

design. In addition, the minimum requirement as to mobile home and mobile home parks as required by other applicable codes shall govern. A manufacturer's certificate shall be posted in the mobile home certifying that the requirements of USAS A119.1 (1969) have been complied with before such mobile home shall be located for occupancy in Dade County.
(Ord. No. 71-54, § 1, 6-15-71)

Sec. 33-191. Responsibility for compliance.

The owner and operator of a mobile home park shall be responsible for compliance with all applicable conditions, provision, laws and regulations affecting the mobile home park or any mobile homes or trailers parked there. The owner and operator shall notify the tenant of a space of any violations created by such tenant. If the tenant fails to correct violations existing in connection with his mobile home or mobile home space, the owner and operator shall notify the Department of such violations and shall initiate appropriate action to have the violations corrected. Compliance with this Code is the responsibility of the tenant, park operator and park owner.
(Ord. No. 71-54, § 1, 6-15-71; Ord. No. 94-138, § 1, 7-12-94; Ord. No. 95-215, § 1, 12-5-95)

Sec. 33-192. Posting regulations in mobile home park.

Owners and operators of mobile home parks shall acquaint all tenants with the provisions of this article and all other applicable regulations by posting suitable notice in prominent locations throughout the mobile home park concerned.
(Ord. No. 71-54, § 1, 6-15-71)

Sec. 33-193. Maintenance provision.

Mobile home parks shall be developed and maintained in accordance with the approved plan and in accordance with applicable conditions and regulations and shall be operated in such a manner as to not be detrimental to the adjacent properties and neighborhood and this condition shall be made a condition of the approving resolution.
(Ord. No. 71-54, § 1, 6-15-71)

ARTICLE XIII. GU, INTERIM DISTRICT*

Sec. 33-194. Boundary.

The boundary of GU Interim District shall be the entire unincorporated area of the County, excepting the area specifically covered by another district.
(Ord. No. 57-19, § 6(A), 10-22-57)

Sec. 33-195. Reserved.

Editor's note—Section 33-195, derived from Ord. No. 57-19, § 43, adopted 10-22-57 and Ord. No. 58-17, § 1, 5-20-58, zoning the Town of Pennsuco GU, was repealed by Ord. No. 66-19, § 1, enacted April 26, 1966, effective 10 days thereafter. The section number has been reserved to maintain continuity.

Sec. 33-196. Standard for determining regulations to be applied.

If a neighborhood in GU District is predominantly one (1) classification of usage, the Director shall be governed by regulations for that class of usage in determining the standard zoning regulations to be applied, including setbacks, yard areas, type of structures, height, limitations, use, etc. For the purposes of this section, "trend of development" shall mean the use or uses which predominate in adjoining properties which because of their geographic proximity to the subject parcel make for a compatible use. The Director shall be guided in determining what constitutes a neighborhood by limiting his evaluation to separate geographic areas which may be designated by natural boundaries (rivers, canals, etc.) and/or man-made boundaries (roads, full- and half-section lines, etc.). The Director's decision shall be subject to appeal pursuant to the provisions of Section 33-311 of the Code. If no trend of development has been established in the neighborhood, minimum standards of the EU-2 District shall be complied with. Lots platted prior to the effective date hereof, or lots for which tentative plats have been approved as of the effective date hereof and finally approved and recorded within ninety (90) days of the effective date hereof, or lots purchased

*Cross references—Circuses and carnivals in GU Districts without public hearing, § 33-13(f); public hearing required for establishing cemeteries, mausoleums or crematories, § 33-23; height and type of fences in GU Districts, § 33-11(h); variances granted in GU Districts, § 33-36(b).

under a contract for deed or deeded prior to the effective date of the ordinance, shall comply with the minimum standards of the EU-1 District; provided, however, if contiguous property of more than the minimum area required herein, but less than the minimum required by the EU-2 Zone, is under one (1) ownership on April 12, 1974, such property shall be considered as one (1) parcel of land and cannot be divided or used except as one (1) lot.

(Ord. No. 57-19, § 6(B), 10-22-57; Ord. No. 74-17, § 1, 4-2-74; Ord. No. 77-65, § 1, 9-20-77)

Sec. 33-196.1. Group homes.

A group home shall be permitted in a dwelling unit provided:

(a) That the total number of resident clients on the premises not exceed six (6) in number.

(b) That the operation of the facility be licensed by the State of Florida Department of Health and Rehabilitative Services and that said Department or sponsoring agency promptly notify the Director of said licensure no later than the time of home occupancy.

(c) That the structure used for a group home shall be located at least one thousand (1,000) feet from another existing, unabandoned legally established group home. The 1,000-foot distance requirement shall be measured by following a straight line from the nearest portion of the structure of the proposed use to the nearest portion of the structure of the existing use.

(Ord. No. 81-26, § 10, 3-17-81; Ord. No. 91-51, § 2, 3-7-91; Ord. No. 95-215, § 1, 12-5-95)

Sec. 33-196.2. Reserved.

Editor's note—Ord. No. 91-51, § 3, adopted May 7, 1991, repealed former § 33-196.2, relative to elderly adult congregate living facilities in a GU District, which derived from Ord. No. 81-25, § 1, adopted March 17, 1981; and Ord. No. 81-60, § 1, adopted June 2, 1981.

Sec. 33-197. New district classifications.

Subdivisions in GU Districts shall be governed by the provisions of Chapter 28 of the Miami-Dade County Code. Where applications for building permits indicate the need for reclassification of an area in GU District, the Director may initiate an application for a change of zoning.
(Ord. No. 57-19, § 6(C), 10-22-57; Ord. No. 77-46, § 1, 7-5-77)

Sec. 33-198. Public hearing on refusal to issue permit.

Whenever a permit to construct, alter, move or use a building or premises in a GU District is refused because the proposed use would conflict with regulations contained herein, the person desiring a permit may apply for a public hearing.
(Ord. No. 57-19, § 6(D), 10-22-57)

ARTICLE XIV. RU-1, SINGLE-FAMILY RESIDENTIAL DISTRICT*

Sec. 33-199. Uses—Permitted.

No land, body of water and/or structure shall be used or permitted to be used and no structure shall be hereafter erected, constructed, moved, reconstructed, structurally altered or maintained for any purpose in a RU-1 District which is designed, arranged or intended to be used or occupied for any purpose other than the following, unless otherwise specifically provided herein:

(1) Every use as a one-family residence, including every customary use not inconsistent therewith, including a private garage.

(2) Municipal recreation building, playgrounds, parks or reservations owned and operated by a municipality, County, State or the United States Government.

(2.1) Private recreation area, private recreation building or playground owned and maintained by a homeowner's or tenant

*Cross references—Height of fences, walls and hedges in RU District, § 33-11; location of swimming pools in RU-1 Districts, § 33-20(c); maximum setback of principal residential building in RU-1 Districts, § 33-45.

RU-3B—Bungalow Court District

RU-4L—Limited Apartment House District

RU-3M—Minimum Apartment House District

RU-4M—Modified Apartment House District

RU-4—High Density Apartment House District

RU-4A—Hotel Apartment House District

RU-5—Residential—Semi-professional Office District

RU-5A—Semi-professional Office District

RU-TH—Townhouse District

EU-M—Estates modified, single-family, minimum lot area 15,000 square feet

EU-S—Estate use, suburban

EU-1—Estates, residential, 1 acre or more in area

EU-1C—Estates, residential, 2½ acres or more in area

EU-2—Estates, residential, 5 acres or more in area

BU-1—Business Districts, neighborhood

BU-1A—Business Districts, limited

BU-2—Business Districts, special

BU-3—Business Districts, liberal

IU-1—Industrial Districts, light manufacturing

IU-2—Industrial Districts, heavy manufacturing

IU-3—Industrial Districts, unlimited manufacturing

IU-C—Industrial District, conditional

TND—Traditional Neighborhood Development District

AU—Agricultural District

GP—Governmental property

PAD—Planned Area Development

OPD—Office Park District

ULU—Utility lines underground

(Ord. No. 57-19, § 2, 10-22-57; Ord. No. 58-40, § 1, 10-7-58; Ord. No. 60-8, § 3, 2-9-60; Ord. No. 64-4, § 1, 2-4-64; Ord. No. 64-18, § 1, 5-5-64; Ord. No. 72-41, § 1, 7-27-72; Ord. No. 76-36, § 1, 4-20-76; Ord. No. 76-106, 12-7-76; Ord. No. 77-64, § 1, 9-20-77; Ord. No. 95-135, § 3, 7-25-95)

Sec. 33-3. District boundary maps.

The boundaries of the various districts (zone classification districts) are shown upon the zoning maps on file in the Department and such maps shall be known as the district boundary maps. Changes in the boundaries of districts shall be made in accordance with appropriate laws and such changes shall be shown on the district boundary maps.

(Ord. No. 59-48, § 3, 12-22-59; Ord. No. 95-215, § 1, 12-5-95)

Cross reference—Definition of district, § 33-1(15).

Sec. 33-4. Offensive color, design, smoke, noise, etc.; nuisances, moves and locations to be approved; location on lands subject to flooding.

Nothing shall be allowed on the premises in any district which would in any way be offensive or obnoxious by reason of color, design, or the emission of odors, liquids, gases, dust, smoke, vibration or noise. Nor shall anything be placed, constructed or maintained that would in any way constitute an eyesore or nuisance to adjacent property owners, residents, or to the community. No structure shall be erected, altered, structurally altered or moved except by methods and on locations as approved by the Director.

(Ord. No. 57-19, § 5(A), 10-22-57; Ord. No. 64-25, § 1, 7-7-64; Ord. No. 73-65, § 1, 7-17-73; Ord. No. 92-150, § 2, 12-1-92; Ord. No. 95-215, § 1, 12-5-95)

Sec. 33-4.1. Outdoor lighting.

Lights for area lighting of outdoor areas, such as but not limited to tennis courts, golf courses, sporting areas or grounds, parking lots or areas, amusement or entertainment areas, and outside lighting for security purposes, shall not be permitted except under the following conditions:

(a) Detailed plans shall be submitted to the Department showing the location, height, type of lights, shades, deflectors and beam directions.

(b) The Department may issue a permit for such lighting if, after a review of the detailed plans therefor and after consideration of the adjacent area and neighborhood and its use and future development, the proposed lighting will be so located, oriented, adjusted and shielded that the lighting will be deflected, shaded and focused away from such adjacent property and will not be or become a nuisance to such adjacent property, and will not create a traffic hazard on adjacent streets by reason of glare or the like.

(c) Upon a determination by the Department that the proposed lighting will not conform to the provisions of this subsection or as to the negative effect such lighting may have on the adjacent area and neighborhood or traffic, after considering the detailed plan and such area and neighborhood, the Department shall not issue a permit for the same, and no such lighting shall be permitted until approved after public hearing.

(d) In addition, outdoor lighting for recreational and offstreet area parking purposes, or for any other purpose in the RU, EU, AU and GU Zones shall be designed so that any overspill of lighting onto adjacent properties shall not exceed one-half (½) footcandle (vertical) and shall not exceed one-half (½) footcandle (horizontal) illumination on adjacent properties or structures. An outdoor lighting installation shall not be placed in permanent use until a letter of compliance from a registered engineer or architect or the duly authorized representative of such engineer or architect is provided stating that the installation has been field checked and meets the requirements as set forth above. The requirements of this subparagraph shall apply to any night lighting in BU and IU Zones abutting an RU, EU, AU, or GU Zone.

(e) It is not intended here to regulate permitted sign lights and it is not the intent to modify, amend or repeal any portion of the South Florida Building Code.

(Ord. No. 63-47, § 1, 11-5-63; Ord. No. 75-73, § 1, 9-17-75; Ord. No. 79-114, § 2, 12-4-79; Ord. No. 95-215, § 1, 12-5-95)

Sec. 33-4.2. Maintenance of buildings, non-dwelling structures and fences.

Every building, every accessory structure used for non-dwelling purposes, including but not limited to garages, carports, cabanas, storage buildings, and every fence shall comply with the following requirements:

(a) Every foundation, exterior and interior wall, roof, floor, ceiling, window and exterior door shall be structurally sound and maintained in good repair.

(b) Every accessory structure shall be kept in a reasonably clean and sanitary condition free from rodents, insects and vermin.

(c) The roof of every accessory structure shall be well drained of rainwater.

(d) All exterior surfaces subject to deterioration shall be properly maintained and protected from the elements by paint and other approved protective coating, applied in a workmanlike fashion.

(Ord. No. 97-11, § 1, 2-25-97)

Sec. 33-5. Architectural style and color.

All buildings constructed shall be of an architectural style and color which will harmonize with the premises and with other buildings in the same neighborhood. All questions raised on this subject shall be referred to the appropriate zoning board for recommendation.

(Ord. No. 57-19, § 5(B), 10-22-57)

Sec. 33-6. Permits not to be issued for violations.

No permits shall be issued for work that would violate any provision of this chapter, or any recorded restriction which runs with the land that

District/Families	Front (Ft.)	Rear (Ft.)	Between Buildings (Ft.)	Interior Side (Ft.)	Side Street (Ft.)
Five or more			—see RU-4 and RU-4A—		
Acc. bldg.	75	5	10	7½	30
EU-M:					
One	25	25	—	15	25
Acc. bldg.	75	7½	10	20	30
Canopy carport	5	5	—	2	5
EU-S:					
One	35	25	—	15	25
Acc. bldg.	75	7½	10	20	30
Canopy carport	13	5	—	2	5
EU-1:					
One	50	25	—	15	25
Acc. bldg.			—same as EU-M accessory buildings—		
Canopy carport	28	5	—	2	5
EU-1C			—same as EU-1—		
EU-2			—same as EU-1—principal building and entrance lodge same as principal building in EU-1—all other buildings not closer than 85′ to the highway right-of-way		
Canopy carport	28	5	—	2	5
AU			—same as EU-1 unless otherwise specified in AU District—		

NOTE 1. Refer to Section 33-20(b)(1) for additional utility shed setback regulations. Sheds in townhouse developments are further restricted by Section 33-202.3(2)(q).

(Ord. No. 57-19, § 30(E), 10-22-57; Ord. No. 59-43, § 3, 11-24-59; Ord. No. 76-82, § 1, 9-21-76; Ord. No. 79-19, § 3, 3-6-79; Ord. No. 95-135, § 6, 7-25-95; Ord. No. 97-19, § 3, 2-25-97; Ord. No. 01-77, § 1, 4-24-01; Ord. No. 02-32, § 2, 2-26-02)

Sec. 33-51. Setbacks in business and industrial districts.

The minimum setback distances and spacing requirements in all business districts and in IU-1, IU-2 and IU-3 Industrial Districts (see Section 33-273 for IU-C setback requirements) shall be as follows:

Front—Twenty (20) feet.

Side street—Fifteen (15) feet, except where an RU or EU lot abuts a business or industrial lot, then the side street setback shall be twenty-five (25) feet on any part of the commercial structure located within twenty-five (25) feet of the residential district boundary.

Interior side—Zero (0) feet where the adjacent property is BU or IU Districts and where the use of the building is limited exclusively to business or industrial use. The wall along the side property line shall be constructed in accordance with the South Florida Building Code.

Five (5) feet where the wall is not of unpierced four-hour fire-resistant construction.

Ten (10) feet for such portions of the business structure as are devoted to residential use.

Fifteen (15) feet where the adjacent property is zoned RU or EU.

Rear—Twenty (20) feet from residential district boundary, except that credit shall be given for full width of dedicated alleys in computing this setback.

Five (5) feet from business or industrial district boundary, where any openings are provided in wall of proposed structure, adjacent to rear lot line.

Zero (0) feet from business or industrial district boundary where no openings are proposed in wall of proposed structure, adjacent to rear lot line.

Same setbacks shall apply for accessory buildings as apply to principal structures.

Between buildings—Twenty (20) feet.

Structures containing residential uses or mixed residential-business uses shall comply with residential setbacks (for the entire building) as may be required for the residential use in the residential district.

(Ord. No. 57-19, § 3, 10-22-57; Ord. No. 58-4, § 1, 2-13-58; Ord. No. 64-19, § 4, 5-5-64; Ord. No. 80-89, § 1, 9-2-80; Ord. No. 83-39, § 1, 6-7-83)

ARTICLE III. HEIGHT OF BUILDINGS*

Sec. 33-52. Maximum height in all districts; exceptions.

Except where a greater height may be approved as a result of a public hearing, the maximum height of a building shall be thirty-five (35) feet, two (2) stories, except as specified in each district and as specified elsewhere in the Code. No accessory building, garage or servants' quarter in RU and EU-M Districts shall exceed one (1) story in height unless the principal residence on the lot is two (2) stories in height and there are two (2) or more two-story residences on other lots in the block.

(Ord. No. 57-19, § 29(A), 10-22-57; Ord. No. 64-19, § 2, 5-5-64; Ord. No. 69-50, § 2, 9-3-69; Ord. No. 74-20, § 1, 4-16-74; Ord. No. 82-13, § 1, 3-2-82; Ord. No. 95-135, § 7, 7-25-95)

Cross reference—Height of buildings for public assemblage, § 33-17(6).

Sec. 33-53. Cornice height in specific districts.

The minimum cornice height of buildings in EU-M and RU-1 Districts shall be fifteen (15) feet above the sidewalk or, in lieu of a sidewalk, the average elevation of the plot covered by the structure elevation adjacent to the lot on which said building is placed, in the following Districts: EU-M, RU-1, RU-2 and RU-3.

(Ord. No. 57-19, § 29(B), 10-2-57)

Sec. 33-54. Reserved.

Sec. 33-55. Certain structures exempt.

(a) The provisions of this article regarding building height shall not apply to: airplane beacons, belfries, chimneys, church spires/steeples, conveyors, cooling towers, cupolas, domes, elevator bulkheads and shafts and enclosures for mechanical equipment shall not be considered a part of a building for height calculations, fire towers, flag poles, monuments, parapet wall extending not more than five (5) feet above the limited height of the building on which it rests, radio and television towers, roof structures used only for ornamental purposes providing they do not exceed ten (10) percent of the roof area on which they stand, smokestacks, stage towers or scenery lofts, tanks, bins and silos used for purpose of storing grain or feed products such as silage in connection with agricultural production, water towers, and structures used in connection with screening of Antennas.

(b) The provisions of this article III regarding building height shall not apply to active and passive recreational facilities which may be provided on the roof of a building, provided that the enclosed portion of such facilities shall not exceed

*Cross references—Definition of building height, § 33-1(17); towers, poles and masts, § 33-60 et seq.

sixty (60) percent of the total area of such roof, and provided that the same does not exceed one (1) story or twenty (20) feet in height.
(Ord. No. 57-19, § 29(D), 10-22-57; Ord. No. 69-28, § 1, 4-15-69; Ord. No. 73-5, § 1, 1-9-73; Ord. No. 87-8, § 3, 3-3-87; Ord. No. 01-02, § 4, 1-23-01)

Sec. 33-56. Compliance with FAA rules.

All buildings, structures and improvements to be constructed shall conform to and comply with the prevailing criteria and requirements of the Federal Aviation Administration and the Miami-Dade County Airport Zoning Regulations where applicable, regulations contrary thereto contained herein notwithstanding. The Director shall process applications for permits through the County Port Authority and Federal Aviation Administration whenever he deems it advisable.
(Ord. No. 57-19, § 29(E), 10-22-57; Ord. No. 69-42, § 1, 7-16-69)

Sec. 33-57. Setback when height exceeds limit.

Any portion of a building in the BU-2, BU-3, IU-1, IU-2 and IU-3 Districts which is between thirty-five (35) and forty (40) feet in height shall be setback at least twenty-five (25) feet from the lot line adjacent to any street or thoroughfare. Thereafter one (1) additional foot of setback shall be provided for each five (5) feet of additional height.
(Ord. No. 57-19, § 29(F), 10-22-57; Ord. No. 82-13, § 1, 3-2-82)

Sec. 33-58. Height of building limited to width of street in certain districts.

No building in IU-C, IU-1, IU-2 or IU-3 Districts shall be of a height greater than the width of the widest street upon which such building abuts, except after application is made and permit issued as a result of public hearing.
(Ord. No. 57-19, § 29(G), 10-22-57; Ord. No. 82-13, § 1, 3-2-82)

Sec. 33-59. Fire resistive construction of building over fifty-five feet.

No building erected within the boundaries of any district established by this chapter, or any amendment thereof, shall exceed fifty-five (55) feet in height unless of type 1 fire resistive construction, as specified by the building code.
(Ord. No. 57-19, § 29(H), 10-22-57)

ARTICLE IV. TOWERS, POLES AND MASTS*

Sec. 33-60. Compliance with article.

(a) Before erection of a water tower, standpipe, windmill, tower or mast for any purpose, over ten (10) feet in height above the roof of a structure or over twenty (20) feet in height if erected on natural ground, the requirements of this article and the construction requirements of the South Florida Building Code shall be observed. All towers, poles, and masts requiring notice to the Federal Aviation Administration (FAA) as prescribed in Federal Aviation Regulations (FAR) Part 77, shall be lighted as specifically recommended by the FAA in the determination ren-

*Cross reference—Height of buildings not applicable to church steeples, spires, domes, etc., § 33-55.

dered to the proponent's notice of proposed construction. In addition, for all towers, poles, and masts not requiring notice to the FAA which are one hundred fifty (150) feet or higher above grade in height, one (1) flashing red beacon safety light will be required for each one hundred fifty (150) feet in height. The peak effective intensity of said lights should not be less than one thousand five hundred (1,500) candles (in red) when measured at any horizontal angle. The flashing mechanism should not permit more than forty (40) nor less than twenty (20) flashes per minute. The beacons shall conform to Federal Aviation Administration type L-866 (red) or Military Specification L-6273. All existing towers, poles, and masts, which are one hundred fifty (150) feet or higher above grade shall be made to conform with those requirements by May 1, 1989. This section shall be applicable and enforceable in the incorporated and unincorporated areas of Miami-Dade County.

(b) Until December 31, 2008, telecommunications antennas owned and operated by a telecommunications company providing services to the public for hire attached to any pole or H-frame or lattice structure owned by a utility which is used in and is part of the utility's network for the provision of electric services, shall be permitted in any zoning district, provided that (a) equipment appurtenant to the antenna is maintained on the utility pole or structure, (b) the utility pole or structure does not exceed one hundred twenty-five (125) feet in height above ground unless the utility pole or structure is located in an easement or right-of-way which is greater than fifty (50) feet in width or, if less than fifty (50) feet in width, such easement or right-of-way is adjacent to and parallel with road right-of-way which is one hundred (100) feet or greater in width, and (c) the antenna was attached to the utility pole or structure prior to January 1, 1997.
(Ord. No. 57-19, § 28(B), 10-22-57; Ord. No. 88-2, § 1, 1-19-88; Ord. No. 88-125, § 1, 12-20-88; Ord. No. 98-173, § 2, 12-1-98)

Sec. 33-61. Plans and specifications to accompany application for permit.

Plans and specifications for the structures provided in Section 33-60 shall be submitted to the Director showing all dimensions, size and kind of members, footings, guy wires; location, depth and type of guy anchors and footings, type and weight of antenna, apparatus or structures to be attached to or supported by the structure, and application made for permit.
(Ord. No. 57-19, § 28(B)(1), 10-22-57)

Sec. 33-62. Height.

The top of the structure shall not be higher above its foundation than ninety (90) percent of the horizontal distance from its base to the nearest point on adjacent property under another ownership or to the nearest edge of a highway right-of-way, except that masts or other structures located on roofs of buildings in a BU or IU District shall be designed and erected as required by the South Florida Building Code and signs shall meet the requirements of article VI of this chapter; anything to the contrary notwithstanding, radio towers where incidental to a business or industrial use on the premises in a BU-3 or any IU Zone, need not conform to the requirements of this section, provided the same does not exceed a height of one hundred fifty (150) feet measured from ground elevation and the same conforms to the provisions of the South Florida Building Code; provided, however, that such installation shall conform to the provisions of all airport zoning regulations contained herein.
(Ord. No. 57-19, § 28(B)(2), 10-22-57; Ord. No. 66-3, § 1, 2-1-66)

Sec. 33-62.1. Reserved.

Editor's note—Ord. No. 95-95, § 1, adopted June 6, 1995, repealed former § 33-62.1, relative to communication poles, which derived from Ord. No. 93-53, § 1, adopted May 20, 1993.

Sec. 33-63. Antennas for amateur radio stations.

Poles, masts and towers for supporting antenna used in the operation of amateur radio stations licensed by the Federal Communications Commission shall be excepted from the above regulations and shall be governed by the following requirements:

(a) *Location on property.* All such poles, masts and towers shall be placed no closer than five (5) feet to an official right-of-way line

Sec. 33-121.25. Variances.

No variance shall be granted through provisions of applicable regulations which will in any way conflict with or vary the provisions of this article.
(Ord. No. 78-74, § 3, 10-17-78)

Sec. 33-121.26. Penalty; injunctive remedy.

Any person violating any of the provisions of this division shall be punished by a fine not to exceed five hundred dollars ($500.00) or by imprisonment in the County Jail for a period not to exceed sixty (60) days, or by both such fine and imprisonment, in the discretion of the County Court. Any continuing violations of the provisions of this division may be enjoined and restrained by injunctive order of the Circuit Court in appropriate proceedings instituted for such purpose.
(Ord. No. 78-74, § 3, 10-17-78)

Sec. 33-121.27. Repeal clause.

All County and municipal ordinances, County and municipal resolutions, municipal charters, special laws applying only to Dade County or any municipality in Dade County, or any general laws which the Board of County Commissioners is authorized by the Constitution to supersede, nullify, modify or amend, or any part of such ordinance, resolution, charter or law, in conflict with any provision of this division, is hereby repealed.
(Ord. No. 78-74, § 3, 10-17-78)

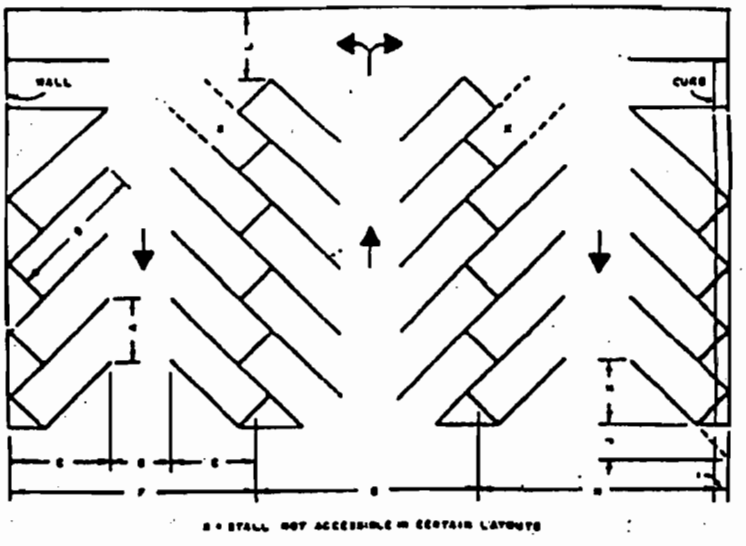
ARTICLE VII. OFF-STREET PARKING

Sec. 33-122. Required; definitions of parking space.

Permanently maintained off-street parking for vehicles shall be provided in connection with any building or premises used or designed to be used for the purposes set forth in this article. Parking spaces on private roadways shall not be credited towards required parking. For the purpose of this article, each parking space shall be a minimum of eight and one-half (8.5) by eighteen (18) feet with the following exceptions:

(1) Where parking spaces for the handicapped are to be provided, they shall be a minimum of eighteen (18) feet long and the width and quality shall be in accordance with the South Florida Building Code.

Parking stall and aisle dimensions shall conform to the charts entitled "Minimum Parking Stall Dimension" and "Striping Detail" hereby incorporated as part of this section.

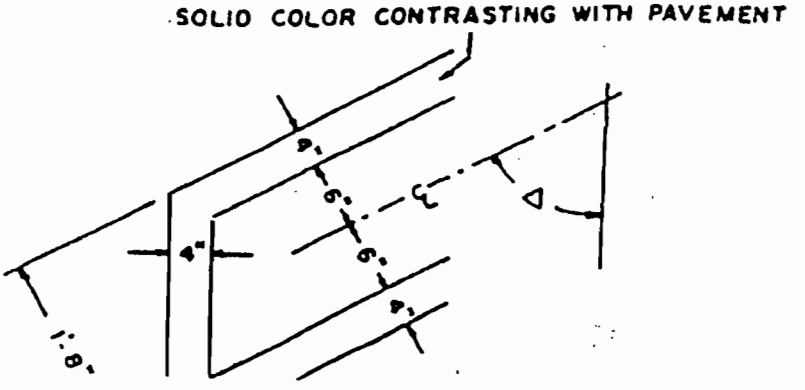


MINIMUM PARKING STALL DIMENSIONS (IN FEET) AT VARIOUS ANGLES

Dimension	*Symbol*	*(8.5' × 18')*			
		45°	*60°*	*75°*	*90°*
Stall width, parallel to aisle	A	12.0	9.8	8.8	8.5
Stall length of line	B	26.5	22.9	20.3	18.0
Stall depth to wall	C	18.7	19.8	19.6	18.0
Aisle width between stall lines	D	12.0	17.0	21.0	22.0
Stall depth, interlock	E	15.7	17.7	18.5	18.0
Module, wall to interlock	F	46.5	54.6	59.1	58.0
Module, interlocking	G	43.5	52.4	58.0	58.0
Module, interlock to curb face	H	44.7	52.4	56.7	55.5
Bumper overhang (typical)	I	1.8	2.2	2.4	2.5
Offset	J	6.0	2.5	0.6	0.0
Setback	K	12.7	9.0	4.7	0.0
Driveways	L	**	**	**	**

For parallel parking minimum widths and length are 8.0' × 23.0'.

**Driveways where there is no parking on either side shall be a minimum of twenty (20) feet in width for two way traffic and fourteen (14) feet for one way traffic. Access drives between the paved portion of the right-of-way and the property line shall comply with the Dade County public works manual.



For all occupancies other than residential, the parking spaces shall be marked with double striping on each side of the space to identify and facilitate their use. All striping shall be of a color (typically white) contrasting with the pavement. Dimension requirements, as noted elsewhere, shall be measured to the center point of the double stripe, as shown on the "Striping Detail" hereby incorporated as part of this section. Notwithstanding the above provisions and striping details, where striping is required for residential users, not less than a single four-inch stripe shall be provided, with parking stall dimensions to be measured to the center line of the strip. In all instances, adequate interior driveways and ingress and egress driveways shall be provided to connect all parking spaces with a public right-of-way or alley. Where a parking space heads into and abuts a walkway, the paved eighteen-foot length shall be provided a wheel stop or curb at sixteen (16) feet in order to prevent extension of the vehicle over any portion of the provided walkway width. Required and surplus parking shall comply with these provisions and such parking shall not be placed in dedicated or official rights-of-way.

(Ord. No. 57-19, § 5(BB), 10-22-57; Ord. No. 69-71, § 1, 10-8-69; Ord. No. 80-116, § 1, 10-21-80; Ord. No. 83-40, § 1, 6-7-83; Ord. No. 85-19, § 1, 4-2-85; Ord. No. 91-36, § 1, 3-19-91)

therewith shall have parking provided as otherwise contained in this article.

(11) Theatres, including move theatres, and general auditoriums shall be provided one (1) parking space for each one hundred (100) square feet of auditorium seating area or fractional part thereof.

(12) Open lot recreational use parking requirements shall be determined by the Director and such requirements shall be based on the number of people that can reasonably be expected to be on such premises at one (1) time. Said determination shall be calculated on a basis of one (1) parking space for each four (4) persons.

(l) *Schools.*

(1) Day nurseries, kindergarten and elementary schools: Total parking spaces shall equal the combined total of personnel and transportation vehicles.

(2) Junior high [schools]: Total parking spaces shall equal one and one-quarter (1¼) times the combined total of personnel and transportation vehicles.

(3) High schools, trade schools and colleges: One (1) parking space per two hundred (200) square feet of classroom area, including laboratories, libraries and administrative areas. Housing facilities on college campuses must provide off-street parking of two (2) spaces for each three (3) sleeping rooms. Other such uses, such as restaurants, auditoriums, theaters, etc., shall provide parking as required in this section for such uses. In addition, in connection with the foregoing schools, one (1) parking space shall be required for each four (4) employees, excluding teachers.

In connection with the foregoing school use, parking required for church use may be credited toward parking requirements for school use, where the same are operated by the same ownership and on the same property.

The applicant shall submit information substantiating the personnel and vehicle figures used for computing the above parking requirements.

(m) *Office, professional building or similar uses.* One (1) parking space for each three hundred (300) square feet of gross floor area of such building or fractional part thereof.

(n) *Industrial.*

(1) For a warehouse building, one (1) parking space shall be provided for each one thousand (1,000) square feet of gross floor area in the building up to ten thousand (10,000) square feet and then one (1) space for each two thousand (2,000) square feet of gross warehouse floor area thereafter. Office, retail and wholesale showroom areas provided in conjunction with the industrial use shall have parking spaces provided for such areas as otherwise contained in this article. Regardless of the intended mix of use, a minimum of two (2) parking spaces shall be provided for each bay in the building. In determining the number of bays, the Director shall take into account the possibility of partitioning the building into multiple units, the number and location of bathrooms, the number and location of overhead or other door openings, the layout of electrical circuits and air conditioning units, etc. In determining the number of spaces to be provided, the formula requiring the greatest number of parking spaces shall be applied.

(2) Where open lot or walled-in uses only are involved, such as salvage yards, batching plants, precast or prestressed concrete products, or the

like, two (2) parking spaces for each five thousand (5,000) square feet of lot area shall be provided, or one (1) space for each two (2) employees shall be provided, whichever requires the greater number of parking spaces. Such parking spaces shall be located no farther than one thousand five hundred (1,500) feet from the industrial use in question. Such noncontiguous property to be used for parking must be located in BU-1A, BU-2, BU-3 or an industrial district.

(3) For a telecommunications hub, one (1) parking space for each two thousand (2,000) square feet of gross floor area shall be provided. Office areas provided in conjunction with the industrial use shall have parking spaces provided for such areas as otherwise contained in this article. In the event of a subsequent change in use from a telecommunications hub to a permitted, alternative use, the alternative use shall conform to the parking standards otherwise contained in this article. A variance to reduce the number of required parking spaces shall not be granted solely on the basis of a proposed change in use from an existing telecommunications hub to an alternative use.

The ownership of the parking area shall be the same as that of the individual site which it is to serve. Before any permit for industrial use may be obtained, which under this chapter requires additional and separate parking areas, the owner of the industrial site shall cause to be recorded an agreement to the effect that the ownership of the industrial site and of the separate parking area shall remain the same until the regulations are amended eliminating the need for such separate parking area.

Prior to the issuance of a building permit for the erection of a new structure or building, or for an addition thereto, either of which is to be used for industrial purposes, or prior to the issuance of a certificate of use and occupancy for a different use of an existing industrial structure or building, the applicant shall complete and execute a form prescribed by the Director which shall, among other things, provide the necessary information upon which the required off-street parking may be determined; and the applicant shall therein acknowledge that such information is submitted for such determination; and in the event of a change in use or additional use is contemplated, such additional off-street parking as may be required by this chapter, if any, must be furnished prior to such use change or additional use.

(o) *Housing for low and/or moderate income for the elderly and/or handicapped.*

(1) For any apartment building exceeding four (4) units, fifty hundredths (0.50) parking space shall be provided for each dwelling unit in the apartment building.

(2) Provisions of Chapter 33 of the Code of Miami-Dade County concerned with the requirements for lot coverage and open space shall remain enforced under this section. The lot area not used as a result of the decrease in parking spaces as required under Section 33-124(a) shall remain as open space and shall be landscaped or used for recreational purposes. Said open space shall be in addition to the open space requirements of the Code. The site plan submitted to the Department shall illustrate future parking spaces if the present parking requirements are inadequate pursuant to subdivision (3) herein.

(3) If it is determined by the Department at the time of annual renewal of certificate of occupancy that the parking reduction of fifty hundredths (0.50) space per unit does not allow adequate parking for the apartment building, the owner must increase

2 vehicle is so parked, only one Category 1 vehicle may also be parked at such residence.

4. For residential properties of four (4) or more units, the parking allowances provided for herein shall be applied as to each unit.

5. Category 3 vehicles are prohibited.

(c) Parking of certain commercial vehicles is prohibited in residential zones as follows:

1. In areas zoned residential districts, it shall be unlawful for Category 1, 2, 3, vehicles as herein defined to be otherwise parked, whether on private property or on the public right of way, unless engaged in the loading or unloading of materials or persons or engaged in providing a commercial service. Examples of providing commercial services include, but are not limited to, presence at a construction site, delivery of goods, repair of household appliances and cleaning of household furniture.

(d) Violations of these provisions are punishable as follows:

1. Any violation of this section is punishable by a civil fine of five-hundred dollars ($500.00). Upon a repeat violation, in addition to civil penalties, such vehicle may be towed or immobilized until all outstanding violations and enforcement costs have been paid. After 35 days of storage or immobilization, such vehicle may be disposed of pursuant to the provisions contained in Section 713.585, Florida Statutes. Any enforcement officer is hereby authorized to secure the assistance of the Miami-Dade Police Department to effect enforcement of these provisions.

2. Whoever opposes, obstructs or resists an enforcement officer in the discharge of duties as provided in this section, upon conviction, shall be guilty of a misdemeanor of the second degree and shall be subject to punishment as provided by law.

(Ord. No. 99-16, § 2, 2-2-99)

Sec. 33-125. Parking area on application for building permit.

Applications for building or use permits shall indicate the area to be used for parking and permits shall be issued stating that such area shall be so reserved and developed. Recordable restrictions so reserving such area may be required at the discretion of the Director. Such area reserved for parking area will be marked on the zoning maps and no permits for additional use of such area shall be issued. Area reserved for parking in connection with any use shall be under the same ownership as that of the use itself.
(Ord. No. 57-19, § 5(BB)(2), 10-22-57)

Sec. 33-126. Surface of parking areas.

(1) In the AU, RU-1, RU-2 and RU-3 Districts the area reserved for off-street parking shall be either graveled, mulched or hard-surfaced. In all other zones it shall be hard-surfaced. Where the parking area is hard-surfaced, the same shall consist of a good rolled rock base, well tamped and topped with oil and sand or with asphalt or surfaced with concrete. Occupancy of a given structure or premises shall be prohibited until the required parking area has been improved, inspected and approved.

(2) In all other districts, all off-street parking areas shall be surfaced with a minimum of a rolled six-inch rock base and a one-inch durable weatherproof asphaltic pavement. The occupancy or use of a given structure or premises shall be prohibited until the required off-street parking area has been improved, inspected and approved.

(3) All required off-street parking areas shall be properly drained so that no nuisance will be caused to adjacent or nearby properties. All construction shall comply with design standards as established by all applicable laws, ordinances and regulations.

(4) All required off-street parking areas shall be maintained in good repair and shall be kept in a reasonably clean and sanitary condition free from rodents, insects and vermin.
(Ord. No. 57-19, § 5(BB)(4), 10-22-57; Ord. No. 94-161, § 1, 9-13-94; Ord. No. 97-11, § 2, 2-25-97)

APPENDIX 10.3

LAND USE DESCRIPTIONS

TURKEY POINT EXPANSION PROJECT

PROJECT COMPLIANCE WITH THE MIAMI-DADE FUTURE LAND USE PLAN

Introduction

The site for the proposed Turkey Point Expansion Project (Project) is located in unincorporated Miami-Dade County. The Comprehensive Development Master Plan (CDMP) as amended through April 12, 2001 currently governs land development located in unincorporated portions of Miami-Dade County. Subsequent actions by the Board of County Commissioners (BOCC) supplement the CDMP and a Summary of Final Actions by the BOCC was adopted by Ordinance 03-87 on April 10, 2003. The CDMP contains a Land Use Element and map entitled Adopted 2005 - 2015 Comprehensive Development Master Plan. The Plan map identifies Future Land Use categories for unincorporated and incorporated portions of Miami-Dade County.

Current Land Use Plan Categories at FPL Turkey Point

The existing electrical power generation facilities at Turkey Point are located in the Institutional and Public Facility (IPF) land use category. The cooling canals are located in the Environmental Protection (EP) land use category with a perimeter designation of IPF. The Project Area is classified as EP and IPF.

The IPF future land use category was established to identify the location of major institutional uses and utilities of metropolitan significance. The IPF land use category allows neighborhood or community-serving institutional uses, and utilities where compatible in all urban land use categories. Major utility facilities should generally be guided away from residential areas. The County considers the type of function involved, the public need, existing land use patterns, alternative locations for the facility, and the project's consistency with the goals, objectives and policies of the CDMP when determining whether to approve neighborhood or community-serving institutional uses. Electrical power generating facilities represent a utility of metropolitan significance since they serve the metropolitan area of Miami-Dade County.

The EP future land use category applies to those areas in the County that environmentally significant, susceptible to environmental degradation and where such degradation would adversely affect the supply of potable water or environmental systems of importance. According to the CDMP, uses permitted in the EP category must be compatible with the area's environment and shall not adversely affect the long-term viability, form or function of the ecosystems. Compatible use of private ownership land in the EP category will be permitted by Dade County as long as the development is consistent with the goals, objectives and policies of the Plan.

Uses considered for approval in the EP category are described for six EP subareas:

A- National Parks and Preserves; and State Water Conservation Areas
B- Everglades National Park Expansion Area
C- Dade-Broward Levee Basin
D- C-111 Wetlands
E- Southeast Wetlands, and
F- Coastal Wetlands and Hammocks

The Project site as well as the cooling canal system is located in Subarea F. Necessary electrical generation and transmission facilities are expressly permitted in Subarea F as long as the facilities

are sited and developed in a manner that is consistent with the goals, objectives and policies of the Plan and conformance with prevailing environmental regulations is demonstrated.

Appropriateness of the Current Land Use Plan Category for the Project

The fact that the existing Turkey Point electrical power generation facilities are located in the IPF land use category does not preclude the ability to allow future power plant development in the EP land use category. The definition of IPF indicates that the category was established to recognize existing major institutional uses and utilities of major significance. The fact that the EP land use category identifies electrical generation and transmission facilities as a permittable use in Subarea F demonstrates that the Project would be allowed at the proposed location.

Site and project attributes that support the development of the Project at the proposed site include the existing electrical power generation and transmission facilities that are located adjacent to the site, the distance between the site and areas classified for residential use (between five and six miles from the project site), and the lack of alternative locations for electrical power generation in Dade County. The proposed project is consistent with the goal, objectives and policies of the Future Land Use Element, as well as the other elements of the CDMP. The Project will be designed, constructed and operated in a manner that is consistent with the goals, objectives and policies of the other adopted components of the CDMP and conform to prevailing environmental regulations.

All existing lawful uses and zoning are deemed to be consistent with the CDMP as provided in the section of the Future Land Use Element titled "Concepts and Limitations of the Future Land Use Plan Map" (see pg. I-58 of the Future Land Use Element). The existing Turkey Point power plant which is located in the IPF and EP land use categories is therefore deemed consistent with the CDMP. The existing IU-3 and GU zoning districts that apply to the Turkey Point power plant and site would be consistent with the CDMP as well.

The CDMP Future Land Use Element also recognizes that there are numerous instances where existing uses and parcels zoned for a particular use are not specifically depicted on the Future Land Use map. This circumstance exists at Turkey Point. Each of the land use categories utilized on the Land Use Plan map also provides for the inclusion of some other uses under certain conditions. The specific reference to electrical generation and transmission facilities in the EP Subarea F category is an example of including other uses in a broad land use category.

ADOPTED COMPONENTS

COMPREHENSIVE DEVELOPMENT MASTER PLAN

MIAMI-DADE COUNTY, FLORIDA

As Amended through April 2001

MIAMI-DADE

ADOPTED COMPONENTS
COMPREHENSIVE DEVELOPMENT
MASTER PLAN

For
Miami-Dade County, Florida

Printed October 2000

May 1997 Edition
As amended through April 12, 2001

This volume incorporates all amendments made to the CDMP through the
May 1996-97 Amendment Cycle
May 1997-98 Amendment Cycle
October 1997-98 Amendment Cycle
April 1998-99 Amendment Cycle
Compliance Amendments, April 1999
Intergovernmental Coordination and Location of Public Schools Amendments, November 1999
April 1999-00 Amendment Cycle
October 1999-00 Amendment Cycle
Kendall Town Center DRI Amendments, February 22, 2001
April 2000-01 Amendment Cycle

Miami-Dade County
Department of Planning and Zoning
1110 Stephen P. Clark Center
111 NW First Street
Miami, Florida 33128-1972
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Revised April 2001

Recreational Lands (CARL) program are identified in this category on the LUP map although they may be as small as ten acres in size. Many of these areas are designated on the LUP map as "Environmentally Protected Parks" however, some environmentally sensitive areas may be designated simply as Parks and Recreation due to graphic constraints. All portions of park land designated Environmentally Protected Parks or other parkland which is characterized by valuable environmental resources shall be managed in a manner consistent with the goals, objectives and policies for development of the applicable environmental resources or protection area. Accordingly, resource enhancing facilities including boardwalks, nature trails, canoe trails and launches and interpretive facilities may be provided in these areas.

Institutional and Public Facility

The Plan map illustrates, for information purposes, only the location of major institutional uses and utilities of metropolitan significance. Depicted are such uses as major hospitals, medical complexes, colleges, universities, regional water-supply, wastewater and solid waste utility facilities such as the resources recovery plant, major government office centers and military installations. Offices are also allowed in this map category. Internally integrated business areas smaller than 5 acres in size or up to 10 percent of the total floor area of an institutional, public facility or office use may also be approved in this map category. If the owner of land designated as Institutional and Public Facilities chooses to develop the land for a different use and no public agency intends to use the site for a public facility, the land may be developed for a use or a density comparable to and compatible with surrounding development providing that such development is consistent with the goals, objectives and policies of the CDMP.

The Homestead Regional Airport (Formerly Homestead Air Force Base) is also included in this category on the Land Use Plan map. All of the former Base is included in this category and the former residential and golf course areas of the Base are identified with the respective residential and recreational designations, as well as the institutional designation. The range of uses that may occur on the Base as it is redeveloped shall emphasize civilian and military aviation and related uses including airfield areas for aircraft operations and parking, passenger, cargo and general aviation terminals, hangars and other aircraft storage and maintenance activities, and supporting uses related to transportation activities including truck terminals, warehousing and other commercial and industrial uses, offices, parks and recreation uses, educational and other institutional uses. All future uses on the former Base will be consistent with the Record of Decision issued by the Secretary of the Air Force as it pertains to County use of the Base property. Any other non-transportation-related uses must be authorized in the Record of Decision issued by the Secretary of the Air Force and shall be located in northern portions of the site.

Neighborhood- or community-serving institutional uses and utilities including schools and fire and rescue facilities in particular, and cemeteries may be approved where compatible in all urban land use categories, in keeping with any conditions specified in the applicable category, and where provided in certain Open Land subareas. Major utility facilities should

generally be guided away from residential areas, however. When considering such approvals, the County shall consider such factors as the type of function involved, the public need, existing land use patterns in the area and alternative locations for the facility. All approvals must be consistent with the goals, objectives and policies of the Comprehensive Development Master Plan.

Transportation

The LUP map includes a summarized portrayal of the major components of Dade County's existing and future transportation network. Included are roadways, rapid transit corridors, railways and major switching yards, and such major terminals as the County airports and the Metro-Dade Seaport. This information is included on the LUP map to provide orientation and locational references, and to relate future development patterns to the future transportation network. The Transportation and Capital Improvements Elements of the CDMP provide additional details about these facilities, including their intended sizes, functions, uses, and designs and, with the exception of local streets, schedules of improvements. As provided in the policies of the Transportation Element, transportation facilities such as terminals and transit stations shall contain the transportation uses and may contain other uses as provided in the applicable Transportation Subelement.

The Port of Miami and downtown Miami maritime park areas are also included in this category. Because the CDMP does not generally preempt municipal plans and because the City of Miami comprehensive plan allows a broad range of land uses and facilities in addition to transportation facilities, it is the intent of the CDMP that all actions of the County with regard to development in the downtown Miami maritime park area are deemed to be consistent with the CDMP if consistent with the adopted comprehensive plan of the City of Miami. Further, notwithstanding the City's comprehensive plan, it is the intention of the CDMP that Port developments on Dodge and Lummus Islands and on the mainland may include other uses including, but not limited to, commercial, recreational and cultural uses accessible to Port users, County visitors and residents.

The summarized roadway classification used on the LUP map distinguishes between Limited Access facilities, Major Roadways (3 or more lane arterials and collectors) and Minor Roadways (2 lane arterials and collectors). Also shown are existing and proposed Rapid Transit corridors. The term rapid transit, as used herein, includes any public heavy rail or light rail, or busses operating on exclusive bus lanes. The transportation network depicted is a year 2015 network that will develop incrementally as funding becomes available. In addition, rapid transit corridors may be provided with an interim type of service such as express bus service during much of the planning period while more permanent facilities are being planned, designed and constructed. The roadway and transit alignments shown in the CDMP are general indications of the facility location. Specific alignments may be modified through detailed transportation planning, DRI review and approval processes, subdivision platting, highway design and engineering or other detailed planning or engineering processes. Moreover, most station locations along future rapid transit lines are

approval in this subarea include rural residences at a maximum density of 1 dwelling unit per 5 acres, compatible institutional uses, public facilities, utility and communications facilities, seasonal agricultural use, recreational use, or limestone quarrying and ancillary uses. Uses that could compromise groundwater quality shall not occur in this area. Any land alteration and development in the Bird Drive or North Trail basins shall conform to the wetland basin plans adopted for those basins pursuant to policies of the CDMP.

Open Land Subarea 4 (East Everglades Residential Areas). This subarea is bounded on the north, west and southwest by Environmental Protection Subarea B, on the east by Levee 31N, and on the south by SW 168 Street. Uses which may be considered for approval in this area are seasonal agriculture and rural residences at a density of 1 dwelling unit per 40 acres, or 1 dwelling unit per 20 acres if ancillary to an established agricultural operation, or 1 dwelling unit per 5 acres, after such time as drainage facilities become available to protect this area from a one-in-ten-year flood event in keeping with the adopted East Everglades zoning overlay regulation (Section 33B, Code of Metro-Dade County) and compatible and necessary utility facilities. Uses that could compromise groundwater quality shall not occur in this area.

Open Land Subarea 5 (South Dade). This Open Land subarea lies south and east of Homestead and Florida City. It is bounded on the north and west by the Agriculture area, and on the south and east by Environmental Protection areas. Future uses which may be considered for approval in this area include seasonal agriculture, limestone quarrying and ancillary uses, compatible institutional uses, public facilities, utility facilities, and communications facilities, recreational uses and rural residences at a maximum density of 1 dwelling unit per 5 acres. Uses that could compromise groundwater quality shall not occur within three miles of Biscayne Bay.

Environmental Protection

The Environmental Protection designation applies to those areas in the County most environmentally significant, most susceptible to environmental degradation and where such degradation would adversely affect the supply of potable fresh water or environmental systems of County, regional, State or national importance. These lands are characteristically high-quality marshes, swamps and wet prairies, and are not suited for urban or agricultural development. However, some high-quality uplands such as tropical hammocks and pinelands on the State Conservation And Recreation Lands (CARL) and Dade County Environmentally Endangered Lands (EEL) acquisition lists are also included. Most of the CARL projects are designated on the future Land Use Plan (LUP) Map, but some are not because of their small size. EEL projects that are acquired and are large enough to be depicted at the Plan Map scale are also designated on the Future Land Use Plan Map. It is the policy of this Plan that all land areas identified on the State CARL, Dade County EEL, and South Florida Water Management Save Our Rivers (SOR) acquisition lists shall have equally high priority for public acquisition as those land areas designated Environmental Protection on the Future LUP Map. Uses permitted within this area must be compatible with the area's environment and shall not adversely affect the long-term viability, form or

function of these ecosystems. Residential development in this area shall be limited to a maximum density of one unit per five acres, and in some parts of this area lower densities are required to protect the fresh water supply and the integrity of the ecosystems. Public and private wetland mitigation banks and restoration programs may also be approved in Environmental Protection areas where beneficial to county ecological systems.

Because of the importance of maintaining the natural form and function of these areas, many of these areas have been slated for purchase by State or federal agencies. Dade County will encourage the acquisition of these areas by public or private institutions that will manage these areas toward this objective. However, so long as these lands remain in private ownership, some compatible use of this land will be permitted by Dade County consistent with the goals, objectives and policies of this Plan. All proposed uses will be reviewed on a case-by-case basis for compliance with environmental regulations and consistency with this Plan. The following provides an indication of the uses and residential densities that may be considered for approval subject to conformity with the pertinent goals, objectives and policies of this Plan. The precise boundary of the entire Environmental Protection area is depicted on the LUP map. The map titled "Environmental Protection Subareas" (Figure 5) and the following text indicate the boundaries between subareas of the Environmental Protection Area.

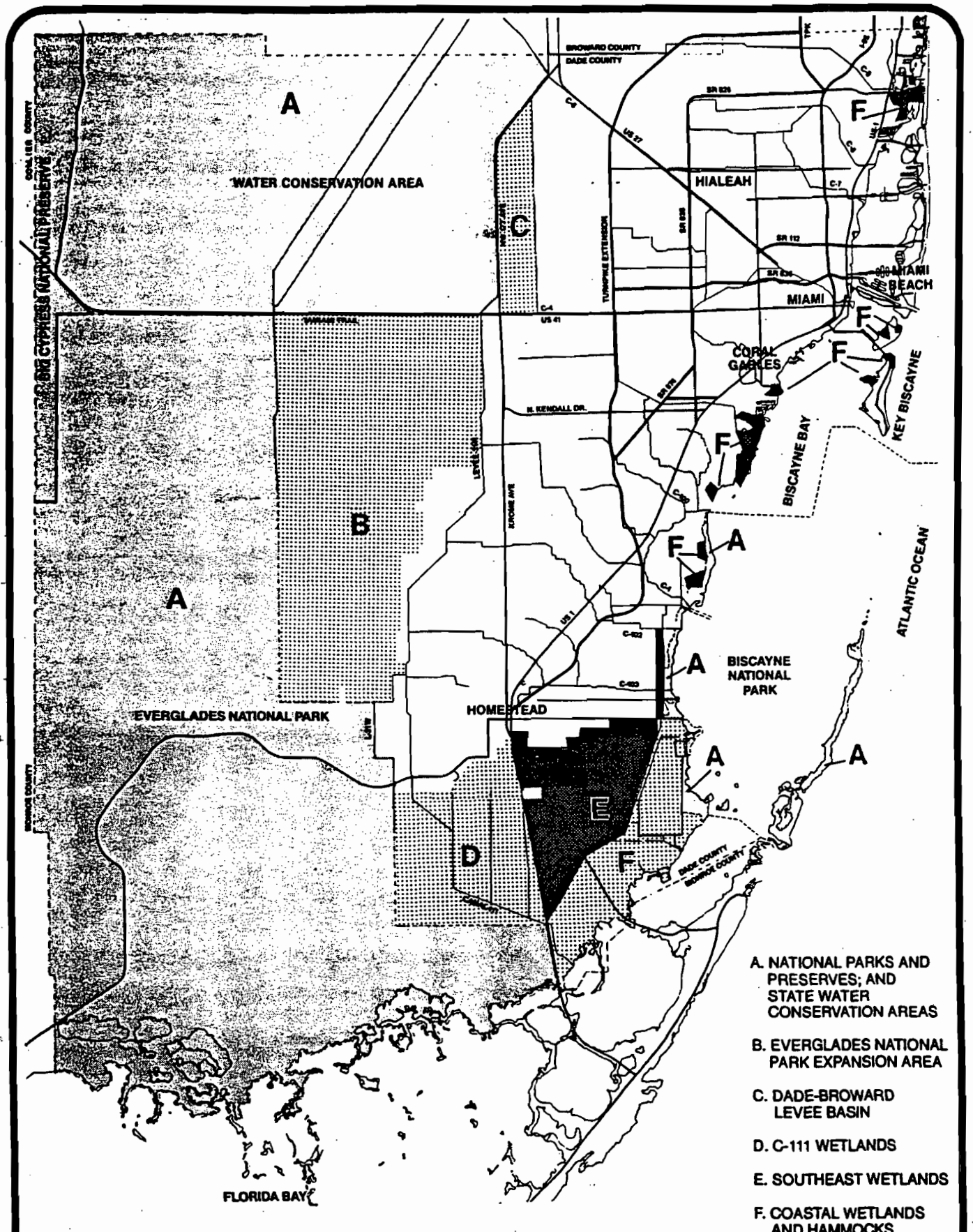

Figure 5
ENVIRONMENTAL PROTECTION SUBAREAS

DEPARTMENT OF PLANNING, DEVELOPMENT AND REGULATION

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in accordance with provisions of the referenced East Everglades program. Rural residences at a maximum density of up to one dwelling unit per five acres may be considered for approval on those parcels not governed by the East Everglades regulation. Approval of any use and its access should be conditioned on its demonstrated consistency with the adopted goals, objectives and policies of the CDMP, and conformity with all prevailing environmental regulations. Existing uses may continue until acquired, but no improvements or expansions involving further filling or drainage of wetlands should be permitted.

Environmental Protection Subarea E (Southeast Wetlands). This Environmental Protection subarea is bounded on the west by US Highway 1 on the north by Open Land Subarea 6, on the east by Levee 31E and on the south by a hypothetical line extending between the point at which Card Sound Road meets Levee 31E, and the intersection of US Highway 1 and Canal-111. The area is low lying, poorly drained, flood prone, and is characterized predominantly by high-quality wetland communities. Accordingly, any land use or site alteration proposal will be carefully evaluated on a case-by-case basis by federal, State, regional, and County agencies.

Because of the importance of maintaining the biotic and hydrologic functions provided by this area, the southeast wetlands should be studied to determine whether public acquisition would be mutually beneficial to public and private interests in the area. Uses which could be considered for approval include low-coverage rural residential use at a maximum density of one dwelling unit per five acres or low-coverage communications, utility or recreation facilities. Approval of any use and its access roads or easements should be conditioned on its demonstrated consistency with the adopted goals, objectives and policies of this plan, and conformity with all prevailing environmental regulations.

Environmental Protection Subarea F (Coastal Wetlands and Hammocks). This subarea includes all coastal wetlands designated as Environmental Protection Area on the LUP map which are not with in the authorized boundaries of Biscayne or Everglades National Parks. These areas are low-lying, flood prone and characterized predominantly by coastal wetland communities. Accordingly, all land use or site alteration proposals will be carefully evaluated on a case-by-case basis by federal, State, regional, and County agencies.

Because of the importance of maintaining biologic and hydrologic functions provided by these areas, the coastal wetlands should be managed toward these ends and acquired whenever possible. However, until these lands are acquired for natural resource management uses which could be considered for approval include low-coverage residential use at a density not to exceed one dwelling unit per five acres, water-dependant uses, or necessary compatible public, water related facilities consistent with the Conservation and Coastal Management Elements of this Plan. In addition, necessary electrical generation and transmission facilities are also permitted in this area. The approval of any new use, and the replacement or expansion of any existing use will be conditioned upon its demonstrated consistency with the adopted goals, objectives and policies of this plan, and conformity with all prevailing environmental regulations.

Concepts and Limitations of the Land Use Plan Map

The Land Use Plan map of the Comprehensive Development Master Plan provides the general land use framework indicating how, where and the extent to which land may be used between now and the year 2005. It also indicates locations where urban expansion is projected to be warranted between the years 2005 and 2015.

The LUP map is based on many considerations including existing development patterns, zoning, provision of public services and infrastructure, characteristics of both the man-made and natural environment, suitability of areas for developments, growth projections, programmed infrastructure and service improvements, as well as the goals, objectives and policies of the Plan Elements.

Concepts. Among the long-standing concepts embodied in Dade County's CDMP are the following:

1. Control the extent and phasing of urban development in order to coordinate development with the programmed provision of public services.
2. Preserve and conserve land with valuable environmental characteristics, recreation uses or scenic appeal.
3. Encourage development in areas most suitable due to soil conditions, water table level, vegetation type and degree of flood hazard. Restrict development in particularly sensitive and unique natural areas.
4. Maximize public ownership of beaches and shorelands within the Coastal Area to insure their preservation, conservation or public use.
5. Minimize consumption of energy for transportation purposes and the amount of air pollution from transportation sources by encouraging a more compact urban form.
6. Shape the pattern of urban development to maximize the efficiency of existing public facilities and support the introduction of new public facilities or services such as improved mass transit systems.
7. Preserve sound and stable residential neighborhoods.
8. Rejuvenate decayed areas by promoting redevelopment, rehabilitation, infilling and the development of activity centers containing a mixture of land uses.
9. Promote development of concentrated activity centers of different sizes and character to provide economies of scale and efficiencies of transportation and other services for both the public and private sectors.
10. Redirect higher density development towards activity centers or areas of high countywide accessibility.
11. Allocate suitable and sufficient sites for industrial and business districts to accommodate future employment needs.
12. Prohibit new residential development and other noise sensitive activities from locations near airport noise impact zones.
13. Avoid excessive scattering of industrial or commercial employment locations.
14. Encourage agriculture as a viable economic use of suitable lands.

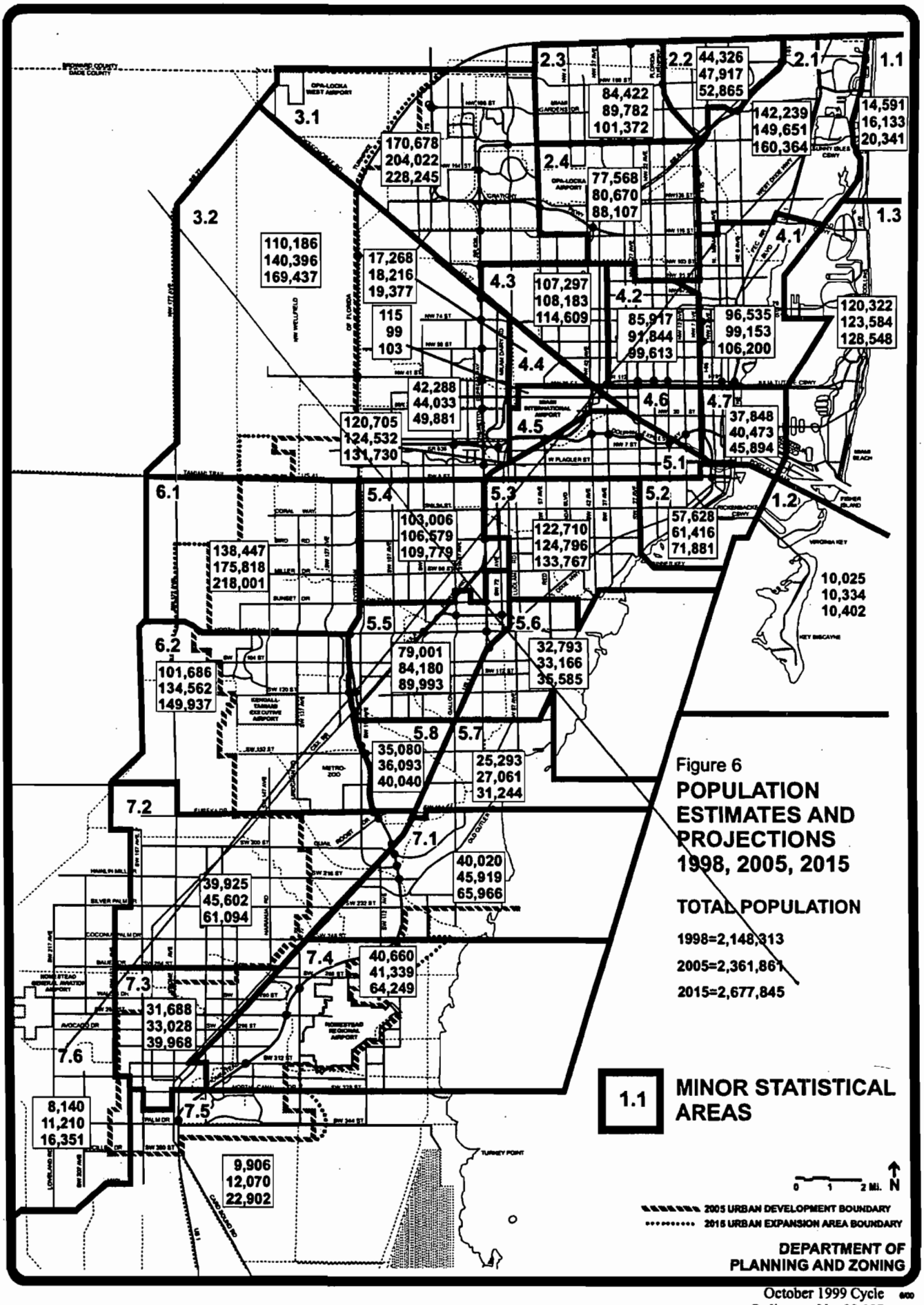
Population Distribution. The concepts above have been considered not only as a basis for delineating areawide patterns of development, but also to develop a time-phased distribution of population within Dade County. Accordingly, the projected distribution of population for the years 2005 and 2015 (Figure 6) reflects the following factors:

- existing conditions (land uses; densities; compatibilities and conflicts in land uses; distribution of vacant land suitable or desirable for residential, commercial, or industrial development; and existing zoning);
- emerging demographic and economic trends (housing markets, household sizes, limited redevelopment potential, property values and mobility patterns);
- planning studies (municipal master plans, area studies and other special studies such as rapid transit station area plans); and
- existing, programmed and planned public improvements (roads, sewers, water, fire protection, parks and schools).

The subarea populations shown on the Population Estimates and Projections map are those for which Metro-Dade County will strive to provide urban services. These numbers will be used by public agencies to plan for the range of public facilities and services including roads, parks, schools and sewers. The numbers reflect a middle course of action between planning for the minimum projected growth and planning for the maximum population projection.

Coordinated-Managed Growth. The Land Use Plan map, the Population Estimates and Projections map and this interpretive text all help translate the goals, objectives and policies of the Comprehensive Development Master Plan into a more specific course of action. They are intended to be used in directing public and private developmental activities. Actions that must be consistent with these maps and related text include functional service plans and amendments, capital improvement programs, public facilities site approvals, subdivision plat and zoning actions, and federal grant application reviews. Before any decision is made in connection with any of these or other developmental processes, a determination will be made as to the consistency of the proposed developmental action with the goals, objectives and policies of the CDMP, including the Land Use Plan map, the Estimated Population Distribution map, and this text. Proposed developmental actions and orders should be evaluated to determine the extent to which they are consistent with these Plan components which embody the essence of the County's development policy. Vested rights and legal non-conformity shall be given consideration in all determinations of developmental action or order approval. Developmental actions or orders that preceded the official adoption of this Plan shall not be deemed inconsistent with the Plan until so determined through one of the several developmental decision processes.

Critical in achieving the desired pattern of development is the adherence to the 2005 Urban Development Boundary (UDB) and 2015 Urban Expansion Area (UEA) Boundary. Given the fundamental influences of infrastructure and service availability on land markets



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Ordinance No. 00-137
October 19, 2000

and development activities, the CDMP has since its inception provided that the UDB serve as an envelope within which public expenditures for urban infrastructure will be confined. In this regard the UDB serves as an urban services boundary in addition to a land use boundary. Consistency with the CDMP will ensure that the actions of one single-purpose agency does not foster development that could cause other agencies to subsequently respond in kind and provide facilities in unanticipated locations. Such uncoordinated single-purpose decision making can be fiscally damaging to government and can undermine other comprehensive plan objectives.

Plan Amendments. It is recognized that the development capacity of the area within the UDB and UEA will vary with time. Part of the supply will be utilized and additional supply will be added from time-to-time through the approval of Plan amendments. Some land will be built upon at densities which are higher than permitted by existing zoning because rezonings will occur in the future, and some development will occur at densities lower than that permitted by zoning. Moreover, impediments can arise to the maximum utilization of all lands within the boundaries. In some urbanized areas, it may be difficult to acquire sufficiently large parcels of land. In other areas, neighborhood opposition to proposed developments could alter the assumed density or character of a particular area. Because the development capacity of the LUP map fluctuates with time, it will be reevaluated on a periodic basis as part of the Plan review and amendment process.

Limitations. The Comprehensive Plan, as used in large metropolitan areas, establishes broad parameters within which the various levels of government can conduct detailed land use planning and zoning activities, and functional planning and programming of urban infrastructure and services. It also serves the full range of other governmental planning and programming activities which required information about the location and extent of future population growth and land use. Among the primary purposes for adopting the long-range Land Use Plan map are to establish continuity and certainty as bases for individual, small-scale land use decisions in both the public and private sectors, and to enable coordinated, timely, cost-effective expansion, maintenance and utilization of the full range of urban facilities and services.The existence of an adopted comprehensive plan does not obviate the need to conduct detailed examinations of localized land use and service conditions. Nor does the Comprehensive Plan substitute for detailed functional plans for infrastructure such as roadways, water and sewer facilities.

Given the range and scope of the comprehensive plan elements as now required in Florida, the extent and complexity of development patterns in Dade County, the long-range time horizons of the plan and the legal status of the comprehensive plan, it is critical to maintain viable programs to augment the CDMP. The Land Use Plan map of the CDMP is a framework indicating the large-scale pattern of future land use in the metropolitan area. The land use pattern indicated on the Plan map is very detailed from a countywide perspective. However, the map does not specifically depict each and every individual occurrence of land use and zoning throughout the hundreds of neighborhoods which comprise Dade County; each of the land use categories indicated on the LUP map contains dominant uses, ancillary uses and secondary uses.

The land use categories used on the LUP map are necessarily broad, and there are numerous instances where existing uses and parcels zoned for a particular use, are not specifically depicted on the Land Use Plan map. This is due largely to graphic limitations. Dade County encompasses over 1,413,629 acres (2,208 square miles) of land and water and in 1990 almost 316,000 acres (494 square miles) were developed for urban or agricultural uses. In addition, the mixing of uses in individual buildings, projects and neighborhoods is common in many parts of the urban area, and is becoming a more widely accepted land use practice when compatible uses are properly integrated through the use of sound land use, planning and design principles. Accordingly, a countywide land use plan map for an area the size of Dade County cannot readily depict specific land use, let alone parcel-specific density or intensity of use, without broadly defining the land use categories and areas. Generally, the smallest area distinguished on the LUP map is 5 acres (smaller existing use-areas are not specifically shown). Each of the land use categories utilized on the LUP map also provides for the inclusion of some other uses under certain conditions.

Other Land Uses Not Addressed. Certain uses are not authorized under any LUP map category, including many of the uses listed as "unusual uses" in the zoning code. Uses not authorized in any LUP map category may be requested and approved in any LUP category that authorizes uses substantially similar to the requested use. Such approval may be granted only if the requested use is consistent with the objectives and policies of this Plan, and provided that the use would be compatible and would not have an unfavorable effect on the surrounding area: by causing an undue burden on transportation facilities including roadways and mass transit or other utilities and services including water, sewer, drainage, fire, rescue, police and schools; by providing inadequate off-street parking, service or loading areas; by maintaining operating hours, outdoor lighting or signage out of character with the neighborhood; by creating traffic, noise, odor, dust or glare out of character with the neighborhood; by posing a threat to the natural environment including air, water and living resources; or where the character of the buildings, including height, bulk, scale, floor area ratio or design would detrimentally impact the surrounding area. However, this provision does not authorize such uses in Environmental Protection Areas designated in this Element.

Uses and Zoning Not Specifically Depicted on the LUP Map. Within each map category numerous land uses, zoning classifications and housing types may occur. Many existing uses and zoning classifications are not specifically depicted on the Plan map. This is due largely to the scale and appropriate specificity of the countywide LUP map, graphic limitations, and provisions for a variety of uses to occur in each LUP map category. In general, 5 acres is the smallest site depicted on the LUP map, and smaller existing sites are not shown. All existing lawful uses and zoning are deemed to be consistent with this Plan unless such a use or zoning (a) is found through a subsequent planning study, as provided in Land Use Policy 4E, to be inconsistent with the criteria set forth below; and (b) the implementation of such a finding will not result in a temporary or permanent taking or in the abrogation of vested rights as determined by the Code of Metropolitan Dade County, Florida. The criteria for determining that an existing use or zoning is inconsistent with the plan are as follows: 1) Such use or zoning does not conform with the conditions, criteria

or standards for approval of such a use or zoning in the applicable LUP map category; and 2) The use or zoning is or would be incompatible or has, or would have, an unfavorable effect on the surrounding area: by causing an undue burden on transportation facilities including roadways and mass transit or other utilities and services including water, sewer, drainage, fire, rescue, police and schools; by providing inadequate off-street parking, service or loading areas; by maintaining operating hours, outdoor lighting or signage out of character with the neighborhood; by creating traffic, noise, odor, dust or glare out of character with the neighborhood; by posing a threat to the natural environment including air, water and living resources; or where the character of the buildings, including height, bulk, scale, floor area ratio or design would detrimentally impact the surrounding area. Also deemed to be consistent with this Plan are uses and zoning which have been approved by a final judicial decree which has declared this Plan to be invalid or unconstitutional as applied to a specific piece of property. The presence of an existing use or zoning will not prevent the County from initiating action to change zoning in furtherance of the Plan map, objectives or policies where the foregoing criteria are met. The limitations outlined in this paragraph pertain to existing zoning and uses. All approval of new land uses must be consistent with the LUP map and the specific land use provisions of the various LUP map categories, and the objectives and policies of this Plan. However, changes may be approved to lawful uses and zoning not depicted which would make the use or zoning substantially more consistent with the Plan, and in particular the Land Use Element, than the existing use or zoning.

Wellfield Areas. Dade County's sole source of drinking water is the Biscayne Aquifer which is discussed in the Conservation Element of the Plan. Many characteristics of the Aquifer make it highly vulnerable to contamination from activities on the land surface. Land uses and activities near and upgradient from wellfields directly impact the quality of water ultimately withdrawn from the wells.

Numerous public water supply wellfields exist throughout Dade County, and new ones will be constructed in the future. Only the largest existing wellfields are depicted on the Land Use Plan map. However, the County restricts land use within portions of cones of influence of all public water supply wellfields to minimize the threat of water pollution. Moreover, newly constructed and future regional wellfields warrant greater and more extensive protection for two reasons. First, the opportunity still exists to maintain pristine water quality around the new and future wellfields because the land within the full extent of their cones of influence is largely undeveloped. Secondly, if these become contaminated there are no alternative sites for the construction of comparable high-capacity wellfields.

In order that the new and future regional water supply wellfields constructed in predominantly undeveloped areas will remain free from contamination, land use and development within and upgradient from the full extent of their cones of influence must be carefully controlled to limit land uses to those which will pose no threat to water quality. County regulations governing land use and development within the full extent of the cones of influence are necessary to provide desirable levels of protection to new and future wellfields. Future wellfields and their protection areas are identified on Figure 8 in the following

section of this Element. The protection area boundaries identified in this Plan will be periodically reviewed and revised, when appropriate, to maintain consistency with the wellfield protection area boundaries established pursuant to Chapter 24 of the Dade County Code. The County's wellfield protection regulations and protection area boundary maps must be consulted when applying or interpreting the Land Use Plan map as it relates to wellfield protection areas.

Wetland Areas. As discussed throughout the CDMP, extensive areas of Dade County are wetlands whose development is regulated pursuant to federal, State, and County environmental laws. Most of these areas are intentionally left outside the planned Urban Development Boundary (UDB). However, there are some exceptions. Whether or not included inside the UDB, all wetlands shall continue to be governed by applicable environmental laws. Moreover, where wetland basin plans were adopted pursuant to policies of the CDMP, all development shall conform with provisions of the adopted basin plan applicable to the area, as well as other applicable laws and regulations.

Ultimate Development Area. The 2005 and 2015 Land Use Plan map identified the areas that will be urbanized within those time frames. As indicated throughout this Plan, these are the areas of the County where financial resources should be directed for the maintenance and construction of urban infrastructure and services. Growth of Dade County, however, is not projected to cease after the year 2015. Therefore, prudent long-term planning for infrastructure may need to anticipate locations for possible future extension. For example, it may be desirable to reserve rights-of-way in certain growth corridors as well as on section, half-section, and quarter-section lines, well in advance of need so that opportunities to eventually provide necessary roadways are not irrevocably lost.

It is difficult to specify where and how much of Dade County's total area may ultimately be converted to urban development. This is due to uncertainty regarding long-term rates of population and economic growth; housing and community preferences; availability and price of energy, water, agricultural and mineral resources; and State, federal and international influences. It is reasonably safe to assume, however, that the areas least suitable for urban development today will remain least suitable in the future. These areas include the remaining high-quality coastal and Everglades wetland areas in the County, and the Northwest Wellfield protection area. The areas more appropriate for, and more likely to experience sustained urban pressure are the heavily impacted, partially drained wetlands in the Biscayne-Snake Creek and Bird-Trail Canal Basins, the agricultural areas of southwestern and southeast Dade, and the impacted wetlands south of Homestead and Florida City. When the need for additional urban expansion is demonstrated after the year 2015, such expansion should be carefully managed to minimize the loss of agricultural land and to maximize the economic life of that valuable industry. Accordingly, urban expansion after the year 2015 in the South Dade area should be managed to progress westerly from the Metrozoo area to Krome Avenue north of Eureka Drive, and on the west side of the US-1 corridor southerly to Homestead only when the clear need is demonstrated.