APPENDIX 10.4

ENVIRONMENTAL RESOURCES PERMIT

APPLICATION FOR A SECTION 404 FEDERAL DREDGE AND FILL PERMIT AND INFORMATIONAL DATA SUPPLEMENTING THE SITE CERTIFICATION APPLICATION FPL TURKEY POINT UNITS 6 & 7 PROJECT

MIAMI-DADE COUNTY, FLORIDA

Submitted to:

Department of the Army
Jacksonville District Corps of Engineers
Miami Permitting Section
9900 Southwest 107th Avenue
Suite 203
Miami, Florida 33176-2785

Submitted by:

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

Prepared by:

Golder Associates Inc.
6026 NW 1st Place
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June 2009

0838-7584

SECTION 1

APPLICATION FORM

FORM#: 62-343.900(1)
FORM TITLE: JOINT ENVIRONMENTAL
RESOURCE PERMIT APPLICATION
DATE: October 3, 1995

JOINT APPLICATION FOR ENVIRONMENTAL RESOURCE PERMIT/

AUTHORIZATION TO USE SOVEREIGN SUBMERGED LANDS/

FEDERAL DREDGE AND FILL PERMIT

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION/
WATER MANAGEMENT DISTRICTS/
U.S. ARMY CORPS OF ENGINEERS

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 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 various regulated activities and the 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") regulates some types of activities, and the Water Management Districts ("WMDs") regulate others. Attachment 1, DEP/WMD Permitting Responsibilities, specifies which activities are regulated by each agency. Environmental Resource Permit Applications shall be made to the appropriate District/Department office serving the area in which the activity is proposed. Attachment 4 designates the appropriate agency office 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 U.S. ARMY CORPS OF ENGINEERS

When activities are proposed in, on or over wetlands or other surface waters, a portion of the application (Section A and Section C, with the associated drawings) will be forwarded to the Army Corps of Engineers (ACOE) by the reviewing agency. The ACOE will advise you of any additional information that may be required to complete your federal dredge and fill permit application. 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 ACOE. However, it is useful and may be essential for subsequent evaluation. Reducing unnecessary paperwork and delays is a continuing goal of the ACOE.

DISTRIBUTION TO THE DEP FOR STATE LAND APPROVAL

If the applicant checks the box to request authorization to use sovereign submerged lands, the Department will begin processing the request for sovereign submerged lands approval. Additionally, if at any time during the processing of the application, it appears that the proposed activities may take place on sovereign submerged lands, the Department will initiate a review for the authorization to use such lands. For an explanation of sovereign submerged lands approval see Attachment 5.

NOTE: The information listed in Sections B, D, E, and F of this application package is not intended to be all-inclusive. Additional information may be requested by the reviewing agency in order to complete your application.

TABLE OF CONTENTS
FOR ERP APPLICATION FORM PACKAGE

HEADING:	SUBJECT:
Section A	Basic application form
Section B	Information for noticed general environmental resource permits
Section C	Notice of receipt of application
Section D	Information required for standard general and individual environmental resource permit applications related to a single family dwelling unit
Section E	Information requested for standard general, individual and conceptual environmental resource permit applications not related to a single family dwelling unit
Table 1	Project impact summary
Table 2	On-site mitigation summary
Table 3	Off-site mitigation summary
Table 4	Docking facility summary
Table 5	Shoreline stabilization summary
Section F	Information for mitigation banks
Section G	Application for authorization to use sovereign submerged lands
Attachment 1	DEP and WMD permitting responsibilities
Attachment 2	Summary of activities typically authorized by each permit type
Attachment 3	Permit application processing fees
Attachment 4	Mailing instructions for submitting ERP applications to DEP, with map showing the DEP district boundaries and addresses
Attachment 5	Proprietary verses regulatory authorization

"What Sections of the Application Must I Fill Out?"

Section:	Noticed General Permits	Individual Permits		
		Single-Family Residences	Others	Mitigation Banks
Section A	Yes	Yes	Yes	Yes
Section B	Yes			
Section C		Yes	Yes	Yes
Section D		Yes		
Section E			Yes	
Section F				Yes
Section G	As Needed	As Needed	As Needed	As Needed

SECTION A

FOR AGENCY USE ONLY	
ACOE Application #	DEP/WMD Application #
Date Application Received	Date Application Received
Proposed Project Lat.	Fee Received $
Proposed Project Long.	Fee Receipt #

PART 1:

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

PART 2:

A. Type of Environmental Resource Permit Requested (check at least one). See Attachment 2 for thresholds and descriptions.

- ☐ 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 Standard General projects) - include information requested in Sections C and E.
- ☐ Individual (Single Family Dwelling) - include information requested in Sections C and D.
- ☒ Individual (all other Individual 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 Sections 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 Sections C and F.

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

- ☒ Construction or operation of a new system, other than a solid waste facility, including dredging or filling in, on or over wetlands and other surface waters.
- ☐ Construction, expansion or modification of a solid waste facility.
- ☐ 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
  - ☐ Abandonment of a system
  - ☐ Removal of a system
  - ☐ Extension of permit duration
  - ☐ Construction of additional phases of a system

C. Are you requesting authorization to use Sovereign Submerged Lands?
☒yes ☐no
(See Section G and Attachment 5 for more information before answering this question.)

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. ___

PART 3: **A. OWNER(S) OF LAND**	**B. ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)**
Name Florida Power & Light Company (FPL)	Name
Title and Company Florida Power & Light Company	Title and Company
Address 700 Universe Boulevard	Address
City, State, Zip Juno Beach, Florida 33408	City, State, Zip
Telephone and Fax 561-691-7001 (phone) 561-691-7070 (fax)	Telephone and Fax
C. AGENT AUTHORIZED TO SECURE PERMIT	**D. CONSULTANT (IF DIFFERENT FROM AGENT)**
Name Mr. Randall R. LaBauve	Name
Title and Company Vice President, FPL	Title and Company
Address 700 Universe Boulevard	Address
City, State, Zip Juno Beach, Florida 33408	City, State, Zip
Telephone and Fax 561-691-7001 (phone) 561-691-7070 (fax)	Telephone and Fax

PART 4: (Please provide metric equivalent for federally funded projects):

Name of Project, including phase if applicable: **FPL Turkey Point Units 6 & 7**

B. Is this application for part of a multi-phase project?
☐yes ☒no

C. Total applicant-owned area contiguous to the project?
11,000 ac.; **4,452** ha.

D. Total area served by the system:
Units 6 & 7 Site: 290.7 ac.; 117.6 ha
Non-Transmission Facilities: 617.5 ac.; 249.9 ha
Transmission: 5,814 ac.; 2,353 ha.

E. Impervious area for which a permit is sought: **762 ac.; 308 ha.**

Units 6 & 7 Site: 250.2 ac.; 101.3 ha
Non-Transmission Facilities: 203.8 ac.; 82.5 ha
Transmission: 308 ac.; 125 ha

F. Volume of water that the system is capable of impounding:
FPL-owned fill site = **9,409 ac. ft.; 11,605,831 m^3**

Makeup water reservoir (reclaimed water) = **1,009 ac. ft; 1,244,583 m^3**

FPL reclaimed water treatment facility stormwater basins = **11.2 ac. ft; 13,815 m^3**

G. What is the total area of work in, on, or over wetlands or other surface waters? **810 ac.; 327.8 ha.**

Units 6 & 7 Site: 250.2 ac.; 101.3 ha
Non-Transmission Facilities: 252.1 ac.; 102 ha
Transmission: 308 ac.; 125 ha

H. Total volume of material to be dredged: **De-mucking Site = 2,190,000 yd^3; 1,674,375 m^3**
FPL-owned fill source = 9,560,000 yd^3; 7,309,144 m^3
Equipment barge unloading area = 780 yd^3; 596 m^3

I. Number of new boat slips proposed: **0** wet slips; **0** dry slips

PART 5:

Project location (use additional sheets if needed): **see attached Table A-1 at the end of this section.**
County(ies) **Miami-Dade**
Section(s) Township Range

Land Grant name, if applicable: **Not Applicable (N/A)**

Tax Parcel Identification Number: **N/A**

Street Address, Road or other location: **N/A**

City, Zip Code, if applicable: **N/A**

PART 6: Describe in general terms the proposed project, system, or activity.
The Project involves adding two new 1,100-megawatt (MW) nuclear generating units (Units 6 & 7) and

supporting facilities at a location within the existing Turkey Point plant property boundaries. FPL is seeking certification for the Project, which includes the Site (Turkey Point Units 6 & 7 plant area and proposed laydown area to the west), as well as several off-Site associated facilities: nuclear administration building, training building and parking area; an FPL-owned fill source; an FPL reclaimed water treatment facility and reclaimed water pipelines; potable water pipelines; radial collector wells and associated pipelines; access roads and bridges; equipment barge unloading area, as well as new transmission lines and system improvements within Miami-Dade County. For the Site and non-transmission facilities, a detailed Project description is provided in Section 2, Attachment A – Project Description; for transmission, see Section 3, Attachment A – Project Description.

PART 7:

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

9/14/07, Compatibility Working Group meeting - Mark Elsner (SFWMD), Scott Burns (SFWMD), Dewey Worth (SFWMD), Susan Coughanour (SFWMD), Bertha Goldenberg (Miami-Dade County), Craig Grossenbacher (DERM), Ed Kearns (NPS), Elsa Alvear (NPS-BNP), Patrick Pitts (USFWS), Megan Clouser (USACE), Tiphanie Jinks (USACE), Steve Franzone (FPL), Jim Lindsay (FPL), Matt Raffenberg (FPL), Florette Braun (FPL), Marister Ruiz (FPL), Barbara Linkiewicz (FPL), Terra Hernandez (FPL), Steve Scroggs (FPL).

10/15/07, Compatibility Working Group meeting - Susan Coughanour (SFWMD), Matt Morrison (SFWMD), Patrick Pitts (USFWS), Ed Kearns (NPS), Elsa Alvear (NPS-BNP), Bertha Goldenberg (Miami-Dade County), Megan Clouser (USACE), Craig Grossenbacher (DERM), Rachel Godino (FPL), Marister Ruiz (FPL), Terra Hernandez (FPL), Matt Raffenberg (FPL), Steve Scroggs (FPL), Steve Franzone (FPL), Florette Braun (FPL).

11/6/07, Compatibility Working Group meeting - Matt Morrison (SFWMD), Craig Grossenbacher (DERM), Howard Fuller (Miami-Dade County), Ed Kearns (NPS), Marister Ruiz (FPL), Terra Hernandez (FPL), Rachel Godino (FPL), Bill Maher (FPL), Barbara Linkiewicz (FPL), Lewis Hornung (FPL), Matt Raffenberg (FPL), Steve Franzone (FPL), Stewart Taylor (Bechtel), Ed Copeland (HDR).

2/28/08, Compatibility Working Group meeting – Luis Otero (DERM), Craig Grossenbacher (DERM), Elsa Alvear (NPS-BNP), Betty Grizzle (NPS-ENP), Ed Kearns (NPS), Steve Bell (SFWMD), Matt Morrison (SFWMD), Susan Coughanour (SFWMD), Timothy Gray (FDEP), Linda Brien (FDEP), Megan Clouser (USACE), Bertha Goldenberg (Miami-Dade County), Paula Church (Miami-Dade County), Patrick Pitts (USFWS), Marister Ruiz (FPL), Mike Tammaro (FPL), Rob Regan (FPL), Barbara Linkiewicz (FPL), Bill Maher (FPL), Matt Raffenberg (FPL), Rick Orthen (FPL), Terra Hernandez (FPL), Stewart Taylor (Bechtel), Ed Copeland (HDR).

4/16/08, Turkey Point Units 6 & 7 meeting, FDEP, Tallahassee – Bala Nori (FDEP), Marc Harris (FDEP), Kevin Ledbetter (FDEP), Linda Brien (FDEP), Cindy Mulkey (FDEP), Mike Halpin (FDEP), Marister Ruiz (FPL) (via phone), Matt Raffenberg (FPL), Barbara Linkiewicz (FPL).

7/22/08, Compatibility Working Group meeting – Elsa Alvear (NPS-BNP), Patrick Pitts (USFWS), Craig Grossenbacher (DERM), Timothy Gray (FDEP), Steve Bell (SFWMD), Megan Clouser (USACE), Bertha Goldenberg (Miami-Dade County), Matt Raffenberg (FPL), Marister Ruiz (FPL), Terra Hernandez (FPL), Steve Scroggs (FPL), Florette Braun (FPL), Rick Orthen (FPL), Rob Regan (FPL), Bill Maher (FPL), Mike Tammaro (FPL), Stewart Taylor (Bechtel), Ed Copeland (HDR).

7/28/08, Turkey Point Units 6 & 7 meeting – Indar Jagnarine (FDEP), Irene Arpayoglou (FDEP), Joe Lurix (FDEP), Linda Brien (FDEP), Tim Gray (FDEP), Joe May (FDEP), Jennifer Smith (FDEP), Jack Long (FDEP), Jill King (FDEP), Lee Hoefert (FDEP), Florette Braun (FPL), Gregg Hall (FPL), Marister Ruiz (FPL), Matt Raffenberg (FPL).

7/31/08, FDEP Site Visit – Cindy Mulkey (FDEP), Mike Halpin (FDEP), Barbara Linkiewicz (FPL), Matt Raffenberg (FPL), Bill Maher (FPL).

9/12/08, Turkey Point Units 6 & 7 meeting – Jim Golden (SFWMD), Damon Meiers (SFWMD), Terrie Bates (SFWMD), John Janzen (SFWMD), Steve Krupa (SFWMD), Pete Kwiatkowski (SFWMD), Sally Kennedy (SFWMD), Dan Boyar (SFWMD), Dewey Worth (SFWMD), Bruce Hall (SFWMD), Jorge Patino (SFWMD), Rick Alleman (SFWMD), Steve Bell (SFWMD), Teresa Coley (SFWMD), Marister Ruiz (FPL), Florette Braun (FPL), Matt Raffenberg (FPL).

9/23/08, Turkey Point Units 3 &4 and Cooling Canals site visit – Jennifer Smith (FDEP), Linda Brien (FDEP), Joe Lurix (FDEP), Kevin Claridge (FDEP), Lee Hoefert (FDEP), Jack Long (FDEP), Robert Regan (FPL), Barbara Linkiewicz (FPL), Marister Ruiz (FPL).

9/29/08, USACE Turkey Point transmission meeting – Megan Clouser (USACE), Paul Kruger (USACE), Rick Orthen (FPL), Matt Raffenberg (FPL), Gregg Hall (FPL), Dan Hronec (FPL), Florette Braun (FPL).

10/30/08, Compatibility Working Group meeting, SFWMD Ft. Lauderdale Field Station, Ft. Lauderdale, FL — Susan Coughanour (SFWMD), John Shaffer (SFWMD), Craig Grossenbacher (DERM), Luis Otero (DERM), Katie Halloran (Miami-Dade County), Bertha Goldenberg (Miami-Dade County), Steve Bell (SFWMD), Megan Clouser (USACE), Albert Gonzalez (USACE), Amy Renshaw (NPS), Elsa Alvear (NPS-BNP), Timothy Gray (FDEP), Matt Raffenberg (FPL), Mike Tammaro (FPL), Steve Franzone (FPL), Florette Braun (FPL), Terra Hernandez (FPL), Karl Bullock (Golder Associates), Ed Copeland (HDR), Stewart Taylor (Bechtel).

11/5/08, USACE Lake Belt meeting – Leah Oberlin (USACE), Robin Burgess (FPL), David Weda (FPL), Dan Hronec (FPL).

1/16/09, USACE Turkey Point transmission meeting – Megan Clouser (USACE), Albert Gonzalez (USACE), Florette Braun (FPL), David Weda (FPL), Dan Hronec (FPL), Gregg Hall (FPL), Marister Ruiz (via phone) (FPL), Rick Orthen (via phone) (FPL).

1/28/09, USACE Turkey Point Transmission meeting – David Hobbie (USACE), Peter Cocotos (FPL), Barbara Linkiewicz (FPL), Monte Collins (FPL), Florette Braun (FPL), Frank Mathews (HGS).

2/4/09, Turkey Point Project update meeting – Pamela Sweeney (FDEP – BBAP), Marsha Colbert (FDEP - BBAP), Matt Raffenberg (FPL), Ed Copeland (HDR).

2/24/09, USACE Turkey Point and Everglades Mitigation Bank Site Tour – Paul Kruger (USACE), Stuart Santos (USACE), Megan Clouser (USACE), David Hobbie (USACE), Donnie Kinard (USACE), Tunis McElwain (USACE), Barbara Linkiewicz (FPL), Joe Wasilewski (FPL), Jim Lindsay (FPL), Steve Scroggs (FPL).

2/27/09, Compatibility Working Group meeting, FPL Central Broward Office, Plantation, FL — Luis Otero (DERM), Megan Clouser (USACE), Albert Gonzalez (USACE), Elsa Alvear (NPS-BNP), Katie Halloran (Miami-Dade County), Paula Church (Miami-Dade County), Bertha Goldenberg (Miami-Dade County), Patrick Pitts (USFWS), Dewey Worth (SFWMD), Steve Bell (SFWMD), Marister Ruiz (FPL), Matt Raffenberg (FPL), Florette Braun (FPL), Rob Regan (FPL), Steve Franzone (FPL), Bill Maher (FPL), Terra Hernandez (FPL), Karl Bullock (Golder Associates), Stacy Rizzo (Golder Associates).

4/8/09, USACE Office Miami — Megan Clouser (USACE), Albert Gonzalez (USACE), Ingrid Sotelo (USACE), Florette Braun (FPL), David Weda (FPL), Gregg Hall (FPL), Karl Bullock (Golder Associates).

5/21/09, FDEP Siting Office and FDEP SED Office Pre-Application Meeting – Mike Halpin (FDEP), Cindy Mulkey (FDEP), Ann Seiler (FDEP), Tim Rach (FDEP), Diane Rogowski (FDEP), Toni Sturtevant (FDEP), Phil Coram (FDEP) via phone, Richard Drew (FDEP) via phone, Alan Stodhill (FDEP) via phone, Marc Harris (FDEP) via phone, Tim Gray (FDEP), Jennifer Smith (FDEP), Joe May (FDEP), Jack Long (FDEP), Chad Kennedy (FDEP), Joe Lurix (FDEP), Marsha Colbert (FDEP-BBAP) via phone, Trina Vielhauer (FDEP) via phone, Ken Kosky (Golder) via phone, Phil Simpson (ECT) via phone, Carolyn Raepple (HGS), Peter Cunningham (HGS), Mike Tammaro (FPL), Matt Raffenberg (FPL), Steve Scroggs (FPL), Florette Braun (FPL), Barbara Linkiewicz (FPL), Marister Ruiz (FPL), Rick Orthen (FPL), Gregg Hall (FPL)

B. 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
USACE	**9/30/92**	**199201570 Section 10/404**	**Issued**

C. Note: The following information is required for projects proposed to occur in, on or over wetlands that need a federal dredge and fill permit or an authorization to use state owned submerged lands. Please provide the names, addresses and zip codes of property owners whose property directly adjoins the project (excluding application) and/or (for proprietary authorizations) is located within a 500 ft. radius of the applicant's land. Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

Units 6 & 7 Site and Non-Transmission Facilities: See Section 2, Attachment B - Adjacent Property Owners. Transmission Facilities: See Section 3, Attachment B - Property Owners within and Adjacent to the Preferred Corridors.

1. 2.
3. 4.
5. 6.
7. 8.

PART 8:

A. 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 relive 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 the applicant, 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.

Randall R. LaBauve
Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant/Agent — Date: 6-24-09

Vice President
(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:

B. 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 requirements 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.

Randall R. LaBauve		6-24-09
Typed/Printed Name of Applicant	Signature of Applicant	Date

Vice President
(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:

C. 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.

Typed/Printed Name of Applicant	Signature of Applicant	Date

(Corporate Title if applicable)

Table A-1
FPL Turkey Point Units 6 & 7 Project
Section, Township, and Range Location

Section	Township	Range
UNITS 6 & 7 SITE		
33	57S	40E
34	57S	40E
NON-TRANSMISSION FACILITIES		
Nuclear Administration Building/Training Building/Parking Area		
33	57S	40E
34	57S	40E
FPL Reclaimed Water Treatment Facility		
28	57S	40E
Treated Reclaimed Water Delivery Pipelines		
28	57S	40E
33	57S	40E
Radial Collector Well Area		
27	57S	40E
Radial Collector Well Delivery Pipelines		
27	57S	40E
34	57S	40E
Equipment Barge Unloading Area		
27	57S	40E
FPL-Owned Fill Source		
7	57S	40E
8	57S	40E
Reclaimed Water Pipeline		
20	56S	40E
21	56S	40E
28	56S	40E
29	56S	40E
32	56S	40E
33	56S	40E
4	57S	40E
5	57S	40E
8	57S	40E
9	57S	40E
16	57S	40E
17	57S	40E

Table A-1
FPL Turkey Point Units 6 & 7 Project
Section, Township, and Range Location

Section	Township	Range
20	57S	40E
21	57S	40E
28	57S	40E
29	57S	40E
Roadway Improvement Corridor		
13	57S	39E
14	57S	39E
15	57S	39E
22	57S	39E
23	57S	39E
24	57S	39E
25	57S	39E
26	57S	39E
27	57S	39E
18	57S	40E
19	57S	40E
28	57S	40E
29	57S	40E
30	57S	40E
33	57S	40E
Potable Water Pipeline		
2	57S	39E
3	57S	39E
10	57S	39E
11	57S	39E
13	57S	39E
14	57S	39E
15	57S	39E
24	57S	39E
25	57S	39E
18	57S	40E
19	57S	40E
28	57S	40E
29	57S	40E
30	57S	40E
33	57S	40E
TRANSMISSION		
West Preferred Corridor		

Table A-1
FPL Turkey Point Units 6 & 7 Project
Section, Township, and Range Location

Section	Township	Range
24	53S	38E
25	53S	38E
36	53S	38E
1	54S	38E
11	54S	38E
12	54S	38E
14	54S	38E
23	54S	38E
26	54S	38E
35	54S	38E
1	55S	38E
1	55S	38E
2	55S	38E
10	55S	38E
11	55S	38E
12	55S	38E
13	55S	38E
14	55S	38E
15	55S	38E
22	55S	38E
24	55S	38E
27	55S	38E
3	56S	38E
10	56S	38E
15	56S	38E
22	56S	38E
27	56S	38E
34	56S	38E
3	57S	38E
10	57S	38E
15	57S	38E
22	57S	38E
27	57S	38E
34	57S	38E
35	57S	38E
36	57S	38E
19	53S	39E
20	53S	39E
21	53S	39E

Table A-1
FPL Turkey Point Units 6 & 7 Project
Section, Township, and Range Location

Section	Township	Range
22	53S	39E
23	53S	39E
24	53S	39E
25	57S	39E
26	57S	39E
27	57S	39E
28	57S	39E
29	57S	39E
30	57S	39E
31	57S	39E
31	52S	40E
5	53S	40E
6	53S	40E
7	53S	40E
8	53S	40E
17	53S	40E
19	53S	40E
20	53S	40E
28	57S	40E
29	57S	40E
30	57S	40E
31	57S	40E
32	57S	40E
33	57S	40E
West Secondary Corridor		
24	53S	38E
25	53S	38E
26	53S	38E
35	53S	38E
36	53S	38E
2	54S	38E
3	54S	38E
4	54S	38E
9	54S	38E
10	54S	38E
15	54S	38E
16	54S	38E
21	54S	38E
22	54S	38E

Table A-1
FPL Turkey Point Units 6 & 7 Project
Section, Township, and Range Location

Section	Township	Range
27	54S	38E
28	54S	38E
33	54S	38E
34	54S	38E
3	55S	38E
4	55S	38E
10	55S	38E
West Corridor - Access		
25	52S	38E
36	52S	38E
1	53S	38E
12	53S	38E
13	53S	38E
24	53S	38E
11	54S	38E
30	52S	39E
31	52S	39E
7	53S	39E
18	53S	39E
19	53S	39E
East Preferred Corridor		
13	55S	39E
14	55S	39E
23	55S	39E
24	55S	39E
26	55S	39E
27	55S	39E
34	55S	39E
3	56S	39E
10	56S	39E
11	56S	39E
14	56S	39E
23	56S	39E
25	56S	39E
26	56S	39E
25	54S	40E
34	54S	40E
35	54S	40E

Table A-1
FPL Turkey Point Units 6 & 7 Project
Section, Township, and Range Location

Section	Township	Range
36	54S	40E
2	55S	40E
3	55S	40E
10	55S	40E
15	55S	40E
16	55S	40E
17	55S	40E
18	55S	40E
21	55S	40E
22	55S	40E
29	56S	40E
30	56S	40E
32	56S	40E
5	57S	40E
8	57S	40E
9	57S	40E
16	57S	40E
17	57S	40E
20	57S	40E
21	57S	40E
28	57S	40E
33	57S	40E
1	54S	41E
11	54S	41E
12	54S	41E
13	54S	41E
14	54S	41E
15	54S	41E
16	54S	41E
17	54S	41E
19	54S	41E
20	54S	41E
21	54S	41E
30	54S	41E

Source: PLSS, 2003.

SECTION C

Environmental Resource Permit Notice of Receipt of Application

Note: this form does not need to be submitted for noticed general permits.
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 8 1/2" x 11" paper.

Project Name	**FPL Turkey Point Units 6 & 7**
County	**Miami-Dade**
Owner	**Florida Power & Light Company**
Applicant:	**Randall R. LaBauve, Vice President**
Applicant's Address:	**700 Universe Boulevard, Juno Beach, Florida 33408**

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.

Units 6 & 7 Site: Refer to Section 2, Attachment C – Site Location and Layout, Figure 1.
Non-Transmission Facilities: Refer to Section 2, Attachment C – Site Location and Layout, Figure 1.
Transmission: Refer to Section 3, Attachment C – Corridor Location and Layout, Figures 57 and 58.

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:

No named wetlands, Outstanding Florida Waters, or Aquatic Preserves will be impacted by the proposed activity. Wetland impacts associated with each Project feature are summarized below.

Units 6 & 7 Site:

The Units 6 & 7 Site is contained within the existing industrial wastewater facility. The Units 6 & 7 Site will require filling of 250.2 acres of semi-barren, hypersaline mud flats, mangrove heads, dwarf mangroves, wetland spoil piles, remnant and active canals, and open water contained within an industrial wastewater facility.

U.S. Army Corps of Engineers (USACE) wetland datasheets and jurisdictional determination forms for the Units 6 & 7 Site are contained in Section 2, Attachment D.

Functional loss due to the filling of wetlands on the Units 6 & 7 Site was estimated using the Everglades Mitigation Bank (EMB) functional assessment protocol, Wetland Assessment Technique for Environmental Review (W.A.T.E.R.). W.A.T.E.R. functional assessment datasheets and a discussion of the mitigation proposed for wetland impacts are presented in Section 2, Attachment E – Mitigation Plan.

Impacts associated with the Units 6 & 7 Site are quantified in the table below:

UNITS 6 & 7 SITE WETLAND FUNCTIONAL ASSESSMENT SUMMARY

FLUCFCS Code	Wetland Type	W.A.T.E.R. Score	Impact Acreage	Site Suitability Multiplier	W.A.T.E.R. Functional Loss (Credits)
510	Active Canals	0.54	4.1	1.05	2.32
511	Remnant Canals	0.59	8.4	1.05	5.20
531	Open Water/ Discharge Canal 1	0.54	12	1.05	6.80

FLUCFCS Code	Wetland Type	W.A.T.E.R. Score	Impact Acreage	Site Suitability Multiplier	W.A.T.E.R. Functional Loss (Credits)
612-A	Mangrove Heads	0.70	12.2	1.05	8.97
612-B	Dwarf Mangroves	0.65	16.9	1.05	11.53
650	Mud Flats	0.55	187.5	1.05	108.28
743-Wet	Wetland Spoil Areas	0.55	9.1	1.05	5.26
		TOTAL	**250.2**		**148.4**

Non-Transmission Facilities:

The non-transmission facilities will permanently impact 203.8 acres of mangroves, mangrove/willow wetlands, canals, exotic wetland hardwoods, wetland scrub, freshwater marshes, and ditches associated with the nuclear administration building, training building, and parking area, FPL reclaimed water treatment facility, access roads, and an FPL-owned fill source.

Installation of the radial collector well pipelines, the reclaimed water pipelines, and the treated water pipelineswill require temporary impact to 48.3 acres of mangroves, exotic wetland hardwoods, ditches, and freshwater marshes. Construction of the reclaimed water pipelines will temporarily impact the following SFWMD Canals: C-1 Canal, L-31E Canal, Goulds Canal, C-102 Canal, Military Canal, Mowry (C-103) Canal, and Homestead (North) Canal.

USACE wetland datasheets and jurisdictional determination forms for wetlands within the non-transmission facilities are contained in Section 2, Attachment D.

Functional loss due to the filling of wetlands within the areas of the non-transmission facilities was estimated using the Uniform Mitigation Assessment Method (UMAM) functional assessment protocol. UMAM functional assessment datasheets and a discussion of the mitigation proposed for wetland impacts are presented in Section 2, Attachment E – Mitigation Plan.

Impacts associated with the non-transmission facilities are quantified in the table below:

NON-TRANSMISSION FACILITIES
WETLAND FUNCTIONAL ASSESSMENT SUMMARY

FLUCFCS Code	Wetland Type	UMAM Score	Impact Acreage	Functional Loss (Credits)
Nuclear Administration Building, Training Building, and Parking Area				
612	Mangrove Swamps	0.67	18.5	12.39
612/618	Mangrove/Willow	0.63	7.6	4.79
		SUBTOTAL	**26.1**	**17.18**
Radial Collector Well Pipelines [a]				
612	Mangrove Swamps	0.87	**3**	**N/A**
FPL Reclaimed Water Treatment Facility				
612-B/641	Dwarf Mangroves/Sawgrass Marsh	0.77	**44**	**35.27** [b]
Reclaimed Water Pipelines [a]				
510/511/530	Canals/Ditches/Reservoirs	0.50	5.4	N/A
612	Mangrove Swamps	0.77	18.6	N/A
612/619	Mangrove/Exotic Wetland Hardwoods	0.60	5.2	N/A
617/630	Mixed Wetland Hardwoods/Mixed Forested Wetlands	0.70	8.6	N/A
641	Freshwater Marshes	0.70	4.1	N/A
		SUBTOTAL	**41.9**	**N/A**
Access Roads				

FLUCFCS Code	Wetland Type	UMAM Score	Impact Acreage	Functional Loss (Credits)
510/511/534	Canals/Ditches/Reservoirs	0.50	7.3	3.65
612-B	Dwarf Mangroves	0.77	7.6	5.85
617	Mixed Wetland Hardwoods	0.70	9.1	6.37
617/641	Mixed Wetland Hardwoods/Freshwater Marshes	0.77	5.5	4.24
619	Exotic Wetland Hardwoods	0.60	4.2	2.52
641	Freshwater Marshes	0.80	47.9	38.32
		SUBTOTAL	**81.6**	**80.6**[b]
Treated Water Pipelines[a]				
612-B	Dwarf Mangroves	0.77	3.1	N/A
617	Mixed Wetland Hardwoods	0.70	0.3	N/A
		SUBTOTAL	**3.4**	**N/A**
FPL-Owned Fill Source				
511	Ditches	0.50	5.2	2.60
619	Exotic Wetland Hardwoods	0.47	33.7	15.84
631	Wetland Scrub	0.53	4.4	2.33
641	Freshwater Marshes	0.53	8.8	4.66
		SUBTOTAL	**52.1**	**25.43**
		TOTAL	**252.1**	**158.5**

[a] Loss of functional value for temporary impacts associated with pipeline installation will be replaced through *in-situ* restoration. There is no impact to wetlands related to the potable water pipelines.

[b] Secondary wetland impact area defined as 25-foot zone surrounding areas of wetland fill associated with the FPL wastewater treatment facility and roadway improvements. Functional loss calculated as 60% of direct impact. Wastewater treatment facility = 3 acres of secondary impacts; 1.39 credits. Access road improvements = 45 acres of secondary impacts; 19.8 credits

Transmission:

For the transmission corridors, conservative assumptions regarding access road height and width, placement of structure pads, and average UMAM functional assessment scores within each of the corridor segments were utilized to derive an enveloping scenario of worst-case wetland impact acreage. Upon detailed transmission line design, road engineering, culvert placement, and incorporation of avoidance and minimization efforts in the specific locations of structures and access roads, the total acreage of wetland impacts are expected to be reduced. The current impact estimates are considered conservative to ensure that the amount of mitigation credits generated through the various mitigation alternatives will be more than sufficient to offset the final wetland impacts. Using the worst-case assumptions, the total estimated wetland impacts resulting from construction of the transmission line structure pads, associated patrol roads, the Levee substation expansion, and access corridors include 308 acres of permanent wetland impact to mangroves, mixed wetland hardwoods, exotic wetland hardwoods, freshwater marshes, wet prairies, canals, and ditches. Acreage of clearing/conversion of forested to herbaceous wetlands will be calculated upon completion of detailed engineering design.

A discussion of the mitigation proposed for wetland impacts are presented in Section 2, Attachment E – Mitigation Plan.

Impacts associated with the transmission facilities are quantified in the table below:

TRANSMISSION LINE CORRIDOR RIGHTS-OF-WAY
CONCEPTUAL WETLAND FUNCTIONAL ASSESSMENT SUMMARY

Segment	Wetland Types (FLUCFCS Codes)	Estimated Wetland Fill Impact (Acres)[a]	Average UMAM Score	Estimated Functional Loss (Credits)
West Corridor				
1A	510, 612-B	4.91	0.80	3.93
1B	617, 641	23.65	0.83	19.63
1C	617, 641	19.89	0.83	16.51
1D	510, 617, 619, 641, 643	44.76	0.70	31.33
2	510, 643	2.70	0.60	1.62
3A	617, 619, 641	15.33	0.80	12.26
3B	510, 617, 619, 641, 643	102.63	0.80	82.10
3C	510, 617, 618, 619, 641	55.95	0.83	46.44
4	617, 619, 641, 643	27.69	0.70	19.38
5A	511, 619, 631, 641, 643	1.06	0.70	0.74
5B	510, 511, 619, 641, 643	0.28	0.70	0.20
Levee Substation	619, 641	7.50	0.70	5.25
Tamiami Trail Access Corridor	510, 641	1.63	0.80	1.30
Krome Avenue Access Corridor	510, 619, 641	0.20	0.70	0.14
East Corridor				
6	612	0.06	0.83	0.05
	TOTAL	**308**		**241**

[a]Acreage of clearing/conversion of forested to herbaceous wetlands will be calculated upon completion of detailed engineering design.

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.

Units 6 & 7 Site: Refer to Section 2, Attachment C – Site Location and Layout, Figures 2.1 and 2.2.
Non-Transmission Facilities: Refer to Section 2, Attachment C – Site Location and Layout, Figures 3.1 through 3.26.
Transmission: Typical cross section views of the proposed transmission line structures, pads, and access roads are provided in Section 3, Attachment C – Corridor Location and Layout, Figures 5 through 27, 29 through 35, Figures 37 through 53, and Figures 55 and 56.

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

Construction of two 1,100 MW nuclear generating units (Units 6 & 7), supporting facilities, and associated non-transmission and transmission facilities.

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

Units 6 & 7 Site: 250.2 ac. filled;
Non-Transmission Facilities: 203.8 ac. filled; 48.3 ac. temporary clearing; 48 ac. secondary impact
Transmission: 308 ac. filled

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

Compensatory mitigation to replace the loss of wetland functions associated with unavoidable impacts will be accomplished through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the Comprehensive Everglades Restoration Plan within the Biscayne Bay Coastal Wetlands study area and Model Lands Basin, as well as purchase of mitigation credits from the nearby Everglades Mitigation Bank and Hole in the Donut Mitigation Bank. Details of the mitigation plan are included in Section 2, Attachment E – Mitigation Plan.

FOR AGENCY USE ONLY

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

Note to Notice recipient: The information in this notice has been submitted by the applicant, and has not been verified by the agency. It may be incorrect, incomplete or may be subject to change.

SECTION E

INFORMATION REQUESTED FOR STANDARD GENERAL, INDIVIDUAL AND CONCEPTUAL ENVIRONMENTAL RESOURCE PERMIT APPLICATIONS 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 quadruplex. 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 that is required by the Department on either 8 1/2 in. X 11 in. paper or 11 in. X 17 in. paper. Larger drawings may be submitted to supplement but not replace these smaller drawings.

I. Site Information

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

Units 6 & 7 Site: See Section 2, Attachment C – Site Location and Layout, Figure 4.
Non-Transmission Facilities: See Section 2, Attachment C – Site Location and Layout, Figure 4.
Transmission: See Section 3, Attachment C – Corridor Location and Layout, Figures 59 and 60.

B. Provide recent aerials, legible for photo interpretation with a scale of 1" = 400 ft, or more detailed with project boundaries delineated on the aerial.

Units 6 & 7 Site: See Section 2, Attachment C – Site Location and Layout, Figure 5.
Non-Transmission Facilities: See Section 2, Attachment C – Site Location and Layout, Figures 6 and 7.
Transmission: See Section 3, Attachment C – Corridor Location and Layout, Figures 61 and 62.

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.

Units 6 & 7 Site: The Site is located within an industrial wastewater facility, with an artificial hydroperiod controlled by the operation of the cooling canals. The Site is typically inundated for 3 to 4 months of the year with ≤ 1 foot of water, based upon field observations and historical information from Turkey Point plant staff. Elevations range from approximately -0.2 to -2.0 ft NAVD88, based upon topographic survey.
Non-Transmission Facilities: The seasonal high water elevation of wetlands within the non-transmission facilities range from approximately 0.5 to 3 ft NAVD88, based upon the elevation of wetland boundaries, with normal pool approximately 0 to 2 feet below seasonal high water elevation.
Transmission: Seasonal high water elevations of wetlands within the transmission corridors are variable, ranging from approximately 0 to 3 ft NAVD88, based upon field observation.

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.

A. Units 6 & 7 Site: The wet seasonal high groundwater table representative of the Units 6 & 7 Site is at the surface or approximately 0-6" below the surface, based on the USDA Soil Survey of Miami-Dade County.
Non-Transmission Facilities: The wet seasonal high groundwater table was estimated to be approximately 0-6" below the surface, based on the USDA Soil Survey of Miami-Dade County.

Transmission: Seasonal high groundwater table within the transmission corridors is variable and ranges from at the surface to approximately 60" below the surface, based upon Miami-Dade County Soil Survey data.

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.

The Units 6 & 7 Site and associated non-transmission and transmission facilities were traversed by pedestrian and vehicular transects during November 2007 and June 2008 through February 2009, and all wildlife observations were recorded, including direct sightings, calls, tracks, scat, burrows, and nests. A description of the methodology and a summary of the results are presented below.

The Site and surrounding areas provide habitat for a variety of wildlife, primarily wading birds and aquatic species associated with coastal mangroves. The wildlife habitat in the region surrounding the Turkey Point plant property supports a variety of species characteristic of the Biscayne Bay Aquatic Preserve and Biscayne National Park. Extensive mangrove areas provide important nursery areas for juvenile fishes as well as habitat for wading birds. To the southwest of the Site, the 5,900-acre cooling canals provide breeding habitat for the American crocodile (*Crocodylus acutus*), as well as foraging area for several species of wading birds. Non-listed wildlife directly observed, observed through tracks, scat, and/or burrows, or likely to occur based upon habitat present includes species common to southeastern Florida.

Units 6 & 7 Site: Areas of suitable wildlife habitat associated with the Site include hypersaline mud flats (FLUCFCS 650), cooling canals (FLUCFCS 510), remnant canals (FLUCFCS 511), mangroves (FLUCFCS 612), and the open water/discharge canal (FLUCFCS 531) associated with the cooling canal system on the western portion of the Site. The mud flats, canals, and mangrove areas provide habitat for a variety of avian species, including spotted sandpiper (*Actitis macularia*), red-winged blackbird (*Agelaius phoeniceus*), great blue heron (*Ardea herodias*), great horned owl (*Bubo virginianus*), red-shouldered hawk (*Buteo lineatus*), green heron (*Butoroides striatus*), sanderling (*Calidris alba*), western sandpiper (*Calidris maurii*), least sandpiper (*Calidris minutilla*), great egret (*Casmerodius albus*), willet (*Catoptrophorus semipalmatus*), semipalmated plover (*Charadrius semipalmatus*), killdeer (*Charadrius vociferous*), Wilson's plover (*Charadrius wilsonia*), common nighthawk (*Chordeiles minor*), yellow-billed cuckoo (*Coccycus americanus*), white-crowned pigeon (*Patagioenas leucocephala*), black vulture (*Coragyps atratus*), prairie warbler (*Dendroica discolor*), little blue heron (*Egretta caerulea*), reddish egret (*Egretta rufescens*), snowy egret (*Egretta thula*), tricolored heron (*Egretta tricolor*), white ibis (*Eudocimus albus*), black-necked stilt (*Himantopus mexicanus*), barn swallow (*Hirundo rustica*), short-billed dowitcher (*Limnodromus griseus*), belted kingfisher (*Megaceryle alcyon*), northern mockingbird (*Mimus polyglottis*), wood stork (*Mycteria americana*), long-billed curlew (*Numanius americanus*), whimbrel (*Numanius phaeopus*), white pelican (*Pelecanus erythrorhynchos*), double-crested cormorant (*Phalacrocorax auritus*), roseate spoonbill (*Platalea ajaja*), black-bellied plover (*Pluvialis squatarola*), blue-gray gnatcatcher (*Polioptila caerulea*), cliff swallow (*Pterocheilidan pyrrhonota*), American avocet (*Recurvirostra americana*), bank swallow (*Riparia riparia*), least tern (*Sterna antillarum*), royal tern (*Sterna maxima*), lesser yellowlegs (*Tringa flavipes*), greater yellowlegs (*Tringa melanoleuca*), and solitary sandpiper (*Tringa solitaria*).

The Site is dominated by semi-barren hypersaline mud flats, which provide limited habitat for aquatic biota due to fluctuations in water levels and salinity associated with the cooling canals. As a portion of the industrial wastewater facility for the existing Turkey Point Plant, this area experiences routine and drastic alterations in hydroperiod. The area is typically inundated with < 1 ft of water for approximately 3 to 4 months out of each year. Vegetative cover is sparse in the mud flat area as a result of high salinity and drastic fluctuations in water levels. Due to the limited duration of inundation and lack of substantial vegetative cover on the mud flats, aquatic species are limited to forage fishes such as marsh killifish (*Fundulus confluentus*), sheepshead minnow (*Cyprinodon variegatus*), and sailfin molly (*Poecilia latipinna*). The surrounding cooling canals are isolated, with elevated temperature and salinity conditions that limit the diversity and abundance of fish species. The fish community within the cooling canals is dominated by forage fishes such as sheepshead minnow and marsh killifish, and with limited numbers of mullet (*Mugil*

sp.), needlefish (*Strongylura* sp.), and tarpon (*Megalops atlanticus*). As part of the 1972 Turkey Point Units 3 & 4 Final Environmental Statement for operations, studies were conducted in Biscayne Bay and Card Sound adjacent to the Turkey Point plant property. Fish and invertebrate sampling conducted in the red mangrove community along the shoreline of Biscayne Bay resulted in over 50 species of fish, dominated by gray snapper (*Lutjanus griseus*), mullet (*Mugil* sp.), and yellowfin mojarra (*Gerres cinereus*). Five species of invertebrates were collected, with 90 percent represented by the blue crab (*Callinectes sapidus*).

Due to the limited amount of upland habitat, mammalian wildlife species are relatively uncommon in the vicinity of the Site, and include common species such as white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), eastern cottontail (*Sylvilagus floridanus*), swamp rabbit (*Sylvilagus aquaticus*), cotton rat (*Sigmodon hispidus*), cotton mouse (*Peromyscus gossypinus*), and rice rat (*Oryzomys palustris*).

Currently developed portions of the Site provide poor habitat for wildlife, due to the lack of cover, native vegetative communities, and disturbance. No species of birds, mammals, or reptiles were observed in those areas of the Site classified as electrical power facilities, with the exception of common urban avian species along the edges of parking areas and access roads, such as mourning dove (*Zenaida macroura*), European starling (*Sturnus vulgaris*), mockingbird, and rock dove (*Columba livia*).

<u>Non-Transmission Facilities</u>:
Plant Access Roads - Terrestrial wildlife utilization of habitats within the areas for Site access roads include potential foraging by a variety of wading birds including great blue heron, white ibis, snowy egret, wood stork, tricolored heron, little blue heron, yellow-crowned night-heron (*Nycticorax violaceus*), black-crowned night-heron (*Nycticorax nycticorax*), and roseate spoonbill. Freshwater ditches/canals associated with the access roads to be improved for Site access and the FPL-owned fill source provide habitat for common freshwater forage fishes, such as mosquitofish (*Gambusia holbrooki*), sailfin molly, and least killifish (*Heterandria formosa*), as well as sunfish (*Lepomis* sp.), gar (*Lepisosteus* sp.), and exotic species commonly inhabiting canals of Miami-Dade County, such as blue tilapia (*Oreochromis aurea*), Mayan cichlid *(Cichlasoma urophthalmus*), and oscar (*Astronotus ocellatus*).

FPL-Owned Fill Source – The severely altered tree nursery landscape of the FPL-owned fill source limits the habitat suitability for wildlife; however, a variety of avian species utilize the area, primarily foraging within ditches and freshwater marsh wetlands contained within the active palm tree nursery areas. Species observed within the FPL-owned fill source include great blue heron, little blue heron, cattle egret (*Bubulcus ibis*), great egret, belted kingfisher, loggerhead shrike (*Lanius ludovicianus*), white ibis, raccoon, and the exotic species brown basilisk (*Basiliscus vittatus*).

FPL Reclaimed Water Treatment Facility – The dwarf red mangrove and sawgrass habitat within the FPL reclaimed water treatment facility area provides potential suitable habitat for wading birds, as well as habitat for fish, reptiles, and invertebrates. Species observed within the area include great egret (*Ardea albus*), white ibis (*Eudocimus albus*), red winged blackbird (*Agelius phoenicius*), mockingbird, and mourning dove.

Reclaimed Water Pipelines – A variety of avifauna use wetland habitats within and surrounding the reclaimed water pipeline corridor, including great blue heron, cattle egret, great egret, belted kingfisher, anhinga (*Anhinga anhinga*), cormorant, red-winged blackbird, green heron, least bittern (*Ixobrychus exilis*), yellow-crowned night heron, and black-crowned night heron. The artificial canals within the proposed corridor contain relatively steep slopes and limited littoral zone vegetation, reducing the quality of wildlife habitat. Common avian species utilize the canals, such as moorhen (*Gallinula chloropus*), green heron, great egret, anhinga, cattle egret, cormorant, great blue heron, belted kingfisher, and osprey (*Pandion haliaetus*). Canals within and adjacent to the reclaimed water pipeline corridor provide habitat for common freshwater forage fishes, such as mosquitofish, sailfin molly, and least killifish, as well as sunfish, gar, and exotic species commonly inhabiting canals of Miami-Dade County, such as peacock bass (*Cichla ocellaris*), spotted tilapia (*Tilapia mariae*), blue tilapia, Mayan cichlid, jaguar guapote (*Cichlasoma managuense*), and oscar.

<u>Transmission:</u>

See Section 3, Attachment A – Project Description, Subsections 2.6 and 2.8 (West Corridor); Subsections 3.6 and 3.8 (East Corridor).

Threatened and Endangered Species – Flora and Fauna

Listed plant species are those plants that are listed by the U.S. Fish and Wildlife Service (USFWS) or the Florida Department of Agriculture and Consumer Services (FDACS) as endangered, threatened, of special concern, or commercially exploited. Listed animal species are those animals listed as endangered, threatened, or of special concern, federally by the USFWS, or within the State of Florida by the Florida Fish and Wildlife Conservation Commission (FFWCC).

Units 6 & 7 Site and Non-Transmission Facilities:

There are a number of federal and state-listed animals that are associated or potentially associated with the Site and the areas for non-transmission facilities and areas surrounding the developed portions of the Turkey Point plant property. These species are common to the area and use other similar habitats that are found throughout the surrounding region.

Because of the rarity and seasonality of threatened and endangered species, either multi-season surveys or an evaluation of threatened and endangered species habitat conditions are necessary to determine their presence or absence. For this study, multi-season threatened and endangered species surveys were combined with the evaluation of habitat conditions to determine the presence or absence of threatened and endangered species. Based on the Miami-Dade County list of threatened and endangered species and the available habitats within the Site and surrounding area, federally and state-listed species that are likely to occur within the Project Area were identified and are discussed below.

A review of the Florida Natural Areas Inventory (FNAI) standard data report (Section 2, Attachment F) indicated the presence of golden leather fern (*Acrostichum aureum*) east of the proposed reclaimed water pipeline corridor, adjacent to Black Creek. Listed wading birds observed or likely to occur along the reclaimed water pipeline and access road improvement corridors include white ibis, little blue heron, tricolor heron, snowy egret, roseate spoonbill, and wood stork. In addition, the canals and other wetland habitats within the corridor provide habitat for the American alligator and American crocodile. During site visits, several individuals of the state-threatened mullein nightshade (*Solanum donianum*) and pinepink (*Bletia purpurea*) were observed within upland spoils areas along existing roads north of the industrial wastewater facility and adjacent to the transmission line west of the cooling canal system; areas for location of Units 6 & 7 access roads.

Listed species identified within and adjacent to the Site and non-transmission facilities during the field reconnaissance conducted June 2008 through February 2009 include several species of wading birds as well as the white-crowned pigeon, least tern, and American crocodile. Protected wading bird species observed within the Site include the little blue heron, reddish egret, white ibis, snowy egret, roseate spoonbill, and tricolored heron. These six species of wading birds, while not considered threatened or endangered, are classified by the FFWCC as Species of Special Concern. They are not listed by the USFWS.

Three wood storks were observed foraging in the shallow open water/discharge canal portion of the construction staging area in the western portion of the Site. The wood stork is classified as endangered by both the FFWCC and the USFWS. No wood stork nesting colonies or roosting sites are located within the vicinity of the Site. According to the FFWCC wading bird surveys of 1999, two active wood stork colonies are present within Miami-Dade County, both located along Tamiami Trail (US 41) between 20 and 30 miles northwest of the Site (colony # 620313 and 620131). Within Monroe County, an active colony is located approximately 40 miles west of the Site (colony # 620304). The USFWS has defined a wood stork colony's core feeding area as a radius of 18.4 miles surrounding the nesting colony. Impacts to wetlands within the core feeding area are to be replaced through in-kind compensation or offset through habitat improvements onsite that would increase the quantity and/or quality of potential foraging habitat.

An individual American alligator was observed adjacent to the canal that intersects SW 117th Avenue, adjacent to an area for an improved access road. American alligators are classified by the USFWS as threatened due to similarity in appearance to the American crocodile, and are classified by the FFWCC as

a Species of Special Concern. The FNAI database also identified a report of an American alligator less than 0.5 mile to the west of the Site, and 800 feet northwest of the FPL-owned fill source.

The white-crowned pigeon, which forages among fruit-bearing trees in hardwood hammocks of south Florida is classified as threatened by the FFWCC, but is not listed federally. A white-crowned pigeon was observed during the August 2007 DERM Site visit, and was also observed during the June 2008 Site visit in the vicinity of the existing transmission line right-of-way west of the Site. A least tern was observed during the August 2007 field survey and subsequently during the November 2007 and June 2008 site reconnaissance, near the northern portion of the cooling canal system. A documented occurrence of the least tern was also contained in the FNAI database, observed south of the Site, within the cooling canal system. Least terns are classified as threatened by the FFWCC, but are not listed by the USFWS.

The majority of the Turkey Point industrial wastewater facility and other canals in the vicinity of the Turkey Point plant property (C-107, the Sea Dade Canal, Model Land Canals North, South, and East, and L-3IE) are within the area designated as critical habitat for the American crocodile. Adult crocodiles were first observed at the Turkey Point Plant in 1976 and nesting was first documented upon berms within the cooling canals in 1978 (Mazzotti and Brandt, 1994). As a result, FPL developed a crocodile management plan which focused on the creation and enhancement of habitat for crocodile nesting as well as monitoring the reproductive success, growth, and survival of hatchlings. FPL's efforts have resulted in a significant increase in the number of crocodile nests and hatchlings in the Turkey Point cooling canal system over the past quarter-century, from 1 to 2 nests and 30 hatchlings in the late 1970s to 26 known nests and over 500 hatchlings in 2008. The critical nesting habitat maintained by FPL within the cooling canals has been responsible for virtually the entire increase in population of the American crocodile reported in south Florida over the past 25 years (Tucker et al., 2004), which contributed to the USFWS downlisting of the crocodile from endangered to threatened status.

Crocodile nest locations documented between 1978 and 2008 are shown in Section 2, Attachment C – Site Location and Layout, Figures 8 and 9. Crocodiles are not known to nest within the Site or the area for the non-transmission facilities. Crocodiles may utilize the active cooling canals surrounding the designated Units 6 & 7 Plant Area as a travel corridor to gain access to Biscayne Bay. These canals will not be impacted by the Project. Appendix 10.7.1.3 of the SCA presents further discussion regarding the American crocodile population of South Florida, history of crocodile occurrence at Turkey Point, details of the ongoing monitoring and management within the industrial wastewater facility, and avoidance of impacts to crocodiles resulting from the Project.

The Eastern indigo snake (*Drymarchon couperi*), classified as threatened by both the USFWS and FFWCC, is known to exist on the Turkey Point plant property south of the industrial wastewater facility, and outside of the Project Area. According to the FNAI database, an occurrence of the Eastern indigo snake was documented in 1981 within an area south of SW 344th Street/Palm Drive, adjacent to the existing FPL daycare facility. Eastern indigo snakes are occasionally observed within the EMB, south of the industrial wastewater facility.

Additional listed species known to occur in BNP may potentially utilize the mangrove habitats adjacent to the Site include the peregrine falcon (*Falco peregrinus*), mangrove rivulus (*Rivulus marmoratus*), limpkin (*Aramus guarauna*), American oystercatcher (*Haematopus palliates*), brown pelican (*Pelicanus occidentalis*), and bald eagle (*Haliaeetus leucocephalus*). The bald eagle was removed from the USFWS endangered species list on June 28, 2007, and is no longer protected under the Endangered Species Act, but remains protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. Although the bald eagle was recently de-listed, the FFWCC draft bald eagle management plan remains in effect and recommends maintaining a 660-ft buffer zone around active nests. The FFWCC bald eagle nest database was queried and no nests were found in the vicinity of the Site or the areas for non-linear associated facilities.

Letters requesting site-specific listed species review of the project were submitted to the USFWS, the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS), and the FNAI in December 2008 and March 2009. Agency responses are provided in Section 2, Attachment F. The USFWS stated that the Project is located within the geographic range of the

threatened American crocodile, and no other records of federally listed species were identified on the Project site. The NMFS provided a list of federally-protected species under the jurisdiction of NMFS for the State of Florida (see Section 2, Attachment F). The FNAI element occurrence report (Section 2, Attachment F) references the element occurrences in the Project Area already noted above (American alligator, least tern, and eastern indigo snake), and also notes the presence of habitat conditions suitable for the Florida panther (*Puma concolor coryi*), indicated by the general vicinity element occurrence to the west of the Units 6 & 7 Site, near the transmission line right-of-way west of the cooling canals/industrial wastewater facility. According to FFWCC panther telemetry data (dated 1981-2006), a panther (FP 21) was recorded in this area by the USFWS in 1987 and 1988 (see Section 2, Attachment C – Site Location and Layout, Figure 10). According to the telemetry metadata, this cat was captured for telemetry monitoring by the USFWS in March 1987, and died by euthanasia in December 1997. The USFWS Panther Consultation Area includes the western boundary of the Turkey Point plant property and a portion of access road improvement corridor, although no panthers have been observed within this area since 1988 (See Section 2, Attachment C – Site Location and Layout, Figure 10).

Transmission:
See Section 3, Attachment A – Project Description, Subsection 2.6 and 2.8 (West Corridor); Subsection 3.6 and 3.8 (East Corridor).

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.

The Site is contained within an active industrial wastewater facility. Adjacent areas of the industrial wastewater system will continue their current function following construction of the Project. Within the non-transmission and transmission areas outside of the industrial wastewater facility, water quantity, quality, hydroperiod, and habitat will be maintained in adjacent wetland areas that will remain undisturbed through the installation of silt fences during construction to prevent any erosion/sedimentation impacts. For the FPL reclaimed water treatment facility, stormwater will be captured and treated prior to release to adjacent wetlands.

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

FPL proposes that the loss of wetland functions be mitigated through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the CERP within the Biscayne Bay Coastal Wetlands study area and Model Lands Basin, as well as use of the FDEP- and USACE-approved Everglades Mitigation Bank and Hole in the Donut Mitigation Bank. See Section 2, Attachment E – Mitigation Plan, for details of the proposed restoration, enhancement, and preservation activities.

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.

Wetlands were delineated in July 2008 through February 2009 in accordance with applicable federal and state wetland criteria as set forth by the USACE and FDEP requirements. Specifically, the Project Area was examined for the presence of hydrophytic vegetation, hydric soils, and hydrologic indicators, by which the landward extent of wetlands were marked in the field with high-visibility flagging tape, identified upon aerial maps, and coordinates recorded via GPS receivers. Wetland boundaries were subsequently located by a licensed surveyor. For the Units 6 & 7 Site and non-transmission facilities, see Section 2, Attachment G – Wetland and Topographic Surveys.

E. Impact Summary Tables:

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

Tables 1, 2, and 3 are attached.

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

N/A

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

N/A

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;

Units 6 & 7 Site and Non-Transmission Facilities: The proposed project area boundaries are presented in Section 2, Attachment C – Site Location and Layout, Figures 1 and 2.1 and Figures 3.1 through 3.26. The total land area for the proposed Project is approximately 908.2 acres.

Transmission: The proposed project area boundary is presented in Section 3, Attachment C – Corridor Location and Layout, Figures 57 and 58. The total land area within the transmission corridors is approximately 5,814 acres.

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 (FLUCFCS)(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.

Units 6 & 7 Site: Existing vegetation/land use within the Site includes hypersaline mud flats (FLUCFCS 650), man-made active cooling canals (FLUCFCS 510), man-made remnant canals (FLUCFCS 511), previously filled areas/roadways (FLUCFCS 744), mangrove heads (FLUCFCS 612-A) associated with historical tidal channels, dwarf mangroves (FLUCFCS 612-B), open water/discharge canal (FLUCFCS 531) associated with the cooling canal system on the western portion of the Site, wet spoil berms associated with remnant canals (FLUCFCS 743-Wet), and upland spoil areas. The existing land use and land cover for the Site are shown in Attachment C – Site Location and Layout, Figure 11.

A summary of the existing vegetation/land use within the Site is listed below:

Vegetation/Land Use	FLUCFCS	Area (Acres)	Area (%)
Active Canals	510	16.7	6
Ditches	511	8.4	3
Open Water	531	12	4
Mangrove Heads	612-A	12.2	4
Dwarf Mangroves	612-B	16.9	6

Vegetation/Land Use	FLUCFCS	Area (Acres)	Area (%)
Non-Vegetated Mud Flat	650	187.5	64
Upland Spoil Areas	743	7.8	3
Wetland Spoil Areas	743-wet	9.1	3
Previously-filled areas/Roadways	744	20	7
Roads and Highways	814	0.2	0
	TOTAL	**290.7**	**100**

Non-Transmission Facilities:
The existing land use and land cover for the non-transmission facilities are shown in Attachment C – Site Location and Layout, Figure 11.

Nuclear Administration Building, Training Building and Parking Area
Land use/land cover in the area north of the Site for the nuclear administration building, training building and parking area includes isolated mangrove swamp (FLUCFCS 612) and an area dominated by mangrove and coastal plain willow (FLUCFCS 612/618). These areas comprise approximately 26 acres, including 18.5 acres of isolated mangroves and 7.6 acres of isolated mangrove/willow wetlands located south of the existing Units 3 & 4 parking lots.

Radial Collector Wells and Delivery Pipeline
Four radial collector well caissons will be located upon the Turkey Point peninsula to the east of the existing Turkey Point Plant. The footprint for each caisson will occupy approximately 30 ft in diameter, located so as to avoid any wetland impacts. Vegetative communities present within the Turkey Point peninsula include 3 acres of previously filled areas/roadways (FLUCFCS 744), with adjacent areas consisting of coastal mangrove swamp (FLUCFCS 612). An approximately 3-acre laydown area associated with the radial collector wells and delivery pipeline is located upon previously filled areas/roadways to the north of the radial collector wells location. Vegetative communities along the delivery pipelines include previously filled areas/roadways (FLUCFCS 744) and adjacent coastal mangrove swamp (FLUCFCS 612).

Equipment Barge Unloading Area
In order to facilitate equipment barge unloading, a portion of the existing barge turning basin (FLUCFCS 512) will be expanded, requiring excavation of adjacent uplands classified as electric power facilities (FLUCFCS 831). Approximately 0.1 acre of the existing turning basin will be dredged in association with the construction of the equipment barge unloading area.

FPL Reclaimed Water Treatment Facility and Treated Reclaimed Water Delivery Pipelines
An FPL reclaimed water treatment facility and treated reclaimed water pipelines are to be located between the L-31E Canal and the existing Turkey Point plant access road. The FPL reclaimed water treatment facility will occupy approximately 44 acres located within an area dominated by dwarf mangroves and sawgrass marsh (FLUCFCS 612-B/641).

The treated reclaimed water delivery pipelines will connect between the FPL reclaimed water treatment facility and the Units 6 & 7 Site. From the FPL reclaimed water treatment facility, the treated water pipelines will follow the existing road south of the security guard checkpoint, traversing areas of dwarf mangroves (FLUCFCS 612-B) and mixed wetland hardwoods (FLUCFCS 617), fill areas/roadways (FLUCFCS 744), and the existing discharge canal (FLUCFCS 510), ending at the southwest portion of the Site.

Reclaimed Water Pipeline Corridor
The reclaimed water pipelines corridor is located within existing roadways, transmission, and canal rights-of-way between the South District Wastewater Treatment Plant and the Site. Dominant land use and vegetative communities within and adjacent to the corridor include tree nurseries (FLUCFCS 241), Brazilian pepper (FLUCFCS 422), several man-made canals (FLUCFCS 510), electric power facilities (FLUCFCS 831), maintained grassed roadside rights of-way (FLUCFCS 814), exotic wetland hardwoods

(FLUCFCS 619), mangrove (FLUCFCS 612), freshwater marsh (FLUCFCS 641), and mixed hardwood wetlands (FLUCFCS 617).

Potable Water Pipelines

The potable water pipelines will be owned and operated by Miami-Dade County Department of Water and Sewer Department (MDWASD). The potable water pipeline route will be approximately 9 miles in length, starting at the MDWASD potable water main located near Florida's Turnpike and SW 137th Avenue/Tallahassee Road and ending at the Site. The entire length of the potable water pipelines will be within existing or planned roads that are in existing rights-of-way, and no additional temporary or permanent wetland impacts are anticipated. Dominant land uses within the corridor and within ½-mile of the corridor include residential, commercial, and industrial areas, airports, and roads and highways. Agricultural land uses and vegetative communities include row crops (FLUCFCS 214), field crops (FLUCFCS 215), citrus groves (FLUCFCS 221), tree nurseries (FLUCFCS 241), herbaceous dry prairie (FLUCFCS 310), shrub and brushland (FLUCFCS 320), Brazilian pepper (FLUCFCS 422), melaleuca (FLUCFCS 424), upland hardwood-coniferous mixed (FLUCFCS 434), man-made canals (FLUCFCS 510), and reservoirs (FLUCFCS 530).

FPL-Owned Fill Source

The FPL-owned fill source comprises approximately 300 acres of agricultural land located southeast of Homestead Air Reserve Base, northwest of the intersection of SW 117th Avenue and SW 312th Street. The majority of the FPL-owned fill source (approximately 82 percent) is composed of tree nurseries (FLUCFCS 241), with additional areas of exotic wetland hardwoods (FLUCFCS 619), wetland scrub (FLUCFCS 631), freshwater marshes (FLUCFCS 641), and ditches (FLUCFCS 511).

Roadway Improvement Corridors

The roadway improvement corridors are located adjacent to and along existing road and transmission rights-of-way. Dominant land use and vegetative communities within the corridor and within ½-mile of the corridors include tree nurseries (FLUCFCS 241), man-made canals (FLUCFCS 510), maintained grassed roadside rights-of-way (FLUCFCS 814), exotic wetland hardwoods (FLUCFCS 619), freshwater marshes (FLUCFCS 641), and mixed hardwood wetlands (FLUCFCS 617).

A summary of the existing vegetation/land use within the non-transmission facilities is listed below:

Vegetation/Land Use	FLUCFCS	Area (Acres)	Area (%)
Nuclear Administration Building, Training Building and Parking Area			
Mangrove Swamps	612	24.3	77
Mangrove Swamps/Willow and Elderberry	612/618	1.9	6
Fill Areas/Roadways	744	4.8	15
Roads and Highways	814	0.6	2
Electric Power Facilities	831	0.0	0
	SUBTOTAL	**31.6**	**100**
Radial Collector Well Area			
Fill Areas/Roadways	744	6	100
	SUBTOTAL	**6**	**100**
Radial Collector Well Pipelines			
Mangrove Swamps	612	4.6	31
Fill Areas/Roadways	744	10.2	68
Canal	510	0.2	1
	SUBTOTAL	**15.0**	**100**
Equipment Barge Unloading Area			
Canal	510	0.0	0
Electric Power Facilities	831	0.1	100
	SUBTOTAL	**0.1**	**100**
FPL Reclaimed Water Treatment Facility			
Dwarf Mangroves/Sawgrass Marsh	612-B/641	44	100

Vegetation/Land Use	FLUCFCS	Area (Acres)	Area (%)
	SUBTOTAL	**44**	**100**
Treated Reclaimed Water Delivery Pipelines			
Canal	510	0.2	5
Dwarf Mangroves	612-B	3.1	62
Mixed Wetland Hardwoods	617	0.3	6
Disturbed Lands	740	0.2	4
Fill Areas/Roadways	744	0.1	2
Roads and Highways	814	1.0	20
	SUBTOTAL	**4.9**	**100**
FPL-Owned Fill Source			
Tree Nurseries	241	243.8	82
Brazilian Pepper	422	0.2	0
Ditches	511	5.2	2
Exotic Wetland Hardwoods	619	3.0	1
Exotic Wetland Hardwoods/Wetland Scrub	619/631	30.7	10
Wetland Scrub	631	4.4	1
Freshwater Marshes	641	8.8	3
Roads and Highways	814	2.3	1
	SUBTOTAL	**298.4**	**100**
Reclaimed Water Pipeline Corridor			
Holding Ponds	166	42.8	2
Marinas and Fish Camps	184	8.6	0
Field Crops	215	71.5	4
Tree Nurseries	241	421.8	22
Sod Farms	242	1.2	0
Ornamentals	243	2.1	0
Herbaceous (Dry Prairie)	310	26.4	1
Shrub and Brushland	320	43.1	2
Mixed Rangeland	330	29.8	2
Brazilian Pepper	422	2.1	0
Canal	510	63.0	3
Ditches	511	1.5	0
Reservoirs	530	13.7	1
Open Water	531	0.3	0
Reservoirs < 10 acres	534	2.7	0
Mangrove Swamps	612	287.6	15
Dwarf Mangroves	612-B	16.0	1
Mangrove Swamps/Exotic Wetland Hardwoods	612/619	4.5	0
Mixed Wetland Hardwoods	617	93.4	5
Exotic Wetland Hardwoods	619	3.0	0
Wetland Forested Mixed	630	2.5	0
Wetland Scrub	631	35.0	2
Freshwater Marshes	641	33.8	2
Saltwater Marshes	642	2.2	0
Disturbed Lands	740	32.4	2
Fill Areas/Roadways	744	1.0	0
Roads and Highways	814	53.1	3
Electric Power Facilities	831	26.6	1
Sewage Treatment	834	234.5	12
Solid Waste Disposal	835	364.0	19
	SUBTOTAL	**1,920.1**	**100**
Potable Water Pipeline Corridor			
Fixed Single Family Units	121	6.8	0.4

Vegetation/Land Use	FLUCFCS	Area (Acres)	Area (%)
Mobile Home Units	122	38.1	2.3
Medium Density Under Construction	129	91.8	5.4
Fixed Single Family Units <Six Or More Dwellings>	131	275.5	16.3
Multiple Dwelling Units, Low Rise	133	74.6	4.4
Multiple Dwelling Units, High Rise	134	33.1	2.0
High Density Under Construction	139	96.4	5.7
Commercial and Services	140	24.6	1.5
Commercial and Services Under Construction	149	13.4	0.8
Other Light Industrial	155	12.9	0.8
Military	173	106.7	6.3
Row Crops	214	38.9	2.3
Field Crops	215	81.0	4.8
Citrus Groves	221	57.5	3.4
Tree Nurseries	241	315.0	18.7
Herbaceous Dry Prairie	310	28.9	1.7
Shrub and Brushland	320	15.4	0.9
Brazilian Pepper	422	112.4	6.7
Melaleuca	424	63.9	3.8
Hardwood – Coniferous Mixed	434	8.1	0.5
Canal	510	29.0	1.7
Reservoirs	530	52.0	3.1
Airports	811	14.9	0.9
Roads and Highways	814	95.4	5.7
	SUBTOTAL	**1,686.3**	**100**
Roadway Improvement Corridor			
Residential Low Density <2 Dwellings per Acre	110	1.7	0.4
Race Tracks	183	10.2	2.3
Row Crops	214	15.2	3.3
Fruit Orchards	222	5.0	1.1
Tree Nurseries	241	15.6	3.4
Shrub and Brushland	320	1.6	0.4
Canal	510	29.7	6.6
Ditches	511	5.0	1.1
Reservoirs < 10 acres	534	2.1	0.5
Mangroves	612	1.1	0.2
Dwarf Mangroves	612-B	19.3	4.3
Mixed Wetland Hardwoods	617	52	11.5
Mixed Wetland Hardwoods/Freshwater Marshes	617/641	33.4	7.4
Exotic Wetland Hardwoods	619	28.7	6.3
Freshwater Marshes	641	177.9	39.3
Disturbed Lands	740	10.5	2.3
Upland Spoil Areas	743	0.5	0.1
Fill Areas/Roadways	744	1.8	0.4
Roads and Highways	814	36.5	8
Electric Power Facilities	831	5.3	1.2
	SUBTOTAL	**452.9**	**100**
GRAND TOTAL		**4,467**	

Transmission:

A description of existing land use and land cover for the transmission corridors is provided in Section 3, Attachment A – Project Description, Subsection 2.5 and 3.5, and presented in Section 3, Attachment C – Corridor Location and Layout, Figures 28 and 54.

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.

Units 6 & 7 Site: See Section 2, Attachment C – Site Location and Layout, Figure 1 and Section 2, Attachment G – Wetland and Topographic Surveys
Non-Transmission Facilities: See Section 2, Attachment C – Site Location and Layout, Figure 1 and Section 2, Attachment G – Wetland and Topographic Surveys.
Transmission: See Section 3, Attachment C – Corridor Location and Layout, Figures 57 and 58

D. If the project is in the known flood plain of a stream or other water course, identify the following: 1) the flood plain boundary and approximate flooding elevations; and 2) the 100-year flood elevation and floodplain boundary of any lake, stream or other watercourse located on or adjacent to the site;

Units 6 & 7 Site: See Section 2, Attachment C – Site Location and Layout, Figure 12, Federal Emergency Management Agency (FEMA) 100-year floodplain for the Site, indicating the area is outside the 100-year floodplain. The plant area will be elevated, with the power block elevated to 25.5 ft above mean sea level (MSL). This elevation is above the 100-year flood elevation.
Non-Transmission Facilities: See Section 2, Attachment C – Site Location and Layout, Figure 12. The non-transmission facilities are located within the 100-year floodplain.
Transmission: See Section 3, Attachment C – Corridor Location and Layout, Figures 63 and 64.

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;

Units 6 & 7 Site: See Section 2, Attachment G – Wetland and Topographic Surveys.
Non-Transmission Facilities: See Section 2, Attachment G – Wetland and Topographic Surveys.

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.

Units 6 & 7 Site: The proposed land uses, land cover, and acreage are presented below:

Land Use/Land Cover	FLUCFCS	Area (Acres)	Area (%)
Electric Power Facilities	831	290.7	100

Non-Transmission Facilities: The proposed land uses, land cover, and acreage are presented below:

Land Use/Land Cover	FLUCFCS	Area (Acres)	Area (%)
Nuclear Administration Building, Training Building and Parking Area			
Electric Power Facilities	831	31.6	100
Radial Collector Well Area			
Fill Areas/Roadways	744	3	50
Electric Power Facilities	831	3	50
	SUBTOTAL	**6**	100
Radial Collector Well Pipelines			
Mangrove Swamps	612	4.6	31
Fill Areas/Roadways	744	10.2	68
Canal	510	0.2	1

Land Use/Land Cover	FLUCFCS	Area (Acres)	Area (%)
	SUBTOTAL	**15.0**	100
FPL Reclaimed Water Treatment Facility			
Water Treatment Facility	833	44	100
Treated Reclaimed Water Delivery Pipelines			
Canal	510	0.2	5
Dwarf Mangroves	612-B	3.1	62
Mixed Wetland Hardwoods	617	0.3	6
Disturbed Lands	740	0.2	4
Fill Areas/Roadways	744	0.1	2
Roads and Highways	814	1.0	20
	SUBTOTAL	**4.9**	**100**
FPL-Owned Fill Source			
Reservoirs	530	298.4	100
Reclaimed Water Pipeline Corridor			
Holding Ponds	166	42.8	2
Marinas and Fish Camps	184	8.6	0
Field Crops	215	71.5	4
Tree Nurseries	241	421.8	22
Sod Farms	242	1.2	0
Ornamentals	243	2.1	0
Herbaceous (Dry Prairie)	310	26.4	1
Shrub and Brushland	320	43.1	2
Mixed Rangeland	330	29.8	2
Brazilian Pepper	422	2.1	0
Canal	510	63.0	3
Ditches	511	1.5	0
Reservoirs	530	13.7	1
Open Water	531	0.3	0
Reservoirs < 10 acres	534	2.7	0
Mangrove Swamps	612	287.6	15
Dwarf Mangroves	612-B	16.0	1
Mangrove Swamps/Exotic Wetland Hardwoods	612/619	4.5	0
Mixed Wetland Hardwoods	617	93.4	5
Exotic Wetland Hardwoods	619	3.0	0
Wetland Forested Mixed	630	2.5	0
Wetland Scrub	631	35.0	2
Freshwater Marshes	641	33.8	2
Saltwater Marshes	642	2.2	0
Disturbed Lands	740	32.4	2
Fill Areas/Roadways	744	1.0	0
Roads and Highways	814	53.1	3
Electric Power Facilities	831	26.6	1
Sewage Treatment	834	234.5	12
Solid Waste Disposal	835	371.4	28
	SUBTOTAL	**1,927.6**	**100**
Potable Water Pipeline Corridor			
Fixed Single Family Units	121	6.8	0.4
Mobile Home Units	122	38.1	2.3
Medium Density Under Construction	129	91.8	5.4
Fixed Single Family Units <Six Or More Dwellings>	131	275.5	16.3

Land Use/Land Cover	FLUCFCS	Area (Acres)	Area (%)
Multiple Dwelling Units, Low Rise	133	74.6	4.4
Multiple Dwelling Units, High Rise	134	33.1	2.0
High Density Under Construction	139	96.4	5.7
Commercial and Services	140	24.6	1.5
Commercial and Services Under Construction	149	13.4	0.8
Other Light Industrial	155	12.9	0.8
Military	173	106.7	6.3
Row Crops	214	38.9	2.3
Field Crops	215	81.0	4.8
Citrus Groves	221	57.5	3.4
Tree Nurseries	241	315.0	18.7
Herbaceous Dry Prairie	310	28.9	1.7
Shrub and Brushland	320	15.4	0.9
Brazilian Pepper	422	112.4	6.7
Melaleuca	424	63.9	3.8
Hardwood – Coniferous Mixed	434	8.1	0.5
Canal	510	29.0	1.7
Reservoirs	530	52.0	3.1
Airports	811	14.9	0.9
Roads and Highways	814	95.4	5.7
	SUBTOTAL	**1,686.3**	**100**
Roadway Improvement Corridors			
Residential Low Density <2 Dwellings per Acre	110	1.2	0.3
Race Tracks	183	9	2.0
Row Crops	214	12.2	2.7
Fruit Orchards	222	3.4	0.7
Tree Nurseries	241	12.9	2.8
Shrub and Brushland	320	1.6	0.4
Canal	510	25.6	5.6
Ditches	511	1.9	0.4
Reservoirs < 10 acres	534	2.1	0.5
Mangroves	612	1.0	0.2
Dwarf Mangroves	612-B	11.8	2.6
Mixed Wetland Hardwoods	617	42.9	9.5
Mixed Wetland Hardwoods/Freshwater Marshes	617/641	27.9	6.2
Exotic Wetland Hardwoods	619	24.5	5.4
Freshwater Marshes	641	129.9	28.7
Disturbed Lands	740	3.5	0.8
Upland Spoil Areas	743	0.5	0.1
Fill Areas/Roadways	744	1.3	0.3
Roads and Highways	814	136.5	30.1
Electric Power Facilities	831	3.3	0.7
	SUBTOTAL	**452.9**	**100**
Equipment Barge Unloading Area			
Electric Power Facilities	831	0.1	100
GRAND TOTAL		**4,467**	

Transmission: Details of proposed land use and relative percentage by FLUCFCS Code for transmission corridor not available; this data will be calculated following completion of specific transmission engineering design. Conceptually, proposed land use will include conversion of a maximum of 308 acres of wetlands to FLUCFCS 832, Electric Power Transmission Lines.

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

The Project entails unavoidable permanent wetland impacts of approximately 762 acres, approximately 48 acres of temporary impacts, and approximately 48 acres of secondary wetland impacts, as summarized in the table below and in Table 1 (attached).

Area	Wetland Impacts (acres)			Functional Loss (UMAM Credits)
	Direct	Secondary	Temporary	
Units 6 & 7 Site	250.2			128.3
Non-Transmission Facilities	203.8	48	48.3	158.5
Transmission	308			241
TOTAL	**762**	**48**	**48**	**528**

Units 6 & 7 Site: Impacts to wetland systems associated with construction at the Site include development of approximately 187.5 acres of isolated mud flats surrounded by active cooling canals, two man-made remnant cooling canals comprising approximately 8.4 acres that cross the mud flat area, approximately 9.1 acres of wetland spoil areas associated with remnant and active cooling canals, and approximately 12.2 acres of scattered mangrove heads. Construction of the western laydown area will impact approximately 16.9 acres of dwarf mangroves, 12.2 acres of open water/discharge canal, and 4.1 acres of man-made canal. All of the wetland systems associated with the Site are contained within the industrial wastewater facility. These areas exhibit severely altered hydrology, temperature, and salinity regimes resulting from their location within the industrial wastewater facility.

Non-Transmission Facilities:

Nuclear Administration Building, Training Building and Parking Area
Impacts to aquatic systems associated with the construction of the nuclear administration building, training building and parking area north of the Site, include development of 26 acres of isolated wetlands surrounded by existing parking lots areas and roadways. These include 18.5 acres of mangroves and 7.6 acres of mangrove/willow wetlands. These mangrove and mangrove/willow wetlands are significantly impacted by the surrounding development, which greatly reduces their function as wildlife habitat.

FPL Reclaimed Water Treatment Facility
Construction of the FPL reclaimed water treatment facility will impact approximately 44 acres of dwarf mangroves and sawgrass west of the existing Turkey Point Plant access road. The location was selected to avoid impacting a historical tidal creek to the north as well as to avoid impacting the freshwater test cooling canals and Turkey Point Unit 5 mitigation area north of the industrial wastewater facility. Secondary wetland impacts, calculated as a 25' zone adjacent to areas of wetland fill, comprise an additional 3 acres surrounding the FPL reclaimed water treatment facility. Functional loss for secondary impacts is calculated as 60% of loss associated with direct impacts.

Reclaimed Water Pipelines
Installation of the approximately 9-mile underground reclaimed water pipelines between the Miami-Dade County Water and Sewer Department South District Wastewater Treatment Plant and the FPL reclaimed water treatment facility will temporarily impact approximately 41.9 acres of wetlands, including mangroves, mixed wetland hardwoods, freshwater marsh, and canals/ditches. Areas of temporary wetland impact will be restored following installation of the reclaimed water pipelines.

Treated Reclaimed Water Delivery Pipelines

Approximately 3.4 acres of dwarf mangroves and mixed wetland hardwoods will be temporarily impacted associated with the installation of the underground treated water delivery pipelines between the FPL Water Treatment Facility and the Units 6&7 Site. Areas of temporary wetland impact will be restored following installation of the treated water delivery pipelines.

Radial Collector Wells and Delivery Pipelines
No impacts to aquatic systems are expected as a result of construction of the radial collector well caissons on the Turkey Point peninsula. The caisson locations have been designed to maximize utilization of existing upland fill areas and roadways and to avoid encroaching upon adjacent areas of mangrove wetlands. Construction of the delivery pipelines from the radial collector wells to the Site will result in temporary impact to approximately three acres of mangrove wetlands during pipeline installation. Following installation, the delivery pipeline trench will be backfilled with native soil to original topographic grade and the area allowed to naturally re-vegetate. Construction of the radial collector wells is not expected to result in any impacts to adjacent surface waters through utilization of BMPs to isolate the construction area with turbidity curtains, silt screens, or other erosion and turbidity control measures.

Equipment Barge Unloading Area
Impacts to aquatic systems associated with enlargement of the equipment barge unloading area are anticipated to be minimal. Expansion of the equipment barge unloading area will require excavation of upland fill material and approximately 0.1 acre of dredging within the expanded barge unloading area. Utilization of BMPs to isolate the construction area with turbidity curtains, silt screens, or other erosion and turbidity control measures will avoid any impacts to adjacent surface waters within the man-made basin.

FPL-Owned Fill Source
Utilization of the FPL-owned fill source for the Project will result in dredging impacts to approximately 52.1 acres of low-quality wetlands, primarily in the form of ditches, exotic wetland hardwoods, wetland scrub, and freshwater marsh systems. These wetlands occur in association with active tree nurseries and are severely impacted through altered hydrology, proliferation of nuisance/exotic species of vegetation, and active agricultural operations in the immediate vicinity.

Roadway Improvements
Wetland impacts associated with the roadway improvement corridor consists of approximately 81.6 acres of freshwater marshes, mixed wetland hardwoods, exotic wetland hardwoods, and mangroves. Secondary impacts associated with the access roads, defined as those undisturbed wetlands within 25' of areas of wetland fill, comprise an additional 45 acres. Functional loss for secondary impacts is calculated as 60% of loss associated with direct impacts. The final road improvements design will utilize existing roadways and associated upland rights-of-way to the greatest extent practicable to avoid and minimize wetland impacts.

<u>Transmission</u>: Transmission line wetland impacts were approximated utilizing conservative assumptions regarding access road height and width, location and size of structure pads, and average UMAM functional assessment scores within each of the corridor segments. The actual wetland impacts are expected to be reduced upon completion of detailed engineering design. Using the worst-case assumptions, the total estimated wetland impacts resulting from construction of the transmission line structure pads, associated patrol roads, the Levee substation expansion and access corridors include 308 acres of permanent wetland impact to mangroves, mixed wetland hardwoods, exotic wetland hardwoods, freshwater marshes, wet prairies, canals, and ditches.

H. Proposed buffer zones;

The Units 6 &7 Site is located within the Turkey Point industrial wastewater facility; no buffer zones are proposed.

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;

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 Section 2, Attachment H – Stormwater Management Plan.

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

Water management areas include the makeup water reservoir located south of the power block, stormwater ponds located within the plant area (Section 2, Attachment C – Figure 2.1), the FPL-owned fill source area located southeast of the Homestead Air Reserve Base (Section 2, Attachment C – Figure 7), stormwater ponds associated with the FPL reclaimed water treatment facility (Section 2, Attachment C – Figure 3.26), and the existing industrial wastewater facility. Details of the size, side slopes, and designed water depths of stormwater facilities are included in Attachment H – Stormwater Management Plan.

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);

The location and details of all water control structures are presented in Section 2, Attachment H – Stormwater Management Plan.

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

<u>Units 6 & 7 Site and Non-Transmission Facilities:</u> The location, dimensions and elevations of proposed structures are presented in Section 2, Attachment C – Site Location and Layout, Figure 2.1 and Figures 3.1 through 3.26.
<u>Transmission</u>: Conceptual dimensions of transmission structures are presented in Section 3, Attachment C – Corridor Location and Layout, Figures 5 through 27, 29 through 35, Figures 37 through 53, and Figures 55 and 56.

M. Location, size, and design capacity of the internal water management facilities;

Internal water management areas include the makeup water reservoir located south of the power block, and the existing industrial wastewater treatment facility. The makeup water reservoir is 37 acres with a design capacity of approximately 329 million gallons. The existing industrial wastewater treatment facility comprises 5,900 acres with a design capacity of approximately 4.7 billion gallons.

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;

<u>Units 6 & 7 Site and Non-Transmission Facilities</u> On-Site rights-of-way and easements are not required for the stormwater management system. Rights-of-way and easements associated with the reclaimed water pipelines, potable water pipelines, and roadway improvements will be acquired as necessary following certification of the respective linear facility corridors.
<u>Transmission</u>: Transmission line rights-of-way and access easements will be acquired as necessary following certification of the transmission corridors.

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

Stormwater runoff from the Units 6 & 7 plant area will be routed for treatment into the existing industrial wastewater facility. The Units 6 & 7 plant area drainage system will consist of catch basins, pipes, swales, and culverts that will convey runoff to the industrial wastewater facility. Stormwater runoff from the FPL reclaimed water treatment facility would be directed to the surrounding area. A conceptual stormwater management plan and drainage calculations for the Project are presented in Section 2, Attachment H – Stormwater Management Plan.

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;

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 IV. Construction Schedule and Techniques for additional information.

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

Refer to Attachment E – Mitigation Plan for details regarding mitigation areas.

R. Site grading details, including perimeter site grading;

Units 6 & 7 Site: Finished grade of the plant area will slope up from an approximate elevation of 19.0 feet NAVD 88 (adjacent to the perimeter retaining wall) to elevation 25.5 feet NAVD 88 at the power block area near the center of the plant area. The slope of the finished grade will be approximately 0.5 percent from the exterior walls to the power block areas with contours and swales to allow drainage into the surrounding canals. The Clear Sky substation (switchyard) and operations parking areas will be graded with moderate slopes for effective drainage. Runoff will flow to swales in the northern and southern perimeters of the switchyard. The operations parking areas will be graded to provide effective drainage to swales on the northern and western sides and to catch basins on the southern side.

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

Excavated muck will be transferred to designated spoils areas, as depicted in Section 2, Attachment C – Site Location and Layout, Figure 13. Material removed from the excavation and evaluated as acceptable for re-use will be stored for common or structural backfill and/or stockpiled for future use.

T. Dewatering plan details;

Dewatering 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. During construction dewatering applicable measuring and monitoring programs will be conducted in accordance with FDEP, SFWMD and Miami-Dade County non-procedural requirements.

Units 6 & 7 Site: A temporary dewatering system will be required for the construction of deep foundations and structures in the power block. A dewatering system will be installed around the power block excavation boundary before excavation begins. Dewatering activities will be confined to areas associated with the construction within the power block and will be limited to the surficial aquifer system. Drainage sumps will be installed at the bottom of the excavations from which surface drainage and/or accumulated groundwater will be pumped to the cooling canals of the industrial wastewater facility. The water quality of the dewatering effluent will be essentially the same as the groundwater and will be routed to the existing industrial wastewater facility or retained on-site and allowed to percolate and/or evaporate. The dewatering system will be designed using BMPs to control turbidity of the effluent released to the existing industrial wastewater facility. General area dewatering will not be required as the surface of the excavated area will be sealed by tremie concrete (if required) to minimize in-leakage of ground water. Local dewatering in the area of the deeper cooling tower foundations will be required and pressure grouting might be required to facilitate this dewatering. The section of the circulating water piping extending beneath the condenser will require a deep excavation and local dewatering. The remaining sections of the circulating water piping will be above the Miami Limestone and will be installed as the plant area is backfilled and will not require dewatering.

Once the detailed design is completed, a dewatering plan, if required, will be developed prior to commencing dewatering activities.

Non-Transmission Facilities: Local dewatering in the area of the nuclear administration building, and training building and parking area may be required and pressure grouting might be required to facilitate this dewatering. Dewatering will also be required for construction of the radial collector well caissons and laterals and the associated delivery pipelines.

U. For marina facilities, locations of any sewage pumpout facilities, fueling facilities, boat repair and maintenance facilities, and fish cleaning stations.

N/A

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.

N/A

W. For phased projects, provide a master development plan

N/A

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;

N/A

B. Schedule of implementation of temporary or permanent erosion and turbidity control measures;

Prior to beginning any earth disturbing activities, a silt fence will be installed along the perimeter of areas to be used for parking and trailers, as well as areas where runoff to off-site areas is expected. The silt fence will trap sediments from construction runoff. Along the perimeter of areas that will be filled and are presently tidal where silt fence may not be appropriate, an impermeable barrier (e.g., Fabriform, soil, cement bags, or sheet piling) will be placed along the perimeter to prevent tidal circulation and to keep the sediment within the construction area. Temporary erosion and sedimentation control measures will be designed to prevent the sediment from being displaced and carried off-site by the construction runoff. Silt fences, as well as inlet and outlet protection at catch basins, culverts, and sediment basins, as necessary, will be used to assist in the sediment control. As necessary, the sediment collected during the construction will be removed. All temporary sediment and erosion control measures will be removed at the end of construction.

Additional information regarding erosion and turbidity control measures associated with transmission line construction are provided in Section 3, Attachment A – Project Description, Sections 2.7 and 3.7.

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;

Units 6 & 7 Site: Site preparation, excavation and foundation preparation for the Units 6 & 7 power block areas will include the following:

The two excavations for the containment and auxiliary buildings will extend to an approximate elevation of −35.0 feet NAVD 88 or to the top of competent rock in the Key Largo Formation. To permit construction of the deep foundations and to hydraulically isolate this excavation from horizontal groundwater flow, a permanent reinforced concrete diaphragm "cutoff" wall will be constructed. It is

anticipated that the diaphragm wall will be installed into the Key Largo Formation to a depth of approximately −65.0 feet NAVD 88 or just below a semi-confining layer in the Biscayne Aquifer. Top of the diaphragm wall will be at elevation 2.0 feet NAVD 88 or two feet above the construction working surface elevation of 0.0 feet NAVD 88.

Once construction of the diaphragm wall is completed around the planned deep foundation area, excavation of the existing muck material within its interior will commence using conventional methods (use of explosives will not be required). Excavated material not suitable for reuse will be transferred to the designated spoils storage areas, as depicted in Section 2, Attachment C – Site Location and Layout, Figure 13. Material removed from the excavation and evaluated as acceptable, will be stored on the plant area and used later as common or structural backfill.

Lean concrete fill will be placed between the excavated surface of the Key Largo Limestone Formation at approximately −35.0 feet NAVD 88 and an approximate elevation of −16.0 feet NAVD. At this elevation, additional lean concrete fill, mud mat(s) and a waterproof membrane will provide an interface at −14.0 feet NAVD for construction of the containment and auxiliary building reinforced concrete foundations. Structural fill will then be placed to prescribed compaction requirements in the annular space between the power block structures and the diaphragm wall. The structural fill will extend to the top of the wall and fill will be placed over common fill at a 1.5:1 horizontal to vertical slope past the diaphragm wall perimeter. Muck will be excavated from the plant area until the entire area of muck is removed. Muck removed during excavation will be transferred to designated spoils storage areas, as depicted in Section 2, Attachment C – Site Location and Layout, Figure 13. Material removed from the deeper excavations and evaluated as acceptable for reuse will be stored for common or structural backfill. Material removed from the excavation and evaluated as acceptable for re-use will be stored for common or structural backfill and/or stockpiled for future use.

The makeup water reservoir (a reinforced concrete structure with a footprint of approximately 37 acres) will be located in the south end of the plant area. Six (6) mechanical draft cooling towers (three per unit) will be installed over the reservoir to maximize size of the reservoir. Site preparation, excavation and construction of the reservoir will generally include the following:

The south perimeter of the plant area will be stabilized similar to the remainder of the plant area perimeter by driving sheet piles into the Miami Limestone Formation. In addition to restraining the return canals, this sheet piling will function as sacrificial formwork when the reservoir exterior wall is poured and only the exposed portion above approximate elevation 0.0 NAVD 88 will be removed.

After stabilizing the canals, the muck behind the sheet piles will be excavated to the top of the Miami Limestone Formation and placed in the designated spoils areas.

General area dewatering will not be required as the surface of the excavated area will be sealed by tremie concrete (if required) to minimize in-leakage of ground water. Local dewatering in the area of the deeper cooling tower foundations will be required and pressure grouting might be required to facilitate this dewatering.

Concrete will be placed over the excavated area to form the reservoir base slab. The top of base slab will be at elevation −2.0 feet NAVD 88. Reinforced concrete walls will then be constructed with the top elevation at 24.0 feet NAVD 88.

The circulating water system piping will be routed from the discharge of the circulating water pumps located on the north side of the makeup water reservoir, to the condenser in the turbine building and from the condenser to the cooling towers. The section of the circulating water piping extending beneath the condenser will require a deep excavation and local dewatering.

<u>Non-Transmission Facilities</u>: The delivery pipelines from the radial collector wells will require excavation on the Turkey Point peninsula and the existing berm east of the plant area, but will be above ground on the plant area. Approximately 14 acres will be disturbed during the construction of the wells and the delivery pipeline, including an area for material laydown.

The area for the FPL reclaimed water treatment facility will be demucked and backfilled to an elevation of 14 feet NAVD 88. Removed muck will be transported to designated spoils areas as shown in Section 2, Attachment C – Site Location and Layout, Figure 13. Considering the additional area required for equipment laydown, parking, and other supporting facilities, the total disturbed area is estimated to be approximately 44 acres. The reclaimed water pipelines will be routed from the FPL reclaimed water treatment facility to the west side of the makeup water reservoir. Excavation will be required between the FPL reclaimed water treatment facility and the plant area, but the pipelines will be above ground on the plant area. Approximately 2 acres will be disturbed during construction of the reclaimed water delivery pipeline from the FPL reclaimed water treatment facility to the plant area.

A water management feature will be created from the excavation activities at the FPL-owned fill source and will be designed to complement and enhance regional wetland rehydration projects. The final depth of the excavation in the deep cut areas will be based on the criteria established by Miami-Dade County.

An expanded equipment barge unloading area is adjacent to an existing boat slip within the man-made turning basin. Expansion of the equipment barge unloading area will require excavation of upland fill material and is not expected to result in any impacts to adjacent surface waters through utilization of BMPs to isolate the construction area with turbidity curtains, silt screens, or other erosion and turbidity control measures.

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;

The FPL-owned fill source that will provide fill material for the Project is located about 4 miles northwest of the Site, near Homestead Air Reserve Base. The property, which is approximately 300 acres, is located northwest of the intersection of SW 107th Avenue and SW 312th Street. The land is currently used for agriculture (predominately tree nurseries). The land surface elevation in this area is about 3 to 4 ft NGVD. The land is almost flat, with a very small slope (1 to 2 ft per mile) to the east. The wet season (October) and dry season (May) water levels in this area are about 2.0 ft NGVD and 1.0 ft NGVD, respectively. The upper 4 to 5 ft of soil is a mixture of marl, peat, and fills. Rock (Miami Limestone) is generally encountered 4 to 5 ft below land surface. The Fort Thompson Formation and Key Largo Limestone (interbedded) are found between 9 and 74 ft below land surface. Surface drainage in the area is currently through swales and roadside ditches to the Military or Mowry Canals, then east toward Biscayne Bay. Clean backfill will also be obtained from regional sources, as needed.

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 be required);

Temporary dewatering effluent for initial site preparation will be routed to the existing industrial wastewater facility or contained on-site. 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.

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;

There will be two primary methods to bring material and equipment to the Site: barge and truck. Rail may be used as a backup. Because neither the barge nor rail unloading area is located on the Site, large components and modules using this mode of transportation will be trucked to the Site using specialized heavy haul vehicles. It is anticipated that most construction materials will be trucked to the Site following normal commercial practices. Construction traffic (workers and fill trucks, equipment and material deliveries) for the Turkey Point Units 6 & 7 Project will be kept separate from normal traffic flows for

Units 1 through 5 operations personnel, where feasible. To facilitate this, existing Miami-Dade County SW 359th Street, which runs in an east-to-west manner, will be improved and extended to SW 137th Avenue/Tallahassee Road from the Site. SW 328th Street/North Canal Drive will be improved from SW 137th Avenue/Tallahassee Road to SW 117th Avenue and a small portion of SW 344th Street/Palm Drive south of the Homestead Speedway will be improved. In addition, SW 117th Avenue and SW 137th Avenue/Tallahassee Road, which run in a north-to-south manner, will be improved and extended between SW 344th Street/Palm Drive and SW 359th Street. New bridge(s) for SW 359th Street and the roadway connecting SW 359th Street to the plant access roads will be required over the existing L-31E Canal to permit access to the Site from the west.

The existing heavy haul roads originating at the existing barge turning basin northeast of the Site will be improved. The roads will have a total length of approximately 2 miles from the equipment barge unloading area to the Units 6 & 7 plant area, or approximately 4 acres. Improvements of these and other roadways will start at the barge turning basin and extend generally west between Unit 5 and Units 1 and 2. The roadways will then extend generally south and cross over two new heavy haul bridges, one at the discharge canal and the other at the main cooling return canal. The heavy haul roads will then terminate at three locations on the Site to allow for large component delivery and placement. The existing heavy haul roads will not be widened, but will require resurfacing to accommodate transports and/or trucks. There will be no increase in impervious surfaces as a result of the minor upgrades. Culverts will be installed under the heavy haul roads where required to maintain drainage patterns. A temporary bridge will be required over the main cooling discharge canal and a permanent bridge over the L-31E Canal on the west side of the Site to permit preliminary site preparation work, and during construction to permit delivery of materials until the heavy haul bridges are completed. The temporary bridge will be removed after completion of the heavy haul bridges.

Components and modules will be transported to the Site by barge. Expansion of the existing equipment barge unloading area would be required to accommodate deliveries for Units 6 & 7. Details about material handling by barge are provided in the FPL Turkey Point Units 6 & 7 Barge Delivery Plan, Attachment J.

G. Demolition plan for any existing structures to be removed; and

N/A

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

Construction activities for the Project are expected to begin in the third quarter of 2011. The first phase of construction will involve roadway improvements and site preparation activities. Construction of the nuclear generating units will commence after receipt of the combined license, with construction activities scheduled over approximately 48 months. For each unit, a six-month period for fuel load and startup will follow construction. Units 6 & 7 are scheduled to begin commercial operation in 2018 and 2020, respectively. 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 of the project. FPL will be responsible for monitoring, record drawings, and as-built certifications for the Project.

V. Drainage Information

Information pertaining to the drainage calculations and supporting documents as discussed below are presented in Section 2, Attachment H – Stormwater Management Plan.

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;

2. Water table elevations (normal and seasonal high) including aerial extent and magnitude of any proposed water table draw down;

3. Receiving water elevations (normal, wet season, design storm);

4. Design storms used including rainfall depth, duration, frequency, and distribution;

5. Runoff hydrograph(s) for each drainage basin, for all required design storm event(s);

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

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

8. Flood routings through on-site conveyance and storage areas;

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

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

11. Tail water history and justification (time and elevation); and

12. Pump specifications and operating curves for range of possible operating conditions (if used in system).

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

FPL conducted the geotechnical investigations for the proposed Turkey Point Units 6 & 7 plant area, which included drilling 88 borings. The locations of the borings are provided in Section 2, Attachment C – Site Location and Layout, Figure 14.1. In general, the borings ranged from 100 feet below ground surface (bgs) to 290 feet bgs. Two relatively deep borings were drilled to depths of 419.2 and 615.5 feet bgs. The investigations obtained soil and rock samples using standard penetration test (SPT) sampling and rock coring (ASTM D1586-99 and ASTM D2113-99). The carbonate rock encountered was classified according to Dunham (1962). Geologic cross sections derived from the boreholes are provided in Section 2, Attachment C – Site Location and Layout, Figures 14.2 and 14.3. The locations of the cross sections are shown in Section 2, Attachment C – Site Location and Layout, Figure 14.1.

The surficial deposits at the Turkey Point Units 6 & 7 plant area consist of an average of approximately 3 feet of muck with the thickness increasing towards the south and east. The muck is composed of recent light gray calcareous silts with varying amounts of organic content. The surface elevations for this stratum ranged from 0.2 to -1.8 feet NAVD 88. The average grain sizes are provided in the table below. The Miami Limestone is white to pale yellow and light brownish gray, oolitic, porous, fossiliferous, and contains vugs that are oriented in either the horizontal or the near vertical direction. The Miami Limestone generally ranges from soft to medium hard depending upon the degree of carbonate cementation and often exhibits a sandy texture, but typically becomes very hard near its base. The top of the Miami Limestone is generally encountered between 3 and 6 feet bgs. Laboratory grain size analyses were performed on Standard Penetration Testing (SPT) samples of the Miami Limestone during the geotechnical investigation of the plant area. The results of the grain size analyses are summarized in the table below. The grain size analyses reflect the generally granular nature of the poorly (soft) portions of the formation. The Miami Limestone is directly underlain by the Key Largo Limestone. The contact between the Miami Limestone and the Key Largo Limestone is generally an irregular gradational contact

primarily inferred based on hardness and oolite content. The thickness of the Miami Limestone varies from approximately 22 to 28 ft across the plant area. The underlying Key Largo Limestone is a coralline limestone characterized by the presence of vuggy porosity with a high degree of interconnectivity. Vugs within the Key Largo Limestone typically exhibit evidence of precipitation of secondary minerals (i.e. calcite). The top of the Key Largo Limestone is generally encountered between 23 and 33 feet bgs. The Key Largo Limestone varies in thickness from approximately 24 feet to less than 14 feet toward the southeast. The contact between the Key Largo Limestone and the underlying Fort Thompson Formation has been identified as a layer of dark gray, fine-grained fresh water limestone that occurs at the base of the Key Largo Limestone. The fresh water limestone is generally more than 2 feet thick, and it often possesses a sharp color change from light to dark gray at its base that distinctly marks the transition from the Key Largo Limestone to Fort Thompson Formation.

The Fort Thompson Formation is generally a sandy limestone with zones of uncemented sand interbeds and zones of moldic porosity after gastropod and/or bivalve shell molds and casts. Overall, the Lower Fort Thompson Formation has a vuggy secondary porosity with a lower degree of interconnectivity than those of the Key Largo Limestone. The top of the Fort Thompson Formation is generally encountered between 48 and 52 feet bgs. The Fort Thompson Formation is approximately 65 feet thick across most of the plant area. The structure contour map of the top of the Fort Thompson Formation indicates it is a gently undulating surface that shows no evidence of fault displacement.

The Tamiami Formation directly underlies the Fort Thompson Formation. The contact between the Tamiami Formation and the Fort Thompson Formation is an inferred contact picked as the bottom of the last lens of competent limestone encountered. The selection of this inferred contact in each boring was primarily determined from core recoveries and drill rates. The Tamiami Formation generally consists of light gray to greenish gray, poorly graded silty sand, but locally it can be interlayered with clayey sand, silt, and clean clay. Laboratory grain size analyses were performed on SPT and undisturbed samples of the Tamiami Formation obtained during the geotechnical investigation of the plant area. The results of the grain size analyses are summarized in the table below. The grain size analyses reflect the sandy nature of the formation. The top of the Tamiami Formation was generally encountered between 113 and 117 feet bgs.

The Peace River Formation of the Hawthorn Group directly underlies the Tamiami Formation and generally consists of poorly graded silty sand down to approximately 460 feet bgs. The contact between the Peace River Formation and the Tamiami Formation is inferred based on an increase in activity on the gamma ray log. The average grain size is presented in the table below. The top of the Peace River Formation is encountered between 216 and 224 feet bgs in borings B-601, B-701, B-710, and B-708.

The Arcadia Formation of the Hawthorn Group underlies the Peace River Formation. The Arcadia Formation consists of carbonate rock ranging from packstone to wackestone to mudstone with a few isolated lenses of silty sand. The Arcadia Formation varies in hardness from soft (friable) to hard (well indurated) with colors ranging from pale yellow to greenish gray. It is fossiliferous with shell molds and casts. The unit is capped by a gray, hard, indurated dolostone/grainstone with sugary texture containing a few gastropod shell molds and casts. The top of the Arcadia Formation was encountered at 455 feet bgs and extended to the bottom of Boring B-701 at 615.5 feet bgs.

AVERAGE GRAIN SIZE OF THE LITHOLOGY AT THE TURKEY POINT UNITS 6 & 7 SITE

		% Gravel	% Sand	% Fines
Muck	Minimum	0	35	14.3
	Maximum	46	55	45
	Average	27.1	46.8	26.1
Miami Limestone	Minimum	0	18	1
	Maximum	71	92	48.6
	Average	38.9	42.6	18.5

Tamiami Sand	**Minimum**	**0**	**21.3**	**8**
	Maximum	**57**	**92**	**78.7**
	Average	**4**	**58.5**	**37.6**
Hawthorn Sand/ Peace River Formation	**Minimum**	**0**	**47.6**	**6**
	Maximum	**0**	**94**	**52.4**
	Average	**27.1**	**79.8**	**20.2**

Note: The grain sizes for Muck, Miami Limestone, Tamiami Sand, and Hawthorn Sand/Peace River Formation were recovered from SPT sampling.

Source: MACTEC, Volume 1, 2008.

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

1. Impervious surfaces, excluding wetlands;
2. Pervious surfaces (green areas, not including wetlands);
3. Lakes, canals, retention areas, other open water areas; and
4. Wetlands.

Units 6 & 7 Site: The drainage categories, acreage, and percentages are presented below:

Drainage Category	Area (Acres)	Area (%)
Impervious surfaces, excluding wetlands	220	76
Pervious surfaces (green areas, not including wetlands)	12.9	4
Lakes, canals, retention areas, open water	57.8	20
TOTAL	**290.7**	100

Non-Transmission Facilities: The drainage categories, acreage, and percentages are presented below:

Drainage Category	Area (Acres)	Area (%)
Nuclear Administration Building, Training Building and Parking Area		
Impervious surfaces	31.6	100
Radial Collector Well Area		
Impervious surfaces	6	100
Radial Collector Well Pipelines		
Impervious surfaces	10.2	68
Canals	0.2	1
Wetlands	4.6	31
SUBTOTAL	**15.0**	100
FPL Reclaimed Water Treatment Facility		
Impervious surfaces	37	84
Retention areas, open water	7	16
SUBTOTAL	**44**	100
Treated Reclaimed Water Delivery Pipelines		
Impervious surfaces	1.1	22
Pervious surfaces	0.2	4
Lakes, canals, retention areas, open water	0.2	4
Wetlands	3.4	69
SUBTOTAL	**4.9**	**100**
FPL-Owned Fill Source		
Lakes, canals, retention areas, open water	298.4	100
Reclaimed Water Pipeline Corridor		
Impervious surfaces	695.2	36
Pervious surfaces	630.4	33

Drainage Category	Area (Acres)	Area (%)
Lakes, canals, retention areas, open water	124	6
Wetlands	478	25
SUBTOTAL	**1927.6**	**100**
Potable Water Pipeline Corridor		
Impervious surfaces	884.2	52
Pervious surfaces	721.1	43
Lakes, canals, retention areas, open water	81	5
SUBTOTAL	**1686.3**	**100**
Roadway Improvement Corridor		
Impervious surfaces	151.3	33
Pervious surfaces	34.1	8
Lakes, canals, retention areas, open water	29.6	7
Wetlands	238	52
SUBTOTAL	**452.9**	**100**
Equipment Barge Unloading Area		
Open water	0.1	100
GRAND TOTAL	**4,467**	

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

An engineering analysis of floodplain storage and conveyance (if applicable) will be prepared as engineering design is finalized.

1. Hydraulic calculations for all proposed traversing works;

2. Backwater water surface profiles showing upstream impact of traversing works;

3. Location and volume of encroachment within regulated floodplain(s); and

4. Plan for compensating floodplain storage, if necessary, and calculations required for determining minimum building and road flood elevations.

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

Stormwater runoff from the Units 6 & 7 plant area will be routed for treatment into the existing industrial wastewater facility. The Units 6 & 7 plant area drainage system will consist of catch basins, pipes, swales, and culverts that will convey runoff to the industrial wastewater facility. Stormwater runoff from the FPL reclaimed water treatment facility would be treated and directed to the surrounding area. The stormwater management plan and drainage calculations for the Project are presented in Section 2, Attachment H – Stormwater Management Plan.

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

The facility will provide retention or detention with filtration of the first 0.5 inch of runoff in accordance with FDEP regulations. Refer to Section 2, Attachment H – Stormwater Management Plan, for analysis of the water quality treatment system.

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.

The stormwater model selected for estimating the stormwater runoff from the developed site is described in Section 2, Attachment H – Stormwater Management Plan. 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 included in Section 2, Attachment H – Stormwater Management Plan.

VI. Operation and Maintenance and Legal Documentation

A. Describe the overall maintenance and operation schedule for the proposed system.

All facilities associated with the Units 6 & 7 Project will be owned and operated by FPL with the exception of: roadway improvements, reclaimed water pipelines and potable water pipelines outside of the Turkey Point plant property boundary, which will be owned and operated by Miami-Dade County.

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.

All facilities associated with the Units 6 & 7 Project will be owned and operated by FPL with the exception of roadway improvements, reclaimed water pipelines and potable water pipelines outside of the Turkey Point plant property boundary, which will be owned and operated by Miami-Dade County.

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.

N/A

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

The water for the various plant water needs will be obtained from a reclaimed water supply, a saltwater supply, and a potable water supply. Reclaimed water from the Miami-Dade Water and Sewer Department (MDWASD) will be used as primary makeup water to the cooling water system. When reclaimed water is not available in sufficient quantity and quality for the CWS, a combination of reclaimed water and saltwater from the radial collector wells will be used as a source of cooling water. Potable water will be used as makeup water for the service water system, the potable water system, fire protection system, demineralized water treatment system, and other miscellaneous uses, and will be supplied by the MDWASD.

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

Units 6 & 7 Site: A boundary map of the 11,000-acre Turkey Point property is included in Section 2, Attachment I – Boundary Survey.
Transmission: The boundaries of the approximately 5,814 acres contained within the Western and Eastern Corridors are shown in Section 3, Attachment C – Corridor Location and Layout, Figures 57 and 58.

VII. Water Use

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

No.

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

A Consumptive Use or Water Use permit has not been issued for the Project.

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.

A Consumptive Use permit is not being sought as part of the site certification for this Project.

D. Indicate how any existing wells located within the project site will be utilized or abandoned.

Monitoring wells not required for the Project will be properly abandoned.

TABLE 1
Project Impact Summary

WL & SW ID	WL & SW TYPE	WL & SW SIZE (ac.) ON SITE	WL & SW ACRES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		TEMPORARY IMPACTS TO WL & SW		MITIGATION ID
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
UNITS 6 & 7 SITE								
	510	**16.7**	**12.6**	**4.1**	**F**	**0**	**N/A**	**EMB**
	511	**8.4**	**0**	**8.4**	**F**	**0**	**N/A**	**EMB**
	531	**12**	**0**	**12**	**F**	**0**	**N/A**	**EMB**
	612	**12.2**	**0**	**12.2**	**F**	**0**	**N/A**	**EMB**
	612-B	**16.9**	**0**	**16.9**	**F**	**0**	**N/A**	**EMB**
	650	**187.5**	**0**	**187.5**	**F**	**0**	**N/A**	**EMB**
	743-wet	**9.1**	**0**	**9.1**	**F**	**0**	**N/A**	**EMB**
SUBTOTAL		**262.8**	**12.6**	**250.2**		**0**		
NON-TRANSMISSION FACILITIES								
Nuclear Administration Building, Training Building, and Parking Area	**612**	**18.5**	**0**	**18.5**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas**
	612/618	**7.6**	**0**	**7.6**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas**
SUBTOTAL		**26.1**	**0**	**26.1**		**0**		
FPL Reclaimed Water Treatment Facility	**612-B**	**44**	**0**	**44**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas**
FPL-Owned Fill Source	**511**	**5.2**	**0**	**5.2**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas**

WL & SW ID	WL & SW TYPE	WL & SW SIZE (ac.) ON SITE	WL & SW ACRES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		TEMPORARY IMPACTS TO WL & SW		MITIGATION ID
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
	619	**33.7**	**0**	**33.7**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas**
	631	**4.4**	**0**	**4.4**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas**
	641	**8.8**	**0**	**8.8**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas**
SUBTOTAL		**52.1**		**52.1**		**0**		
Roadway Improvement Corridor	**510/511/534**	**36.8**	**29.5**	**7.3**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas and HID**
	612	**1.1**	**1.0**	**0.1**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas and HID**
	612-B	**19.3**	**11.8**	**7.5**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas and HID**
	617	**52**	**42.9**	**9.1**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas and HID**
	617/641	**33.4**	**27.9**	**5.5**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas and HID**
	619	**28.7**	**24.5**	**4.2**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas and HID**
	641	**177.9**	**130**	**47.9**	**F**	**0**	**N/A**	**Enhancement/ Restoration Areas and HID**

WL & SW ID	WL & SW TYPE	WL & SW SIZE (ac.) ON SITE	WL & SW ACRES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		TEMPORARY IMPACTS TO WL & SW		MITIGATION ID
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
SUBTOTAL		**349.2**	**267.6**	**81.6**		**0**		
Radial Collector Well Pipelines	**612**	**3.0**	**0**	**0**	**N/A**	**3.0**	**C**	**In-situ Restoration**
Reclaimed Water Pipeline Corridor	**510/511/530/ 531/534**	**81.2**	**75.8**	**0**	**N/A**	**5.4**	**C**	**In-situ Restoration**
	612	**287.6**	**269**	**0**	**N/A**	**18.6**	**C**	**In-situ Restoration**
	612/619	**7.5**	**2.3**	**0**	**N/A**	**5.2**	**C**	**In-situ Restoration**
	617/630	**95.9**	**87.3**	**0**	**N/A**	**8.6**	**C**	**In-situ Restoration**
	641	**33.8**	**29.7**	**0**	**N/A**	**4.1**	**C**	**In-situ Restoration**
SUBTOTAL		**506**	**464.1**			**41.9**		
Treated Reclaimed Water Pipelines	**612-B**	**3.1**	**0**	**0**	**N/A**	**3.1**	**C**	**In-situ Restoration**
	617	**0.3**	**0**	**0**	**N/A**	**0.3**	**C**	**In-situ Restoration**
SUBTOTAL		**3.4**	**0**	**0**		**3.4**		
Equipment Barge Unloading Area	**510**	**0.1**	**0**	**0.1**	**D**	**0**	**N/A**	**N/A**
TRANSMISSION*								
West Corridor Segment 1A	**510, 612-B**	**TBD**	**TBD**	**4.91**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 1B	**617, 641**	**TBD**	**TBD**	**23.65**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 1C	**617, 641**	**TBD**	**TBD**	**19.89**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 1D	**510, 617, 619, 641,**	**TBD**	**TBD**	**44.76**	**F**	**N/A**	**N/A**	**HID**

WL & SW ID	WL & SW TYPE	WL & SW SIZE (ac.) ON SITE	WL & SW ACRES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		TEMPORARY IMPACTS TO WL & SW		MITIGATION ID
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
	643							
West Corridor Segment 2	**510, 643**	**TBD**	**TBD**	**2.70**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 3A	**617, 619, 641**	**TBD**	**TBD**	**15.33**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 3B	**510, 617, 619, 641, 643**	**TBD**	**TBD**	**102.63**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 3C	**510, 617, 618, 619, 641**	**TBD**	**TBD**	**55.95**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 4	**617, 619, 641, 643**	**TBD**	**TBD**	**27.69**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 5A	**511, 619, 631, 641, 643**	**TBD**	**TBD**	**1.06**	**F**	**N/A**	**N/A**	**HID**
West Corridor Segment 5B	**510, 511, 619, 641, 643**	**TBD**	**TBD**	**0.28**	**F**	**N/A**	**N/A**	**HID**
Levee Substation Expansion	**619, 641**	**7.50**	**0**	**7.50**	**F**	**N/A**	**N/A**	**HID**
Tamiami Trail Access Corridor	**510, 641**	**1.63**	**0**	**1.63**	**F**	**N/A**	**N/A**	**HID**
Krome Avenue Access Corridor	**510, 619, 641**	**0.20**	**0**	**0.20**	**F**	**N/A**	**N/A**	**HID**
East Corridor Segment 6	**612**	**TBD**	**TBD**	**0.06**	**F**	**N/A**	**N/A**	**Enhancement/ Restoration Areas**

WL & SW ID	WL & SW TYPE	WL & SW SIZE (ac.) ON SITE	WL & SW ACRES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		TEMPORARY IMPACTS TO WL & SW		MITIGATION ID
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
SUBTOTAL		**TBD**	**TBD**	**308.2**		**N/A**		
PROJECT TOTALS		**1,243**		**762**		**48**		

WL = Wetland; **SW** = Surface water; **ID** = Identification number, letter, etc.; **TBD** = To be determined
Wetland Type: Use an established wetland classification system and, in the comments section below, indicate which classification system is being used.
Impact Code (Type): D = dredge; F = fill; H = change hydrology; S = shading; C = clearing; O = other. Indicate the final impact if more than one impact type is proposed in a given area. For example, show F only for an area that will first be demucked and then backfilled.

Comments:
*** Transmission line impacts conservatively approximated utilizing corridor segments; actual wetland impacts are expected to be reduced upon completion of detailed engineering design. Acreage of clearing/conversion of forested to herbaceous wetlands will be calculated upon completion of detailed engineering design.**
Wetland type based on Florida Land Use Land Cover and Forms Classification System (FDOT, 1999).
EMB = Everglades Mitigation Bank
HID = Hole in the Donut Mitigation Bank
Enhancement/Restoration Areas = Northwest Restoration Site, Water Management Feature Restoration Site, S20A /L-31E Hydrologic Enhancement Site, Card Sound Canal Weir Hydrologic Enhancement Site, Model Lands Basin Hydrologic Enhancement Site (Reclaimed Water), Model Lands Basin Hydrologic Enhancement Site (Additional Culverts)

TABLE 2
ON-SITE MITIGATION SUMMARY

MITIGATION ID	CREATION		RESTORATION		ENHANCEMENT		WETLAND PRESERVE		UPLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE
In Situ Restoration			**48.3**	**510, 511, 612, 617, 630, 641**								
PROJECT TOTALS			**48.3**									

CODES (multiple entries per cell not allowed): Target Type or Type = target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

COMMENTS:
Wetland type based on Florida Land Use Land Cover and Forms Classification System (FDOT, 1999).
In situ restoration of temporary wetland impacts along the radial collector well, reclaimed water, and treated reclaimed water pipelines.

TABLE 3
OFF-SITE MITIGATION SUMMARY

MITIGATION ID	RESTORATION		ENHANCEMENT		WETLAND PRESERVE		OTHER	
	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE	AREA	TARGET TYPE
Northwest Restoration Site	**240**	**617/641**						
Water Management Feature Restoration Site	**327**	**617/641**			**250**	**641**		
S20A /L-31E Hydrologic Enhancement Site			**293**	**641**				
Card Sound Canal Weir Hydrologic Enhancement Site			**250**	**641**				
Model Lands Basin Hydrologic Enhancement Site (Reclaimed Water)			**600**	**641/617**				
Model Lands Basin Hydrologic Enhancement Site (Additional Culverts)			**150 (subset of 600 above)**	**641/617**				
EMB					**148.4 credits = 1,039 acres**	**612**		
HID					**308.2 credits = 308.2 acres**	**641**		
PROJECT TOTALS	**567**		**1,143**		**1,597.2**			

CODES (multiple entries per cell not allowed): Target Type or Type = target or existing habitat type from an established wetland classification system or land use classification for non-wetland mitigation

COMMENTS:
Wetland type based on Florida Land Use Land Cover and Forms Classification System (FDOT, 1999).
Mitigation credits calculated using the EMB W.A.T.E.R. method and SFWMD Basis of Review mitigation ratio method for HID.

SECTION G

Application for Authorization to Use Sovereign Submerged Lands

Part 1: Sovereign Submerged Lands title information (see Attachment 5 for an explanation). Please read and answer the applicable questions listed below:

A. I have a sovereign submerged lands title determination from the Division of State Lands which indicates that the proposed project is NOT ON sovereign submerged lands (Please attach a copy of the title determination to the application). Yes☐ No☐

- If you answered Yes to Question A and you have attached a copy of the Division of State Lands Title Determination to this application, you do not have to answer any other questions under Part I or II of Section G.

B. I have a sovereign submerged lands title determination from the Division of State Lands which indicates that the proposed project is ON sovereign submerged lands (Please attach a copy of the title determination to the application). Yes☐ No☐

- If you answered yes to question B please provide the information requested in Part II. Your application will be deemed incomplete until the requested information is submitted.

C. I am not sure if the proposed project is on sovereign submerged lands (please check here). ☐

- If you have checked this box department staff will request that the Division of State Lands conduct a title determination. If the title determination indicates that the proposed project or portions of the project are located on sovereign submerged lands you will be required to submit the information requested in Part II of this application. The application will be deemed incomplete until the requested information is submitted.

D. I am not sure if the proposed project is on sovereign submerged lands and I DO NOT WISH to contest the Department's findings (please check here). ☒

- If you have checked this box refer to Part II of this application and provide the requested information. The application will be deemed incomplete until the requested information is submitted.

E. It is my position that the proposed project is NOT on sovereign submerged lands (please check here)☐

- If you have evidence that indicates that the proposed project is not on sovereign submerged lands please attach the documentation to the application. If the Division of State Lands title determination indicates that your proposed project or portion of your proposed project are on sovereign submerged lands you will be required to provide the information requested in Part II of this application.

F. If you wish to contest the findings of the title determination conducted by the Division of State Lands please contact the Department of Environmental Protection's Office of General Counsel. Your proposed project will be deemed incomplete until either the information requested in Part II is submitted or a legal ruling indicates that the proposed project is not on sovereign submerged lands.

Part II: If you were referred to this section by Part I, please provide this additional information. Please note that if your proposed project is on sovereign submerged lands and the below requested information is not provided, your application will be considered incomplete.

A. Provide evidence of title to the subject riparian upland property in the form of a recorded deed, title insurance, legal opinion of title, or a long-term lease which specifically includes riparian rights. Evidence submitted must demonstrate that the application has sufficient title interest in the riparian upland property.

Non-Transmission Facilities: See copy of deed at the end of this section.

Transmission: The HDD crossing of the Miami River will be conducted within an easement to be located within the East Preferred Corridor.

B. Provide a detailed statement describing the existing and proposed upland uses and activities. For commercial uses, indicate the specific type of activity, such as marina, ship repair, dry storage (including the number of storage spaces), commercial fishing/seafood processing, fish camp, hotel, motel resort restaurant, office complex, manufacturing operation, etc.

For rental operations, such as trailer or recreational vehicle parks and apartment complexes, indicate the number of wet slip units/spaces available for rent or lease and describe operational details (e.g., are spaces rented on a month-to-month basis or through annual leases).

For multi-family residential developments, such as condominiums, townhomes, or subdivisions, provide the number of living units/lots and indicate whether or not the common property (including the riparian upland property) is or will be under the control of a homeowners association.

For projects sponsored by a local government, indicate whether or not the facilities will be open to the general public. Provide a breakdown of any fees that will be assessed, and indicate whether or not such fees will generate revenue or will simply cover costs associates with maintaining the facilities.

Non-Transmission Facilities: The existing and proposed upland uses and activities include generation of electricity and directly related activities. This is an existing power plant site to which two new generating units are to be added. No marinas, ship repair, dry storage of boats, commercial fishing/seafood processing, fish camp, hotel, motel, resort, restaurant, office complex or manufacturing operation are proposed except as directly related to the operation of the power plants. No boat slips are proposed.

Transmission: The existing and proposed upland landuses and activities include low-rise multiple dwelling units and electric utilities.

C. Provide a detailed statement describing the existing and proposed activities located on or over the sovereign submerged lands at the project site. This statement must include a description of docks and piers, types of vessels (e.g., commercial fishing, liveaboards, cruise ships, tour boats), length and draft of vessels, sewage pumped facilities, fueling facilities, boat hoists, boat ramps, travel lifts, railways, and any other structure or activities existing or proposed to be located waterward of the mean/ordinary high water line.

If slips are existing and/or proposed, please indicate the number of powerboat slips and sailboat slips and the percentage of those slips available to the general public on a "first come, first served" basis. This statement must include a description of channels, borrow sites, bridges, groins, jetties, pipelines, or other utility crossings, and any other structures or activities existing or proposed to be located waterward of the mean/ordinary high water line. For shoreline stabilization activities, this statement must include a description of seawalls, bulkheads, riprap, filling activities, and any other structure or activities existing or proposed to be located along the shoreline.

Non-Transmission Facilities: The only existing activity located on sovereign submerged lands is a barge channel providing access from the intercoastal waterway (ICWW) to the existing power plants. FPL is now proposing to install a series of Radial Collector Wells beneath the bottom of Biscayne Bay, to provide secondary cooling water for the proposed new generating units. Saltwater will be the secondary source of CWS cooling tower makeup and will be supplied by radial collector wells. There will be four 33 1/3 percent radial collector wells (30,000 gpm capacity per well). Three wells would meet the makeup water requirements for the circulating water systems; the fourth would be an installed spare. Two 50 percent pumps (15,000 gpm capacity per pump) in each well caisson will transfer the saltwater to the circulating water systems via delivery pipelines to the Site. Each radial collector well will consist of a central reinforced concrete caisson extending below ground level.

Laterals will project from the caissons below Biscayne Bay. The laterals will be advanced horizontally a distance of up to 900 ft beneath Biscayne Bay and installed to a depth of approximately 40 ft. Portions of the radial collector well laterals may extend beyond FPL property on sovereign submerged lands in Biscayne Bay Aquatic Preserve. The laterals will not extend beneath Biscayne National Park. A conceptual design for a typical radial collector well

is illustrated in Section Attachment C Figure 3.1. The wells will be designed and sited to induce recharge from Biscayne Bay. The radial collector wells area is shown in Section 2 Attachment C Figure 3.2.

The installation of the radial collector wells will require a public easement from the Board of Trustees of the Internal Improvement Trust Fund. Even though FPL owns the submerged lands of Biscayne Bay out to the minus three-foot contour MHW, the radial collector wells will extend further off shore, beneath submerged lands owned by the Board of Trustees. In addition, these submerged lands are within the statutorily described geographic boundaries of the Biscayne Bay Aquatic Preserve. Because the preserve includes "all the submerged bottom lands and the water column upon such lands" (Section 258.397(2)(b), F.S.), within its boundaries, the radial collector wells will technically extend into lands included in the Biscayne Bay Aquatic Preserve.

<u>Extreme Hardship</u>

While the Board of Trustees is authorized to grant easements to lands within the Biscayne Bay Aquatic Preserve, pursuant to Section 258.397(3)(a). F.S., and Rule 18-18.006(3)(b)1., F.A.C., it may do so only upon the finding that an "extreme hardship" exists on the part of the applicant. "Extreme hardship" is defined in Rule 18-18.004(11), F.A.C. as follows:

"Extreme hardship" means a significant burden, unique to the applicant and not shared by property owners in the area. Self-imposed circumstances caused to any degree by actions of any person subsequent to enactment of the Act shall not be construed as an extreme hardship. Extreme hardship under this act shall not be construed to include any hardship which arises in whole or in part from the effect of other federal, state or local laws, ordinances, rules or regulations. The term may be inherent in public projects which are shown to be a public necessity.

The Turkey Point 6 & 7 Project is the type of project in which extreme hardship is inherent as contemplated by the last sentence of this definition. It is a public project because it is being undertaken by a "public utility" as that term is defined in Rule 18-21.003(50), F.A.C. The Florida Public Service Commission (PSC) has determined in its Need Determination Order that the Project is required to meet FPL's obligation for reliable provision of electric service at a reasonable cost. The PSC's Need Order also found that the Turkey Point 6 & 7 Project is the most cost effective alternative and provided increased supply diversity and fuel supply reliability. Thus, there is a "public necessity" for the project as that term is defined in Rule 18-18.004(22), F.A.C.

To the extent that the Board of Trustees determines that extreme hardship is not inherent in the Turkey Point 6 & 7 Project, the Board can still issue an easement for the Radial Collector wells. The Board of Trustees is authorized by statute to issue easements for "such minimum dredging and spoiling as may be constituted as a public necessity. . ." Section 258.397(3)(b)1., F.S. As noted above, the Turkey Point 6 & 7 Project satisfies the definition of "public necessity." Rule 18-18.004(22), F.A.C. In this regard, the rules of the Board of Trustees are even more specific with respect to the types of projects allowed within Biscayne Bay Aquatic Preserve, providing that creation or replacement of structures required for the installation or expansion of public utilities is a use for which a sale, lease or transfer of interest in sovereignty submerged lands may be made. Rule 18-18.006(3)(b)4., F.A.C. Not only are the Radial Collector Wells the type of project permissible within the Biscayne Bay Aquatic Preserve, but Section 258.397(5), F.S., specifically provides that reasonable improvement for "public utility expansion" may be permitted by the Board of trustees. Thus, the proposed Radial Collector Wells are both "structures required for the installation and expansion of public utilities" and "reasonable improvements for public utility expansion," and are therefore specifically allowed by the Act that created the Biscayne Bay Aquatic Preserve.

Finally, even if the BOT determines that extreme hardship is not inherent in the Project, and that the extreme hardship test applies to the Project, the Project meets that test. The need to provide a secondary cooling water supply is obviously a significant burden to FPL. The primary source of cooling water will be from Miami-Dade County. A secondary source of water is needed. Without these easements FPL would need to find some other source of secondary cooling water for the Turkey Point 6 & 7, and no feasible alternatives exist that do not involve increased environmental impact, impact to legal users, and/or higher costs to FPL customers. This burden is unique to FPL and not shared by property owners in the area, as no one else has a statutory duty to provide safe and efficient electric service to the population of Florida. These circumstances are also not self-imposed or the effect of some other regulatory requirement. Instead, providing a secondary cooling water supply is prudent considering that the loss of the primary cooling water supply would deny FPL customers the benefits of service

provided by the Project if no adequate secondary supply is available. And, as argued above, in this case extreme hardship is inherent in a public project which is a public necessity.

Prohibition on Drilling of Wells

In addition to the extreme hardship requirement, the Board of Trustees rules pertaining to the Biscayne Bay Aquatic Preserve include what appears on its face to be an outright prohibition against the drilling of wells within the preserve. See, Rule 18-18.006(4)(d), F.A.C. However, Section 258.397(3)(c), F.S., which is the statute implemented by the rule prohibiting wells in the preserve, provides no such flat prohibition. Instead, Section 258.397(3)(c), F.S., provides for wells within the preserve if they are associated with authorized activities, as follows: "[t]here shall be no drilling of wells, excavation of shell or minerals, or erection of structures other than docks within the preserve unless such activity is associated with activity authorized by this section." As discussed above, the proposed Turkey Point 6&7 project is an authorized activity within the preserve. See, Sections 258.397(3)(b)1., and 258.397(5), F.S., and Rule 18-18.006(3)(b)4., F.A.C. For this reason, the prohibition against wells in the Biscayne Bay Aquatic Preserve does not apply to the proposed Radial Collector Wells.

Transmission: Underground transmission line installed via HDD under the Miami River from upland to upland.

D. Provide the linear footage of shoreline at the mean/ordinary high water line owned by the application which borders sovereign submerged lands.

Non-Transmission Facilities: FPL owns the submerged lands adjacent to the site out to the minus three foot contour MHW, comprising approximately 30,663 linear feet of shoreline bordering sovereign submerged lands.

Transmission: The crossing of the Miami River will be conducted within easements located within the East Preferred Corridor. Easement rights will be acquired as necessary once final routing is determined.

E. Provide a recent aerial photo of the area. A scale of 1"=200' is preferred. Photos are generally available at minimal cost from your local government property appraiser's office or from district Department of Transportation offices. Indicate on the photo the specific location of your property/project site.

Non-Transmission Facilities: A recent aerial photo of the area is included in Section 2, Attachment C – Site Location and Layout, Figure 15 – Radial Collector Well Area Aerial Photograph

Transmission: A recent aerial photo of the area is included in Section 3, Attachment C – Site Location and Layout, Figure 65 – Miami River HDD Area Aerial Photograph.

PROPRIETARY PROJECT DESCRIPTIONS

Please check the most applicable activity which applies to your project(s):

Leases

☐ Commercial marinas (renting wet slips) including condos, etc., if 50% or more of their wet slips are available to the general public
☐ Public/Local governments
☐ Yacht Clubs/Country Clubs (when a membership is required)
☐ Condominiums (requires upland ownership)
☐ Commercial Uplands Activity (temporary docking and/or fishing pier associated with upland revenue generating activities, i.e., restaurants, hotels, motels) for use of the customer at not charge
☐ Miscellaneous Commercial Upland Enterprises where there is a charge associated with the use of overwater structure (Charter Boats, Tour Boats, Fishing Piers)
☐ Ship Building/Boat Repair Service Facilities
☐ Commercial Fishing Related (Offloading, Seafood Processing)
☐ Private Single-family Residential Docking Facilities; Townhome Docking Facilities; Subdivision Docking Facilities (upland lots privately owned)

Public Easements and Use Agreements

☒ Miscellaneous Public Easements and Use Agreements
☐ Bridge Right-of-way (DOT, local government)
☐ Breakwater of groin
☒ Subaqueous Utility Cable (TV, telephone, electrical)
☐ Subaqueous Outfall or Intake
☐ Subaqueous Utility Water/Sewer
☐ Overhead Utility w/Support Structure on Sovereign Submerged Lands
☐ Disposal Site for Dredged Material
☐ Pipeline (gas)
☐ Borrow Site

Private Easements

☐ Miscellaneous Private Easements
☐ Bridge Right-of-way
☐ Breakwater Groin
☐ Subaqueous Utility Cable (TV, telephone, electrical)
☐ Subaqueous Outfall or Intake
☐ Subaqueous Utility Water/Sewer
☐ Overhead Utility Crossing
☐ Disposal Site for Dredged Material
☐ Pipeline (gas)

Consents of Use

☐ Aerial Utility Crossing w/no support structures on sovereign submerged lands
☐ Private Dock
☐ Public Dock
☐ Multi-family Dock
☐ Fishing Pier (private or Multi-family)
☐ Private Boat Ramp
☐ Sea Wall
☐ Dredge
☐ Maintenance Dredge
☐ Navigation Aids/Markers
☐ Artificial Reef
☐ Riprap
☐ Public Boat Ramp
☐ Public Fishing Pier
☐ Repair/Replace Existing Public Fishing Pier
☐ Repair/Replace Existing Private Dock
☐ Repair/Replace Existing Public Dock
☐ Repair/Replace Existing Multi-family Dock
☐ Repair/Replace Existing Fishing Pier (Private or Multi-family)
☐ Repair/Replace Existing Private Boat Ramp
☐ Repair/Replace Existing Sea Wall, Revetments, or Bulkheads
☐ Repair/Replace/Modify structures/activities within an exiting lease, easement, management agreement or use agreement area or repair/replace existing grandfathered structures
☐ Repair/Replace Existing Public Boat Ramp

Miscellaneous

☐ Biscayne Bay Letters of Consistency/Inconsistency w/258.397, F.S.
☐ Management Agreements - Submerged Lands
☐ Reclamation
☐ Purchase of Filled, Formerly Submerged Lands
☐ Purchase of Reclaimed Lake Bottom
☐ Treasure Salvage
☐ Insect Control Structures/Swales
☐ Miscellaneous projects which do not fall within the activity codes listed above

OFF REC 7624 PG 457

MARCH 7, 1972 (MAR 7, 1972

DEED

THIS AGREEMENT is made and entered into this 7 day of March, 1972, by and between FLORIDA POWER & LIGHT COMPANY, a Florida corporation, hereinafter referred to as FPL, GEORGE L. PATTERSON, individually and as Trustee, joined by his wife, MARGARET M. PATTERSON, hereinafter referred to as Trustee, and REUBIN O'D. ASKEW, as Governor of the State of Florida, RICHARD STONE, as Secretary of State of the State of Florida, ROBERT L. SHEVIN, as Attorney General of the State of Florida, FRED O. DICKINSON, as Comptroller of the State of Florida, THOMAS D. O'MALLEY, as Treasurer of the State of Florida, FLOYD CHRISTIAN as Commissioner of Education of the State of Florida and DOYLE CONNER, as Commissioner of Agriculture of the State of Florida, representing the State of Florida, and as and constituting the Board of Trustees of the Internal Improvement Trust Fund of the State of Florida, as provided in Section 20.27, Florida Statutes and Chapter 253, Florida Statutes, hereinafter referred to as the State of Florida.

STATE OF FLORIDA DOCUMENTARY TAX 200.60 DEPT. OF REVENUE MAR 22 72 P.O. 11062 DADE COUNTY

W I T N E S S E T H:

WHEREAS, Trustee has record title to and claims ownership of approximately 2500 acres of natural and undeveloped shoreline and coastal property constituting approximately 12 miles of the shoreline bordering Biscayne Bay and Card Sound in Dade County, Florida, which is described in Exhibit "A" attached and has record title to and claims ownership in property which is described in Exhibit "B" attached; and

WHEREAS, the said Trustee and FPL are desirous of completing the cooling system for FPL's Turkey Point Power Plant located in Dade County in order to comply with the Final Judgement in re the case of United States of America vs. Florida Power & Light Company, Civil Action No. 70-328-Civ-CA, United States District Court, Southern District of Florida; and

FLORIDA DOCUMENTARY SURTAX 01.10 DEPT. OF REVENUE MAR 22 72 P.O. 10832

19.00

ATTACHMENT "E"

WHEREAS, the State of Florida is desirous of preserving such lands and other similarly situated lands in permanent preserves, forever off limits to incompatible human activities as is evidenced by the Legislative intent expressed in Sections 258.17 et. seq. Florida Statutes, known as the "State Wilderness System Act", and in this connection, the Trustee and FPL are desirous of cooperating with the State of Florida to the fullest extent consistent with good sound business judgment; and

WHEREAS, the State of Florida may have rights in the lands described on Exhibit "B" by virtue of its rights to property located seaward of the mean high water line, the location of which is in doubt in this portion of Dade County; and

WHEREAS, the rights of the state which exist in lands described on Exhibit "B" may be conveyed when in the public interest; and

WHEREAS, meeting the demand for an adequate supply of electrical power in the South Florida area while providing the maximum environmental protection is a matter of overriding public interest; and

WHEREAS, the State of Florida, the Trustee and FPL have found that it is in the best interest of the people of the State of Florida that the state relinquish whatever claim it might have to lands described on Exhibit "B" and that the Trustee issue a conveyance to the State of Florida of the lands described in Exhibit "A" to resolve a boundary dispute between the parties, to insure that FPL may go forward with construction of its power generating facilities and cooling system necessary to provide an adequate supply of electric power in South Florida, and to insure that the adjacent coastal areas will be maintained in their natural and pristine state for the benefit of present and future generations.

NOW THEREFORE, THIS INDENTURE WITNESSETH:

For and in consideration of the mutual benefits and covenants

herein expressed the parties hereto agree as follows:

1. Trustee does hereby convey, assign, transfer, set over and quit-claim unto the State of Florida all his right, title and interest in and to all the real property described in Exhibit "A" attached (and made a part hereof by reference) with the specific understanding that the State of Florida will dedicate said land in perpetuity as a wilderness area under the provisions of Chapter 258, Florida Statutes, and with the further understanding that the State of Florida will manage said property in such a way as to protect and enhance the basic natural qualities for public enjoyment and utilization as reminders of the natural conditions that preceded man as envisioned by Chapter 258, Florida Statutes. This conveyance is subject to a right of reverter in the Trustee or his successors in title in the event said lands are not dedicated by the state under the State Wilderness System Act, or are not left substantially intact as a natural preserve.

2. The State of Florida agrees that it will not allow any development of any type including but not limited to construction, dredging, filling and excavating on the tract herein conveyed as Exhibit "A" except that FPL is authorized to exercise the uses of the tract herein conveyed as Exhibit "A" as specified in Paragraph 7 of Item IV of the Final Judgment in the case of United States of America v. Florida Power & Light Company, Civil Action No. 70-328-Civ-Ca, United States District Court, Southern District of Florida, as such paragraph may be modified pursuant to agreement of the

parties to the judgment and the State of Florida. FPL agrees that it will not insist that any monitoring station or facility be located on the property described on Exhibit "A" hereof except as may be required by the Environmental Protection Agency of the United States Government.

3. The State of Florida does hereby convey, assign, transfer, set over and quit-claim unto the Trustee and his successors and assigns all its right, title and interest in and to all the real property described in Exhibit "B" attached (and made a part hereof by reference), and finds it to be in the public interest.

4. The parties hereto agree that the differences with respect to boundaries can be resolved and forever laid to rest by this agreement between them to the effect that the boundary between the lands described on Exhibit "A" (attached hereto and made a part hereof) and the lands described on Exhibit "B" (attached hereto and made a part hereof) constitutes the line of mean high water in the area, Exhibit "B" lands being upland, which determination is made as to the lands in Exhibit "A" and Exhibit "B" only and shall not constitute or be evidence of the location of the mean high water line with respect to any lands other than those specifically involved herein.

5. This Deed and the agreements contained herein are binding on the parties hereto, their successors and assigns.

IN WITNESS WHEREOF, the said parties have hereunto set their hands and seals the day and year first above written.

Governor

Secretary of State

Attorney General

Comptroller

Treasurer

Commissioner of Education

Commissioner of Agriculture

As and Constituting the State of Florida Board of Trustees of the Internal Improvement Trust Fund

(SEAL)
State of Florida
Board of Trustees of
the Internal
Improvement Trust Fund

Signed, sealed and delivered in our presence as witnesses:

FLORIDA POWER & LIGHT COMPANY

BY: _____
Vice President

GEORGE L. PATTERSON

MARGARET M. PATTERSON

STATE OF FLORIDA

COUNTY OF LEON

Before me the undersigned authority personally appeared GEORGE L. PATTERSON and MARGARET M. PATTERSON, his wife, to me well known, who acknowledged before me that they executed the foregoing instrument.

Also appeared before me F. E. AUTRY to me well known, who acknowledged before me that he executed the foregoing instrument on behalf of Florida Power & Light Company and as vice president thereof with full power and authority so to do and caused the seal of said corporation to be affixed thereto.

WITNESS my hand and seal at Tallahassee, Leon County, Florida, this 7th day of March, 1972.

Darlene C. Brown
NOTARY PUBLIC

Notary Public, State of Florida at Large
My Commission Expires Aug. 2, 1975
Bonded by American Fire & Casualty Co.

OFF REC 7624 PG 463

EXHIBIT A

AREA 1

All that part of Fractional Sections 3, 10, 14, 15, 22 and 27 of Township 58 South, Range 40 East of Dade County, Florida, lying South of the North line of said Section 3, West of the 1874 meander line and North of the Easterly extension of the South line of Gov't. Lot 1 of Section 28 of Township 58 South, Range 40 East; together with all the right, title and interest in and to all alluvion, avulsion, reliction, littoral, accretions and riparian rights belonging or appertaining to all of the above described property.

AREA 2

All that part of the SE 1/4 of the SE 1/4 of Fractional Section 31; the South 1/2 of the SW 1/4 of Fractional Section 32; Gov't Lots 1 and 2 of said Section 32; the South 1/2 of Gov't. Lot 1 of Fractional Section 33; Gov't. Lot 2, less the North 660 feet of the West 660 feet thereof, of said Section 33; Gov't. Lot 3 of said Section 33, of Township 58 South, Range 40 East of Dade County, Florida, lying Westerly of the 1874 meander line; together with all that part of Gov't. Lots 1, 2, 3 and 4 of Fractional Section 5; Gov't. Lots 1, 2, 7, 8, 9, 10 and 12, less the North 100 feet of said Lot 12, all in Fractional Section 6 of Township 59 South, Range 40 East of Dade County, Florida, lying Westerly and Northerly of the 1874 meander line; together with all the right, title and interest in and to all alluvion, avulsion, reliction, littoral, accretions and riparian rights belonging or appertaining to all of the above described property.

EXHIBIT B

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 S 1/2 of the SW 1/4;
The NW 1/4 and NW 1/4 of SW 1/4, the N 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 T58S, R40E, Dade County, Florida.

Government Lots 3, 4, 5, 6, and 11 of Section 6, all being in T59S, R40E, Dade County, Florida

Fractional Section 27, lying south of the easterly extension of the south line of Government Lot 1 of Section 28.

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, Section 28, Fractional Section 28 and the North one-half of Government Lot 1, Section 33, Township 58 South, Range 40 East, for carrying out the needful works for the Turkey Point generating plant, all of the above in Dade County, Florida.

RECORDED IN OFFICIAL RECORDS BOOK OF DADE COUNTY, FLORIDA.
RECORD VERIFIED
E. B. LEATHERMAN
CLERK CIRCUIT COURT
BY [illegible] D.C.

SECTION 2

PLANT AND NON-TRANSMISSION FACILITIES ATTACHMENTS

ATTACHMENT A

PROJECT DESCRIPTION

SECTION 2, ATTACHMENT A – PROJECT DESCRIPTION

1.0 ERP SECTION A, PART 6 – PROJECT DESCRIPTION

Florida Power & Light (FPL) is seeking approval of the Turkey Point Units 6 & 7 Project (Project) under Florida's Electrical Power Plant Siting Act (PPSA), Chapter 403, Part II, Florida Statutes (F.S.). The Florida Public Service Commission (FPSC) is the sole forum for the determination of need for a proposed facility subject to the PPSA (Section 403.519, F.S.) The FPSC has issued an affirmative need determination order for Turkey Point Units 6 & 7. The Florida Department of Environmental Protection (FDEP) acts as the coordinator for the remainder of the site certification process with input from various state and regional agencies and local governments, along with interested citizens. Ultimate disposition of the Site Certification Application (SCA) is by the Governor and Cabinet acting as the Siting Board, or the Secretary of the FDEP. This Federal Dredge and Fill Permit application, which is submitted to the FDEP and U.S. Army Corps of Engineers, is Appendix 10.4 of the SCA, and contains, along with other information in the SCA, the requirements for a Federal Dredge and Fill Permit application.

FPL's Turkey Point plant property comprises approximately 11,000 acres in unincorporated southeast Miami-Dade County, Florida, east of Florida City and the City of Homestead, and bordered by Biscayne Bay to the east. The existing Turkey Point Plant consists of two nominal 400-megawatt (MW) natural gas/oil steam electric generating units (Units 1 & 2); two nominal 700-MW nuclear units (Units 3 and 4); and a nominal 1,150-MW natural gas-fired combined-cycle unit (Unit 5). The existing closed-loop cooling canals and industrial wastewater facility occupy approximately 5,900 acres. The location of the Turkey Point plant property is shown in Section 2, Attachment C – Site Location and Layout, Figure 1.

The Project involves adding two new nuclear generating units (Units 6 & 7) and supporting facilities at a Site within the existing Turkey Point plant property boundaries. The Project for which FPL is seeking certification includes the construction and operation of Turkey Point Units 6 & 7 on the Site to be certified (the "Site"), as well as new transmission lines and other off-Site associated linear and non-linear facilities.

1.1 Units 6 & 7 Site

The Site for Turkey Point Units 6 & 7 is south of Units 3 and 4 and occupies approximately 300-acres within the existing industrial wastewater facility. Two nuclear generating units, each with an approximate electrical output of 1,100 MW (net), including supporting buildings, facilities and equipment, will be located on the Site, along with a laydown area. Section 2, Attachment C – Site Location and Layout, Figure 2.1 presents an overall plot plan (i.e. arrangement) of the Units 6 & 7 Site. FPL has selected the Westinghouse AP1000 as the plant design for the Project, a design certified by the NRC under 10 Code of Federal Regulations (CFR) 52. In addition to the reactor units, other on-Site facilities include steam generators, steam turbines/electric generators, condensers, cooling towers, transformers, diesel generators and various buildings (e.g., containment building, turbine building, and annex building). A new electrical switchyard/substation will also be located on the Site and a laydown area will be located on the far western portion of the Site. New nuclear administration and training buildings, along with a parking area, will be located just north of the Site.

Operation of Units 6 & 7 will not utilize the existing industrial wastewater facility for cooling or wastewater disposal, except that stormwater will continue to be routed to this facility.

The surface elevation of the Site varies within 3 feet of sea level. A uniform layer of concrete fill will be used to raise the excavation elevation to approximately 16 feet (North American Vertical Datum of 1988), where the base of the reactor units are to be set. The fill required to raise the Site will primarily be generated from the FPL-owned fill source.

Most of the Site is composed of sparsely-vegetated hypersaline mud flats, isolated from Biscayne Bay by the surrounding man-made cooling canals. This area is contained within the industrial wastewater facility that supports the operation of existing Turkey Point Units 1 through 5. Two remnant cooling canals are located within the mud flat area, and small channels support scattered areas of mangrove heads within the surrounding mud flats. Additional land use/land cover within the Site includes upland and wetland spoil berms, located adjacent to the remnant and active canals. Portions of the Site for staging and laydown currently consist of previously filled areas/roadways, dwarf mangroves, open water/discharge canal, and a man-made remnant canal in the northwest portion of the Site. A north-south access road is located adjacent to the western edge of the mud flat area.

1.2 Associated Non-Transmission Facilities

Proposed off-Site associated facilities include: nuclear administration building, training building and parking area; an FPL reclaimed water treatment facility and reclaimed water pipelines; radial collector wells and delivery pipelines; equipment barge unloading area; an FPL-owned fill source; access roads and bridges; and potable water pipelines. Section 2, Attachment C – Site Location and Layout, Figure 1 depicts the location and Figures 3.1 through 3.29 depicts the plan and/or cross section views of the associated non-transmission facilities.

The nuclear administration and training buildings and parking area will be located immediately north of the Site in an area of the existing Turkey Point plant surrounded by previously filled roadways and paved parking areas.

FPL proposes to obtain fill required for the Project from a fill source on FPL-owned property located northwest of the Site and from other regional sources. The FPL-owned fill source would result in a water management feature that will be designed to complement and enhance regional wetland rehydration projects.

The primary source of cooling water makeup for Units 6 & 7 will be reclaimed water from the Miami-Dade County Water and Sewer Department (MDWASD) South District Wastewater Treatment Plant (SDWWTP), with potable water also from MDWASD. The Project will include an off-Site FPL reclaimed water treatment facility and associated pipelines. This reclaimed water use is a beneficial and cost-effective means of increasing the use of reclaimed water from Miami-Dade County and helps the County meet its reclaimed water compliance requirements. In the absence of reuse opportunities, this treated domestic wastewater would likely continue to be discharged to the ocean or deep injection wells. Miami-Dade County is required to eliminate ocean outfalls and increase the amount of water that is reclaimed for environmental benefit and other beneficial uses. Units 6 & 7 will use reclaimed water 24 hrs per day, 365 days per year when operating and water is available in sufficient quantity and quality. Units 6 & 7 will efficiently use a recycled resource to produce safe, clean and reliable power. This use of reclaimed water will enable the County to meet approximately half of its wastewater reuse goals and will provide environmental benefits by reducing the volume of wastewater discharged by the County.

A reclaimed water delivery pipeline will be installed between the SDWWTP and an FPL reclaimed water treatment facility for final treatment prior to delivery to Units 6 & 7. The reclaimed water

pipeline will be co-located with existing linear facilities, including roadways, transmission line rights-of-way, and canals, to minimize impacts. The FPL reclaimed water treatment facility will be located adjacent to the existing Turkey Point plant primary access road. When reclaimed water is not available in sufficient quantity, the secondary makeup water source will come from radial collector wells, substratum collectors of saltwater that will recharge from Biscayne Bay. The radial collector wells are to be located upon upland areas of the Turkey Point peninsula; the associated delivery pipeline will be co-located with existing access roads and berms. Wastewater disposal will be on-Site deep injection wells. The potable water pipeline corridor will connect the Site to the MDWASD potable supply.

Access to the Site for construction and operation will be via existing and/or improved roads and new bridges in roadway improvement corridors. The roadway improvements are uniquely required to support the safe and efficient construction of the facility.

Expansion of the barge unloading area will involve excavation of previously-filled uplands and approximately 0.1 acre of dredging within the existing turning basin.

1.3 Wetland Impacts and Mitigation

The proposed Project will result in approximately 762 acres of permanent wetland impacts, 48 acres of temporary wetland impacts, and 48 acres of secondary wetland impacts. The loss of wetland functions associated with unavoidable wetland impacts will require approximately 528 credits of mitigation as calculated via the FDEP Uniform Mitigation Assessment Method (UMAM). Compensatory mitigation to offset the loss of wetland acreage will be accomplished through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the Comprehensive Everglades Restoration Plan within the Biscayne Bay Coastal Wetlands study area and Model Lands Basin, as well as purchase of mitigation credits from the nearby Everglades Mitigation Bank and Hole in the Donut Mitigation Bank. The Project mitigation plan is provided in Section 2, Attachment E.

The project description of the proposed transmission line corridors is located in Section 3, Attachment A.

ATTACHMENT B

ADJACENT PROPERTY OWNERS

ATTACHMENT B
PLANT AND NON-TRANSMISSION ADJACENT PROPERTY OWNERS

PARCEL ID NUMBER	NAME	ADDRESS	CITY	STATE	ZIP CODE
1079140010060	RICHARD T ALGERS	PO BOX 1253	HOMESTEAD	FL	330901253
1079140010070	RICHARD T ALGER	PO BOX 1253	HOMESTEAD	FL	33130
1079140010071	RICHARD T ALGER	990 NW 8 ST	HOMESTEAD	FL	330304131
1079220010010	JOHN L ALGER ETAL	PO BOX 1253	HOMESTEAD	FL	33090
1079220010190	CITY OF HOMESTEAD	790 NO HOMESTEAD BLVD	HOMESTEAD	FL	330306212
1079230010020	JOHN L ALGER	PO BOX 1253	HOMESTEAD	FL	33090
1079230010021	JOHN L ALGER TR ET AL	PO BOX 1253	HOMESTEAD	FL	33033
1079230010030	CITY OF HOMESTEAD	790 NO HOMESTEAD BLVD	HOMESTEAD	FL	330306212
1079260010020	CITY OF HOMESTEAD	790 NO HOMESTEAD BLVD	HOMESTEAD	FL	330306212
1079270010010	CITY OF HOMESTEAD	790 NO HOMESTEAD BLVD	HOMESTEAD	FL	330306212
1079270010015	HOMESTEAD MIAMI SPEEDWAY LLC	ONE SPEEDWAY BLVD	HOMESTEAD	FL	330351500
3060200000010	RADEGUNDE FERNANDEZ &W ELSA L &	18905 SW 177 AVE	MIAMI	FL	331872015
3060200000013	AMERICAN ENVIRONMENTAL RECYCLING	14241 SW 143 CT	MIAMI	FL	331865695
3060200000014	MIAMI DADE COUNTY	3575 S LEJEUNE RD	MIAMI	FL	33146
3060200000015	MIAMI DADE COUNTY	3575 S LEJEUNE RD	MIAMI	FL	33146
3060200000017	MIAMI-DADE COUNTY	3071 SW 38 AVE	MIAMI	FL	331461520
3060200000020	MANUEL DORTA-DUQUE TR	848 BRICKELL AVE STE 7000	MIAMI	FL	331312949
3060200000021	SOUTH FLORIDA MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060200000090	VICK ENTERPRISES	P O BOX 700455	GOULDS	FL	331700455
3060200000100	VICK ENTERPRISES	PO BOX 700455	GOULDS	FL	331700455
3060200000110	PATRICIA A BLANTON	10305 SW 248 ST	GOULDS	FL	330324801
3060200000120	VICK ENTERPRISES	P O BOX 700455	GOULDS	FL	331700455
3060200000130	VICK ENTERPRISES	P O BOX 700455	GOULDS	FL	331700455
3060200000140	VICK ENTERPRISES	P O BOX 700455	GOULDS	FL	331700455
3060200000150	CASARIEGO CORP	550 AVE A	KEY LARGO	FL	33037
3060200000230	VICK ENTERPRISES	P O BOX 700455	GOULDS	FL	331700455
3060200000235	FLORIDA INLAND NAVIGATION DIST	1314 MARCHINSKI RD	JUPITER	FL	33477
3060200000240	LEWIS W PETERS TR	956 RIOMAR DRIVE	VERO BEACH	FL	32963
3060200000245	FLORIDA INLAND NAVIGATION DIST	1314 MARCINSKI RD	JUPITER	FL	33477
3060200000250	INCA INVESTMENTS INC	11999 SW 248 ST	MIAMI	FL	330325903
3060200000260	INCA INVESTMENTS INC	11999 SW 248 ST	MIAMI	FL	330325903
3060200000270	MANUEU DORTA-DUQUE	11999 SW 248 ST	MIAMI	FL	330325903
3060200000280	INCA INVESTMENT INC	11999 SW 248 ST	MIAMI	FL	330325903
3060200000290	MANUEL DORTA-DUQUE	11999 SW 248 ST	MIAMI	FL	330325903
3060200000320	MANUEL DORTA-DUQUE	11999 SW 248 ST	MIAMI	FL	330325903
3060210000010	MIAMI-DADE COUNTY	3071 SW 38 AVE	MIAMI	FL	331461520
3060210000010	MIAMI-DADE COUNTY	3071 SW 38 AVE	MIAMI	FL	331461520
3060210000020	MIAMI-DADE COUNTY	111 NW 1 ST STE 1610	MIAMI	FL	331281924
3060210000021	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060210000021	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060210000030	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060210000040	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060210000050	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060210000060	SOUTH FLORIDA MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060210000110	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704

ATTACHMENT B
PLANT AND NON-TRANSMISSION ADJACENT PROPERTY OWNERS

PARCEL ID NUMBER	NAME	ADDRESS	CITY	STATE	ZIP CODE
3060210000111	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060210000120	SOUTH FLORIDA MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060220000010	MIAMI-DADE COUNTY	3071 SW 38 AVE	MIAMI	FL	331461520
3060220000030	MIAMI-DADE COUNTY	275 NW 2 ST 4TH FL	MIAMI	FL	331281794
3060220000060	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060270000010	MIAMI-DADE COUNTY	275 NW 2 ST 4TH FL	MIAMI	FL	331281794
3060270000015	BISCAYNE NATL PARK	2900 S HORSESHOE DR STE 100	NAPLES	FL	33942
3060270000020	TRUSTEES OF INT IMPFUND	3900 COMMONWEALTH BLVD	TALLAHASSEE	FL	32399
3060280000015	BISCAYNE NATL PARK	2900 S HORSESHOE DR STE 100	NAPLES	FL	33942
3060280000020	MIAMI-DADE COUNTY	111 NW 1 ST STE 1610	MIAMI	FL	331281924
3060280000030	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060280000050	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060280000060	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060280000070	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060280000080	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060280000140	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060280000150	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060280000160	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060280000170	MASRI BLACKPOINT LLC	11325 SW 97 AVE	MIAMI	FL	331764245
3060280000180	SOUTH FLA SCOUT HOLDING CO	2600 SW 27 AVE	MIAMI	FL	331333005
3060280000200	SOUTH FLA WATER MGMT DIST	PO BOX 24680	WEST PALM BEACH	FL	33416
3060280000210	SOUTH FLA WATER MGMT DIST	PO BOX 24680	WEST PALM BEACH	FL	33416
3060280000230	SOUTH FLORIDA MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060290000010	BARRY M BRANT TRS	200 S BISCAYNE BLVD 6 FLOOR	MIAMI	FL	331312310
3060290000020	VICK ENTERPRISES	P O BOX 700455	GOULDS	FL	331700455
3060290000030	MIAMI-DADE COUNTY	111 NW 1 ST STE 1610	MIAMI	FL	331281924
3060290000040	MIAMI-DADE COUNTY	111 NW 1 ST STE 1610	MIAMI	FL	331281924
3060290000050	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060290000050	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060290000060	MIAMI-DADE COUNTY	111 NW 1 ST STE 1610	MIAMI	FL	331281924
3060290000070	MIAMI-DADE COUNTY	2525 NW 62 ST	MIAMI	FL	331477704
3060290000080	MANUEL C DIAZ	26401 SW 107 AVE	HOMESTEAD	FL	330323399
3060290000090	VICK ENTERPRISES	P O BOX 700455	GOULDS	FL	331700455
3060290000100	BARRY M BRANT TRS	200 S BISCAYNE BLVD 6 FLOOR	MIAMI	FL	331312310
3060290000101	ANN MAREE WALKER TRS	19400 SW 232 ST	MIAMI	FL	331705004
3060290000110	BARRY M BRANT TRS	200 S BISCAYNE BLVD 6 FLOOR	MIAMI	FL	331312310
3060290000120	BARRY M BRANT TRS	200 S BISCAYNE BLVD 6 FLOOR	MIAMI	FL	331312310
3060290000230	LIVE OAK PARTNERS LLC	26401 SW 107 AVE	HOMESTEAD	FL	330323399
3060290000240	LIVE OAK PARTNERS LLC	26401 SW 107 AVE	HOMESTEAD	FL	330323399
3060290000280	CERTOSA HOLDING INC	2005 SW 7 AVE	MIAMI	FL	331291309
3060290000290	JESUS L PLASENCIA &W GLADYS M	15610 SW 146 AVE	MIAMI	FL	331776892
3060290000300	VICK ENTERPRISES	P O BOX 700455	GOULDS	FL	331700455
3060290000310	CERTOSA HOLDINGS INC	2005 SW 7 AVE	MIAMI	FL	331291309
3060290000320	CERTOSA HOLDING INC	2005 SW 7 AVE	MIAMI	FL	331291309

ATTACHMENT B
PLANT AND NON-TRANSMISSION ADJACENT PROPERTY OWNERS

PARCEL ID NUMBER	NAME	ADDRESS	CITY	STATE	ZIP CODE
3060290000340	MIAMI-DADE COUNTY	3071 SW 38 AVE	MIAMI	FL	331461520
3060320000060	BARRY M BRANT TR	200 S BISCAYNE BLVD 6TH FL	MIAMI	FL	331312310
3060320000070	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060320000100	BARRY M BRANT TR	200 S BISCAYNE BLVD 6TH FL	MIAMI	FL	331312310
3060320000110	SINGLETARY CONCRETE PRODUCTS INC	5325 E STATE RD 64	BRADENTON	FL	34208
3060320000120	RMC FLORIDA GROUP LTD	59 SARASOTA CENTER BLVD	SARASOTA	FL	34240
3060330000020	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060330000040	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3060330000050	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070040000012	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070040000022	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070040000032	SOUTH FLORIDA WATER MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070050000011	MIAMI DADE COUNTY	701 NW 1 CT	MIAMI	FL	33136
3070050000021	SINGLETARY CONCRETE PRODUCTS INC	5325 E STATE RD 64	BRADENTON	FL	34208
3070050000024	RMC FLORIDA GROUP LTD	59 SARASOTA CENTER BLVD	SARASOTA	FL	34240
3070070000020	U S A	301 N MIAMI AVE SUITE 205	MIAMI	FL	331287703
3070070000071	CITY OF HOMESTEAD	790 N HOMESTEAD BLVD	HOMESTEAD	FL	330306212
3070070000100	MERIDIAN REALTY CORP	3180 SW 129 AVE	MIAMI	FL	331752508
3070070000110	AMJ REAL EST INVEST LLC	17201 SW 248 ST	HOMESTEAD	FL	330311928
3070070000111	FLORIDA TREE FARMS INC	17201 SW 248 ST	HOMESTEAD	FL	330311928
3070070000150	U S A HOMESTEAD AIR BASE	301 N MIAMI AVE SUITE 205	MIAMI	FL	331287703
3070080000010	RICHARD S LUCK TRS	11543 N KENDALL DR	MIAMI	FL	331761002
3070080000014	HERIBERTO LEON	PO BOX 611150	NO MIAMI	FL	33261
3070080000022	CHARLES M BORDON & MARIO TACHER	479 NW 27 AVE	MIAMI	FL	331253041
3070080000028	ANA LUCIA HERRERA TR	4252 SW 159 AVE	MIAMI	FL	331853824
3070090000011	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070090000021	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334164680
3070090000032	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070090000032	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070160000060	SOUTH FLORIDA WATER MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070160000080	SOUTH FLORIDA WATER MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070160000080	SOUTH FLORIDA WATER MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070170000010	SOUTH FLORIDA WATER MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070180000020	ORLANDO DIAZ	12500 SW 51 ST	MIAMI	FL	331755511
3070190010476	JON WEISBERG	13800 SW 8 ST #107	MIAMI	FL	331843032
3070190010480	ANAND & SUNIL & LAJU NANDWANI	ERRAZURIZ 853 PISO 3 OFICINA C	CASILLA 339 PUNTA ARENAS	CHILE	00000
3070190010481	ANAND & SUNIL NANDWANI & LAJU NANDWANI	ERRAZURIZ #853 PISO 3 OFICINA C	CASILLA 339 PUNTA ARENAS	CHILE	00000
3070190010520	JAVANTI DEV	11729 SW 118 TERR	MIAMI	FL	331863985
3070190010810	VIVIAN M MORALES	20520 SW 115 RD	MIAMI	FL	33189
3070190010820	ANAND & SUNIL NANDWANI &	ERRAZURIZ #853 PISO 3 OFICINA C	CASILLA 339 PUNTA ARENA	CHILE	99999
3070200010041	MIAMI-DADE COUNTY	111 NW 1 ST STE 1610	MIAMI	FL	331281924
3070200010043	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070200010043	SOUTH FLA WATER MANAGEMENT DIST	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070200010045	MIAMI-DADE COUNTY	111 NW 1 ST STE 2460	MIAMI	FL	331281929

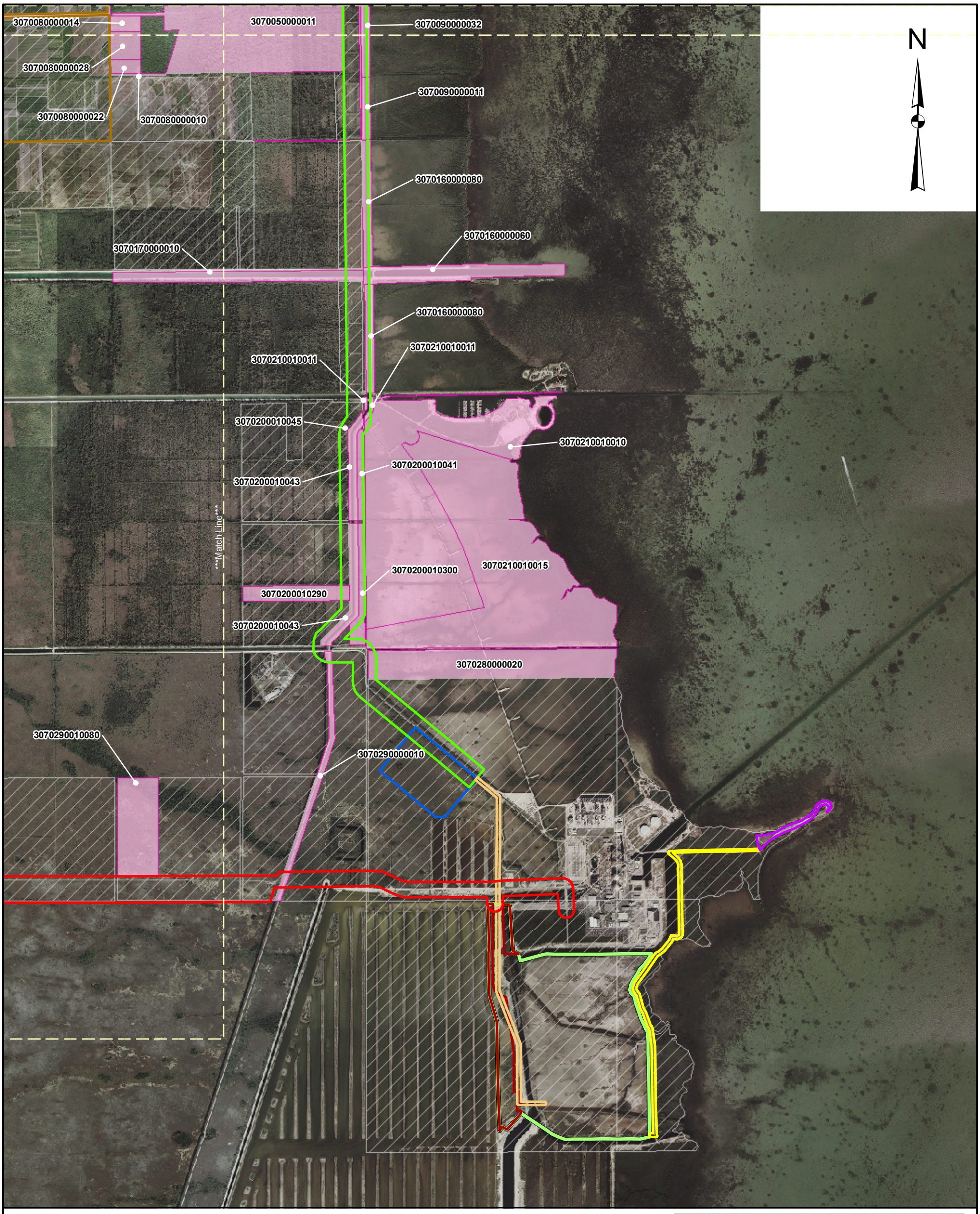
ATTACHMENT B
PLANT AND NON-TRANSMISSION ADJACENT PROPERTY OWNERS

PARCEL ID NUMBER	NAME	ADDRESS	CITY	STATE	ZIP CODE
3070200010290	ARVED BORTZ & ALEXANDRA BORTZ	42329 WUPPERTAL 11	W	FL	99999
3070200010300	MIAMI-DADE COUNTY	111 NW 1 ST STE 2460	MIAMI	FL	331281929
3070210010010	MIAMI-DADE COUNTY	275 NW 2 ST 4FL	MIAMI	FL	331281794
3070210010011	SOUTH FLORIDA MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070210010011	SOUTH FLORIDA MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070210010015	U S A	2900 S HORSESHOE DR STE 100	NAPLES	FL	33942
3070280000020	U S A	2900 S HORSESHOE DR STE 100	NAPLES	FL	33942
3070290000010	SOUTH FLORIDA WATER MNGM DISTRICT	P O BOX 24680	WEST PALM BEACH	FL	334160000
3070290010080	TIITF/STATE OF FLORIDA	3900 COMMONWEALTH BLVD	TALLAHASSEE	FL	32399
3070300010021	MIAMI DADE COUNTY	33 SW 2 AVE PH-2	MIAMI	FL	331301501
3070300010140	MIAMI DADE COUNTY	33 SW 2 AVE STE PH-2	MIAMI	FL	331301501
3079130010169	EDWARD GEORGE SMITH &W SANDRA L	21075 NE 34 AVE APT 201	AVENTURA	FL	331803538
3079130010170	SALAZARS TWO SISTERS NURSERY INC	7752 SW 2 ST	MIAMI	FL	331442306
3079130010171	HOMES FOR LESS CORP	281 NW 127 AVE	MIAMI	FL	331821115
3079130010190	RICHARD & JOHN ALGER	950 NW 8 ST	HOMESTEAD	FL	330304131
3079130010240	JAENSCH INC	25210 SW 147 AVE	HOMESTEAD	FL	330325325
3079130010250	COX ENTERP PARTNERSHIP LTD	46 OLD OAK DR S	PALM COAST	FL	321374324
3079140010080	RICHARD & JOHN ALGER	950 NW 8 ST	HOMESTEAD	FL	330304131
3079140010090	JOHN T ALGER TR	17971 SW 284 ST	HOMESTEAD	FL	330301867
3079230010011	JOHN L ALGER TR	P O BOX 1253	HOMESTEAD	FL	330901253
3079230010050	NICHOLAS J FALCONE &W ROSE MARIE	14700 SW 248 ST	PRINCETON	FL	330325202
3079230010060	NICHOLAS J FALCONE &W ROSE MARIE	14700 SW 248 ST	PRINCETON	FL	330325202
3079230010070	NICHOLAS J FALCONE &W ROSE MARIE	14700 SW 248 ST	PRINCETON	FL	330325202
3079240010021	PALMTECH FARM INC	17201 SW 248 ST	HOMESTEAD	FL	330311928
3079240010022	PALMTECH FARM INC	17201 SW 248 ST	HOMESTEAD	FL	330311928
3079240010023	PALMTECH FARM INC	17201 SW 248 ST	HOMESTEAD	FL	330311928
3079240010024	PALMTECH FARM INC	17201 SW 248 ST	HOMESTEAD	FL	330311928
3079240010025	PALMTECH FARM INC	17201 SW 248 ST	HOMESTEAD	FL	330311928
3079240010028	GUADALUPE BREIJO	4391 SW 5 TERR	MIAMI	FL	331341950
3079240010050	DAVID OKRASINSKI	11790 SW 328 ST	HOMESTEAD	FL	330335633
3079240010051	DAVID OKRASINSKI	11790 SW 328 ST	HOMESTEAD	FL	330335633
3079240010060	JOSE FLORES &W RITA	12031 SW 78 TERR	MIAMI	FL	331833765
3079240010070	BEATRIZ HELENA RESTREPO	7066 NW 50 ST	MIAMI	FL	331665634
3079240010080	EAST GLADE HOLDINGS INC	PO BOX 160328	MIAMI	FL	331160328
3079240010081	EAST GLADE HOLDINGS INC	PO BOX 160328	MIAMI	FL	331160328
3079240010090	EAST GLADE HOLDINGS INC	PO BOX 160328	MIAMI	FL	331160328
3079240010110	RENE LACAYO &W MIRIAM C ORTEGA	SAN J0SE 1000	COSTA	RICA	
3079240010111	PEDRO MARTINEZ	8520 NW 30 RD	MIAMI	FL	331474024
3079240010112	PEDRO MARTINEZ	8520 NW 30 RD	MIAMI	FL	33147
3079240010240	GEWAN & NANAK HARDIT-SINGH	449 WEST 1 AVE	ROSELLE NEW	NJ	07203
3079240010610	ROYAL PALM NURSERY INC	25 SE 2 AVE #410	MIAMI	FL	331311510
3079240014900	F & S INVESTMENTS GROUP INC	PO BOX 2172	PRINCETON	FL	33032
3079240015200	F & S INVESTMENTS GROUP INC	PO BOX 2172	PRINCETON	FL	33032
3079240015300	MARIO TACHER & CHARLES BORDON	479 NW 27 AVE	MIAMI	FL	331253041

ATTACHMENT B
PLANT AND NON-TRANSMISSION ADJACENT PROPERTY OWNERS

PARCEL ID NUMBER	NAME	ADDRESS	CITY	STATE	ZIP CODE
3079240015310	ANAND & SUNIL NANDWANI &	3130 SW 194 TERR	MIRAMAR	FL	33029
3079240015400	EDWIN CHO	6720 N AUGUSTA DR	MIAMI	FL	330152116
3079240015410	HORACIO J & LUIS E HERRERA JTRS	6920 SW 44 ST #207	MIAMI	FL	331554773
3079250010010	F R S HOLDINGS INC	9350 S DIXIE HWY SUITE 1250	MIAMI	FL	331562951
3079250010010	F R S HOLDINGS INC	9350 S DIXIE HWY SUITE 1250	MIAMI	FL	331562951
3079250010035	HOMESTEAD PROPERTIES	970 LAWRENCE AVE WEST #300	TORONTO ONT MGA3B6	CANADA	99999
3079250010035	HOMESTEAD PROPERTIES	970 LAWRENCE AVE WEST #300	TORONTO ONT MGA3B6	CANADA	99999
3079250010035	HOMESTEAD PROPERTIES	970 LAWRENCE AVE WEST #300	TORONTO ONT MGA3B6	CANADA	99999
3079250010080	ARMANDO MENDEZ &W MARIA	19700 SW 184 ST	MIAMI	FL	331871505
3079250010160	MIAMI DADE COUNTY	33 SW 2 AVE	MIAMI	FL	331301501
3079250010300	MIAMI DADE COUNTY	33 SW 2 AVE	MIAMI	FL	331301501
3079250010310	J A MARROQUIN & R LOYOLA &	ALVARO OBREGON 315-206 LEON	GUANAJUATO	MEXICO	99999
3079250010600	MIAMI DADE COUNTY	33 SW 2 AVE STE PH-2	MIAMI	FL	331301501
3079250011500	MIAMI DADE COUNTY	33 SW 2 AVE STE PH-2	MIAMI	FL	331301501
3079250015000	MIAMI DADE COUNTY	33 SW 2 AVE	MIAMI	FL	331301501
3079260010030	FLORIDA ROCK & SAND CO IN	9350 S DIXIE HWY SUITE 1250	MIAMI	FL	331562951
3079260013510	HOMESTEAD PROPERTIES	970 LAWRENCE AVE WEST #300	TORONTO	CANADA	99999
3079260014610	HOMESTEAD PROPERTIES	970 LAWRENCE AVE WEST #300	TORONTO	CANADA	99999
3079270010150	CEMEX CONST MATERIALS FLA LLC	1501 BELVEDERE RD	WEST PALM BEACH	FL	33406

Note: Parcel and address information based on 2009 Miami-Dade County parcel data.



LEGEND

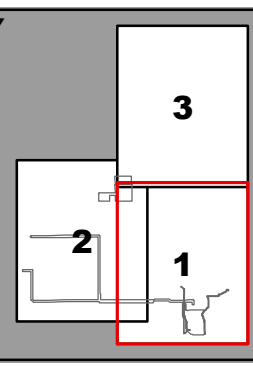
- Turkey Point Units 6 & 7 Site
- FPL Properties
- Non-FPL Owned Properties
- FPL Reclaimed Water Treatment Facility
- FPL-Owned Fill Source
- Radial Collector Well Area
- Radial Collector Well Delivery Pipelines
- Reclaimed Water Pipeline Corridor
- Roadway Improvement Corridor
- Treated Reclaimed Water Delivery Pipelines
- Western Laydown Area

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Parcels, Miami-Dade County, 2009.

0 1,000 2,000 4,000 Feet

SITE KEY



ATTACHMENT B

PLOT DATE 06/12/2009

REV. 0

FILE No. 08387584J001

TITLE

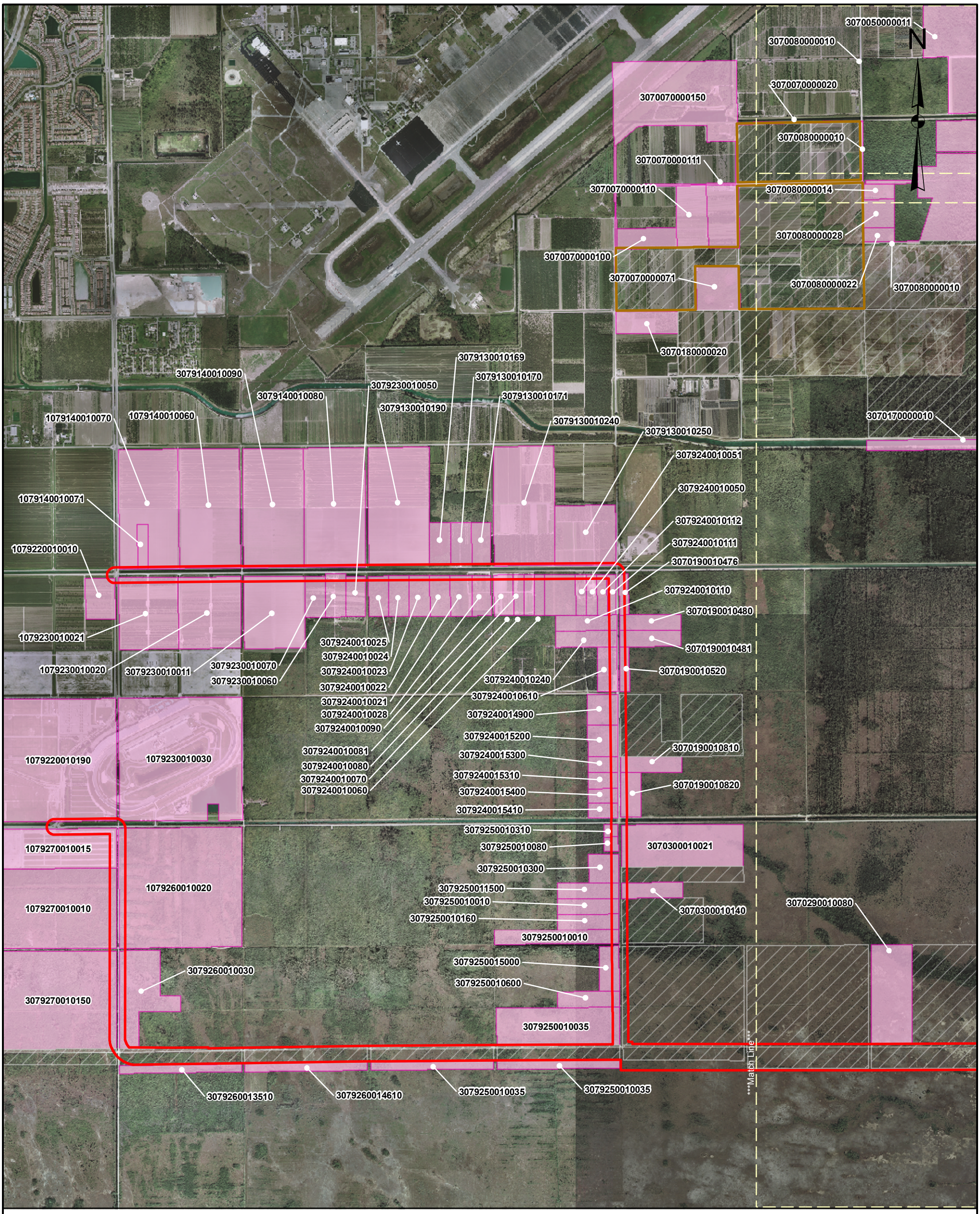
PLANT AND NON-TRANSMISSION FACILITIES ADJACENT PROPERTY OWNERS

Sheet 1 of 3

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

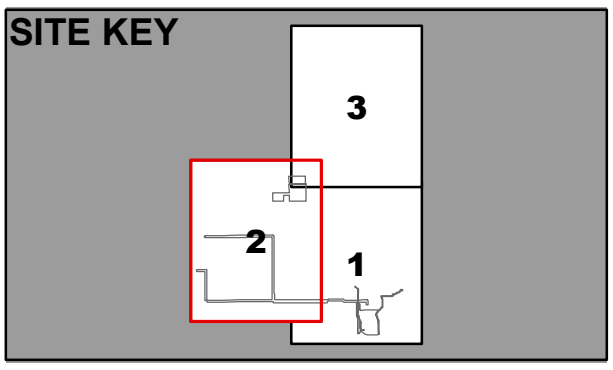
- Turkey Point Units 6 & 7 Site
- FPL Properties
- Non-FPL Owned Properties
- FPL Reclaimed Water Treatment Facility
- FPL-Owned Fill Source
- Radial Collector Well Area
- Radial Collector Well Delivery Pipelines
- Reclaimed Water Pipeline Corridor
- Roadway Improvement Corridor
- Treated Reclaimed Water Delivery Pipelines
- Western Laydown Area

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Parcels, Miami-Dade County, 2009.

0 1,000 2,000 4,000 Feet

SITE KEY



ATTACHMENT B

PLOT DATE 06/12/2009

REV. 0

FILE No. 08387584J001

TITLE

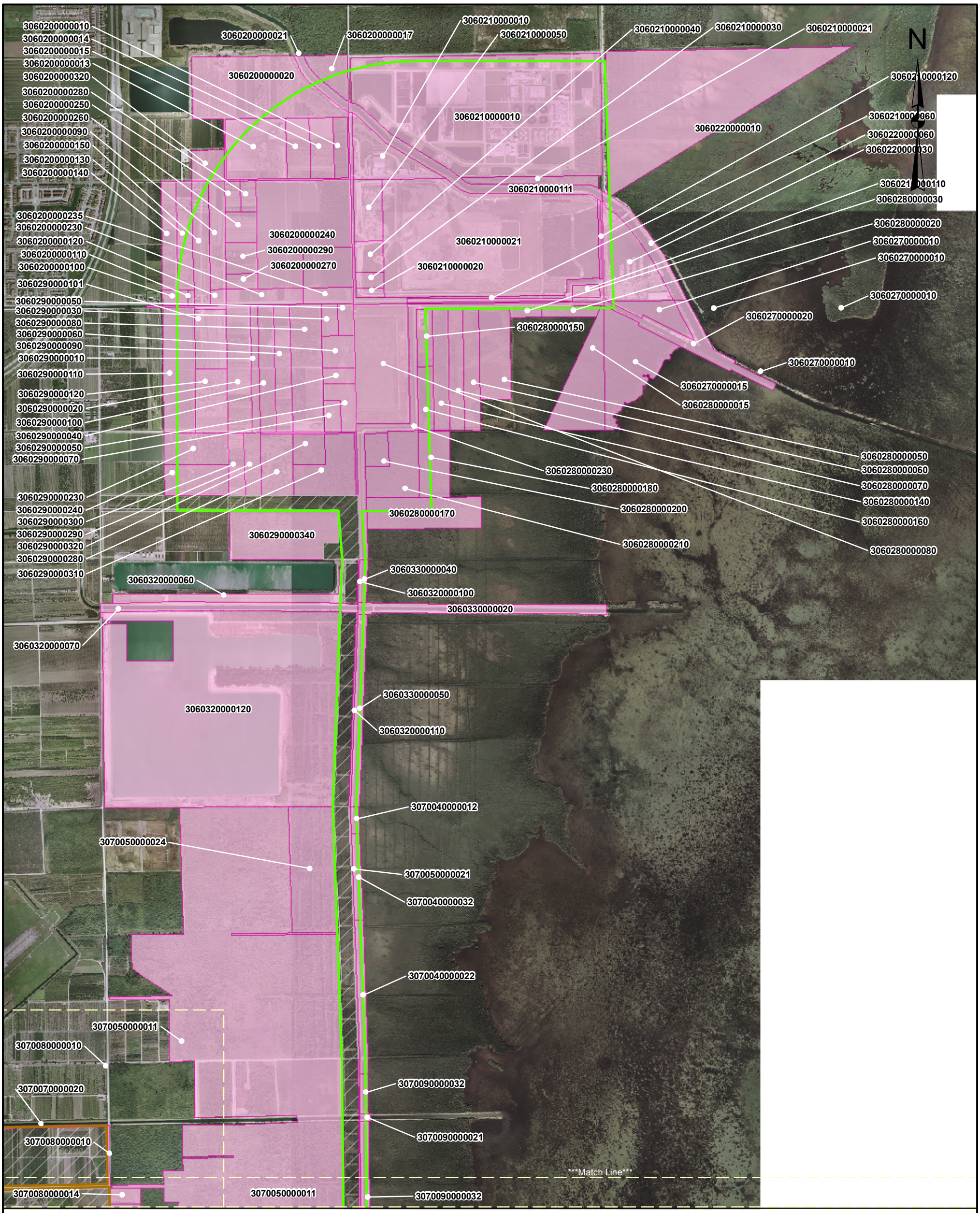
PLANT AND NON-TRANSMISSION FACILITIES ADJACENT PROPERTY OWNERS

Sheet 2 of 3

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

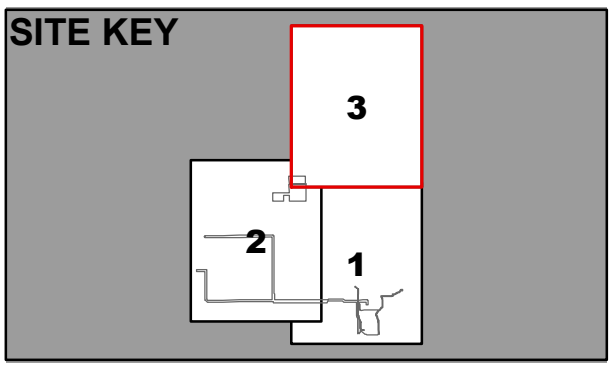
- Turkey Point Units 6 & 7 Site
- FPL Properties
- Non-FPL Owned Properties
- FPL Reclaimed Water Treatment Facility
- FPL-Owned Fill Source
- Radial Collector Well Area
- Radial Collector Well Delivery Pipelines
- Reclaimed Water Pipeline Corridor
- Roadway Improvement Corridor
- Treated Reclaimed Water Delivery Pipelines
- Western Laydown Area

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Parcels, Miami-Dade County, 2009.

0 1,000 2,000 4,000 Feet

SITE KEY



ATTACHMENT B

PLOT DATE 06/12/2009 | REV. 0 | FILE No. 08387584J001

TITLE

PLANT AND NON-TRANSMISSION FACILITIES ADJACENT PROPERTY OWNERS

Sheet 3 of 3

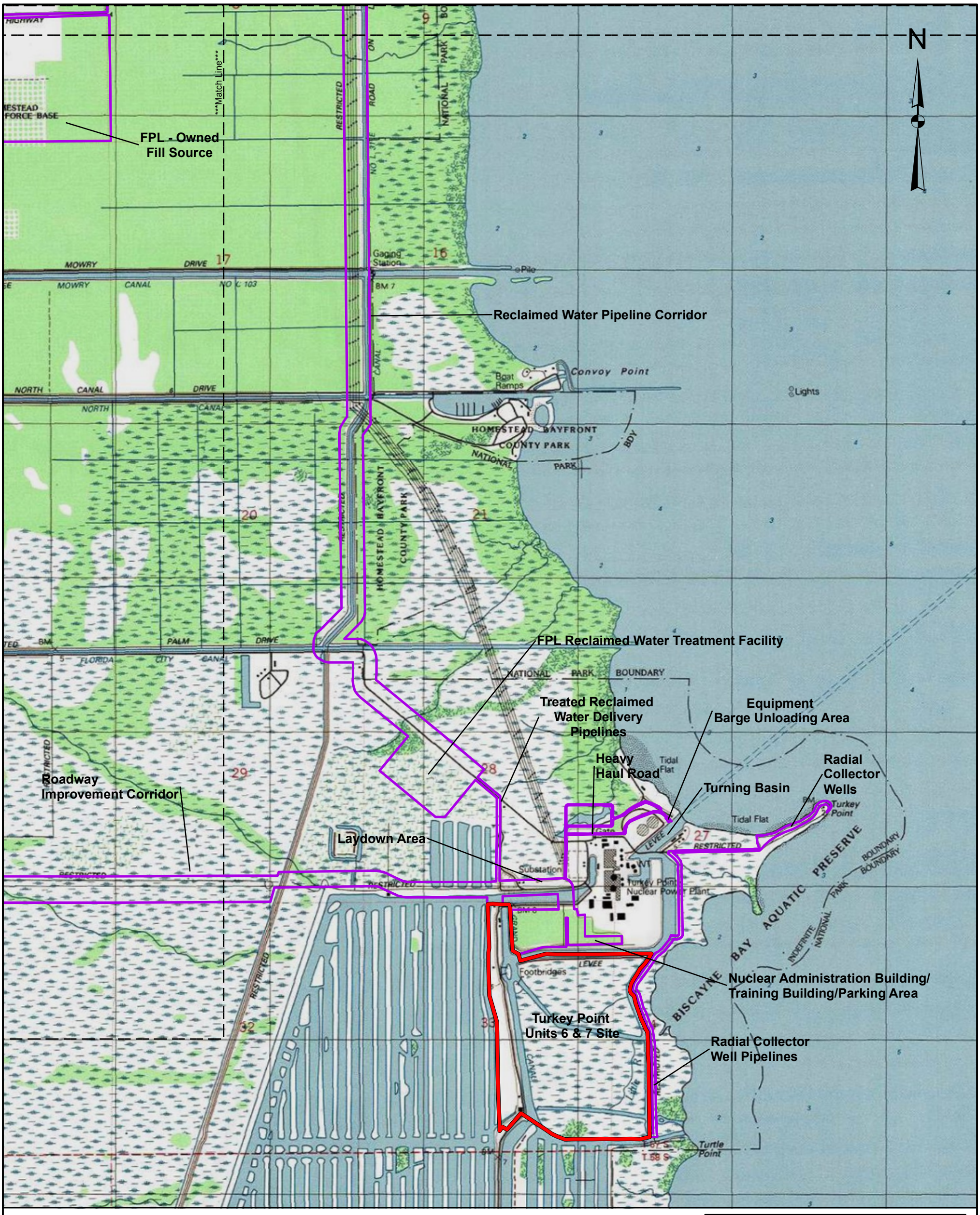
PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

ATTACHMENT C

SITE LOCATION AND LAYOUT

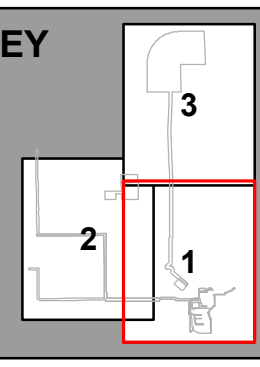


LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities

0 1,000 2,000 4,000 Feet

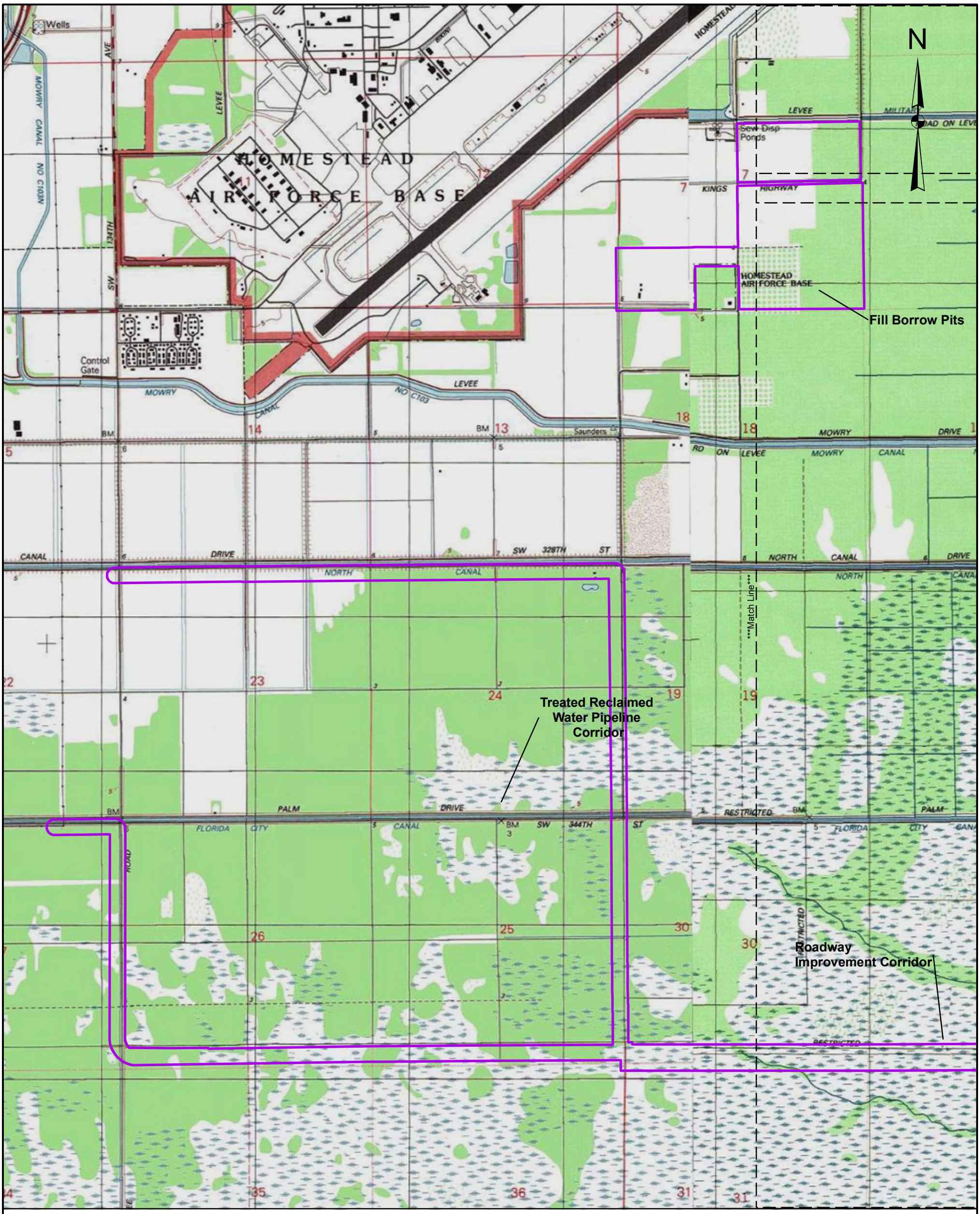
SITE KEY



REFERENCES

1. Topographic Map, USGS Quadrangles: Goulds, Perrine, Homestead, Arsenicker Keys, 1994.

FIGURE 1	PLOT DATE 6/12/2009	REV. 0	FILE No. 08387584J003	TITLE: PLANT AND NON-TRANSMISSION FACILITIES USGS TOPOGAPHIC MAP Sheet 1 of 3	PROJECT: TURKEY POINT UNITS 6 & 7 PROJECT

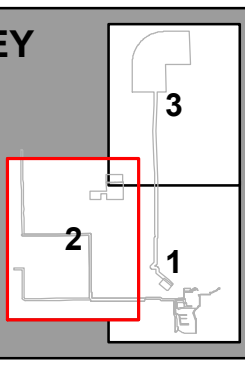


LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities

0 1,000 2,000 4,000 Feet

SITE KEY



REFERENCES

1. Topographic Map, USGS Quadrangles: Goulds, Perrine, Homestead, Arsenicker Keys, 1994.

FIGURE 1

PLOT DATE 6/12/2009 | REV. 0 | FILE No. 08387584J003

TITLE

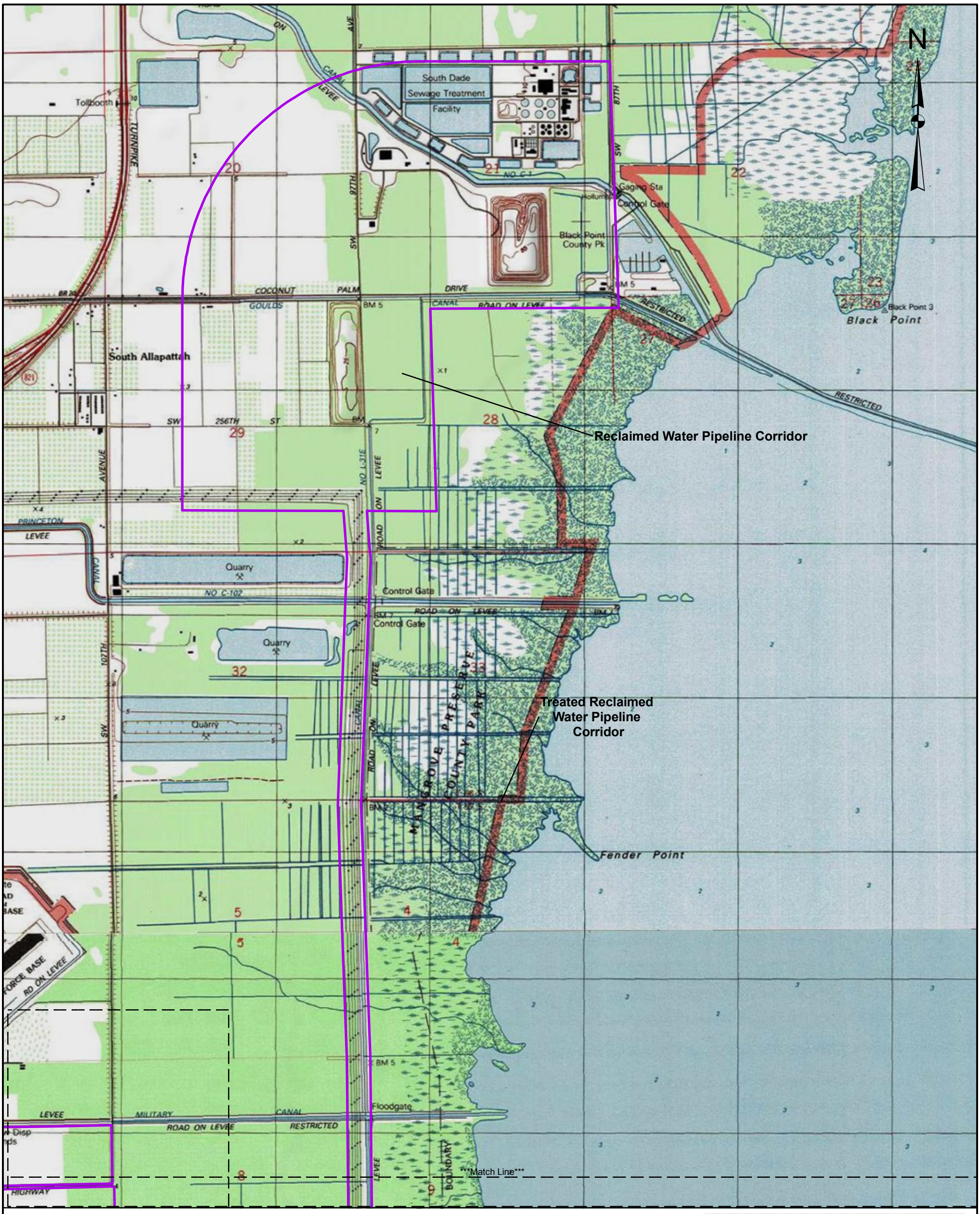
PLANT AND NON-TRANSMISSION FACILITIES USGS TOPOGAPHIC MAP

Sheet 2 of 3

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities

0 1,000 2,000 4,000 Feet

REFERENCES

1. Topographic Map, USGS Quadrangles: Goulds, Perrine, Homestead, Arsenicker Keys, 1994.

SITE KEY

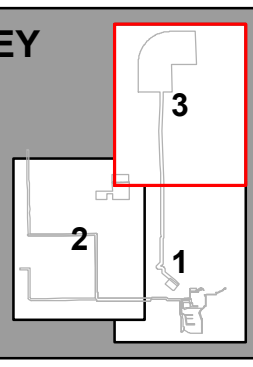


FIGURE 1

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J003

TITLE

PLANT AND NON-TRANSMISSION FACILITIES USGS TOPOGAPHIC MAP

Sheet 3 of 3

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

MATCH LINE- SEE DWG 25409-0-P1-0010-00003

25409-0-P1-0010-00002

CLEAR SKY SUBSTATION
1000' x 650'

OPERATIONS PARKING
FOR 875 VEHICLES

BISCAYNE
BAY

SALTWATER PIPELINE(S)

N 398,070.30
E 877,176.51

N 397,797.25
E 877,275.89

PLANT AREA LIMITS

RETAINING WALL

N 397,525.27
E 877,374.88

BERM

DEEP INJECTION WELL (TYP)

N 397,205.74
E 877,438.67

MONITORING WELL (TYP)

N 396,915.74
E 877,438.67

N 396,625.74
E 877,438.67

B
25409-0-P1-0010-00002

N 396,335.74
E 877,438.67
DEEP WELLS (TYP)

MONITORING WELLS (TYP)

N 396,045.74
E 877,438.67

N 395,755.74
E 877,438.67

N 395,344.47
E 877,377.47

N 395,344.47
E 877,152.47

T-PAD

N.396968 UNIT 7
E.875796 CTMT

N.396968 UNIT 6
E.876646 CTMT

309'-4"

245'-0"

331'-3"

478'-3"

80'-2"

445'-1"

TOP OF RESERVOIR
BASE SLAB EL. -2'-0"

TOP OF RESERVOIR
EL. 24'-0"

VEHICLE
BARRIER

RECLAIMED WATER PIPELINE(S)

LEGEND

1. CONTAINMENT/SHIELD BUILDING
2. TURBINE BUILDING
3. ANNEX BUILDING
4. AUXILIARY BUILDING
5. SWS COOLING TOWERS
7. RADWASTE BUILDING
8. SECURITY BUILDING
9. SALLY PORT
10. DIESEL GENERATOR BUILDING
11. MECHANICAL DRAFT COOLING TOWERS
13. FIRE WATER/CLEARWELL STORAGE TANK
14. FIRE WATER STORAGE TANK
15. TRANSFORMER AREA
17. CONDENSATE STORAGE TANK
18. DIESEL GENERATOR STORAGE TANKS
19. DEMINERALIZED WATER STORAGE TANK
20. BORIC ACID STORAGE TANK
22. TURBINE BUILDING LAYDOWN AREA
24. WASTE WATER RETENTION BASIN
25. PASSIVE CONTAINMENT COOLING ANCILLARY WATER STORAGE TANK
26. DIESEL DRIVEN FIRE PUMP/ENCLOSURE
28. CIRCULATING WATER PUMPHOUSE
29. WAREHOUSE
30. MAINTENANCE SHOP/OFFICE
38. ELECTRICAL BUILDING
76. RAW WATER STORAGE TANK
81. DELETED
82. DELETED
83. CENTRAL RECEIVING
85. SERVICE BUILDING
91. SANITARY WASTE TREATMENT FACILITY
93. RECLAIMED WATER PUMP STRUCTURE
94. BLOWDOWN SUMP
95. PCS BULK GAS STORAGE AREA
101. MAKEUP WATER RESERVOIR

REFERENCE DRAWINGS:

25409-0-P1-0010-00002 FPL TURKEY POINT COL PROJECT
PLOT PLAN SECTION VIEWS

25409-0-P1-0010-00003 FPL TURKEY POINT COL PROJECT
PLOT PLAN

REFERENCE DRAWINGS:

PROJECT

TURKEY POINT UNITS 6 & 7
PROJECT

TITLE

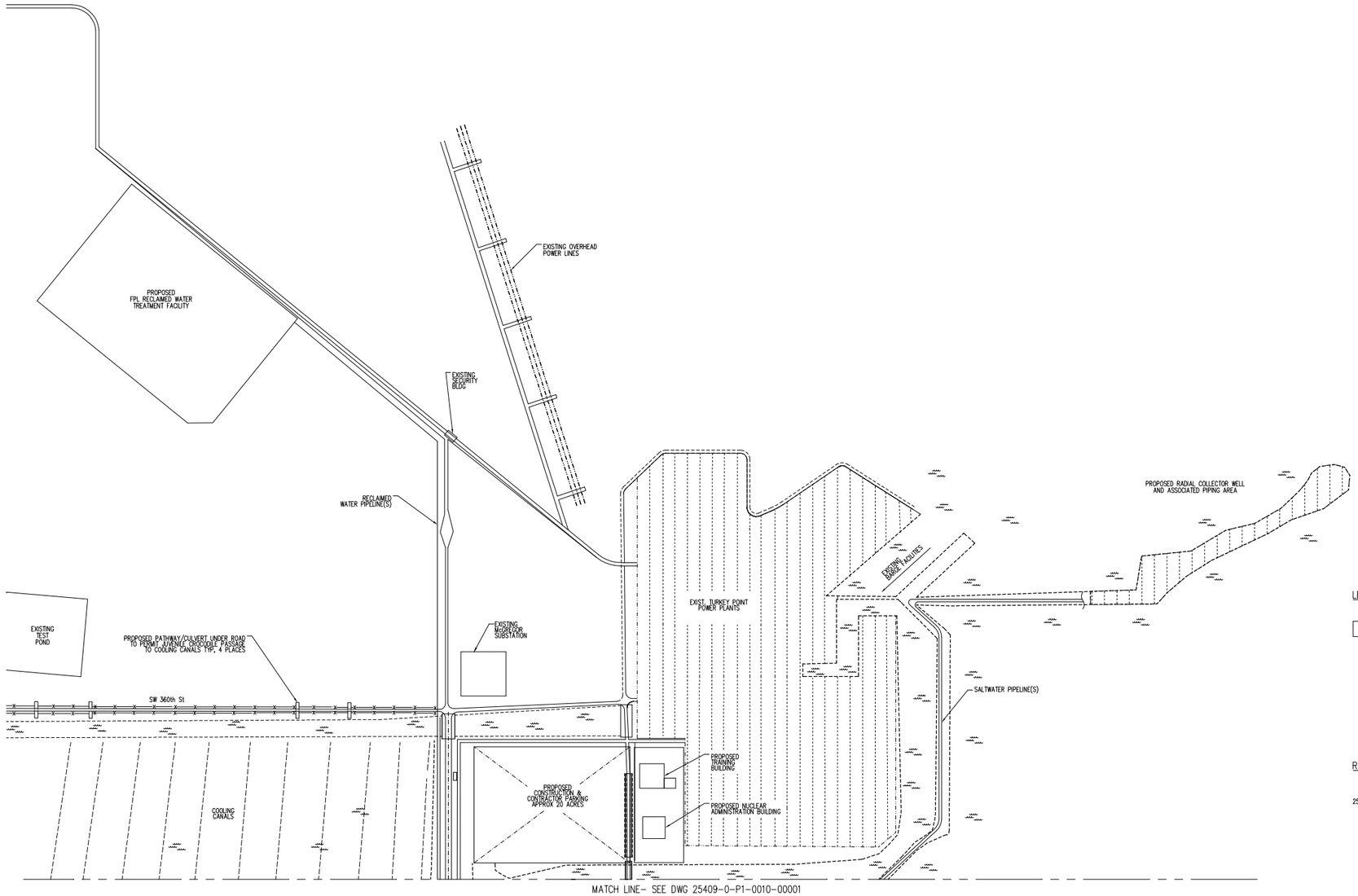
PLOT PLAN
SHEET 1 OF 2

FPL

FILE No.	08387584C002
REV.	0
PLOT PLAN	06/14/2009

FIGURE
4.2-2

ERP FIGURE 2.1



PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

PLOT PLAN
SHEET 2 OF 2

FPL

FILE NO.	08387584C003
REV.	0
PLOT DATE	06/14/2009

FIGURE 4.2-2

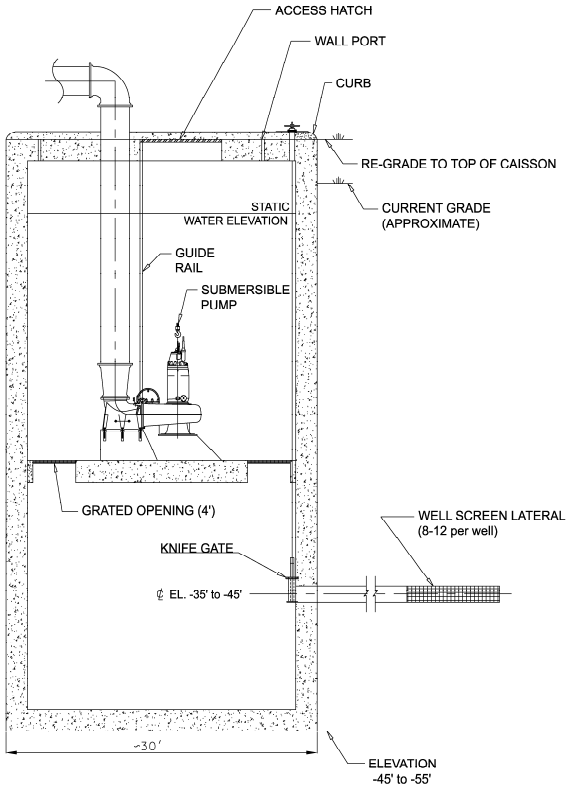
ERP FIGURE 2.1

Figure 4.2-3
Conceptual Illustration of Turkey Point Units 6 & 7

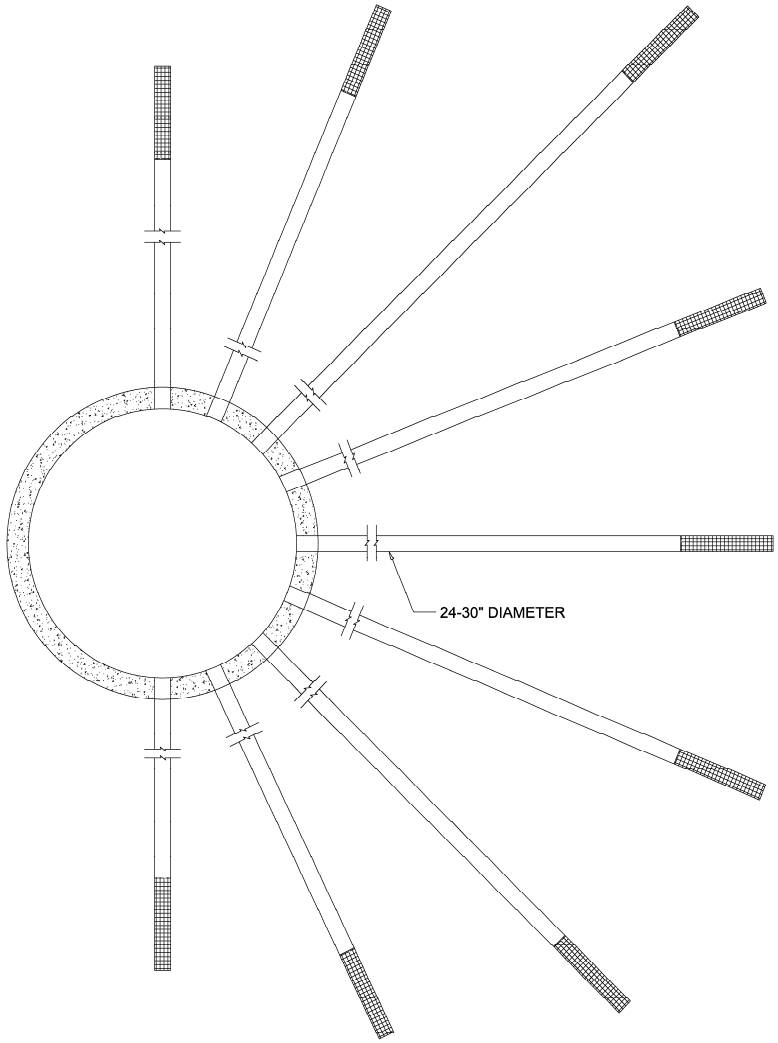
Rev. 0

FPL

ERP FIGURE 2.2



SECTION VIEW



WELL SCREEN LATERAL ARRANGEMENT

Figure 4.5-2
Typical Radial Collector Well Conceptual Design

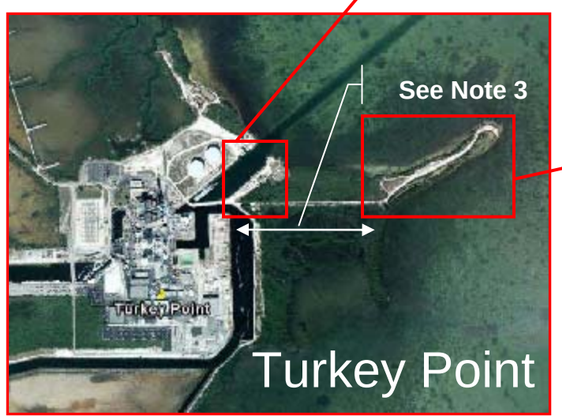
Rev. 0

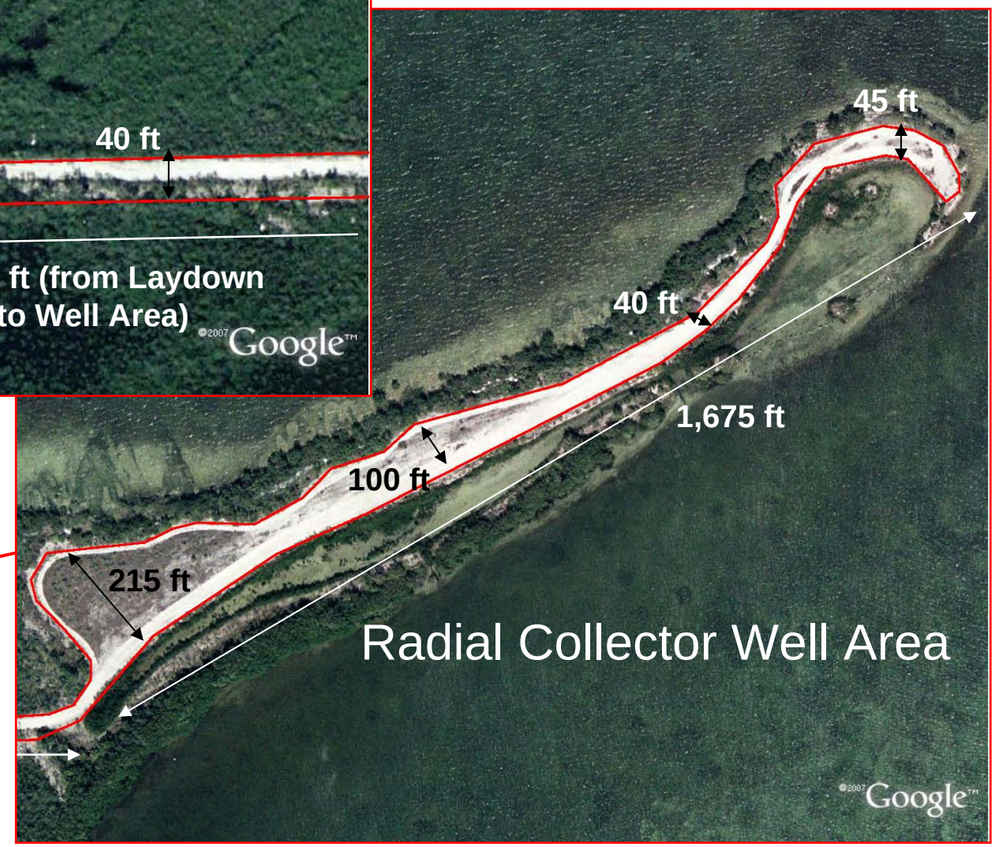
FPL

ERP FIGURE 3.1

Notes:

1. All dimensions are approximate
2. Preliminary construction limits are shown in red
3. Distance from the Laydown Area to the beginning of the planned well area is 2,010 feet



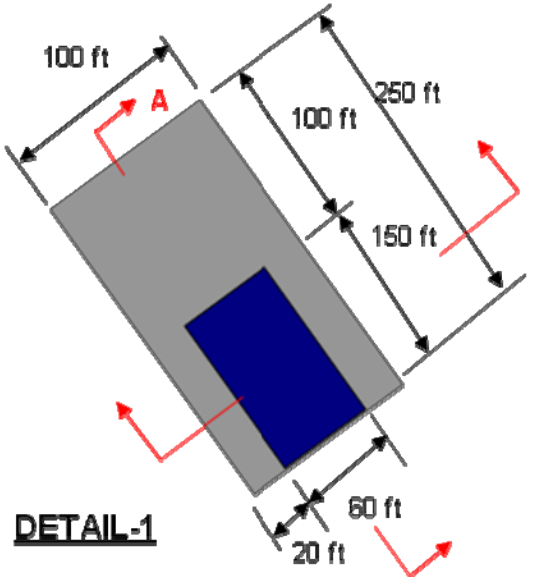


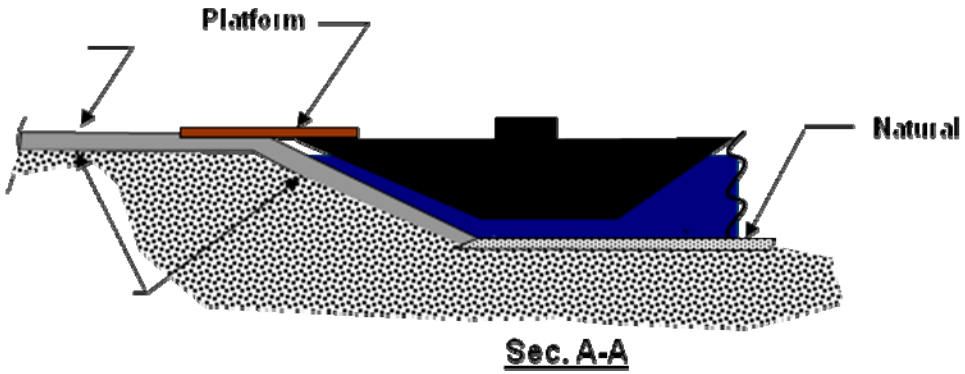
Potential Construction Limits

Radial Collector Wells – Turkey Point Proposed Units 6 & 7

4/1/09

ERP FIGURE 3.2





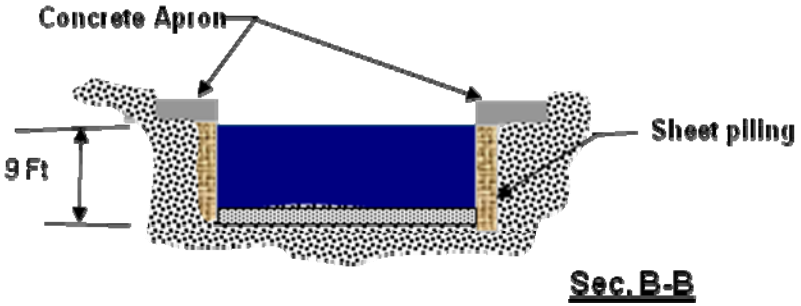
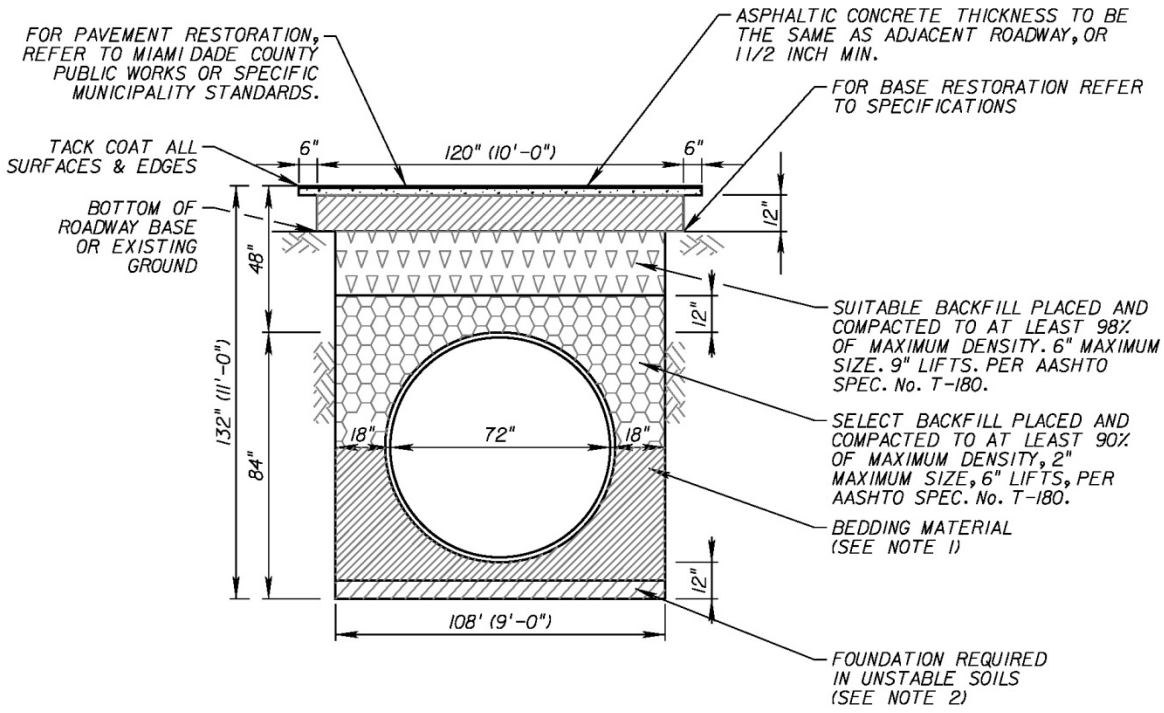


Figure 5.1-2
Equipment Barge Unloading Area

Rev. 0

FPL

ERP FIGURE 3.3



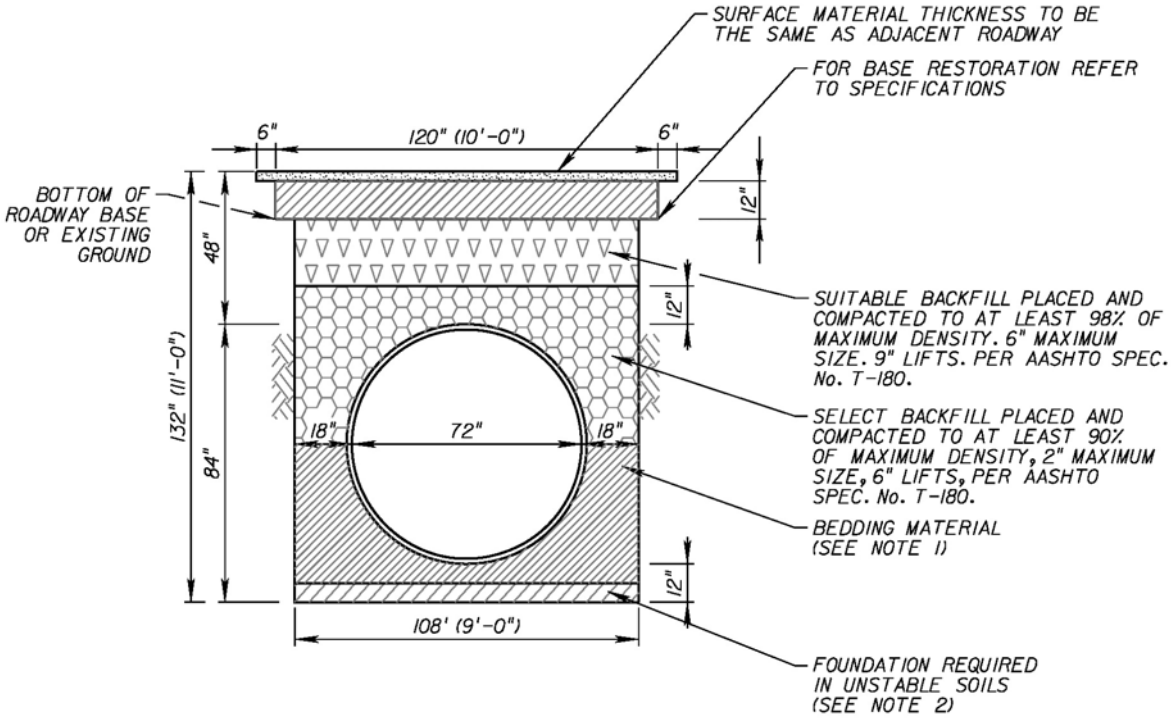
NOTES:

1. UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAX. SIZE, OR WASHED AND GRADED LIMEROCK (3/8"-7/8"), COMPACTED TO AT LEAST 90° OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. No. T-180.

2. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS BELOW THE WATER TABLE, A FOUNDATION IS REQUIRED. COMPACTED TO AT LEAST 90° OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-180. FOUNDATION MATERIAL SHALL BE SELECT BACKFILL MATERIAL, 2" MAXIMUM SIZE 6" LIFTS EXTEND EXCAVATION AT LEAST 2' DEEPER FOR FOUNDATION EN LESS SUITABLE MATERIAL IS FOUND AT A LESSER DEPTH, GREATER DEPTHS MAY BE REQUIRED FOR EXTREMELY POOR CONDITIONS.

Figure P9.3.2.1
Typical Paved Roads – Restoration Details
for Reclaimed Water Pipelines

Rev. 0



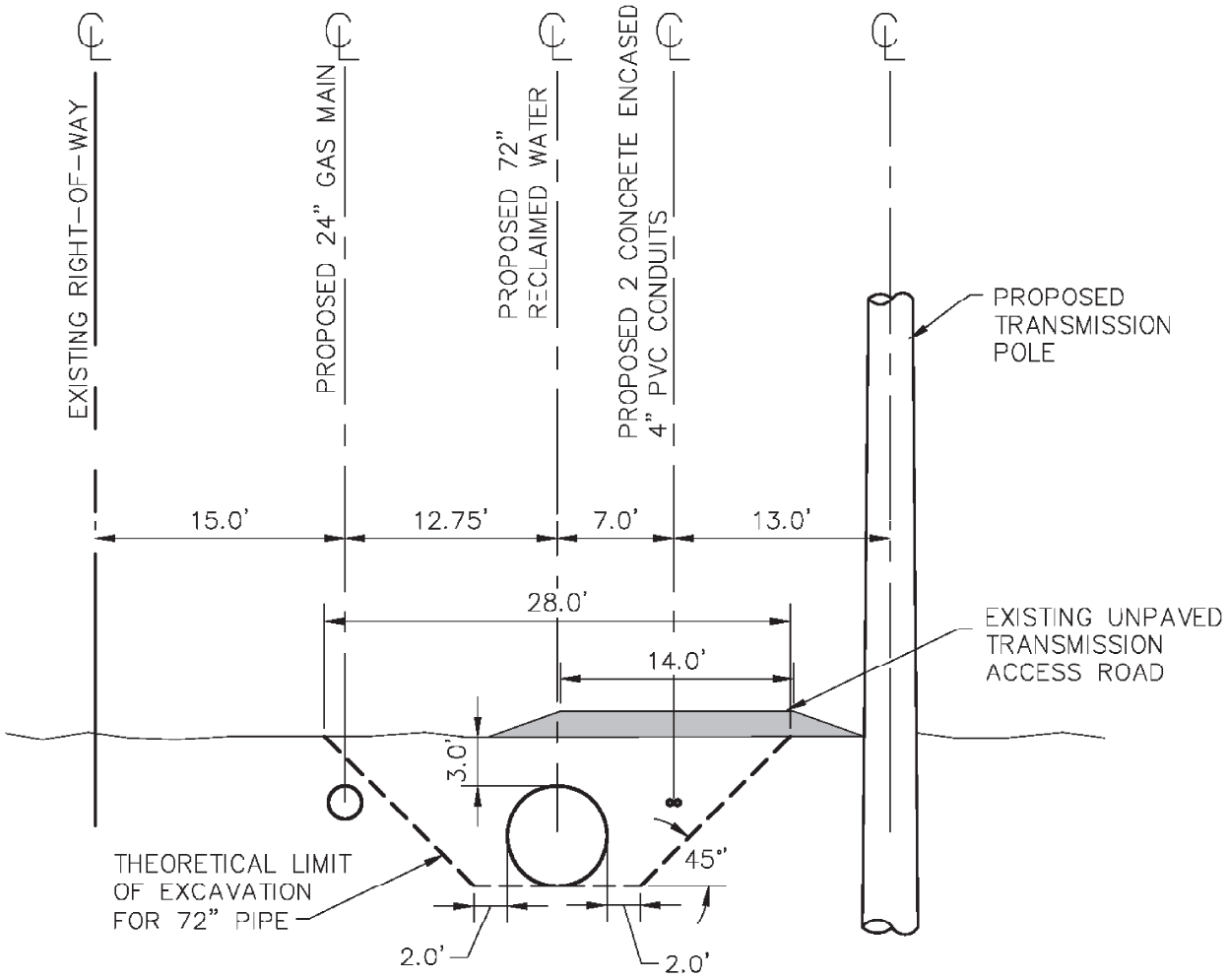
NOTES:

1. UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAX. SIZE, OR WASHED AND GRADED LIMEROCK (3/8"-7/8"), COMPACTED TO AT LEAST 90° OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. No. T-180.

2. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS BELOW THE WATER TABLE, A FOUNDATION IS REQUIRED. COMPACTED TO AT LEAST 90° OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-180. FOUNDATION MATERIAL SHALL BE SELECT BACKFILL MATERIAL, 2" MAXIMUM SIZE 6" LIFTS EXTEND EXCAVATION AT LEAST 2' DEEPER FOR FOUNDATION EN LESS SUITABLE MATERIAL IS FOUND AT A LESSER DEPTH, GREATER DEPTHS MAY BE REQUIRED FOR EXTREMELY POOR CONDITIONS.

Figure P9.3.2.2
Typical Unpaved Roads – Restoration Details
for Reclaimed Water Pipelines

Rev. 0

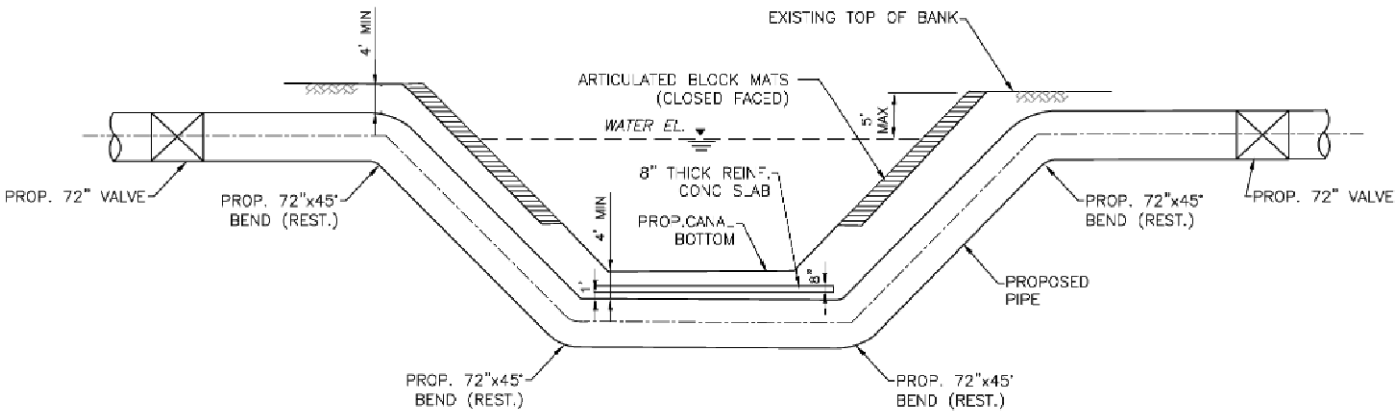


NOTES

Not to Scale

PROJECT	TURKEY POINT UNITS 6 & 7 PROJECT
TITLE	TYPICAL CROSS SECTION OF RECLAIMED WATER PIPELINES IN TRANSMISSION RIGHT-OF-WAY
FPL	FILE No. 08387584F013
	REV. 0
	PLOT DATE 6/12/2009
	FIGURE P9.3.2-3

ERP FIGURE 3.6



NOTES:

1. AMOUNT OF ARTICULATED BLOCK MATS (CLOSED FACED) SHALL BE AS NEEDED TO LEAVE THE CANAL BANK IN A CONDITION TO EQUAL OR BETTER THAN BEFORE.

2. MINIMUM ARTICULATED BLOCK MATS (CLOSED FACED) AREA TO BE COVERED SHALL BE AS SPECIFIED BY THE ENGINEER AND AS REQUIRED TO TIE INTO THE EXISTING UNDISTURBED BANK, BUT NOT LESS THAN THE WIDTH OF THE PIPE TRENCH PLUS 24" ON EACH SIDE OF THE TRENCH.

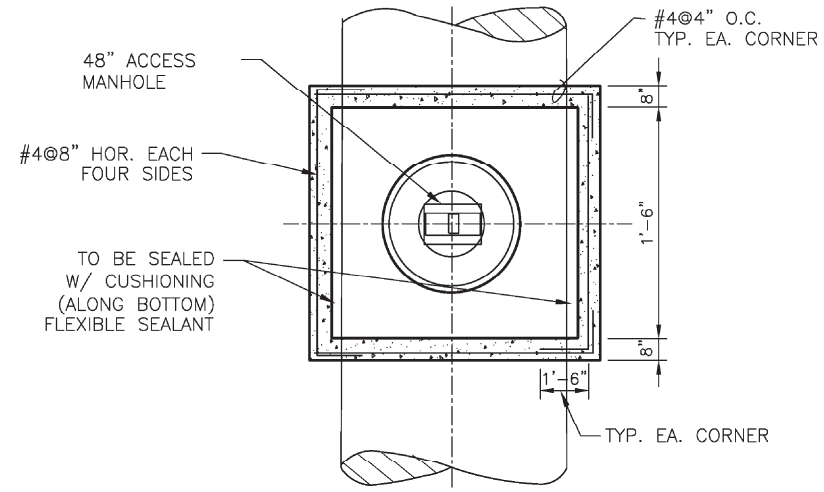
3. PIPE, VALVES AND FITTINGS FOR THE CANAL CROSSING WILL HAVE RESTRAINED JOINTS OR APPROVED EQUAL.

NOTES

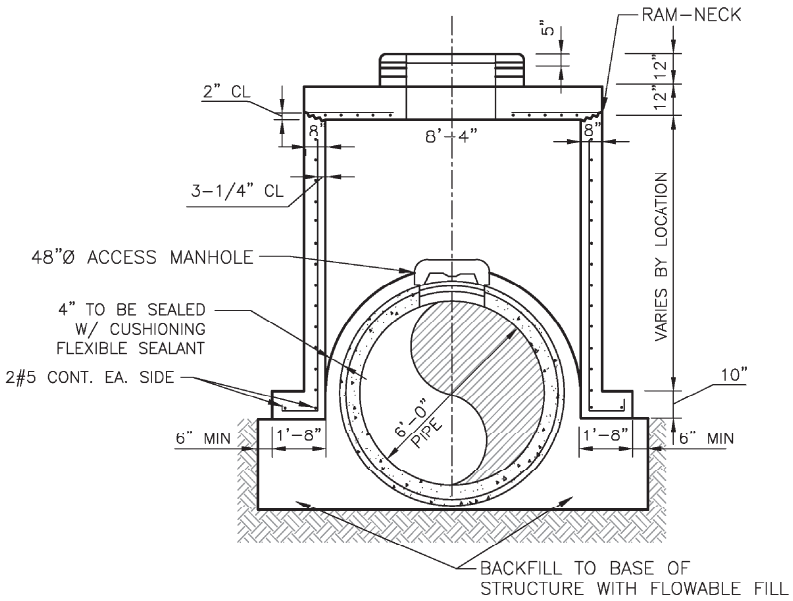
Not to Scale

PROJECT	TURKEY POINT UNITS 6 & 7 PROJECT
TITLE	TYPICAL CANAL CROSSING FOR RECLAIMED WATER PIPELINES
FPL	FILE No. 08387584F012
	REV. 0
	PLOT DATE 6/12/2009
	FIGURE P9.3.2-4

ERP FIGURE 3.7



PLAN VIEW



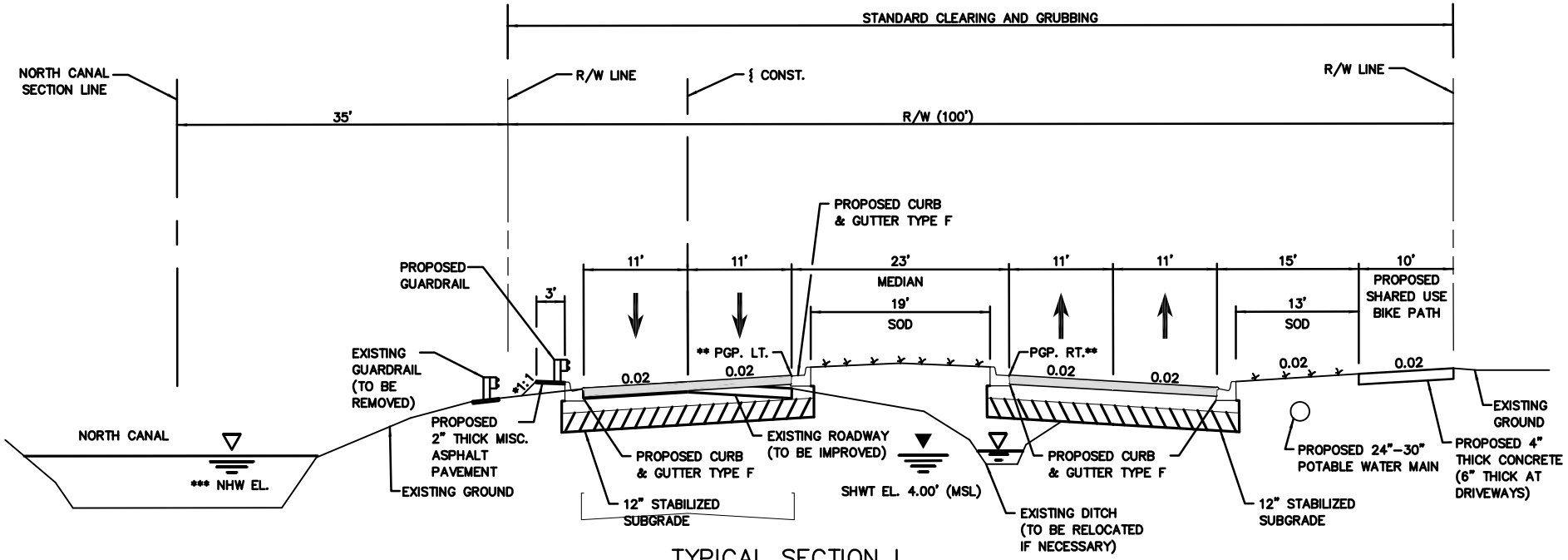
SECTION VIEW

NOTES

Not to Scale

PROJECT	TURKEY POINT UNITS 6 & 7 PROJECT
TITLE	TYPICAL ACCESS MANHOLE DETAIL
FPL	FILE No. 08387584F011
	REV. 0
	PLOT DATE 6/12/2009
	FIGURE P9.3.2-5

ERP FIGURE 3.8



TYPICAL SECTION I
(LOOKING EAST)
SW 328th STREET (NORTH CANAL DRIVE)
(FROM SW 137th AVENUE TO SW 117th AVENUE)

TYPICAL SECTION NOTES:

1. TYPICAL SECTION 1 MATCHES THE PROPOSED MIAMI-DADE COUNTY PUBLIC WORKS DEPARTMENT PROJECT No. 20060302 SW 328th STREET TYPICAL SECTION FROM SW 152nd AVENUE TO SW 137th AVENUE.
2. DESIGN SPEED 45 MPH
3. STORM WATER MANAGEMENT: CLOSED SYSTEM TREATMENT AND ATTENUATION WILL BE PROVIDED BY PROPOSED EXFILTRATION TRENCH AND OVERFLOW INTO EXISTING CANAL (PRE VS. POST DISCHARGE). WATER QUANTITY/QUALITY SFWMD CRITERIA WILL BE APPLIED.

NOTE: THIS FIGURE ALSO CONTAINS A UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER

* 1:1 OR TO SUIT PROPERTY OWNER

** THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM 3' CLEARANCE REQUIREMENTS PER THE FDOT PLANS PREPRATION MANUAL VOL. 1, TABLE 2.6.3. FOR THE ROADWAY BASE COURSE ABOVE THE BASE CLEARANCE WATER ELEVATION.

PGP = BASE CLEARANCE WATER ELEVATION (NHW OR SHWT, WHICH EVER YIELDS THE HIGHEST VALUE) + 3' MINIMUM CLEARANCE + PAVEMENT DESIGN

A PRELIMINARY PAVEMENT DESIGN CONSISTING OF LIMEROCK BASE (12"), TYPE S-1 STRUCTURAL COURSE (2"), AND FRICTION COURSE (1") SHALL BE USED FOR CONCEPT ANALYSIS ONLY.

*** THE NHW EL. IS TO BE PROVIDED BY DERM.

ERP FIGURE 3.9

FIGURE
R9.3.2-1

PLOT DATE 06/14/2009
REV. 0
FILE No. 08387584H010

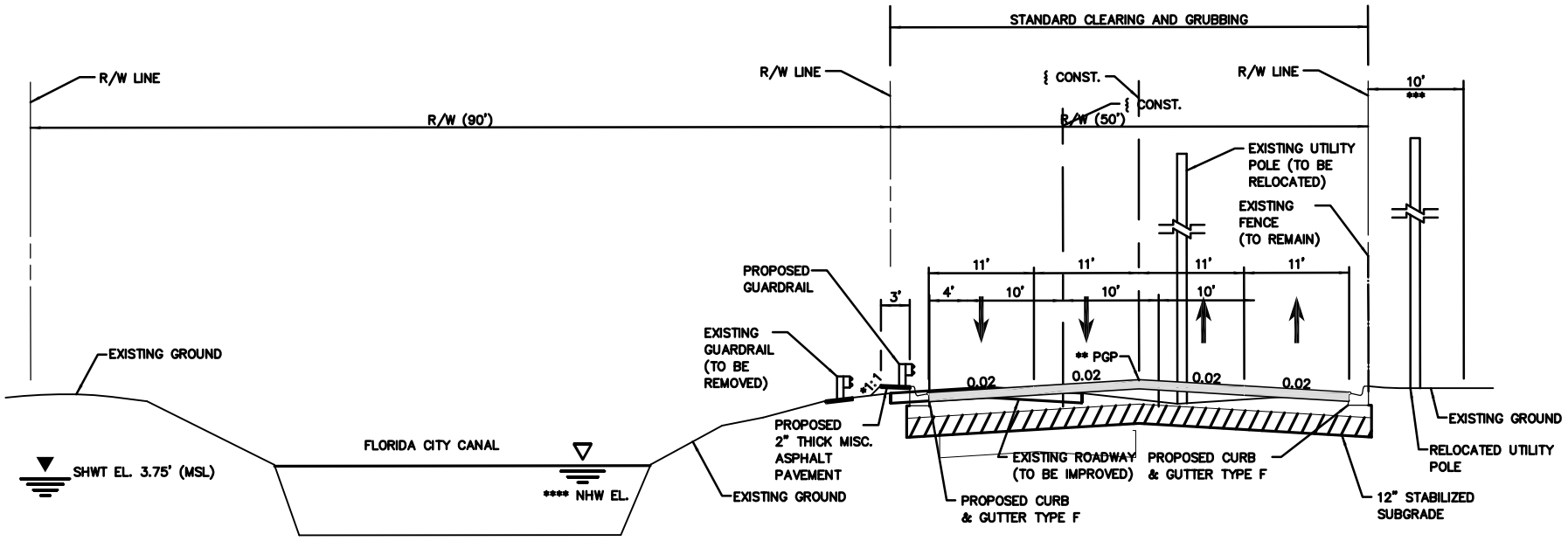
TITLE

TYPICAL SECTION SW 328TH STREET (NORTH CANAL DRIVE)

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



TYPICAL SECTION 4
(LOOKING EAST)
SW 344th STREET (PALM DRIVE)
(SW 137th AVENUE CONNECTION)

TYPICAL SECTION NOTES:

1. PROPOSED TRAVEL LANE WIDTH OF 11-FT DUE TO RIGHT-OF-WAY CONSTRAINTS.
2. CURB AND GUTTER TYPE F WAS PROVIDED DUE TO RIGHT-OF-WAY CONSTRAINTS.
3. DESIGN SPEED 45 MPH
3. STORM WATER MANAGEMENT: CLOSED SYSTEM TREATMENT AND ATTENUATION WILL BE PROVIDED BY PROPOSED EXFILTRATION TRENCH AND OVERFLOW INTO EXISTING CANAL (PRE VS. POST DISCHARGE). WATER QUANTITY/QUALITY SFWMD CRITERIA WILL BE APPLIED.

NOTE: THIS FIGURE ALSO CONTAINS A UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER

* 1:1 OR TO SUIT PROPERTY OWNER

** THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM 3' CLEARANCE REQUIREMENTS PER THE FDOT PLANS PREPRATION MANUAL VOL. 1, TABLE 2.6.3. FOR THE ROADWAY BASE COURSE ABOVE THE BASE CLEARANCE WATER ELEVATION.

PGP = BASE CLEARANCE WATER ELEVATION (NHW OR SHWT, WHICH EVER YIELDS THE HIGHEST VALUE) + 3' MINIMUM CLEARANCE + PAVEMENT DESIGN

A PRELIMINARY PAVEMENT DESIGN CONSISTING OF LIMEROCK BASE (12"), TYPE S-1 STRUCTURAL COURSE (2"), AND FRICTION COURSE (1") SHALL BE USED FOR CONCEPT ANALYSIS ONLY.

*** PROPOSED EASEMENT TO BE USED FOR THE RELOCATION OF THE EXISTING UTILITY POLES.

**** THE NHW EL. IS TO BE PROVIDED BY DERM.

ERP FIGURE 3.10

FIGURE R9.3.2-2

PLOT DATE 06/14/2009 | REV. 0 | FILE No. 08387584H011

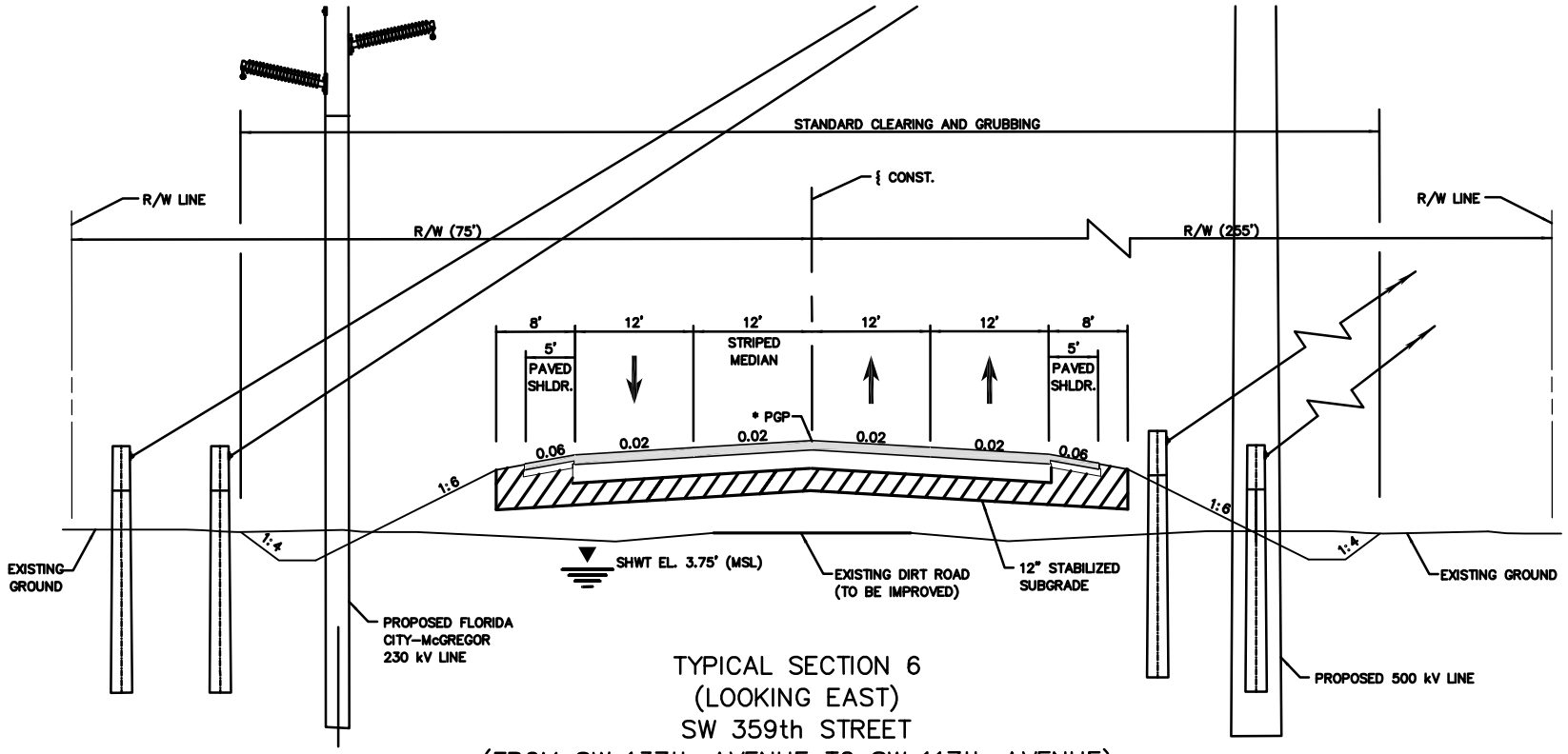
TITLE

TYPICAL SECTION SW 344TH STREET (PALM DRIVE)

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



TYPICAL SECTION 6
(LOOKING EAST)
SW 359th STREET
(FROM SW 137th AVENUE TO SW 117th AVENUE)

TYPICAL SECTION NOTES:

1. 12–FT STRIPED MEDIAN WAS PROVIDED PER THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, SECTION C.7.e AND PER METROPOLITAN DADE COUNTY PUBLIC WORKS MANUAL ROAD DETAIL R–3.2A.
2. 8–FT SHOULDER TOTAL WIDTH (5–FT PAVED) WAS PROVIDED PER FDOT PLANS PREPARATION MANUAL VOL. 1, TABLE 2.3.3 FOR A MULTILANE LOW VOLUME HIGHWAY.
3. DESIGN SPEED 45 MPH
4. STORM WATER MANAGEMENT: OPEN SYSTEM TREATMENT AND ATTENUATION WILL BE PROVIDED BY PROPOSED ROADSIDE SWALES (BOTH SIDES OF ROADWAY). WATER QUANTITY/QUALITY SFWMD CRITERIA WILL BE APPLIED.
5. SEE FIGURE W9.2.0–10 FOR ROAD PLACEMENT IN RELATION TO TRANSMISSION FACILITIES.

NOTE: THIS FIGURE ALSO CONTAINS A UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER

* THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM 3' CLEARANCE REQUIREMENTS PER THE FDOT PLANS PREPRATION MANUAL VOL. 1, TABLE 2.6.3. FOR THE ROADWAY BASE COURSE ABOVE THE BASE CLEARANCE WATER ELEVATION.

PGP = BASE CLEARANCE WATER ELEVATION + 3' MINIMUM CLEARANCE + PAVEMENT DESIGN

A PRELIMINARY PAVEMENT DESIGN CONSISTING OF LIMEROCK BASE (12"), TYPE S–1 STRUCTURAL COURSE (2"), AND FRICTION COURSE (1") SHALL BE USED FOR CONCEPT ANALYSIS ONLY.

ERP FIGURE 3.11

FIGURE
R9.3.2-3

PLOT DATE 06/14/2009
REV. 0
FILE No. 08387584H012

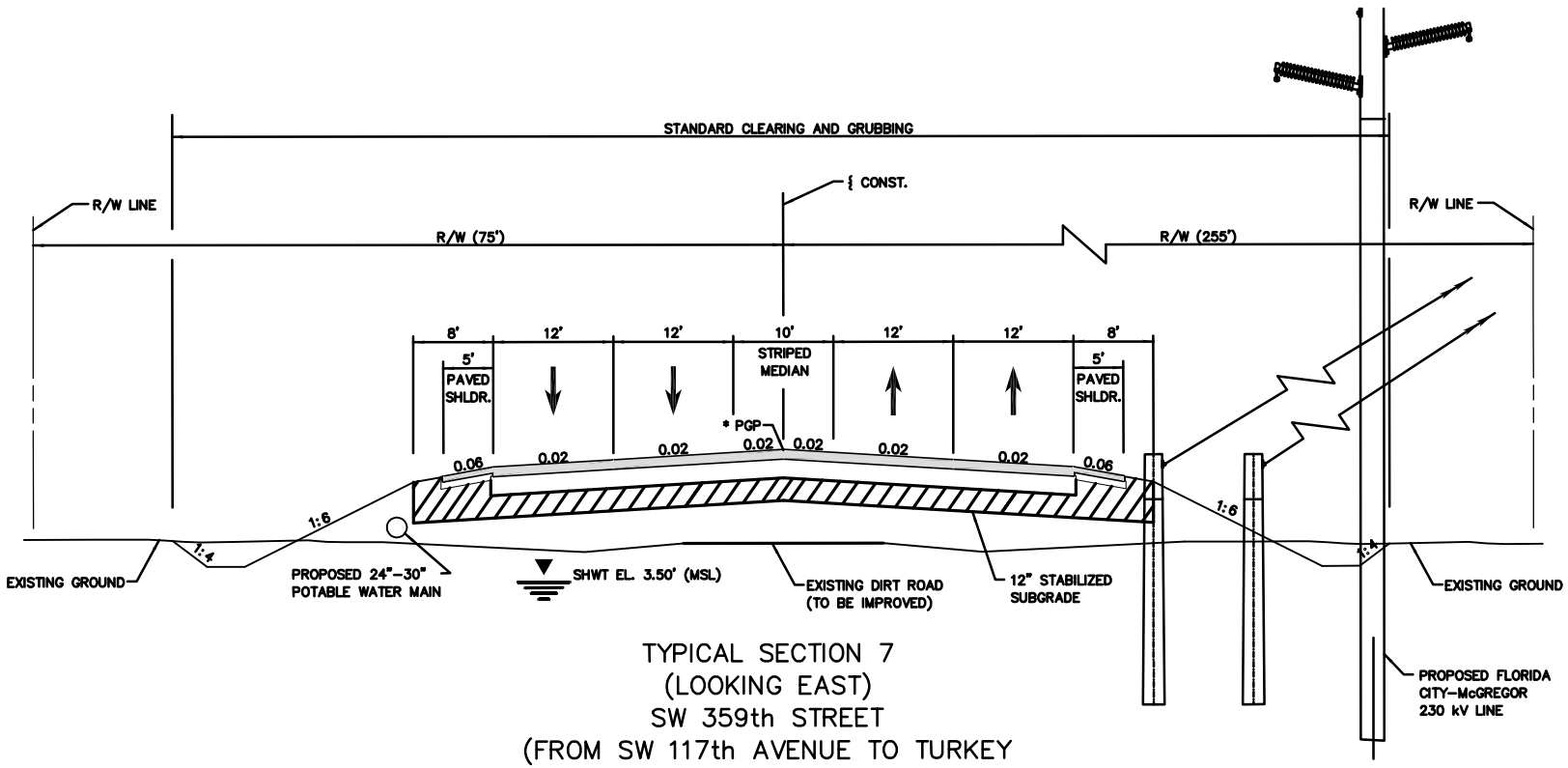
TITLE

TYPICAL SECTION SW 359TH STREET (FROM SW 137TH AVENUE TO SW 117TH AVENUE)

PROJECT

TURKEY POINT UNITS 6 & 7
PROJECT

FPL



TYPICAL SECTION 7
(LOOKING EAST)
SW 359th STREET
(FROM SW 117th AVENUE TO TURKEY POINT POWER PLANT FACILITY)

TYPICAL SECTION NOTES:

1. 10-FT STRIPED MEDIAN WAS PROVIDED PER THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, SECTION C.7.e AND PER METROPOLITAN DADE COUNTY PUBLIC WORKS MANUAL ROAD DETAIL R-3.2A.
2. 8-FT SHOULDER TOTAL WIDTH (5-FT PAVED) WAS PROVIDED PER FDOT PLANS PREPARATION MANUAL VOL. 1, TABLE 2.3.3 FOR A MULTILANE LOW VOLUME HIGHWAY.
3. DESIGN SPEED 45 MPH
4. STORM WATER MANAGEMENT: OPEN SYSTEM TREATMENT AND ATTENUATION WILL BE PROVIDED BY PROPOSED ROADSIDE SWALES (BOTH SIDES OF ROADWAY). WATER QUANTITY/QUALITY SFWMD CRITERIA WILL BE APPLIED.
5. SEE FIGURE W9.2.0-10 FOR ROAD PLACEMENT IN RELATION TO TRANSMISSION FACILITIES.

NOTE: THIS FIGURE ALSO CONTAINS A UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER

* THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM 3' CLEARANCE REQUIREMENTS PER THE FDOT PLANS PREPRATION MANUAL VOL. 1, TABLE 2.6.3. FOR THE ROADWAY BASE COURSE ABOVE THE BASE CLEARANCE WATER ELEVATION.

PGP = BASE CLEARANCE WATER ELEVATION + 3' MINIMUM CLEARANCE + PAVEMENT DESIGN

A PRELIMINARY PAVEMENT DESIGN CONSISTING OF LIMEROCK BASE (12"), TYPE S-1 STRUCTURAL COURSE (2"), AND FRICTION COURSE (1") SHALL BE USED FOR CONCEPT ANALYSIS ONLY.

ERP FIGURE 3.12

FIGURE R9.3.2-4

PLOT DATE 06/14/2009 | REV. 0 | FILE No. 08387584H013

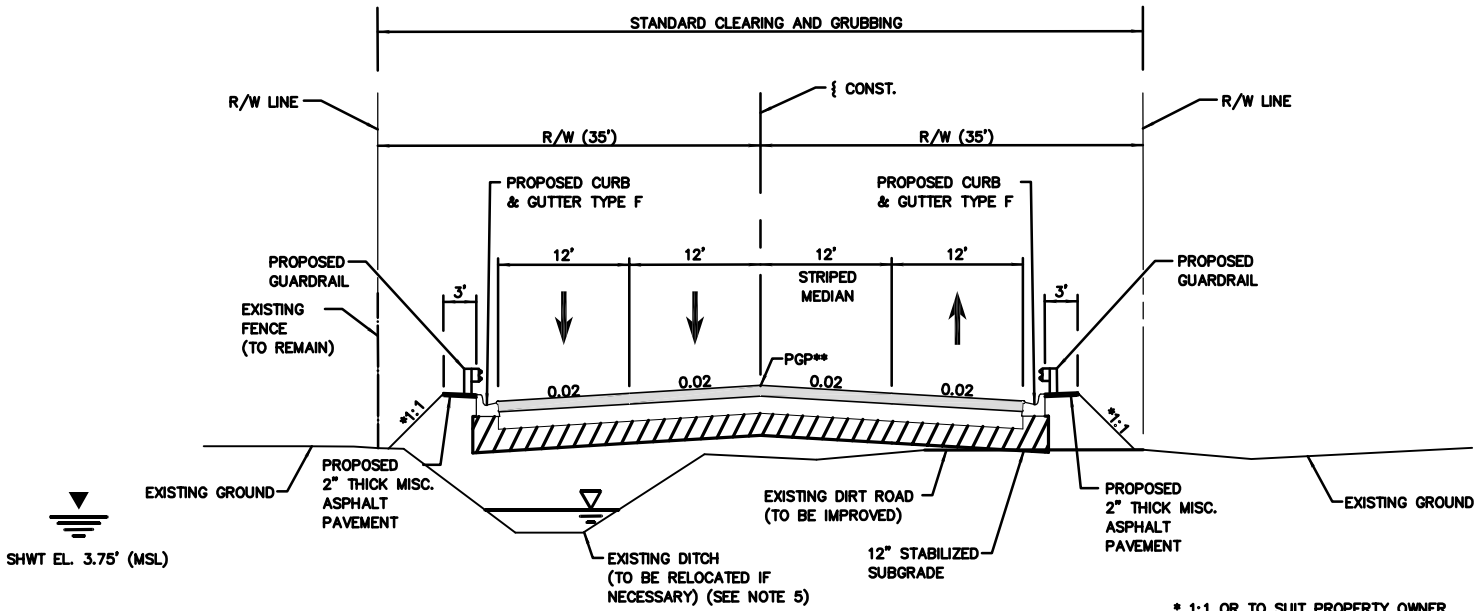
TITLE

TYPICAL SECTION SW 359TH STREET (FROM SW 117TH AVENUE TO SITE)

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



TYPICAL SECTION 5
(LOOKING NORTH)
SW 137th AVENUE (TALLAHASSEE ROAD)
(FROM SW 359th STREET TO SW 344TH STREET)

TYPICAL SECTION NOTES:

1. 12-FT STRIPED MEDIAN WAS PROVIDED PER THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, SECTION C.7.e AND PER METROPOLITAN DADE COUNTY PUBLIC WORKS MANUAL ROAD DETAIL R-3.2A.
2. CURB AND GUTTER TYPE F WAS PROVIDED DUE TO RIGHT-OF-WAY CONSTRAINTS.
3. DESIGN SPEED 45 MPH
4. STORM WATER MANAGEMENT: CLOSED SYSTEM TREATMENT AND ATTENUATION WILL BE PROVIDED BY PROPOSED EXFILTRATION TRENCH. WATER QUANTITY/ QUALITY SFWMD CRITERIA WILL BE APPLIED.
5. PER THE MIAMI-DADE COUNTY CANAL MAINTENANCE MAP THE EXISTING DITH IS CATEGORIZED AS A SECONDARY HYDROGRAPHY (MAINTENANCE UNIDENTIFIED).

* 1:1 OR TO SUIT PROPERTY OWNER

** THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM 3' CLEARANCE REQUIREMENTS PER THE FDOT PLANS PREPRATION MANUAL VOL. 1, TABLE 2.6.3. FOR THE ROADWAY BASE COURSE ABOVE THE BASE CLEARANCE WATER ELEVATION.

PGP = BASE CLEARANCE WATER ELEVATION + 3' MINIMUM CLEARANCE + PAVEMENT DESIGN

A PRELIMINARY PAVEMENT DESIGN CONSISTING OF LIMEROCK BASE (12"), TYPE S-1 STRUCTURAL COURSE (2"), AND FRICTION COURSE (1") SHALL BE USED FOR CONCEPT ANALYSIS ONLY.

NOTE: THIS FIGURE ALSO CONTAINS A UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER

ERP FIGURE 3.13

FIGURE R9.3.2-5

PLOT DATE 06/14/2009 | REV. 0 | FILE No. 08387584H014

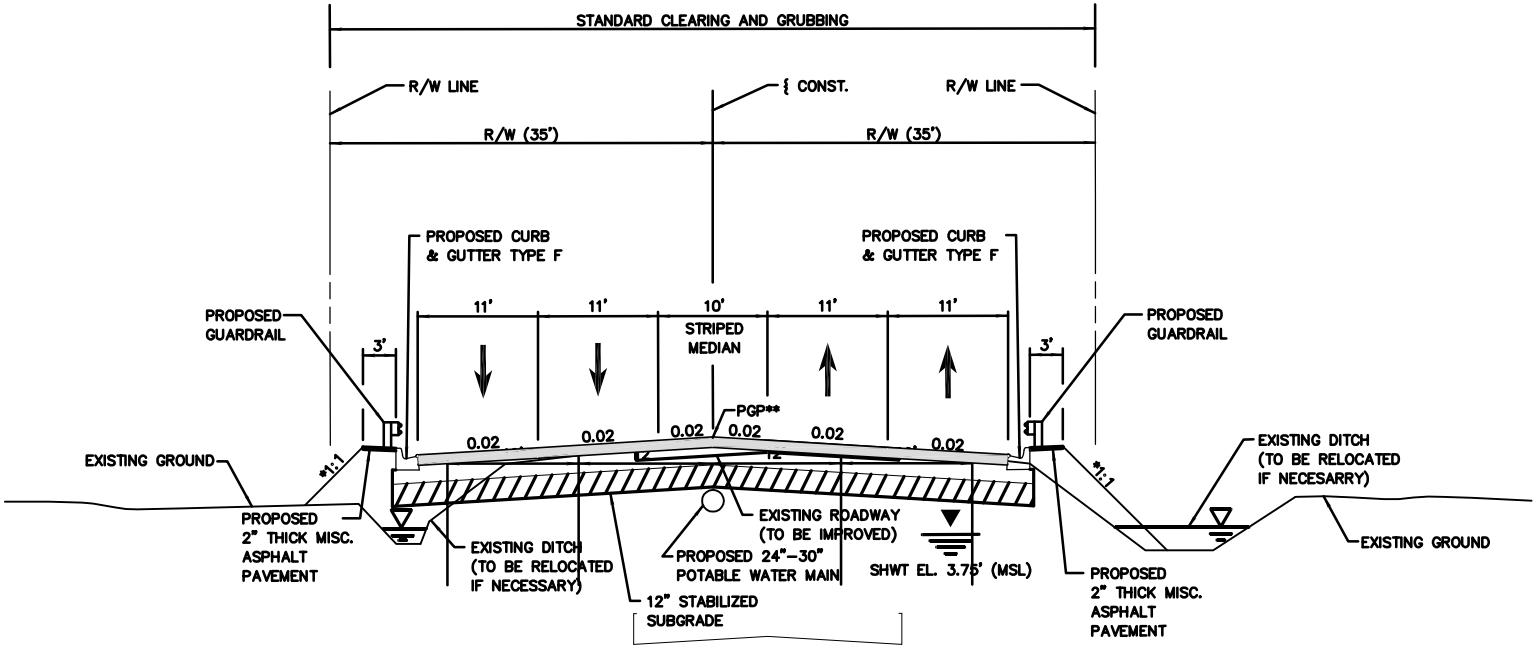
TITLE

TYPICAL SECTION SW 137TH AVENUE (TALLAHASSEE ROAD)

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



TYPICAL SECTION 2
(LOOKING NORTH)
SW 117th AVENUE (SIX MILE ROAD)
(FROM SW 359th STREET TO SW 328th STREET)

TYPICAL SECTION NOTES:

1. PROPOSED TRAVEL LANE WIDTH OF 11-FT DUE TO RIGHT-OF-WAY CONSTRAINTS.
2. 10-FT STRIPED MEDIAN WAS PROVIDED PER THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, SECTION C.7.e AND PER METROPOLITAN DADE COUNTY PUBLIC WORKS MANUAL ROAD DETAIL R-3.2A.
3. CURB AND GUTTER TYPE F WAS PROVIDED DUE TO RIGHT-OF-WAY CONSTRAINTS.
4. DESIGN SPEED 45 MPH
5. STORM WATER MANAGEMENT: CLOSED SYSTEM TREATMENT AND ATTENUATION WILL BE PROVIDED BY PROPOSED EXFILTRATION TRENCH AND OVERFLOW INTO EXISTING DITCH (PRE VS. POST DISCHARGE). WATER QUANTITY/QUALITY SFWMD CRITERIA WILL BE APPLIED.

NOTE: THIS FIGURE ALSO CONTAINS A UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER

* 1:1 OR TO SUIT PROPERTY OWNER

** THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM 3' CLEARANCE REQUIREMENTS PER THE FDOT PLANS PREPRATION MANUAL VOL. 1, TABLE 2.6.3. FOR THE ROADWAY BASE COURSE ABOVE THE BASE CLEARANCE WATER ELEVATION.

PGP = BASE CLEARANCE WATER ELEVATION + 3' MINIMUM CLEARANCE + PAVEMENT DESIGN

A PRELIMINARY PAVEMENT DESIGN CONSISTING OF LIMEROCK BASE (12"), TYPE S-1 STRUCTURAL COURSE (2"), AND FRICTION COURSE (1") SHALL BE USED FOR CONCEPT ANALYSIS ONLY.

ERP FIGURE 3.14

FIGURE R9.3.2-6

PLOT DATE 06/14/2009 | REV. 0 | FILE No. 08387584H015

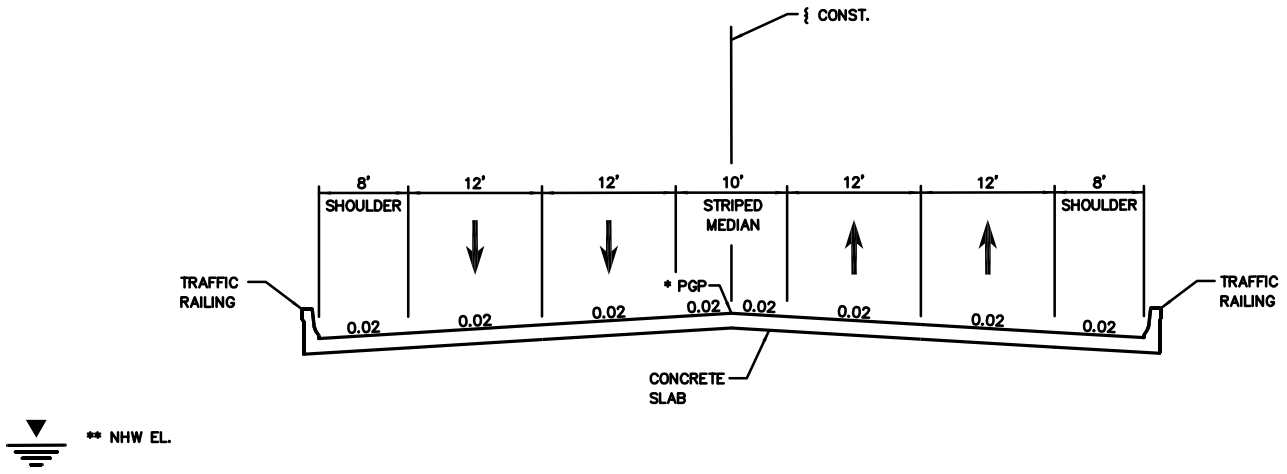
TITLE

TYPICAL SECTION SW 117TH AVENUE (SIX MILE ROAD)

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



TYPICAL SECTION 8
(LOOKING EAST)
SW 359th STREET
(PROPOSED BRIDGE TYPICAL OVER CANAL L-31E)

TYPICAL SECTION NOTES:

1. 10-FT STRIPED MEDIAN WAS PROVIDED PER THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, SECTION C.7.e AND PER METROPOLITAN DADE COUNTY PUBLIC WORKS MANUAL ROAD DETAIL R-3.2A.
2. 8-FT SHOULDER WAS PROVIDED PER FDOT PLANS PREPARATION MANUAL VOL. 1, FIGURE 2.0.2 FOR A MULTILANE LOW VOLUME HIGHWAY.
3. DESIGN SPEED 45 MPH
4. STORM WATER MANAGEMENT: THE BRIDGE VERTICAL ALIGNMENT WILL INCLUDE A HIGHPOINT AT ITS MID-POINT LOCATION WHICH WILL DIRECT THE COLLECTED STORM WATER TOWARDS THE SW 359th STREET DRAINAGE OPEN SYSTEM. (SEE TYPICAL SECTION 7 NOTES)

NOTES:
THIS FIGURE ALSO CONTAINS A
UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER

THERE IS A CROSS REFERENCE TO ANOTHER
TYPICAL SECTION NUMBER IDENTIFIED IN THIS
FIGURE THAT PROVIDES ADDTIONAL INFORMATION

* THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM FDOT DRAINAGE MANUAL, SECTION 4.6.1, CRITERIA FOR CLEARANCE BETWEEN DHW ELEVATION (50 YR FREQUENCY) OR NHW ELEVATION AND THE LOW MEMBER OF BRIDGES.

PGP = (NHW ELEVATION + 6') OR (DHW ELEVATION + 2') (WHICH EVER YIELDS THE HIGHEST VALUE) + SUPERSTRUCTURE DESIGN

SUPERSTRUCTURE DESIGN NOT AVAILABLE, PENDING FEASABILITY STRUCTURE ANALYSIS. DHW ELEVATION NOT AVAILABLE, PENDING DRAINAGE ANALYSIS.

** THE NHW EL. IS TO BE PROVIDED BY DERM.

ERP FIGURE 3.15

FIGURE
R9.3.2-7

PLOT DATE 06/14/2009
REV. 0
FILE No. 08387584H016

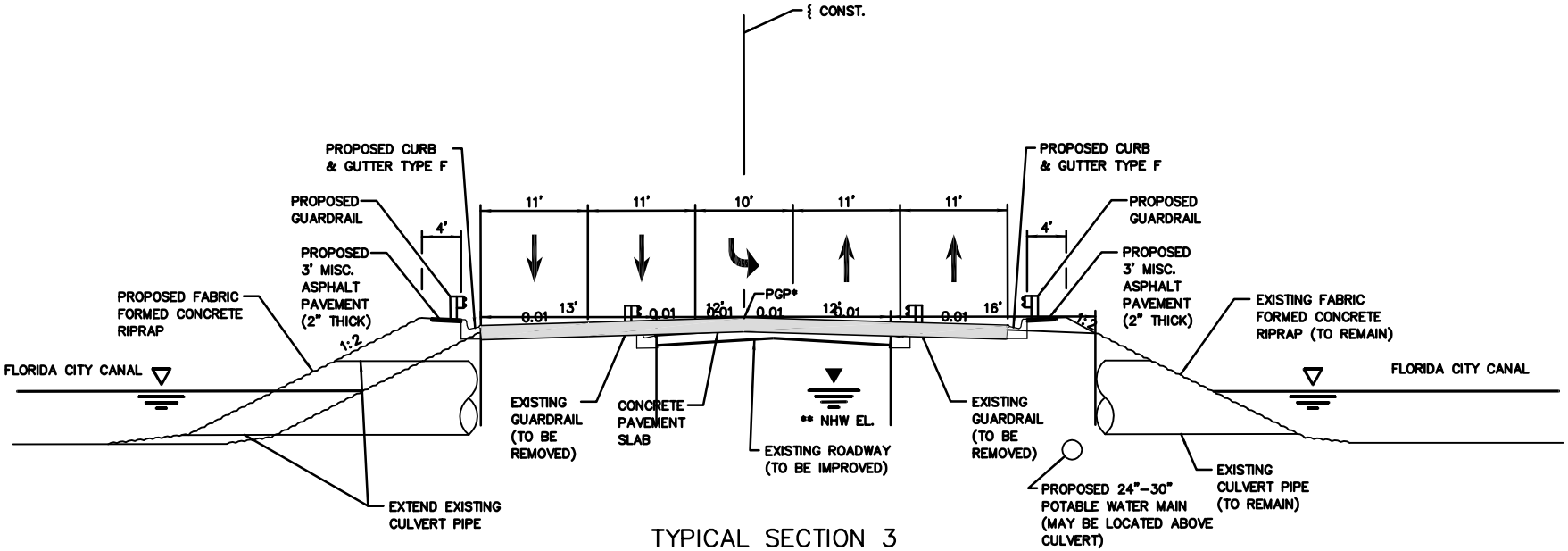
TITLE

TYPICAL SECTION
BRIDGE OVER L-31E CANAL

PROJECT

TURKEY POINT UNITS 6 & 7
PROJECT

FPL



TYPICAL SECTION 3
(LOOKING NORTH)
SW 117th AVENUE (SIX MILE ROAD)
(NORTH OF SW 344th STREET OVER THE
BRIDGE CULVERT No. 874128)

TYPICAL SECTION NOTES:

1. PROPOSED TRAVEL LANE WIDTH OF 11-FT DUE TO RIGHT-OF-WAY CONSTRAINTS.
2. 10-FT STRIPED MEDIAN WAS PROVIDED PER THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, SECTION C.7.e AND PER METROPOLITAN DADE COUNTY PUBLIC WORKS MANUAL ROAD DETAIL R-3.2A.
3. CURB AND GUTTER TYPE F WAS PROVIDED DUE TO RIGHT-OF-WAY CONSTRAINTS.
4. CONCRETE PAVEMENT SLAB WAS PROVIDED TO MEET REQUIRED PIPE COVER AND MINIMIZE IMPACT TO THE SW 117tH AVENUE VERTICAL ALIGNMENT.
5. EXTENSION OF THE EXISTING CULVERT PIPE AND RECONSTRUCTION OF THE FABRIC FORMED CONCRETE RIPRAP ON THE WEST SIDE WILL BE REQUIRED.
6. CROSS SLOPES DEPICTED REPRESENT THE SW 117th AVENUE LANE SLOPES AT THE TRANSITION'S MID-POINT LOCATION WHILE TRANSITIONING TO MATCH THE SW 344th STREET EDGE OF PAVEMENT TO PROVIDE A PLATEAU EFFECT AT THE INTERSECTION.
7. DESIGN SPEED 45 MPH
8. STORM WATER MANAGEMENT: THE BRIDGE CULVERT VERTICAL ALIGNMENT WILL INCLUDE A HIGHPOINT WHICH WILL DIRECT THE COLLECTED STORM WATER TOWARDS THE SW 117th AVENUE DRAINAGE CLOSED SYSTEM. (SEE TYPICAL SECTION 2 NOTES)

* THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM 9" COVER REQUIREMENTS PER THE FDOT DESIGN STANDARDS, INDEX 205 (SHEET 1 OF 6), FOR A 15"-72" CORRUGATED ALUMINUM PIPE AND RIGID PAVEMENT.

PGP = NHW OR DHW ELEVATION (WHICH EVER YIELDS THE HIGHEST VALUE) + 9" MINIMUM COVER + RIGID PAVEMENT DESIGN

DHW ELEVATION NOT AVAILABLE, PENDING DRAINAGE ANALYSIS. RIGID PAVEMENT DESIGN NOT AVAILABLE.

** THE NHW EL. IS TO BE PROVIDED BY DERM.

NOTES:
THIS FIGURE ALSO CONTAINS A UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER.

THERE IS A CROSS REFERENCE TO ANOTHER TYPICAL SECTION NUMBER IDENTIFIED IN THIS FIGURE THAT PROVIDES ADDITIONAL INFORMATION.

ERP FIGURE 3.16

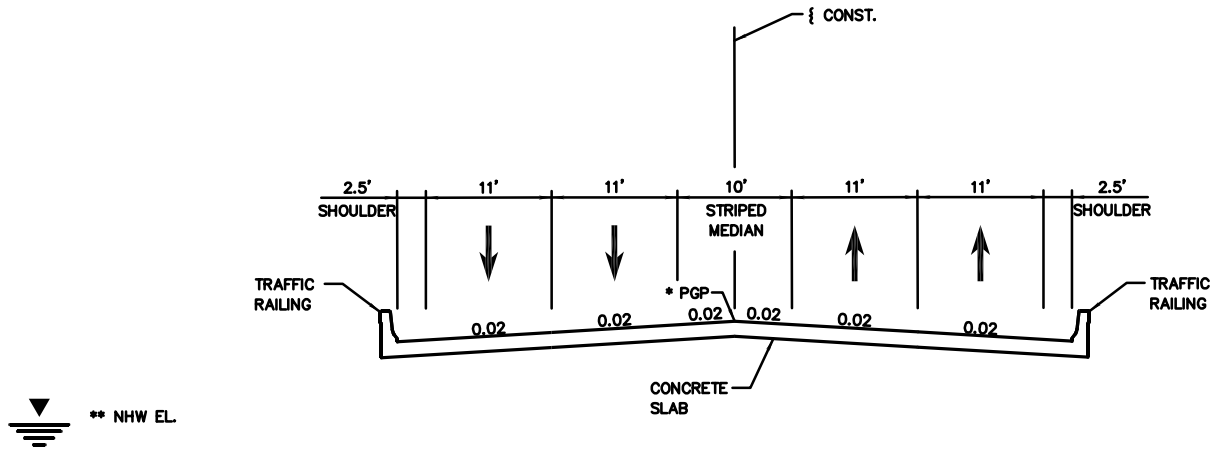
FIGURE
R9.3.2-8

PLOT DATE 06/14/2009
REV. 0
FILE No. 08387584H017

TITLE
TYPICAL SECTION SW 117TH AVENUE (SIX MILE ROAD; BRIDGE CULVERT OVER FLORIDA CITY CANAL)

PROJECT
TURKEY POINT UNITS 6 & 7 PROJECT

FPL



TYPICAL SECTION 9
(LOOKING NORTH)
SW 117th AVENUE (SIX MILE ROAD)
(PROPOSED BRIDGE OVER NORTH CANAL)

TYPICAL SECTION NOTES:

1. TRAVEL LANE AND STRIPED MEDIAN WIDTHS MATCH TYPICAL SECTION 2.
2. 2.5–FT SHOULDER WAS PROVIDED PER FDOT PLANS PREPARATION MANUAL VOL. 1, FIGURE 2.0.4.
4. DESIGN SPEED 45 MPH
5. STORM WATER MANAGEMENT: EXISTING CONDITIONS ARE TO REMAIN UNTIL FURTHER EVALUATION.

NOTES:
THIS FIGURE ALSO CONTAINS A
UNIQUE TYPICAL SECTION IDENTIFICATION NUMBER

THERE IS A CROSS REFERENCE TO ANOTHER
TYPICAL SECTION NUMBER IDENTIFIED IN THIS
FIGURE THAT PROVIDES ADDTIONAL INFORMATION

* THE PROPOSED ROADWAY IMPROVEMENT PROFILE GRADE POINT (PGP) DESIGN IS TO MEET MINIMUM FDOT DRAINAGE MANUAL, SECTION 4.6.1, CRITERIA FOR CLEARANCE BETWEEN DHW ELEVATION (50 YR FREQUENCY) OR NHW ELEVATION AND THE LOW MEMBER OF BRIDGES.

PGP = (NHW ELEVATION + 6') OR (DHW ELEVATION + 2') (WHICH EVER YIELDS THE HIGHEST VALUE) + SUPERSTRUCTURE DESIGN

SUPERSTRUCTURE DESIGN NOT AVAILABLE, PENDING FEASABILITY STRUCTURE ANALYSIS. DHW ELEVATION NOT AVAILABLE, PENDING DRAINAGE ANALYSIS.

** THE NHW EL. IS TO BE PROVIDED BY DERM.

ERP FIGURE 3.17

FIGURE
R9.3.2-9

PLOT DATE 06/14/2009
REV. 0
FILE No. 08387584H018

TITLE
TYPICAL BRIDGE SECTION
SW 117TH AVENUE
(SIX MILE ROAD; BRIDGE OVER NORTH CANAL)

PROJECT
TURKEY POINT UNITS 6 & 7
PROJECT

FPL

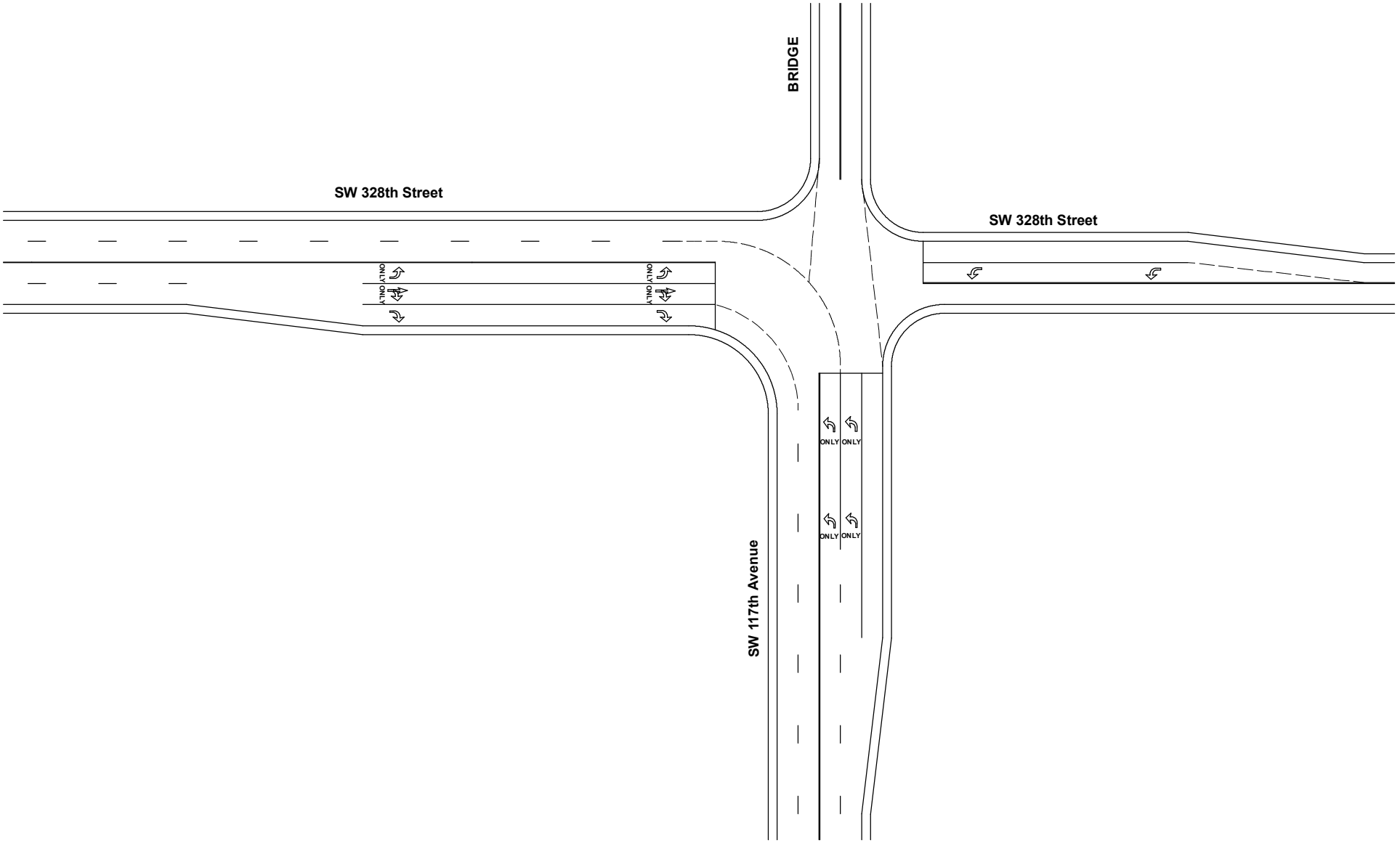


FIGURE
R9.3.2-10

PLOT DATE 6/12/2009
REV. 0
FILE No. 08387584H019

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

CONCEPTUAL INTERSECTION PLAN FOR SW 328TH STREET AND SW 117TH AVENUE

LEGEND

REFERENCES

FPL

ERP FIGURE 3.18

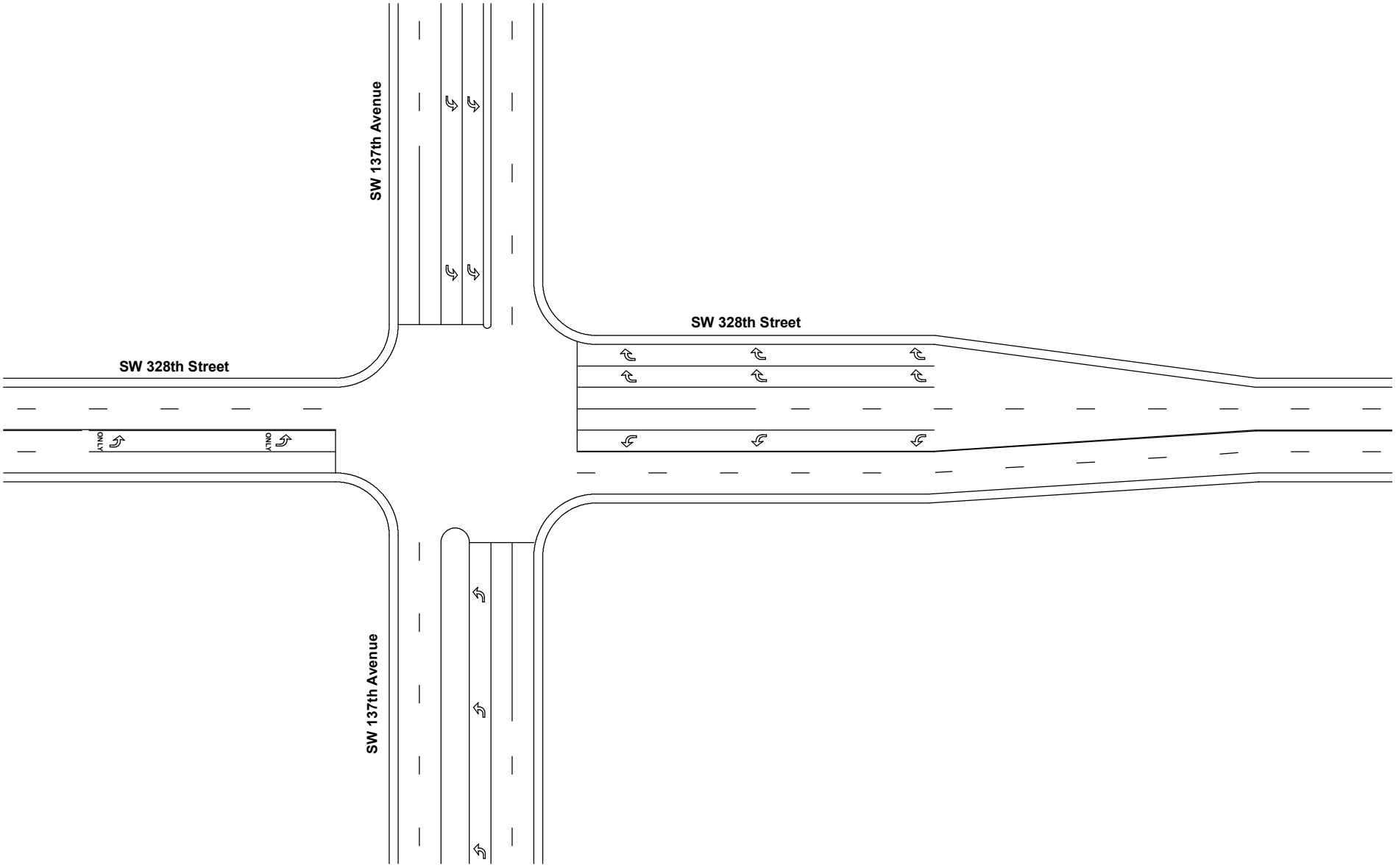


FIGURE
R9.3.2-11

PLOT DATE 6/12/2009
REV. 0
FILE No. 08387584H020

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

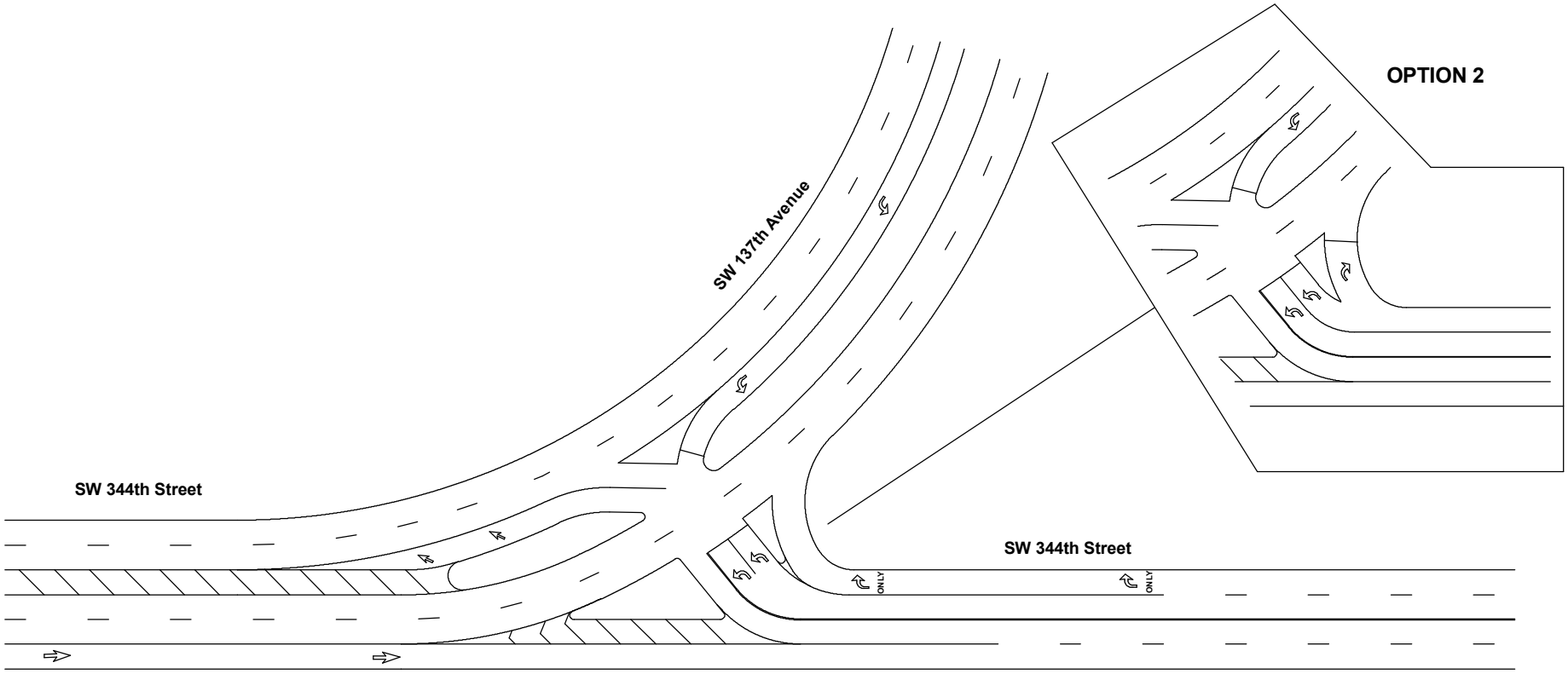
CONCEPTUAL INTERSECTION PLAN FOR SW 328TH STREET AND SW 137TH AVENUE

LEGEND

REFERENCES

FPL

ERP FIGURE 3.19



OPTION 1

FIGURE
R9.3.2-12

PLOT DATE 6/12/2009
REV. 0
FILE No. 08387584H021

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

CONCEPTUAL INTERSECTION PLAN FOR SW 344TH STREET AND SW 137TH AVENUE (WEST)

LEGEND

Option 1 - Right lane traveling west on 344th Street designated as right-turn only nearing intersection.

Option 2 - Right lane traveling west on 344th Street allows both right and left turns.

REFERENCES

FPL

ERP FIGURE 3.20

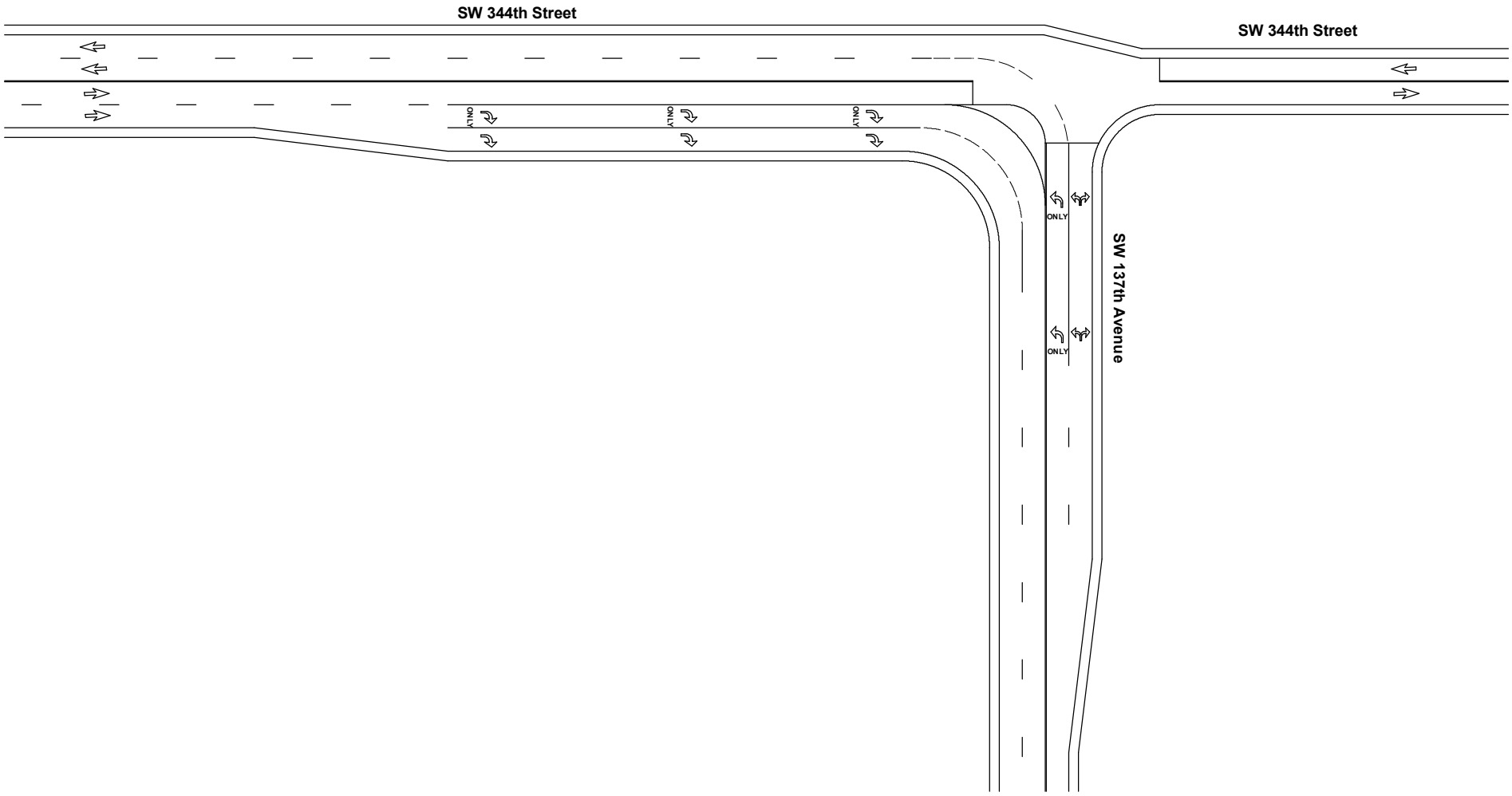


FIGURE
R9.3.2-13

PLOT DATE 6/12/2009
REV. 0
FILE No. 08387584H022

PROJECT
TURKEY POINT UNITS 6 & 7 PROJECT

TITLE
CONCEPTUAL INTERSECTION PLAN FOR SW 344TH STREET AND SW 137TH AVENUE (EAST)

LEGEND

REFERENCES

FPL

ERP FIGURE 3.21

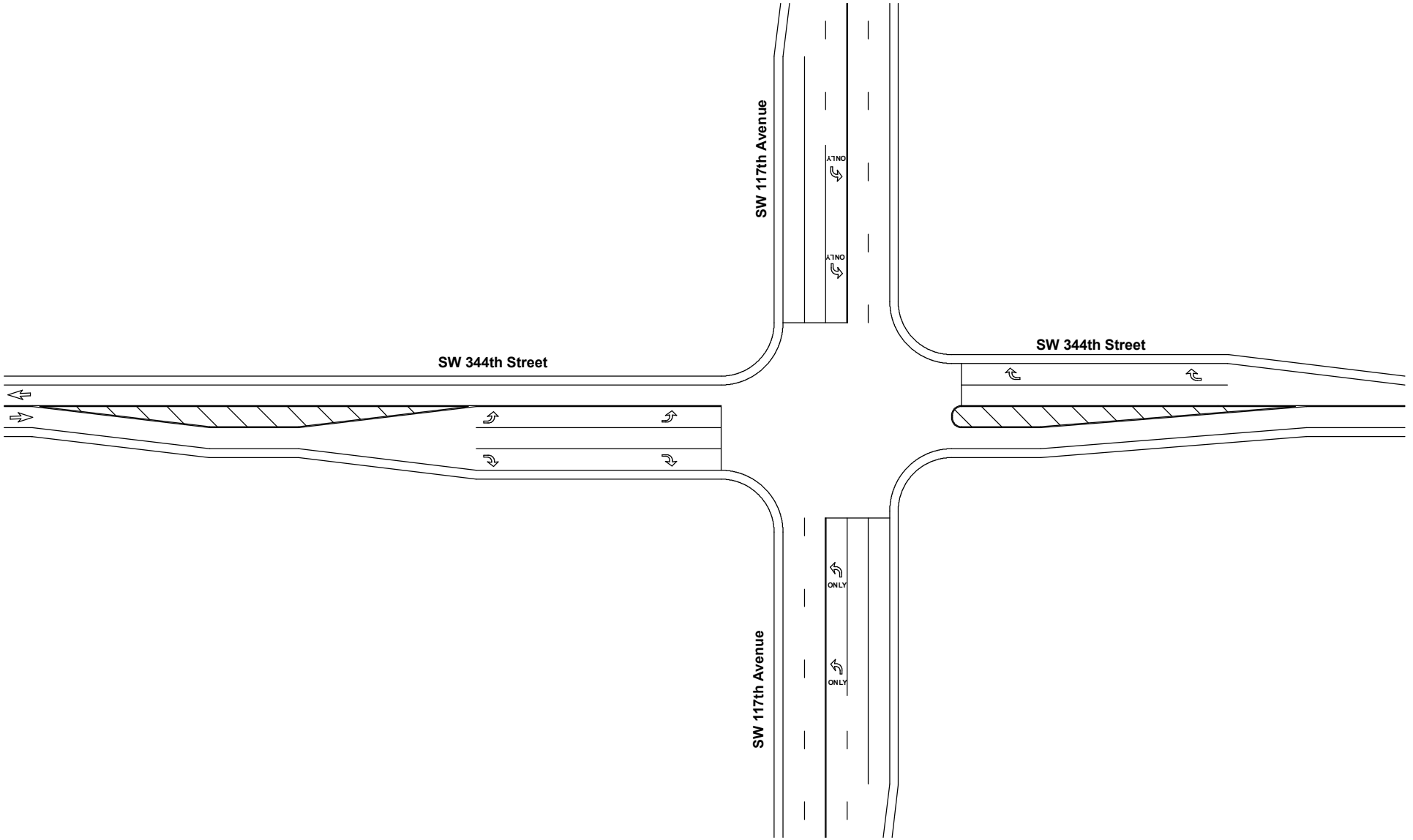


FIGURE
R9.3.2-14

PLOT DATE 6/12/2009
REV. 0
FILE No. 08387584H023

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

CONCEPTUAL INTERSECTION PLAN FOR SW 344TH STREET AND SW 117TH AVENUE

LEGEND

REFERENCES

FPL

ERP FIGURE 3.22

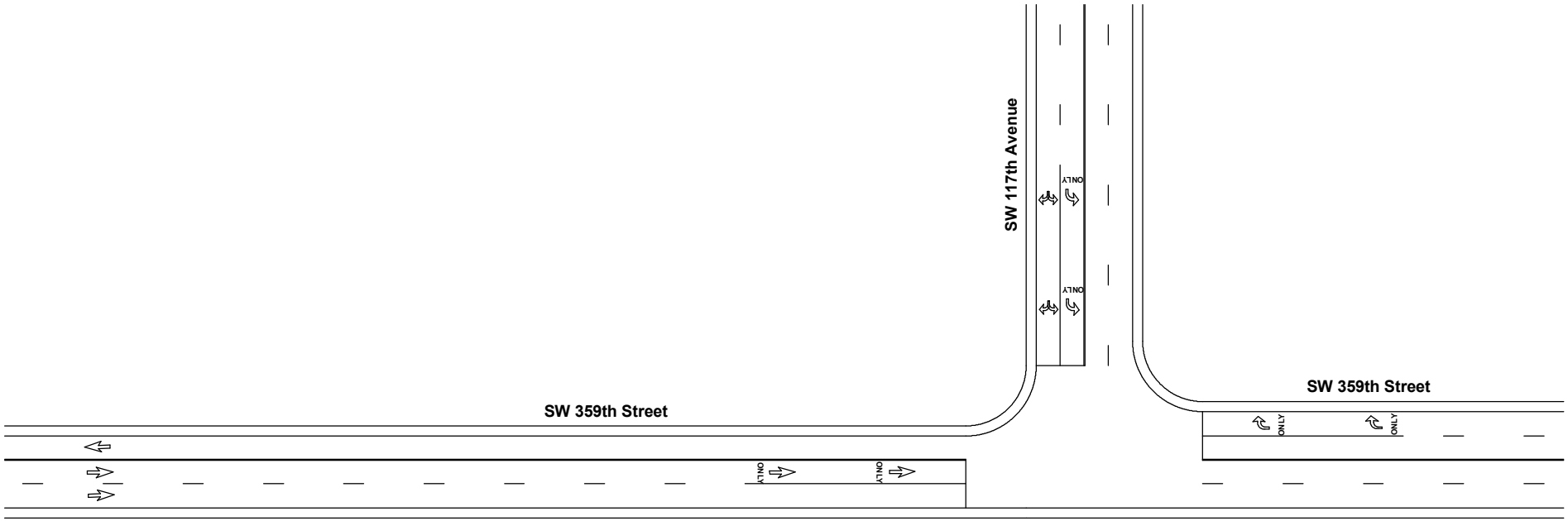


FIGURE
R9.3.2-15

PLOT DATE 6/12/2009
REV. 0
FILE No. 08387584H024

PROJECT
TURKEY POINT UNITS 6 & 7 PROJECT

TITLE
CONCEPTUAL INTERSECTION PLAN FOR SW 359TH STREET AND SW 117TH AVENUE

LEGEND

REFERENCES

FPL

ERP FIGURE 3.23

LEGEND

Proposed Crocodile Underpasses (Approximate Locations)

415 207.5 0 415
Feet

REFERENCES

1. Imagery, Miami-Dade County, 2007.

PROJECT
TURKEY POINT UNITS 6 & 7
PROJECT

TITLE
CONCEPTUAL CROCODILE
ACCESS ROAD UNDERPASS LOCATIONS

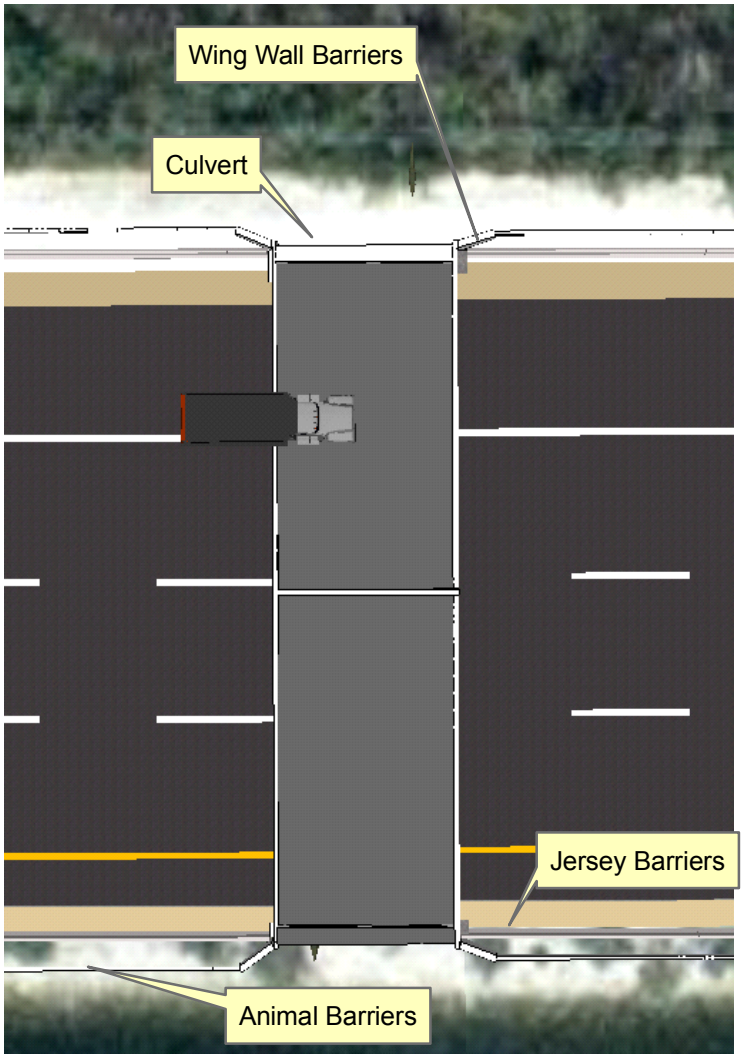
FPL

FILE No. 08387584H009
REV. 0
PLOT DATE 6/12/2009

FIGURE
R9.4.4-1

ERP FIGURE 3.24

OVERHEAD VIEW



FRONT VIEW

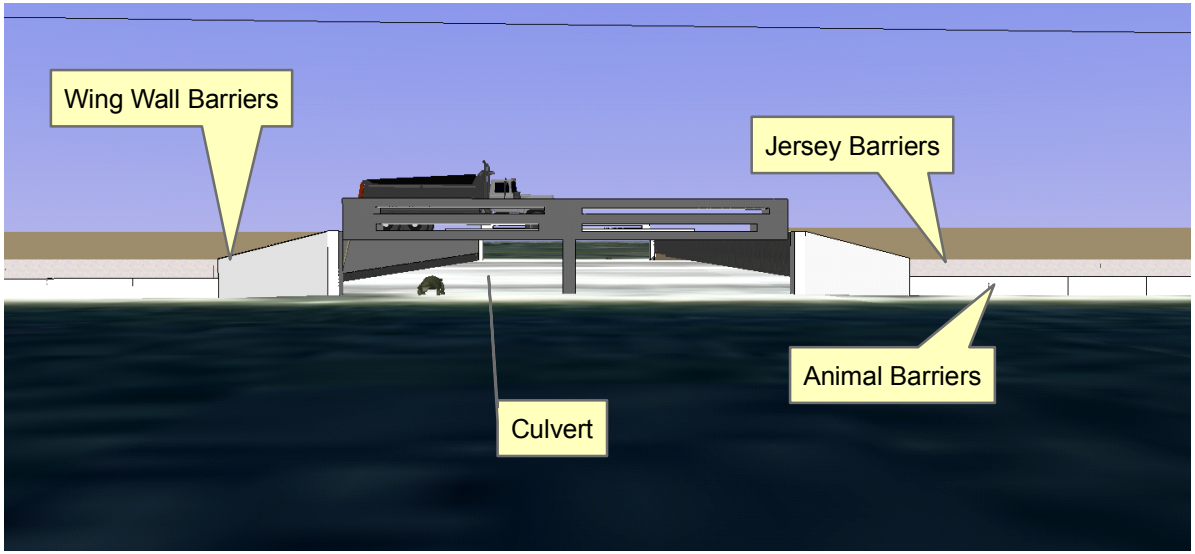


FIGURE R9.4.4-2	PROJECT: TURKEY POINT UNITS 6 & 7 PROJECT	FPL
PLOT DATE 6/12/2009 · REV. 0 · FILE No. 08387584H008	TITLE: CONCEPTUAL CROCODILE ACCESS ROAD UNDERPASS	

ERP FIGURE 3.25

LEGEND

PS - PUMP STATION

E - ELECTRICAL

TF - TRICKLING FILTER

SCB - SOLIDS CONTACT BASIN

MCF - MAINTENANCE / CONTROL FACILITY

ES - COVERED EQUIPMENT STORAGE

CS - CHEMICAL STORAGE WITHIN SECONDARY CONTAINMENT

LS - LIME SILO

SF - SLAKER FACILITY

SL - COVERED SLUDGE LOADING AREA

CHEMICAL UNLOADING AREA
STORMWATER ROUTED TO
BACK WASH BASIN AND THEN
ADDED TO PROCESS FLOW

REFERENCES

PROJECT

TURKEY POINT UNITS 6 & 7
PROJECT

TITLE

PLOT PLAN OF
RECLAIMED WATER TREATMENT FACILITY

FPL

FILE No.	08387584C001
REV.	0
PLOT DATE	6/14/2009

FIGURE
4.2-6

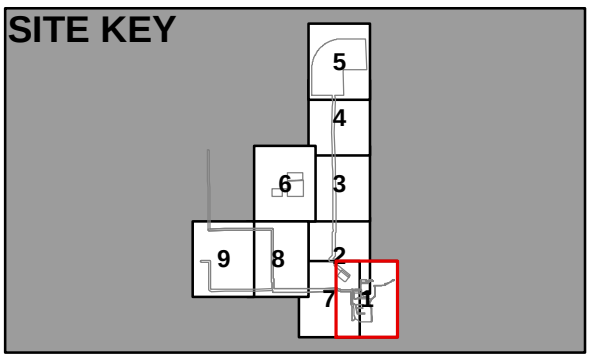
ERP FIGURE 3.26

LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875841006

TITLE

PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 1 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

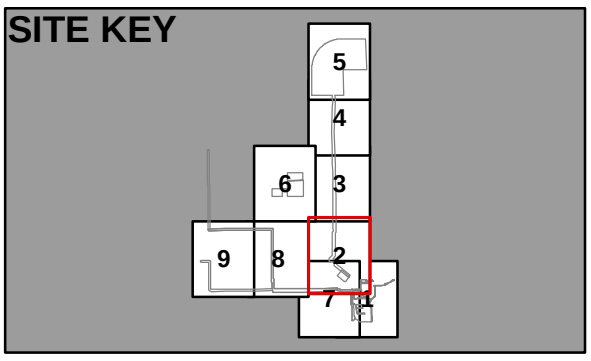
FPL

LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875844006

TITLE

PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 2 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Match Line

Match Line

Reclaimed Water Pipeline Corridor

Match Line

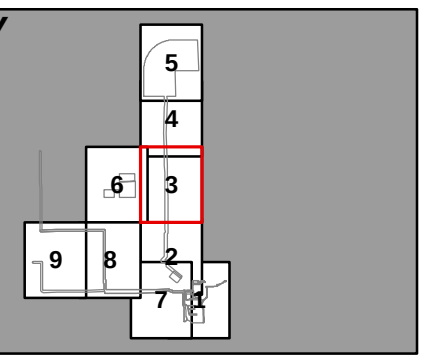
Match Line

LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J006

TITLE

PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 3 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Reclaimed Water Pipeline Corridor

Match Line

Match Line

Match Line

Match Line

LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

SITE KEY

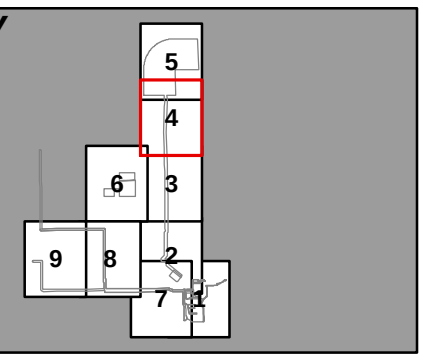


FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875841006

TITLE

PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 4 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Match Line

Match Line

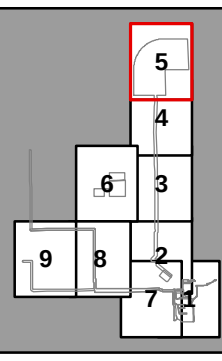
Reclaimed Water Pipeline Corridor

LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J006

TITLE

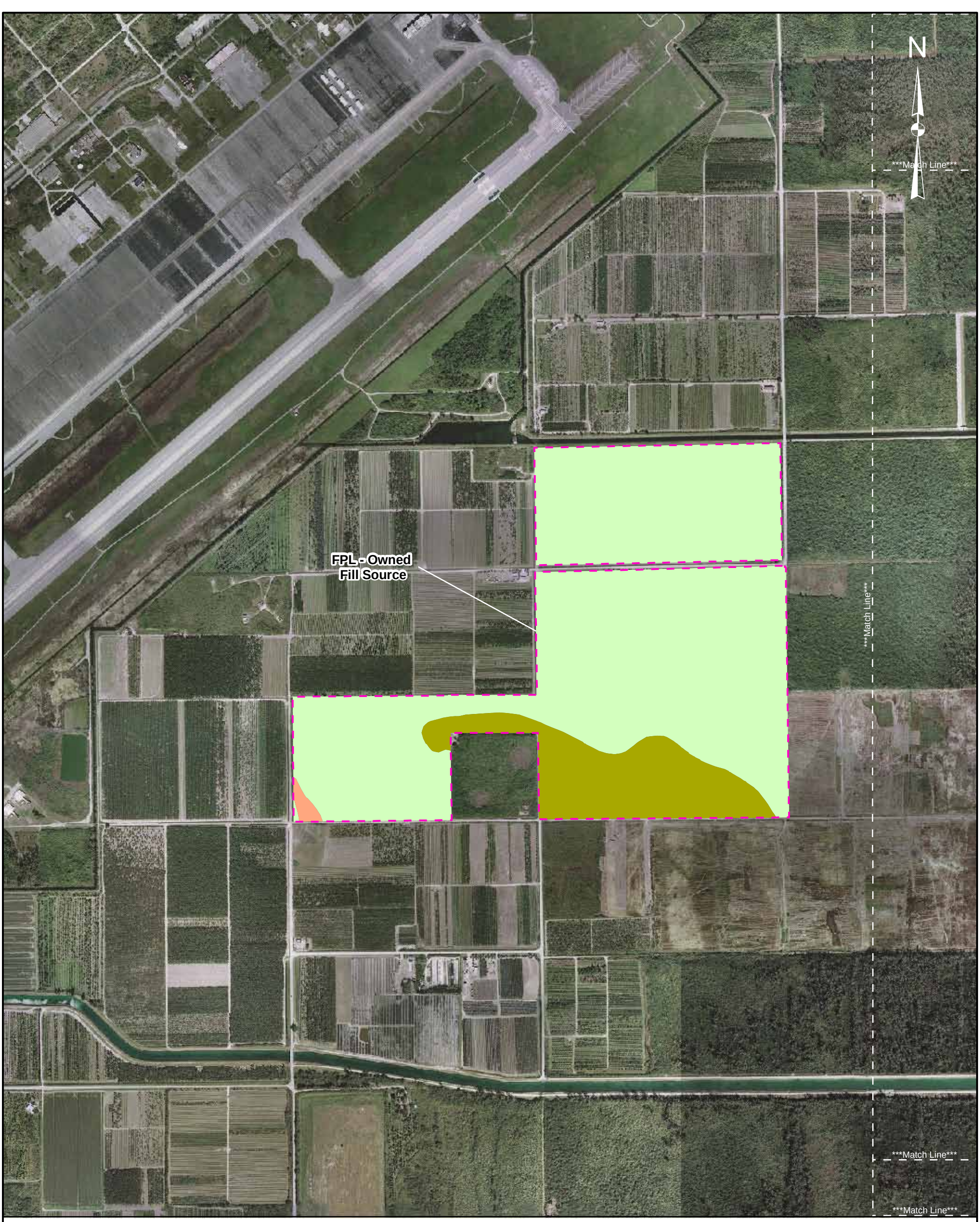
PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 5 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

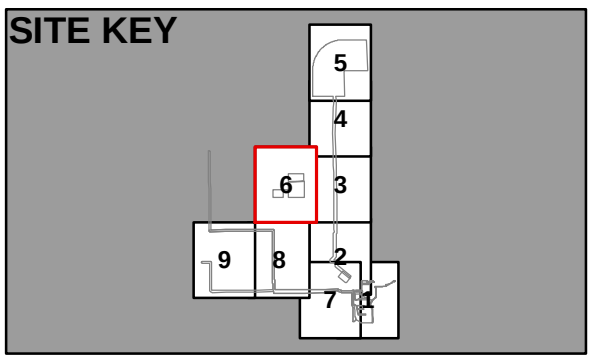


LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J006

TITLE

PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 6 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

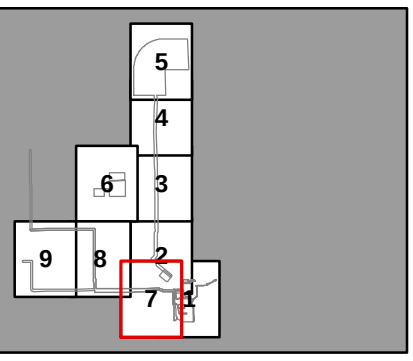
FPL

LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875840006

TITLE

PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 7 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Match Line

Match Line

Roadway Improvement Corridor

Match Line

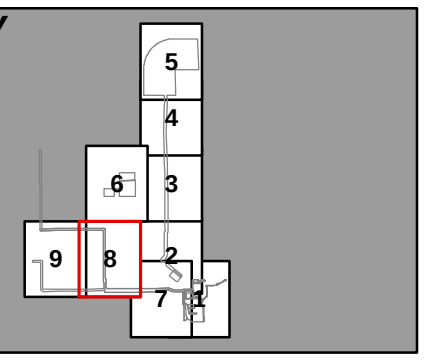
Match Line

LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J006

TITLE

PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 8 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Match Line

Match Line

Roadway Improvement Corridor

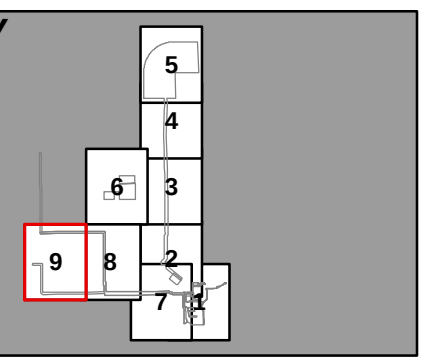
Roadway Improvement Corridor

LEGEND

- Plant and Non-Transmission Facilities
- Turkey Point Units 6 & 7 Site
- BISCAYNE MARL
- BISCAYNE MARL, DRAINED
- KROME VERY GRAVELLY LOAM
- LAUDERHILL MUCK, DEPRESSIONAL
- PENNSUCO MARL
- PENNSUCO MARL, TIDAL
- PERRINE MARL
- PERRINE MARL, DRAINED
- PERRINE MARL, TIDAL
- TERRA CEIA MUCK, TIDAL
- UDORTHENTS - WATER COMPLEX
- URBAN LAND
- WATER

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Soils Classifications, USDA NRCS, 1996.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875840006

TITLE

PLANT AND NON-TRANSMISSION FACILITIES SOIL CLASSIFICATION

Sheet 9 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

Turkey Point Units 6 & 7 Plant Area

Turkey Point Units 6 & 7 Site

1,000 0 1,000 Feet

REFERENCES

1. Imagery, Miami-Dade County, 2007.

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

SITE TO BE CERTIFIED & PLANT AREA

FPL

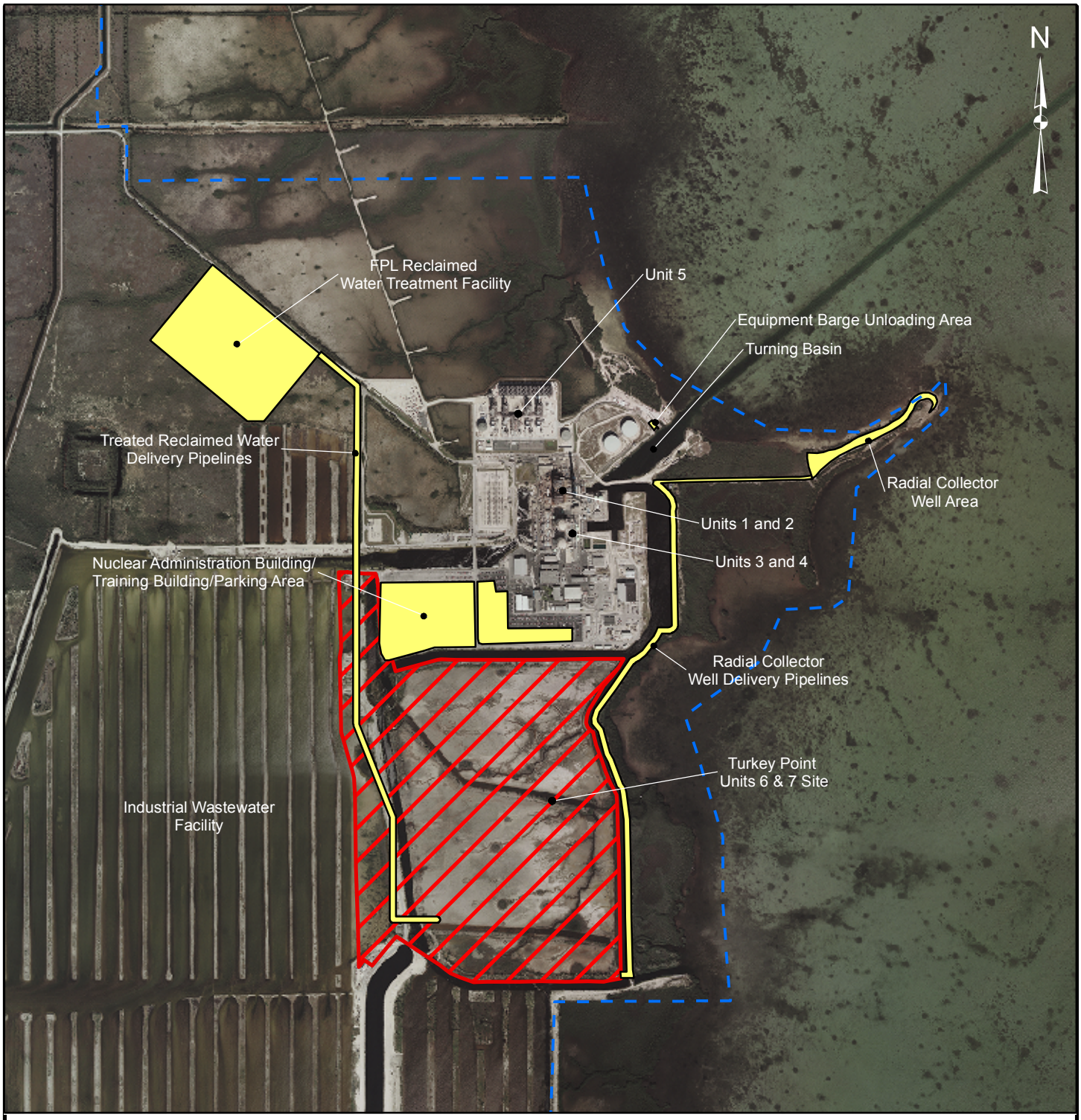
FILE No. 08387584B002

REV. 0

PLOT DATE 6/11/2009

FIGURE 3.1.1-2

ERP FIGURE 5



1,750 0 1,750
Feet

LEGEND

- Turkey Point Plant Property
- Associated Non-Linear Facilities
- Turkey Point Units 6 & 7 Site

REFERENCES

1. Imagery, Miami-Dade County, 2007.

PROJECT
TURKEY POINT UNITS 6 & 7
PROJECT

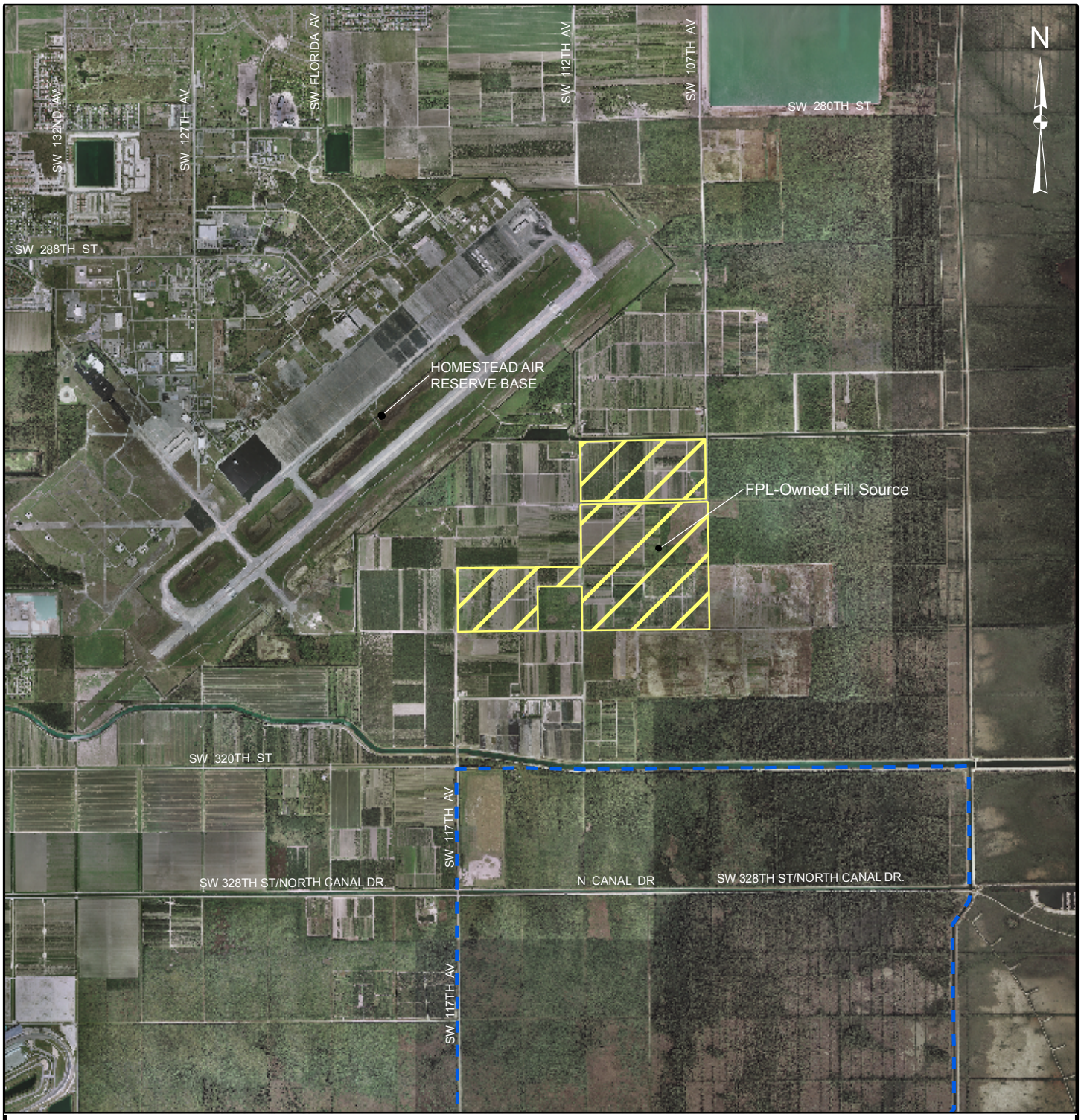
TITLE
EXISTING AND PROPOSED USES -
FPL PLANT PROPERTY

FPL

FILE No. 08387584B003
REV. 0
PLOT DATE 6/11/2009

FIGURE
3.1.3-1

ERP FIGURE 6



3,000 0 3,000
Feet

LEGEND

- Turkey Point Plant Property
- Associated Non-Linear Facilities

REFERENCES

1. Imagery, Miami-Dade County, 2007.

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

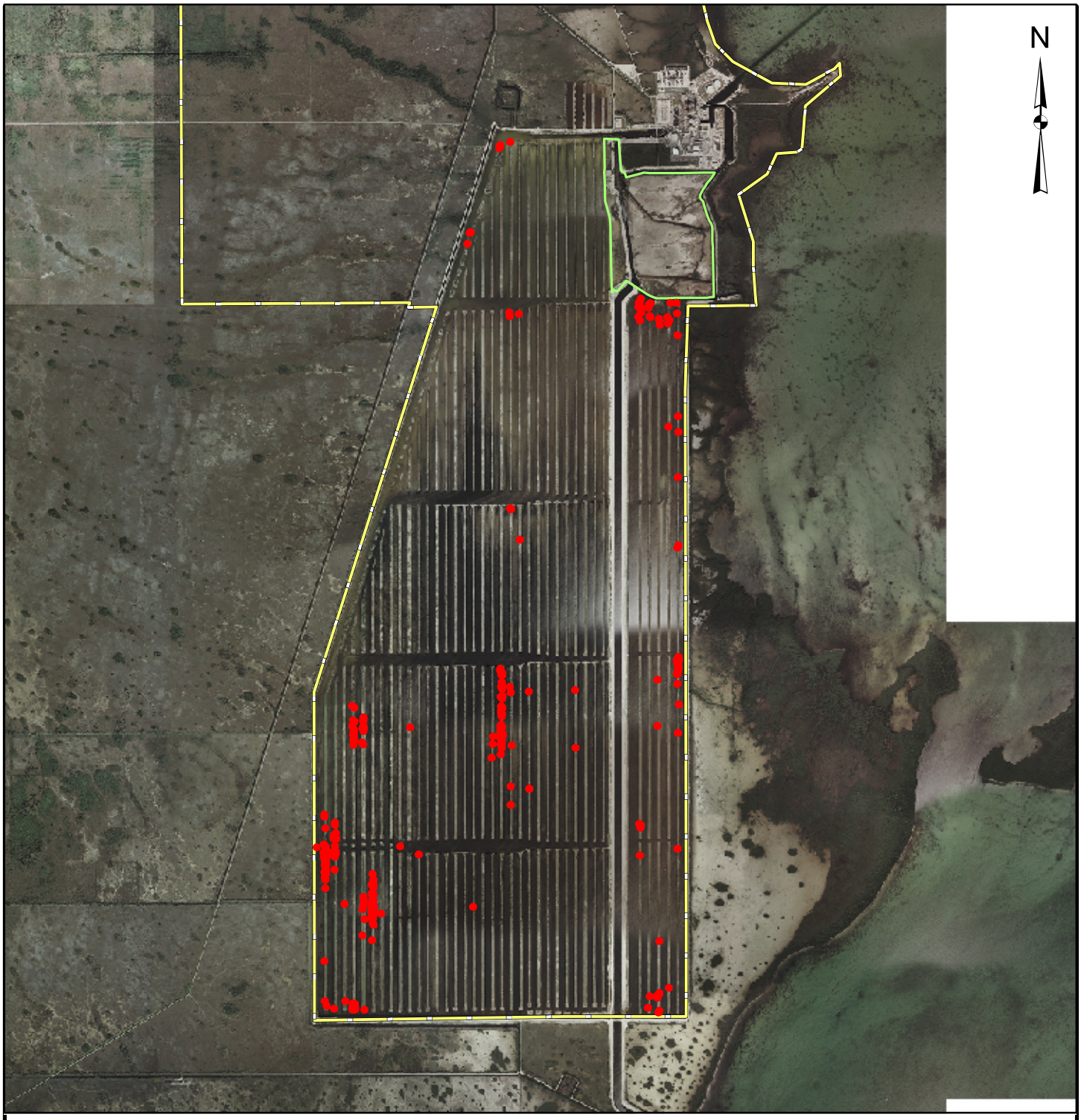
EXISTING AND PROPOSED USES- FPL-OWNED FILL SOURCE

FPL

FILE No.	08387584B004
REV.	0
PLOT DATE	6/11/2009

FIGURE
3.1.3-3

ERP FIGURE 7



4,500 0 4,500
Feet

LEGEND

- Crocodile Nesting Sites
- Turkey Point Units 6 & 7 Site
- Turkey Point Plant Property

REFERENCES

1. Crocodile Nest Locations, FPL 1978-2008, Turkey Point Plant Annual Crocodile Report Permit # TE092945-1.

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

CROCODILE NEST LOCATIONS 1978 THROUGH 2007

FPL

FILE No. 08387584B025

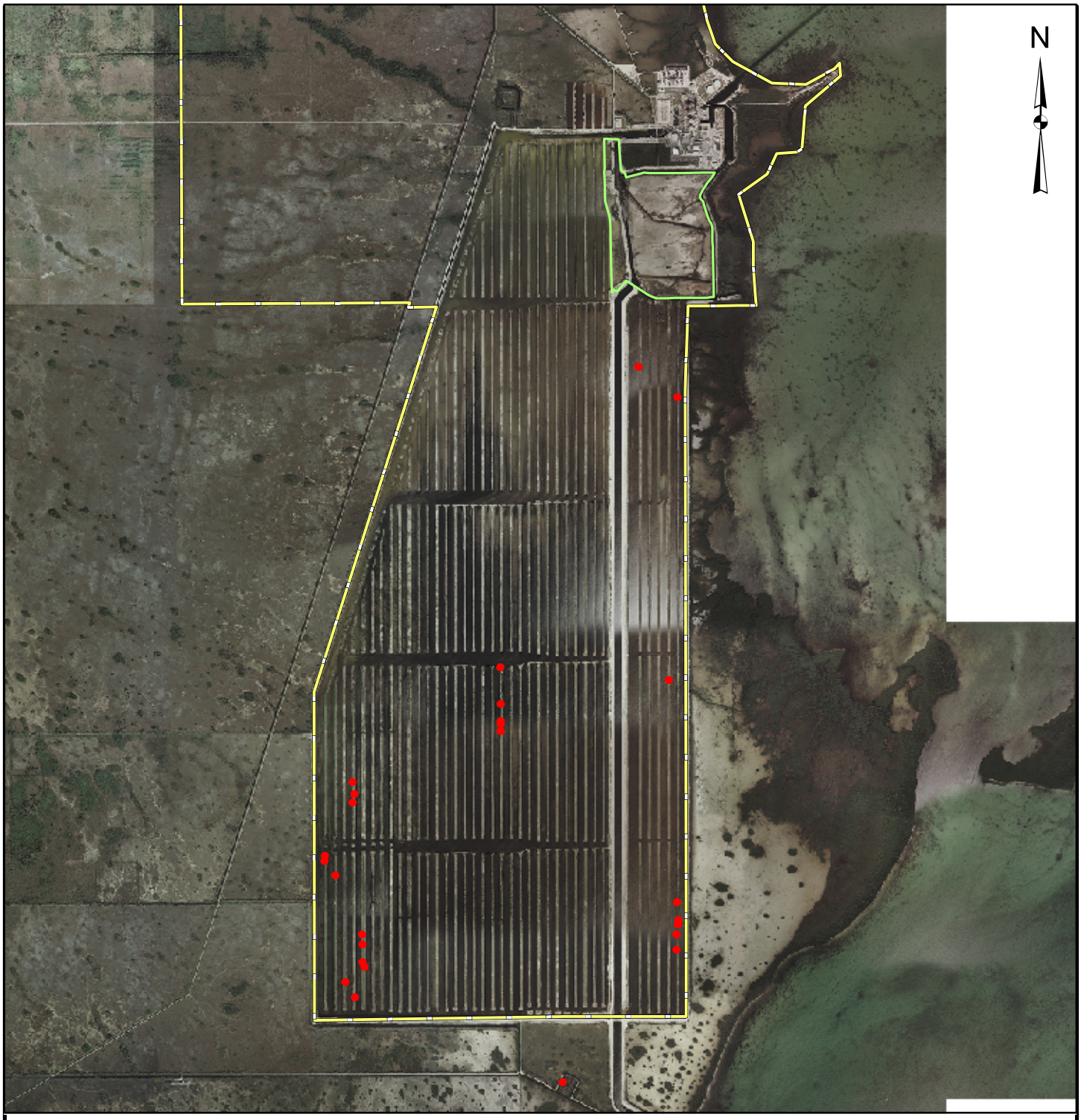
REV. 0

PLOT DATE 6/11/2009

FIGURE

3.3.6-1

ERP FIGURE 8



4,500 0 4,500
Feet

LEGEND

- Crocodile Nesting Sites
- Turkey Point Units 6 & 7 Site
- Turkey Point Plant Property

REFERENCES

1. Crocodile Nest Locations, FPL 1978-2008, Turkey Point Plant Annual Crocodile Report Permit # TE092945-1.

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

CROCODILE NEST LOCATIONS 2008

FPL

FILE No. 08387584B026

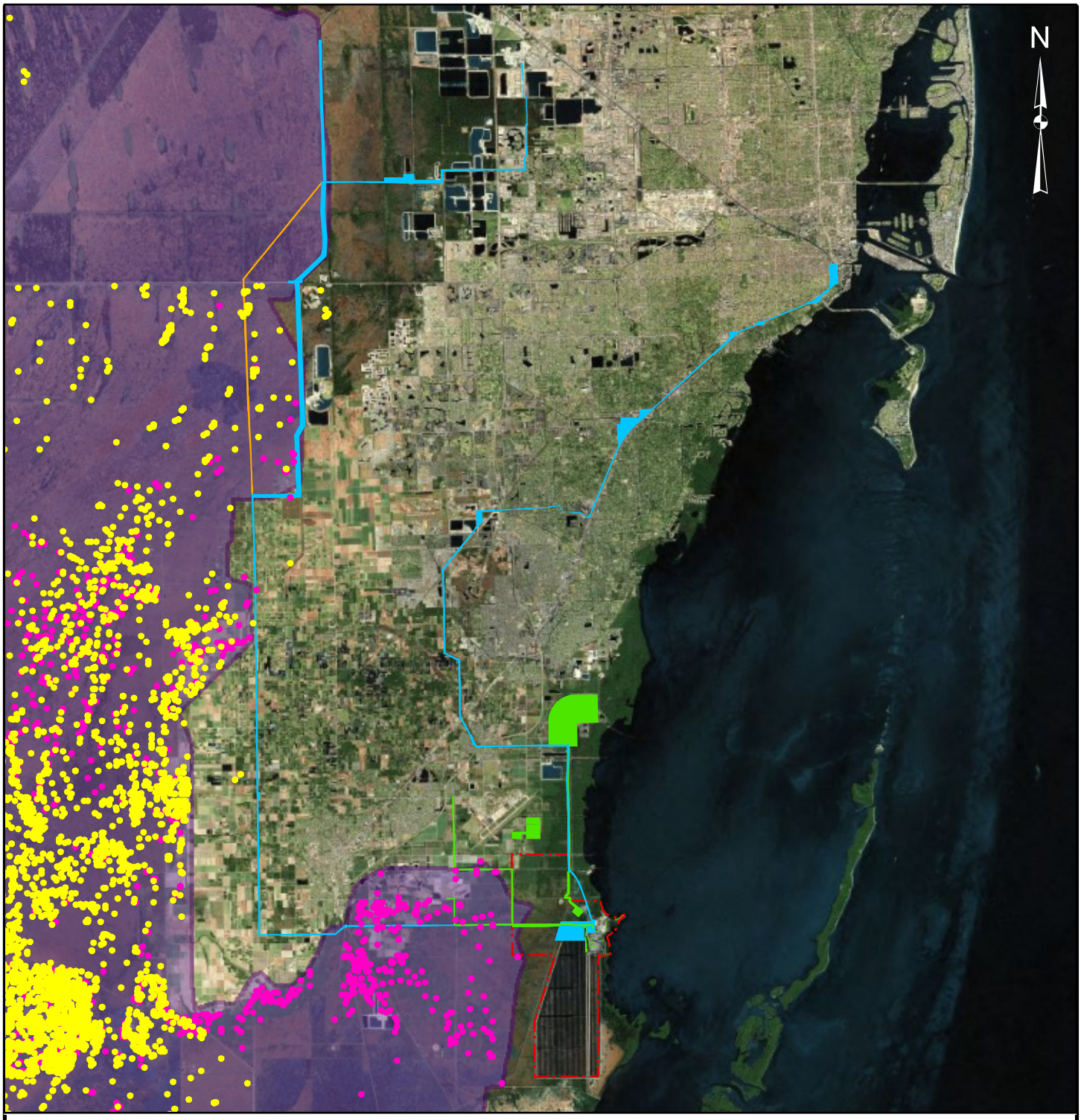
REV. 0

PLOT DATE 6/11/2009

FIGURE

3.3.6-2

ERP FIGURE 9



5 0 5
Miles

LEGEND

- 1981 - 1988
- 1989 - 2008
- Florida Panther Consultation Area South
- Associated Linear Facilities - Transmission Lines and Corridors
- Plant and Non-Transmission Facilities
- Secondary Corridor
- Turkey Point Plant Property

REFERENCES

1. Panther Events, FWC, ENP, BCNP, 1981-2008
2. Panther Consultation Area South, USFWS, 2007

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

PANTHER RADIO TELEMETRY DATA

FPL

FILE No. 08387584J008

REV. 0

PLOT DATE 6/12/2009

FIGURE

10

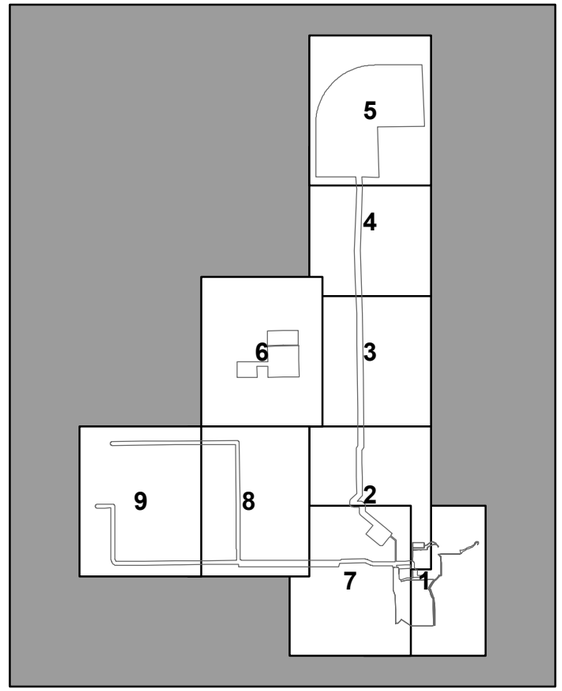
CODE - LEVEL 3 DESCRIPTION

166 - HOLDING PONDS
183 - RACE TRACKS
184 - MARINAS AND FISH CAMPS
214 - ROW CROPS
215 - FIELD CROPS
222 - FRUIT ORCHARDS
241 - TREE NURSERIES
242 - SOD FARMS
243 - ORNAMENTALS
310 - HERBACEOUS (DRY PRAIRIE)
320 - SHRUB AND BRUSHLAND
330 - MIXED RANGELAND
422 - BRAZILIAN PEPPER
510 - CANAL
511 - DITCHES
530 - RESERVOIRS
531 - OPEN WATER
534 - RESERVOIRS < 10 ACRES
612 - MANGROVE SWAMPS
612 / 618 - MANGROVE SWAMPS / WILLOW AND ELDERBERRY
612 / 619 - MANGROVE SWAMPS / EXOTIC WETLAND HARDWOODS

CODE - LEVEL 3 DESCRIPTION

612-A - MANGROVE HEADS
612-B - DWARF MANGROVES
617 - MIXED WETLAND HARDWOODS
617 / 641 - MIXED WETLAND HARDWOODS / FRESHWATER MARSHES
617-P - MIXED WETLAND HARDWOODS - PLANTED
619 - EXOTIC WETLAND HARDWOODS
619 / 631 - EXOTIC WETLAND HARDWOODS / WETLAND SCRUB
630 - WETLAND FORESTED MIXED
631 - WETLAND SCRUB
641 - FRESHWATER MARSHES
642 - SALTWATER MARSHES
650 - NON-VEGETATED MUD FLAT
740 - DISTURBED LANDS
743 - UPLAND SPOIL AREAS
743-WET - WETLAND SPOIL AREAS
744 - FILL AREAS / ROADWAYS
814 - ROADS AND HIGHWAYS
831 - ELECTRIC POWER FACILITIES
834 - SEWAGE TREATMENT
835 - SOLID WASTE DISPOSAL

AREA MAP



REFERENCES

1. Land Cover, SFWMD, 2004.

PROJECT
TURKEY POINT UNITS 6 & 7
PROJECT

TITLE
PLANT AND
NON-TRANSMISSION FACILITIES
LAND COVER /
VEGETATION LEGEND

FPL

FILE No. 08387584J005
REV. 0
PLOT DATE 6/12/2009

FIGURE
11

Reclaimed Water Pipeline Corridor

Treated Reclaimed Water Delivery Pipelines

Radial Collector Wells

Heavy Haul Road

Equipment Barge Unloading Area

Turning Basin

FPL Reclaimed Water Treatment Facility

Laydown Area

Roadway Improvement Corridor

Radial Collector Well Pipelines

Nuclear Administration Building/ Training Building/Parking Area

Turkey Point Units 6 & 7 Site

Match Line

N

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Land Cover / Vegetation

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Cover, SFWMD, 2004.

0 500 1,000 2,000 Feet

SITE KEY

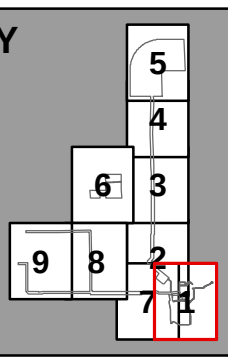


FIGURE 11

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875841002

TITLE

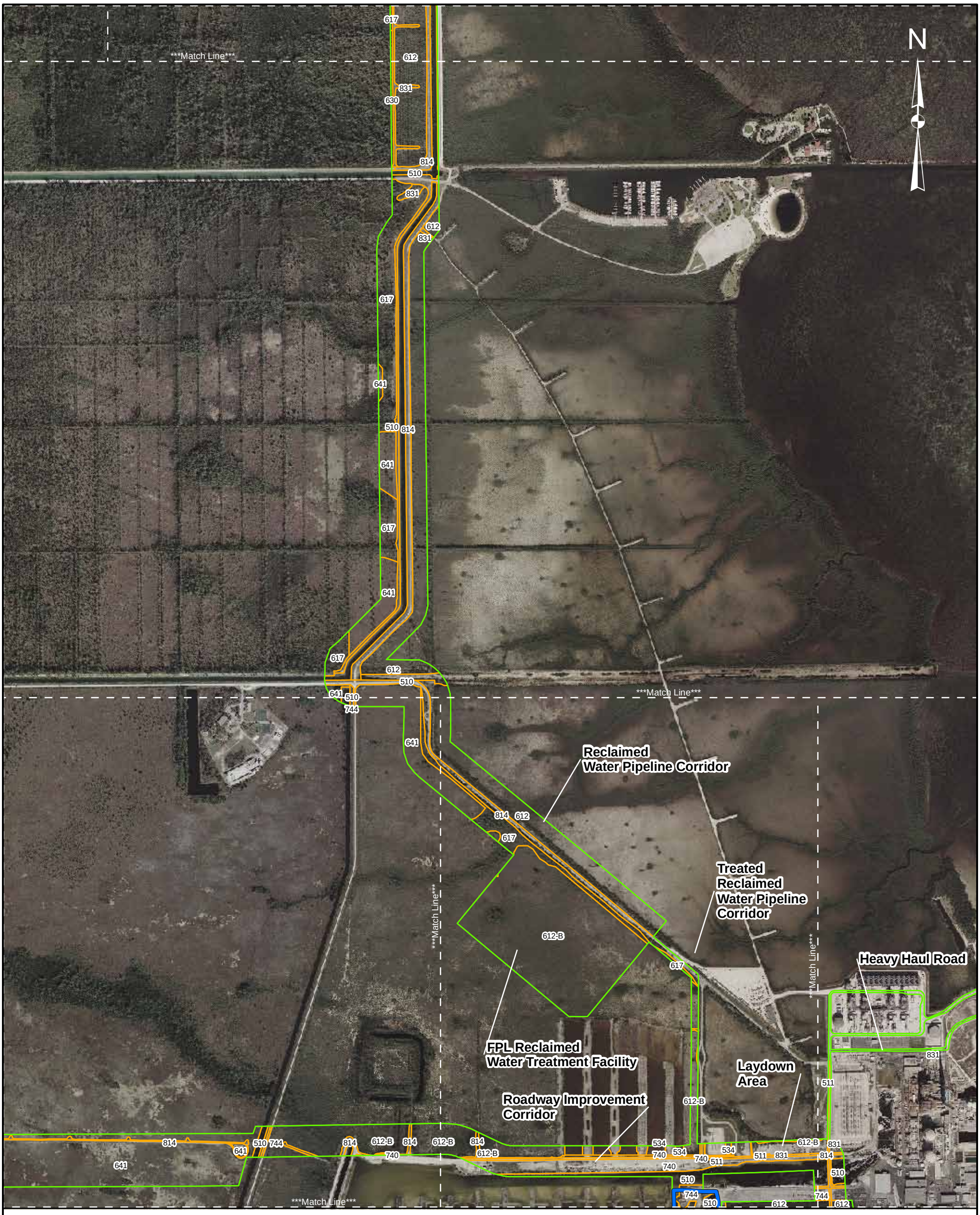
PLANT AND NON-TRANSMISSION FACILITIES LAND COVER / VEGETATION

Sheet 1 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

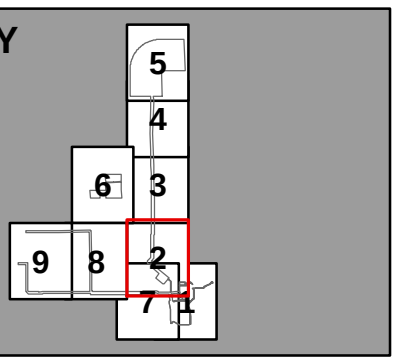


LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Land Cover / Vegetation

0 500 1,000 2,000 Feet

SITE KEY



REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Cover, SFWMD, 2004.

FIGURE 11

PLOT DATE 6/12/2009 | REV. 0 | FILE No. 08387584J002

TITLE

PLANT AND NON-TRANSMISSION FACILITIES LAND COVER / VEGETATION

Sheet 2 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Land Cover / Vegetation

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Cover, SFWMD, 2004.

0 500 1,000 2,000 Feet

SITE KEY

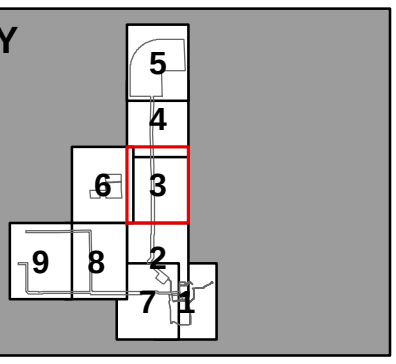


FIGURE 11

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875840002

TITLE

PLANT AND NON-TRANSMISSION FACILITIES LAND COVER / VEGETATION

Sheet 3 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Land Cover / Vegetation

0 500 1,000 2,000 Feet

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Cover, SFWMD, 2004.

SITE KEY

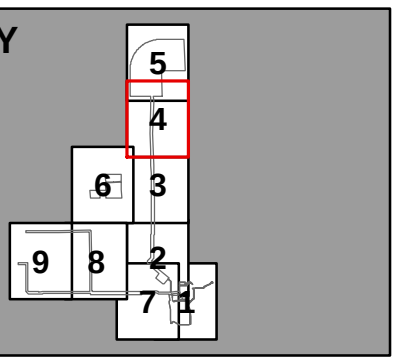


FIGURE 11

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875842002

TITLE

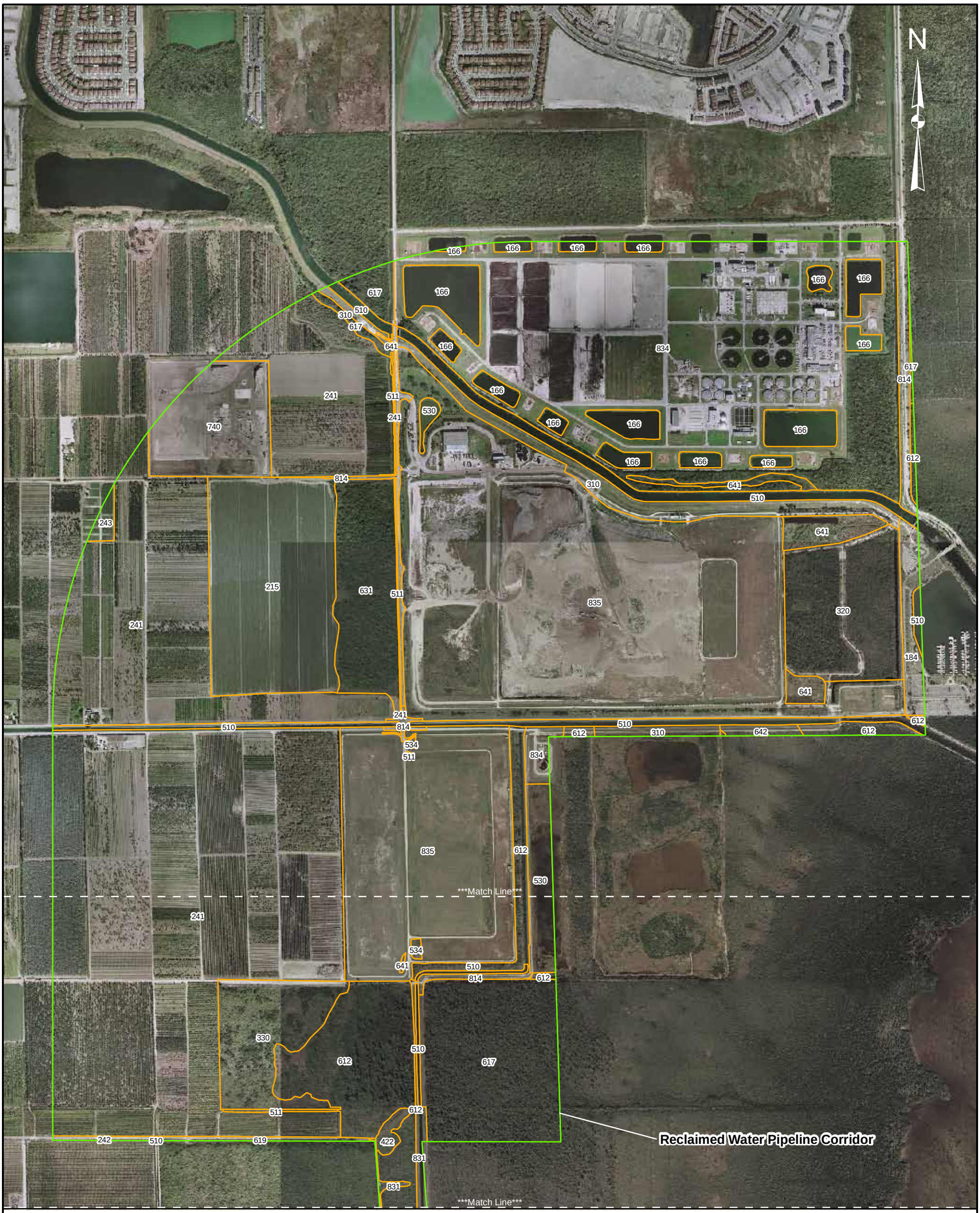
PLANT AND NON-TRANSMISSION FACILITIES LAND COVER / VEGETATION

Sheet 4 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Land Cover / Vegetation

0 500 1,000 2,000 Feet

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Cover, SFWMD, 2004.

SITE KEY

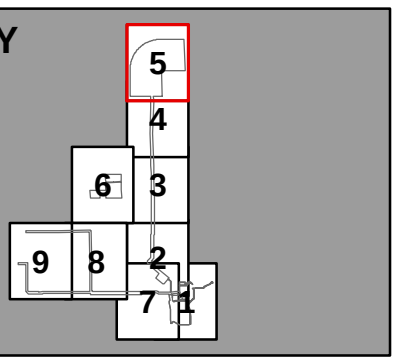


FIGURE 11

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J002

TITLE

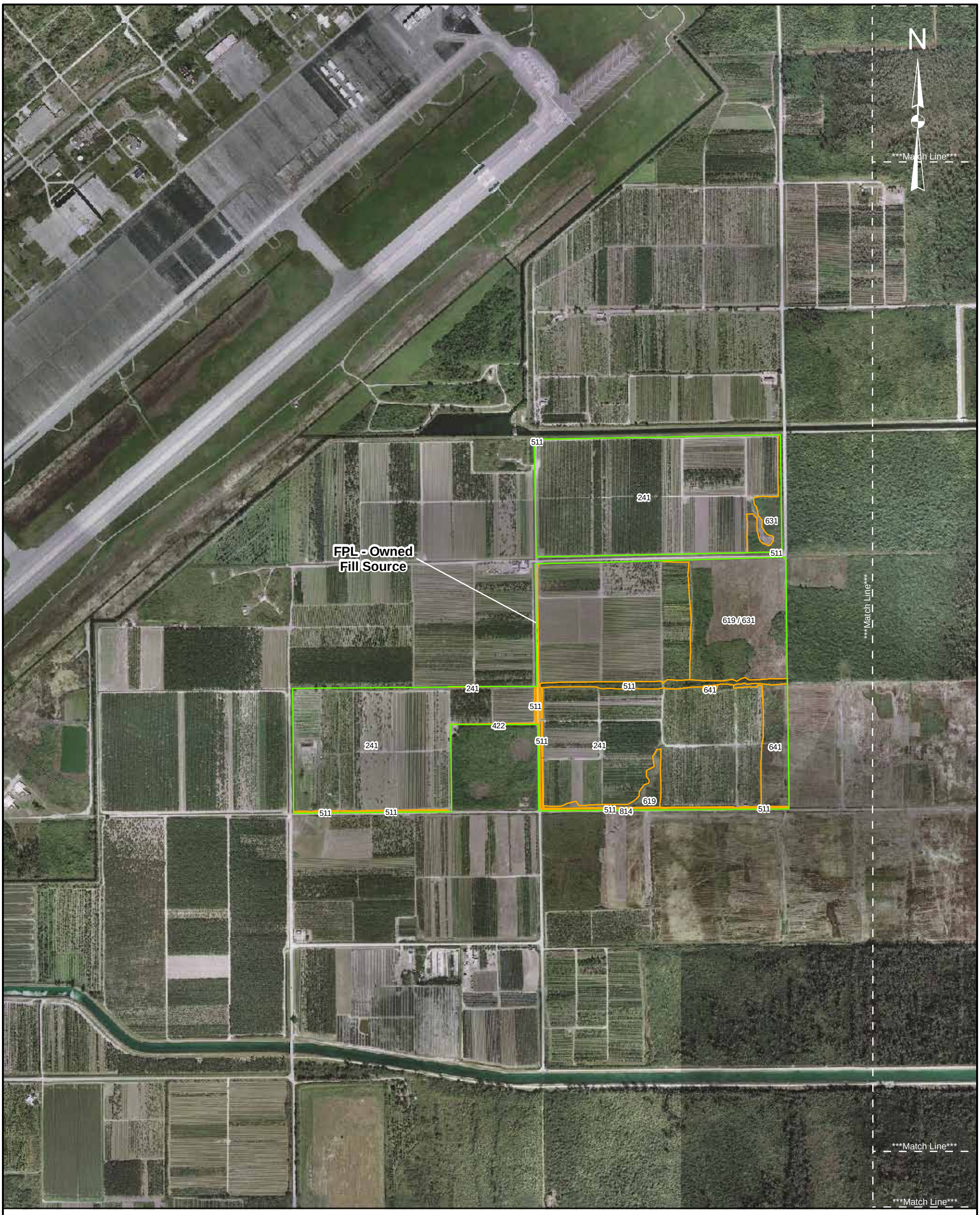
PLANT AND NON-TRANSMISSION FACILITIES LAND COVER / VEGETATION

Sheet 5 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Land Cover / Vegetation

0 500 1,000 2,000 Feet

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Cover, SFWMD, 2004.

SITE KEY

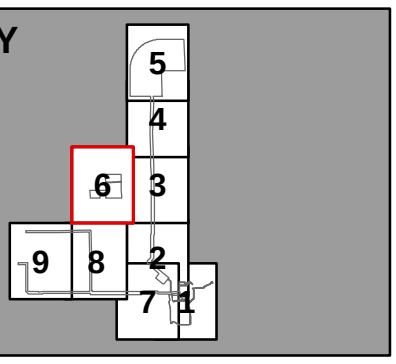


FIGURE 11

PLOT DATE 6/12/2009 | REV. 0 | FILE No. 083875844002

TITLE

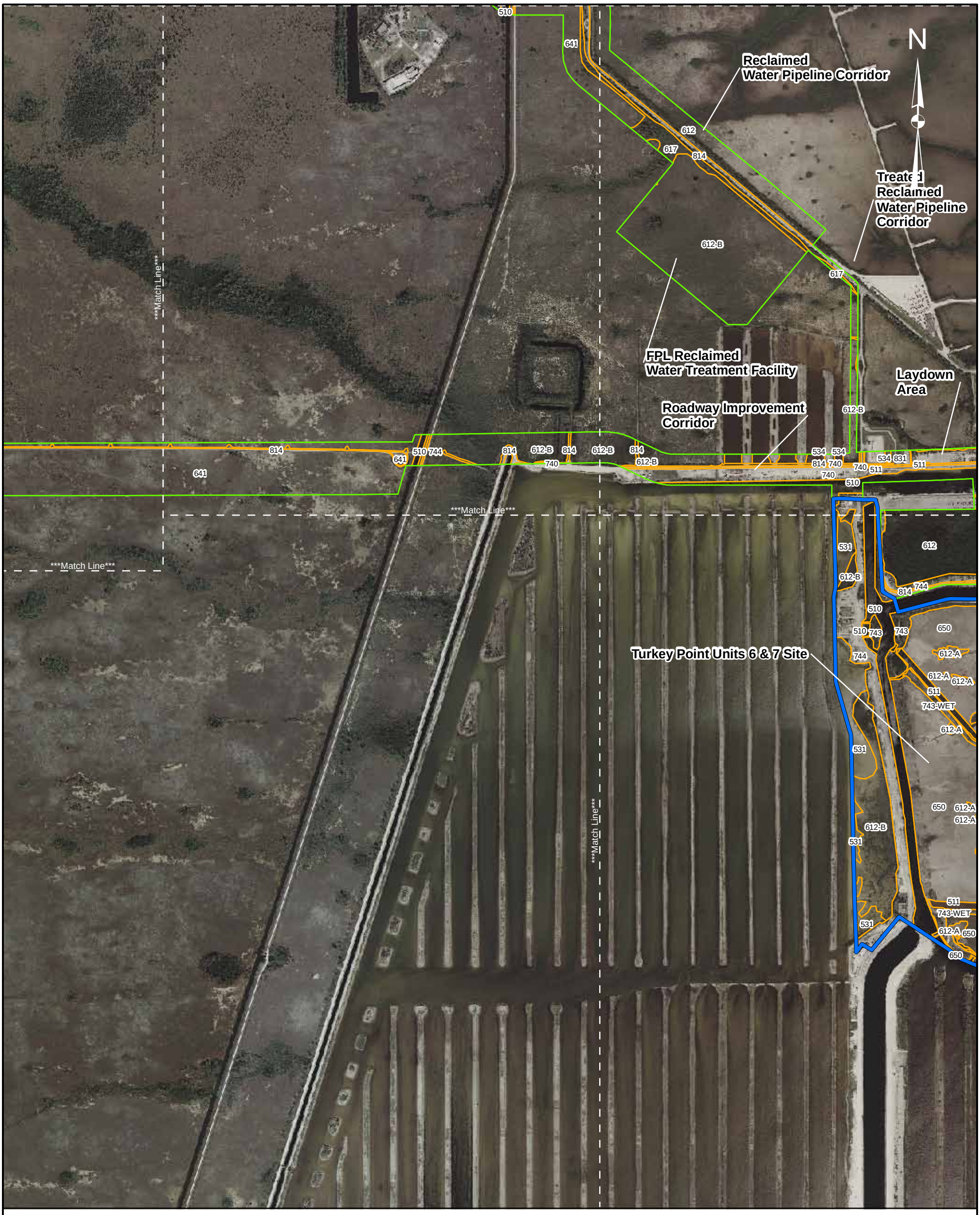
PLANT AND NON-TRANSMISSION FACILITIES LAND COVER / VEGETATION

Sheet 6 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Land Cover / Vegetation

0 500 1,000 2,000 Feet

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Cover, SFWMD, 2004.

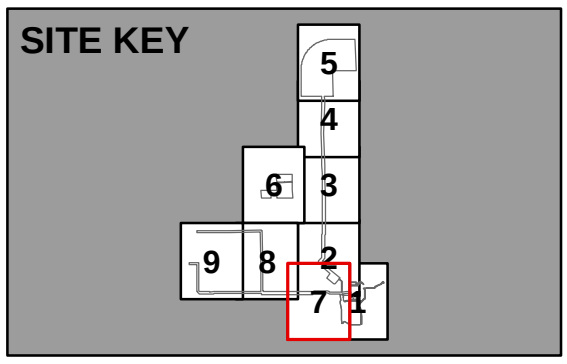


FIGURE 11

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875840002

TITLE

PLANT AND NON-TRANSMISSION FACILITIES LAND COVER / VEGETATION

Sheet 7 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Land Cover / Vegetation

0 500 1,000 2,000 Feet

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Cover, SFWMD, 2004.

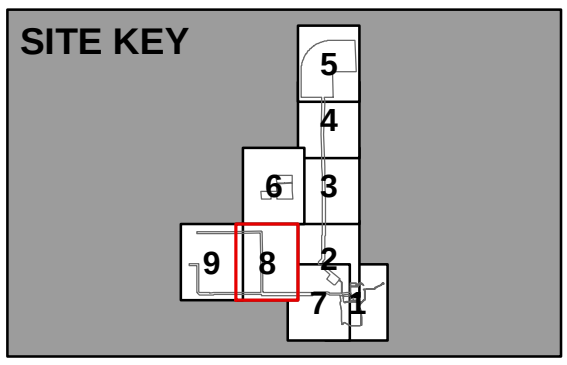


FIGURE 11

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J002

TITLE

PLANT AND NON-TRANSMISSION FACILITIES LAND COVER / VEGETATION

Sheet 8 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

Match Line

Match Line

N

510 214 241 511 511 214 241 511 510 511 214 511 511 214 814 511 214 511 214 511 214 510 511 214 222 511 619 320 241

Roadway Improvement Corridor

183 510 510 183 510

617 / 641 510 617 / 641 814 510 617 / 641 617 617 / 641 510

Roadway Improvement Corridor

617 / 641 510 617 641 641 617 641 617 641 617

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

0 500 1,000 2,000 Feet

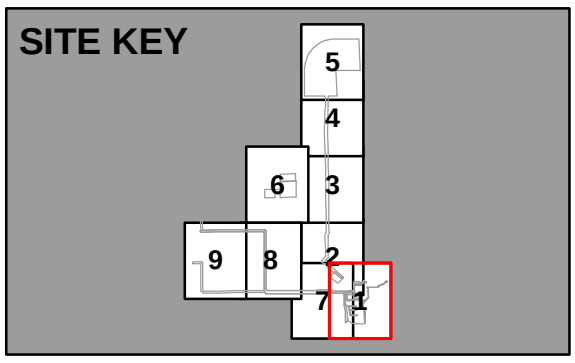


FIGURE 12

PLOT DATE 6/12/2009

REV. 0

FILE No. 0838758AJ007

TITLE

PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 1 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Match Line

Reclaimed
Water Pipeline Corridor

Treated
Reclaimed
Water Pipeline
Corridor

Heavy Haul Road

FPL Reclaimed
Water Treatment Facility

Laydown
Area

Roadway Improvement
Corridor

Match Line

Match Line

Match Line

Match Line

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

0 500 1,000 2,000 Feet

SITE KEY

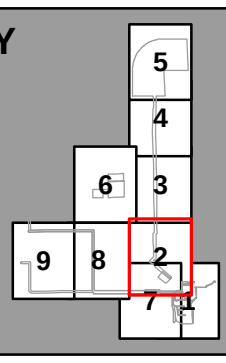


FIGURE 12

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875B4J007

TITLE

PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 2 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

0 500 1,000 2,000 Feet

SITE KEY

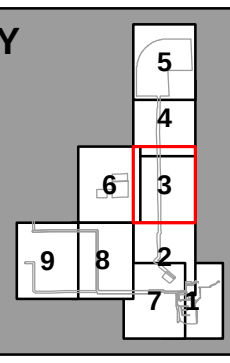


FIGURE 12

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J007

TITLE

PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 3 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

0 500 1,000 2,000 Feet

SITE KEY

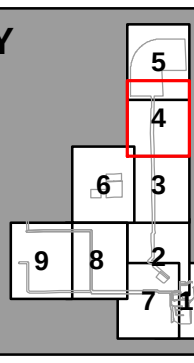


FIGURE 12

PLOT DATE 6/12/2009 | REV. 0 | FILE No. 083875840007

TITLE

PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 4 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Match Line

Match Line

Reclaimed Water Pipeline Corridor

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

0 500 1,000 2,000 Feet

SITE KEY

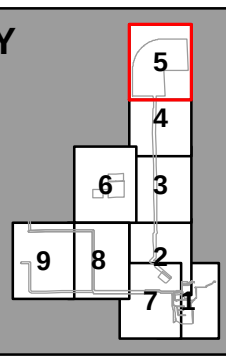


FIGURE 12

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875B4J007

TITLE

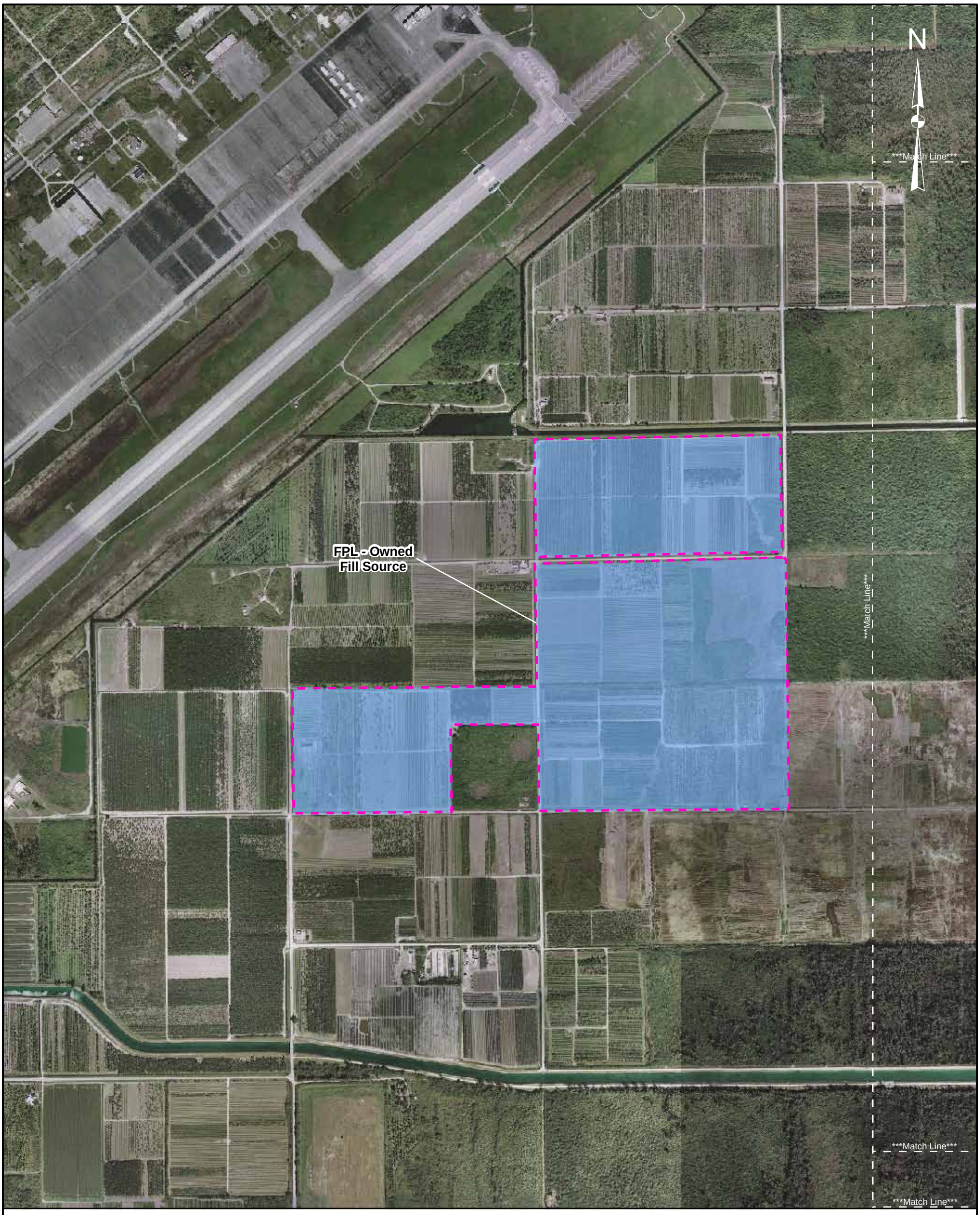
PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 5 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

0 500 1,000 2,000 Feet

SITE KEY

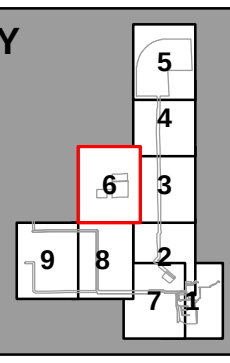


FIGURE 12

PLOT DATE 6/12/2009 | REV. 0 | FILE No. 083875843007

TITLE

PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 6 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

0 500 1,000 2,000 Feet

SITE KEY

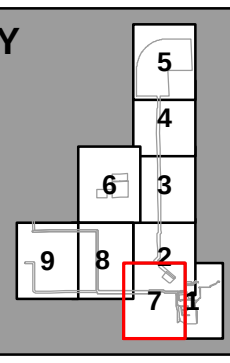


FIGURE 12

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875841007

TITLE

PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 7 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Match Line

Match Line

Roadway Improvement Corridor

Match Line

Match Line

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

0 500 1,000 2,000 Feet

SITE KEY

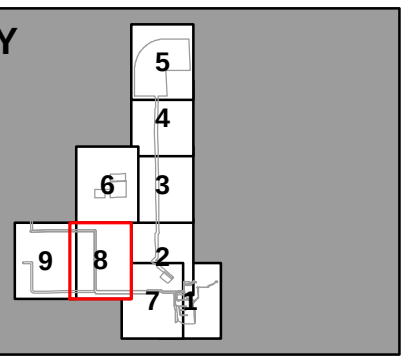


FIGURE 12

PLOT DATE 6/12/2009

REV. 0

FILE No. 083875847007

TITLE

PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 8 of 9

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

N

Match Line

Match Line

Roadway Improvement Corridor

Roadway Improvement Corridor

LEGEND

- Turkey Point Units 6 & 7 Site
- Plant and Non-Transmission Facilities
- Area Inundated by 100-Year Flooding

0 500 1,000 2,000 Feet

REFERENCES

1. Area Inundated by 100-Year Flooding, FEMA, 1996.

SITE KEY

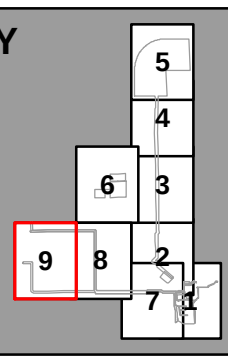


FIGURE 12

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584J007

TITLE

PLANT AND NON-TRANSMISSION FACILITIES 100-YEAR FLOOD ZONE

Sheet 9 of 9

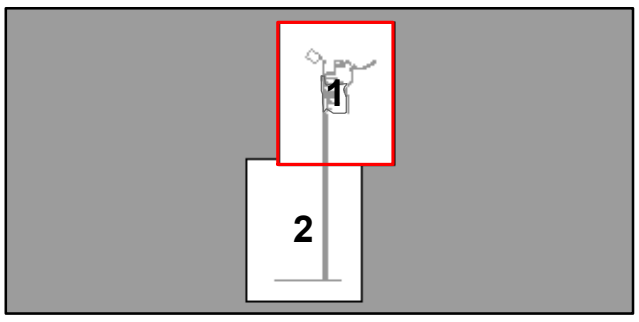
PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- Turkey Point Units 6 & 7 Site
- Associated Non-Linear Facilities
- Construction Areas / Facilities
- Spoil Areas



REFERENCES

1. Imagery, Miami-Dade County, 2007.

ERP FIGURE 13

FIGURE 5.1-1

PLOT DATE 6/11/2009

REV. 0

FILE No. 08387584D001

TITLE

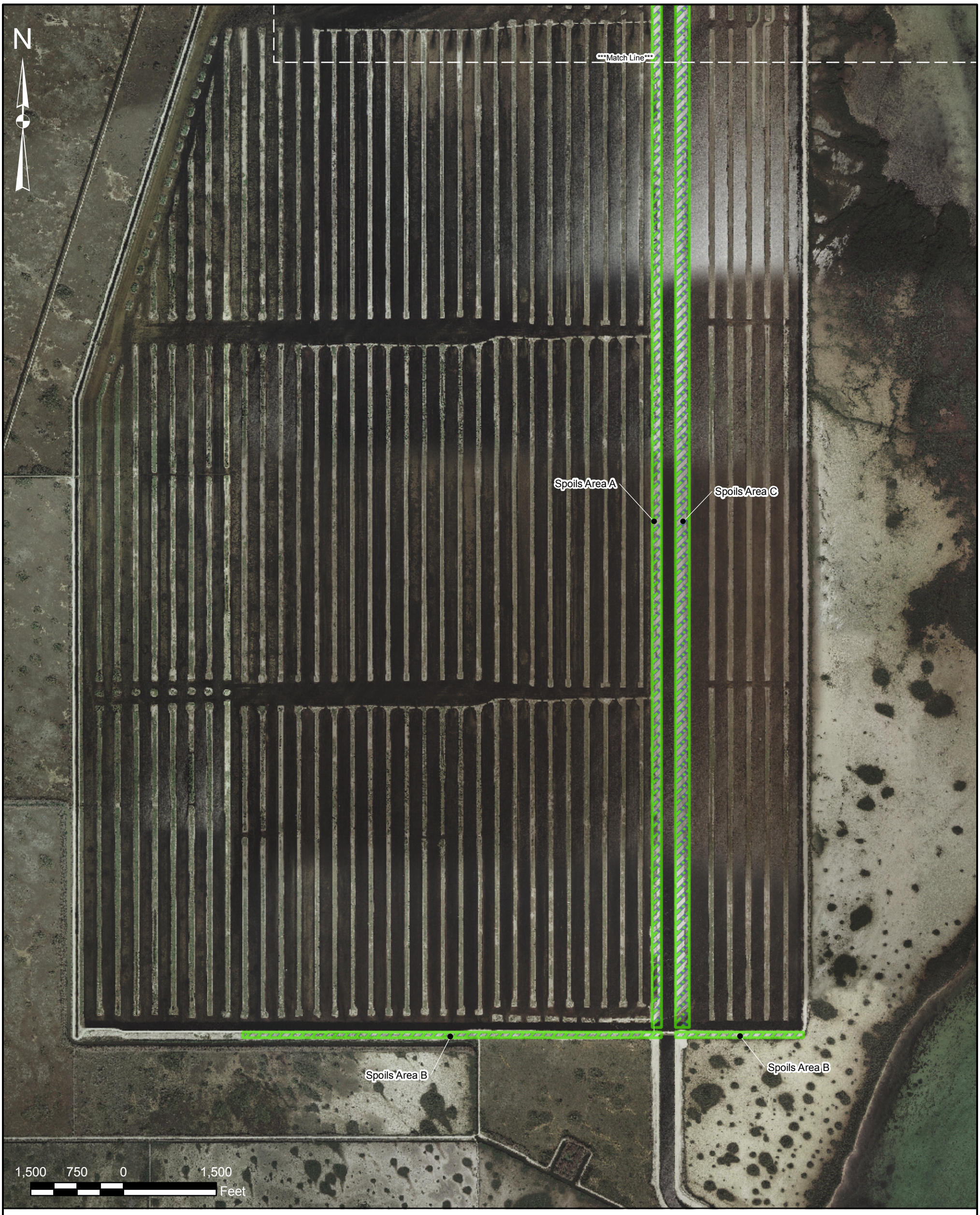
ASSOCIATED NON-LINEAR FACILITIES, CONSTRUCTION AREAS, SPOIL AREAS, SITE AND ADJACENT PROPERTIES

Sheet 1 of 2

PROJECT

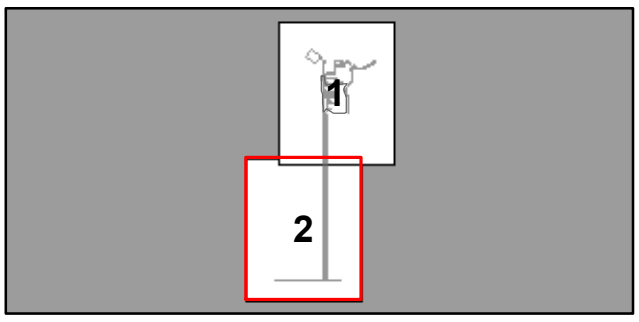
TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Turkey Point Units 6 & 7 Site
- Associated Non-Linear Facilities
- Construction Areas / Facilities
- Spoil Areas



REFERENCES

1. Imagery, Miami-Dade County, 2007.

ERP FIGURE 13

FIGURE 5.1-1

PLOT DATE 6/11/2009

REV. 0

FILE No. 08387584D001

TITLE

ASSOCIATED NON-LINEAR FACILITIES, CONSTRUCTION AREAS, SPOIL AREAS, SITE AND ADJACENT PROPERTIES

Sheet 2 of 2

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

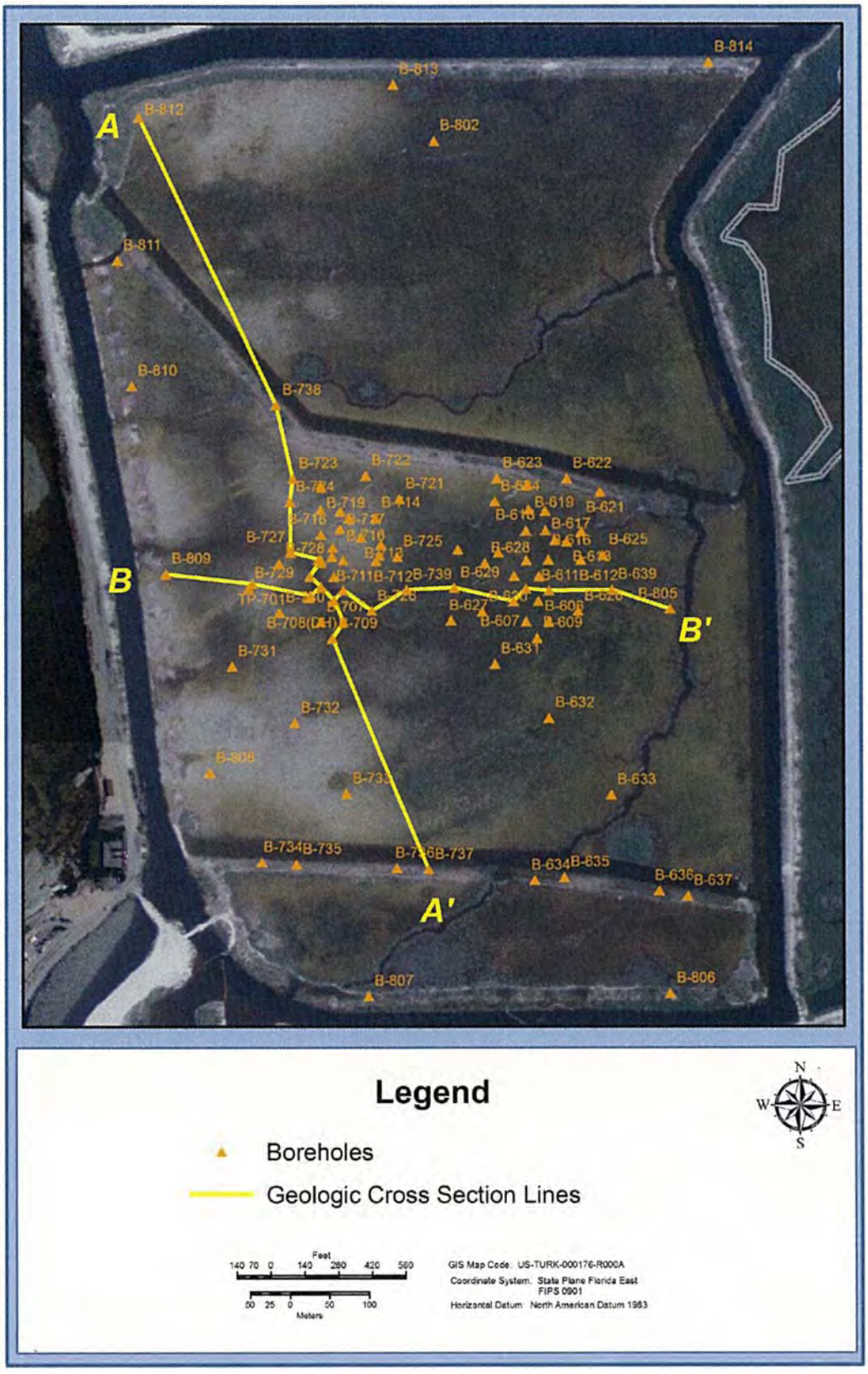


Figure 3.3.1-4
Bore Hole and Cross Section Locations at the Turkey Point Units 6 & 7 Site

Rev. 0

FPL

ERP FIGURE 14.1

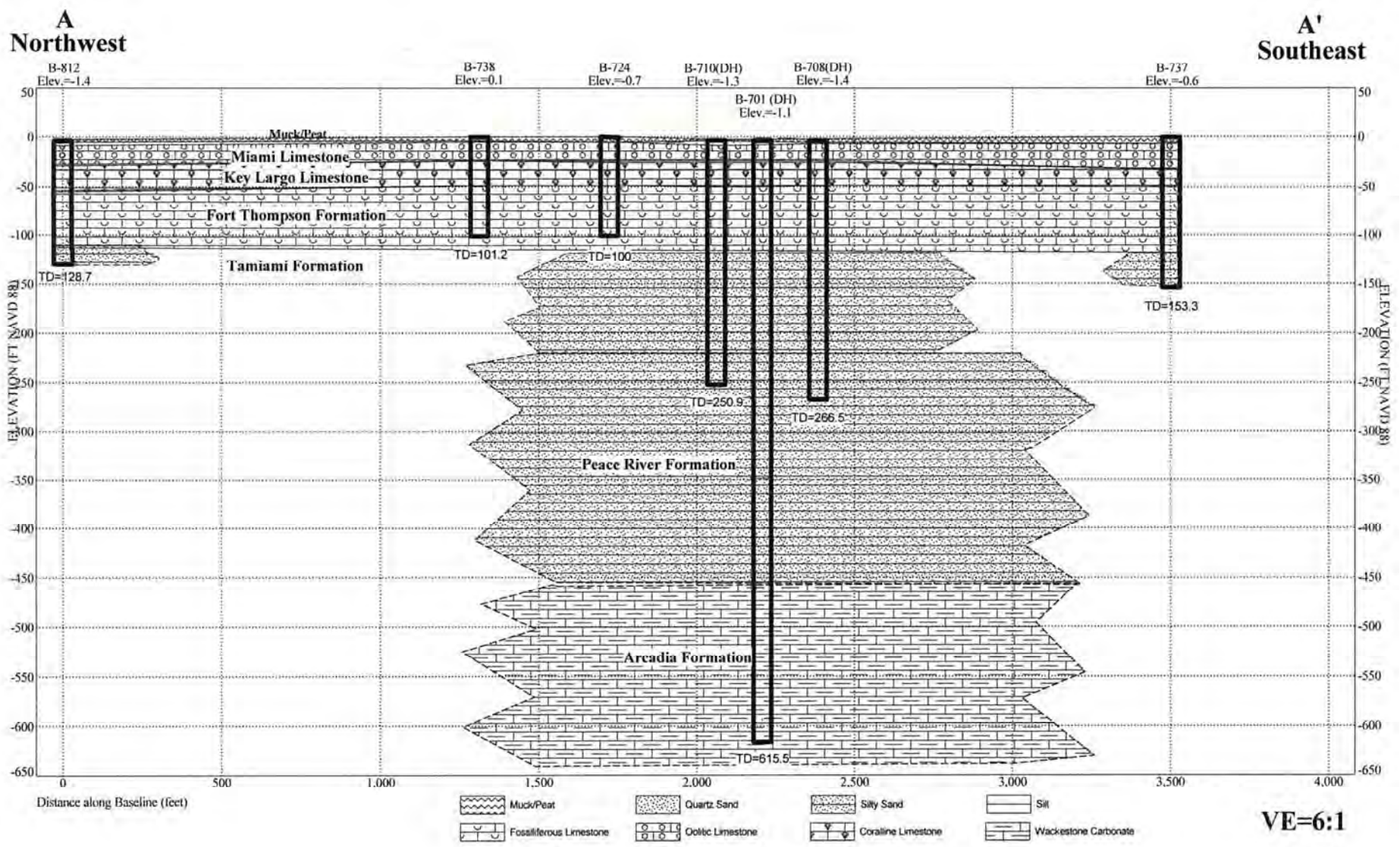


Figure 3.3.1-5
Geologic Cross Section A-A'

Rev. 0

FPL

ERP FIGURE 14.2

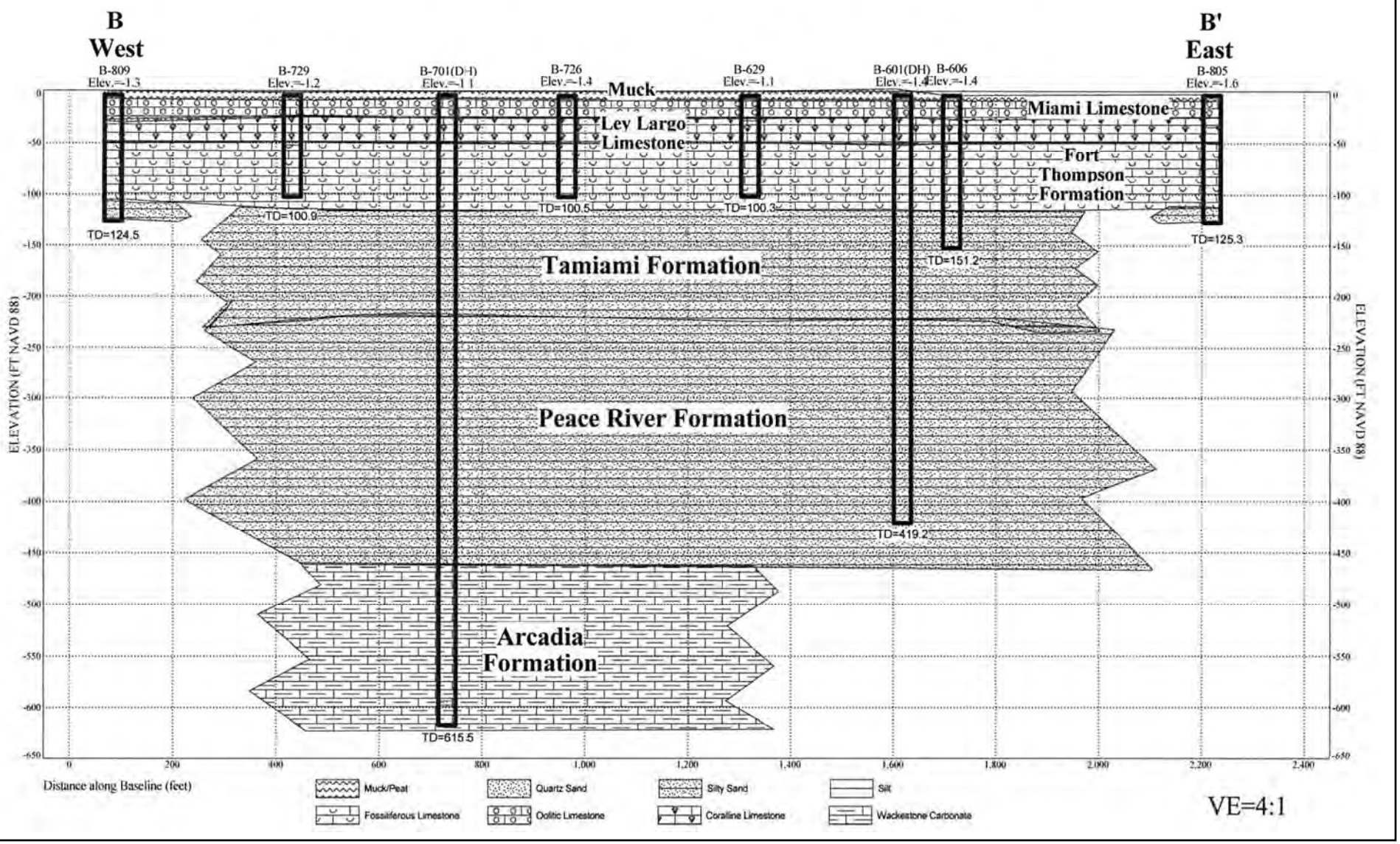


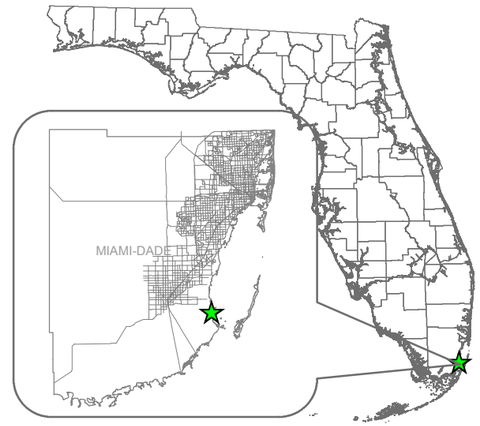
Figure 3.3.1-6
Geologic Cross Section B-B'

Rev. 0

FPL

ERP FIGURE 14.3

AREA MAP



LEGEND

Radial Collector Wells

REFERENCES

1. Imagery, Miami-Dade County, 2007.

200 100 0 200
Feet

PROJECT

TURKEY POINT UNITS 6 & 7
PROJECT

TITLE

RADIAL COLLECTOR WELLS
AERIAL PHOTOGRAPH

FPL

FILE No. 08387584J024

REV. 0

PLOT DATE 6/14/2009

FIGURE
15

ATTACHMENT D

USACE WETLAND DATASHEETS
USACE JD FORMS

Project Name/No.: TURKEY POINT PROPOSED UNITS 6&7
Applicant: FPL County/State: Miami-Dade
Date: Dec 07 By: Bullock

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Do Normal Circumstances exist on the site	Yes	**No**	Community ID:	612A Mangrove Heads
Is the site significantly disturber (Atypical Situation)?	**Yes**	No	Transect ID:	
Is the area a potential Problem Area?	Yes	**No**	Plot ID:	

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1.	*Rhizophora mangle*	C	OBL	9.			
2.	*Laguncularia racemosa*	C	OBL	10.			
3.	*Avicennia germinans*	C	OBL	11.			
4.				12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW, or FAC (except FAC). 100%

Remarks: Mangrove heads associated with historical tidal creeks, part of Turkey Point facility's industrial cooling water system. Creeks no longer connect to Biscayne Bay, hydrology is severely altered, with elevated salinity and temperature.

HYDROLOGY

____Recorded Data (Describe in Remarks):
____Stream, Lake, or Tide Gage
__x_ Aerial Photographs
____Other
____No Recorded Data Available

Field Observations:

Depth of Surface Water: _____(in.)

Depth to Free Water in Pit: _____(in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

x	Inundated
x	Saturated in Upper 12 inches
	Water Marks
x	Drift Lines
x	Sediment Deposits
	Drainage Patterns in Wetlands
x	Oxidized Root Channels in Upper 12 Inches
	Water-Stained Leaves
x	Local Soil Survey Data
	Other (Explain in Remarks)

Remarks:
Hydrology artificially controlled as part of Turkey Point facility's industrial cooling water system.

SOILS

Map Unit Name:	Terra Ceia muck, Tidal	Drainage Class:	Very poorly drained.
Taxonomy (Subgroup):	muck	Field Observations Confirm Mapped Type?	**Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-8	Oa1	Dk. Brown			muck
8-72	Oa2	Black			muck

Hydric Soil Indicators:

_x_ Histosol	___ Concretions
_x_ Histic Epipedon	_x_ High Organic Content in Surface Layer
_x_ Sulfidic Odor	___ Organic Streaking
___ Probable Aquic Moisture Regime	___ Listed in Local Hydric Soils List
_x_ Reducing Conditions	___ Listed on National Hydric Soils Lists
_x_ Gleyed or Low-Chroma Colors	___ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	**Yes**	No	Is this Sampling Point Within a Wetland?	**Yes**	No
Hydric Soils Present?	**Yes**	No			
Wetland Hydrology Present?	**Yes**	No			

Remarks:

Project Name/No.: TURKEY POINT PROPOSEd UNITS 6&7
Applicant: FPL County/State: Miami-Dade
Date: Dec 07 By: Bullock

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Do Normal Circumstances exist on the site	Yes	**No**	Community ID:	612B Dwarf Mangrove (hypersaline)
Is the site significantly disturber (Atypical Situation)?	**Yes**	No	Transect ID:	
Is the area a potential Problem Area?	Yes	**No**	Plot ID:	

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1.	*Rhizophora mangle*	C	OBL	9.			
2.	*Laguncularia racemosa*	C	OBL	10.			
3.	*Avicennia germinans*	C	OBL	11.			
4.	*Conocarpus erectus*	C	FACW	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW, or FAC (except FAC). 100%

Remarks:
Dwarf mangroves within Turkey Point facility's industrial cooling water system.

HYDROLOGY

____Recorded Data (Describe in Remarks):
____Stream, Lake, or Tide Gage
__x_ Aerial Photographs
____Other
____No Recorded Data Available

Field Observations:

Depth of Surface Water:_____(in.)

Depth to Free Water in Pit: _____(in.)

Depth to Saturated Soil:_____0_____(in.)

Wetland Hydrology Indicators:

x	Inundated
x	Saturated in Upper 12 inches
	Water Marks
x	Drift Lines
x	Sediment Deposits
	Drainage Patterns in Wetlands
x	Oxidized Root Channels in Upper 12 Inches
	Water-Stained Leaves
x	Local Soil Survey Data
	Other (Explain in Remarks)

Remarks:
Severely altered hydroperiod due to location within Turkey Point facility's industrial cooling water system. Modified frequency and duration of inundation, elevated temperature and salinity.

SOILS

Map Unit Name:	Pennsuco Marl, Tidal	Drainage Class:	Very poorly drained.
Taxonomy (Subgroup):	marl	Field Observations Confirm Mapped Type?	**Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-51	A1	Lt. Gray			silt loam

Hydric Soil Indicators:

_x_ Histosol	_____ Concretions
_x_ Histic Epipedon	_____ High Organic Content in Surface Layer
_x_ Sulfidic Odor	_____ Organic Streaking
_x_ Probable Aquic Moisture Regime	_____ Listed in Local Hydric Soils List
_x_ Reducing Conditions	_____ Listed on National Hydric Soils Lists
_x_ Gleyed or Low-Chroma Colors	_____ Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	**Yes**	No	Is this Sampling Point Within a Wetland?	**Yes**	No
Hydric Soils Present?	**Yes**	No			
Wetland Hydrology Present?	**Yes**	No			

Remarks:

Project Name/No.: TURKEY POINT PROPOSED UNITS 6&7
Applicant: FPL County/State: Miami-Dade
Date: Dec 07 By: Bullock

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Do Normal Circumstances exist on the site	Yes	**No**	Community ID:	650 Mud Flats
Is the site significantly disturber (Atypical Situation)?	**Yes**	No	Transect ID:	
Is the area a potential Problem Area?	Yes	**No**	Plot ID:	

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1.	*Batis maritima*	GC	OBL	9.			
2.	*Borrichia* spp.	GC	OBL	10.			
3.	*Salicornia virginica*	GC	OBL	11.			
4.	*Salicornia bigelovii*	GC	OBL	12.			
5.				13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW, or FAC (except FAC). 100%

Remarks: Hypersaline mud flats, part of Turkey Point facility's industrial cooling water system. Experiences drastic water fluctuations, which periodically reduces extent of vegetative community.

HYDROLOGY

____Recorded Data (Describe in Remarks):
____Stream, Lake, or Tide Gage
__x_ Aerial Photographs
____Other
____No Recorded Data Available

Field Observations:

Depth of Surface Water: _____(in.)

Depth to Free Water in Pit: _____(in.)

Depth to Saturated Soil: 0 (in.)

Wetland Hydrology Indicators:

x	Inundated
x	Saturated in Upper 12 inches
	Water Marks
x	Drift Lines
x	Sediment Deposits
	Drainage Patterns in Wetlands
x	Oxidized Root Channels in Upper 12 Inches
	Water-Stained Leaves
x	Local Soil Survey Data
	Other (Explain in Remarks)

Remarks:

Hydrology artificially controlled as part of Turkey Point facility's industrial cooling water system.

SOILS

Map Unit Name:	Pennsuco Marl / Terra Ceia Muck, Tidal	Drainage Class:	Very poorly drained.
Taxonomy (Subgroup):	Marl / muck	Field Observations Confirm Mapped Type?	**Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-51	A1	Lt. Gray			silt loam
0-8	Oa1	Dk. Brown			muck
8-80	Oa2	Black			muck

Hydric Soil Indicators:

_____x_____Histosol	_____Concretions
_____x_____Histic Epipedon	_____ High Organic Content in Surface Layer
_____x____ Sulfidic Odor	_____Organic Streaking
_____x_____Probable Aquic Moisture Regime	_____Listed in Local Hydric Soils List
_____x____ Reducing Conditions	_____Listed on National Hydric Soils Lists
_____x____ Gleyed or Low-Chroma Colors	_____Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	**Yes**	No	Is this Sampling Point Within a Wetland?	**Yes**	No
Hydric Soils Present?	**Yes**	No			
Wetland Hydrology Present?	**Yes**	No			

Remarks:

Project Name/No.: TURKEY POINT PROPOSED UNITS 6&7
Applicant: FPL County/State: Miami-Dade
Date: Dec 07 By: Bullock

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Do Normal Circumstances exist on the site	Yes	**No**	Community ID:	743 Wetland Spoil Piles
Is the site significantly disturber (Atypical Situation)?	**Yes**	No	Transect ID:	
Is the area a potential Problem Area?	Yes	**No**	Plot ID:	

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1.	*Rhizophora mangle*	C	OBL	9.			
2.	*Laguncularia racemosa*	C	OBL	10.			
3.	*Casuarina equisetifolia*	C	FACU	11.			
4.	*Conocarpus erectus*	C	FACW	12.			
5.	*Coccoloba uvifera*	S	FAC	13.			
6.				14.			
7.				15.			
8.				16.			

Percent of Dominant Species that are OBL, FACW, or FAC (except FAC). 75%

Remarks:
Historical spoil piles, created through disposal of dredge material from remnant cooling canals.

HYDROLOGY

____Recorded Data (Describe in Remarks):
____Stream, Lake, or Tide Gage
__x_ Aerial Photographs
____Other
____No Recorded Data Available

Field Observations:

Depth of Surface Water:_____(in.)

Depth to Free Water in Pit: _____(in.)

Depth to Saturated Soil:_____0_____(in.)

Wetland Hydrology Indicators:

x	Inundated
x	Saturated in Upper 12 inches
	Water Marks
x	Drift Lines
x	Sediment Deposits
	Drainage Patterns in Wetlands
x	Oxidized Root Channels in Upper 12 Inches
	Water-Stained Leaves
x	Local Soil Survey Data
	Other (Explain in Remarks)

Remarks:
Hydrology artificially controlled as part of Turkey Point facility's industrial cooling water system.

SOILS

Map Unit Name:	Pennsuco Marl / Terra Ceia Muck, Tidal	Drainage Class:	Very poorly drained.
Taxonomy (Subgroup):	marl	Field Observations Confirm Mapped Type?	**Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Rhizospheres, etc.
0-51	A1	Lt. Gray			silt loam
0-8	Oa1	Dk. Brown			muck
8-80	Oa2	Black			muck

Hydric Soil Indicators:

_____x_____Histosol	_____Concretions
_____x_____Histic Epipedon	_____ High Organic Content in Surface Layer
_____x____ Sulfidic Odor	_____Organic Streaking
_____x_____Probable Aquic Moisture Regime	_____Listed in Local Hydric Soils List
_____x____ Reducing Conditions	_____Listed on National Hydric Soils Lists
_____x____ Gleyed or Low-Chroma Colors	_____Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	**Yes**	No	Is this Sampling Point Within a Wetland?	**Yes**	No
Hydric Soils Present?	**Yes**	No			
Wetland Hydrology Present?	**Yes**	No			

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo, K. Bullock	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID: FLUCFCS 612
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID: Nuclear Administration Building, Training Building and Parking Area
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: F

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Conocarpus erectus*	T	FACW	8			
2	*Schinus terebinthifolius*	T	FAC	9			
3	*Rhizophora mangle*	T	OBL	10			
4				11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Terra Ceia Muck, Tidal
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Oa1	10 YR 2/2	10 YR 6/3		Very dark brown muck
8-24	Oa2	10 YR2/1	10 YR 6/3		Black muck
24-80	Oa3	10 YR 2/2	10 YR 6/3		Black muck

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo, K. Bullock	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 612
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Nuclear Administration Building, Training Building and Parking Area
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	G

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Conocarpus erectus*	T	FACW	8			
2	*Schinus terebinthifolius*	T	FAC	9			
3	*Rhizophora mangle*	T	OBL	10			
4	*Salix caroliniana*	T	OBL	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Terra Ceia Muck, Tidal
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Oa1	10 YR 2/2	10 YR 6/3		Very dark brown muck
8-24	Oa2	10 YR2/1	10 YR 6/3		Black muck
24-80	Oa3	10 YR 2/2	10 YR 6/3		Black muck

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID: FLUCFCS 612/612-B/617/641
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID: FPL Reclaimed Water Treatment Facility
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: DK/DKA

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8	*Thelypteris sp.*	H	FAC
2	*Conocarpus erectus*	H	FACW+	9			
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Pteris vittata*	H	NA	11			
5	*Rhizophora mangle*	T	OBL	12			
6	*Osmunda regalis*	H	OBL	13			
7	*Parthenocissus quinquefolia*	V	FAC	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Pennsuco marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
Ap	0-8	10 YR 4/2			Dark grayish brown marl
Cg	8-24	10 YR 5/2	10 YR 7/2		Grayish brown marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland? ☒ Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No	
Hydric Soils Present?	☒	Yes	☐	No	

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	December 2007
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	K. Bullock	State:	Florida

			Community ID:	FLUCFCS 612-B/617
Do Normal Circumstances exist on the site?	☐ Yes	☒ No	Transect ID:	Treated Reclaimed Water Delivery Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒ Yes	☐ No		
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐ Yes	☒ No	Plot ID:	

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Rhizophora mangle*	T	OBL	8			
2	*Conocarpus erectus*	H	FACW	9			
3	*Laguncularia racemosa*	T	OBL	10			
4	*Avicennia germinans*	T	OBL	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: _____ (Ft.)
- Depth to Free Water in Pit: _____ (In.)
- Depth to Saturated Soil: 0 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☒ Drift Lines
- ☒ Sediment Deposits
- ☐ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☐ Water-Stained Leaves
- ☒ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Pennsuco marl, tidal
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-51	A1	Lt. gray			Silt loam

Hydric Soil Indicators:
- ☒ Histosol
- ☒ Histic Epipedon
- ☒ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ Yes	☐ No	Is this Sampling Point Within a Wetland?	☒ Yes ☐ No
Wetland Hydrology Present?	☒ Yes	☐ No		
Hydric Soils Present?	☒ Yes	☐ No		

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID: FLUCFCS 612
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID: Radial Collector Well Area & Delivery Pipelines
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: TP

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Avicennia germinans*	T	OBL	8	*Schinus terebinthifolius*	T	FAC
2	*Laguncularia racemosa*	T	OBL	9	*Ficus sp.*	T	FAC
3	*Rhizophora mangle*	T	OBL	10			
4	*Conocarpus erectus*	H	FACW+	11			
5	*Acacia sp.*	T	FACU	12			
6	*Heliotropium curassavicum*	H	OBL	13			
7	*Batis maritima*	H	OBL	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 2 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Udorthents-Water Complex
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	FPL-Owned Fill Source
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	DN

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Bidens pilosa*	H	FACW	8			
2	*Sorghum halepense*	H	FACU	9			
3	*Ludwigia peruviana*	H	OBL	10			
4	*Myriophyllum aquaticum*	SAV	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Ricinus communis*	S	FACU	13			
7	*Ipomoea purpurea*	H	FACU	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 57%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	FPL-Owned Fill Source
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	DO

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Bidens pilosa*	H	FACW	8			
2	*Typha sp.*	H	OBL	9			
3	*Ludwigia peruviana*	H	OBL	10			
4	*Myriophyllum aquaticum*	SAV	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Ipomoea purpurea*	H	FACU	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 86%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	FPL-Owned Fill Source
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	DP

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Bidens pilosa*	H	FACW	8	*Setaria sp.*	H	FAC
2	*Typha sp.*	H	OBL	9	*Colocasia esculenta*	H	FACW
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Sagittaria spp.*	H	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Cladium jamaicense*	H	OBL	13			
7	*Salix caroliniana*	T	OBL	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water

Taxonomy (Subgroup):

Drainage Class:

Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

					Community ID:	FLUCFCS 511/641
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	FPL-Owned Fill Source
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	DQ/FH
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Bidens pilosa*	H	FACW	8	*Mikania scandens*	V	FACW+
2	*Typha sp.*	H	OBL	9	*Colocasia esculenta*	H	FACW
3	*Myriophyllum aquaticum*	SAV	OBL	10	*Eleocharis equisetoides*	H	OBL
4	*Sagittaria spp.*	H	OBL	11	*Juncus megacephalus*	H	OBL
5	*Panicum repens*	H	FACW-	12			
6	*Ludwigia peruviana*	H	OBL	13			
7	*Rhynchospora spp.*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	FPL-Owned Fill Source
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	DR

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Ludwigia peruviana*	H	OBL	8			
2	*Typha sp.*	H	OBL	9			
3	*Andropogon glomeratus*	H	FACW+	10			
4				11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	FPL-Owned Fill Source
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	DS

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Panicum repens*	H	FACW-	8			
2	*Typha sp.*	H	OBL	9			
3				10			
4				11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	FPL-Owned Fill Source
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	DT/FH

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Panicum repens*	H	FACW-	8			
2	*Typha sp.*	H	OBL	9			
3	*Bidens pilosa*	H	FACW	10			
4	*Setaria sp.*	H	FAC	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	September 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

					Community ID:	FLUCFCS 619
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	FPL-Owned Fill Source
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	DU
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Ludwigia peruviana*	H	OBL	9			
3	*Bidens pilosa*	H	FACW	10			
4	*Salix caroliniana*	T	OBL	11			
5	*Sorghum halepense*	H	FACU	12			
6	*Colocasia esculenta*	H	FACW	13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 83%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 2 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	November 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

			Community ID:	FLUCFCS 511/631
Do Normal Circumstances exist on the site?	☐ Yes	☒ No	Transect ID:	FPL-Owned Fill Source
Is the site significantly disturbed (Atypical Situation)?	☒ Yes	☐ No	Plot ID:	FG
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐ Yes	☒ No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Alternanthera philoxeroides*	H	OBL	8	*Acrostichum sp.*	H	OBL
2	*Panicum repens*	H	FACW-	9	*Pteris vittata*	H	NA
3	*Salix caroliniana*	T	OBL	10	*Sphagneticola trilobata*	H	NL
4	*Ludwigia leptocarpa*	S	OBL	11	*Psychotria nervosa*	S	NL
5	*Schinus terebinthifolius*	T	FAC	12	*Blechnum serrulatum*	H	NL
6	*Pennisetum purpureum*	H	FACU+	13			
7	*Albizia sp.*	T	NA	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 86%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ Yes	☐ No	Is this Sampling Point Within a Wetland?	☒ Yes ☐ No
Wetland Hydrology Present?	☒ Yes	☐ No		
Hydric Soils Present?	☒ Yes	☐ No		

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	November 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

					Community ID:	FLUCFCS 619/631
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	FPL-Owned Fill Source
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	FH
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Colocasia esculenta*	H	FACW	8	*Hydrocytle spp.*	H	OBL
2	*Panicum repens*	H	FACW-	9	*Andropogon sp.*	H	FAC
3	*Salix caroliniana*	T	OBL	10	*Sphagneticola trilobata*	H	NA
4	*Ludwigia peruviana*	H	OBL	11	*Pluchea sp.*	H	FACW
5	*Schinus terebinthifolius*	T	FAC	12	*Thelypteris sp.*	H	FAC
6	*Pennisetum purpureum*	H	FACU+	13	*Typha sp.*	H	OBL
7	*Baccharis sp.*	T	FACW	14	*Bischofia javanica*	T	NL

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 92%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *(Circle)*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	November 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

					Community ID:	FLUCFCS 511
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	FPL-Owned Fill Source
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	FI
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Alternanthera philoxeroides*	H	OBL	8	*Hydrocytle spp.*	H	OBL
2	*Commelina sp.*	H	FACW	9	*Colocasia esculenta*	H	FACW
3	*Salix caroliniana*	T	OBL	10	*Panicum repens*	H	FACW-
4	*Ludwigia peruviana*	H	OBL	11	*Polygonum sp.*	H	OBL
5	*Schinus terebinthifolius*	T	FAC	12	*Typha sp.*	H	OBL
6	*Pennisetum purpureum*	H	FACU+	13			
7	*Phyla nodiflora*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 92%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

					Community ID:	FLUCFCS 534
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	HJ
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Ludwigia octovalvis*	S	OBL	8	*Eleocharis spp.*	H	OBL
2	*Cyperus surinamensis*	H	FACW	9	*Ludwigia sp.*	H	OBL
3	*Centella asiatica*	H	FACW	10	*Salix caroliniana*	T	OBL
4	*Phyla nodiflora*	H	FACW	11	*Cyperus ligularis*	H	FACW
5	*Panicum repens*	H	FACW-	12	*Sarcostemma clausum*	V	FACW
6	*Mikania scandens*	V	FACW+	13			
7	*Spermacoce sp.*	S	FAC	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne Marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *(Circle)*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510/612
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Reclaimed Water Pipeline
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	HK

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8	*Boehmeria cylindrica*	H	FACW+
2	*Conocarpus erectus*	H	FACW+	9	*Centella asiatica*	H	FACW
3	*Rhizophora mangle*	T	OBL	10	*Cyperus ligularis*	H	FACW
4	*Salix caroliniana*	T	OBL	11	*Bischofia javanica*	T	NL
5	*Acrostichum sp.*	H	OBL	12	*Eleocharis spp.*	H	OBL
6	*Thelypteris sp.*	H	FAC	13	*Sorghum halepense*	H	FACU
7	*Andropogon glomeratus*	H	FACW+	14	*Ardisia escallonioides*	S	FAC

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 92%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne Marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

					Community ID:	FLUCFCS 641
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	HL
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Paspalum notatum*	H	FACU+	8	*Polygonum sp.*	H	OBL
2	*Centella asiatica*	H	FACW	9	*Bacopa monnieri*	H	OBL
3	*Eleocharis spp.*	H	OBL	10	*Zeuxine strateumatica*	H	FACW+
4	*Cynodon dactylon*	H	FACU	11			
5	*Panicum repens*	H	FACW-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Ludwigia sp.*	H	OBL	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 80%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Udorthents-water complex
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

					Community ID:	FLUCFCS 511
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	HM
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Ludwigia leptocarpa*	S	OBL	8	*Setaria sp.*	H	FAC
2	*Cyperus surinamensis*	H	FACW	9	*Hydrocytle spp.*	H	OBL
3	*Sporobolus indicus*	H	FACU+	10	*Spermacoce sp.*	S	FAC
4	*Cynodon dactylon*	H	FACU	11	*Paspalum notatum*	H	FACU+
5	*Panicum maximum*	H	FAC-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Pennisetum purpureum*	H	FACU+	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 80%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

					Community ID:	FLUCFCS 534
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	HN
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Ludwigia leptocarpa*	S	OBL	8	*Setaria sp.*	H	FAC
2	*Cyperus surinamensis*	H	FACW	9	*Hydrocytle spp.*	H	OBL
3	*Sporobolus indicus*	H	FACU+	10	*Spermacoce sp.*	S	FAC
4	*Cynodon dactylon*	H	FACU	11	*Paspalum notatum*	H	FACU+
5	*Panicum maximum*	H	FAC-	12	*Mikania scandens*	V	FACW+
6	*Phyla nodiflora*	H	FACW	13	*Panicum sp.*	H	FACW
7	*Pennisetum purpureum*	H	FACU+	14	*Eleocharis spp.*	H	OBL

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 71%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0-2 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 612/619
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Reclaimed Water Pipeline
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	HO

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Acrostichum sp.*	H	OBL	8	*Sorghum halepense*	H	FACU
2	*Thelypteris sp.*	H	FAC	9	*Baccharis halimifolia*	T	FAC
3	*Conocarpus erectus*	H	FACW+	10	*Baccharis alternifolia*	T	FACW+
4	*Rhizophora mangle*	T	OBL	11	*Cyperus ligularis*	H	FACW
5	*Salix caroliniana*	T	OBL	12	*Ludwigia peruviana*	H	OBL
6	*Schinus terebinthifolius*	T	FAC	13	*Typha sp.*	H	OBL
7	*Pennisetum purpureum*	H	FACU+	14	*Eleocharis spp.*	H	OBL

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 86%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0-2 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne Marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Reclaimed Water Pipeline
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	HP

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Panicum repens*	H	FACW-	8			
2	*Setaria sp.*	H	FAC	9			
3	*Bidens pilosa*	H	FACW	10			
4	*Spermacoce sp.*	S	FAC	11			
5	*Panicum sp.*	H	FACW	12			
6	*Eclipta prostrata*	H	FACW-	13			
7	*Nymphaea sp.*	H	OBL	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 86%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0-20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?		
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

					Community ID:	FLUCFCS 510
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	HQ
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Panicum repens*	H	FACW-	8			
2	*Vallisneria americana*	SAV	OBL	9			
3				10			
4				11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0-20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?	☒	Yes	☐	No
Hydrophytic Vegetation Present?	☒	Yes	☐	No					
Wetland Hydrology Present?	☒	Yes	☐	No					
Hydric Soils Present?	☒	Yes	☐	No					

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

					Community ID:	FLUCFCS 511/631
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	HR
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Parietaria sp.*	H	FAC	8	*Bischofia javanica*	T	NL
2	*Pluchea sp.*	H	FACW	9	*Bacopa monnieri*	H	OBL
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Ludwigia sp.*	H	OBL	11			
5	*Phyla nodiflora*	H	FACW	12			
6	*Rumex sp.*	H	FACW	13			
7	*Hydrocytle spp.*	H	OBL	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0-2 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne Marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

					Community ID:	FLUCFCS 511
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	HS
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Parietaria sp.*	H	FAC	8			
2	*Nuphar advena*	H	OBL	9			
3	*Panicum repens*	H	FACW-	10			
4	*Pennisetum purpureum*	H	FACU+	11			
5	*Bidens sp.*	H	FACW	12			
6	*Nymphaea sp.*	H	OBL	13			
7	*Hydrocytle spp.*	H	OBL	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0-2 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?	☒	Yes	☐	No
Hydrophytic Vegetation Present?	☒	Yes	☐	No					
Wetland Hydrology Present?	☒	Yes	☐	No					
Hydric Soils Present?	☒	Yes	☐	No					

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

					Community ID:	FLUCFCS 641
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	HT
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Bidens sp.*	H	FACW	9			
3	*Panicum repens*	H	FACW-	10			
4	*Pennisetum purpureum*	H	FACU+	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0-2 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?	☒	Yes	☐	No
Hydrophytic Vegetation Present?	☒	Yes	☐	No					
Wetland Hydrology Present?	☒	Yes	☐	No					
Hydric Soils Present?	☒	Yes	☐	No					

Remarks:

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Units 6 & 7	Date:	January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

					Community ID:	FLUCFCS 510
Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Transect ID:	Reclaimed Water Pipeline
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Plot ID:	IA
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No		

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Distichlis spicata*	H	FACW+	8			
2	*Bidens pilosa*	H	FACW	9			
3	*Thelypteris sp.*	H	FAC	10			
4	*Pennisetum purpureum*	H	FACU+	11			
5	*Nuphar advena*	H	OBL	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 80%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0-20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?	☒	Yes	☐	No
Hydrophytic Vegetation Present?	☒	Yes	☐	No					
Wetland Hydrology Present?	☒	Yes	☐	No					
Hydric Soils Present?	☒	Yes	☐	No					

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo, K. Bullock	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID:	FLUCFCS 617/641
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	A

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8	*Sabatia grandiflora*	H	FACW
2	*Typha sp.*	H	OBL	9	*Ilex cassine*	T	FACW
3	*Pluchea odorata*	H	FACW	10	*Casuarina equisetifolia*	T	FAC
4	*Schinus terebinthifolius*	T	FAC	11			
5	*Conocarpus erectus*	T	FACW+	12			
6	*Sabal palmetto*	T	FAC	13			
7	*Rapanea punctata*	S	FAC	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl/Perrine marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo, K. Bullock	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID: FLUCFCS 617/641
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: B

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8	*Sabatia grandiflora*	H	FACW
2	*Typha sp.*	H	OBL	9	*Ilex cassine*	T	FACW
3	*Pluchea sp.*	H	FACW	10	*Casuarina equisetifolia*	T	FAC
4	*Schinus terebinthifolius*	T	FAC	11	*Rhizophora mangle*	T	OBL
5	*Conocarpus erectus*	T	FACW+	12			
6	*Sabal palmetto*	T	FAC	13			
7	*Rapanea punctata*	S	FAC	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Pennsuco marl/ Perrine marl
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Ap	10 YR 4/2			Dark, grayish-brown marl
8-27	Cg1	10 YR 4/1	10 YR 7/1		Grayish-brown marl
27-36	Cg2	10 YR 4/1	10 YR 7/1		Dark gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo, K. Bullock	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID:	FLUCFCS 617/641
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	C

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8			
2	*Typha sp.*	H	OBL	9			
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Salix caroliniana*	T	OBL	11			
5	*Conocarpus erectus*	T	FACW+	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained/ Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo, K. Bullock	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID:	FLUCFCS 617/641
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	D

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8	*Sabatia grandiflora*	H	FACW
2	*Typha sp.*	H	OBL	9	*Ilex cassine*	S	FACW
3	*Pluchea sp.*	H	FACW	10			
4	*Schinus terebinthifolius*	T	FAC	11			
5	*Conocarpus erectus*	H	FACW+	12			
6	*Sabal palmetto*	T	FAC	13			
7	*Rapanea punctata*	H	FAC	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained/Lauderhill muck
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo, K. Bullock	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 641
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	E

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8			
2	*Typha sp.*	H	OBL	9			
3	*Casuarina equisetifolia*	T	FAC	10			
4				11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Pennsuco marl
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Ap	10 YR 4/2			Dark, grayish-brown marl
8-27	Cg1	10 YR 4/1	10 YR 7/1		Grayish-brown marl
27-36	Cg2	10 YR 4/1	10 YR 7/1		Dark gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 612
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	H

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Conocarpus erectus*	T	FACW	8			
2	*Schinus terebinthifolius*	T	FAC	9			
3	*Rhizophora mangle*	T	OBL	10			
4	*Laguncularia racemosa*	T	OBL	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 6 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Udorthents-Water Complex
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	J

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Conocarpus erectus*	T	FACW	8			
2	*Cladium jamaicense*	H	OBL	9			
3	*Rhizophora mangle*	T	OBL	10			
4	*Distichlis spicata*	H	FACW+	11			
5	*Sesuvium portulacastrum*	H	FACW	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 10 (Ft.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008/January 2009
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510/612
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	L/LA/LB

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Conocarpus erectus*	T	FACW	8	*Trema micranthum*	T	FAC
2	*Cladium jamaicense*	H	OBL	9			
3	*Rhizophora mangle*	T	OBL	10			
4	*Distichlis spicata*	H	FACW+	11			
5	*Sesuvium portulacastrum*	H	FACW	12			
6	*Casuarina equisetifolia*	T	FACU	13			
7	*Coccoloba uvifera*	T	FAC	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 88%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 10 (Ft.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Pennsuco marl, tidal/Udorthents-Water Complex
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Ap	10 YR 4/2			Dark, grayish-brown marl
8-27	Cg1	10 YR 4/1	10 YR 7/1		Grayish-brown marl
27-36	Cg2	10 YR 4/1	10 YR 7/1		Dark gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID: FLUCFCS 510/612
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: M

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Conocarpus erectus*	T	FACW	8			
2	*Cladium jamaicense*	H	OBL	9			
3	*Rhizophora mangle*	T	OBL	10			
4	*Casuarina equisetifolia*	T	FAC	11			
5	*Coccoloba uvifera*	T	FAC	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 10 (Ft.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Pennsuco marl, tidal/Lauderhill muck, depressional
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Ap	10 YR 4/2			Dark, grayish-brown marl
8-27	Cg1	10 YR 4/1	10 YR 7/1		Grayish-brown marl
27-36	Cg2	10 YR 4/1	10 YR 7/1		Dark gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID: FLUCFCS 612
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: P

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Rhizophora mangle*	T	OBL	8			
2	*Cladium jamaicense*	H	OBL	9			
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Casuarina equisetifolia*	T	FAC	11			
5	*Trema micranthum*	T	FAC	12			
6	*Coccoloba uvifera*	T	FAC	13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 10 (Ft.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Lauderhill muck, depressional/Pennsuco marl
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Ap	10 YR 4/2			Dark, grayish-brown marl
8-27	Cg1	10 YR 4/1	10 YR 7/1		Grayish-brown marl
27-36	Cg2	10 YR 4/1	10 YR 7/1		Dark gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☒	No	Community ID: FLUCFCS 612/510
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: Q

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Rhizophora mangle*	T	OBL	8			
2	*Cladium jamaicense*	H	OBL	9			
3	*Metopium toxiferum*	T	FAC-	10			
4	*Casuarina equisetifolia*	T	FAC	11			
5	*Coccoloba uvifera*	T	FAC	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 80%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 10 (Ft.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Pennsuco marl
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Ap	10 YR 4/2			Dark, grayish-brown marl
8-27	Cg1	10 YR 4/1	10 YR 7/1		Grayish-brown marl
27-36	Cg2	10 YR 4/1	10 YR 7/1		Dark gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID: FLUCFCS 641/510
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: R

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Typha sp.*	H	OBL	8			
2	*Cladium jamaicense*	H	OBL	9			
3	*Metopium toxiferum*	T	FAC-	10			
4	*Casuarina equisetifolia*	T	FAC	11			
5	*Conocarpus erectus*	T	FACW	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 80%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 10 (Ft.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Pennsuco marl
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-8	Ap	10 YR 4/2			Dark, grayish-brown marl
8-27	Cg1	10 YR 4/1	10 YR 7/1		Grayish-brown marl
27-36	Cg2	10 YR 4/1	10 YR 7/1		Dark gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?			
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID: FLUCFCS 641/617
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: W

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8			
2	*Typha sp.*	H	OBL	9			
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Eryngium yuccifolium*	H	FAC	11			
5	*Ludwigia peruviana*	H	OBL	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 12 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, Biscayne marl
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	A	10 YR 5/2			Grayish brown marl
11-16	Cg	10 YR 6/2	10 YR 5/2		Light brownish gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?			
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☒	No	Community ID: FLUCFCS 641/617
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☐	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: X

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8			
2	*Typha sp.*	H	OBL	9			
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Eryngium yuccifolium*	H	FAC	11			
5	*Ludwigia peruviana*	H	OBL	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 12 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, Biscayne marl
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	A	10 YR 5/2			Grayish brown marl
11-16	Cg	10 YR 6/2	10 YR 5/2		Light brownish gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☒	No	Community ID: FLUCFCS 641/617
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: Y

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8			
2	*Typha sp.*	H	OBL	9			
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Eryngium yuccifolium*	H	FAC	11			
5	*Ludwigia peruviana*	H	OBL	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 12 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID: FLUCFCS 641/617
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: Z

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8			
2	*Typha sp.*	H	OBL	9			
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Eryngium yuccifolium*	H	FAC	11			
5	*Ludwigia peruviana*	H	OBL	12			
6	*Setaria sp.*	H	FAC	13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 12 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID: FLUCFCS 641/617
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: AA

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Cladium jamaicense*	H	OBL	8			
2	*Typha sp.*	H	OBL	9			
3	*Schinus terebinthifolius*	T	FAC	10			
4	*Eryngium yuccifolium*	H	FAC	11			
5	*Ludwigia peruviana*	H	OBL	12			
6	*Setaria sp.*	H	FAC	13			
7	*Ilex cassine*	S	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 12 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, Biscayne marl
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	A	10 YR 5/2			Grayish brown marl
11-16	Cg	10 YR 6/2	10 YR 5/2		Light brownish gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?		
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID: FLUCFCS 641/617
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: AB

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Salix caroliniana*	T	OBL	8			
2	*Rapanea punctata*	S	FAC	9			
3	*Baccharis halimifolia*	T	FAC	10			
4	*Chrysobalanus icaco*	S	FACW	11			
5	*Cladium jamaicense*	H	OBL	12			
6	*Ilex cassine*	S	FACW	13			
7	*Persea palustris*	T	OBL	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 12 (In.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, Biscayne marl
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	A	10 YR 5/2			Grayish brown marl
11-16	Cg	10 YR 6/2	10 YR 5/2		Light brownish gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	June 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	S. Rizzo	State:	Florida

Do Normal Circumstances exist on the site?	☒	Yes	☐	No	Community ID:	FLUCFCS 617/641/510
Is the site significantly disturbed (Atypical Situation)?	☐	Yes	☒	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	AC

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Salix caroliniana*	T	OBL	8			
2	*Rapanea punctata*	S	FAC	9			
3	*Baccharis halimifolia*	T	FAC	10			
4	*Chrysobalanus icaco*	S	FACW	11			
5	*Cladium jamaicense*	H	OBL	12			
6	*Ilex cassine*	S	FACW	13			
7	*Persea palustris*	T	OBL	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 10 (Ft.)
- Depth to Free Water in Pit: N/A (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☐ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained and Lauderhill muck, depressional
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	A	10 YR 5/2			Grayish brown marl
11-16	Cg	10 YR 6/2	10 YR 5/2		Light brownish gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	PDS

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Bambusa vulgaris*	H	FACU	9			
3	*Andropogon glomeratus*	H	FACW+	10			
4	*Myrica cerifera*	S	FAC+	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 75%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	PDA

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Bambusa vulgaris*	H	FACU	9			
3	*Andropogon glomeratus*	H	FACW+	10			
4	*Myrica cerifera*	S	FAC+	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 75%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	PDB

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Bambusa vulgaris*	H	FACU	9			
3	*Andropogon glomeratus*	H	FACW+	10			
4	*Myrica cerifera*	S	FAC+	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 75%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	A	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID: FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: 117A

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Typha sp.*	H	OBL	9			
3	*Cladium jamaicense*	H	OBL	10			
4	*Ludwigia sp.*	H	OBL	11			
5	*Ardisia escallonioides*	S	FAC	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID: FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: 117B

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Typha sp.*	H	OBL	9			
3	*Cladium jamaicense*	H	OBL	10			
4	*Ludwigia sp.*	H	OBL	11			
5	*Ardisia escallonioides*	S	FAC	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDA

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Typha sp.*	H	OBL	9			
3	*Cladium jamaicense*	H	OBL	10			
4	*Ludwigia sp.*	H	OBL	11			
5	*Ardisia escallonioides*	S	FAC	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 510
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDB

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Typha sp.*	H	OBL	9			
3	*Cladium jamaicense*	H	OBL	10			
4	*Ludwigia sp.*	H	OBL	11			
5	*Ardisia escallonioides*	S	FAC	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Water
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDC

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Typha sp.*	H	OBL	9			
3	*Cladium jamaicense*	H	OBL	10			
4	*Ludwigia sp.*	H	OBL	11			
5	*Ardisia escallonioides*	S	FAC	12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?			
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

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DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	PDSB

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Dactyloctenium aegyptium*	H	NA	8			
2	*Bidens alba*	H	FAC	9			
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Hydrocytle spp.*	H	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Fuirena spp.*	H	OBL	13			
7	*Rhynchospora colorata*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine Marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *Circle*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDD

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Salvinia minima*	SAV	OBL	8	*Lemna sp.*	FAV	OBL
2	*Bidens alba*	H	FAC	9	*Galium sp.*	H	FACW
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Hydrocytle spp.*	H	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Rhynchospora colorata*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDE

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Salvinia minima*	SAV	OBL	8	*Lemna sp.*	FAV	OBL
2	*Bidens alba*	H	FAC	9	*Galium sp.*	H	FACW
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Hydrocytle spp.*	H	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Rhynchospora colorata*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDF

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Salvinia minima*	SAV	OBL	8	*Lemna sp.*	FAV	OBL
2	*Bidens alba*	H	FAC	9	*Galium sp.*	H	FACW
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Hydrocytle spp.*	H	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Rhynchospora colorata*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDG

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Salvinia minima*	SAV	OBL	8	*Lemna sp.*	FAV	OBL
2	*Bidens alba*	H	FAC	9	*Galium sp.*	H	FACW
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Hydrocytle spp.*	H	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Rhynchospora colorata*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDH

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Salvinia minima*	FAV	OBL	8	*Lemna sp.*	FAV	OBL
2	*Bidens alba*	H	FAC	9	*Galium sp.*	H	FACW
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Hydrocytle spp.*	H	OBL	11			
5	*Panicum repens*	H	FACW-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Rhynchospora colorata*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?			
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDI

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Salvinia minima*	FAV	OBL	8	*Lemna sp.*	FAV	OBL
2	*Bidens alba*	H	FAC	9	*Galium sp.*	H	FACW
3	*Ludwigia leptocarpa*	S	OBL	10	*Typha sp.*	H	OBL
4	*Hydrocytle spp.*	H	OBL	11	*Equisetum hyemale var. affine*	H	FACW
5	*Panicum repens*	H	FACW-	12			
6	*Phyla nodiflora*	H	FACW	13			
7	*Rhynchospora colorata*	H	FACW	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class:
Field Observations Confirm Mapped Type? **Yes** No *(Circle)*

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDJ

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Typha sp.*	H	OBL	8	*Galium sp.*	H	FACW
2	*Bidens alba*	H	FAC	9			
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Hydrocytle spp.*	H	OBL	11			
5	*Equisetum hyemale var. affine*	H	FACW	12			
6	*Sagittaria lancifolia*	H	OBL	13			
7	*Bulbostylis barbata*	H	FAC-	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 92%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDK

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Pennisetum purpureum*	H	FACU+	8			
2	*Sagittaria lancifolia*	H	OBL	9			
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Salvinia minima*	SAV	OBL	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 75%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?		
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDL

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Pennisetum purpureum*	H	FACU+	8			
2	*Sagittaria lancifolia*	H	OBL	9			
3	*Ludwigia leptocarpa*	S	OBL	10			
4	*Salvinia minima*	SAV	OBL	11			
5	*Salix caroliniana*	T	OBL	12			
6	*Schinus terebinthifolius*	T	FAC	13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 83%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDM

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Ardisia escallonioides*	S	FAC	9			
3	*Acrostichum sp.*	H	OBL	10			
4	*Ficus brevifolia*	T	FAC	11			
5				12			
6				13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?			
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDN

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Typha sp.*	H	OBL	8			
2	*Ludwigia leptocarpa*	S	OBL	9			
3	*Panicum repens*	H	FACW-	10			
4	*Colocasia esculenta*	H	FACW	11			
5	*Pennisetum purpureum*	H	FACU+	12			
6	*Equisetum hyemale var. affine*	H	FACW	13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 83%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12"
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Biscayne marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-5	Ap	10 YR 6/1			Gray marl
5-9	Cg1	10 YR 6/1			Gray marl
9-15	Cg2	10 YR 7/1			Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?	☒	Yes	☐	No
Hydrophytic Vegetation Present?	☒	Yes	☐	No					
Wetland Hydrology Present?	☒	Yes	☐	No					
Hydric Soils Present?	☒	Yes	☐	No					

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID: FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID: Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID: NCDO

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Salix caroliniana*	T	OBL	9			
3	*Blechnum serrulatum*	H	NL	10			
4	*Colocasia esculenta*	H	FACW	11			
5	*Pennisetum purpureum*	H	FACU+	12			
6	*Acrostichum sp.*	H	OBL	13			
7	*Ardisia escallonioides*	S	FAC	14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 83%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒	Yes	☐	No	Is this Sampling Point Within a Wetland?	☒	Yes ☐ No
Wetland Hydrology Present?	☒	Yes	☐	No			
Hydric Soils Present?	☒	Yes	☐	No			

Remarks:

Form Content Approved by HQUSACE 3/92

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site:	0838-7584 – Turkey Point Unit 6 & 7	Date:	December 2008
Applicant/Owner:	Florida Power and Light (FPL)	County:	Miami-Dade
Investigator:	M. Arrants	State:	Florida

Do Normal Circumstances exist on the site?	☐	Yes	☒	No	Community ID:	FLUCFCS 511
Is the site significantly disturbed (Atypical Situation)?	☒	Yes	☐	No	Transect ID:	Construction Access Improved Road
Is Area a Potential Problem Area? *(if needed, explain on reverse)*	☐	Yes	☒	No	Plot ID:	NCDP

VEGETATION

	Dominant Plant Species	Stratum	Indicator		Dominant Plant Species	Stratum	Indicator
1	*Schinus terebinthifolius*	T	FAC	8			
2	*Salix caroliniana*	T	OBL	9			
3	*Blechnum serrulatum*	H	NL	10			
4	*Kosteletzkya pentacarpos*	H	OBL	11			
5	*Pennisetum purpureum*	H	FACU+	12			
6	*Acrostichum sp.*	H	OBL	13			
7				14			

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 83%

Remarks:

HYDROLOGY

☐ Recorded Data (describe in Remarks)
- ☐ Stream, Lake, or Tide Gauge
- ☒ Aerial Photographs
- ☐ Other

☐ No recorded data available

Field Observations:
- Depth of Surface Water: 0 to 20 (Ft.)
- Depth to Free Water in Pit: n/a (In.)
- Depth to Saturated Soil: 0 to 12 (In.)

Wetland Hydrology Indicators:

Primary Indicators:
- ☒ Inundated
- ☒ Saturated in Upper 12 inches
- ☒ Water Marks
- ☐ Drift Lines
- ☒ Sediment Deposits
- ☒ Drainage Patterns in Wetlands

Secondary Indicators (2 or more required):
- ☒ Oxidized Root Channels in Upper 12”
- ☒ Water-Stained Leaves
- ☐ Local Soil Survey Data
- ☒ FAC-Neutral Test
- ☐ Other (explain in remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase): Perrine marl, drained
Taxonomy (Subgroup):

Drainage Class: *Circle*
Field Observations Confirm Mapped Type? **Yes** No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/ Size/Contrast	Texture, Concretions, Structure, etc.
0-11	Ap	10 YR 5/2			Grayish brown marl
11-16	Cg1	10 YR 6/2	10 YR 5/2		Light grayish marl
16-26	Cg2	10 YR 7/2	10 YR 5/2		Light gray marl

Hydric Soil Indicators:
- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☒ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☒ Concretions
- ☐ Organic Streaking in Sandy Soils
- ☒ High Organic Content in Surface Layer in Sandy Soils
- ☐ Listed on National Hydric Soils List
- ☐ Listed on Local Hydric Soils List
- ☐ Other (explain in remarks)

Remarks:

WETLAND DETERMINATION

					Is this Sampling Point Within a Wetland?			
Hydrophytic Vegetation Present?	☒	Yes	☐	No		☒	Yes	☐ No
Wetland Hydrology Present?	☒	Yes	☐	No				
Hydric Soils Present?	☒	Yes	☐	No				

Remarks:

Form Content Approved by HQUSACE 3/92

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Miami-Dade** City: **Homestead**
Center coordinates of site (lat/long in degree decimal format): Lat. **25.425362°N**, Long. **80.332904°W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Biscayne Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): **DA-4**

☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: **4-30-09**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: **250.2** acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": **Wetlands within the Units 6 & 7 Site are separated from Biscayne Bay by a berm road, but they neighbor Biscayne Bay and are therefore considered to be adjacent.**

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**
Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting
☐ Not directly abutting

[7] Ibid.

☐ Discrete wetland hydrologic connection. Explain: .
☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☐ Vegetation type/percent cover. Explain: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its

adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☒ Wetlands adjacent to TNWs: **250.2** acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a

[8]See Footnote # 3.

significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above): .

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth, 2008.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):1:150,000 USGS topographic map, Florida Atlas & Gazetteer, 2003.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Miami-Dade** City: **Homestead**
Center coordinates of site (lat/long in degree decimal format): Lat. **25.431847°N**, Long. **80.334379°W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Biscayne Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): **DA-4**

☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: **4-30-09**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are no** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]

☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **Wetlands within the proposed Nuclear Administration Building, Training Building, and Parking Areas are isolated and do not hydrologically connect to a TNW.**

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .
☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☐ Vegetation type/percent cover. Explain: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **Wetlands within the proposed Nuclear Administration Building, Training Building, and Parking Areas are isolated and do not hydrologically connect to a TNW.**
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).

[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: **26.1** acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth, 2008.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):1:150,000 USGS topographic map, Florida Atlas & Gazetteer, 2003.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Miami-Dade** City: **Homestead**
Center coordinates of site (lat/long in degree decimal format): Lat. **25.436255°N**, Long. **80.323121°W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Biscayne Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Biscayne Bay**
Name of watershed or Hydrologic Unit Code (HUC): **DA-4**

☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: **4-30-09**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☒ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☒ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: **2.7** acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .
☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List**.
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☒ TNWs: linear feet width (ft), Or, **2.7** acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):
- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
- ☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- ☐ Lakes/ponds: acres.
- ☐ Other non-wetland waters: acres. List type of aquatic resource: .

[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth, 2008.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):1:150,000 USGS topographic map, Florida Atlas & Gazetteer, 2003.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Miami-Dade** City: **Homestead**
Center coordinates of site (lat/long in degree decimal format): Lat. **25.440535°N**, Long. **80.341916°W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Biscayne Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): **DA-4**

☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: **4-30-09**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: **44** acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": **Wetlands within the proposed FPL reclaimed water treatment facility are separated from Biscayne Bay by the main plant access road and transmission line right-of-way, but they are neighboring wetlands to Biscayne Bay and are therefore considered to be adjacent.**

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

- ☐ oil or scum line along shore objects ☐ survey to available datum;
- ☐ fine shell or debris deposits (foreshore) ☐ physical markings;
- ☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
- ☐ tidal gauges
- ☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

- ☐ Riparian corridor. Characteristics (type, average width): .
- ☐ Wetland fringe. Characteristics: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain: .

[7] Ibid.

☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List**.
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☐ Vegetation type/percent cover. Explain: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a

tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☒ Wetlands adjacent to TNWs: **46.7** acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

[8]See Footnote # 3.

7. Impoundments of jurisdictional waters.[9]

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth, 2008.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):1:150,000 USGS topographic map, Florida Atlas & Gazetteer, 2003.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Miami-Dade** City: **Homestead**
Center coordinates of site (lat/long in degree decimal format): Lat. **25.503675°N**, Long. **80.347751°W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Biscayne Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): **C-1, DA-4, C-102, C-103, North Canal, Florida City**

☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: **4-30-09**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: **41.9** acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": **Wetlands within the proposed reclaimed water pipeline are separated from Biscayne Bay by the transmission line right-of-way, but they are neighboring wetlands to Biscayne Bay and are therefore considered to be adjacent.**

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**
Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .

[7]Ibid.

☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List**.
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☐ Vegetation type/percent cover. Explain: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a

tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☒ Wetlands adjacent to TNWs: **41.9** acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

[8]See Footnote # 3.

7. Impoundments of jurisdictional waters.[9]

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth, 2008.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):1:150,000 USGS topographic map, Florida Atlas & Gazetteer, 2003.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Miami-Dade** City: **Homestead**
Center coordinates of site (lat/long in degree decimal format): Lat. **25.440806°N**, Long. **80.379482°W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Biscayne Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): **DA-4, North Canal, Florida City**

☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: **6-3-09**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: **81.6** acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": **Freshwater marshes, mangroves, mixed wetland hardwoods and exotic wetland hardwood wetland communities within the proposed access road corridors are neighboring wetlands to Biscayne Bay and are therefore considered to be adjacent.**

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**
Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .

[7]Ibid.

☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List**.
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☐ Vegetation type/percent cover. Explain: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a

tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☒ Wetlands adjacent to TNWs: **74.3** acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: **Canals and ditches within the proposed access road corridor flow year round and flow either directly or indirectly into Biscayne Bay.**
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☒ Tributary waters: linear feet width (ft). **7.3** acres
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale
indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is
directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

[8]See Footnote # 3.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.**[9]
As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth, 2008.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):1:150,000 USGS topographic map, Florida Atlas & Gazetteer, 2003.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Miami-Dade** City: **Homestead**
Center coordinates of site (lat/long in degree decimal format): Lat. **25.424512°N**, Long. **80.337422°W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Biscayne Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): **DA-4**

☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: **6-3-09**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☒ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: **3.4** acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent": **Wetlands within the proposed treated reclaimed water pipeline are separated from Biscayne Bay by the Units 6 & 7 Site and fill areas, but they are neighboring wetlands to Biscayne Bay and are therefore considered to be adjacent.**

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres
Wetland type. Explain: .
Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**
Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .

[7]Ibid.

☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List**.
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width): .
☐ Vegetation type/percent cover. Explain: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a

tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☒ Wetlands adjacent to TNWs: **3.4** acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

[8]See Footnote # 3.

7. Impoundments of jurisdictional waters.[9]

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
- ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
- ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

- ☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
- ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- ☐ which are or could be used for industrial purposes by industries in interstate commerce.
- ☐ Interstate isolated waters. Explain: .
- ☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- ☐ Tributary waters: linear feet width (ft).
- ☐ Other non-wetland waters: acres.
  - Identify type(s) of waters: .
- ☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - ☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
- ☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth, 2008.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):1:150,000 USGS topographic map, Florida Atlas & Gazetteer, 2003.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Miami-Dade** City: **Homestead**
Center coordinates of site (lat/long in degree decimal format): Lat. **25.481741°N**, Long. **80.367933°W**.
Universal Transverse Mercator:
Name of nearest waterbody: **Biscayne Bay**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows:
Name of watershed or Hydrologic Unit Code (HUC): **C-103**

☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc.) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

☒ Office (Desk) Determination. Date: **6-3-09**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]

☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.

- ☐ Non-RPWs that flow directly or indirectly into TNWs
- ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- ☐ Impoundments of jurisdictional waters
- ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:
Non-wetland waters: linear feet: width (ft) and/or acres.
Wetlands: **52.1** acres.

c. Limits (boundaries) of jurisdiction based on: **1987 Delineation Manual**
Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):[3]

☐ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-

[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

Identify flow route to TNW[5]: .
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Pick List.** Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:

☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain: .

Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):

☐ Riparian corridor. Characteristics (type, average width): .
☐ Wetland fringe. Characteristics: .
☐ Habitat for:
☐ Federally Listed species. Explain findings: .
☐ Fish/spawn areas. Explain findings: .
☐ Other environmentally-sensitive species. Explain findings: .
☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: acres

Wetland type. Explain: .

Wetland quality. Explain: .

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:

Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**

Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .

☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:

☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain: .
☐ Ecological connection. Explain: .
☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List**.
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain: .
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed: .

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet width (ft), Or, acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☒ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: **Ditches within the FPL-owned fill source area flow directly into adjacent perennial water control canals, such as the C-103 and L-31E canals, which flow directly into Biscayne Bay.**
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

☒ Tributary waters: linear feet width (ft) **5.2 acres**.
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Freshwater marshes, exotic wetland hardwood and wetland scrub communities within the FPL-owned fill source area abut ditches that flow directly into adjacent perennial water control canals, such as the C-103 and L-31E canals, which flow directly into Biscayne Bay.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
.

Provide acreage estimates for jurisdictional wetlands in the review area: **46.9** acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

[8]See Footnote # 3.

7. Impoundments of jurisdictional waters.[9]

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

☐ Demonstrate that impoundment was created from "waters of the U.S.," or
☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] **Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.***

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☐ Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):
☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☐ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
  ☐ USGS NHD data.
  ☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name:.
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): Google Earth, 2008.
  or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify):1:150,000 USGS topographic map, Florida Atlas & Gazetteer, 2003.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

ATTACHMENT E

MITIGATION PLAN

FPL TURKEY POINT UNITS 6 & 7 PROJECT
MITIGATION PLAN
MIAMI-DADE COUNTY, FLORIDA

Submitted to:

Department of the Army
Jacksonville District Corps of Engineers
Miami Permitting Section
9900 Southwest 107th Avenue
Suite 203
Miami, Florida 33176-2785

Submitted by:

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

Prepared by:

Golder Associates Inc.
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June 2009

0838-7584

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LIST OF ABBREVIATIONS AND ACRONYMS

BBCW	Biscayne Bay Coastal Wetlands
BNP	Biscayne National Park
BOR	Basis of Review
CERP	Comprehensive Everglades Restoration Plan
CWG	Compatibility Working Group
DERM	Miami-Dade County Department of Environmental Resource Management
EMB	Everglades Mitigation Bank
ENP	Everglades National Park
EPA	U.S. Environmental Protection Agency
ERP	Environmental Resource Permit
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FFWCC	Florida Fish and Wildlife Conservation Commission
FPL	Florida Power & Light Company
HID	Hole in the Donut Mitigation Bank
MDWASD	Miami-Dade Water and Sewer Department
NPS	National Park Service
SCA	Site Certification Application
SFWMD	South Florida Water Management District
W.A.T.E.R.	Wetland Assessment Technique for Environmental Review
WCA	Water Conservation Area
UMAM	Uniform Mitigation Assessment Method
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

EXECUTIVE SUMMARY

The Turkey Point 6 & 7 Project offers a portfolio of environmental benefits that are a unique result of its inherent design attributes and the overall magnitude of the Project. The benefits are provided in three key areas: environmental benefits that result from Project design, mitigation offered in response to unavoidable wetland impacts, and associated regional enhancement projects.

By design, the Turkey Point 6 & 7 Project addresses two key environmental issues affecting South Florida and clearly within the public interest: greenhouse gas emissions and the conservation of regional water resources. The application of nuclear generation technology will avoid the emission of 7 million tons of carbon dioxide (CO_2) annually, as compared to current combined cycle natural gas technology. Monetized, the value of the CO_2 avoided is equivalent to a cumulative value of $5.6 billion (assuming a $20 per ton CO_2 price) over the first 40 years of Project operation. In selecting reclaimed water from Miami-Dade County as the Project's cooling water source, FPL will deliver value to the environment by reusing a critical regional resource, helping to divert treated wastewater from ocean outfall and reducing the volume of water ultimately discharged by two-thirds. This utilization of reclaimed water also assists Miami-Dade County in achieving its regulatory obligations to increase reclaimed water usage in the County in a cost-effective manner. Selection of this Project allows the County to avoid a minimum of $122 million of additional capital costs that County water and sewer customers would otherwise pay. Additionally, FPL will compensate the County for operation and maintenance costs estimated to be approximately $200 million over the first 40 years of plant operation.

Through continued consultation with the Compatibility Working Group (CWG), including representatives of the South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), Miami-Dade County Department of Environmental Management (DERM), Miami-Dade County Planning and Zoning, Miami-Dade County Water and Sewer Department (MDWASD), U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Biscayne National Park (BNP), and Everglades National Park (ENP), the Project has been refined to avoid and minimize wetland impacts to the greatest extent practicable as well as incorporate several mitigation opportunities for consideration to replace the loss of wetland functions associated with unavoidable wetland impacts. Avoidance and minimization efforts focused upon minimizing impacts to high-quality wetlands in Site selection, reduction in the acreage of impact with

regard to the design of associated facilities, and utilization of previously impacted areas to the greatest extent practicable.

In accordance with regulatory guidelines of the FDEP and USACE, FPL proposes that the loss of wetland habitat associated with the Project be mitigated by a combination of regional wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the Comprehensive Everglades Restoration Plan (CERP) within the Biscayne Bay Coastal Wetlands (BBCW) study area and Model Lands Basin, as well as use of the FDEP- and USACE-approved mitigation banks. The current mitigation plan was developed to identify several mitigation opportunities for consideration that collectively provide more functional lift than required to offset the Project's wetland impacts. The final mitigation plan will incorporate those mitigation options that cumulatively provide the necessary functional lift to offset the Project's wetland impacts upon completion of final design of Project features. However, it is important to recognize that the Project provides environmental benefits that far surpass those presented in the mitigation plan alone.

FPL has collaboratively worked with local, state and federal agencies during the development of the Project to identify mitigation opportunities of regional interest. The mitigation plan includes a suite of potential mitigation alternatives combined with utilization of regional mitigation banks. FPL has proposed two alternative packages of mitigation alternatives, each of which provide regional functional lift to compensate for wetland impacts. The mitigation alternatives are broadly focused on two geographic areas, the Model Lands Basin west of the Turkey Point Plant and the BBCW study area west of the L-31E Canal, north of the Turkey Point Plant. Mitigation options focused upon the Model Lands Basin are designed to provide regional wetland enhancement through restoration of historical freshwater flows, continuing FPL's role as an environmental steward in this important region. Mitigation alternatives located within the BBCW study area include provision of a water management feature which may benefit regional ecosystem restoration plans, as well as wetland enhancement, hydrologic restoration, and conveyance of FPL property to the public trust. The conveyance of FPL property would connect the water management feature with state and federal environmentally protected lands to the east, completing acquisition of an important segment of the BBCW project. County approvals necessary to support land use and zoning aspects of the water management feature are being pursued and would be necessary in order to enable this valuable mitigation alternative.

Finally, the Turkey Point 6 & 7 project will generate many regional environmental benefits beyond those articulated specifically in the mitigation plan. FPL is maintaining a dialogue with local, state and federal agencies to identify opportunities for additional projects that may not fit within the regulatory mitigation framework, but would otherwise enhance the region. These additional projects may include roadway improvements providing bike paths and linear parks in the region, enhancements to existing recreational facilities (access, usage or educational), support for ENP seepage management initiatives, creation of crocodile nesting sanctuaries, or similar projects.

1.0 INTRODUCTION

FPL proposes to construct and operate two new nuclear generating units (Units 6 & 7) and supporting facilities at a Site within the existing Turkey Point plant property boundaries, as well as new transmission lines and other off-site associated linear and non-linear facilities. The Project has been described in the Site Certification and Federal Dredge and Fill Applications submitted to FDEP and USACE, respectively, in June 2009.

Through continued consultation with the Compatibility Working Group (CWG), including representatives of the South Florida Water Management District (SFWMD), Florida Department of Environmental Protection (FDEP), Miami-Dade County Department of Environmental Management (DERM), Miami-Dade County Planning and Zoning, Miami-Dade County Water and Sewer Department (MDWASD), U.S. Army Corps of Engineers (USACE), U.S. Fish and Wildlife Service (USFWS), Biscayne National Park (BNP), and Everglades National Park (ENP), the Project design team has refined the Project to avoid and/or minimize wetland impacts as well as incorporate several mitigation opportunities to offset the loss of wetland functions resulting from unavoidable wetland impacts associated with the Project.

Avoidance and minimization efforts focused upon minimizing impacts to high-quality wetlands in Site selection, reduction in the acreage of impact with regard to the design of associated facilities, and utilization of previously impacted areas to the greatest extent practicable. The location for the Units 6 & 7 Site is within the existing Turkey Point industrial wastewater facility. Utilization of this previously impacted area allows for avoidance of over 200 acres of impact to coastal mangrove and/or freshwater marsh wetlands. Parking and laydown areas were initially located adjacent to SW 359th Street and 117th Avenue, impacting approximately 159 acres of wetlands, including large areas of high-quality sawgrass-dominated freshwater marsh. Avoidance and minimization efforts associated with the relocation of the parking and laydown areas to locations within the existing Turkey Point Plant and industrial wastewater facility resulted in significant reduction in wetland impacts. The reconfigured and relocated parking and laydown areas, reduced in size and limited to previously-impacted, low-quality wetlands, reduced the wetland impact acreage by approximately 100 acres (66 percent) compared to the initial locations. The Project's fill source area was originally located on a parcel immediately north of SW 344th Street/Palm Drive, which would have incurred approximately 300 acres of wetland impact. Based on input from the CWG, avoidance and minimization efforts associated with the fill source area resulted in selection of an alternate site from

that originally proposed to one dominated by agricultural land uses, resulting in a reduction of wetland impact by approximately 248 acres (83 percent). Avoidance and minimization efforts associated with the Project's linear facilities (i.e., reclaimed water pipelines, access roads, and transmission lines) include selection of corridors that maximize opportunities for co-location with existing disturbed linear facilities such as existing roadways, canals, and rights-of-way. Co-location with existing linear features minimizes the amount of additional clearing of rights-of-way required for construction and reduces wetland impacts. Additional avoidance and minimization efforts associated with the transmission line corridor include exchange of the existing FPL easement through the ENP for a new easement located adjacent to the existing L-31N canal. Through exchange of the existing easement, FPL is minimizing impacts to high quality wetlands within the ENP and co-locating the new transmission facilities with existing disturbed linear features, which will reduce environmental impacts to vegetative communities and wildlife resources.

The Project and associated non-linear facilities (i.e., nuclear administration building, training building, parking area, FPL reclaimed water treatment facility, radial collector wells and delivery pipelines, equipment barge unloading area, and FPL-owned fill source) will result in approximately 372 acres of permanent wetland impact, 6 acres of temporary wetland impact, and 3 acres of secondary wetland impact. To compensate for impacts to wetland areas adjacent to areas of direct impact, secondary impact acreage has been assessed at 25 ft surrounding all fill activities.

As discussed in Chapter 9.0 of the SCA, the Project's associated linear facilities (transmission lines, FPL reclaimed water pipelines, access road improvements, and potable water pipelines) have generally been located within corridors proposed for certification rather than within specific rights-of-way. Locating linear facilities within corridors allows flexibility in routing and incorporation of additional wetland avoidance/minimization opportunities during final design of the transmission lines, pipelines, and access road improvements. For purposes of wetland impact assessment, a conservative scenario was utilized for linear facilities in order to ensure that the mitigation plan would provide more than sufficient mitigation to offset all impacts following final route selection and refinement of linear facility engineering design. In the case of the transmission corridors, this enveloping approach results in a worst-case scenario of wetland impacts that is expected to be reduced upon final engineering design. Using the conservative assumptions, the total estimated wetland impacts resulting from construction of the associated linear facilities include 308 acres of permanent wetland impact for the transmission line structure pads and associated patrol roads, 81.6 acres of permanent and 45 acres of secondary wetland impact associated with the Units 6 & 7 access road improvements,

and 42 acres of temporary wetland impact associated with installation of the underground reclaimed water and potable water pipelines. A summary of the Project's wetland impacts is provided in Table 1-1.

TABLE 1-1

UNITS 6 & 7 PROJECT WETLAND IMPACT SUMMARY

Area	Wetland Impacts (acres)			Functional Loss (UMAM Credits)
	Direct	Secondary[a]	Temporary	
Units 6 & 7 Site	250.2			128.3[b]
Associated Non-Linear Facilities	122.2	3	6.4	77.9
Access Roads	81.6	45		80.6
Reclaimed Water Pipelines			41.9	N/A[c]
Transmission Line Corridors	308[d]			241[d]
TOTAL	762	48	48	528

[a] Secondary wetland impact calculated as 25-foot zone surrounding areas of wetland fill; functional loss for secondary impacts calculated as 60 percent of direct impact.

[b] Functional loss calculated via W.A.T.E.R. functional assessment methodology for the Units 6 & 7 Site = 148.4 W.A.T.E.R. credits.

[c] Loss of functional value for temporary impacts associated with pipeline installation will be replaced through in-situ restoration.

[d] Transmission line impacts approximated utilizing conservative estimates regarding road and pad design layout within corridor and average functional assessment scores within the corridor segments; actual wetland impacts will be reduced upon completion of detailed engineering design. Acreage of clearing/conversion of forested to herbaceous wetlands will be calculated upon completion of detailed engineering design.

In accordance with regulatory guidelines of the FDEP and USACE, as well as the Miami-Dade County Unusual Use Approval Conditions, FPL proposes that the loss of wetland habitat associated with the Project be mitigated for through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the Comprehensive Everglades Restoration Plan (CERP) within the Biscayne Bay Coastal Wetlands (BBCW) study area and Model Lands Basin, as well as use of the FDEP- and USACE-approved EMB and Hole in the Donut Mitigation Bank (HID).

In consultation with the CWG, the current mitigation plan was developed to identify several mitigation opportunities for consideration that collectively provide more functional lift than required to offset the Project's wetland impacts. The final mitigation plan will incorporate those mitigation

options that cumulatively provide the necessary functional lift to offset the Project's wetland impacts upon completion of final design of Project features. The following sections do not constitute the final mitigation project list and/or sequence for utilization. FPL is reviewing the availability and technical feasibility of these and other mitigation projects on an ongoing basis, and new information about these options or the identification of new mitigation projects to substitute for individual components of the current plan will be incorporated into the final mitigation plan. A summary of the various mitigation alternatives is presented in Table 1-2.

TABLE 1-2

MITIGATION ALTERNATIVE SUMMARY

Mitigation Alternative	Location	Activity	Acreage	Functional Lift (UMAM)
1	Northwest Restoration Site	Vegetative enhancement, hydrologic restoration, preservation, recreational facilities	240	31.2
2	Water Management Feature Restoration Site	Vegetative enhancement, hydrologic restoration, preservation	577	59.8
3	S20A/L-31E Hydrologic Enhancement Site	Hydrologic enhancement, restoration	293	38.1
4	Card Sound Canal Weir Hydrologic Enhancement Site	Hydrologic enhancement	250	32.5
5	Model Lands Basin Hydrologic Enhancement Site (Reclaimed Water)	Hydrologic enhancement	600	48
6	Model Lands Basin Hydrologic Enhancement Site (Additional Culverts)	Hydrologic enhancement	150 (contained within Alt 5 acreage)	8
7	Everglades Mitigation Bank	Mitigation Credits	1,039	128.3 (UMAM)/ 148.4 (W.A.T.E.R.)
8	Hole in the Donut Mitigation Bank	Mitigation Credits	348-403[a]	271-311 (UMAM)/ 348-403 (Ratio)[a]
9	Pipeline Restoration	Vegetative restoration	N/A	N/A
10	Potential ENP Seepage Management Study Area	Hydrologic enhancement	TBD[b]	TBD[b]
11	Wildlife Habitat Creation/Preservation	Create crocodile nesting habitat; wood stork foraging habitat; preserve panther habitat	TBD[c]	TBD[c]
TOTAL			3,347-3,402[a]	617-657 (UMAM)[a]

N/A = Not Applicable; temporary impact associated with pipeline installation restored *in-situ*.

[a] Range of acreage/functional lift for alternate mitigation packages. Final number to be determined upon completion of Project feature design and refinement of mitigation alternatives.

[b] Acreage and functional lift associated with Potential ENP Seepage Management Study Area to be determined.

[c] Acreage of crocodile nesting habitat, wood stork foraging habitat, and amount of panther habitat units to be determined.

2.0 WETLAND IMPACT FUNCTIONAL ASSESSMENT

Methodology

Rather than an acre-for-acre mitigation or the use of mitigation ratios, the calculation of wetland mitigation requirements typically involves use of a wetland functional assessment value multiplied by the acreage of impact to determine the required number of mitigation credits to offset the loss of wetland functions. Wetland functional assessments 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 replacing 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 to offset unavoidable impacts as compared to a 2-acre wetland supporting a diverse assemblage of native flora and fauna and unaltered hydrologic regime.

Wetland functional assessment protocols used for the Units 6 & 7 Project include the FDEP UMAM and the EMB W.A.T.E.R., as described in Subsections 2.1.1 and 2.1.2, respectively. In the case of the HID mitigation bank, credits are calculated utilizing mitigation ratios, as described in Subsection 2.1.3.

2.1.1 UMAM

The UMAM functional assessment protocol was utilized to evaluate the ecological condition of all wetlands associated with the Units 6 & 7 Project, as well as to evaluate the amount of functional lift generated through the Project's various mitigation alternatives.

The FDEP UMAM is designed to be used for wetland systems occurring throughout the state, to provide a standard functional assessment methodology applicable to a variety of wetland habitats. The UMAM quantifies wetland quality or health through evaluation of several variables, including location and landscape support, water environment, and community structure. The variables are defined in Chapter 62-345, F.A.C., and are summarized in the following sections.

Location and Landscape Support – The value of functions provided by an assessment area to fish and wildlife are influenced by the landscape position of the assessment area and its relationship with

surrounding areas. Many species that nest, feed, or find cover in a specific habitat or habitat type are also dependent in varying degrees upon other habitats that are present in the regional landscape, including upland, wetland, and other surface waters. The location of the assessment area is considered to the extent that fish and wildlife utilizing the area have the opportunity to access other habitats necessary to fulfill their life history requirements. The availability, connectivity, and quality of offsite habitats and offsite land uses that might adversely impact fish and wildlife utilizing these habitats are factors considered in assessing the location of the assessment area. The location of the assessment area is considered relative to offsite and upstream hydrologic contributing areas and to downstream and other connected waters to the extent that the diversity and abundance of fish and wildlife and their habitats is affected in these areas. The opportunity for the assessment area to provide offsite water quantity and quality benefits to fish and wildlife and their habitats downstream and in connected waters is assessed based on the degree of hydrologic connectivity between these habitats and the extent to which offsite habitats are affected by discharges from the assessment area.

Water Environment – The quantity of water in an assessment area, including the timing, frequency, depth, and duration of inundation or saturation, flow characteristics, and the quality of that water, may facilitate or preclude its ability to perform certain functions and may benefit or adversely impact its capacity to support certain wildlife. Hydrologic requirements and tolerance to hydrologic alterations and water quality variations vary by ecosystem type and the wildlife utilizing the ecosystem. Hydrologic conditions within an assessment area, including water quantity and quality, are evaluated to determine the effect of these conditions on the functions performed by area and the extent to which these conditions benefit or adversely affect wildlife. Water quality within wetlands and other surface waters is affected by inputs from surrounding and upstream areas and the ability of the wetland or surface water system to assimilate those inputs.

Community Structure (Vegetation and Structural Habitat) – The presence, abundance, health, condition, appropriateness, and distribution of plant communities in surface waters, wetlands, and uplands can be used as indicators to determine the degree to which the functions of the community type identified are provided. Vegetation is the base of the food web in any community and provides many additional structural habitat benefits to fish and wildlife. Overall condition of a plant community can often be evaluated by observing indicators such as dead or dying vegetation, regeneration and recruitment, size and age distribution of trees and shrubs, fruit production, chlorotic or spindly plant growth, structure of the vegetation strata, and the presence, coverage, and distribution of inappropriate plant species. Human activities such as mowing, grazing, off-road vehicle activity,

boat traffic, and fire suppression constitute more direct and easily observable impacts affecting the condition of plant communities. Although short-term environmental factors such as excessive rainfall, drought, and fire can have temporary impacts, human activities such as flooding, drainage via groundwater withdrawal and conveyance canals, or construction of permanent structures such as seawalls in an aquatic system, can permanently damage these systems. The plant community is evaluated to consider whether natural successional patterns for the community type are permanently altered. Inappropriate plants, including invasive exotic species, other invasive species, or other species atypical of the community type being evaluated, do not support the functions attributable to that community type and can out-compete and replace native species. Native upland and wetland vegetation, such as wax myrtle, pines, and willow, which are not typically considered as invasive, can occur in numbers and coverage not appropriate for the community type and can serve as indicators of disturbance. The relative degree of coverage by inappropriate species, inappropriate vegetation strata, condition of vegetation, and both biotic and abiotic structure all provide an indication of the degree to which the functions anticipated for the community type identified are being provided.

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

2.1.2 W.A.T.E.R.

When utilizing a mitigation bank, the applicant must use the functional assessment methodology approved for the specific mitigation bank to assess impact sites for the purpose of determining mitigation credits, as described in Rule 62-345.100(6), F.A.C. The EMB functional assessment

protocol, W.A.T.E.R., is similar to the UMAM, but was designed to be directly applicable to the conditions present in southeast Florida. W.A.T.E.R. must be used to calculate the loss of wetland functions associated with an impact site when the proposed mitigation includes utilization of credits obtained from the Everglades Mitigation Bank.

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. Variables within the four main categories are scored from 0 to 3, with half-point increments allowable. For each wetland assessment area, the sum of all variable scores is then divided by the total possible score to derive an overall W.A.T.E.R. functional assessment score ranging between 0 and 1. Parameters that cannot be attributed to direct wetland function are termed site suitability parameters, which are used to calculate a site suitability multiplier. The site suitability multiplier assesses a wetland based upon how it contributes to the functional attributes of other wetlands, addressing the anthropogenic importance and/or socioeconomic value of the wetland. The site suitability multiplier is multiplied by the acreage of impact and functional assessment score to determine the total number of EMB mitigation credits required to offset wetland impacts.

The W.A.T.E.R. protocol was used to assess the functional value of hypersaline wetlands within the industrial wastewater facility, limited to the Units 6 & 7 Plant Area and associated laydown area (Units 6 & 7 Site). The purchase of saline wetland mitigation credits from the EMB will be used to offset impacts to the hypersaline wetlands within the Units 6 & 7 Site.

2.1.3 ERP Basis of Review Mitigation Ratios

Mitigation ratios are described in the *Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District* (BOR) dated August 2000. The BOR establishes ratios for the acreage of mitigation required compared to the acreage that is adversely impacted by regulated activities. Ranges of ratios are provided in the BOR for certain specific types of mitigation, including creation, restoration, enhancement, and preservation. The difference between the ranges of ratios provided for mitigation types is based on the degree of improvement in ecological value expected from each type. For other types of mitigation, such as mitigation banking, ratios are determined based upon the reduction in quality and relative value of the

functions of the areas adversely impacted as compared to the expected improvement in quality and value of the functions of the mitigation area.

Results

The following summarizes the existing, pre-development functional assessment scores, acreage of impact, and mitigation credits required to offset the loss of wetland functions associated with construction of the Project within the Units 6 & 7 Site, associated non-linear facilities, and associated linear facilities. UMAM functional assessment forms are provided in Appendix A; W.A.T.E.R. functional assessment forms are included in Appendix B.

2.1.4 Units 6 & 7 Site

Wetlands within the Site have low functional value. The area is part of the permitted existing Turkey Point industrial wastewater facility. The altered hydrology, soils, salinity, and temperature reduce the functional value of mangrove systems when compared to undisturbed tidal mangroves of Biscayne Bay. Wetland functional value is influenced by the surrounding landscape characteristics, specifically the existing power generation facility, extensive industrial wastewater facility/cooling canal system, and lack of natural tidal inundation. The industrial wastewater facility alters the timing, frequency, and duration of inundation of wetlands within the Site when compared to the historical tidal hydroperiod. Although nuisance and/or exotic species such as Australian pine, Brazilian pepper, and half-flower occur within the Site, these species are not widespread and are primarily restricted to upland areas or along the transitional upland-wetland ecotone. However, hydrologic alteration is prevalent throughout the Site. Vegetative communities are stressed, evidenced through decreased growth rates and high mortality. The hypersaline conditions and altered hydrology have resulted in vegetative communities with reduced value as wildlife habitat, and reduced capability to recover from natural environmental impacts such as storm events or freezing temperatures.

Table 2-1 summarizes the W.A.T.E.R. assessment results for the Units 6 & 7 Site. Scoring for the suite of variables contained within each assessment category and the site suitability evaluation is detailed in Appendix B.

TABLE 2-1

UNITS 6 & 7 SITE WETLAND FUNCTIONAL ASSESSMENT SUMMARY

FLUCFCS Code	Wetland Type	W.A.T.E.R. Score	Impact Acreage	Site Suitability Multiplier	Functional Loss (W.A.T.E.R. Credits)
510	Active Canals	0.54	4.1	1.05	2.32
511	Remnant Canals	0.59	8.4	1.05	5.20
531	Open Water/ Discharge Canal 1	0.54	12	1.05	6.80
612-A	Mangrove Heads	0.70	12.2	1.05	8.97
612-B	Dwarf Mangroves	0.65	16.9	1.05	11.53
650	Mud Flats	0.55	187.5	1.05	108.28
743-Wet	Wetland Spoil Areas	0.55	9.1	1.05	5.26
			250.2		**148.4**

2.1.5 Associated Non-Linear Facilities

Wetlands within the areas of the nuclear administration building, training building, and parking areas are reduced in functional value due to their isolated location within the Turkey Point facility, surrounding paved parking lots, encroachment of exotic/nuisance species of vegetation, lack of upland vegetative buffers, and hydrologic alteration.

Mangrove wetlands associated with the radial collector wells and delivery pipelines are higher quality systems connected to Biscayne Bay. These wetlands are slightly reduced in functional value due to the existing fill and roadways associated with the existing Turkey Point Plant, but exhibit minimal amounts of nuisance/exotic species, experience a relatively unaltered hydrologic regime, and provide significant wildlife habitat.

Dwarf mangrove and freshwater marsh wetlands associated with the FPL reclaimed water treatment facility and treated water pipeline are reduced in functional value due to hydrologic alteration and presence of exotic species of vegetation, although they are considered high-quality wildlife habitat. These areas are isolated from Biscayne Bay due to the historical construction of the primary Turkey Point Plant access road and contain areas dominated by the exotic species Australian pine.

The FPL-owned fill source area contains low-quality wetlands associated with active tree nurseries. These wetland systems are impacted through the prevalence of nuisance/exotic vegetation, primarily Brazilian pepper, cattail, and napier grass. Hydrologic alteration is evident throughout the area, and

the wetlands are further reduced in quality as wildlife habitat due to the surrounding active agricultural operations.

Expansion of the equipment barge unloading area will require excavation of upland fill material and approximately 0.1 acre of dredging within the existing man-made turning basin. The expansion is not expected to result in any impacts to adjacent surface waters through utilization of BMPs to isolate the construction area with turbidity curtains, silt screens, or other erosion and turbidity control measures.

A summary of the UMAM functional assessment results for the associated non-linear facilities is provided below; UMAM wetland assessment forms are provided in Appendix A.

TABLE 2-2

ASSOCIATED NON-LINEAR FACILITIES

WETLAND FUNCTIONAL ASSESSMENT SUMMARY

FLUCFCS Code	Wetland Type	UMAM Score	Impact Acreage	Functional Loss (Credits)
Nuclear Administration Building, Training Building, and Parking Areas				
612	Mangrove Swamps	0.67	18.5	12.39
612/618	Mangrove/Willow	0.63	7.6	4.79
		SUBTOTAL	**26.1**	**17.18**
Radial Collector Well Pipelines[a]				
612	Mangrove Swamps	0.87	**3**	**N/A**
FPL Reclaimed Water Treatment Facility				
612-B/641	Dwarf Mangroves	0.77	**44**	**35.27[b]**
Treated Reclaimed Water Delivery Pipelines[a]				
612-B	Dwarf Mangroves	0.77	3.1	N/A
617	Mixed Wetland Hardwoods	0.70	0.3	N/A
		SUBTOTAL	**3.4**	**N/A**
Equipment Barge Unloading Area				
510	**Barge Basin**	**0.50**	**0.1**	**N/A**
FPL-Owned Fill Source Area				
511	Ditches	0.50	5.2	2.60
619	Exotic Wetland Hardwoods	0.47	33.7	15.84
631	Wetland Scrub	0.53	4.4	2.33
641	Freshwater Marshes	0.53	8.8	4.66
		SUBTOTAL	**52.1**	**25.43**
TOTAL			**128.6**	**77.9**

[a] Loss of functional value for temporary impacts associated with delivery pipeline installation will be replaced through in-situ restoration.

[b] Includes 1.39 credits associated with 3 acres of secondary impacts surrounding FPL Water Treatment Facility.

2.1.6 Associated Linear Facilities

Associated linear facilities include the reclaimed water pipelines, access road improvements, potable water pipeline, and transmission line corridors. Wetlands associated with the associated linear facility corridors vary in functional value, primarily based upon prevalence of nuisance/exotic species of vegetation and degree of hydrologic alteration.

A portion of the access road improvements and transmission line and potable water pipeline corridors are co-located along SW 359th Street extending west from the northwestern edge of the industrial cooling canal across the L-31E Canal. Freshwater marsh wetlands associated with this portion of the linear facilities corridor located adjacent to SW 359th Street are of relatively high quality, dominated by sawgrass and other desirable native wetlands species; and, with the exception of occasional ditches and the existing transmission line patrol road, these areas are mostly undisturbed. Areas of relatively high-quality mangrove wetlands occur within the reclaimed water pipeline corridor and portion of the access road corridor west of the L-31E Canal. In other areas of the roadway improvements and reclaimed water pipelines corridors, mixed wetland hardwood communities demonstrate a reduced functional value due to the prevalence of several exotic species, including Brazilian pepper and Australian pine. These species are moderately widespread within the mixed wetland hardwood communities within the associated linear facility corridors. Areas dominated by exotic wetland hardwoods that provide poor wildlife habitat, reduced vegetative species diversity, and low functional value are prevalent within the linear facility corridors.

The following summarizes the wetland type, functional assessment score, impact acreage, and amount of mitigation required to offset the loss of wetland functions for the reclaimed water pipelines and access road improvement corridors.

TABLE 2-3

ASSOCIATED NON-TRANSMISSION LINEAR FACILITIES

WETLAND FUNCTIONAL ASSESSMENT SUMMARY

FLUCFCS Code	Wetland Type	UMAM Score	Impact Acreage		Functional Loss (Credits)
			Direct	Secondary	
Reclaimed Water Pipeline[a] Corridor					
510/511/530	Canals/Ditches/Reservoirs	0.50	5.4	0	N/A
612	Mangroves	0.77	18.6	0	N/A
612/619	Mangrove/Exotic Wetland Hardwoods	0.60	5.2	0	N/A
617/630	Mixed Wetland Hardwoods/Mixed Forested Wetlands	0.70	8.6	0	N/A
641	Freshwater Marshes	0.70	4.1	0	N/A
SUBTOTAL			**41.9**		**N/A**
Roadway Improvement Corridor[b]					
510/511/534	Canals/Ditches/Reservoirs	0.50	7.3	3.6	4.7
612-B	Dwarf Mangroves	0.77	7.5	3.1	7.2
617	Mixed Wetland Hardwoods	0.70	9.1	8.0	9.7
617/641	Mixed Wetland Hardwoods/Freshwater Marshes	0.77	5.6	5.9	7.0
619	Exotic Wetland Hardwoods	0.60	4.2	4.2	4.0
641	Freshwater Marshes	0.80	47.9	20.2	48.0
SUBTOTAL			**81.6**	**45**	**80.6**
TOTAL			**123.5**	**45**	**80.6**

[a] Loss of functional value for temporary impacts associated with pipeline installation will be replaced through in-situ restoration.

[b] Secondary wetland impact calculated as 25-foot zone surrounding areas of wetland fill; functional loss for secondary impacts calculated as 60 percent of direct impact

For purposes of impact assessment within the transmission line corridor, an enveloping approach was utilized to estimate the acreage of wetland impacts associated with transmission structure pads, access roads, and expansion of the existing Levee Substation. Conservative assumptions regarding access road height and width, as well as placement of structure pads, were incorporated into the assessment to derive a conservative scenario of wetland impact acreage. Upon detailed transmission line design, road engineering, culvert placement, and incorporation of avoidance and minimization efforts in the specific locations of structures and access roads, the total acreage of wetland fill impacts are expected to be reduced. In addition, the acreage of clearing/conversion of forested to herbaceous wetlands will be calculated upon completion of detailed engineering design. The current impact estimates are considered conservative to ensure that the amount of mitigation credits generated through the various mitigation alternatives will be more than sufficient to offset the final wetland impacts.

For each segment of the transmission line corridors, as identified in SCA Chapter 9.0, a summary of the estimated acreage of wetland impact, average UMAM functional assessment scores for wetlands within each segment, and resulting credits of functional loss is presented in Table 2-4.

TABLE 2-4

CONCEPTUAL TRANSMISSION LINE CORRIDOR RIGHTS-OF-WAY

WETLAND FUNCTIONAL ASSESSMENT SUMMARY

Segment	Wetland Types (FLUCFCS Codes)	Estimated Wetland Fill Impact (Acres)[a]	Average UMAM Score	Estimated Functional Loss (Credits)
1A	510, 612-B	4.91	0.80	3.93
1B	617, 641	23.65	0.83	19.63
1C	617, 641	19.89	0.83	16.51
1D	510, 617, 619, 641, 643	44.76	0.70	31.33
2	510, 643	2.70	0.60	1.62
3A	617, 619, 641	15.33	0.80	12.26
3B	510, 617, 619, 641, 643	102.63	0.80	82.10
3C	510, 617, 618, 619, 641	55.95	0.83	46.44
4	617, 619, 641, 643	27.69	0.70	19.38
5A	511, 619, 631, 641, 643	1.06	0.70	0.74
5B	510, 511, 619, 641, 643	0.28	0.70	0.20
Levee Substation Expansion	619, 641	7.50	0.70	5.25
Tamiami Trail Access Corridor	510, 641	1.63	0.80	1.30
Krome Avenue Access Corridor	510, 619, 641	0.20	0.70	0.14
6	612	0.06	0.83	0.05
	TOTAL	**308**		**241**

[a]Acreage of clearing/conversion of forested to herbaceous wetlands within transmission line corridors will be calculated following completion of detailed engineering design.

3.0 PROPOSED MITIGATION PLAN

Wetland impacts will be mitigated through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the CERP within the BBCW study area and Model Lands Basin, as well as purchase of mitigation credits from the EMB and HID. Due to FPL's large land holdings in the area, there is an opportunity to offer a variety of mitigation activities that would not only offset the Project's wetland impacts, but support regional restoration goals benefiting BNP and CERP projects. FPL proposes two potential mitigation alternative packages for consideration in compensation for wetland impacts. The purchase of mitigation credits from the EMB and HID, as well as support of ongoing ENP seepage management projects, in-situ restoration of temporarily impacted wetlands associated with pipeline installation, wildlife habitat creation and preservation are common to each enhancement project package. However, FPL provides a choice of six enhancement projects that are grouped into two packages of three projects each. Package A provides for two enhancement projects in the region of the BBCW study area north of the plant and one project associated with the S-20A structure adjacent to the existing cooling canals. Package B provides for three enhancement projects within the Model Lands Basin to the west of the existing cooling canals.

Either alternative proposal identifies mitigation alternatives that collectively provide the functional lift necessary to offset the Project's wetland impacts. Alternate mitigation opportunities identified during ongoing consultation with the USACE and FDEP may be substituted for options currently proposed, as appropriate. The final mitigation plan will incorporate those mitigation options that cumulatively provide the necessary functional lift to offset the Project's wetland impacts upon completion of final design of Project features, in conjunction with input from the USACE and FDEP.

Below, the six individual mitigation alternatives are discussed as potential components of the final mitigation proposal: Northwest Restoration Site, Water Management Feature Restoration Site, S20A/L-31E Hydrologic Enhancement Site, Card Sound Canal Weir Hydrologic Enhancement Site, Model Lands Basin Hydrologic Enhancement Site (Reclaimed Water), and the Model Lands Basin Hydrologic Enhancement Site (Additional Culverts). The credits associated with the Everglades Mitigation Bank and the Hole in the Donut Mitigation Bank, Pipeline Restoration, Potential ENP Seepage Management Study Area, and Wildlife Habitat Creation and Preservation would be combined with either Package A or Package B projects to comprise the full proposed Mitigation Plan (see Figure 1).

3.1 Northwest Restoration Site - Package A

The Northwest Restoration Site consists of several FPL-owned parcels totaling 240 acres located adjacent to the L-31E Canal between 328th Street and 344th Street/Palm Drive, approximately 2 miles northwest of the Units 6 & 7 Site and directly west of the BNP (Figure 2). The area is impacted due to historic hydrologic alteration and prevalence of exotic species, resulting in reduced quality of wildlife habitat and vegetative species diversity. Mitigation activities will restore the area to a coastal marsh community, similar to the historic condition. The area is uniquely positioned adjacent to the 328th Street entrance to the BNP, which will facilitate transfer of the restored parcel to the BNP and incorporation of passive public recreation opportunities within the area such as boardwalks, bird observation areas, and environmental education. The area is located within the proposed Biscayne - Everglades Greenway and could be incorporated into the greenway's overall plan to provide a network of bicycle trails and walkways between the two parks.

Habitats within the Northwest Restoration Site are dominated by freshwater marshes (FLUCFCS 641) and mixed wetland hardwoods (FLUCFCS 617) (see Figure 3). A network of mosquito ditches crosses the parcel, with adjacent spoil materials supporting the exotic species Australian pine and Brazilian pepper (See aerial photograph, Appendix C). The majority of the site is freshwater sawgrass marsh, typical of the historic condition, although areas of marsh have been colonized by nuisance/exotic species, including melaleuca and Brazilian pepper. The eastern portion of the parcel is hydrologically connected to the L-31E Canal through culverts and supports relatively high-quality red mangrove and buttonwood communities with relatively minimal colonization by exotic species compared to the western portion of the area.

Restoration of the Northwest Restoration Site involves hydrologic improvement, exotic vegetation eradication, and installation of native wetland species typical of a sawgrass and mixed wetland hardwood community. The goal of the hydrological improvements is to restore a more natural hydrologic regime within the area, typical of a shallow freshwater marsh/mixed wetland hardwood community. To achieve this, the existing network of mosquito ditches would be backfilled with adjacent spoil materials and topographically graded to encourage sheetflow distribution of water throughout the restored area. Areas of Australian pine and Brazilian pepper associated with the spoil berms would be removed, and supplemental plantings of native wetland species installed within the areas of filled mosquito ditches. Exotic vegetation throughout the Northwest Restoration Site would be controlled through mechanical clearing, hand clearing, and selective application of approved

herbicides. Due to the presence of desirable wetland vegetation throughout the area, it is anticipated that regeneration from the seedbank will produce a diverse assemblage of native species. Supplemental exotic species control will be utilized to prevent re-colonization of the area following initial eradication efforts, and installation of wetland vegetation, as necessary, will be included where natural regeneration from the seedbank does not produce the target vegetative community. The post-restoration vegetative communities are shown in Figure 4.

The current UMAM functional score for the Northwest Mitigation Site wetlands is 0.60. The functional score is a reflection of diminished ecological conditions as a result of the hydrological alteration and presence of exotic species. It can reasonably be expected that after exotic vegetation removal and maintenance, filling in of mosquito ditches, establishment of native marsh vegetative communities, and preservation of the area, the functional value of the area would improve to 0.77 as a result of increased health of the vegetative community and subsequent increase of forage fish, macroinvertebrates, and wading bird utilization. Utilizing the difference between pre- and post-mitigation UMAM functional scores (0.17) divided by the time lag (TL) and risk (R) factors (TL of 3 years = 1.07, R factor of 1.25, TL×R = 1.34), the resulting functional lift per acre is 0.13. Therefore, the functional lift associated with enhancement and preservation of 240 acres of wetlands within the Northwest Restoration Site is 31.2 credits.

A summary of the existing and post-restoration wetland habitats and functional assessment scores is provided in Table 3-1.

TABLE 3-1

NORTHWEST RESTORATION SITE FUNCTIONAL ASSESSMENT SUMMARY

Wetland Type (FLUCFCS Code)	Target Community (FLUCFCS Code)	Acres	UMAM Score		Time Lag x Risk	Lift per Acre	Functional Lift (Credits)
			Pre	Post			
Freshwater Marsh (641)	Freshwater Marsh (641)	100	0.60	0.77	1.3	0.13	13
Mixed Wetland Hardwoods (617)	Mixed Wetland Hardwoods (617)	140	0.60	0.77	1.3	0.13	18.2
		240					**31.2**

3.2 Water Management Feature Restoration Site – Package A

The approximately 300-acre FPL-owned fill source area that will provide fill material for the Project is located about 4 miles northwest of the Site. The resulting water management feature will be created from the excavation activities and will be designed to complement and enhance regional wetland rehydration projects. The Water Management Feature Restoration Site encompasses a total of 875 acres, including the FPL-owned fill source area and surrounding parcels located on the north and south of the C-103 Canal, extending east toward SFWMD-owned parcels adjacent to the L-31E Canal and the BNP (Figure 5). Restoration and enhancement of these parcels will be achieved through the removal of exotic species of vegetation, supplemental planting of desirable native wetland vegetation, hydrologic enhancement utilizing fresh water from the water management feature, preservation of wetlands, and transfer of lands to the BNP or SFWMD.

Current land use/land cover within the Water Management Feature Restoration Site is shown in Figure 6. As described in the SCA (Subsection 3.3.6), the water management feature is currently dominated by palm tree nurseries, which comprise approximately 80 percent of the property. Ditches and low-quality wetlands dominated by Brazilian pepper, Carolina willow, cattail, and primrose willow comprise the remainder of the property. The parcels to the south of the water management feature include 577 acres of wetlands dominated by Brazilian pepper, Australian pine, and Carolina willow, as well as additional areas of palm tree nurseries. The eastern portion of the Water Management Feature Restoration Site includes a 250-acre parcel of historical palm tree nurseries currently being restored to freshwater marsh.

Restoration of the Water Management Feature Restoration Site will involve extensive exotic species eradication efforts to remove Brazilian pepper and Australian pine infestation. Following mechanical and herbicide treatment of exotics, the area will be topographically graded, including backfilling of agricultural ditches, and inundated with fresh water from the water management feature through a system of pumps and spreader canals to mimic the sheetflow conditions historically present within the area. Similarly, areas to the south of the C-103 Canal may be hydrologically enhanced through addition of fresh water from the C-103 Canal through a system of pumps and spreader canals. Subsequent treatments of exotic species of vegetation will be conducted to discourage regrowth of Brazilian pepper and Australian pine, and native wetland vegetation will be installed to supplement natural recruitment of native species from the seedbank. The 250-acre eastern portion of the Water Management Feature Restoration Site, currently under restoration, would be preserved and transferred

to the public trust as part of the overall Water Management Feature Restoration Site mitigation alternative.

The water management feature will be available to support additional rehydration efforts within the BBCW study area, in consultation with the USACE, SFWMD, and DERM. Following restoration of wetlands within the Water Management Feature Restoration Site, these parcels are proposed to be transferred to the public trust, under the management of the SFWMD, BNP, or FDEP, to further the conservation of wetlands within the BBCW area. The juxtaposition of the Water Management Feature Restoration Site adjacent to lands previously conveyed from FPL to SFWMD that are adjacent to the L-31E Canal and BNP will result in significant increase in the overall acreage of property under conservation. These lands will be preserved and will be protected from future development in the area.

Within the Water Management Feature Restoration Site, the current UMAM functional score for wetlands surrounding the FPL-owned fill source area is 0.53. The functional score is a reflection of diminished ecological conditions as a result of the widespread proliferation of exotic species and historical hydrologic impacts. Upland areas of active palm tree nursery within the parcels surrounding the FPL-owned fill source were assigned a UMAM score of 0.27, due to current lack of wetland functions. It can reasonably be expected that after exotic vegetation removal and maintenance, establishment of native marsh vegetative community, hydrologic enhancement from the water management feature/C-103 Canal, and preservation of the area, the functional value of the area would improve, with UMAM scores ranging from 0.60 to 0.77 as a result of increased health of the vegetative community, restoration of typical wetland hydroperiod, and subsequent increase in wildlife utilization (see Figure 7). For the 250-acre parcel currently under restoration, the preservation of this area and transfer to the public trust will generate a functional lift of 0.07, which when multiplied by a preservation adjustment factor of 0.9 results in an adjusted lift of 0.06 per acre, or a total of 15.8 credits for 250 acres of preserved wetlands. Within the 327 acres of mixed wetland/exotic hardwoods, and tree nurseries to the south of the Water Management Feature Restoration Site and adjacent to the C-103 Canal, the difference between pre- and post-mitigation UMAM functional scores is 0.23 for wetland parcels and 0.37 for the upland palm tree nursery areas. For wetland parcels, when divided by the TL and R factors (TL of 5 years = 1.14, R factor of 1.5, TL×R = 1.71), the resulting functional lift per acre is 0.13. For the palm tree nursery areas, a greater lag time and increased risk factors were utilized (TL of 10 years = 1.25, R factor of 2, TL×R = 2.5), with a resulting adjusted functional lift of 0.15 per acre. For the entire Water Management Feature

Restoration Site, the functional lift associated with restoration, hydrologic enhancement, and preservation of 577 acres is 59.8 credits.

A summary of the existing and post-restoration wetland habitats and functional assessment scores is provided in Table 3-2.

TABLE 3-2
WATER MANAGEMENT FEATURE RESTORATION SITE
FUNCTIONAL ASSESSMENT SUMMARY

Wetland Type (FLUCFCS Code)	Target Community (FLUCFCS Code)	Acres	UMAM Score		Time Lag x Risk	Lift per Acre	Functional Lift (Credits)
			Pre	Post			
Mixed Wetland Hardwoods/Mixed Forested Wetlands/ Brazilian Pepper (617/630/422)	Mixed Wetland Hardwoods (617)	255	0.53	0.77	1.71	0.13	33.2
Palm Tree Nursery (241)	Freshwater Marsh (641)	72	0.27	0.63	2.5	0.15	10.8
Freshwater Marsh (641)	Freshwater Marsh (641) - Preservation	250	0.53	0.60	0.9 (pres. adjust factor)	0.06	15.8
		577					**59.8**

3.3 S20A/L-31E Hydrologic Enhancement Site – Package A

The S20A/L-31E Hydrologic Enhancement Site consists of isolated sawgrass marsh with scattered tree islands and remnants of tidal mangroves associated with historic tidal creek channels. These areas have been isolated due to construction of the L-31E Canal, the Turkey Point industrial wastewater facility, and the Turkey Point Plant entrance road (Figure 8).

An isolated parcel of predominantly native marsh is located directly north of the Turkey Point Plant cooling canal system. This parcel is bounded on the west by the L-31E levee, to the south by the patrol road surrounding the cooling canal system, to the east by the contractor access roadway to the Turkey Point Plant, and to the north by the main entry roadway to the Turkey Point Plant. Historically, a small creek passed through this parcel and flowed to the east to Biscayne Bay. Currently the wetland parcel is hydrologically isolated and no longer contributes the historic nutrient transfer to Biscayne Bay. As part of this mitigation alternative, two gated weir culverts will be

installed through the L-31E levee to allow much needed freshwater inputs into the marsh that would emulate the historic creek inputs. Two abandoned earthen roadways will be scraped down and removed as well as the upland areas of the "moat", a previous wetland disturbance that was created before the cooling canal system was built. Removing these hydrologic impediments will allow fresh water to sheet flow from the two gated weir culverts and continue toward the east. Also, depending on site conditions, between two and four culverts will be installed beneath the contractor access road to the Turkey Point Plant to allow fresh water to continue to flow towards Biscayne Bay. The net effect will be to establish the historic conveyance of water in both directions and will establish a faunal link for animals to gain access to historic ranges. These steps will also aid in establishing a more natural hydrology which in turn will reduce the tendency to support exotics within this area.

Any additional siphoning of the water within the L-31E canal by the installation of the two gated weir culverts can potentially affect the carrying capacity of water deliveries targeted for other purposes, such as the EMB or the pumping requirements for the interceptor ditch associated with the cooling canal system. However, placing limits on the stage height of the weir within the two culverts will allow for the additional freshwater inputs to the marsh described previously and minimize any chances to negatively affect water deliveries elsewhere.

Also part of this mitigation alternative is to construct the workings of the SFWMD structure S20A, a structure with an established gate that can allow water from the L-31E canal to pass through the L-31E canal and hydrate the surrounding marsh. The S20A is currently inoperable because there is no machinery or power in place for it to operate. Working with the SFWMD, FPL would provide the materials to make this structure operable again. The position of this structure is near a hydrologic divide and should allow water to flow northward between the L-31E levee and the security roadway that surrounds the cooling canal system. This freshwater input would add to the conditions described above and flow out to Biscayne Bay. Bringing the S20A into operation would make ready additional waters that are or could be made available by other efforts to bring additional fresh water into the Model Lands. At such time that these additional waters are available, the seasonal operation of S20A would add benefits to the surrounding marshes.

These mitigation activities are located within hydrologic subbasin DA-4, the same hydrologic subbasin as the wetland impacts for the FPL reclaimed water treatment facility, nuclear administration and training buildings, and parking areas. As such, this mitigation alternative could be termed "within basin mitigation".

Habitats within the S20A/L-31E Hydrologic Enhancement Site include isolated sawgrass marshes, dwarf mangroves, and remnant tidal creek channels, as shown in the land use/land cover map (Figure 9). Additional areas of upland spoil/earthen roads associated with the historical dredging of the "moat" area are included within the northern portion of the S20A/L-31E Hydrologic Enhancement Site. A total of 293 acres are included within the S20A/L-31E Hydrologic Enhancement Site.

The current UMAM functional score for wetlands within the S20A/L-31E Hydrologic Enhancement Site is 0.57. The functional score is a reflection of the impacted hydrological conditions associated with the isolated nature of the enhancement area. It can reasonably be expected that after removal of hydrologic impediments, construction of two gated weir culverts within the L-31E Canal, operation of the S20A structure, installation of culverts connecting the enhancement area to Biscayne Bay, and preservation of the area, the functional value of the area would improve to 0.77 as a result of increased health of the vegetative community and subsequent increase of forage fish, macroinvertebrates, and wading bird utilization. Utilizing the difference between pre- and post-mitigation UMAM functional scores (0.20) divided by the TL and R factors (TL of 2 years = 1.03, R factor of 1.5, TL×R = 1.55), the resulting functional lift per acre is 0.13. Therefore, the functional lift associated with hydrologic enhancement and preservation of 293 acres of wetlands within the S20A/L-31E Hydrologic Enhancement Site is 38.1 credits.

A summary of the existing and post-restoration wetland habitats and functional assessment scores is provided in Table 3-3.

TABLE 3-3

S20A/L-31E HYDROLOGIC ENHANCEMENT SITE

FUNCTIONAL ASSESSMENT SUMMARY

Wetland Type (FLUCFCS Code)	Target Community (FLUCFCS Code)	Acres	UMAM Score		Time Lag x Risk	Lift per Acre	Functional Lift (Credits)
			Pre	Post			
Freshwater Marsh/ Dwarf Mangroves (641/612-B)	Freshwater Marsh/ Dwarf Mangroves (641/612-B)	293	0.57	0.77	1.55	0.13	38.1
		293					**38.1**

3.4 Card Sound Canal Weir Hydrologic Enhancement Site – Package B

The Card Sound Canal Weir Hydrologic Enhancement Site mitigation alternative involves hydrologic enhancement of an area of hypersaline dwarf mangrove wetlands adjacent to the Card Sound Canal (Figure 10), within the Model Lands Basin. Figure 11 shows existing land use/land cover within the Card Sound Canal Weir Hydrologic Enhancement Site. The Card Sound Canal is not a canal created for drainage, but was dug for fill to create the Card Sound Road as a link from mainland Florida City to North Key Largo. The creation of this canal has negatively affected the wetlands to the west and potentially to the east. The canal allows water from Card Sound to easily pass upstream within the Card Sound Canal and has promoted salt water intrusion, increased mangrove marsh salinities, and over drained or expedited loss of freshwater inputs from summer rainy season deliveries. As a result, the surrounding marshes have exotic plant encroachments, reduced hydroperiods, hypersaline conditions, and the disruption of normal floral and faunal life cycles due to rapid changes in salinity levels.

As part of this mitigation alternative, a weir gated plug with an emergency flow culvert will be installed within the southern portion of the Card Sound Canal, near the southern portion of the hypersaline mangrove zone. The weir gated plug will have a culvert that can be opened during extreme weather events to allow the release of excessive rain inputs that could pose a threat to either the roadway or the safety of the population in general.

After installation of the weir gated plug, there should be an increase in the health of both the dwarf red mangroves and animal populations that feed within the mangrove marshes north and west of this plug's location.

The placement of this weir gated plug will complement a weir gated plug that FPL is currently placing within the Card Sound Canal as part of the mitigation restoration efforts associated with the EMB. This plug is targeted for installation in 2009 and is to be located at the approximate location of the demarcation of the saltwater marsh zone and the freshwater plant zone. The EMB weir gated plug will prevent the escape of fresh water from the adjacent marsh and will allow a more natural sheet flow pattern to distribute fresh water through the natural mangrove system to the south, and will benefit the hypersaline dwarf mangroves within the marsh north of the proposed weir plug.

To a lesser degree, the proposed weir gated plug will benefit wetlands on the east side of Card Sound Road. Modeling has shown that the cap rock is so porous in southeast coastal Florida that the Card Sound Canal pulls water from the marsh through the porous cap rock, and this fresh water exits with the outgoing tide. Placing the proposed weir gated plug will benefit the marsh and native vegetation to the east of Card Sound road for this reason.

These mitigation activities are located within hydrologic subbasin DA-4, the same hydrologic subbasin as the wetland impacts for the FPL reclaimed water treatment facility, nuclear administration and training buildings, and parking areas. As such, this mitigation alternative could be termed "within basin mitigation".

The current UMAM functional score for wetlands associated with the Card Sound Canal Weir Hydrologic Enhancement Site is 0.50. The functional score is reduced as reflection of diminished ecological conditions resulting from hydrologic impediments and hypersaline conditions. It can reasonably be expected that after establishment of fresh water inputs to ameliorate hypersaline conditions, the functional value of the area would improve to 0.67 as a result of increased health of the vegetative community and subsequent increase of forage fish, macroinvertebrates, and wading bird utilization. Utilizing the difference between pre- and post-mitigation UMAM functional scores (0.17) divided by the TL and R factors (TL of 2 years = 1.03, R factor of 1.25, TL×R = 1.3), the resulting functional lift per acre is 0.13. Therefore, the functional lift associated with enhancement and preservation of 250 acres of wetlands within the Card Sound Canal Weir Hydrologic Enhancement Site is 32.5 credits.

A summary of the existing and post-restoration wetland habitats and functional assessment scores is provided in Table 3-4.

TABLE 3-4

CARD SOUND CANAL WEIR HYDROLOGIC ENHANCEMENT SITE

FUNCTIONAL ASSESSMENT SUMMARY

Wetland Type (FLUCFCS Code)	Target Community (FLUCFCS Code)	Acres	UMAM Score		Time Lag x Risk	Lift per Acre	Functional Lift (Credits)
			Pre	Post			
Dwarf Mangroves (612-B)	Mangrove/ Freshwater Marsh (612/641)	250	0.50	0.67	1.3	0.13	32.5
		250					**32.5**

3.5 Model Lands Basin Hydrologic Enhancement Site (Reclaimed Water) – Package B

The Model Lands Basin Hydrologic Enhancement Site is located south of the existing Turkey Point-to-Levee transmission line right-of-way (Figure 12). The area is currently hydrologically impaired due to historical construction of canals, levees, and roadways, restricting the natural sheet flow of fresh water across the system. The proposed hydrologic enhancement of the area would involve the addition of fresh water from the FPL reclaimed water treatment facility through a system of spreader canals extending along the southern boundary of the transmission line right-of-way and SW 137th Avenue. The hydrologic enhancement of the area would directly benefit the vegetative community, increase productivity of the system through restoration of sheetflow hydrology, and benefit aquatic biota.

Habitats within the Model Lands Basin Hydrologic Enhancement Site include freshwater marsh (FLUCFCS 641) dominated by sawgrass and scattered mixed wetland tree islands (FLUCFCS 617) associated with historical tidal creek channels (Figure 13).

The current UMAM functional score for wetlands associated with the Model Lands Basin Hydrologic Enhancement Site is 0.77. The functional score is reduced as a result of the hydrological alteration and reduction in vegetative productivity. It can reasonably be expected that following hydrologic enhancement of the area, the functional value would improve to 0.87 as a result of increased health of the vegetative community and subsequent increase of forage fish, macroinvertebrates, and wading bird utilization. Utilizing the difference between pre- and post-mitigation UMAM functional scores (0.10) divided by the TL and R factors (TL of 2 years = 1.04, R factor of 1.25, TL×R = 1.3), the resulting functional lift per acre is 0.08. Therefore, the functional lift associated with hydrologic enhancement of approximately 600 acres of wetlands within the Model Lands Basin Hydrologic Enhancement Site is 48 credits.

A summary of the existing and post-restoration wetland habitats and functional assessment scores is provided in Table 3-5.

TABLE 3-5

MODEL LANDS BASIN HYDROLOGIC ENHANCEMENT SITE (RECLAIMED WATER)

FUNCTIONAL ASSESSMENT SUMMARY

Wetland Type (FLUCFCS Code)	Target Community (FLUCFCS Code)	Acres	UMAM Score		Time Lag x Risk	Lift per Acre	Functional Lift (Credits)
			Pre	Post			
Freshwater Marsh (641)	Freshwater Marsh (641)	576	0.77	0.87	1.3	0.08	46
Mixed Wetland Hardwoods (617)	Mixed Wetland Hardwoods (617)	24	0.77	0.87	1.3	0.08	2
		600					**48**

3.6 Model Lands Basin Hydrologic Enhancement Site (Culverts) – Package B

As previously described, the Model Lands Basin Hydrologic Enhancement Site is located south of the existing Turkey Point-to-Levee transmission line right-of-way and is currently hydrologically impaired due to historical construction of canals, levees, and roadways, restricting the natural sheet flow of fresh water across the system. The proposed hydrologic enhancement of the area would involve the installation of additional culverts within the improved construction access roadway (SW 359th Street) to allow a more natural sheetflow of fresh water between wetlands located on the north and south boundaries of the transmission line right-of-way. The hydrologic enhancement of the area would directly benefit the vegetative community, increase productivity of the system through restoration of sheetflow hydrology, and benefit aquatic biota.

The current UMAM functional score for wetlands associated with the Model Lands Basin Hydrologic Enhancement Site is 0.77. The functional score is reduced as a result of the hydrological alteration and reduction in vegetative productivity. It can reasonably be expected that following hydrologic enhancement of the area, the functional value would improve to 0.83 as a result of increased health of the vegetative community and subsequent increase of forage fish, macroinvertebrates, and wading bird utilization. Utilizing the difference between pre- and post-mitigation UMAM functional scores (0.07) divided by the TL and R factors (TL of 2 years = 1.04, R factor of 1.25, TL×R = 1.3), the resulting functional lift per acre is 0.05. Therefore, the functional lift associated with hydrologic enhancement of approximately 150 acres of wetlands within the Model Lands Basin Hydrologic Enhancement Site is 7.5 credits.

A summary of the existing and post-restoration wetland habitats and functional assessment scores is provided in Table 3-6.

TABLE 3-6
MODEL LANDS BASIN HYDROLOGIC ENHANCEMENT SITE
(ADDITIONAL CULVERTS)
FUNCTIONAL ASSESSMENT SUMMARY

Wetland Type (FLUCFCS Code)	Target Community (FLUCFCS Code)	Acres	UMAM Score		Time Lag x Risk	Lift per Acre	Functional Lift (Credits)
			Pre	Post			
Freshwater Marsh (641)	Freshwater Marsh (641)	125	0.77	0.83	1.3	0.05	6.25
Mixed Wetland Hardwoods (617)	Mixed Wetland Hardwoods (617)	25	0.77	0.83	1.3	0.05	1.25
		150					**7.5**

3.7 Mitigation Banks – Common Package

Wetland mitigation banks are proposed to be utilized to offset the loss of wetland functions associated with impacts within the industrial wastewater facility, limited to the Units 6 & 7 Plant Area and adjacent laydown area (Units 6 & 7 Site), as well as impacts associated with the Project's western transmission line corridor. Impacts to hypersaline wetlands within the Site will be mitigated through the purchase of coastal mangrove credits from the EMB, while impacts to freshwater wetlands within the western transmission corridor will be mitigated through the purchase of credits from the HID.

3.7.1 Everglades Mitigation Bank

Wetland impacts associated with the Units 6 & 7 Site will be mitigated through the purchase of 148.4 mitigation credits from the EMB. A mosaic of habitats have been enhanced within the EMB, including the creation of Essential Fish Habitat within the eastern coastal area adjacent to Card Sound, reconnection of tidal creeks' fresh water headwaters to benefit hypersaline mangrove parcels, and removal of berms and roads that have isolated parcels of historically continuous mangrove wetlands. The Units 6 & 7 Site is located within the same watershed and service area of the EMB (Figure 14). Providing mitigation to offset impacts within the same watershed to retain lost function within the same basin is a concept that minimizes the effects of cumulative impacts. The restoration

work of the EMB would be protected from future development pressure by a conservation easement, and a perpetual maintenance fund ensures oversight. Enhancement and restoration associated with 148.4 credits of impact would require approximately 1,039 acres of restored wetlands within the EMB.

3.7.2 Hole in the Donut Mitigation Bank

The HID is a regional mitigation bank located within the ENP and operated by the NPS (Figure 15). The HID contains over 6,000 acres of agriculturally-impacted lands historically infested with the nuisance exotic species Brazilian pepper. Restoration efforts in the HID are focused upon eradication of exotic vegetation and restoration of the historically impacted area to a native marl prairie wetland community. The HID calculates mitigation credits using the BOR ratio methodology. In consultation with the USACE, wetland impacts within the transmission line rights-of-way are proposed to be mitigated through purchase of mitigation credits from the HID using a mitigation ratio of 1:1. Additional credits may be purchased to provide a portion of the mitigation required to offset impacts associated with the roadway improvements. Purchase of the required number of mitigation credits from the HID, to complement the credits not provided by enhancement projects, would provide significant benefit to regional wetland restoration and conservation efforts, and directly benefit vegetative communities and wildlife habitat within the ENP.

3.8 Pipeline Restoration – Common Package

Areas of temporary wetland impact resulting from underground installation of the reclaimed water pipelines between the Miami-Dade South District Wastewater Treatment Plant and the FPL reclaimed water treatment facility (see SCA Chapter P9.0), the treated water pipeline between the FPL reclaimed water treatment facility and the Units 6 & 7 Site, and the radial collector well pipelines will be restored after the pipelines are installed (see Figure 16). Habitat will be restored at each area of temporary wetland impact to avoid any permanent reduction in wetland acreage and replace the temporary loss of wetland functional values. The upper layer of the soil horizon associated with the pipeline trench will be scraped and placed in a spoil bank located on adjacent uplands, segregated from the spoil resulting from the further excavation of the trench. The upper layer of the soil horizon will be replaced and the grading restored to allow natural revegetation of the temporarily impacted work area from the native seed bank. FPL will control exotic species of vegetation within the restored areas through manual removal and/or herbicide application, in consultation with FDEP and

DERM. The potable water pipelines will be installed within existing upland road medians and within the roadway improvements corridor, therefore no additional wetland impacts will occur.

3.9 Potential ENP Seepage Management Study Area – Common Package

This alternative may be pursued to generate additional environmental benefit through support of ongoing research and hydrologic enhancement within the ENP. The transmission corridor adjacent to the L-31N Canal may provide an opportunity to aid in fulfilling the goals of reducing levee seepage that moves from ENP to the east, through construction of seepage management berms or barriers within the semi-confining unit of the aquifer (see Figure 17). This may provide information beneficial to the implementation of the full-scale ENP Seepage Management Project. Utilization of the transmission corridor adjacent to the L-31N in cooperation with efforts of the USACE L-31N Seepage Management Pilot Project may aid in the investigation of seepage management technologies in order to recommend features to control groundwater flow and levee seepage from ENP and Water Conservation Area (WCA) 3B. As a predecessor to the full-scale ENP Seepage Management Project, the USACE pilot project focuses upon identification of the appropriate amount of wet season groundwater flow to return to, or retain within the ENP and WCA 3B, which minimizes potential impacts to Miami-Dade County's West Wellfield and fresh water flows to Biscayne Bay.

3.10 Wildlife Habitat Creation and Preservation – Common Package

FPL is proposing the creation of wetland wildlife habitat to provide an increase in crocodile nesting habitat as well as potential wood stork foraging habitat in an area south of the industrial wastewater treatment facility adjacent to an existing meteorological tower (Figure 18). The approximately 5-acre area will be enhanced through removal of exotic vegetation, principally Australian pine, and topographically graded to create a mosaic of freshwater ponds and nesting areas utilizing a proven mixture of peat, marl, and sand to create ideal crocodile nesting substrate. In addition to providing nesting sanctuary for crocodiles, the area will provide potential foraging habitat for wood storks through the creation of shallow freshwater ponds suitable for the tactile feeding strategy utilized by wood storks to capture prey.

The proposed wildlife habitat creation area will be designed in accordance with FPL's successful crocodile sanctuary created within the EMB in 2008. This approximately 5 acre area was cleared of exotic vegetation, topographically graded to create freshwater ponds and nesting areas with a specific

mixture of peat, marl, and sand to create ideal nesting substrate, and planted with native species of vegetation. Photographs of the area prior to enhancement and immediately following creation of the crocodile sanctuary are presented in Appendix C.

3.11 Success Criteria

FPL is responsible for implementing the final suite of mitigation alternatives and monitoring of the mitigation areas to ensure success. Upon selection of the final combination of mitigation alternatives, FPL will prepare detailed planting plans, construction plans, water delivery mechanisms, and additional information required by the appropriate regulatory agencies. The success criteria that will be used to measure the success of the mitigation activities will be developed in consultation with the regulatory agencies. In order for the enhancement or restoration of wetlands to be considered successful, monitoring will be performed to document the vegetative and hydrologic conditions within the mitigation areas and ensure that success criteria are being fulfilled.

3.12 Long-term Assurance

3.12.1 Financial Assurances

FPL is committed to the implementation of the Mitigation Plan described in this document and takes responsibility for any risk of loss or damages associated with the Plan. FPL is fully capable and committed to the financial and legal obligations associated with the Plan.

3.12.2 Preservation

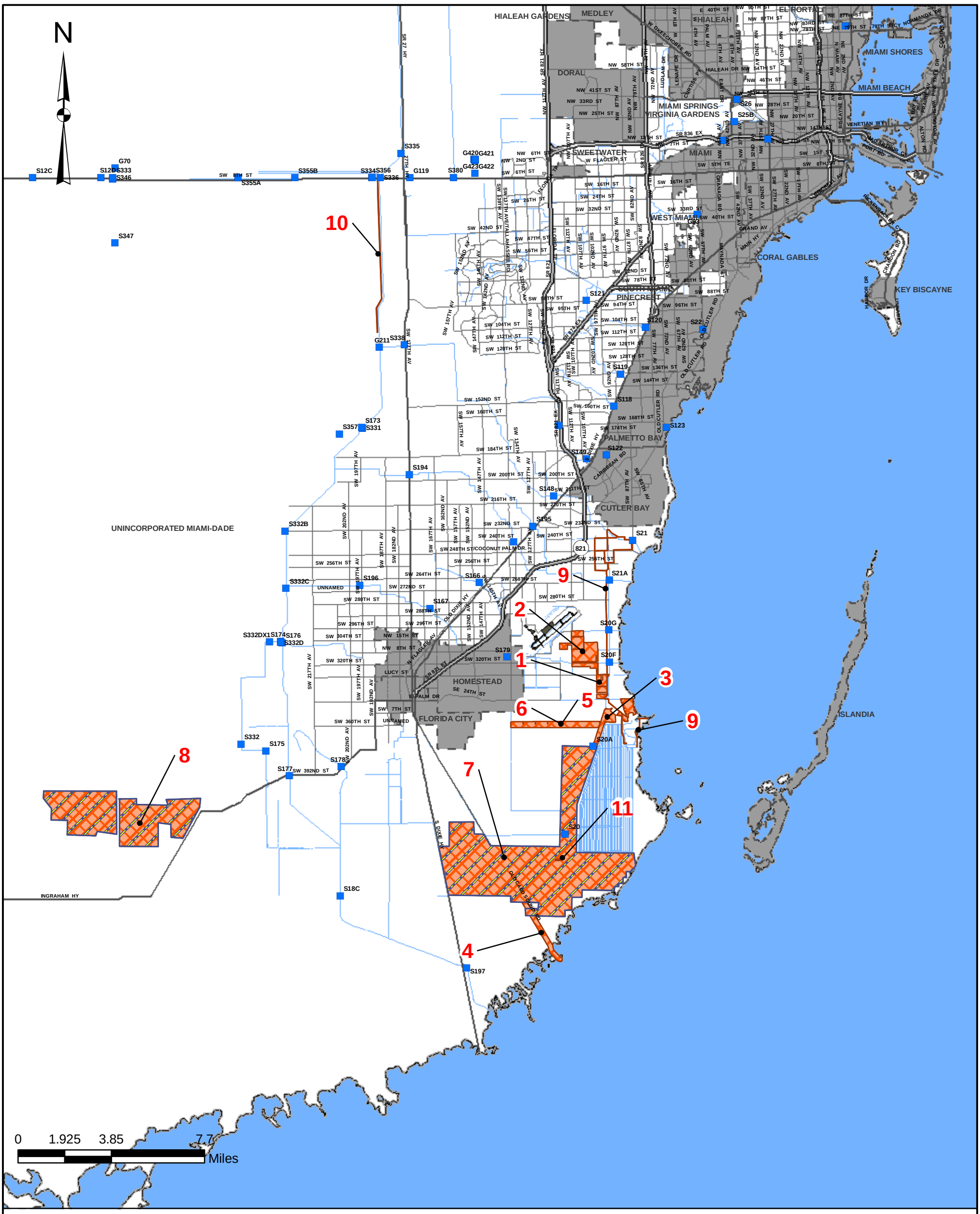
The Northwest Restoration Site and Water Management Feature Restoration Site alternatives described herein include preservation and transfer of FPL-owned property to the public trust (BNP, SFWMD, or other public agency). Where a mitigation alternative is proposed to be preserved and remain under FPL ownership, FPL is committed to the long-term protection of the designated preserve area upon the Turkey Point Plant property as a result of the mitigation proposal. Specifically, if the final suite of mitigation alternatives includes the S20A/L-31E wetland restoration area, this area would be preserved by FPL in perpetuity as required by USACE, FDEP, and DERM. In addition, a restrictive covenant (deed restriction) would be recorded on the deed to the FPL Turkey Point property that will include a legal description of the preserve area and specifically address the protections that will be afforded this area.

4.0 CONCLUSION

Wetland impacts associated with the Units 6 & 7 Project will be mitigated through a combination of wetland restoration, enhancement, and preservation consistent with the regional restoration goals of the CERP within the Biscayne Bay Coastal Wetlands study area and Model Lands Basin, as well as purchase of mitigation credits from the EMB and HID. FPL has proposed two alternative packages of mitigation alternatives, each of which provide regional functional lift to compensate for wetland impacts. These alternatives involve wetland restoration through removal of exotic vegetation, topographic grading, and installation of native wetland vegetation, wetland enhancement through hydrological improvements designed to restore historical fresh water flows, preservation and transfer of large areas of wetlands contiguous to SFWMD-owned parcels and Biscayne Bay, support of ongoing ENP seepage management projects, in-situ restoration of temporarily impacted wetlands associated with pipeline installation, creation and preservation of wildlife habitat, and purchase of mitigation credits from the EMB and HID. The mitigation alternatives not only offset the Project's wetland impacts, but are consistent with BNP and CERP restoration projects and support regional ecosystem restoration efforts through enhancement and preservation of significant acreage of wetland habitat.

Each mitigation alternative proposed provides the functional lift required to offset the Project's wetland impacts. The final mitigation plan will incorporate those mitigation options that cumulatively provide the necessary functional lift to offset the Project's wetland impacts upon completion of final design of Project features, incorporating input from the USACE and FDEP. Detailed planting plans, culvert specifications, hydrologic enhancement engineering design, and site-specific mitigation success criteria for the final mitigation alternatives will be developed in consultation with the appropriate regulatory agencies during further refinement and finalization of the mitigation plan.

FIGURES



LEGEND

- Water Control Structures
- Mitigation Banks
- Mitigation Alternatives
  - 1 - Northwest Restoration Site
  - 2 - Water Management Feature Restoration Site
  - 3 - S20A / L-31E Hydrologic Enhancement Site
  - 4 - Card Sound Canal Weir Hydrologic Enhancement Site
  - 5 - Model Lands Basin Hydrologic Enhancement Site (Reclaimed Water)
  - 6 - Model Lands Basin Hydrologic Enhancement Site (Additional Culverts)
  - 7 - Everglades Mitigation Bank
  - 8 - Hole in the Donut Mitigation Bank
  - 9 - Pipeline Restoration Areas
  - 10 - Potential ENP Seepage Management Study Area
  - 11 - Wildlife Habitat Creation Area

REFERENCES

1. Water Control Structures, SFWMD, 2003.
2. Mitigation Banks, FDEP, 2006.

FIGURE 1

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K001

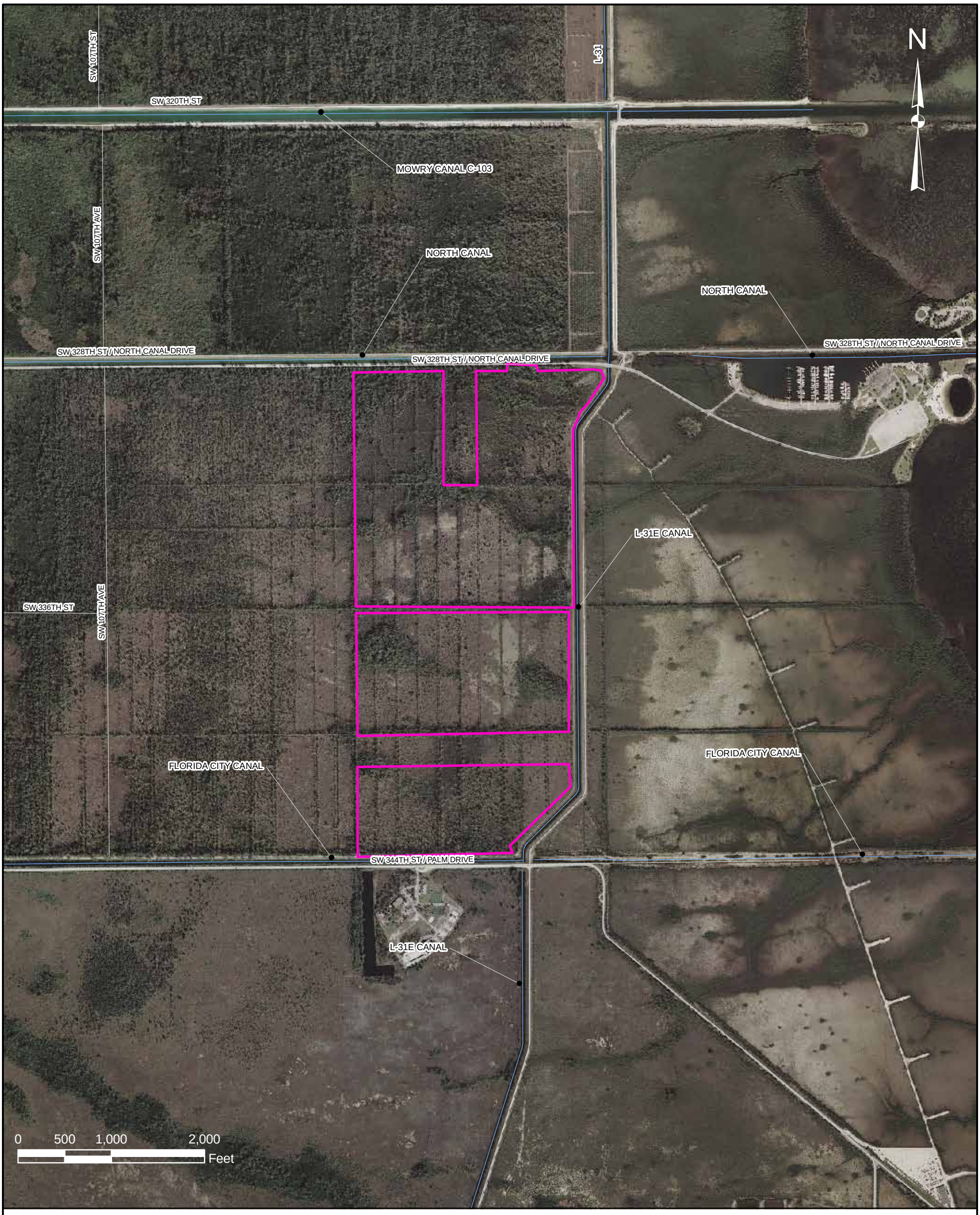
TITLE

MITIGATION ALTERNATIVES LOCATION MAP

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

Northwest Restoration Site

REFERENCES

1. Imagery, Miami-Dade County 2007.

FIGURE 2

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K002

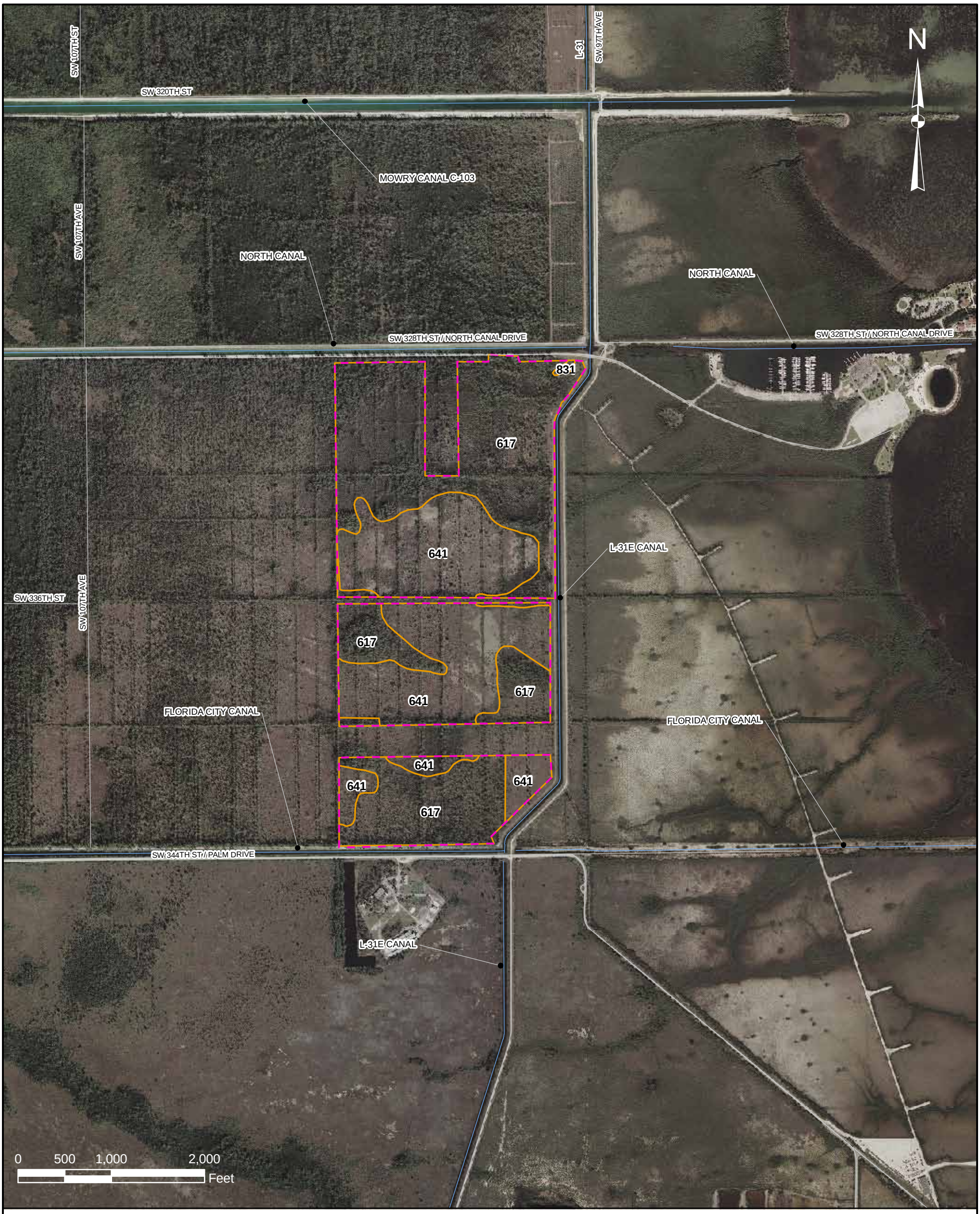
TITLE

NORTHWEST RESTORATION SITE AERIAL MAP

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Northwest Restoration Site
- 617 - Mixed Wetland Hardwoods
- 641 - Freshwater Marshes
- 831 - Electrical Power Facilities

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Use / Land Cover, SFWMD, 2004.

FIGURE 3

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K003

TITLE

NORTHWEST RESTORATION SITE EXISTING LAND USE / LAND COVER

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- Northwest Restoration Site
- 617 - Mixed Wetland Hardwoods
- 641 - Freshwater Marshes
- 831 - Electrical Power Facilities

REFERENCES

1. Imagery, Miami-Dade County, 2007.

FIGURE 4

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K004

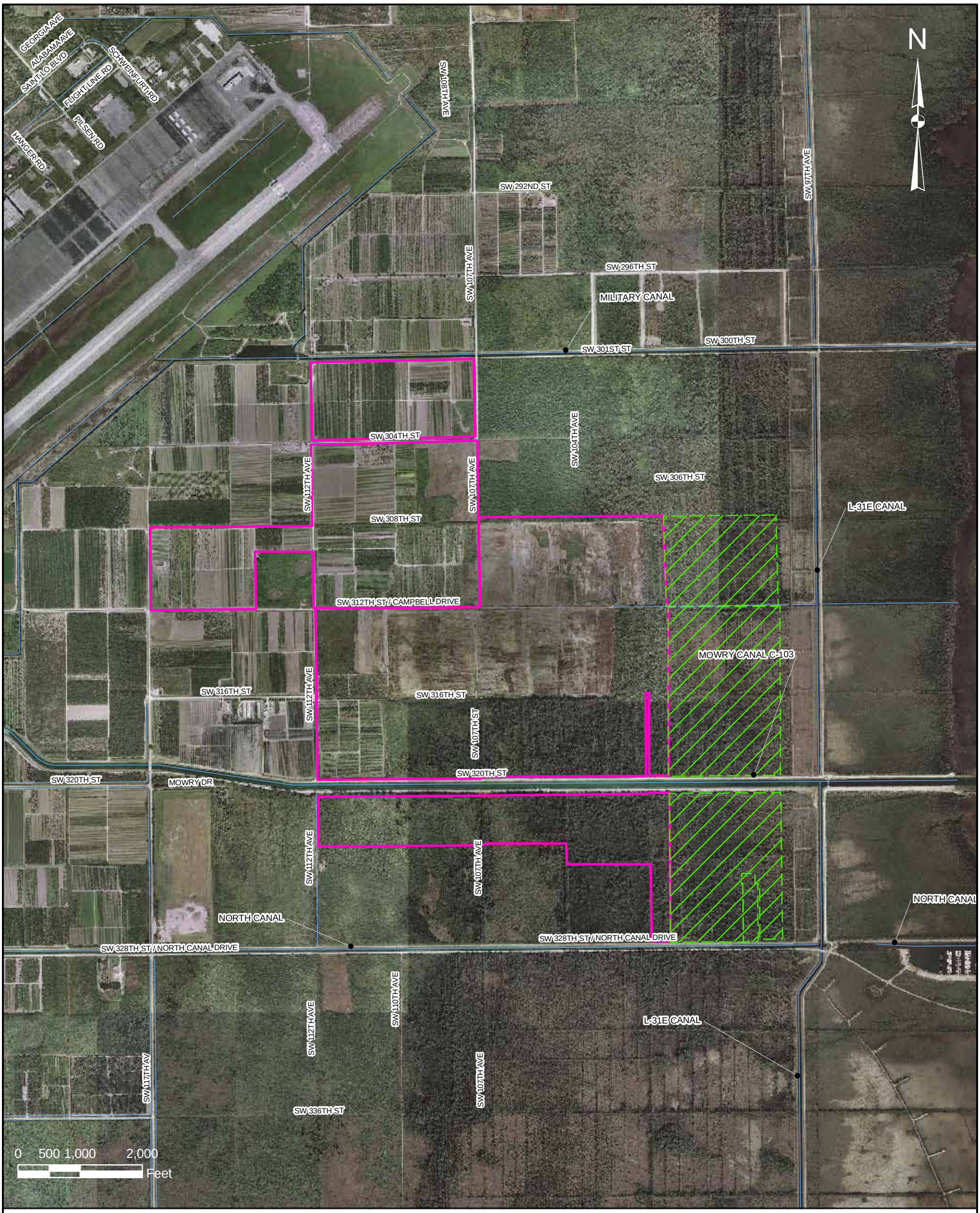
TITLE

NORTHWEST RESTORATION SITE PROPOSED LAND USE / LAND COVER

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Lands Previously Transferred to the State by FPL
- Water Management Feature Restoration Site

REFERENCES

1. Imagery, Miami-Dade County, 2007.

FIGURE 5

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K005

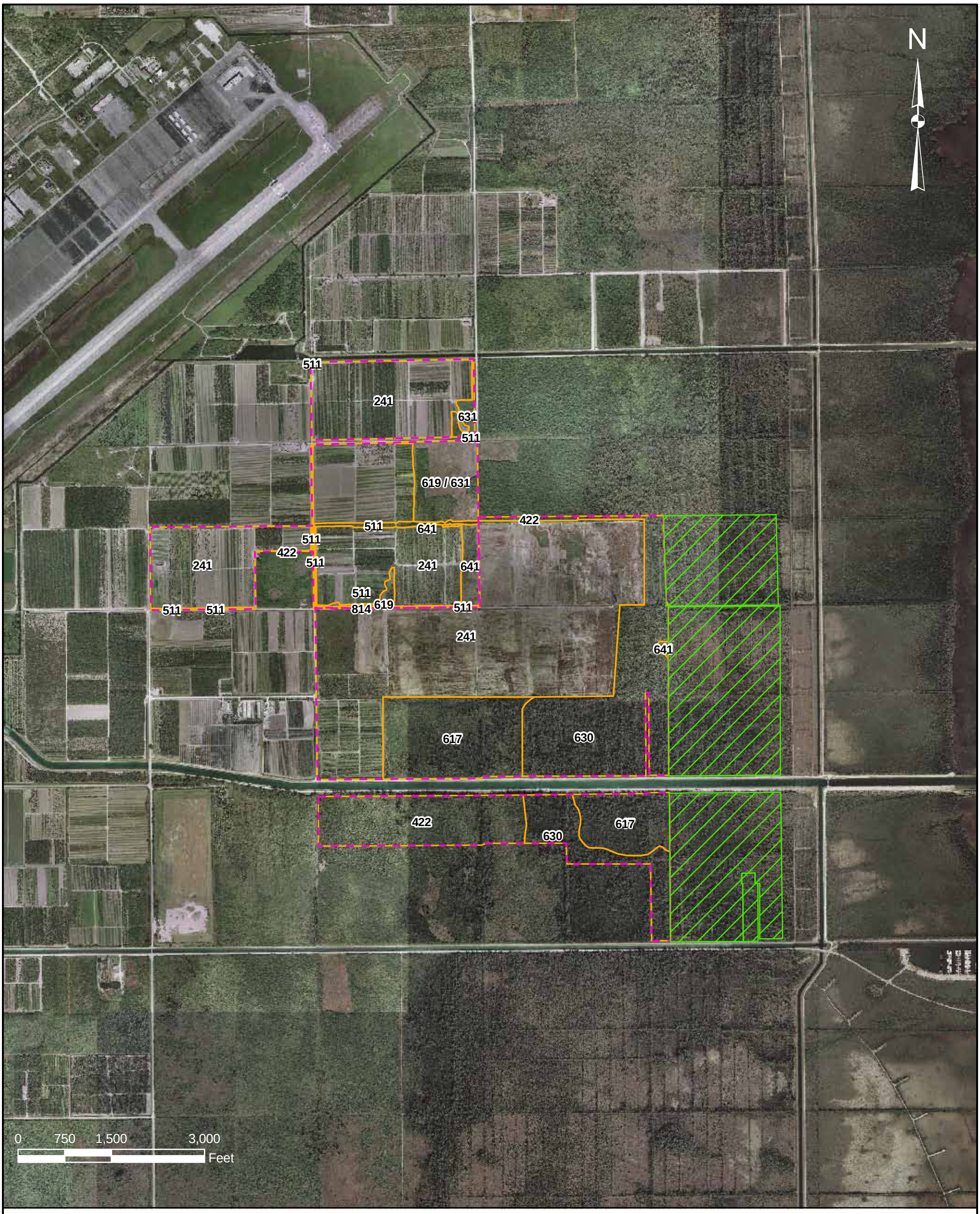
TITLE

WATER MANAGEMENT FEATURE RESTORATION SITE AERIAL MAP

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Lands Previously Transferred to the State by FPL
- Water Management Feature Restoration Site
- 241 - Tree Nurseries
- 422 - Brazilian Pepper
- 511 - Ditches
- 617 - Mixed Wetland Hardwoods
- 619 - Exotic Wetland Hardwoods
- 619 / 631 - Exotic Wetland Hardwoods / Wetland Scrub
- 630 - Wetland Forested Mixed
- 631 - Wetland Scrub
- 641 - Freshwater Marshes
- 814 - Roads and Highways

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Use / Land Cover, SFWMD, 2004.

FIGURE 6

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K006

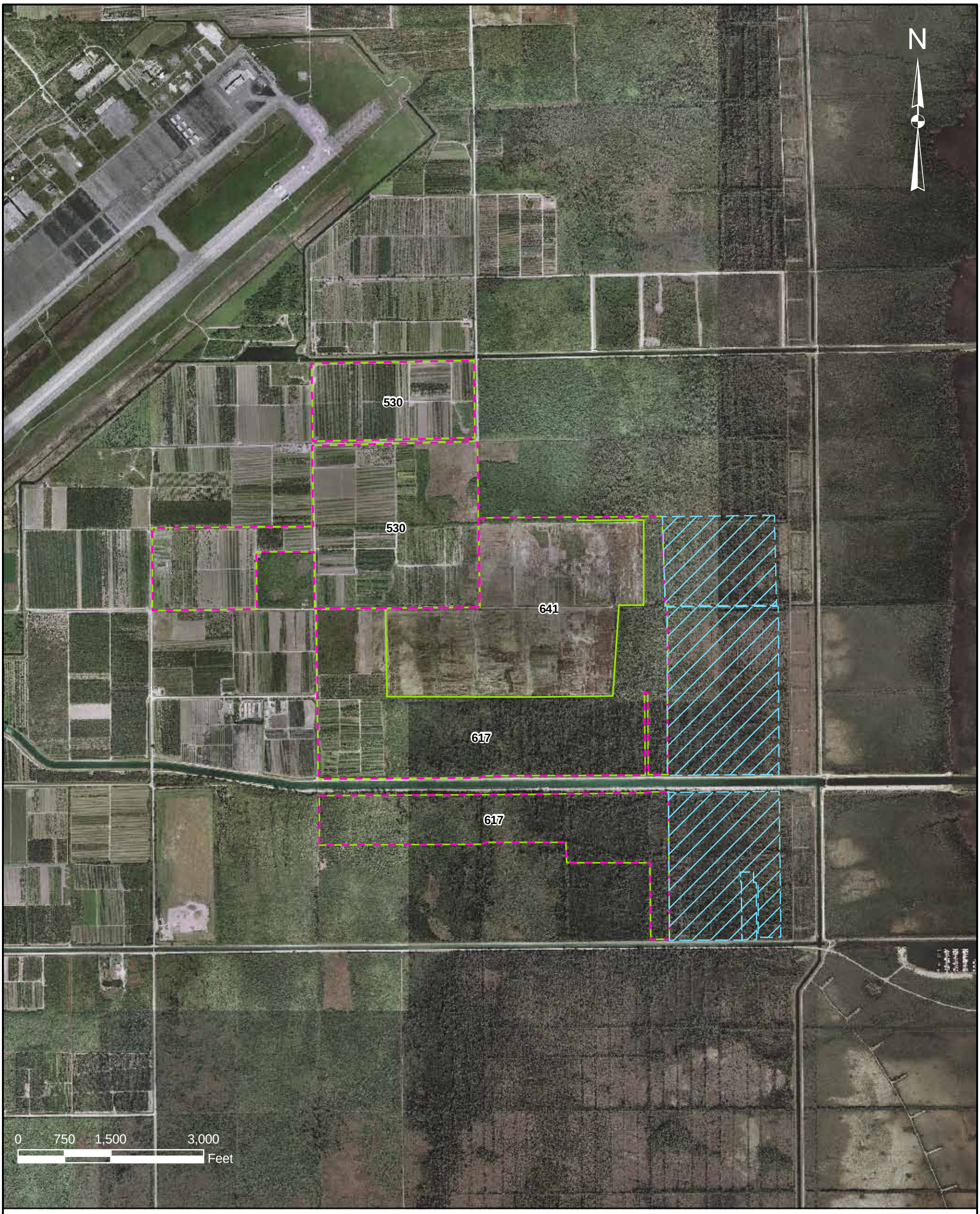
TITLE

WATER MANAGEMENT FEATURE RESTORATION SITE EXISTING LAND USE / LAND COVER

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Lands Previously Transferred to the State by FPL
- Water Management Feature Restoration Site
- 530 - Reservoirs
- 617 - Mixed Wetland Hardwoods
- 641 - Freshwater Marshes

REFERENCES

1. Imagery, Miami-Dade County, 2007.

FIGURE 7

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K007

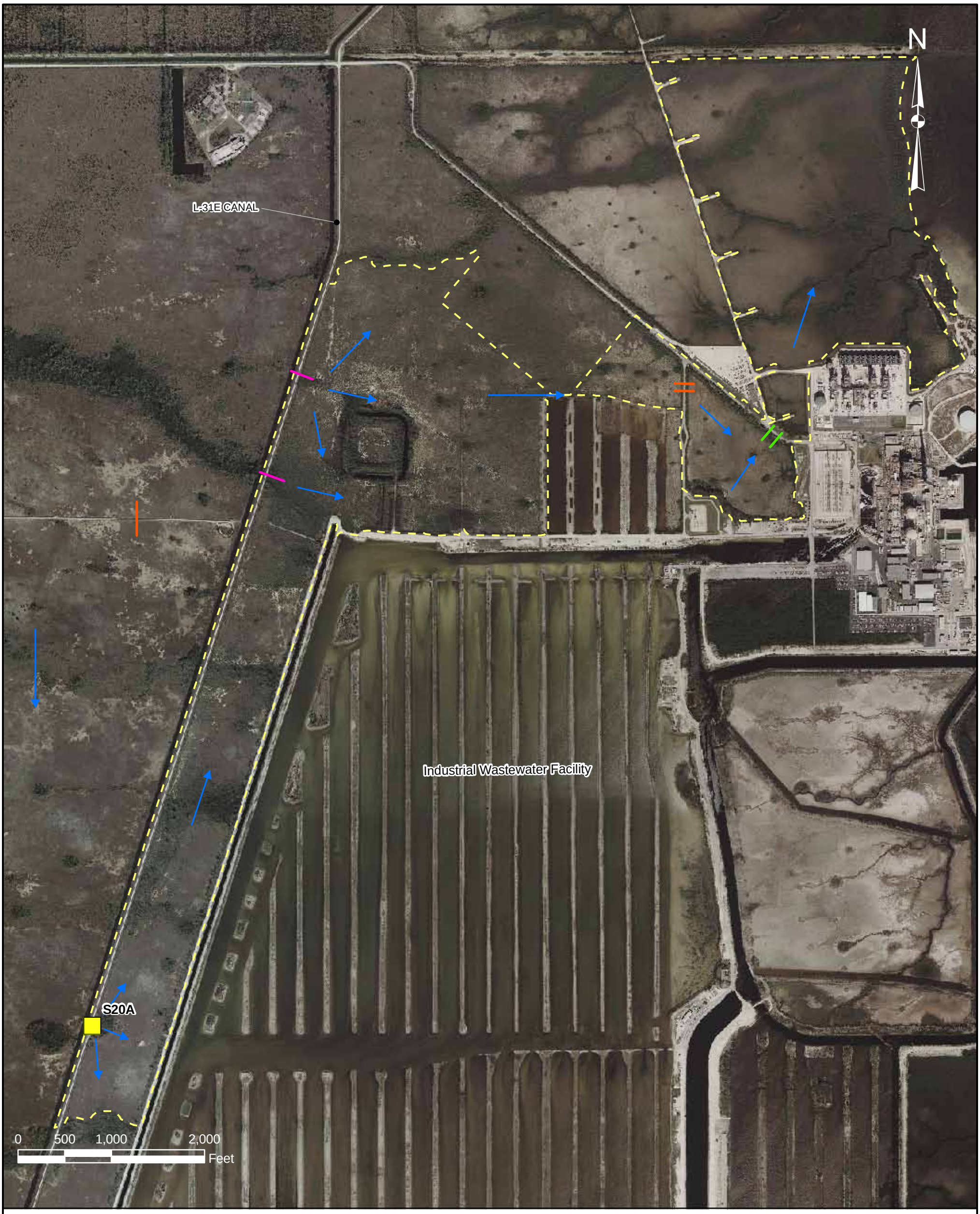
TITLE

WATER MANAGEMENT FEATURE RESTORATION SITE PROPOSED LAND USE / LAND COVER

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- S20A / L-31E Hydrologic Enhancement Site (Approximate Area)
- Water Control Structure
- Expected Water Flow Direction
- Existing Culvert
- Proposed Culvert
- Proposed Weir Gated Culvert

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Water Control Structure, SFWMD, 2003.

FIGURE 8

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K008

TITLE

S20A / L-31E HYDROLOGIC ENHANCEMENT SITE AERIAL MAP

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

- S20A / L-31E Hydrologic Enhancement Site (Approximate Area)
- 437 - Australian Pine
- 510 - Canal
- 612 - Mangrove Swamps
- 612-B - Dwarf Mangroves
- 617 - Mixed Wetland Hardwoods
- 619 - Exotic Wetland Hardwoods
- 641 - Freshwater Marshes
- 744 - Fill Areas / Roadways
- 814 - Roads and Highways

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2. Land Use / Land Cover, SFWMD, 2004

FIGURE 9

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K009

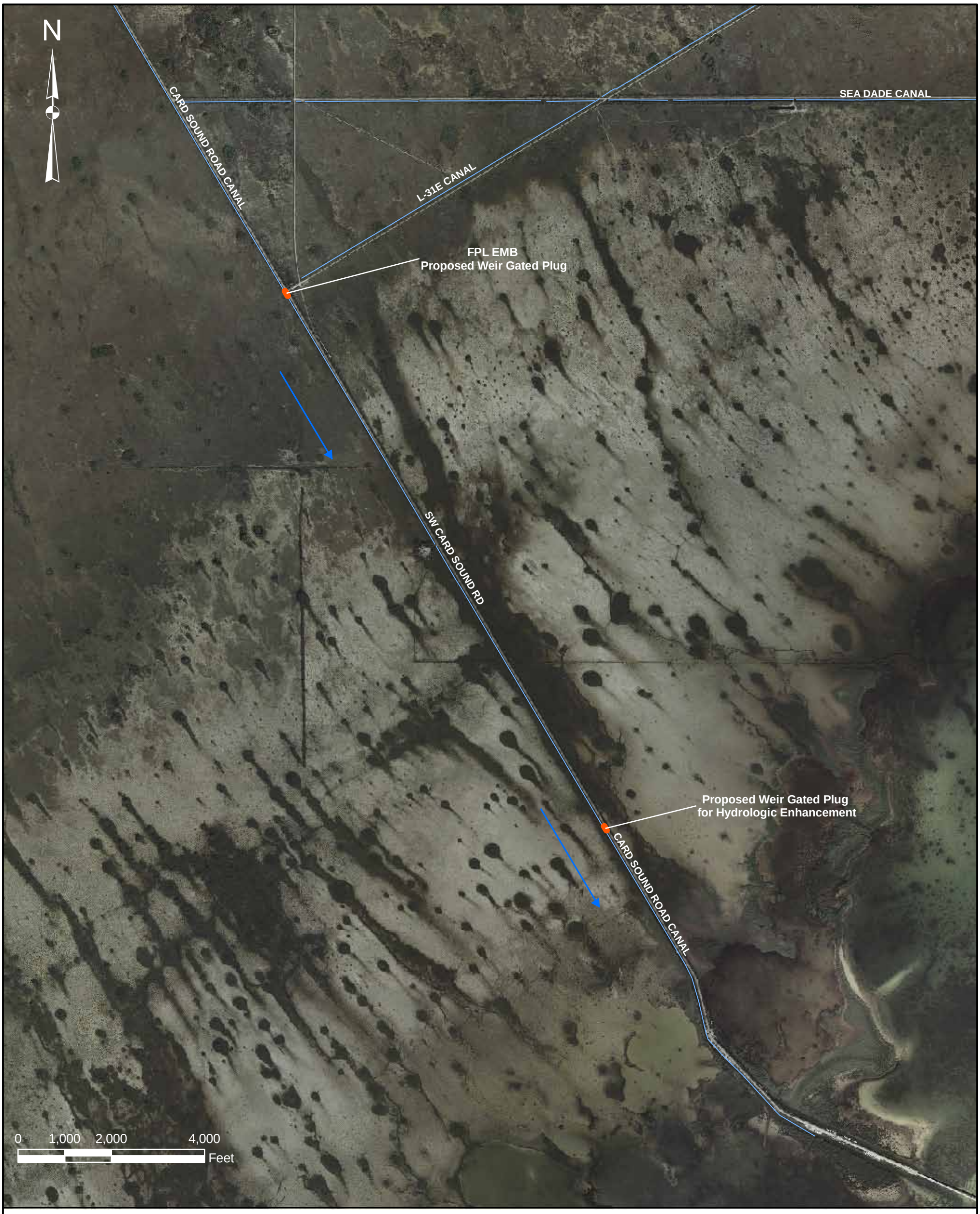
TITLE

S20A / L-31E HYDROLOGIC ENHANCEMENT SITE LAND USE / LAND COVER

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Expected Water Flow Direction
- Proposed Weir Gated Plug

REFERENCES

1. Imagery, Miami-Dade County, 2007.

FIGURE 10

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K010

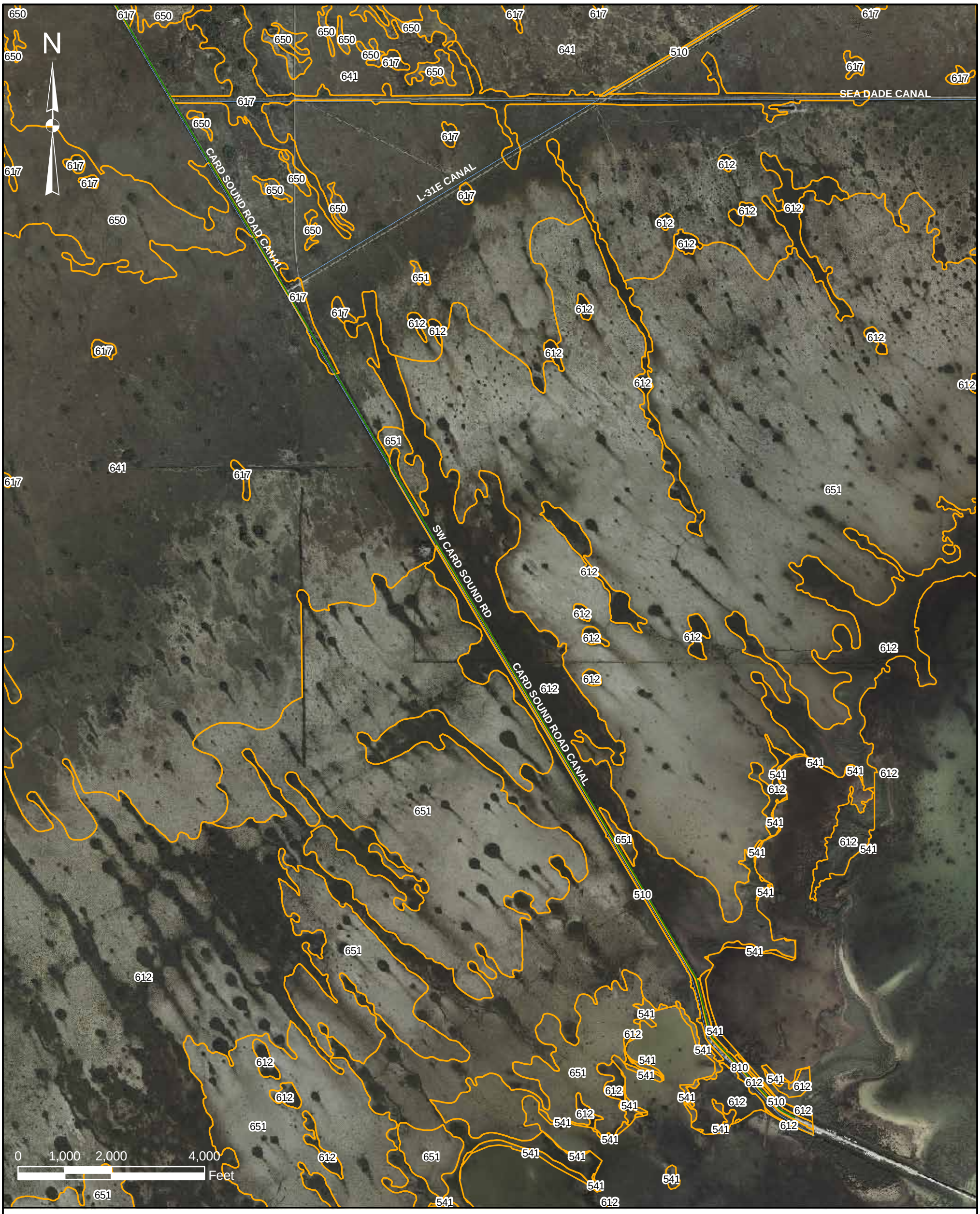
TITLE

CARD SOUND CANAL WEIR HYDROLOGIC ENHANCEMENT SITE AERIAL MAP

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- 510 - CANAL
- 541 - EMBAYMENTS OPENING DIRECTLY INTO THE ATLANTIC OCEAN
- 612 - MANGROVE SWAMPS
- 617 - MIXED WETLAND HARDWOODS
- 641 - FRESHWATER MARSHES
- 641 / 643 - FRESHWATER MARSHES / WET PRAIRIES
- 650 - NON-VEGETATED MUD FLAT
- 651 - TIDAL FLATS
- 810 - TRANSPORTATION

REFERENCES

1. Imagery, Miami-Dade County, 2007.
2, Land Use / Land Cover, SFWMD, 2004.

FIGURE 11

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K011

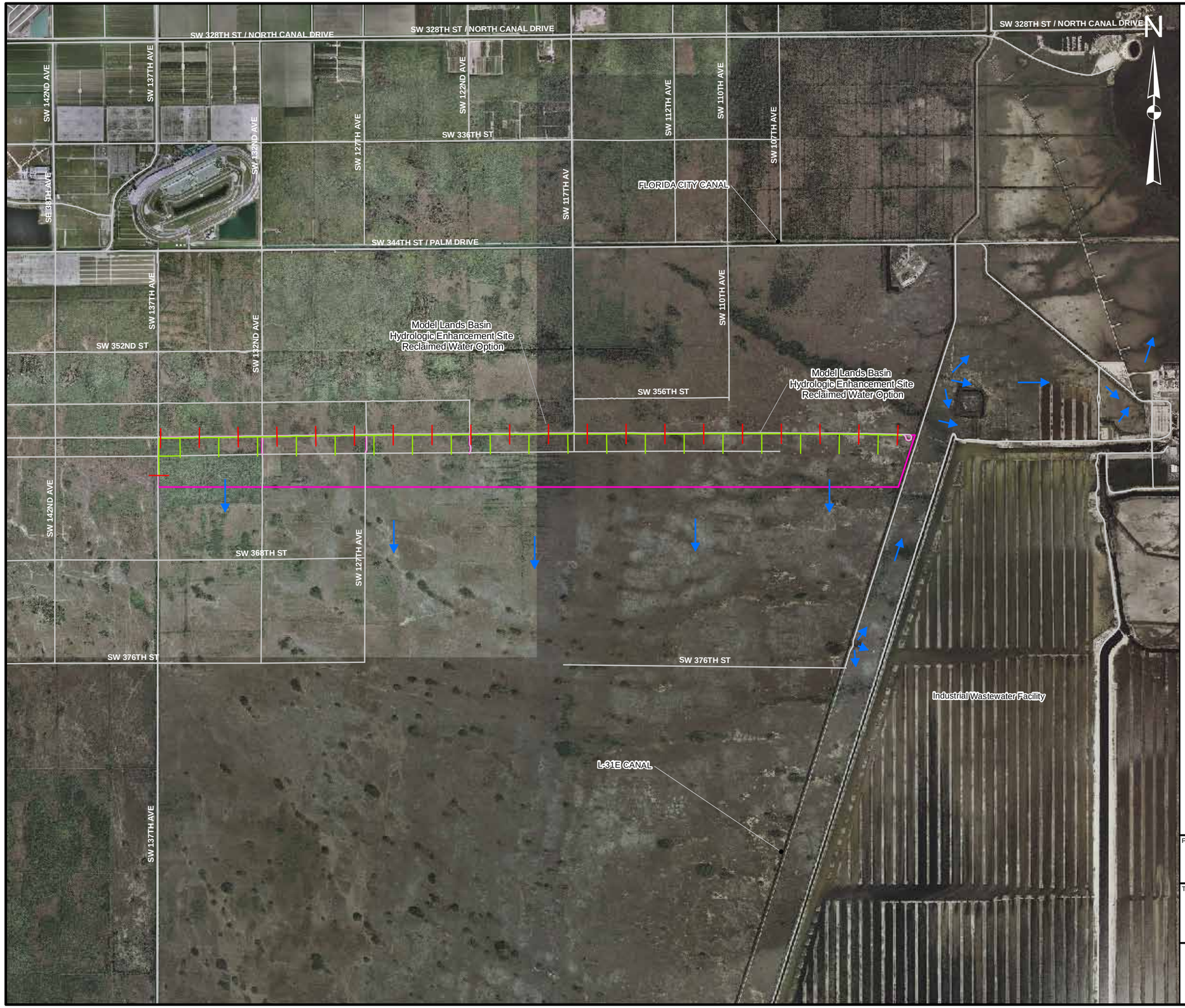
TITLE

CARD SOUND CANAL WEIR HYDROLOGIC ENHANCEMENT SITE LAND USE / LAND COVER

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- Model Lands Basin Hydrologic Enhancement Site
- Expected Water Flow Direction
- Proposed Culverts (Conceptual)
- Spreader Swale System (Conceptual)

REFERENCES

1. Imagery, Miami-Dade County, 2007.

2,480 1,240 0 2,480
Feet

PROJECT

TURKEY POINT UNITS 6 & 7
PROJECT

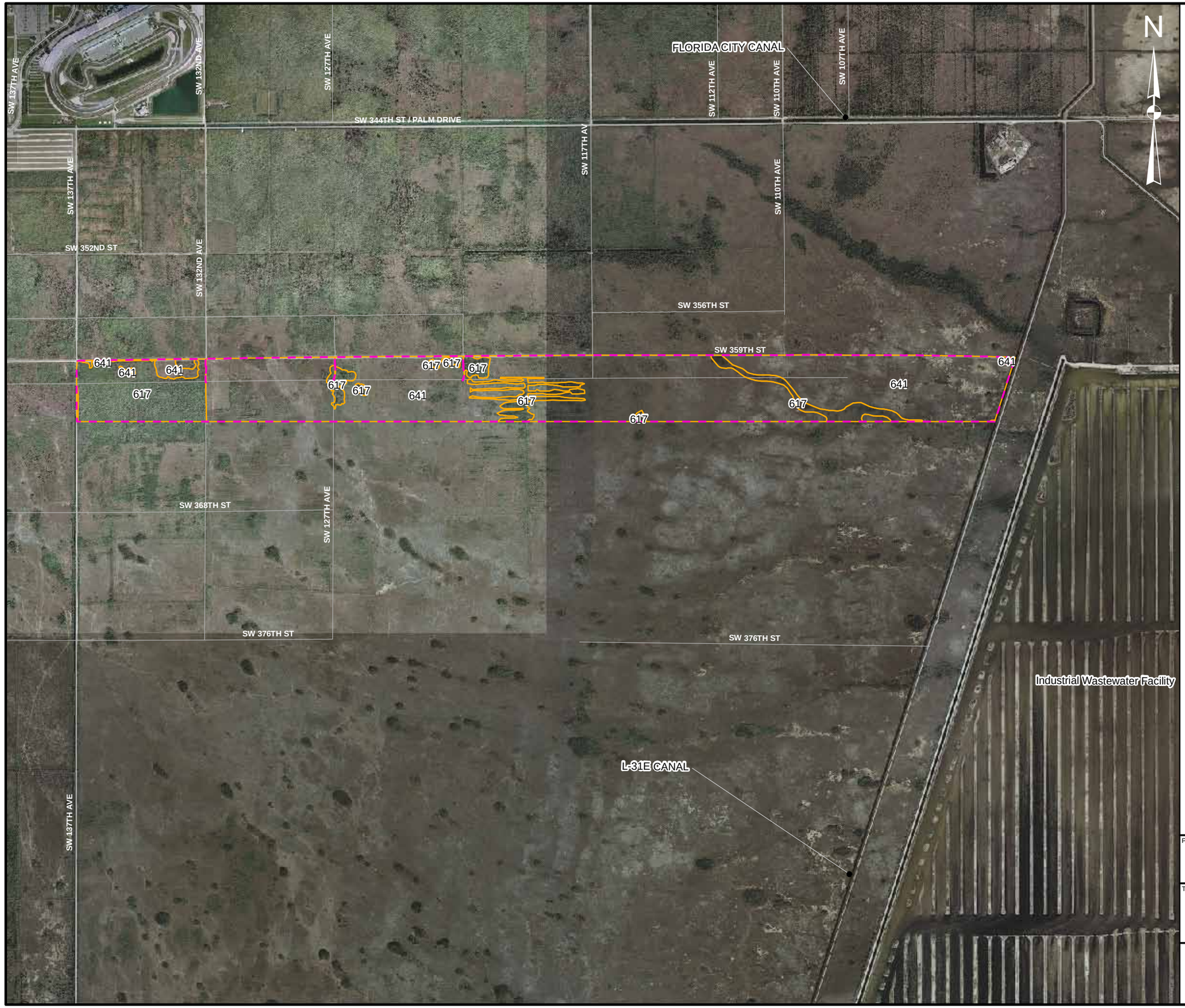
TITLE

MODEL LANDS BASIN
HYDROLOGIC ENHANCEMENT SITE
AERIAL MAP

FPL

FILE No. 08387584K012
REV. 0
PLOT DATE 6/12/2009

FIGURE
12



LEGEND

Model Lands Basin Hydrologic Enhancement Site

LAND USE / LAND COVER

617 - MIXED WETLAND HARDWOODS

641 - FRESHWATER MARSHES

REFERENCES

1. Imagery, Miami-Dade County, 2007.

2,000 1,000 0 2,000

Feet

PROJECT

TURKEY POINT UNITS 6 & 7
PROJECT

TITLE

MODEL LANDS BASIN
HYDROLOGIC ENHANCEMENT SITE
LAND USE / LAND COVER

FPL

FILE No. 0387584K013

REV. 0

PLOT DATE 6/12/2009

FIGURE

13

GLADES

HENDRY

COLLIER

MONROE

PALM BEACH

BROWARD

DADE

N

0 4.75 9.5 19
Miles

LEGEND

EVERGLADES MITIGATION BANK

EVERGLADES MITIGATION BANK SERVICE AREA

REFERENCES

1. Everglades Mitigation Bank Service Area, FDEP, 2006.
2. Everglades Mitigation Bank, FDEP, 2006.

FIGURE 14

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K014

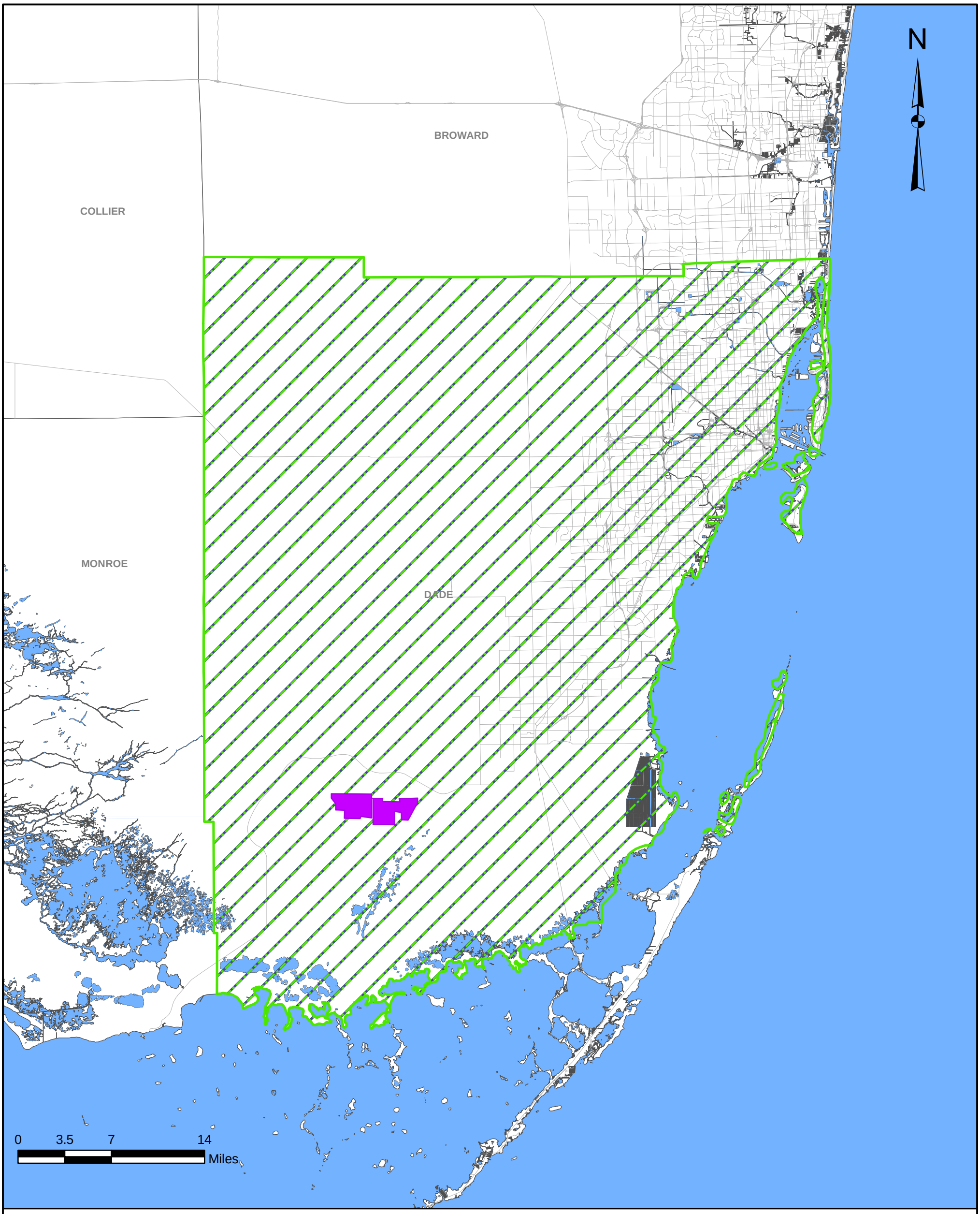
TITLE

EVERGLADES MITIGATION BANK SERVICE AREA

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

- HOLE IN THE DONUT MITIGATION BANK
- HOLE IN THE DONUT MITIGATION BANK SERVICE AREA

REFERENCES

1. Hole in the Donut Mitigation Bank Service Area, Hole in the Donut Mitigation Bank, FDEP, 2006.

FIGURE 15

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K015

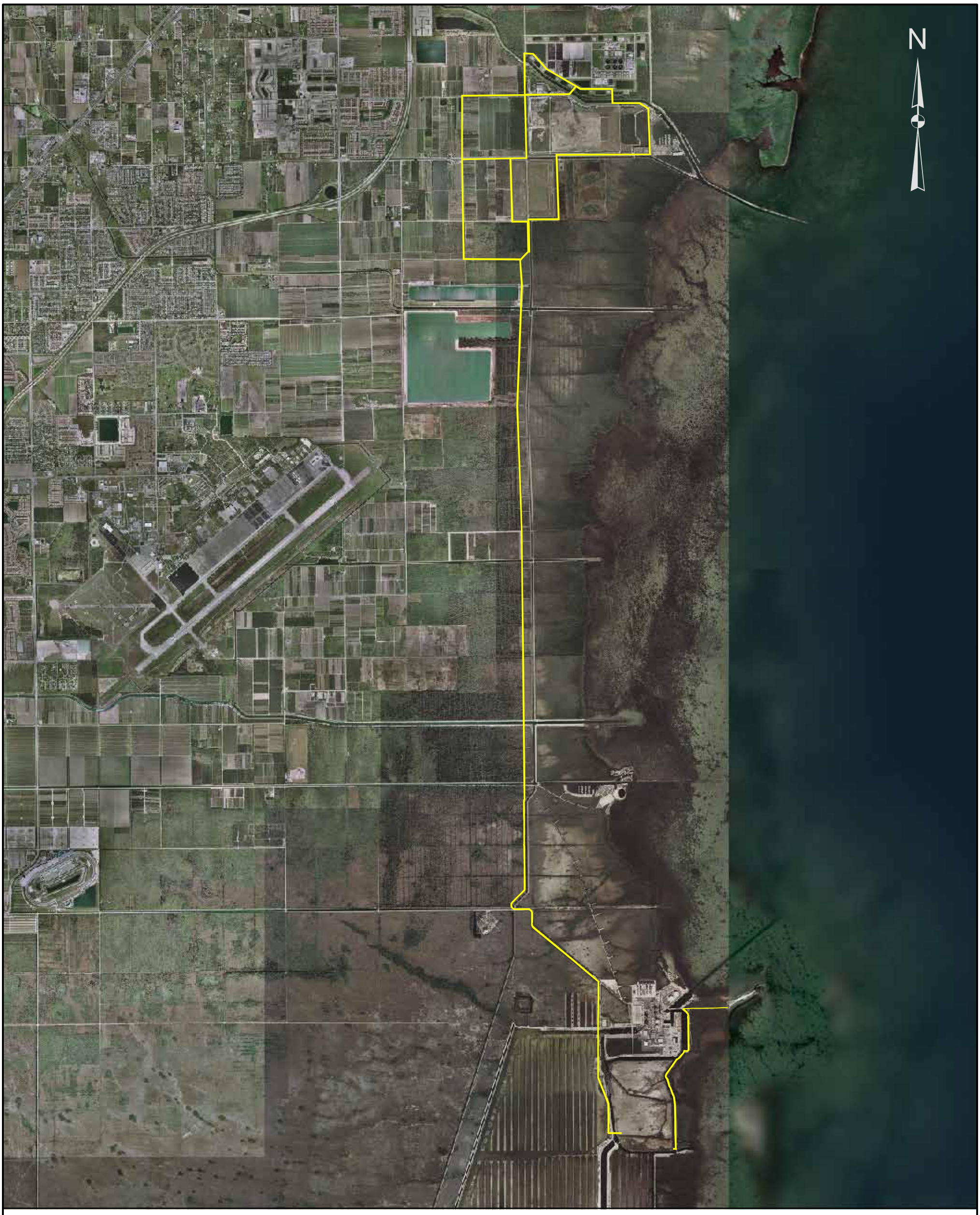
TITLE

HOLE IN THE DONUT MITIGATION BANK SERVICE AREA

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL



LEGEND

Pipeline Restoration Areas

REFERENCES

1. Imagery, Miami-Dade County, 2007.

0 2,250 4,500 9,000

Feet

FIGURE 16

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K016

TITLE

PIPELINE RESTORATION AERIAL MAP

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

Potential ENP Seepage Management Study Area

REFERENCES

1. Imagery, Miami-Dade County, 2007.

0 1,865 3,730 7,460

Feet

FIGURE 17

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K017

TITLE

POTENTIAL ENP SEEPAGE MANAGEMENT STUDY AREA AERIAL MAP

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

LEGEND

Wildlife Habitat Creation Area

REFERENCES

1. Imagery, Miami-Dade County, 2007.

0 1,000 2,000 4,000
Feet

FIGURE 18

PLOT DATE 6/12/2009

REV. 0

FILE No. 08387584K018

TITLE

WILDLIFE HABITAT CREATION AERIAL MAP

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

APPENDIX A

UMAM FUNCTIONAL ASSESSMENT

IMPACT SITES

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Remnant Canals

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
511		Impact	8.4 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of a closed loop industrial cooling water system.

Assessment area description

Remnant intake/discharge canals within surrounding mud flats.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point power generation facilities, Biscayne Bay	Artificial system, not unique.

Functions	Mitigation for previous permit/other historic use
Industrial cooling water management	

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Reddish egret, snowy egret, tricolored heron, roseate spoonbill, white pelican, white ibis, killdeer, great egret, great horned owl, sandpipers, lesser yellowlegs, greater yellowlegs, least tern, and plovers.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, C. Cunningham	11/29/2007

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Remnant Canals
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	K. Bullock, C. Cunningham	11/29/2007

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 6	with: 0

Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, disturbance of habitat associated with cooling canal system, and isolated hydrology. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8 due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 9, minimal coverage; c) Wildlife access to and from outside = 7, decreased slightly due to limitations imposed by the water level control system; d) functions that benefit fish & wildlife downstream-distance or barriers = 4 because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 2 due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas

.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with: 0

The water environment score is reduced due to the artificial hydrology of the assessment site and use for industrial cooling water.

Individual parameter scores: a) water levels and flows = 4, drastic alterations in water level due to artificial nature of the system; b) water level indicators = 4, not consistent with expected; c) soil moisture = 7, slightly drier than expected; d) soil erosion or depostion = 4, atypical patterns indicative of altered flows; e) evidence of fire history = N/A; f) vegetation community zonation = 8, appropriate for community type; g) hydrologic stress on vegetation = 7, slightly greater mortality; h) use by animal species with specific hydrological requirements = 7, due to lack of tidal connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 8, community not characterized by species tolerant of water degradation; j) direct observation of water quality = 8, very slight discoloration, turbidity, or sheen; k) existing water quality data = 5, due to high temperature and salinity; l) water depth wave, wave energy, currents and light penetration = 5, due to drastic changes in water levels.

.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 0

The community structure variable is reduced due to artificial nature of excavated canals, high salinity, elevated temperature, and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, dominated by native species; b) invasive exotics or other invasive plant species = 7, minimal coverage; c) regeneration and recruitment = 7, near normal recruitment; d) age & size distribution = 7, slightly atypical; e) density and quality of coarse woody debris, snag, den, and cavity = 5, due to excavated canal banks; f) plant condition = 7, generally good plant condition; g) land management practices = 5, due to alteration of community structure and hydroperiod; h) topographic features = 5, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = 7, minor algal growth

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.63	with: 0

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

For impact assessment areas
FL = delta x acres = -0.63 x 8.4 = **5.29**

Delta = [with-current]
-0.63

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Open Water and Active Canals

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
531 and 510		Impact	12 acres (FLUCCS 531); 4.1 acres (FLUCCS 510) = 16.1 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of Turkey Point facility's existing industrial cooling water system.

Assessment area description

Open water area associated with industrial cooling water system.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point power generation facilities, Biscayne Bay	Artificial system, not unique.

Functions	Mitigation for previous permit/other historic use
Industrial cooling water management	

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Snowy egret, tricolored heron, wood stork, white ibis, killdeer, great egret.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, C. Cunningham	11/29/2007

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Open Water and Active Canals
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	K. Bullock, C. Cunningham	11/29/2007

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

		w/o pres or current	with	
.500(6)(a) Location and Landscape Support		6	0	Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, disturbance of habitat associated with cooling canal system, and isolated hydrology. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8 due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 9, minimal coverage; c) Wildlife access to and from outside = 7, decreased slightly due to limitations imposed by the water level control system; d) functions that benefit fish & wildlife downstream-distance or barriers = 4 because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 2 due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas
.500(6)(b)Water Environment (n/a for uplands)		5	0	The water environment score is reduced due to the artificial hydrology of the assessment site and use for industrial cooling water. Individual parameter scores: a) water levels and flows = 3, drastic alterations in water level due to artificial nature of the system; b) water level indicators = 3, not consistent with expected; c) soil moisture = 7, slightly drier than expected; d) soil erosion or depostion = 3, atypical patterns indicative of altered flows; e) evidence of fire history = N/A; f) vegetation community zonation = 6, due to very sparse cover; g) hydrologic stress on vegetation = 3, due to high mortality; h) use by animal species with specific hydrological requirements = 6, due to lack of tidal connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, community consists of species tolerant of high salinities; j) direct observation of water quality = 8, very slight discoloration, turbidity, or sheen; k) existing water quality data = 3, due to high temperature and salinity; l) water depth wave, wave energy, currents and light penetration = 5, due to drastic changes in water levels.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community		4	0	The community structure variable is reduced due to low species diversity resulting from high salinity, elevated temperature, and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, expected composition absent; b) invasive exotics or other invasive plant species = 7, minimal coverage; c) regeneration and recruitment = 4, minimal evidence of recruitment; d) age & size distribution = 4, due to high mortality and lack of seedling success; e) density and quality of coarse woody debris, snag, den, and cavity = 3, greater than normal due to poor community health; f) plant condition = 5, generally poor condition and low recruitment; g) land management practices = 4, due to high temperature and altered hydroperiod; h) topographic features = 3, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = 5, minor algal growth

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.50	0

Delta = [with-current]
-0.50

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

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

For impact assessment areas
FL = delta x acres = -0.50 x 16.1 = **8.05**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Mangrove Heads

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612-A		Impact	12.2 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of Turkey Point facility's existing industrial cooling water system.

Assessment area description

Remnant mangrove heads associated with remnant tidal creeks within an industrial cooling water system.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point power generation facilities, Biscayne Bay	Artificial system, not unique.

Functions	Mitigation for previous permit/other historic use
Industrial cooling water management	

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Reddish egret, snowy egret, tricolored heron, roseate spoonbill, white pelican, white ibis, killdeer, great egret, great horned owl, sandpipers, lesser yellowlegs, greater yellowlegs, least tern, and plovers.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, C. Cunningham	11/29/2007

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Mangrove Heads
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	K. Bullock, C. Cunningham	11/29/2007

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 6	with: 0
Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, disturbance of habitat associated with cooling canal system, and isolated hydrology. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 9, minimal coverage; c) Wildlife access to and from outside = 7, decreased slightly due to limitations imposed by the water level control system; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 2, due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with: 0
The water environment score is reduced due to the artificial hydrology of the assessment site and use for industrial cooling water. Individual parameter scores: a) water levels and flows = 4, drastic alterations in water level due to artificial nature of the system; b) water level indicators = 4, not consistent with expected; c) soil moisture = 8, slightly drier than expected; d) soil erosion or depostion = 5, atypical patterns due to altered flows; e) evidence of fire history = N/A; f) vegetation community zonation = 7, due to sparse cover; g) hydrologic stress on vegetation = 4, due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 7, due to lack of tidal connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, community consists of species tolerant of high salinities; j) direct observation of water quality = 8, very slight discoloration, turbidity, or sheen; k) existing water quality data = 5, due to high temperature and salinity; l) water depth wave, wave energy, currents and light penetration = 5, due to drastic changes in water levels.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 0
The community structure variable is reduced due to low species diversity resulting from high salinity, elevated temperature, and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, dominated by native species; b) invasive exotics or other invasive plant species = 9, very minimal coverage; c) regeneration and recruitment = 6, less than expected; d) age & size distribution = 6, due to lack of seedling success; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 5, due to alteration of community structure; h) topographic features = 7, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = 8, minor algal growth		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.63	with: 0

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

For impact assessment areas
FL = delta x acres = -0.63 x 12.2 = **7.69**

Delta = [with-current]
-0.63

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Dwarf Mangroves

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612-B		Impact	16.9 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of Turkey Point facility's existing industrial cooling water system.

Assessment area description

Hypersaline dwarf mangroves within industrial cooling water system.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point power generation facilities, Biscayne Bay	Artificial system, not unique.

Functions	Mitigation for previous permit/other historic use
Industrial cooling water management	

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Reddish egret, snowy egret, tricolored heron, roseate spoonbill, white pelican, white ibis, great egret, and wood stork.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, C. Cunningham	11/29/2007

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Dwarf Mangroves
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	K. Bullock, C. Cunningham	11/29/2007

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 6	with: 0

Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, disturbance of habitat associated with cooling canal system, and isolated hydrology. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8 due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 9, minimal coverage; c) Wildlife access to and from outside = 7, decreased slightly due to limitations imposed by the water level control system; d) functions that benefit fish & wildlife downstream-distance or barriers = 4 because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 2 due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas

.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 5	with: 0

The water environment score is reduced due to the artificial hydrology of the assessment site and use for industrial cooling water.

Individual parameter scores: a) water levels and flows = 4, drastic alterations in water level due to artificial nature of the system; b) water level indicators = 4, not consistent with expected; c) soil moisture = 7, slightly drier than expected; d) soil erosion or depostion = 4, atypical patterns indicative of altered flows; e) evidence of fire history = N/A; f) vegetation community zonation = 6, due to very sparse cover; g) hydrologic stress on vegetation = 3, due to high mortality; h) use by animal species with specific hydrological requirements = 7, due to lack of tidal connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, community consists of species tolerant of high salinities; j) direct observation of water quality = 8, very slight discoloration, turbidity, or sheen; k) existing water quality data = 3, due to high temperature and salinity; l) water depth wave, wave energy, currents and light penetration = 5, due to drastic changes in water levels.

.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 5	with: 0

The community structure variable is reduced due to low species diversity resulting from high salinity, elevated temperature, and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, dominated by native species; b) invasive exotics or other invasive plant species = 8, minimal coverage; c) regeneration and recruitment = 4, minimal evidence of recruitment; d) age & size distribution = 4, due to high mortality and lack of seedling success; e) density and quality of coarse woody debris, snag, den, and cavity = 4, greater than normal due to poor community health; f) plant condition = 4, dead stems and low recruitment; g) land management practices = 5, due to alteration of community structure; h) topographic features = 4, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = 7, minor algal growth

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.53	with: 0

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

For impact assessment areas
FL = delta x acres = -0.53 x 16.9 = **8.96**

Delta = [with-current]
-0.53

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Mud Flats

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
650		Impact	187.5 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of Turkey Point facility's existing industrial cooling water system.

Assessment area description

Hypersaline mud flats within an industrial cooling water system.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point power generation facilities, Biscayne Bay	Artificial system, not unique.

Functions	Mitigation for previous permit/other historic use
Industrial cooling water management	

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds	Occasional use for foraging by wading birds such as roseate spoonbill (SSC), little blue heron (SSC), white ibis (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Reddish egret, snowy egret, tricolored heron, roseate spoonbill, white pelican, white ibis, killdeer, great egret, great horned owl, sandpipers, lesser yellowlegs, greater yellowlegs, least tern, and plovers.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, C. Cunningham	11/29/2007

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Mud Flats
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	K. Bullock, C. Cunningham	11/29/2007

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

.500(6)(a) Location and Landscape Support	w/o pres or current	with	Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, disturbance of habitat associated with cooling canal system, and isolated hydrology. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8 due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 9, minimal coverage; c) Wildlife access to and from outside = 7, decreased slightly due to limitations imposed by the water level control system; d) functions that benefit fish & wildlife downstream-distance or barriers = 4 because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 2 due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas
	6	0	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current	with	The water environment score is reduced due to the artificial hydrology of the assessment site and use for industrial cooling water. Individual parameter scores: a) water levels and flows = 2, extreme deviation from natural flows; b) water level indicators = 4, not consistent with expected; c) soil moisture = 7, slightly drier than expected; d) soil erosion or depostion = 4, atypical patterns indicative of altered flows; e) evidence of fire history = N/A; f) vegetation community zonation = 4, zonation inappropriate due to unnatural hydroperiod; g) hydrologic stress on vegetation = 3, due to high mortality; h) use by animal species with specific hydrological requirements = 7, due to lack of tidal connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 5, sparse community consists of species tolerant of high salinities; j) direct observation of water quality = N/A; k) existing water quality data = 5, due to altered temperature and salinity; l) water depth wave, wave energy, currents and light penetration = N/A.
	5	0	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current	with	The community structure variable is reduced due to low species diversity resulting from high salinity, elevated temperature, and highly altered hydroperiod. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 5, majority of plant cover is inappropriate for hydrologic conditions, evidenced by lack of coverage and high mortality; b) invasive exotics or other invasive plant species = 7, minimal coverage; c) regeneration and recruitment = 4, minimal evidence of recruitment; d) age & size distribution = 4, due to high mortality and lack of seedling success; e) density and quality of coarse woody debris, snag, den, and cavity = 3, not present; f) plant condition = 3, dead stems and low recruitment; g) land management practices = 4, due to alteration of community structure and hydroperiod; h) topographic features = 4, less than optimal; i) siltation or algal growth in submerged aquatic plants = N/A
	4	0	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres	with	
0.50	0	

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

For impact assessment areas
FL = delta x acres = -0.50 x 187.5 = **93.75**

Delta = [with-current]
-0.50

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Wetland Spoil Piles

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
743-Wet	Mangrove, Australian Pine, Brazilian Pepper	Impact	9.1 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Part of Turkey Point facility's existing industrial cooling water system.

Assessment area description

Historic spoil piles adjacent to remnant intake/discharge canals.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point power generation facilities, Biscayne Bay	Artificial system, not unique.

Functions	Mitigation for previous permit/other historic use
Industrial cooling water management	

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon	Occasional use for resting/cover by wading birds such as roseate spoonbill (SSC), white ibis (SSC), wood stork (E), little blue heron (SSC), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Snowy egret, tricolored heron, great egret, great horned owl.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, C. Cunningham	11/29/2007

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Site		Wetland Spoil Piles
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	K. Bullock, C. Cunningham	11/29/2007

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

		w/o pres or current	with	
.500(6)(a) Location and Landscape Support		6	0	Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, disturbance of habitat associated with cooling canal system, and isolated hydrology. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8 due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 9, minimal coverage; c) Wildlife access to and from outside = 7, decreased slightly due to limitations imposed by the water level control system; d) functions that benefit fish & wildlife downstream-distance or barriers = 4 because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 2 due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas
.500(6)(b)Water Environment (n/a for uplands)		4	0	The water environment score is reduced due to the artificial hydrology of the assessment site and use for industrial cooling water. Individual parameter scores: a) water levels and flows = 2, extreme deviation from natural flows; b) water level indicators = 4, not consistent with expected; c) soil moisture = 5, drier than expected; d) soil erosion or depostion = 4, atypical patterns indicative of altered flows; e) evidence of fire history = N/A; f) vegetation community zonation = 4, zonation inappropriate due to unnatural hydroperiod; g) hydrologic stress on vegetation = 5, due to artificial and highly variable hydroperiod; h) use by animal species with specific hydrological requirements = 5, due to lack of tidal connection, exotic vegetation, poor habitat quality; i) vegetative species tolerant of and associated with water quality degradation = 5, sparse community consists of species tolerant of high salinities; j) direct observation of water quality = N/A; k) existing water quality data = 5, due to altered temperature and salinity; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure	1. Vegetation and/or 2. Benthic Community	5	0	The community structure variable is reduced due to low species diversity resulting from high salinity, elevated temperature, and highly altered hydroperiod. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 5, majority of plant cover is inappropriate for hydrologic conditions, evidenced by lack of coverage and high mortality; b) invasive exotics or other invasive plant species = 5, moderate coverage - Australian pine and Brazilian pepper; c) regeneration and recruitment = 4, minimal evidence of recruitment; d) age & size distribution = 5, due to lack of seedling success; e) density and quality of coarse woody debris, snag, den, and cavity = 5, less than expected; f) plant condition = 5, some dead stems and low recruitment; g) land management practices = 5, due to alteration of community structure and hydroperiod; h) topographic features = 4, spoil pile topography is less than optimal; i) siltation or algal growth in submerged aquatic plants = N/A

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.50	0

Delta = [with-current]
-0.50

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

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

For impact assessment areas
FL = delta x acres = -0.50 x 9.1 = **4.55**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Nuclear Administration Building, Training Building and Parking Area		Mangrove Swamps

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612		Impact	18.5 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Surrounded by paved parking lots and access roads to the north, west, and east, and the Units 6 & 7 Site to the south. Hydrologically connected to adjacent canals and Biscayne Bay through culverts.

Assessment area description

Mangrove swamp area located north of the Units 6 & 7 Site and southwest of the existing plant facility, surrounded by parking lots and roadways. Receives runoff from the surrounding parking lots, and contains areas of open water, which likely flows in through culverts from adjacent canals and Biscayne Bay. Dominant species present include red mangrove, white mangrove, and black mangrove, buttonwood, Brazilian pepper, sea grape, Australian pine, poisonwood, leather fern, cankerberry, rubber vine, and cocoplum.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	6/4/2008

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Nuclear Administration Building, Training Building and Parking Area		Mangrove Swamps
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	K. Bullock, S. Rizzo	6/4/2008

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

.500(6)(a) Location and Landscape Support	w/o pres or current	with	Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, and disturbance of habitat associated with initial facility construction. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 6, moderate coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, area locationally isolated from other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 4, apparently connected through culverts, no natural connection; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.
	6	0	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current	with	The water environment score is reduced due to the artificial hydrology of the surrounding area. Individual parameter scores: a) water levels and flows = 4, drastic alterations in water level due to artificial nature of the surrounding areas; b) water level indicators = 4, not consistent with expected; c) soil moisture = 8, slightly drier than expected; d) soil erosion or deposition = 5, atypical patterns due to altered flows; e) evidence of fire history = N/A; f) vegetation community zonation = 7, slightly altered; g) hydrologic stress on vegetation = 4, due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 7, due to lack of open water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, community consists of species tolerant of high salinities; j) direct observation of water quality = 8, very slight discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
	7	0	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current	with	The community structure variable is reduced due to presence of exotics and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, mostly dominated by native species; b) invasive exotics or other invasive plant species = 7, minimal coverage; c) regeneration and recruitment = 7, slightly less than expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 5, due to alteration of community structure; h) topographic features = 7, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.
	7	0	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres	with	
0.67	0	

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

For impact assessment areas
FL = delta x acres = -0.67 x 18.5 = **12.39**

Delta = [with-current]
-0.67

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Nuclear Administration Building, Training Building and Parking Area		Mangrove/Willow

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612/618		Impact	7.6 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Surrounded by paved parking lots and access roads to the north, west, and east, and the Units 6 & 7 Site to the south. Hydrologically connected to adjacent canals and Biscayne Bay through culverts.

Assessment area description

Mangrove swamp area located north of the Units 6 & 7 Site and southwest of the existing plant facility, surrounded by parking lots and roadways. Receives runoff from the surrounding parking lots, and contains areas of open water, which likely flows in through culverts from adjacent canals and Biscayne Bay. Dominant species present include Carolina willow, red mangrove, white mangrove, and black mangrove, cattail, Brazilian pepper, and Peruvian primrose willow.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	6/4/2008

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Nuclear Administration Building, Training Building and Parking Area		Mangrove/Willow
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	K. Bullock, S. Rizzo	6/4/2008

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

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	Location and landscape support variable is reduced due to proximity of existing Turkey Point facility, and disturbance of habitat associated with initial facility construction. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of Biscayne Bay despite artificial nature of surrounding habitat at FPL facility; b) Invasive exotic species = 6, moderate coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, area locationally isolated from other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 4, apparently connected through culverts, no natural connection; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.	6	0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is reduced due to the artificial hydrology of the surrounding area. Individual parameter scores: a) water levels and flows = 4, drastic alterations in water level due to artificial nature of the surrounding areas; b) water level indicators = 4, not consistent with expected; c) soil moisture = 8, slightly drier than expected; d) soil erosion or deposition = 5, atypical patterns due to altered flows; e) evidence of fire history = N/A; f) vegetation community zonation = 7, slightly altered; g) hydrologic stress on vegetation = 4, due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 7, due to lack of open water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, community consists of species tolerant of high salinities; j) direct observation of water quality = 8, very slight discoloration, turbidity, or sheen; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	7	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The community structure variable is reduced due to presence of exotics and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, mostly dominated by native species; b) invasive exotics or other invasive plant species = 7, minimal coverage; c) regeneration and recruitment = 7, slightly less than expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 5, due to alteration of community structure; h) topographic features = 7, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.	6	0

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.63	0

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

For impact assessment areas
FL = delta x acres = -0.63 x 7.6 = **4.79**

Delta = [with-current]
-0.63

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Radial Collector Well Delivery Pipelines		Mangrove Swamps

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612		Impact	3 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		OFW (Biscayne Bay)

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Located along shoreline of Biscayne Bay.

Assessment area description

Mangrove shoreline of Turkey Point peninsula. This area is dominated by red and black mangroves, with subdominant species including white mangrove and buttonwood, as well as occasional Brazilian pepper, Australian pine, and sea grape.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, drainage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	2/1/2009

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Radial Collector Well Delivery Pipelines		Mangrove Swamps
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	2/1/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 8	with: 0	Location and landscape support is high due to location within Biscayne Bay. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 9, due to location within Biscayne Bay; b) Invasive exotic species = 7, some present within assessment area; c) Wildlife access to and from outside = 9, open to Biscayne Bay; d) functions that benefit fish & wildlife downstream-distance or barriers = 9, open system; e) Impacts to wildlife listed in Part 1 by outside land uses = 9, surrounding habitats undisturbed with exception of Turkey Point Power Plant; f) Hydrologically connected areas downstream of assessment area = 9, open to Biscayne Bay; g) Dependency of downstream areas on assessment area = 9, benefits downstream areas.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 9	with: 0	The water environment score is high due to location within Biscayne Bay. Individual parameter scores: a) water levels and flows = 9, consistent with expected; b) water level indicators = 9, consistent with expected; c) soil moisture = 9, consistent with expected; d) soil erosion or deposition = 9, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 9, appropriate for community type; g) hydrologic stress on vegetation = 9, minimal; h) use by animal species with specific hydrological requirements = 9, consistent with expected; i) vegetative species tolerant of and associated with water quality degradation = 9, none present; j) direct observation of water quality = 9, no sheen or discoloration; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 9	with: 0	The community structure variable is slightly reduced due to presence of exotic species. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 7, some exotic species; b) invasive exotics or other invasive plant species = 7, some coverage; c) regeneration and recruitment = 9, near normal recruitment; d) age & size distribution = 9, typical; e) density and quality of coarse woody debris, snag, den, and cavity = 9, typical; f) plant condition = 9, generally good plant condition; g) land management practices = N/A; h) topographic features = 9, optimal; i) siltation or algal growth in submerged aquatic plant communities = 9, mostly typical.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.87	with: 0

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

For impact assessment areas
FL = delta x acres = -0.87 x 3 = **2.6 (to be restored *in-situ*)**

Delta = [with-current]
-0.87

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Treatment Facility		Dwarf Mangroves

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612-B		Impact	44 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This area currently drains north and east through mangrove swamps toward Biscayne Bay.

Assessment area description

The area to be used for the reclaimed water treatment plant, which is approximately 50 acres, is located between the L-31E Canal and the existing Turkey Point Plant access road. The area consists of dwarf red mangroves and sawgrass. The majority of the mangrove community in this area experiences sheet flow-type flushing of tidal waters, and exhibits increased salinity with decreased nitrogen and phosphorus available for plant uptake. The dwarf mangrove community contains mangroves less than 24 inches in height, stunted in response to decreased nutrient availability and increased salinity. Other vegetation includes black mangrove, white mangrove, buttonwood, sea grape, Brazilian pepper, wax myrtle, poisonwood, cocoplum, and Australian pine.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay, Model Lands Basin	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, drainage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	9/23/2008

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Treatment Facility		Dwarf Mangroves
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	9/23/2008

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

.500(6)(a) Location and Landscape Support w/o pres or current: 7 with: 0	Location and landscape support variable is slightly reduced due to proximity of FPL Turkey Point Plant main plant road and slight isolation from surrounding mangrove swamps. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of nearby roadways; b) Invasive exotic species = 7, some exotics species present; c) Wildlife access to and from outside = 7, decreased due to slight isolation from other habitats due to roadways; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, decreased due to slight isolation from other habitats due to roadways; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, surrounding habitats relatively undisturbed with exception of roadways; f) Hydrologically connected areas downstream of assessment area = 7, hydrologically connected but some impacts due to roadways; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream areas.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 8 with: 0	The water environment score is somewhat reduced due to the slight hydrological isolation from surrounding roadways and increased salinity. Individual parameter scores: a) water levels and flows = 7, slightly less than expected; b) water level indicators = 7, slightly less than expected; c) soil moisture = 9, consistent with expected; d) soil erosion or deposition = 9, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 6, due to sparse cover; g) hydrologic stress on vegetation = 6, stress from high salinity; h) use by animal species with specific hydrological requirements = 7, slighly less than expected; i) vegetative species tolerant of and associated with water quality degradation = 7, species tolerant of high salinities present; j) direct observation of water quality = 8, no sheen or discoloration; K) existing water quality data = 6, due to high salinity; l) water depth wave, wave energy, currents and light penetration = N/A.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 8 with: 0	The community structure variable is slightly reduced due to high salinity. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, mostly all desirable species; b) invasive exotics or other invasive plant species = 9, very few present; c) regeneration and recruitment = 7, near normal recruitment; d) age & size distribution = 7, atypical due to high salinity; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 7, generally good plant condition; g) land management practices = 8, h) topographic features = 9, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.77 with: 0	Preservation adjustment factor =	FL = delta x acres = 0.77 x 44 = **33.88**
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
-0.77	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Treated Reclaimed Water Delivery Pipelines		Dwarf Mangroves

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612-B		Impact	3.1 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

This area currently drains north and east through mangrove swamps toward Biscayne Bay.

Assessment area description

The area consists of dwarf red mangroves and sawgrass. The majority of the mangrove community in this area experiences sheet flow-type flushing of tidal waters, and exhibits increased salinity with decreased nitrogen and phosphorus available for plant uptake. The dwarf mangrove community contains mangroves less than 24 inches in height, stunted in response to decreased nutrient availability and increased salinity. Other vegetation includes black mangrove, white mangrove, buttonwood, sea grape, Brazilian pepper, wax myrtle, poisonwood, cocoplum, and Australian pine.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay, Model Lands Basin	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, drainage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	9/23/2008

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Treated Reclaimed Water Delivery Pipelines		Dwarf Mangroves
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	9/23/2008

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0	Location and landscape support variable is slightly reduced due to proximity of FPL Turkey Point Plant main plant road and slight isolation from surrounding mangrove swamps. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of nearby roadways; b) Invasive exotic species = 7, some exotics species present; c) Wildlife access to and from outside = 7, decreased due to slight isolation from other habitats due to roadways; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, decreased due to slight isolation from other habitats due to roadways; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, surrounding habitats relatively undisturbed with exception of roadways; f) Hydrologically connected areas downstream of assessment area = 7, hydrologically connected but some impacts due to roadways; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream areas.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with: 0	The water environment score is somewhat reduced due to the slight hydrological isolation from surrounding roadways and increased salinity. Individual parameter scores: a) water levels and flows = 7, slightly less than expected; b) water level indicators = 7, slightly less than expected; c) soil moisture = 9, consistent with expected; d) soil erosion or deposition = 9, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 6, due to sparse cover; g) hydrologic stress on vegetation = 6, stress from high salinity; h) use by animal species with specific hydrological requirements = 7, slighly less than expected; i) vegetative species tolerant of and associated with water quality degradation = 7, species tolerant of high salinities present; j) direct observation of water quality = 8, no sheen or discoloration; K) existing water quality data = 6, due to high salinity; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 8	with: 0	The community structure variable is slightly reduced due to high salinity. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, mostly all desirable species; b) invasive exotics or other invasive plant species = 9, very few present; c) regeneration and recruitment = 7, near normal recruitment; d) age & size distribution = 7, atypical due to high salinity; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 7, generally good plant condition; g) land management practices = 8, h) topographic features = 9, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.77	with: 0

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

For impact assessment areas
FL = delta x acres = -0.77 x 3.1 = **2.4 (to be restored *in-situ*)**

Delta = [with-current]
-0.77

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Treated Reclaimed Water Delivery Pipelines		Mixed Wetland Hardwoods

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617		Impact	0.3 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Hydrologically connected to surrounding mangrove swamps, exotic wetlands and freshwater marshes.

Assessment area description

Several areas of mixed wetland hardwood/mixed forested wetland communities are present within the pipeline area These areas are comprised of a variety of canopy species, including buttonwood, Australian pine, cocoplum, red mangrove, Brazilian pepper, cabbage palm, and willow.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC). Also white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	1/9/2009

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Treated Reclaimed Water Delivery Pipelines		Mixed Wetland Hardwoods
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	1/9/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0
Location and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of Biscayne Bay; b) Invasive exotic species = 7, minimal coverage; c) Wildlife access to and from outside = 7, some limitations; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, some barriers; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to proximity of Turkey Point facility; f) Hydrologically connected areas downstream of assessment area = 7, some hydrological impairments; g) Dependency of downstream areas on assessment area = 7, some benefits to downstream areas.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 0
The water environment score is slightly reduced due to water levels lower than expected. Individual parameter scores: a) water levels and flows = 7, slightly lower than expected; b) water level indicators = 7, slightly lower than expected; c) soil moisture = 7, slightly consistent with expected; d) soil erosion or deposition = 7, some observed; e) evidence of fire history = N/A; f) vegetation community zonation = 7, slightly consistent with expected; g) hydrologic stress on vegetation = 7, due to lower water levels; h) use by animal species with specific hydrological requirements = 7, some evidence observed; i) vegetative species tolerant of and associated with water quality degradation = 7, some observed; j) direct observation of water quality = N/A; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 0
The community structure variable is high due to species diversity and presence of natural, native vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 7, mostly dominated by native species; b) invasive exotics or other invasive plant species = 7, some coverage; c) regeneration and recruitment = 7, some evidence of recruitment; d) age & size distribution = 7, lower water levels possibly affecting age distribution; e) density and quality of coarse woody debris, snag, den, and cavity = 7, slightly consistent with expected; f) plant condition = 7, low recruitment; g) land management practices = 7, some alteration evident; h) topographic features = 7, some present; i) siltation or algal growth in submerged aquatic plant communities = N/A.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.70	with: 0

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

For impact assessment areas
FL = delta x acres = -0.7 x 0.3 = **0.21 (to be restored *in-situ*)**

Delta = [with-current]
-0.70

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/FPL-Owned Fill Source		Ditches

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
511		Impact	5.2 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-103/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Some ditches are hydrologically connected to surrounding exotic wetlands, freshwater marshes, and wetland scrub areas and some are isolated. However, they do not appear to connect to a canal system or other surface water features. Located adjacent to roadways.

Assessment area description

The FPL-owned fill source is an approximately 300-acre area located to the southeast of Homestead Air Reserve Base. Ditches occur between blocks of palm trees within the tree nurseries and adjacent to access roads throughout the fill source area. These ditches are typically vegetated with a mixture of nuisance/exotic species, such as Brazilian pepper, cattail, parrot feather, torpedo grass, and wild taro, as well as native species including arrowhead, water spangles, mosquitofern, primrose willow, and beggarticks.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Homestead Air Reserve Base, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, drainage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T). Reptiles such as American alligator (TSA).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Pied-billed grebe, great egret, red-shouldered hawk, mosquitofish, gambusia

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	11/4/2008

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/FPL-Owned Fill Source		Ditches
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	S. Rizzo	11/4/2008

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

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	Location and landscape support variable is reduced due to proximity of roads and tree farms and apparent lack of connectivity to canals or other surface waters. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, due to proximity of tree farms and roadways; b) Invasive exotic species = 4, common ocurrence within assessment area; c) Wildlife access to and from outside = 7, decreased due to apparent lack of connectivity to other surface waters, but some wildlife use; d) functions that benefit fish & wildlife downstream-distance or barriers = N/A because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, surrounding habitats disturbed; f) Hydrologically connected areas downstream of assessment area = N/A due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.	5	0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is somewhat reduced due to the apparent lack of connectivity to other surface waters or canal system. Individual parameter scores: a) water levels and flows = 4, no flow evident; b) water level indicators = 6, consistent with expected; c) soil moisture = 6, consistent with expected; d) soil erosion or deposition = 4, erosion evident; e) evidence of fire history = N/A; f) vegetation community zonation = 6, appropriate for community type; g) hydrologic stress on vegetation = 6, relatively minimal; h) use by animal species with specific hydrological requirements = 6, consistent with expected; i) vegetative species tolerant of and associated with water quality degradation = 6, some pollution tolerant species present; j) direct observation of water quality = 6, no sheen or discoloration; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	5	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The community structure variable is reduced due to artificial nature of the ditches. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, dominated by exotic species; b) invasive exotics or other invasive plant species = 4, compose majority of coverage; c) regeneration and recruitment = 7, near normal recruitment; d) age & size distribution = 7, slightly atypical; e) density and quality of coarse woody debris, snag, den, and cavity = 5, due to excavated canal banks; f) plant condition = 7, generally good plant condition; g) land management practices = 5, due to alteration of community structure and hydroperiod; h) topographic features = 5, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = 7, minor algal growth.	5	0

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.50	0

Delta = [with-current]
-0.50

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

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

For impact assessment areas
FL = delta x acres = 0.50 x 5.2 = **2.60**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/FPL-Owned Fill Source		Exotic Wetland Hardwoods

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
619		Impact	33.7 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-103/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Surrounded by tree farms and roadways. Hydrologically connected to ditches.

Assessment area description

The FPL-owned fill source is an approximately 300-acre area located to the southeast of Homestead Air Reserve Base. Areas classified as exotic wetland hardwood communities consist of Brazilian pepper, and subdominant species include Carolina willow, primrose willow, wild taro, napier grass, and beggarticks.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Homestead Air Reserve Base, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Passerine birds and other wildlife typical to the region	Occasional use by white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	11/4/2008

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/FPL-Owned Fill Source		Exotic Wetland Hardwoods
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	11/4/2008

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with: 0
Location and landscape support variable is reduced due to proximity of roads and tree farms and lack of connectivity to significant wetlands. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, due to proximity of tree farms and roadways; b) Invasive exotic species = 4, common ocurrence within assessment area; c) Wildlife access to and from outside = 7, decreased due to apparent lack of connectivity to other surface waters, but some wildlife use; d) functions that benefit fish & wildlife downstream-distance or barriers = N/A because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, surrounding habitats disturbed; f) Hydrologically connected areas downstream of assessment area = N/A due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 5	with: 0
The water environment score is somewhat reduced due to the lack of connectivity to significant wetlands. Individual parameter scores: a) water levels and flows = 4, no flow evident; b) water level indicators = 6, consistent with expected; c) soil moisture = 6, consistent with expected; d) soil erosion or deposition = 4, erosion evident; e) evidence of fire history = N/A; f) vegetation community zonation = 6, appropriate for community type; g) hydrologic stress on vegetation = 6, relatively minimal; h) use by animal species with specific hydrological requirements = 6, consistent with expected; i) vegetative species tolerant of and associated with water quality degradation = 6, some pollution tolerant species present; j) direct observation of water quality = 6, no sheen or discoloration; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 4	with: 0
The community structure variable is reduced due to low species diversity resulting from presence of exotics. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, dominated by exotic species; b) invasive exotics or other invasive plant species = 4, moderate to high coverage; c) regeneration and recruitment = 4, less than expected; d) age & size distribution = 4, due to lack of seedling success; e) density and quality of coarse woody debris, snag, den, and cavity = 5, adequate for system type; f) plant condition = 4, due to dead stems and low productivity; g) land management practices = 4, due to alteration of community structure; h) topographic features = 7, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.47	with: 0

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

For impact assessment areas
FL = delta x acres = 0.47 x 33.7 = **15.84**

Delta = [with-current]
-0.47

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/FPL-Owned Fill Source		Wetland Scrub and Freshwater Marshes

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
631, 641		Impact	4.4 acres (631) 8.8 acres (641)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-103/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Surrounded by tree farms and roadways. Hydrologically connected to ditches.

Assessment area description

The FPL-owned fill source is an approximately 300-acre area located to the southeast of Homestead Air Reserve Base. Wetland scrub and freshwater marshes are dominated by a mixture of exotic and nuisance species such as napier grass, cattail, Carolina willow, wild taro, and Brazilian pepper.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Homestead Air Reserve Base, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Passerine birds and other wildlife typical to the region	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolor heron (SSC). Also white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

catbird, raccoon, bobcat

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	11/4/2008

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/FPL-Owned Fill Source		Wetland Scrub and Freshwater Marshes
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	11/4/2008

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

.500(6)(a) Location and Landscape Support w/o pres or current: 5 with: 0	Location and landscape support variable is reduced due to proximity of roads and tree farms and lack of connectivity to other wetlands. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, due to proximity of tree farms and roadways; b) Invasive exotic species = 4, common ocurrence within assessment area; c) Wildlife access to and from outside = 7, decreased due to apparent lack of connectivity to other surface waters, but some wildlife use; d) functions that benefit fish & wildlife downstream-distance or barriers = N/A because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, surrounding habitats disturbed; f) Hydrologically connected areas downstream of assessment area = N/A due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 5 with: 0	The water environment score is somewhat reduced due to the lack of connectivity to other wetlands. Individual parameter scores: a) water levels and flows = 4, no flow evident; b) water level indicators = 6, consistent with expected; c) soil moisture = 6, consistent with expected; d) soil erosion or deposition = 4, erosion evident; e) evidence of fire history = N/A; f) vegetation community zonation = 6, appropriate for community type; g) hydrologic stress on vegetation = 6, relatively minimal; h) use by animal species with specific hydrological requirements = 6, consistent with expected; i) vegetative species tolerant of and associated with water quality degradation = 6, some pollution tolerant species present; j) direct observation of water quality = 6, no sheen or discoloration; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 6 with: 0	The community structure variable is reduced due to low species diversity resulting from presence of exotics. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, many exotic species; b) invasive exotics or other invasive plant species = 6, moderate coverage; c) regeneration and recruitment = 6, slightly less than expected; d) age & size distribution = 6, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 4, due to alteration of community structure; h) topographic features = 7, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.53 with: 0	Preservation adjustment factor =	FL = delta x acres = 0.53 x 4.4 = **2.33 (631)**; 0.53 x 8.8 = **4.66 (641)**
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
-0.53	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Canals, Ditches, and Reservoirs

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510, 511, 530		Impact	5.4 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-1, DA-4, C-102, C-103, North Canal, Florida City/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Hydrologically connected to surrounding mangrove swamps, mixed wetland hardwoods and freshwater marshes.

Assessment area description

A total of seven crossings of man-made canals are crossed by the proposed reclaimed water pipelines. Drainage ditches typically occur on the borders of roadside rights-of-way, freshwater marshes, mangroves, and mixed hardwood wetlands. In-stream vegetation is minimal within the man made canals along the proposed reclaimed water pipelines corridor, due to the steep slopes and minimal littoral zone. Emergent and floating leaved species typical of the canals include spatterdock, water lettuce, and water hyacinth, while the banks contain beggarticks, primrose willow, Brazilian pepper, willow, and ragweed.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, drainage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T). Reptiles such as American alligator (TSA).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	1/9/2009

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Canals, Ditches, and Reservoirs
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	S. Rizzo	1/9/2009

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

.500(6)(a) Location and Landscape Support w/o pres or current: 5 — with: 0	Location and landscape support variable is reduced due to proximity of roadways and transmission line right-of-way. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 5, due to proximity of nearby roadways; b) Invasive exotic species = 5, common occurrence within assessment area; c) Wildlife access to and from outside = 5, decreased due to roadway barriers; d) functions that benefit fish & wildlife downstream-distance or barriers = 5; e) Impacts to wildlife listed in Part 1 by outside land uses = 5, surrounding habitats disturbed by roadways; f) Hydrologically connected areas downstream of assessment area = 5; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 5 — with: 0	The water environment score is somewhat reduced due to the artificial nature of the canal/ditch system. Individual parameter scores: a) water levels and flows = 4, no flow evident; b) water level indicators = 6, consistent with expected; c) soil moisture = 6, consistent with expected; d) soil erosion or deposition = 4, erosion evident; e) evidence of fire history = N/A; f) vegetation community zonation = 6, appropriate for community type; g) hydrologic stress on vegetation = 6, relatively minimal; h) use by animal species with specific hydrological requirements = 6, consistent with expected; i) vegetative species tolerant of and associated with water quality degradation = 6, some pollution tolerant species present; j) direct observation of water quality = 6, no sheen or discoloration; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 5 — with: 0	The community structure variable is reduced due to artificial nature of the canal/ditch system. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, dominated by exotic species; b) invasive exotics or other invasive plant species = 4, compose majority of coverage; c) regeneration and recruitment = 7, near normal recruitment; d) age & size distribution = 7, slightly atypical; e) density and quality of coarse woody debris, snag, den, and cavity = 5, due to excavated canal banks; f) plant condition = 7, generally good plant condition; g) land management practices = 5, due to alteration of community structure and hydroperiod; h) topographic features = 5, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = 7, minor algal growth.

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres: 0.50 — with: 0

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

For impact assessment areas
FL = delta x acres = -0.5 x 5.4 = **2.7 (to be restored *in-situ*)**

Delta = [with-current]
-0.50

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Mangrove Swamps

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612		Impact	18.6 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-1, DA-4, C-102, C-103, North Canal, Florida City/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Hydrologically connected to surrounding mixed wetland hardwoods and freshwater marshes.

Assessment area description

Areas of coastal mangroves occur within the proposed corridor predominantly to the east of the existing transmission line right-of-way. These areas are dominated by a mixture of red mangrove and black mangrove which are present in pure or predominant stands. Subdominant species include white mangrove buttonwood, Brazilian pepper, cocoplum, sea grape, half-flower, salt grass, and occasional Australian pine.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Passerine birds and other wildlife typical to the region	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T). Reptiles such as American alligator (TSA).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	1/9/2009

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Mangrove Swamps
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	1/9/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0
Location and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility and roadways. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of roadways and Turkey Point Plant; b) Invasive exotic species = 7, some coverage; c) Wildlife access to and from outside = 7, mostly unlimited access; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, few impedences to downstream areas; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to proximity of Turkey Point facility; f) Hydrologically connected areas downstream of assessment area = 7, few impedence to downstream areas; g) Dependency of downstream areas on assessment area = 7, some benefit to downstream areas.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with: 0
The water environment score is slightly reduced due to the atypical vegetation community zonation due to presence of exotic species. Individual parameter scores: a) water levels and flows = 8, consistent with expected; b) water level indicators = 8, consistent with expected; c) soil moisture = 8, consistent with expected; d) soil erosion or deposition = 8, consistent with expected; e) evidence of fire history = N/A; f) vegetation community zonation = 8, typical for the habitat; g) hydrologic stress on vegetation = 8, no stress noted; h) use by animal species with specific hydrological requirements = 8, consistent with expected; i) vegetative species tolerant of and associated with water quality degradation = 8, none observed; j) direct observation of water quality = N/A; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 8	with: 0
The community structure variable is reduced due to low species diversity resulting from presence of exotics. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, few to no exotic species; b) invasive exotics or other invasive plant species = 8, minimal coverage; c) regeneration and recruitment = 8, consistent with expected; d) age & size distribution = 8, consistent with expected; e) density and quality of coarse woody debris, snag, den, and cavity = 8, adequate for system type; f) plant condition = 8, consistent with expected; g) land management practices = 8, limited alteration of community structure; h) topographic features = 8, mostly optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.77	with: 0

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

For impact assessment areas
FL = delta x acres = -0.77 x 18.6 = **14.3** **(to be restored *in-situ*)**

Delta = [with-current]
-0.77

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Mangrove/Exotic Wetland Hardwoods

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612/619		Impact	5.2 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-1, DA-4, C-102, C-103, North Canal, Florida City/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Hydrologically connected to surrounding mangrove swamps, mixed wetland hardwoods and freshwater marshes.

Assessment area description

Areas of exotic wetland hardwoods occur within the corridor, intermixed with mangrove swamps. These wetlands are dominated by the nuisance exotic species Brazilian pepper, with subdominant species including Australian pine, willow, groundsel tree, elderberry, primrose willow, cattail, paragrass, and torpedo grass.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolor heron (SSC). Also white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	1/9/2009

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Mangrove/Exotic Wetland Hardwoods
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	1/9/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 6	with: 0	Location and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility, roadways, mining, and transmission line right-of-way. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to adjacent disturbances; b) Invasive exotic species = 6, many present; c) Wildlife access to and from outside = 6, some limitations; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, some barriers; e) Impacts to wildlife listed in Part 1 by outside land uses = 6, reduced due to proximity of Turkey Point facility, roadways, mining, and transmission line right-of-way; f) Hydrologically connected areas downstream of assessment area = 6, several hydrological impairments; g) Dependency of downstream areas on assessment area = 6, some benefits to downstream areas.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with: 0	The water environment score is slightly reduced due to water levels lower than expected and presence of ditches. Individual parameter scores: a) water levels and flows = 6, slightly lower than expected; b) water level indicators = 6, slightly lower than expected; c) soil moisture = 6, drier than expected; d) soil erosion or deposition = 6, some observed; e) evidence of fire history = N/A; f) vegetation community zonation = 6, exotics present; g) hydrologic stress on vegetation = 6, due to lower water levels; h) use by animal species with specific hydrological requirements = 6, few evidence observed; i) vegetative species tolerant of and associated with water quality degradation = 6, few observed; j) direct observation of water quality = N/A; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 6	with: 0	The community structure variable is reduced due to presence of exotic vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, dominated by exotic species; b) invasive exotics or other invasive plant species = 6, many present; c) regeneration and recruitment = 6, some evidence of recruitment; d) age & size distribution = 6, lower water levels possibly affecting age distribution; e) density and quality of coarse woody debris, snag, den, and cavity = 6, less than expected; f) plant condition = 6, low recruitment; g) land management practices = 6, alteration evident; h) topographic features = 6, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.60	with: 0

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

For impact assessment areas
FL = delta x acres = -0.60 x 5.2 = **3.1 (to be restored *in-situ*)**

Delta = [with-current]
-0.60

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Mixed Wetland Hardwoods/Mixed Forested Wetlands

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617/630		Impact	8.6 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-1, DA-4, C-102, C-103, North Canal, Florida City/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Hydrologically connected to surrounding mangrove swamps, exotic wetlands and freshwater marshes.

Assessment area description

Several areas of mixed wetland hardwood/mixed forested wetland communities are present within the corridor. These areas are comprised of a variety of canopy species, including buttonwood, Australian pine, cocoplum, red mangrove, Brazilian pepper, cabbage palm, and willow.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC). Also white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	1/9/2009

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Mixed Wetland Hardwoods/Mixed Forested Wetlands
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	1/9/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current	with	Location and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of Biscayne Bay; b) Invasive exotic species = 7, minimal coverage; c) Wildlife access to and from outside = 7, some limitations; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, some barriers; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to proximity of Turkey Point facility; f) Hydrologically connected areas downstream of assessment area = 7, some hydrological impairments; g) Dependency of downstream areas on assessment area = 7, some benefits to downstream areas.
	7	0	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current	with	The water environment score is slightly reduced due to water levels lower than expected. Individual parameter scores: a) water levels and flows = 7, slightly lower than expected; b) water level indicators = 7, slightly lower than expected; c) soil moisture = 7, slightly consistent with expected; d) soil erosion or deposition = 7, some observed; e) evidence of fire history = N/A; f) vegetation community zonation = 7, slightly consistent with expected; g) hydrologic stress on vegetation = 7, due to lower water levels; h) use by animal species with specific hydrological requirements = 7, some evidence observed; i) vegetative species tolerant of and associated with water quality degradation = 7, some observed; j) direct observation of water quality = N/A; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
	7	0	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current	with	The community structure variable is high due to species diversity and presence of natural, native vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 7, mostly dominated by native species; b) invasive exotics or other invasive plant species = 7, some coverage; c) regeneration and recruitment = 7, some evidence of recruitment; d) age & size distribution = 7, lower water levels possibly affecting age distribution; e) density and quality of coarse woody debris, snag, den, and cavity = 7, slightly consistent with expected; f) plant condition = 7, low recruitment; g) land management practices = 7, some alteration evident; h) topographic features = 7, some present; i) siltation or algal growth in submerged aquatic plant communities = N/A.
	7	0	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres	with	
0.70	0	

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

For impact assessment areas
FL = delta x acres = -0.70 x 8.6 = **6.0 (to be restored *in-situ*)**

Delta = [with-current]
-0.70

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Freshwater Marshes

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641		Impact	4.1 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-1, DA-4, C-102, C-103, North Canal, Florida City/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Hydrologically connected to surrounding mangrove swamps, exotic wetlands and mixed forested wetlands.

Assessment area description

Areas of freshwater marsh occur within the reclaimed water pipeline corridor adjacent to and within the existing transmission line right-of-way. These areas are vegetated with predominantly herbaceous species, including primrose willow, sawgrass, and torpedo grass, as well as occasional shrub and canopy species such as willow, Brazilian pepper, buttonbush, cabbage palm, poisonwood, and Australian pine.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolor heron (SSC). Also white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
S. Rizzo	1/9/2009

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Reclaimed Water Pipelines		Freshwater Marshes
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	S. Rizzo	Jun-08

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

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	Location and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of Biscayne Bay; b) Invasive exotic species = 7, minimal coverage; c) Wildlife access to and from outside = 7, some limitations; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, some barriers; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to proximity of Turkey Point facility; f) Hydrologically connected areas downstream of assessment area = 7, some hydrological impairments; g) Dependency of downstream areas on assessment area = 7, some benefits to downstream areas.	7	0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is slightly reduced due to water levels lower than expected. Individual parameter scores: a) water levels and flows = 7, slightly lower than expected; b) water level indicators = 7, slightly lower than expected; c) soil moisture = 7, slightly consistent with expected; d) soil erosion or deposition = 7, some observed; e) evidence of fire history = N/A; f) vegetation community zonation = 7, slightly consistent with expected; g) hydrologic stress on vegetation = 7, due to lower water levels; h) use by animal species with specific hydrological requirements = 7, some evidence observed; i) vegetative species tolerant of and associated with water quality degradation = 7, some observed; j) direct observation of water quality = N/A; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	7	0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The community structure variable is high due to species diversity and presence of natural, native vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 7, mostly dominated by native species; b) invasive exotics or other invasive plant species = 7, some coverage; c) regeneration and recruitment = 7, some evidence of recruitment; d) age & size distribution = 7, lower water levels possibly affecting age distribution; e) density and quality of coarse woody debris, snag, den, and cavity = 7, slightly consistent with expected; f) plant condition = 7, low recruitment; g) land management practices = 7, some alteration evident; h) topographic features = 7, some present; i) siltation or algal growth in submerged aquatic plant communities = N/A.	7	0

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.70	0

Delta = [with-current]
-0.70

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

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

For impact assessment areas
FL = delta x acres = -0.70 x 4.1 = **2.9 (to be restored *in-situ*)**

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Canals/Ditches/Reservoirs

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510/511/534		Impact	7.3 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/Florida City/North Canal/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Adjacent to roadways. Hydrologically connected to surrounding mixed wetland hardwoods and freshwater marshes; however, does not appear to connect to a canal system or other surface water features.

Assessment area description

Canals and ditches are relatively free of emergent aquatic vegetation, although submerged aquatic vegetation is common. Most of the canals contain submerged aquatic vegetation, principally wigeongrass, with shoalweed and green algae also present.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, drainage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T). Reptiles such as American alligator (TSA).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

American alligator was observed in the canal.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	6/2/2008

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Canals/Ditches
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	K. Bullock, S. Rizzo	6/2/2008

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with: 0
Location and landscape support variable is reduced due to proximity of Palm Drive and lack of connectivity of canal to other surface waters. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 5, due to proximity of nearby roadways; b) Invasive exotic species = 5, common ocurrence within assesment area; c) Wildlife access to and from outside = 5, decreased due to lack of connectivity to other surface waters; d) functions that benefit fish & wildlife downstream-distance or barriers = N/A because this is a closed system; e) Impacts to wildlife listed in Part 1 by outside land uses = 5, surrounding habitats relatively undisturbed with exception of Palm Drive; f) Hydrologically connected areas downstream of assessment area = N/A due to closed system; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 5	with: 0
The water environment score is somewhat reduced due to the apparent lack of connectivity to other surface waters or canal system. Individual parameter scores: a) water levels and flows = 5, no flow evident; b) water level indicators = 5, mostly consistent with expected; c) soil moisture = 5, mostly consistent with expected; d) soil erosion or deposition = 5, typical patterns for canal; e) evidence of fire history = N/A; f) vegetation community zonation = 5, appropriate for community type; g) hydrologic stress on vegetation = 5, relatively minimal; h) use by animal species with specific hydrological requirements = 5, due to artificial hydroperiod; i) vegetative species tolerant of and associated with water quality degradation = 5, some pollution tolerant species present; j) direct observation of water quality = 5, no sheen or discoloration; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 5	with: 0
The community structure variable is reduced due to artificial nature of the canal and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, few species present; b) invasive exotics or other invasive plant species = 5, present; c) regeneration and recruitment = 6, near normal recruitment; d) age & size distribution = 6, slightly atypical; e) density and quality of coarse woody debris, snag, den, and cavity = 5, due to excavated canal banks; f) plant condition = 7, generally good plant condition; g) land management practices = 4, due to alteration of community structure and hydroperiod; h) topographic features = 5, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = 4, algal growth.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.50	with: 0

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

For impact assessment areas
FL = delta x acres = 0.50 x 7.3 = **3.65**

Delta = [with-current]
-0.50

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Dwarf Mangroves and Mixed Wetland Hardwoods/Freshwater Marshes

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612-B, 617/641		Impact	7.5 acres (612-B) 5.6 acres (617/641)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/Florida City/North Canal/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Adjacent to roadways and exotic wetland hardwoods. Hydrologically connected to Biscayne Bay through adjacent wetlands.

Assessment area description

Areas of mangroves occur within the corridors adjacent to SW 359th Street near the L 31E Canal. These areas are dominated by a mixture of red mangrove and black mangrove, along with subdominant species white mangrove, buttonwood, Brazilian pepper, cocoplum, sea grape, half-flower, and occasional Australian pine. Several areas of mixed wetland hardwood communities intermixed with freshwater marshes are present within and adjacent to the roadway improvement corridors. These areas are comprised of a variety of native and exotic canopy species, including buttonwood, Australian pine, cocoplum, red mangrove, Brazilian pepper, cabbage palm, willow, and herbaceous species such as sawgrass.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, drainage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC) as well as white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	6/2/2008

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Dwarf Mangroves and Mixed Wetland Hardwoods/Freshwater Marshes
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	K. Bullock, S. Rizzo	6/2/2008

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

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	7	0	Location and landscape support variable is slightly reduced due to proximity of FPL Turkey Point Plant main plant road and slight isolation from surrounding mangrove swamps. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, due to proximity of nearby roadways; b) Invasive exotic species = 7, some exotics species present; c) Wildlife access to and from outside = 7, decreased due to slight isolation from other habitats due to roadways; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, decreased due to slight isolation from other habitats due to roadways; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, surrounding habitats relatively undisturbed with exception of roadways; f) Hydrologically connected areas downstream of assessment area = 7, hydrologically connected but some impacts due to roadways; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream areas.
.500(6)(b)Water Environment (n/a for uplands)	8	0	The water environment score is somewhat reduced due to the slight hydrological isolation from surrounding roadways and increased salinity. Individual parameter scores: a) water levels and flows = 7, slightly less than expected; b) water level indicators = 7, slightly less than expected; c) soil moisture = 9, consistent with expected; d) soil erosion or deposition = 9, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 6, due to sparse cover; g) hydrologic stress on vegetation = 6, stress from high salinity; h) use by animal species with specific hydrological requirements = 7, slighly less than expected; i) vegetative species tolerant of and associated with water quality degradation = 7, species tolerant of high salinities present; j) direct observation of water quality = 8, no sheen or discoloration; K) existing water quality data = 6, due to high salinity; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	8	0	The community structure variable is slightly reduced due to high salinity. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, mostly all desirable species; b) invasive exotics or other invasive plant species = 9, very few present; c) regeneration and recruitment = 7, near normal recruitment; d) age & size distribution = 7, atypical due to high salinity; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 7, generally good plant condition; g) land management practices = 8, h) topographic features = 9, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.77	0

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

For impact assessment areas
FL = delta x acres = 0.77 x 7.5 = **5.78 (612-B)**, 0.77 x 5.6 = **4.31 (617/641)**

Delta = [with-current]
-0.77

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Mixed Wetland Hardwoods

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617		Impact	9.1 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/Florida City/North Canal/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Adjacent to roadways. Surrounded by freshwater marshes. Hydrologically connected to Biscayne Bay through adjacent wetlands.

Assessment area description

Several areas of mixed wetland hardwood communities are present within and adjacent to the roadway improvement corridors. Mixed wetland hardwoods are comprised of a variety of native and exotic canopy species, including buttonwood, Australian pine, cocoplum, red mangrove, Brazilian pepper, cabbage palm, and willow.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Passerine birds and other wildlife typical to the region	Occasional use by white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White-crowned pigeon observed flying overhead.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	6/2/2008

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Mixed Wetland Hardwoods
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	K. Bullock, S. Rizzo	6/2/2008

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0
	Location and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, due to proximity of Biscayne Bay; b) Invasive exotic species = 4, moderate coverage; c) Wildlife access to and from outside = 8, mostly unlimited access; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, no impedence to downstream areas; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to proximity of Turkey Point facility; f) Hydrologically connected areas downstream of assessment area = 8, no impedence to downstream areas; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream areas.	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 0
	The water environment score is slightly reduced due to the atypical vegetation community zonation due to presence of exotic species. Individual parameter scores: a) water levels and flows = 8, consistent with expected; b) water level indicators = 8, consistent with expected; c) soil moisture = 8, consistent with expected; d) soil erosion or deposition = 8, consistent with expected; e) evidence of fire history = N/A; f) vegetation community zonation = 4, atypical for the habitat due to presence of exotics; g) hydrologic stress on vegetation = 8, no stress noted; h) use by animal species with specific hydrological requirements = 8, consistent with expected; i) vegetative species tolerant of and associated with water quality degradation = 8, none observed; j) direct observation of water quality = N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 0
	The community structure variable is reduced due to low species diversity resulting from presence of exotics. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, dominated by exotic species; b) invasive exotics or other invasive plant species = 4, moderate to high coverage; c) regeneration and recruitment = 7, typical; d) age & size distribution = 7, typical; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 7, due to alteration of community structure; h) topographic features = 7, slightly less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.	

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.70	with: 0

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

For impact assessment areas
FL = delta x acres = 0.70 x 9.1 = **6.37**

Delta = [with-current]
-0.70

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Exotic Wetland Hardwoods

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
619		Impact	4.2 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/Florida City/North Canal/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Adjacent to roadways; intermixed with freshwater marshes and mixed wetland hardwoods.

Assessment area description

Areas of exotic wetland hardwoods dominated by Brazilian pepper occur within the corridors adjacent to the existing roadways. In addition to the nuisance exotic species Brazilian pepper, additional species commonly observed within these areas include Australian pine, willow, groundsel tree, elderberry, primrose willow, cattail, paragrass, and torpedo grass.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolor heron (SSC). Also white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	6/2/2008

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Exotic Wetland Hardwoods
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	K. Bullock, S. Rizzo	6/2/2008

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 6	with: 0
Location and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to proximity of Turkey Point facility b) Invasive exotic species = 6, prevalent coverage; c) Wildlife access to and from outside = 6, some limitations; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, roadway barriers; e) Impacts to wildlife listed in Part 1 by outside land uses = 6, slightly reduced due to proximity of Turkey Point facility and roadways; f) Hydrologically connected areas downstream of assessment area = 6, some hydrological impairments; g) Dependency of downstream areas on assessment area = 6, some benefits to downstream areas.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with: 0
The water environment score is slightly reduced due to water levels lower than expected. Individual parameter scores: a) water levels and flows = 6, slightly lower than expected; b) water level indicators = 6, slightly lower than expected; c) soil moisture = 6, mostly consistent with expected; d) soil erosion or deposition = 6, some observed; e) evidence of fire history = N/A; f) vegetation community zonation = 6, exotics present; g) hydrologic stress on vegetation = 6, due to lower water levels; h) use by animal species with specific hydrological requirements = 6, some evidence observed; i) vegetative species tolerant of and associated with water quality degradation = 6, some observed; j) direct observation of water quality = 6, mostly normal; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 6	with: 0
The community structure variable is high due to species diversity and presence of natural, native vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, dominated by exotic species; b) invasive exotics or other invasive plant species = 6, prevalent; c) regeneration and recruitment = 6, some evidence of recruitment; d) age & size distribution = 6, lower water levels possibly affecting age distribution; e) density and quality of coarse woody debris, snag, den, and cavity = 6, mostly consistent with expected; f) plant condition = 6, low recruitment; g) land management practices = N/A; h) topographic features = 6, mostly typical; i) siltation or algal growth in submerged aquatic plant communities = N/A.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.60	with: 0

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

For impact assessment areas
FL = delta x acres = 0.60 x 4.2 = **2.52**

Delta = [with-current]
-0.60

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Freshwater Marshes

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641		Impact	47.9 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/Florida City/North Canal/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The freshwater marsh wetlands within the assessment area are located within a large freshwater marsh system that is hydrologically connected to Biscayne Bay. The freshwater marshes are adjacent to mixed wetland hardwood communities and roadways.

Assessment area description

Areas of freshwater marsh are prevalent within the corridors adjacent to SW 359th Street. These marshes are dominated by sawgrass, with subdominant species including cattail, willow, primrose willow, buttonwood, wax myrtle, cabbage palm, Brazilian pepper, poisonwood, Australian pine, musky mint, silktree, and nettletree.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolor heron (SSC). Also white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White-crowned pigeon observed flying overhead.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	6/2/2008

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7/Associated Facilities/Roadway Improvements		Freshwater Marshes
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	K. Bullock, S. Rizzo	6/2/2008

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

.500(6)(a) Location and Landscape Support	w/o pres or current	with	Location and landscape support variable is slightly reduced due to proximity of existing Turkey Point facility. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, due to proximity of Biscayne Bay; b) Invasive exotic species = 8, minimal coverage; c) Wildlife access to and from outside = 8, no limitations; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, no barriers; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to proximity of Turkey Point facility; f) Hydrologically connected areas downstream of assessment area = 8, no hydrological impairments; g) Dependency of downstream areas on assessment area = 8, benefits to downstream areas.
	8	0	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current	with	The water environment score is slightly reduced due to water levels lower than expected. Individual parameter scores: a) water levels and flows = 7, slightly lower than expected; b) water level indicators = 7, slightly lower than expected; c) soil moisture = 9, consistent with expected; d) soil erosion or deposition = 9, none observed; e) evidence of fire history = 9, area was burned 2-3 years ago; f) vegetation community zonation = 9, consistent with expected; g) hydrologic stress on vegetation = 7, due to lower water levels; h) use by animal species with specific hydrological requirements = 9, some evidence observed; i) vegetative species tolerant of and associated with water quality degradation = 9, none observed; j) direct observation of water quality = 9, appears normal; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
	8	0	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current	with	The community structure variable is high due to species diversity and presence of natural, native vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, dominated by native species; b) invasive exotics or other invasive plant species = 9, minimal coverage; c) regeneration and recruitment = 8, some evidence of recruitment; d) age & size distribution = 7, lower water levels possibly affecting age distribution; e) density and quality of coarse woody debris, snag, den, and cavity = 9, consistent with expected; f) plant condition = 7, low recruitment; g) land management practices = 9, no alteration evident; h) topographic features = 9, optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.
	8	0	

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres	with	
0.80	0	

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

For impact assessment areas
FL = delta x acres = 0.80 x 47.9 = **38.32**

Delta = [with-current]
-0.80

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

MITIGATION SITES

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Northwest Restoration Site

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617, 641		Mitigation	240 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
North Canal/Florida City/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Mixed wetland forests and sawgrass marsh lie to the west of the Northwest Mitigation Site and further east is mangrove wetlands of Biscayne National Park. The L31E canal makes up the eastern boundary. SW 328th Street lies to the north, and SW 344th Street lies to the south.

Assessment area description

The Northwest Mitigation Site consists of several FPL-owned parcels totaling 240 acres located adjacent to the L-31E canal between 328th Street and 344th Street/Palm Drive, approximately two miles northwest of the Units 6&7 Site and directly west of the Biscayne National Park. The area is impacted due to historic hydrologic alteration and prevalence of exotic species, resulting in reduced quality of wildlife habitat and vegetative species diversity.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	5/4/2009

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Northwest Restoration Site
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	K. Bullock, S. Rizzo	5/4/2009

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

.500(6)(a) Location and Landscape Support		**Current**: Location and landscape support variable is slightly reduced due to proximity of roadways, presence of exotic vegetation, and ditching. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to proximity of roadways; b) Invasive exotic species = 6, moderate coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, area somewhat isolated from other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 6, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 6, connected through culverts to L31E; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream areas.
w/o pres or current: 6	with: 7	**With**: Location and landscape support variable is higher because area will be preserved. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to proximity of roadways; b) Invasive exotic species = 8, little coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, area somewhat isolated from other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 6, connected through culverts to L31E; g) Dependency of downstream areas on assessment area = 7, more benefit to downstream areas due to exotic removal.
.500(6)(b)Water Environment (n/a for uplands)		**Current**: The water environment score is reduced due to the prevalence of ditching on the site. Individual parameter scores: a) water levels and flows = 6, altered water level due to ditching; b) water level indicators = 4, less than expected; c) soil moisture = 6, drier than expected; d) soil erosion or deposition = 7, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 6, altered due to presence of exotics; g) hydrologic stress on vegetation = 6, some due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 6, due to lack of open water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, minimal; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
w/o pres or current: 6	with: 8	**With**: The water environment score is increased due to the removal of ditching on the site. Individual parameter scores: a) water levels and flows = 8, more typical water flows; b) water level indicators = 8, consistent with expected; c) soil moisture = 8, consistent with expected; d) soil erosion or deposition = 7, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 8, due to removal of exotics; g) hydrologic stress on vegetation = 8, due to improved hydrologic regime; h) use by animal species with specific hydrological requirements = 8, due to improved hydrology and resultant increase in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, minimal; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community		**Current**: The community structure variable is reduced due to presence of exotics and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, mix of exotic and native species; b) invasive exotics or other invasive plant species = 6, moderate coverage; c) regeneration and recruitment = 7, slightly less than expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 5, due to alteration of community structure; h) topographic features = 6, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.
w/o pres or current: 6	with: 8	**With**: The community structure variable is increased due to removal of exotics and improved hydrology. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, native species; b) invasive exotics or other invasive plant species = 9, minimal coverage; c) regeneration and recruitment = 8, consistent with expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 8, improved due to improved hydrology; g) land management practices = 8, due to removal of ditching; h) topographic features = 8, due to removal of ditching; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres	with
0.60	0.77

Delta = [with-current]

0.17

If preservation as mitigation,

Preservation adjustment factor =

Adjusted mitigation delta =

If mitigation

Time lag (t-factor) = 1.07

Risk factor = 1.25

For impact assessment areas

FL = delta x acres =

For mitigation assessment areas

RFG = delta/(t-factor x risk) = 0.13

Credits = RFG x acreage = 31.2

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Water Management Feature Restoration Site - Tree Nurseries

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
241		Mitigation	72 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-103/North Canal/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Tree nurseries lie to the north and west of the parcels. Mixed wetland forests and exotic species lie to the east and south. Further east is the L-31E canal and Biscayne Bay.

Assessment area description

The Water Management Feature Site encompasses a total of 577 acres, including the FPL-owned fill source area and surrounding parcels located on the north and south of the C-103 Canal, extending east towards SFWMD-owned parcels adjacent to the L-31E Canal and the BNP. The parcels to the south of the water management feature include 327 acres of wetlands dominated by Brazilian pepper, Australian pine, and Carolina willow, as well as additional areas of palm tree nurseries. The eastern portion of the Water Management Feature Site includes a 250-acre parcel of historical palm tree nurseries currently being restored to freshwater marsh.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	5/4/2009

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Water Management Feature Restoration Site - Tree Nurseries
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	K. Bullock, S. Rizzo	5/4/2009

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

.500(6)(a) Location and Landscape Support		**Current**: Location and landscape support variable is reduced due to tree nurseries, proximity of roadways, presence of exotic vegetation, and ditching. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to planted palms; b) Invasive exotic species = 6, due to planted palms; c) Wildlife access to and from outside = 6, due to surrounding roadways and tree nurseries; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, provides no functions; e) Impacts to wildlife listed in Part 1 by outside land uses = 6, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 6, connected through ditches to surrounding tree farms; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream areas.
w/o pres or current: 6	with: 7	**With**: Location and landscape support variable is higher because area will be preserved. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to proximity of roadways; b) Invasive exotic species = 8, little coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, area somewhat isolated from other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 6, connected through culverts to L31E; g) Dependency of downstream areas on assessment area = 7, more benefit to downstream areas due to exotic removal.
.500(6)(b)Water Environment (n/a for uplands)		**Current**: The water environment score is reduced due to the prevalence of ditching on the site. Individual parameter scores: a) water levels and flows = 1, altered water level due to ditching; b) water level indicators = 1, less than expected; c) soil moisture = 1, drier than expected; d) soil erosion or deposition = 1, due to nursery operations; e) evidence of fire history = N/A; f) vegetation community zonation = 1, not present; g) hydrologic stress on vegetation = 1, due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 1, very few; i) vegetative species tolerant of and associated with water quality degradation = N/A; j) direct observation of water quality = N/A, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
w/o pres or current: 1	with: 6	**With**: The water environment score is increased due to the removal of ditching on the site. Individual parameter scores: a) water levels and flows = 6, more typical water flows; b) water level indicators = 6, mostly consistent with expected; c) soil moisture = 6, mostly consistent with expected; d) soil erosion or deposition = 6, mostly typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 6, due to removal of palms; g) hydrologic stress on vegetation = 6, due to improved hydrologic regime; h) use by animal species with specific hydrological requirements = 6, some due to improved hydrology and resultant increase in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 6, mostly minimal; j) direct observation of water quality = 6, mostly no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community		**Current**: The community structure variable is reduced due to presence of planted palms. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 1, planted palms; b) invasive exotics or other invasive plant species = 1, planted palms; c) regeneration and recruitment = 1, planted palms; d) age & size distribution = 1, less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 1, none present; f) plant condition = 1, planted palms; g) land management practices = 1, highly altered; h) topographic features = 1, not present; i) siltation or algal growth in submerged aquatic plant communities = N/A.
w/o pres or current: 1	with: 6	**With**: The community structure variable is increased due to removal of planted palms and improved hydrology. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, mostly native species; b) invasive exotics or other invasive plant species = 6, little to moderate coverage; c) regeneration and recruitment = 6, mostly consistent with expected; d) age & size distribution = 6, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 6, mostly adequate for system type; f) plant condition = 6, improved due to improved hydrology; g) land management practices = 6, due to removal of ditching; h) topographic features = 6, due to removal of ditching; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres	with
0.27	0.63

Delta = [with-current]
0.37

If preservation as mitigation,

Preservation adjustment factor =
Adjusted mitigation delta =

If mitigation

Time lag (t-factor) = 1.25
Risk factor = 2

For impact assessment areas

FL = delta x acres =

For mitigation assessment areas

RFG = delta/(t-factor x risk) = 0.15

Credits = RFG x acreage = 10.8

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Water Management Feature Restoration Site - Mixed Wetland Hardwoods/Mixed Forested Wetlands

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
617/630		Mitigation	255 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-103/North Canal/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Tree nurseries lie to the north and west of the parcels. Mixed wetland forests and exotic species lie to the east and south. Further east is the L-31E canal and Biscayne Bay.

Assessment area description

The Water Management Feature Site encompasses a total of 577 acres, including the FPL-owned fill source area and surrounding parcels located on the north and south of the C-103 Canal, extending east towards SFWMD-owned parcels adjacent to the L-31E Canal and the BNP. The parcels to the south of the water management feature include 327 acres of wetlands dominated by Brazilian pepper, Australian pine, and Carolina willow, as well as additional areas of palm tree nurseries. The eastern portion of the Water Management Feature Site includes a 250-acre parcel of historical palm tree nurseries currently being restored to freshwater marsh.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	5/4/2009

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Water Management Feature Restoration Site - Mixed Wetland Hardwoods/Mixed Forested Wetlands
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	K. Bullock, S. Rizzo	5/4/2009

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

.500(6)(a) Location and Landscape Support		**Current**: Location and landscape support variable is slightly reduced due to proximity of roadways, presence of exotic vegetation, and ditching. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to proximity of roadways; b) Invasive exotic species = 6, moderate coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, area somewhat isolated from other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 6, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 6, connected through culverts to L31E; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream areas.
w/o pres or current: 6	with: 7	**With**: Location and landscape support variable is higher because area will be preserved. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to proximity of roadways; b) Invasive exotic species = 8, little coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, area somewhat isolated from other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 6, connected through culverts to L31E; g) Dependency of downstream areas on assessment area = 7, more benefit to downstream areas due to exotic removal.
.500(6)(b)Water Environment (n/a for uplands)		**Current**: The water environment score is reduced due to the prevalence of ditching on the site. Individual parameter scores: a) water levels and flows = 5, altered water level due to ditching; b) water level indicators = 4, less than expected; c) soil moisture = 5, drier than expected; d) soil erosion or deposition = 7, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 5, altered due to presence of exotics; g) hydrologic stress on vegetation = 5, some due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 5, due to lack of open water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 5, moderate; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
w/o pres or current: 5	with: 8	**With**: The water environment score is increased due to the removal of ditching on the site. Individual parameter scores: a) water levels and flows = 8, more typical water flows; b) water level indicators = 8, consistent with expected; c) soil moisture = 8, consistent with expected; d) soil erosion or deposition = 7, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 8, due to removal of exotics; g) hydrologic stress on vegetation = 8, due to improved hydrologic regime; h) use by animal species with specific hydrological requirements = 8, due to improved hydrology and resultant increase in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 7, minimal; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community		**Current**: The community structure variable is reduced due to presence of exotics and hydrologic isolation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 5, mix of exotic and native species; b) invasive exotics or other invasive plant species = 5, moderate coverage; c) regeneration and recruitment = 5, slightly less than expected; d) age & size distribution = 5, less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 5, due to dead stems and low productivity; g) land management practices = 5, due to alteration of community structure; h) topographic features = 5, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.
w/o pres or current: 5	with: 8	**With**: The community structure variable is increased due to removal of exotics and improved hydrology. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, native species; b) invasive exotics or other invasive plant species = 9, minimal coverage; c) regeneration and recruitment = 8, consistent with expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, adequate for system type; f) plant condition = 8, improved due to improved hydrology; g) land management practices = 8, due to removal of ditching; h) topographic features = 8, due to removal of ditching; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.53	with: 0.77

Delta = [with-current]
0.23

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

If mitigation
Time lag (t-factor) = 1.14
Risk factor = 1.5

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.13

Credits = RFG x acreage = 33.2

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Water Management Feature Restoration Site-Preservation - Freshwater Marshes

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641		Mitigation	250 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
C-103/North Canal/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Tree nurseries lie to the west of the parcel. Mixed wetland forests and exotic species lie to the east and south on lands managed by the South Florida Water Management District. Further east is the L-31E canal and Biscayne Bay.

Assessment area description

The Water Management Feature Site encompasses a total of 577 acres, including the FPL-owned fill source area and surrounding parcels located on the north and south of the C-103 Canal, extending east towards SFWMD-owned parcels adjacent to the L-31E Canal and the BNP. The parcels to the south of the water management feature include 327 acres of wetlands dominated by Brazilian pepper, Australian pine, and Carolina willow, as well as additional areas of palm tree nurseries. The eastern portion of the Water Management Feature Site includes a 250-acre parcel of historical palm tree nurseries currently being restored to freshwater marsh.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC) and tricolored heron (SSC)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

None

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	5/4/2009

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Water Management Feature Restoration Site - Preservation - Freshwater Marshes
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	K. Bullock, S. Rizzo	5/4/2009

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

.500(6)(a) Location and Landscape Support		**Current**: Location and landscape support variable is slightly reduced due to presence of invasive vegetation and surrounding tree nurseries. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 6, due to surrounding habitats ; b) Invasive exotic species = 6, moderate coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding roadways and lack of open water connection; d) functions that benefit fish & wildlife downstream-distance or barriers = 6, some functions; e) Impacts to wildlife listed in Part 1 by outside land uses = 6, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 6, connected through culverts/ditching to L31E; g) Dependency of downstream areas on assessment area = 6, some benefit to downstream areas.
w/o pres or current: 6	with: 7	**With**: Location and landscape support variable is higher because area will be preserved. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, increased due to improvement of surrounding habitats; b) Invasive exotic species = 7, little coverage; c) Wildlife access to and from outside = 7, due to improvement of surrounding habitats; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, due to improvement in surrounding habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, little to no surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 7, due to improved hydrology in surrounding area; g) Dependency of downstream areas on assessment area = 7, more benefit to downstream areas due to improved hydrology in surrounding area.
.500(6)(b)Water Environment (n/a for uplands)		**Current**: The water environment score is reduced due to lack of natural water flow. Individual parameter scores: a) water levels and flows = 5, altered water level; b) water level indicators = 4, less than expected; c) soil moisture = 5, drier than expected; d) soil erosion or deposition = 4, increased; e) evidence of fire history = N/A; f) vegetation community zonation = 5, altered due to presence of invasives; g) hydrologic stress on vegetation = 5, some due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 5, due to lack of open water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 5, moderate; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
w/o pres or current: 5	with: 5	**With**: The water environment score is same as current; no improvements proposed. Individual parameter scores: a) water levels and flows = 5, altered water level; b) water level indicators = 4, less than expected; c) soil moisture = 5, drier than expected; d) soil erosion or deposition = 4, increased; e) evidence of fire history = N/A; f) vegetation community zonation = 5, altered due to presence of invasives; g) hydrologic stress on vegetation = 5, some due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 5, due to lack of open water connection and resultant reduction in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 5, moderate; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community		**Current**: The community structure variable is reduced due to presence of invasive species. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 5, mix of exotic and native species; b) invasive exotics or other invasive plant species = 5, moderate coverage; c) regeneration and recruitment = 5, slightly less than expected; d) age & size distribution = 5, less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 5, not adequate for system type; f) plant condition = 5, due to dead stems and low productivity; g) land management practices = 5, due to alteration of community structure; h) topographic features = 5, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.
w/o pres or current: 5	with: 6	**With**: The community structure variable is slightly increased due to natural regeneration from surrounding properties. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, mostly native species; b) invasive exotics or other invasive plant species = 6, some coverage; c) regeneration and recruitment = 6, mostly consistent with expected; d) age & size distribution = 6, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 6, mostly adequate for system type; f) plant condition = 6, improved due to improved hydrology in surrounding area; g) land management practices = 6, improved; h) topographic features = 5, less than optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.53	with: 0.60	

If preservation as mitigation,
Preservation adjustment factor = 0.9
Adjusted mitigation delta = 0.063

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.07

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Credits = adjusted mitigation delta x acreage = 15.8

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		S20A/L-31E Hydrologic Enhancement Site

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641		Mitigation	293 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Strip of isolated sawgrass marsh between the FPL cooling canals and L-31E and the isolated marsh surrounding the five test cooling canal ribs.

Assessment area description

Sawgrass marsh that contains scattered tree islands and remnants of tidal mangrove marsh associated with historic tidal creek beds. This marsh system has been isolated by the levee, the cooling canals and the access roadway to the plant.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Biscayne National Park, Everglades National Park, Biscayne Outstanding Florida Waters, Everglades Mitigation Bank	Moderate uniqueness

Functions	Mitigation for previous permit/other historic use
Forage fish, grass shrimp, wildlife foraging, freshwater conveyance to coastal Biscayne Bay. Convey nutrients to coastal waters. Groundwater recharge and preventing saltwater intrusion.	a buffer for FPL's industrial power facility

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
White ibis, snowy egret, great white heron, little blue heron, raccoon	White ibis, snowy egret, great white heron, little blue heron, attempt foraging but limited forage material is available

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, snowy egret, great white heron, little blue heron

Additional relevant factors:

The body of the tidal creek once flowed through this area as evidenced by historic aerial photos.

Assessment conducted by:	Assessment date(s):
B. Maus (THEMIS Environmental)	4/3/2009

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		S20A/L-31E Hydrologic Enhancement Site
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	B. Maus (THEMIS Environmental)	4/3/2009

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

.500(6)(a) Location and Landscape Support			**Current**: Fair support for many species - acess substantially limited by barriers - benefits greatly reduced by impeded hydrologic connection - minimal to no benefits downstream - no discharges.
w/o pres or current: 6	with: 7		**With**: Optimal for most wildlife/reduced availability - minimal invasives - somewhat limited by barriers - minimal adverse impacts - hydrologic connection slightly restricted - significant benefits to downstream discharges - between significant to optimal protection from uplands
.500(6)(b)Water Environment (n/a for uplands)			**Current**: Water levels lower than appropriate - water levels inconsistent - flow rates altered substantially - fire rate is extremely altered - vegetation is inappropriate in some strata - strong evidence of hydrologic stress - wildlife use is lacking - water becomes extremely warm in summer
w/o pres or current: 5	with: 8		**With**: Water levels are slightly lower than normal - water levels are reliable - flow rates are slightly atypical - fire rate is typical - vegetation is appropriate for type - some minor stress to vegetation - wildlife use is generalized - vegetation is appropriate - water quality is improved by movement through system
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community			**Current**: Vegetation is mostly appropriate for strata - exotics present but inconsistent - recruitment less than normal size slightly less than typical - plants generally fair but less than optimal - land management less than optimal - reduction in extent of topographic features - tree islands less than optimal
w/o pres or current: 6	with: 8		**With**: Vegetation is mostly appropriate in all strata - exotics not present - recruitment normal - sizes typical

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.57	with: 0.77

Delta = [with-current]
0.20

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

If mitigation
Time lag (t-factor) = 1.03
Risk factor = 1.5

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.13

Credits = RFG x acreage = 38.1

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Card Sound Canal Weir Hydrologic Enhancement Site

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612		Mitigation	250 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
DA-4/C-111//03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

The Card Sound Canal drains the mangrove marsh and increases the acreage of nonproductive hypersaling mangrove white zone. The canal also reduces the detritus from accumulation as it flows through the mangrove marsh.

Assessment area description

Hypersaline mangrove marsh that contains scattered tree islands and remnants of tidal mangrove marsh associated with historic tidal creek beds. This marsh system has been isolated to the east and the west by Card Sound Road and U.S. 1, and drained by the Card Sound Road Canal.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Biscayne National Park, Everglades National Park, Biscayne Outstanding Florida Waters, Everglades Mitigation Bank	Moderate uniqueness

Functions	Mitigation for previous permit/other historic use
Wildlife foraging, water conveyance to coastal Barnes Sound. Convey nutrients to coastal waters. Groundwater recharge and prevents saltwater intrusion.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
White ibis, snowy egret, great white heron, reddish egret, night heron, roseate spoonbill	White ibis, snowy egret, great white heron, reddish egret; foraging is reduced because of hypersaline conditons for area.

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White ibis, snowy egret, great white heron, reddish egret

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
B. Maus (THEMIS Environmental)	4/3/2009

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Card Sound Canal Weir Hydrologic Enhancement Site
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	B. Maus (THEMIS Environmental)	5/4/2009

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

.500(6)(a) Location and Landscape Support		**Current**: Fair support for many species - access limited by barriers - significant adverse impacts by canal - benefits greatly reduced by impeded hydrologic connection - minimal benefits downstream
w/o pres or current: 6	with: 6	**With**: Fair support for many species - access limited by barriers - minimal adverse impacts by canal - some benefits to downstream habitats
.500(6)(b)Water Environment (n/a for uplands)		**Current**: Water flows show extreme deviation from appropriate - water levels inconsistent - flow rates are altered substantially - vegetation is inappropriate in almost all strata - strong evidence of substantial hydrologic stress - wildlife use is lacking from expected species - many plants stressed beyond tolerance - water becomes extremely saline during periods of low rainfall
w/o pres or current: 4	with: 7	**With**: Water levels are slightly lower than normal - water levels not completely consistent with expected - points of discharge are natural - vegetation has some inappropriate strata - some stress to vegetation - wildlife use is generalized - vegetation shows some tolerance to water quality - water quality is improved by movement through system
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community		**Current**: Majority of vegetation is reduced in stratum - recruitment less than minimal - size is less and age distribution of vegetation minimal - mangroves are generally in poor condition - land is drained by canal - reduction in extent of natural features - tree islands less than optimal
w/o pres or current: 5	with: 7	**With**: Vegetation nearly normal in all strata - exotics not present - recruitment normal - sizes typical

Score = sum of above scores/30 (if uplands, divide by 20)		If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.50	with: 0.67	Preservation adjustment factor =	FL = delta x acres =
		Adjusted mitigation delta =	
Delta = [with-current]		If mitigation	For mitigation assessment areas
0.17		Time lag (t-factor) = 1.03	RFG = delta/(t-factor x risk) = 0.13
		Risk factor = 1.25	

Credits = RFG x acreage = 32.5

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Model Lands Basin Hydrologic Enhancement Site (Reclaimed Water)

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612, 617, 641		Mitigation	600 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Model Lands Basin/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Located within Model Lands Basin; large area of wetlands consisting of sawgrass marshes, mangrove heads, and mixed wetland hardwoods.

Assessment area description

Model Lands Basin Hydrologic Enhancement area is located south of the existing Turkey Point to Levee transmission line right-of-way. The area is currently hydrologically impaired due to historical construction of canals, levees, and roadways, restricting the natural sheet flow of freshwater across the system. Habitats within the Model Lands Basin Hydrologic Enhancement area include freshwater marsh dominated by sawgrass, scattered mixed wetland tree islands, and areas of mangrove heads associated with historical tidal creek channels.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC), tricolored heron (SSC) and white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White-crowned pigeon

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	5/4/2009

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Model Lands Basin Hydrologic Enhancement Site (Reclaimed Water)
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	K. Bullock, S. Rizzo	5/4/2009

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

.500(6)(a) Location and Landscape Support		**Current**: Location and landscape support variable is slightly reduced due to proximity of transmission line right-of-way and Turkey Point Plant, but generally, location and landscape support is optimal. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, surrounding habitats beneficial; b) Invasive exotic species = 8, little to no coverage; c) Wildlife access to and from outside = 8, some limitations by transmission line right-of-way; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, area connected to large areas of wetlands; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to proximity of Turkey Point Plant; f) Hydrologically connected areas downstream of assessment area = 8, area connected to large areas of wetlands; g) Dependency of downstream areas on assessment area = 8, benefits downstream areas.
w/o pres or current: 8	with: 8	**With**: Location and landscape support variable is slightly reduced due to proximity of transmission line right-of-way and Turkey Point Plant, but generally, location and landscape support is optimal. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, surrounding habitats beneficial; b) Invasive exotic species = 8, little to no coverage; c) Wildlife access to and from outside = 8, some limitations by transmission line right-of-way; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, area connected to large areas of wetlands; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to proximity of Turkey Point Plant; f) Hydrologically connected areas downstream of assessment area = 8, area connected to large areas of wetlands; g) Dependency of downstream areas on assessment area = 8, benefits downstream areas.
.500(6)(b)Water Environment (n/a for uplands)		**Current**: The water environment score is reduced due to hydrologic alterations. Individual parameter scores: a) water levels and flows = 6, altered water level; b) water level indicators = 6, less than expected; c) soil moisture = 6, drier than expected; d) soil erosion or deposition = 8, typical patterns; e) evidence of fire history = 8, area was burned 2-3 years ago; f) vegetation community zonation = 7, altered due to altered water level; g) hydrologic stress on vegetation = 6, some due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 8, species present; i) vegetative species tolerant of and associated with water quality degradation = 7, minimal; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
w/o pres or current: 7	with: 9	**With**: The water environment score is increased due to addition of fresh water from the FPL water treatment facility through a system of spreader canals extending along the southern boundary of the transmission line right-of-way. Individual parameter scores: a) water levels and flows = 9, more typical water flows; b) water level indicators = 9, consistent with expected; c) soil moisture = 9, consistent with expected; d) soil erosion or deposition = 8, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 9, due to hydrologic improvements; g) hydrologic stress on vegetation = 9, due to improved hydrologic regime; h) use by animal species with specific hydrological requirements = 8, due to improved hydrology and resultant increase in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 9, minimal; j) direct observation of water quality = 9, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community		**Current**: The community structure variable is reduced due to hydrologic stress on vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, native species; b) invasive exotics or other invasive plant species = 8, little to no coverage; c) regeneration and recruitment = 7, slightly less than expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, mostly adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 8, due periodic burning; h) topographic features = 8, optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.
w/o pres or current: 8	with: 9	**With**: The community structure variable is increased due to improved hydrology. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, native species; b) invasive exotics or other invasive plant species = 9, minimal coverage; c) regeneration and recruitment = 9, consistent with expected; d) age & size distribution = 9, consistent with expected; e) density and quality of coarse woody debris, snag, den, and cavity = 8, adequate for system type; f) plant condition = 9, improved due to improved hydrology; g) land management practices = 9, due to hydrologic improvements; h) topographic features = 8, optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres	with
0.77	0.87

Delta = [with-current]
0.10

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

If mitigation
Time lag (t-factor) = 1.03
Risk factor = 1.25

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.08

Credits = RFG x acreage = 48

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Model Lands Basin Hydrologic Enhancement Site (Additional Culverts)

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
612, 617, 641		Mitigation	150 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Model Lands Basin/03090202		None

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Located within Model Lands Basin; large area of wetlands consisting of sawgrass marshes, mangrove heads, and mixed wetland hardwoods.

Assessment area description

Model Lands Basin Hydrologic Enhancement area is located south of the existing Turkey Point to Levee transmission line right-of-way. The area is currently hydrologically impaired due to historical construction of canals, levees, and roadways, restricting the natural sheet flow of freshwater across the system. Habitats within the Model Lands Basin Hydrologic Enhancement area include freshwater marsh dominated by sawgrass, scattered mixed wetland tree islands, and areas of mangrove heads associated with historical tidal creek channels.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
FPL Turkey Point Plant, Biscayne Bay	Not unique

Functions	Mitigation for previous permit/other historic use
Water storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, shorebirds, forage fishes	Occasional use by wading birds such as roseate spoonbill (SSC), white ibis (SSC), little blue heron (SSC), wood stork (E), reddish egret (SSC), snowy egret (SSC), tricolored heron (SSC) and white-crowned pigeon (T).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

White-crowned pigeon

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
K. Bullock, S. Rizzo	5/4/2009

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Turkey Point Units 6 & 7 Project		Model Lands Basin Hydrologic Enhancement Site (Additional Culverts)
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	K. Bullock, S. Rizzo	5/4/2009

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

.500(6)(a) Location and Landscape Support		**Current**: Location and landscape support variable is slightly reduced due to proximity of transmission line right-of-way and Turkey Point Plant, but generally, location and landscape support is optimal. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, surrounding habitats beneficial; b) Invasive exotic species = 8, little to no coverage; c) Wildlife access to and from outside = 8, some limitations by transmission line right-of-way; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, area connected to large areas of wetlands; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to proximity of Turkey Point Plant; f) Hydrologically connected areas downstream of assessment area = 8, area connected to large areas of wetlands; g) Dependency of downstream areas on assessment area = 8, benefits downstream areas.
w/o pres or current: 8	with: 8	**With**: Location and landscape support variable is slightly reduced due to proximity of transmission line right-of-way and Turkey Point Plant, but generally, location and landscape support is optimal. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, surrounding habitats beneficial; b) Invasive exotic species = 8, little to no coverage; c) Wildlife access to and from outside = 8, some limitations by transmission line right-of-way; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, area connected to large areas of wetlands; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to proximity of Turkey Point Plant; f) Hydrologically connected areas downstream of assessment area = 8, area connected to large areas of wetlands; g) Dependency of downstream areas on assessment area = 8, benefits downstream areas.
.500(6)(b)Water Environment (n/a for uplands)		**Current**: The water environment score is reduced due to hydrologic alterations. Individual parameter scores: a) water levels and flows = 6, altered water level; b) water level indicators = 6, less than expected; c) soil moisture = 6, drier than expected; d) soil erosion or deposition = 8, typical patterns; e) evidence of fire history = 8, area was burned 2-3 years ago; f) vegetation community zonation = 7, altered due to altered water level; g) hydrologic stress on vegetation = 6, some due to altered hydrologic regime; h) use by animal species with specific hydrological requirements = 8, species present; i) vegetative species tolerant of and associated with water quality degradation = 7, minimal; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
w/o pres or current: 7	with: 8	**With**: The water environment score is increased due to restoration of hydrologic connection between adjacent wetlands. Individual parameter scores: a) water levels and flows = 8, more typical water flows; b) water level indicators = 8, consistent with expected; c) soil moisture = 8, consistent with expected; d) soil erosion or deposition = 8, typical patterns; e) evidence of fire history = N/A; f) vegetation community zonation = 8, due to hydrologic improvements; g) hydrologic stress on vegetation = 8, due to improved hydrologic regime; h) use by animal species with specific hydrological requirements = 8, due to improved hydrology and resultant increase in number of fish species; i) vegetative species tolerant of and associated with water quality degradation = 8, minimal; j) direct observation of water quality = 8, no discoloration, turbidity, or sheen; k) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community		**Current**: The community structure variable is reduced due to hydrologic stress on vegetation. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 8, native species; b) invasive exotics or other invasive plant species = 8, little to no coverage; c) regeneration and recruitment = 7, slightly less than expected; d) age & size distribution = 7, slightly less than expected; e) density and quality of coarse woody debris, snag, den, and cavity = 7, mostly adequate for system type; f) plant condition = 7, due to dead stems and low productivity; g) land management practices = 8, due periodic burning; h) topographic features = 8, optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.
w/o pres or current: 8	with: 9	**With**: The community structure variable is increased due to improved hydrology. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, native species; b) invasive exotics or other invasive plant species = 9, minimal coverage; c) regeneration and recruitment = 9, consistent with expected; d) age & size distribution = 9, consistent with expected; e) density and quality of coarse woody debris, snag, den, and cavity = 8, adequate for system type; f) plant condition = 9, improved due to improved hydrology; g) land management practices = 9, due to hydrologic improvements; h) topographic features = 8, optimal; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)

current or w/o pres	with
0.77	0.83

Delta = [with-current]
0.07

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

If mitigation
Time lag (t-factor) = 1.03
Risk factor = 1.25

For impact assessment areas
FL = delta x acres =

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.05

Credits = RFG x acreage = 7.5

APPENDIX B

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

FPL Everglades Mitigation Bank

Mitigation Bank Site Suitability Evaluation (MBSE) Matrix

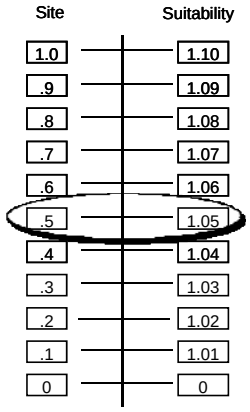
Parameters — **Turkey Point Units 6&7 Site**

(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	1
	Property contains no special designations.	0	
5. Property important to acknowledged restoration efforts	Property is important.	1	0
	Property is not important.	0	
6. Ownership and control of the property.	Property is privately owned.	1	1
	Property is publicly owned.	0	
7. Threatened , Endangered & Species of Special Concern Presence of animal species (faunal) found on site	Documented Presence of Species on site	1	1
	No documented Presence of species on site.	0	
8. Threatened , Endangered & Listed Species Presence of plant species (floral) found on site	Documented Presence of Species on site	1	1
	No documented Presence of species on site.	0	
9. Threat of loss or destruction from development activities. *(Development Pressure)*	High probability of development.	1	
	Low probability of development.	0	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 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

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

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: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

Project: FPL Turkey Point Units 6&7

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon		Polygon		Polygon	
			Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
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	2	0	3	0	3	0	2	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	2.5	0	2.5	0	1	0	2	0	2	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 ibs.)	2	2	0	0	0	2	0	2	0	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	3	0	2	0	3	0	3	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	1.5	0	0	0	1	0	1	0	1	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

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

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: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

Project: FPL Turkey Point Units 6&7

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon		Polygon		Polygon	
			Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
2. Vegetative Functions *Apply to freshwater, saltwater, brackish and mitigation systems*												
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3	2.5	0	N/A	0	N/A	0	2	0	N/A	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	N/A	0	3	0	1	0	N/A	0	1	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	2	0	0	0	1	0	2	0
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2										
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1										
	Periphyton (Blue-green algae) not present or if 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	3	0	3	0	2	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	0	2	0	2	0
	2 or 3 native species communities on site within assessment area	2										
	1 native species community with 75 % to 90 % coverage within assessment area	1										
	1 native species community has > 90 % coverage within assessment area	0										
f. Biological diversity within 3000 feet *(approximately 1/2 mile from edge of assessment area)*	> 3 alternative habitats available (including upland)	3	3	0	3	0	3	0	3	0	3	0
	2 to 3 alternative habitats	2										
	1 alternative habitat	1										
	Same habitat type, or inappropriate / impacted	0										

Mitigation Bank Wetland Function -- Evaluation Matrix

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

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: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

Project: FPL Turkey Point Units 6&7

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon		Polygon		Polygon	
			Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
3. Hydrologic Functions												
a. Surface water hydrology / sheet flow *Apply to freshwater, saltwater, brackish and mitigation systems*	Major connection *(Flowing water/ river or floodplain/ uniform flow through natural systems)*	3	1	0	1	0	1	0	1	0	1	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		This is a hypersaline closed system used to manage industrial wastewater. There is no tidal inundation.									
	Inundated by "spring" high tides (bi-monthly)	2										
	Inundated by "extreme high" tides only (biannually)	1	0.5	0	0.5	0	0.5	0	0.5	0	0.5	0
	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

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

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: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

Project: FPL Turkey Point Units 6&7

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon		Polygon		Polygon	
			Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
3. Hydrologic Functions continued												
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3										
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2										
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1										
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0										
	>1 ft. water depth <2 ft. on 90% high tides	3										
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	> 6 in. water depth <1 ft. on >50% high tides	2	This is a hypersaline closed system used to manage industrial wastewaters. There is no tidal inundation.									
	< 6 in. water depth , but > than saturated	1	1.5	0	1.5	0	1.5	0	1.5	0	1.5	0
	Saturated by saline water table only	0										
	>10 in. water depth <2 ft. on regular basis during growing season	3										
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>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										
	>2 ft. water depth (main channel) <6 ft. for 8 months	3										
c-3 Alternate to c. for Riverine systems	>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

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

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: Nov 28 and 29, 2007; also used data from DERM visit on Aug 29, 2007

Project: FPL Turkey Point Units 6&7

Parameter/ Function	Scoring Criteria	Ratings	Polygon		Polygon		Polygon		Polygon		Polygon	
			Mangrove Heads - Pre	Mangrove Heads - Impact	Remnant Canals- Pre	Remnant Canals- Impact	Mudflat/Wet Spoil Piles- Pre	Mudflat/Wet Spoil Piles - Impact	Dwarf Mangrove- Pre	Dwarf Mangrove- Impact	Open Water/Active Canals - Pre	Water/Active Canals - Impact
3. Hydrologic Functions continued												
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	1.5	0	1.5	0	1.5	0	1.5	0	1.5	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	1.5	0	1	0	1.5	0	1.5	0	1	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	2	0	2	0	3	0	2	0
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2										
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1										
	Calcareous loam <1 in. for >50% of surface area	0										

Mitigation Bank Wetland Function -- Evaluation Matrix

Units 6&7 Site

Scoring conducted by: Karl Bullock & Colleen Cunningham

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)

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Project: FPL Turkey Point Units 6&7

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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										
	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	2	0	2	0	2	0	2	0	2	0
	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)		35.5	0.0	30.0	0.0	28.0	0.0	33.0	0.0	27.5	0.0
	Maximum Possible Score (MPS)		51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00	51.00
	W.A.T.E.R. = Cumulative Score/Maximum Possible Score		**0.70**	**0.00**	**0.59**	**0.00**	**0.55**	**0.00**	**0.65**	**0.00**	**0.54**	**0.00**

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

11/1/1995

APPENDIX C

MITIGATION AREA PHOTOGRAPHS

Photograph 1. Aerial view of Northwest Restoration Site, looking north. Freshwater marsh historically impacted by network of mosquito ditches dominated by the exotic species Australian pine (*Casuarina equisetifolia*). Transmission corridor, L-31E Canal, and Biscayne Bay visible to east.

Photograph 2. Aerial photograph of Everglades Mitigation Bank crocodile sanctuary area prior to enhancement. Area dominated by the exotic species Australian pine. Industrial wastewater facility in background.

Photograph 3. Aerial view of Everglades Mitigation Bank crocodile sanctuary area following creation of crocodile habitat. Exotic species of vegetation removed, freshwater ponds excavated and perimeter of peat/marl/sand nesting substrate installed. Area revegetated with native species, including buttonwood (*Conocarpus erectus*), bay cedar (*Suriana maritima*), Florida silver palm (*Coccothrinax argentata*), willow bustic (*Sideroxylon salicifolium*), muhly grass (*Muhlenbergia capillaries*), and railroad vine (*Ipomea pes-capri*).

ATTACHMENT F

AGENCY CORRESPONDENCE AND FNAI REPORT

Florida Power & Light Company, P.O. Box 14000, Juno Beach, FL 33408-0420
Environmental Services Department

FPL

FLNA-08-0288

December 21, 2008

Mr. Bob Hoffman
NOAA Fisheries Services
Southeast Regional Office
263 13th Ave. South
St. Petersburg, FL 33701

SUBJECT: Request for Information on Federal Listed Species in Miami-Dade County, Florida

Dear Mr. Hoffman:

Florida Power & Light Company (FPL) is preparing permit and license applications to the U.S. Nuclear Regulatory Commission (NRC), the Florida Department of Environmental Protection (FDEP) and the United States Army Corps of Engineers (USACE) to allow construction and operation of two new nuclear units and associated project features at our existing Turkey Point property in Miami-Dade County, Florida (the "proposed action"). As part of the permitting and licensing process, FPL is required to assess impacts of the proposed action, including those on Federal listed species in accordance with the Endangered Species Act. Consistent with 10 CFR Part 51, FPL requests that the U.S. Fish and Wildlife Service ("Service") provide it with information in your possession showing known occurrences of federal listed (or proposed for listing) species that could potentially be affected by the proposed action. FPL will include a copy of this request and your response in both the State of Florida Site Certification Application and the NRC Combined Operating License Application Environmental Report. Information about the property and the proposed action follows.

The Turkey Point property is located in Miami-Dade County Florida, adjacent to Biscayne Bay and Card Sound, about 25 miles south of Miami (Figure 1). The total, non-contiguous property area is approximately 11,000 acres. The developed portion of the property includes a natural gas fueled generating unit; two oil/gas-fired generating units, and two nuclear-powered generating units. The proposed action would further develop approximately 300 acres of the property west and south of these existing units, primarily within an existing cooling canal system. In addition, FPL will construct (1) pipelines to convey dual cooling water supplies (reclaimed and saline) to new cooling towers, (2) power transmission lines to connect the new units with the regional electric grid, and (3) a reclaimed water treatment facility to condition the reclaimed water for cooling water uses. In addition, because fill material is necessary for the unit foundations, FPL is proposing to place fill sourced from a commercial mine and/or from a nearby FPL-owned property approximately 4 miles northwest of the proposed site. These areas are shown in Figures 2 and 3. Figures 2A and 2B include the project features in the vicinity of the proposed plant area. Figure 3 also provides an expanded view of the area showing the proposed transmission corridor.

Thank you for your attention to this request; I will follow-up with you to confirm receipt and to address any information needs or questions you may have. Should you need to talk to me earlier, please reach me by telephone at 561-691-7518.

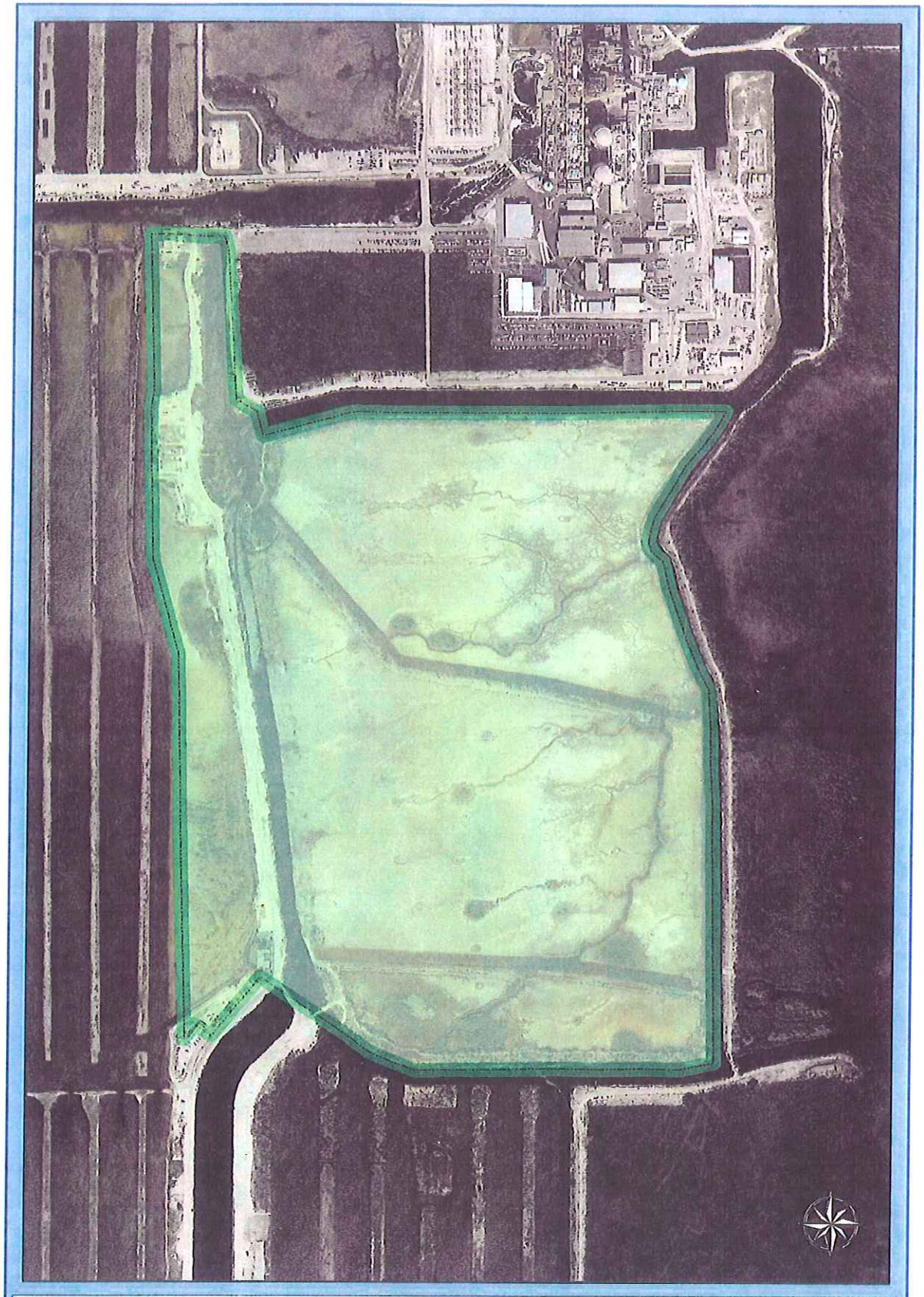
Sincerely,

Barbara Linkiewicz

Director, Environmental Licensing

cc: Jocelyn Karazsia, NOAA Fisheries Services

Figure 1



Turkey Point Units 6 and 7 Site

Miles
0 0.03 0.06 0.12 0.18 0.24

0 0.05 0.1 0.2 0.3
Kilometers

GIS Map Code: US-TURK-000082-R000C

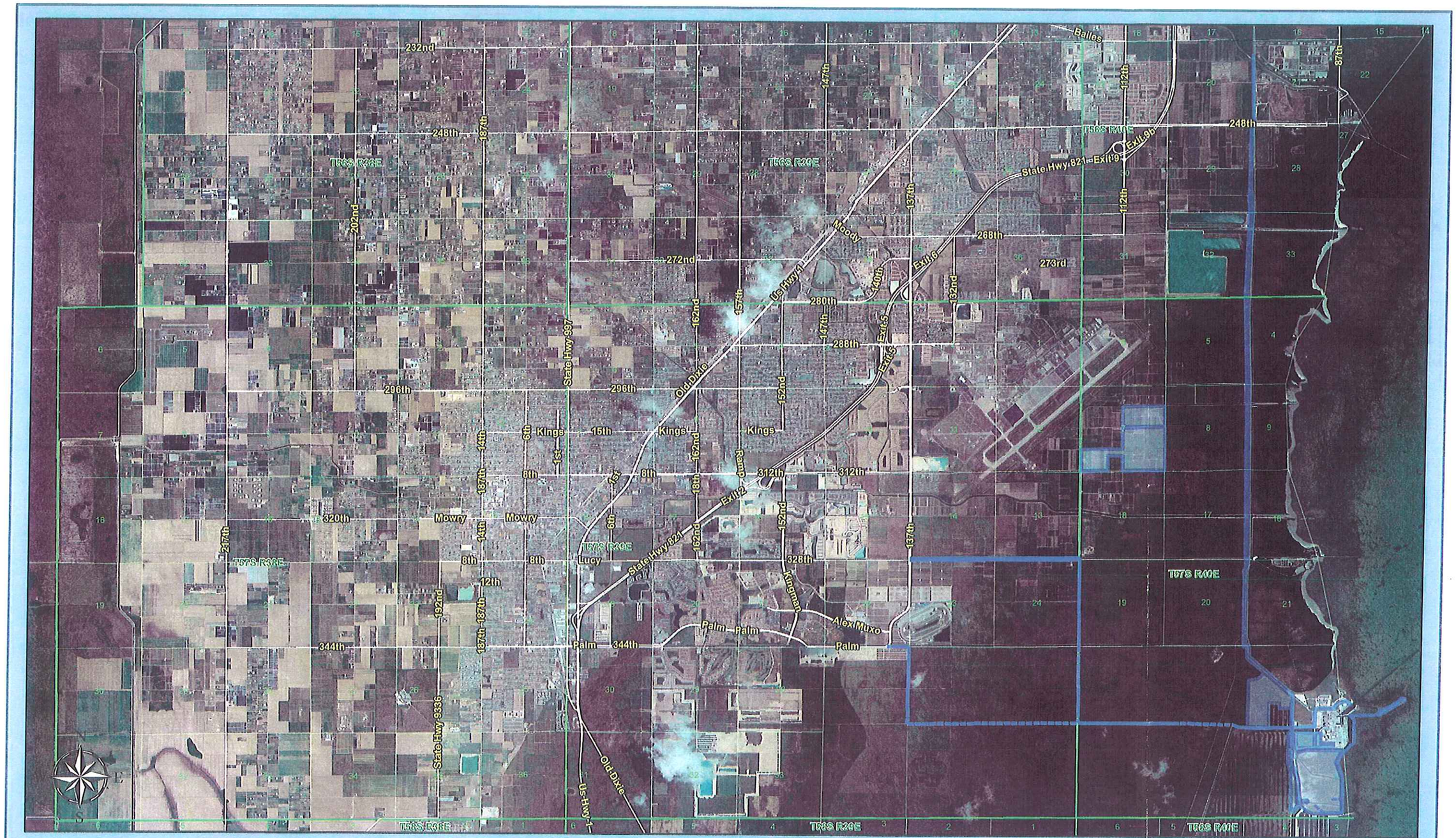


Figure 2A: Turkey Point Units 6 & 7 Potential Project Features (without transmission)

0 0.5 1 2 Miles

GIS Map Code: US-TURK-000159-R000F

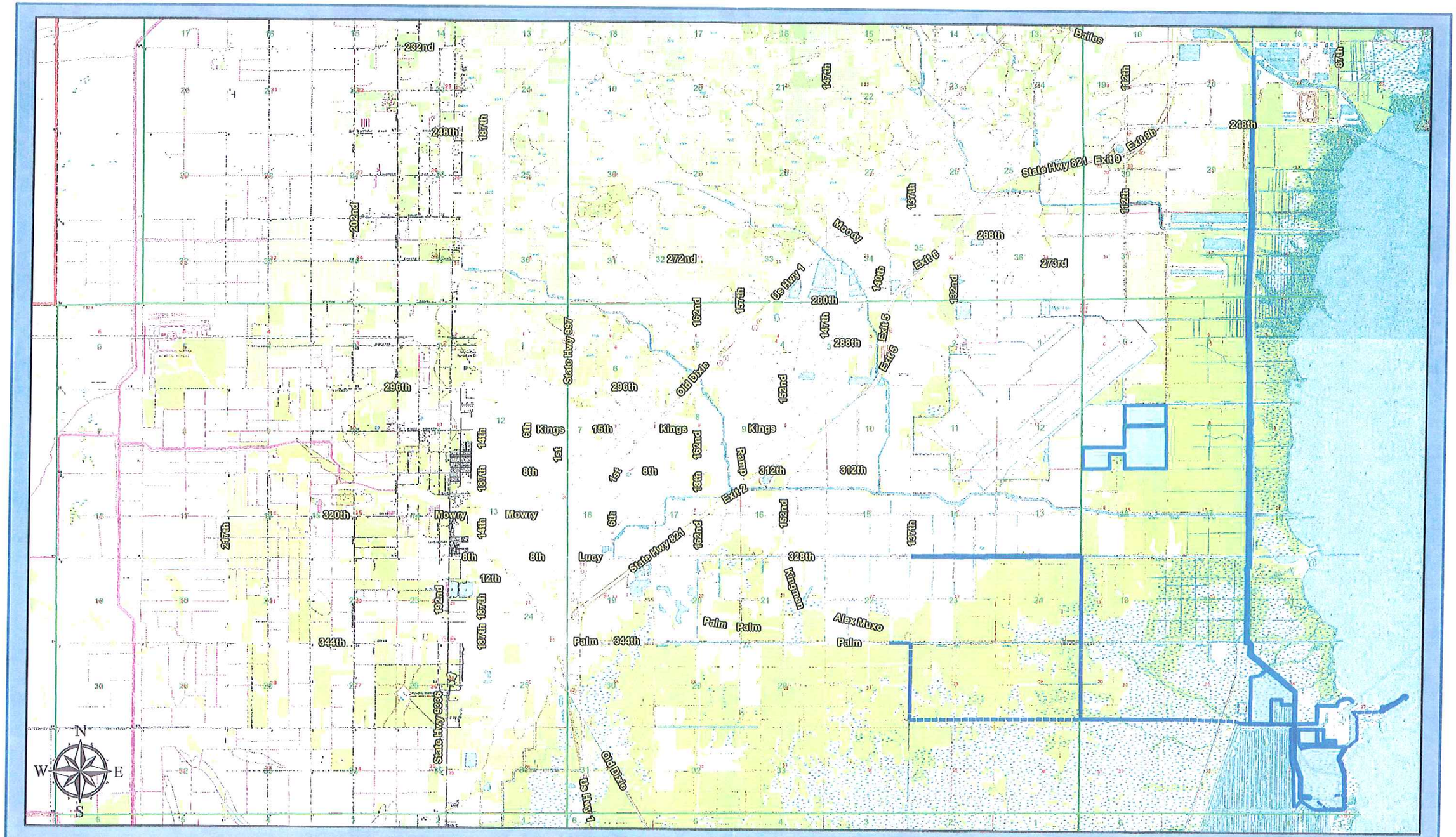


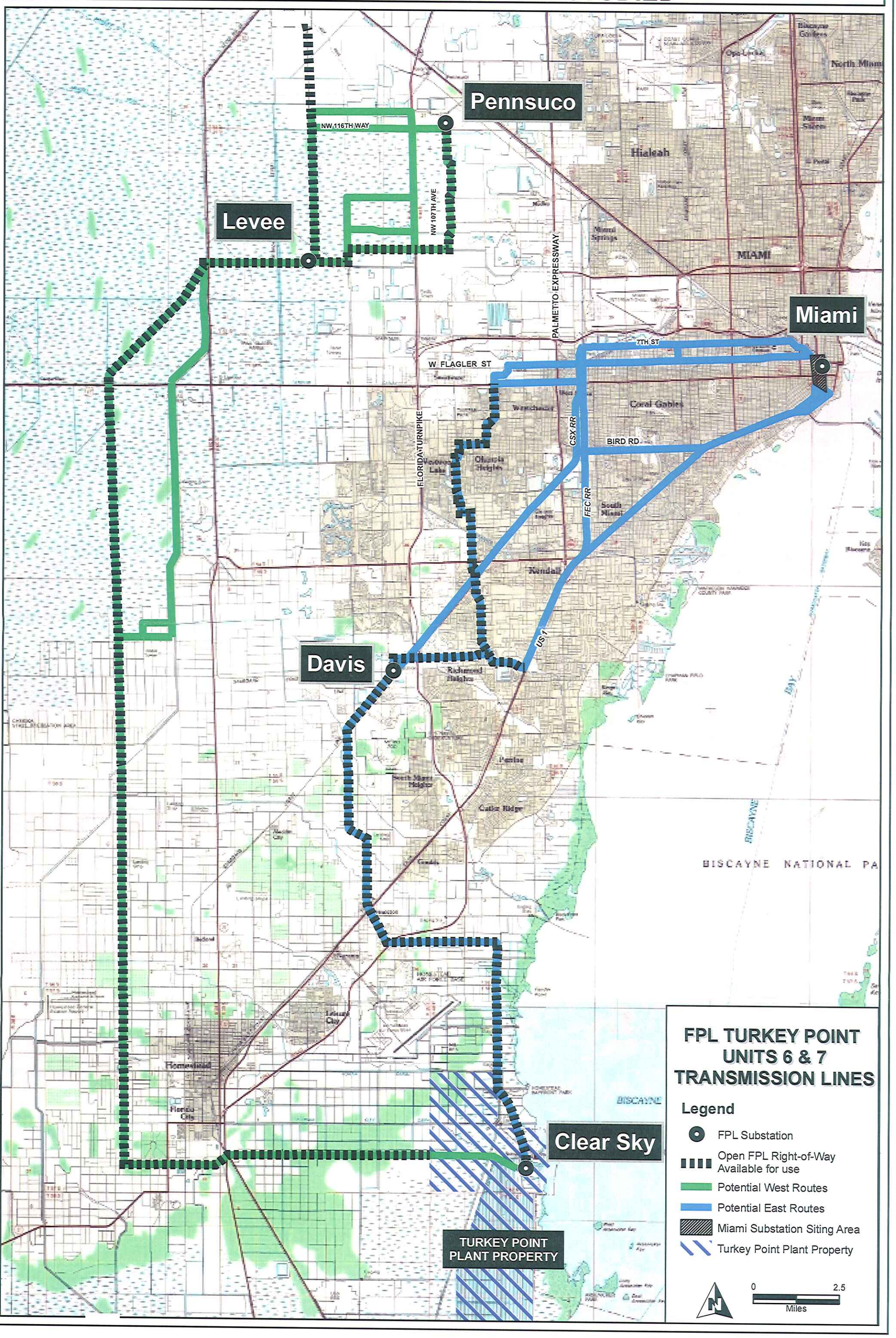
Figure 2B: Turkey Point Units 6 & 7 Potential Project Features (without transmission)

0 0.5 1 2 Miles

GIS Map Code: US-TURK-000161-R000D

File: M:\acad\080489\Route-USGS.mxd

FIGURE 3.
POTENTIAL TRANSMISSION ROUTES BEING STUDIED



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
(727) 824-5312, Fax 824-5309
http://sero.nmfs.noaa.gov

JAN 0 9 2009

Dear Colleague:

Pursuant to section 7(a)(2) of the Endangered Species Act (ESA), the Protected Resources Division of NOAA's National Marine Fisheries Service (NMFS) has reviewed your letter dated December 21, 2008, requesting information on federal listed species in Miami-Dade County, Florida.

____**There are no ESA-listed species** or designated critical habitat under our purview in the action area.

___**We cannot determine** impacts to threatened or endangered species, or designated critical habitat, under NOAA Fisheries purview because the letter lacks sufficient information to evaluate the project.
Enclosed are guidelines to conduct a proper biological evaluation.

___**Please provide a letter** from the lead federal action agency designating you to conduct ESA section 7 consultation with this office.

__X__**Enclosed is a list** of federally-protected species under the jurisdiction of NMFS for the state of Florida. Biological information on federally-protected species and candidate species can be found at the following website addresses: http://www.nmfs.noaa.gov/prot_res/prot_res.html; http://www.cccturtle.org; http://noflorida.fws.gov/SeaTurtles/seaturtle-info.htm); http://endangered.fws.gov/wildlife.html#Species; http://www.cmc-ocean.org/main.php3; http://floridaconservation.org/psm/turtles/turtle.htm; http://obis.env.duke.edu/data/sp_profiles.php; www.mote.org/~colins/Sawfish/SawfishHomePage.html; www.floridasawfish.com; www.flmnh.ufl.edu/fish/sharks/InNews/sawprop.htm; Gulf sturgeon critical habitat rule and maps (http://alabama.fws.gov/gs/).

___**It is NMFS' opinion that the project will have no effect** on listed species or critical habitat protected by the ESA under NOAA Fisheries purview. No further consultation with NOAA Fisheries pursuant to section 7(a)(2) of the ESA is required unless the project description changes.

Consultation with NMFS' Habitat Conservation Division (HCD), pursuant to the Magnuson-Stevens Fishery Conservation and Management Acts requirements for essential fish habitat consultation, may be required. Please contact HCD at (727) 824-5317. If you have any ESA questions, please contact our ESA section 7 Coordinator, Eric Hawk, at (727) 824-5312 or by e-mail at eric.hawk@noaa.gov

Sincerely,

Teletha Mincey
Administrative Support Assistant
Protected Resources Division

Enclosure

File: 1514-22.B

Florida-Atlantic

Species Proposed for Listing
None

Proposed Critical Habitat
None

Candidate Species[2]	Scientific Name
None	

Species of Concern[3]	Scientific Name
Fish	
Atlantic sturgeon	*Acipenser oxyrhynchus oxyrhynchus*
dusky shark	*Carcharhinus obscurus*
key silverside	*Menidia conchorum*
largetooth sawfish	*Pristis pristis*
mangrove rivulus	*Rivulus marmoratus*
Nassau grouper	*Epinephelus striatus*
night shark	*Carcharinus signatus*
opossum pipefish	*Microphis brachyurus lineatus*
saltmarsh topminnow	*Fundulus jenkinsi*
sand tiger shark	*Carcharias taurus*
speckled hind	*Epinephelus drummondhayi*
striped croaker	*Bairdiella sanctaeluciae*
Warsaw grouper	*Epinephelus nigritus*
Invertebrates	
ivory bush coral	*Oculina varicosa*

[2] The Candidate Species List has been renamed the Species of Concern List. The term candidate species" is limited to species that are the subject of a petition to list and for which NOAA Fisheries Service has determined that listing may be warranted (69 FR 19975)

[3] Species of Concern are not protected under the Endangered Species Act, but concerns about their status indicate that they may warrant listing in the future. Federal agencies and the public are encouraged to consider these species during project planning so that future listings may be avoided.

Endangered and Threatened Species and Critical Habitats
under the Jurisdiction of the NOAA Fisheries Service

Florida-Atlantic

Listed Species	Scientific Name	Status	Date Listed
Marine Mammals			
blue whale	*Balaenoptera musculus*	Endangered	12/02/70
finback whale	*Balaenoptera physalus*	Endangered	12/02/70
humpback whale	*Megaptera novaeangliae*	Endangered	12/02/70
North Atlantic right whale	*Eubalaena glacialis*	Endangered	12/02/70
sei whale	*Balaenoptera borealis*	Endangered	12/02/70
sperm whale	*Physeter macrocephalus*	Endangered	12/02/70
Turtles			
green sea turtle	*Chelonia mydas*	Threatened[1]	07/28/78
hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	06/02/70
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered	12/02/70
leatherback sea turtle	*Dermochelys coriacea*	Endangered	06/02/70
loggerhead sea turtle	*Caretta caretta*	Threatened	07/28/78
Fish			
shortnose sturgeon	*Acipenser brevirostrum*	Endangered	03/11/67
smalltooth sawfish	*Pristis pectinata*	Endangered	04/01/03
Invertebrates			
elkhorn coral	*Acropora palmata*	Threatened	5/9/06
staghorn coral	*Acropora cervicornis*	Threatened	5/9/06
Seagrasses			
Johnson's seagrass	*Halophila johnsonii*	Threatened	09/14/98

Designated Critical Habitat
Right whale: Between 31°15'N (approximately the mouth of the Altamaha River, Georgia) and 30°15'N (approximately Jacksonville, Florida) from the coast out to 15 nautical miles offshore; the coastal waters between 30°15'N and 28°00'N (approximately Sebastian Inlet, Florida) from the coast out to 5 nautical miles.

Johnson's seagrass: A final rule designating Johnson's seagrass critical habitat was published on April 5, 2000 (65 FR 17786) and 10 geographic areas (units) within the range of the species were identified along the east coast of Florida.

[1] Green turtles are listed as threatened, except for breeding populations of green turtles in Florida and on the Pacific Coast of Mexico which are listed as endangered

Florida Power & Light Company, P.O. Box 14000, Juno Beach, FL 33408-0420
Environmental Services Department

FLFW-08-0287

December 21, 2008

Mr. John Wrublik
U.S. Fish and Wildlife Service
South Florida Field Office
1339 20th Street
Vero Beach, FL 32960

SUBJECT: Request for Information on Federal Listed Species in Miami-Dade County, Florida

Dear Mr. Wrublik:

Florida Power & Light Company (FPL) is preparing permit and license applications to the U.S. Nuclear Regulatory Commission (NRC), the Florida Department of Environmental Protection (FDEP) and the United States Army Corps of Engineers (USACE) to allow construction and operation of two new nuclear units and associated project features at our existing Turkey Point property in Miami-Dade County, Florida (the "proposed action"). As part of the permitting and licensing process, FPL is required to assess impacts of the proposed action, including those on Federal listed species in accordance with the Endangered Species Act . Consistent with 10 CFR Part 51, FPL requests that the U.S. Fish and Wildlife Service ("Service") provide it with information in your possession showing known occurrences of federal listed (or proposed for listing) species that could potentially be affected by the proposed action. FPL will include a copy of this request and your response in both the State of Florida Site Certification Application and the NRC Combined Operating License Application Environmental Report. Information about the property and the proposed action follows.

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proposed plant area. Figure 3 also provides an expanded view of the area showing the proposed transmission corridor.

Thank you for your attention to this request; I will follow-up with you to confirm receipt and to address any information needs or questions you may have. Should you need to talk to me earlier, please reach me by telephone at 561-691-7518.

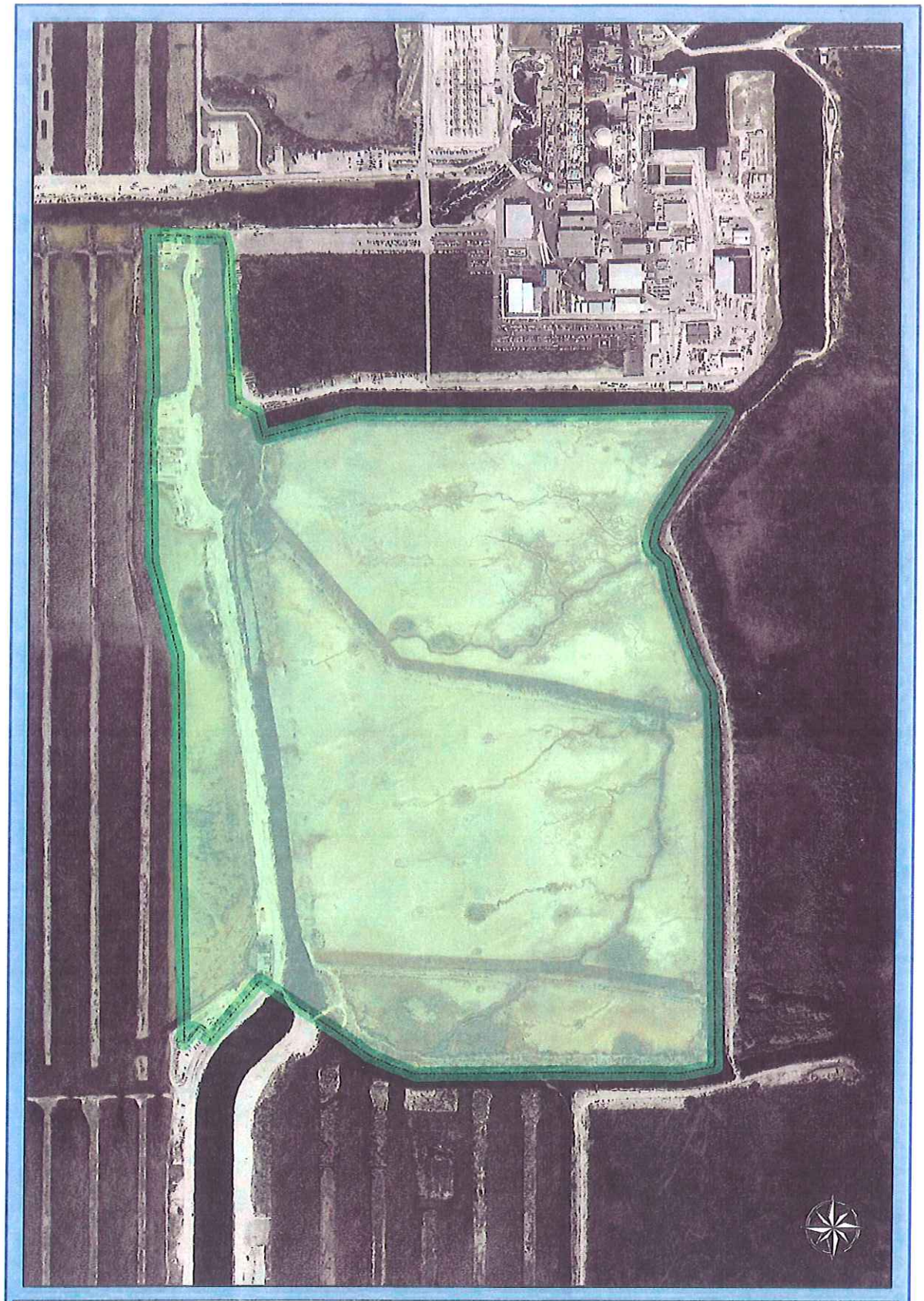
Sincerely,

Barbara Linkiewicz

Director, Environmental Licensing

cc: Patrick Pitts, USFWS

Figure 1



Turkey Point Units 6 and 7 Site

Miles
0 0.03 0.06 0.12 0.18 0.24

0 0.05 0.1 0.2 0.3
Kilometers

GIS Map Code: US-TURK-000082-R000C

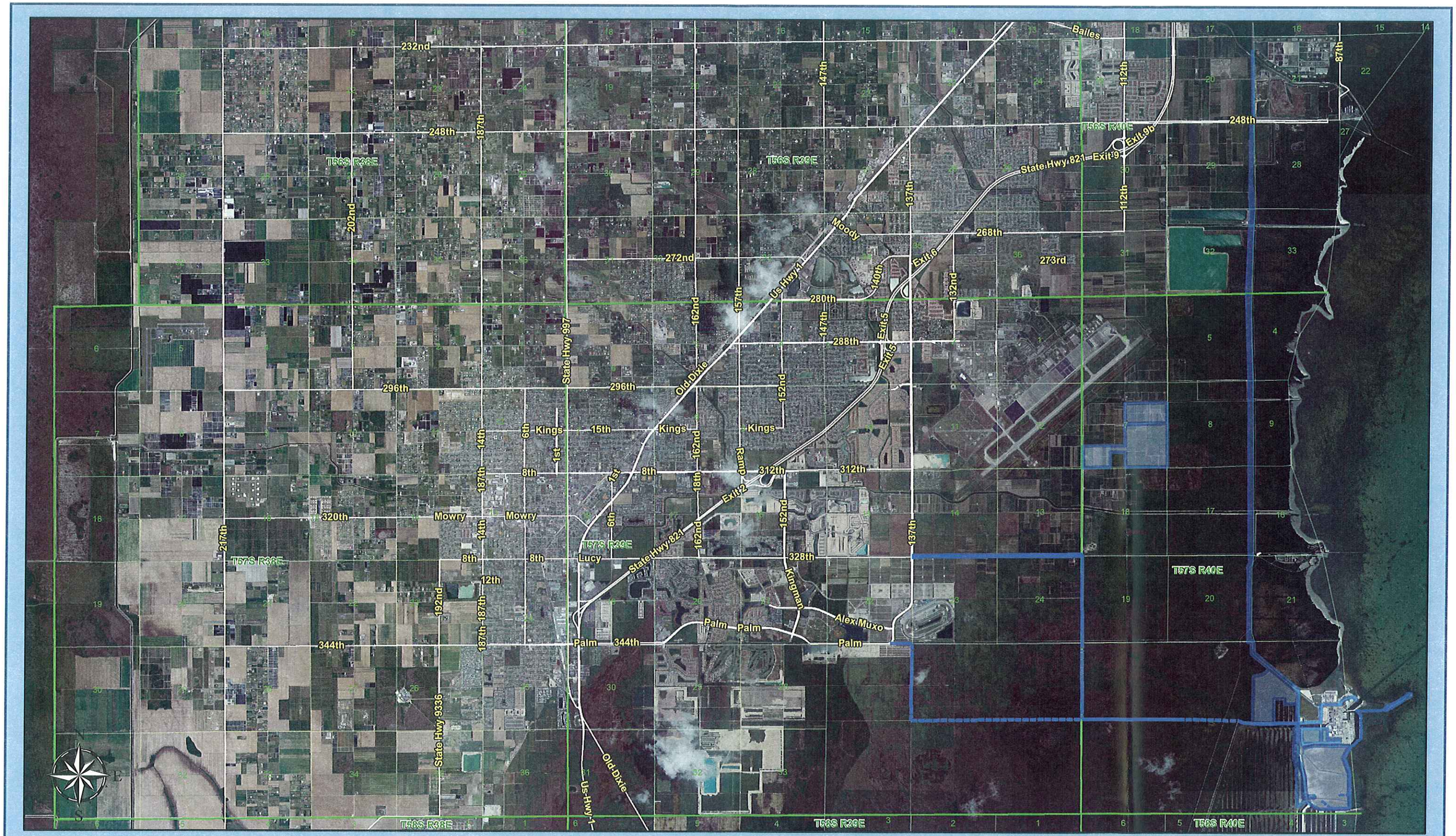


Figure 2A: Turkey Point Units 6 & 7 Potential Project Features (without transmission)

0 0.5 1 2 Miles

GIS Map Code: US-TURK-000159-R000F

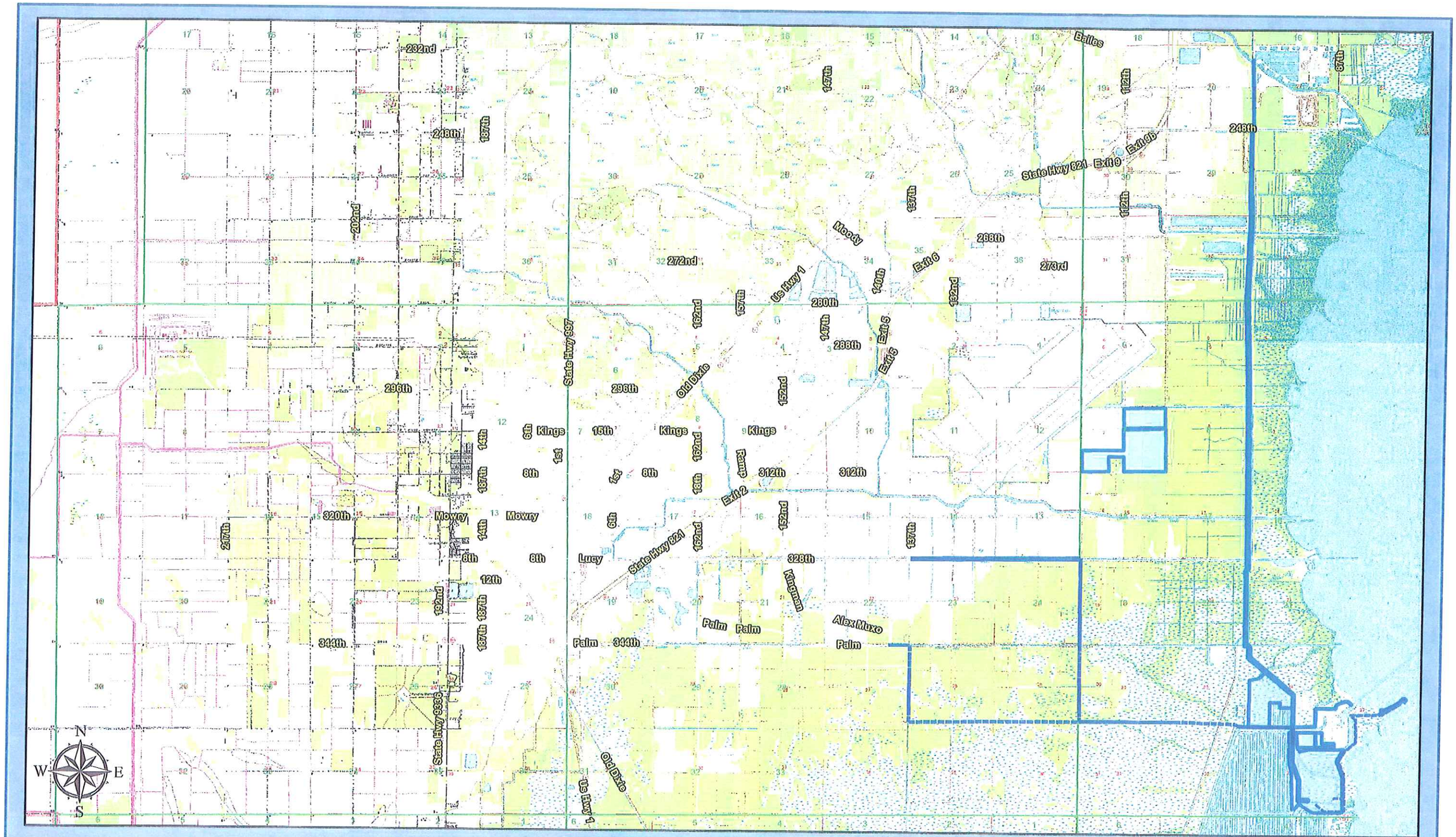
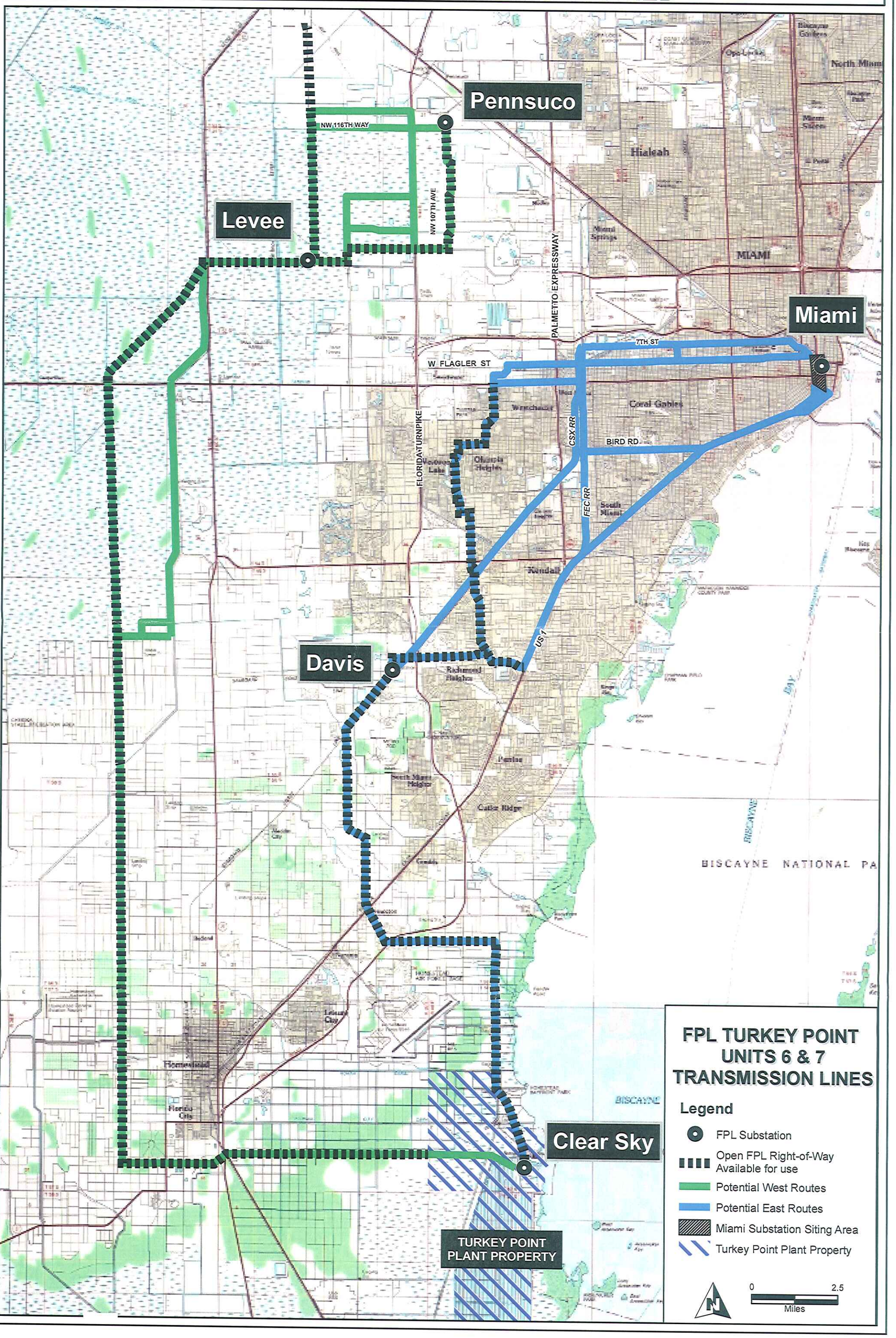


Figure 2B: Turkey Point Units 6 & 7 Potential Project Features (without transmission)

GIS Map Code: US-TURK-000161-R000D

File: M:\acad\080489\Route-USGS.mxd

FIGURE 3.
POTENTIAL TRANSMISSION ROUTES BEING STUDIED



From: John_Wrublik@fws.gov [mailto:John_Wrublik@fws.gov]
Sent: Wednesday, January 14, 2009 10:13 AM
To: Linkiewicz, Barbara P
Subject: Two New Nuclear-Powered Generating Units at Turkey Point

January 14, 2009

Barbara Linkiewicz
Florida Power and Light Company
Post Office Box 14000
Juno Beach, Florida 33408-0420

Service Federal Activity Code:	41420-2009-FA-0180
Service Consultation Code:	41420-2009-TA-0098
Date Received:	December 23, 2008
Project:	Two New Nuclear-Powered Generating Units at Turkey Point
County:	Miami-Dade

Dear Ms. Linkiewicz:

The Fish and Wildlife Service (Service) has received your letter dated December 23, 2008, for the project referenced above. We offer the following comments.

PROJECT DESCRIPTION

The proposed action would construct two new nuclear-powered electrical generating units at the Turkey Point Power Facility on 300 acres of undeveloped land located west and south of the existing units. The project will also include the construction of cooling pipes, cooling towers, and power transmission lines, and reclaimed water treatment facility. The project is located in Miami-Dade County, Florida.

THREATENED AND ENDANGERED SPECIES

American crocodile

The project is located within the geographic range of the threatened American crocodile (*Crocodylus acutus*). The American crocodile is known to occur and nest at the Turkey Point Power Plant within the cooling canal system.

No other records of federally listed species were not identified on your project site. The Service

has not conducted a site inspection to verify species occurrence or validate the GIS results. However, we assume listed species occur in suitable ecological communities and recommend site surveys to determine the presence or absence of listed species. Ecological communities suitable for listed species can be found in the species accounts in the *South Florida Multi-Species Recovery Plan*. This document is available on the web at: http://www.fws.gov/verobeach/index.cfm?Method=programs&NavProgramCategoryID=3&programID=107&ProgramCategoryID=3. We have also provided for your consideration two computer links: (1) http://www.fws.gov/verobeach/index.cfm?Method=programs&NavProgramCategoryID=3&programID=37&ProgramCategoryID=3, and (2) http://migratorybirds.fws.gov/. The first link provides links to lists of species protected under the Endangered Species Act of 1973 (as amended, 87 Stat. 884; 16 U.S.C. 1531 *et seq.*) for each county in south Florida. The County lists do not include State-listed species. Please contact the Florida Fish and Wildlife Conservation Commission to identify potential State-listed species occurring in the vicinity of your project. The second link provides information on species the Service is required to protect and conserve under other authorities, such as the Fish and Wildlife Coordination Act of 1958, as amended (48 Stat. 401; 16 U.S.C. 661 *et seq*.) and the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 701 *et seq*.). A variety of habitats in south Florida occasionally provide resting, feeding, and nesting sites for a variety of migratory bird species. As a public trust resource, migratory birds must be taken into consideration during project planning and design.

Thank you for the opportunity to comment. If you have any questions, please contact me at 772-562-3909, extension 282.

Sincerely yours,

John M. Wrublik
U.S. Fish and Wildlife Service
Vero Beach Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960
Phone: 772-562-3909, x-282
Fax: 772-562-4288

See separate file for FNAI Report

“FNAIReport_MiamiDade_7515.pdf”

ATTACHMENT G

WETLAND AND TOPOGRAPHIC SURVEYS

Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation

Florida Power and Light Company

Turkey Point Units 6 and 7

Construction and Operation License (COL) Project

Located In

Sections 17, 18, 19, 20, 27, 28, 29, 30, 31, 32, 33 and 34

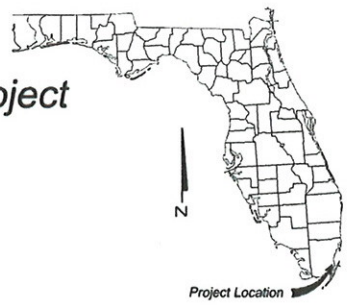
Township 57 South, Range 40 East

and

Sections 4, 5, 9, 8, 7, 16, 17, 18,19, 20 and 21

Township 58 South, Range 40 East

Miami-Dade County, Florida



SURVEYOR'S NOTES:

1) This Specific Purpose Survey is not valid without the signature and the original raised seal of the signing Florida licensed surveyor and mapper.

2) The Specific Purpose of this survey was to locate and map Wetland Jurisdictional Delineations (as determined by others) in relation to the approximate boundary of the site, in conformance with Chapters 62-343 and 61G17-6 Florida Administrative Code.

3) Lands shown hereon were not abstracted for ownership, rights-of-way, easements or other matters of title by this firm, nor were any such documents provided by client.

4) The boundary delineation was provided by the client and is approximate. This specific purpose survey is Not a Boundary Survey of the site.

5) This survey was performed using a combination of Global Positioning System and conventional survey methodology. The horizontal accuracy is at the sub-meter level.

6) Coordinates of wetland flags shown hereon are relative to the Florida State Plane Coordinate System, East Zone (901) , North American Datum of 1983/2007 Adjustment.

7) Wetland jurisdictional delineations were determined and flagged by Golder Associates, Gainesville, Florida.

8) The wetland flag descriptions shown hereon correspond to the numbers shown on each flag located in the field.

9) This survey is certified to:

- *Florida Power and Light Company,*
- *Bechtel Power Corporation and,*
- *Golder Associates, Inc.*

10) Except as shown hereon, interior improvements were not located.

11) The Geo-Referenced imagery utilized herein, dated 01/24/2005, was obtained from the South Florida Water Management District.

LEGEND:

AV, AVE	*= Avenue*
CR	*= County Road*
DR	*= Drive*
R xx E	*= Range xx East*
sht	*= Sheet*
ST	*= Street*
T xx S	*= Township xx South*
+ A002	*= Wetland Flag Delineator*
———	*= Wetlands Jurisdictional Delineation Line*
ID	*= Identification*
1.00	*= Sheet Number*

SHEET INDEX:

SHEET	*DESCRIPTION*
1.00	*Cover Sheet*
1.10	*Overall Vicinity Map*
2.00	*Sheet Index for Wetland Areas / Barge Canal / Basin Areas*
2.01 - 2.06	*Wetlands along SE 359 ST*
2.07 - 2.08	*Wetlands along SE 356 ST*
2.09 - 2.11	*Wetlands along SW 117 AVE*
2.12 - 2.14	*Wetlands at Barge Canal / Basin*
2.15 - 2.18	*Wetlands Series F and G, West of Plant and North of Units 6-7*
2.19 - 2.21	*Wetlands Coordinates for Wetland Areas / Barge Canal / Basin Areas*
3.00	*Sheet Index for Radial Collector and Pipeline Corridor*
3.01 - 3.07	*Wetlands along Radial Collector and Pipeline Corridor*
3.08	*Wetlands Coordinates Radial Collector and Pipeline Corridor*
4.00	*Sheet Index for 117 AVE and 328 ST*
4.01 - 4.11	*Wetlands along 117 AVE and 328 ST*
4.12	*Wetlands Coordinates for 117 AVE and 328 ST*
5.00	*Sheet Index for PALM DR and SW 137 AVE*
5.01	*Wetlands along PALM DR and SW 137 AVE*
5.02	*Wetlands Coordinates for PALM DR and SW 137 AVE*
6.00	*Sheet Index for Reclaimed Water Treatment Plant*
6.01 - 6.11	*Wetlands along Reclaimed Water Treatment Plant*
6.12 - 6.13	*Wetlands Coordinates for Reclaimed Water Treatment Plant*
7.00	*Sheet Index for West Construction Laydown Area*
7.01 - 7.04	*Wetlands along West Construction Laydown Area*
7.04	*Wetlands Coordinates for West Construction Laydown Area*
8.00	*Sheet Index for Borrow Pit Area*
8.01 - 8.13	*Wetlands along Borrow Pit Area*
8.14	*Wetlands Coordinates for Borrow Pit Area*
9.00	*Sheet Index Access Road to 137th Avenue (between 344th and 359th Streets)*
9.01 - 9.08	*Wetlands along Access Road to 137th Avenue (between 344th and 359th Streets)*
9.09	*Wetlands Coordinates for Access Road to 137th Avenue (between 344th and 359th Streets)*
10.00	*Sheet Index for Proposed Water Pipeline - SW 97 Avenue*
10.01	*Wetlands along Proposed Water Pipeline - SW 97 Avenue*
10.02	*Wetlands Coordinates for Proposed Water Pipeline - SW 97 Avenue*
11.00	*Sheet Index for Proposed Water Pipeline - SW 97 Avenue (North of Palm Drive)*
11.01 - 11.04	*Wetlands along Proposed Water Pipeline - SW 97 Avenue (North of Palm Drive)*
11.05	*Wetlands Coordinates for Proposed Water Pipeline - SW 97 Avenue (North of Palm Drive)*
12.00	*Sheet Index for Access Road North of Cooling Canal*
12.01 - 12.09	*Wetlands along Access Road North of Cooling Canal*
12.10	*Wetlands Coordinates for Access Road North of Cooling Canal*
13.00	*Sheet Index for Proposed Meteorological Tower Site*
13.01 - 13.03	*Wetlands along Proposed Meteorological Tower Site*
13.04	*Wetlands Coordinates for Proposed Meteorological Tower Site*

County: Miami-Dade
Field Book/Page: 1025 / 06
Photo Date: 01/24/2005
Last date in field: 03/05/2009

THIS IS NOT A BOUNDARY SURVEY

PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
Miami-Dade County, Florida

DATE	BY	DESCRIPTION
06/10/2009	MR	EDITED WETLAND LINES

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: n/a
SHT. 1.00
DRAWING NAME: 01_Cover.dwg

PREPARED BY:
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CERTIFICATE OF AUTHORIZATION: LB 6969

ROBERT M. JONES
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PREPARED FOR:
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Gainesville, Florida
GOLDER ASSOCIATES
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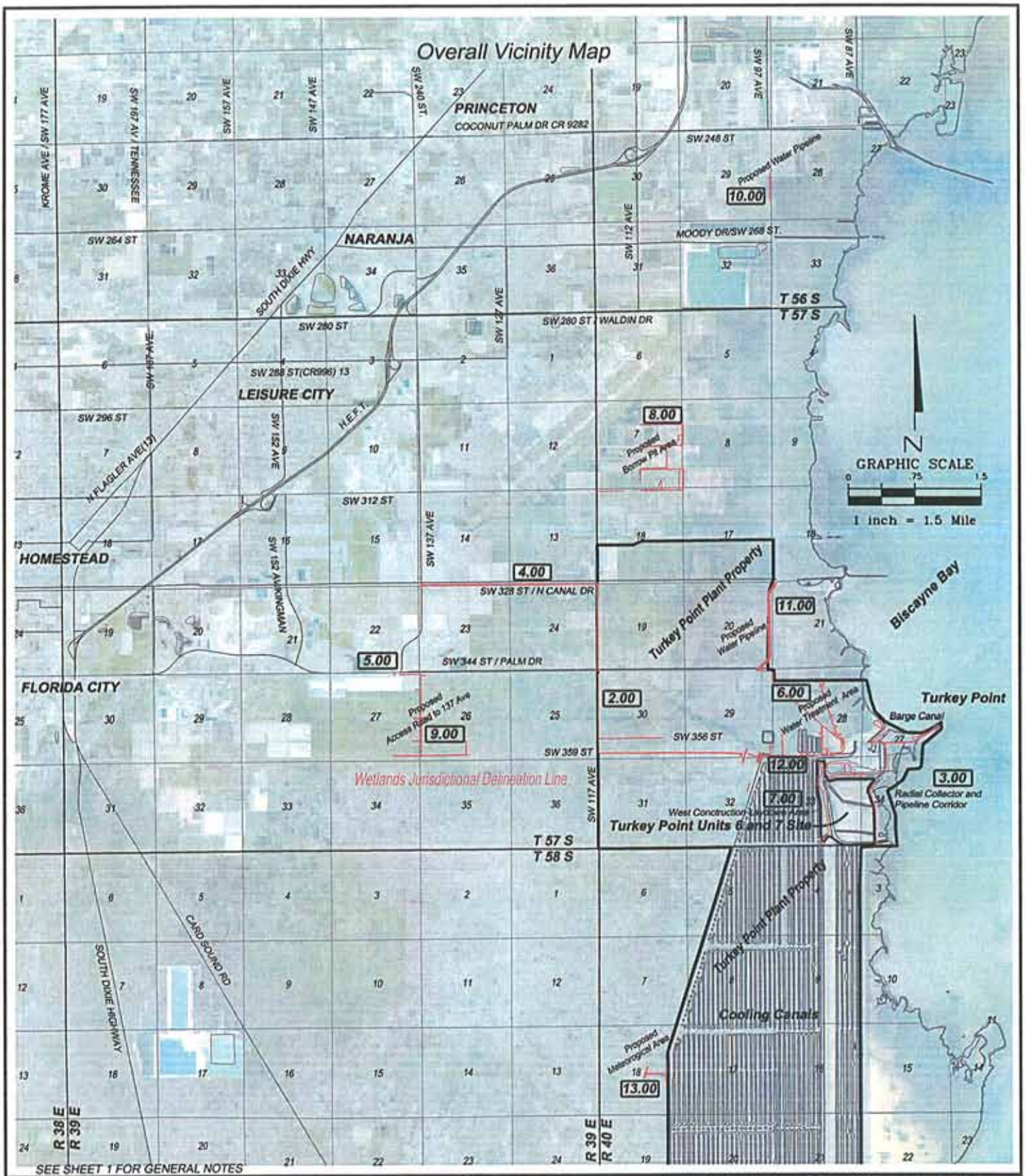
GAINESVILLE, FLORIDA 32656



SEE SHEET 1 FOR GENERAL NOTES

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DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 1.5 Miles
SHT. 1.10
DRAWING NAME: 01_Cover.dwg

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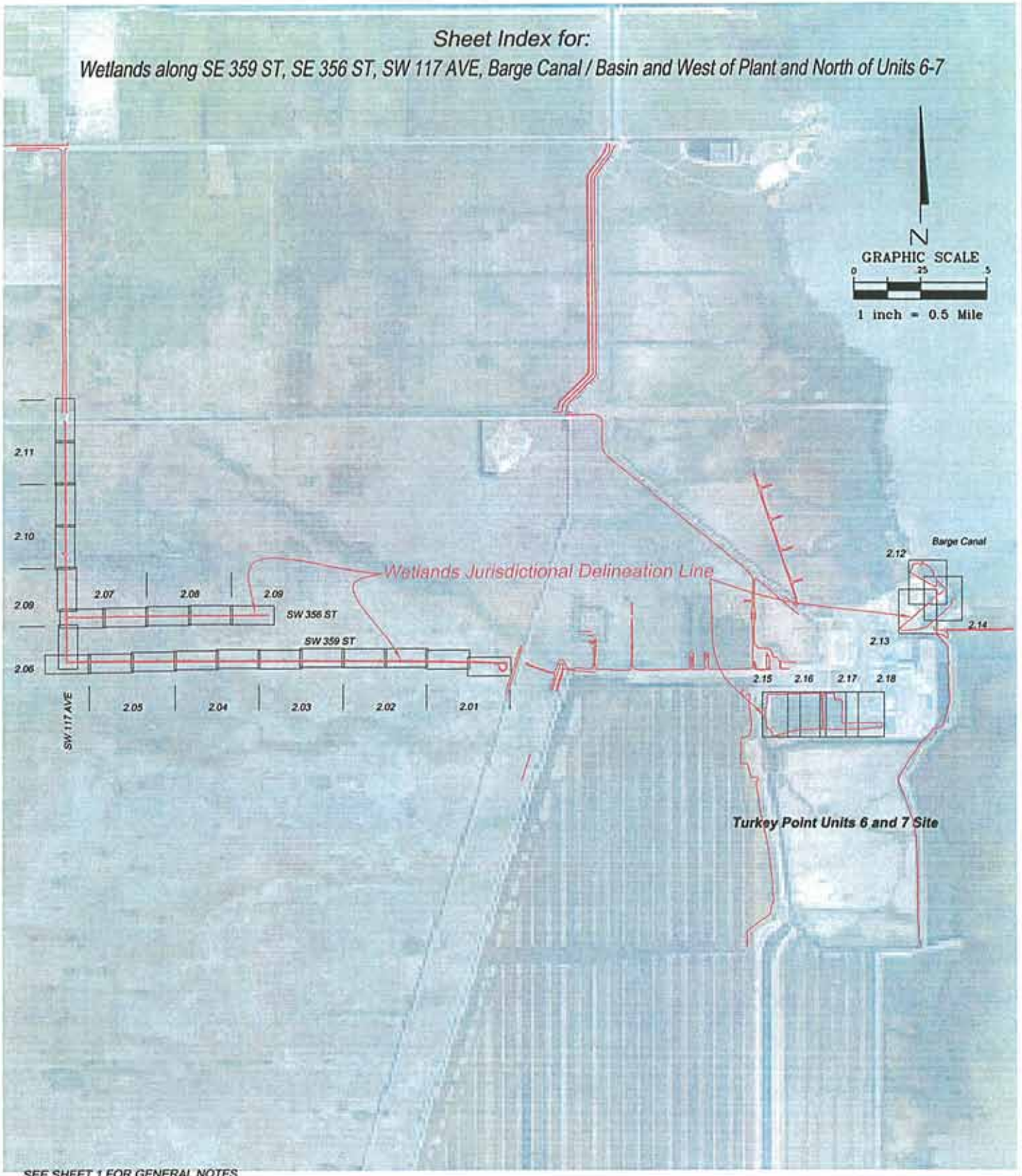
Sheet Index for:

Wetlands along SE 359 ST, SE 356 ST, SW 117 AVE, Barge Canal / Basin and West of Plant and North of Units 6-7



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JOB No. 6374080385
SCALE: 1" = 0.5 Mile
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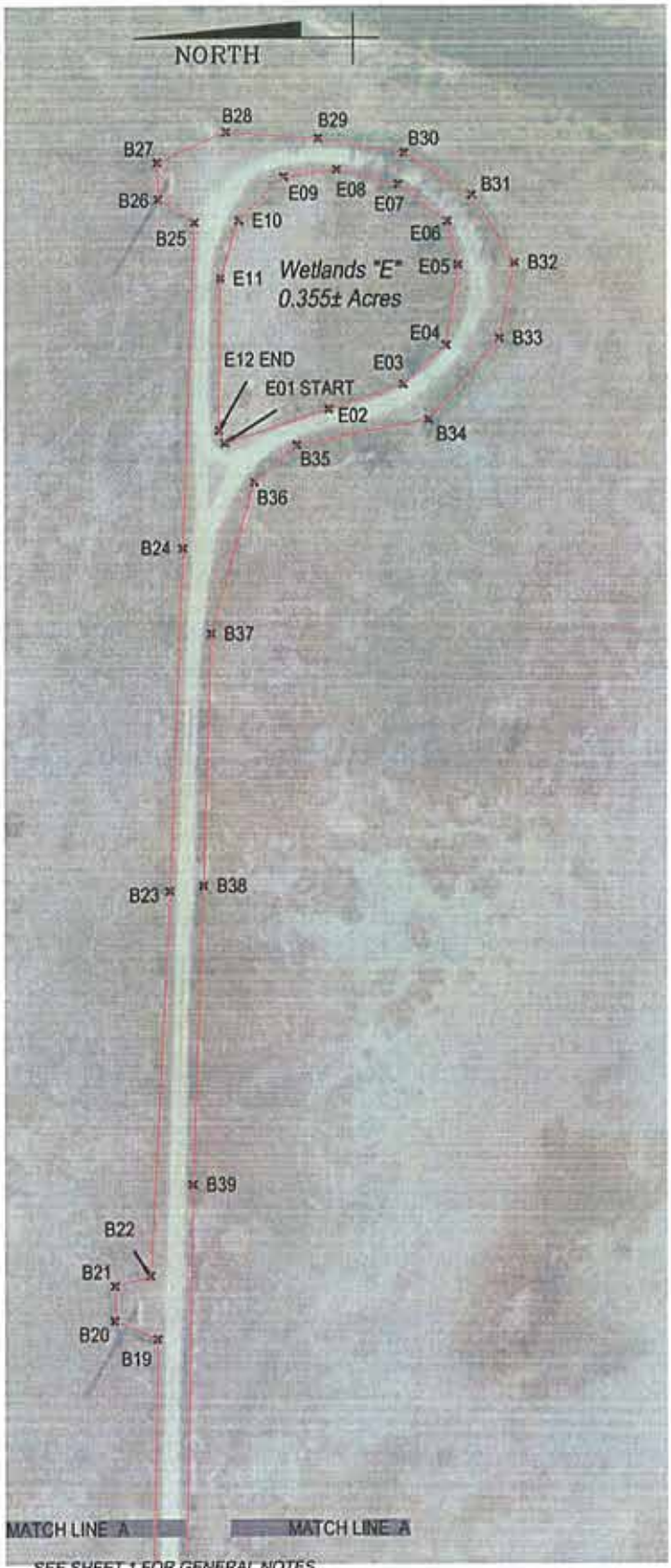

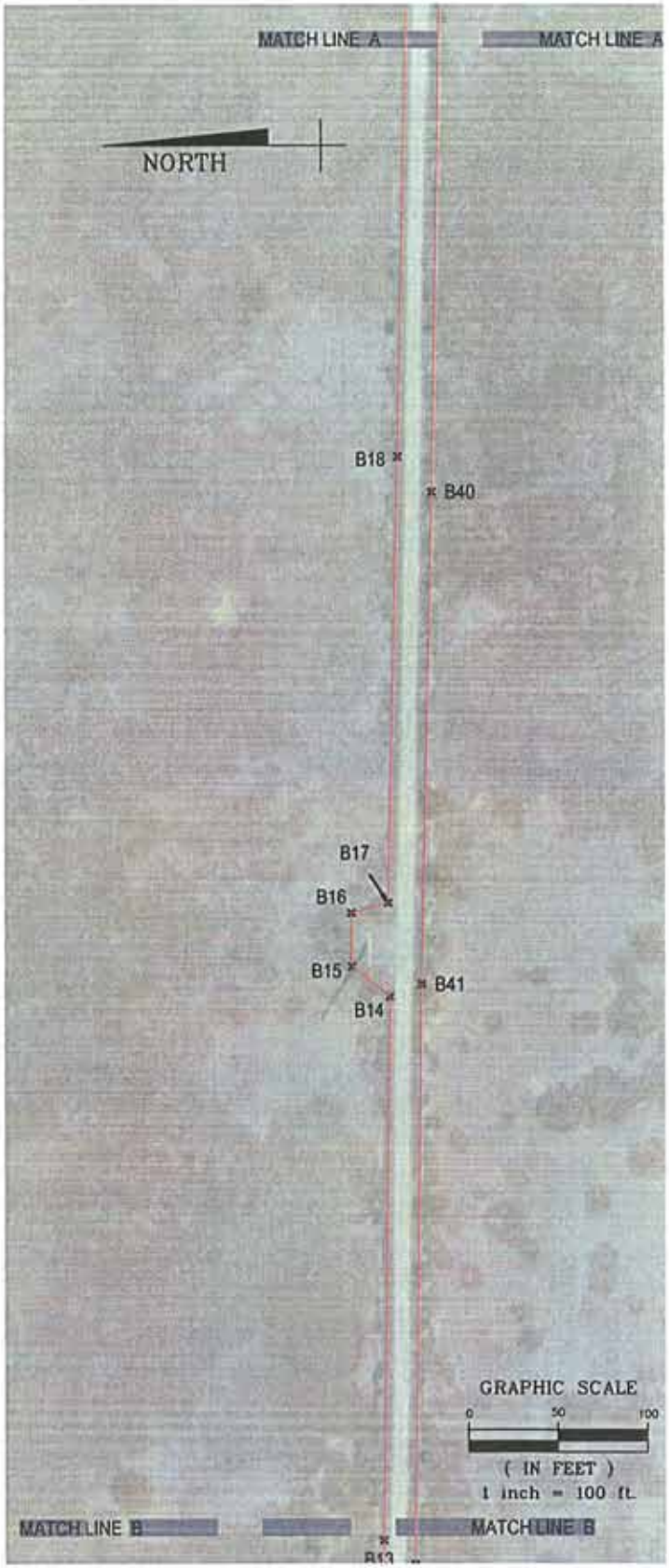

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CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 2.01
DRAWING NAME: 02.01_Detail.dwg

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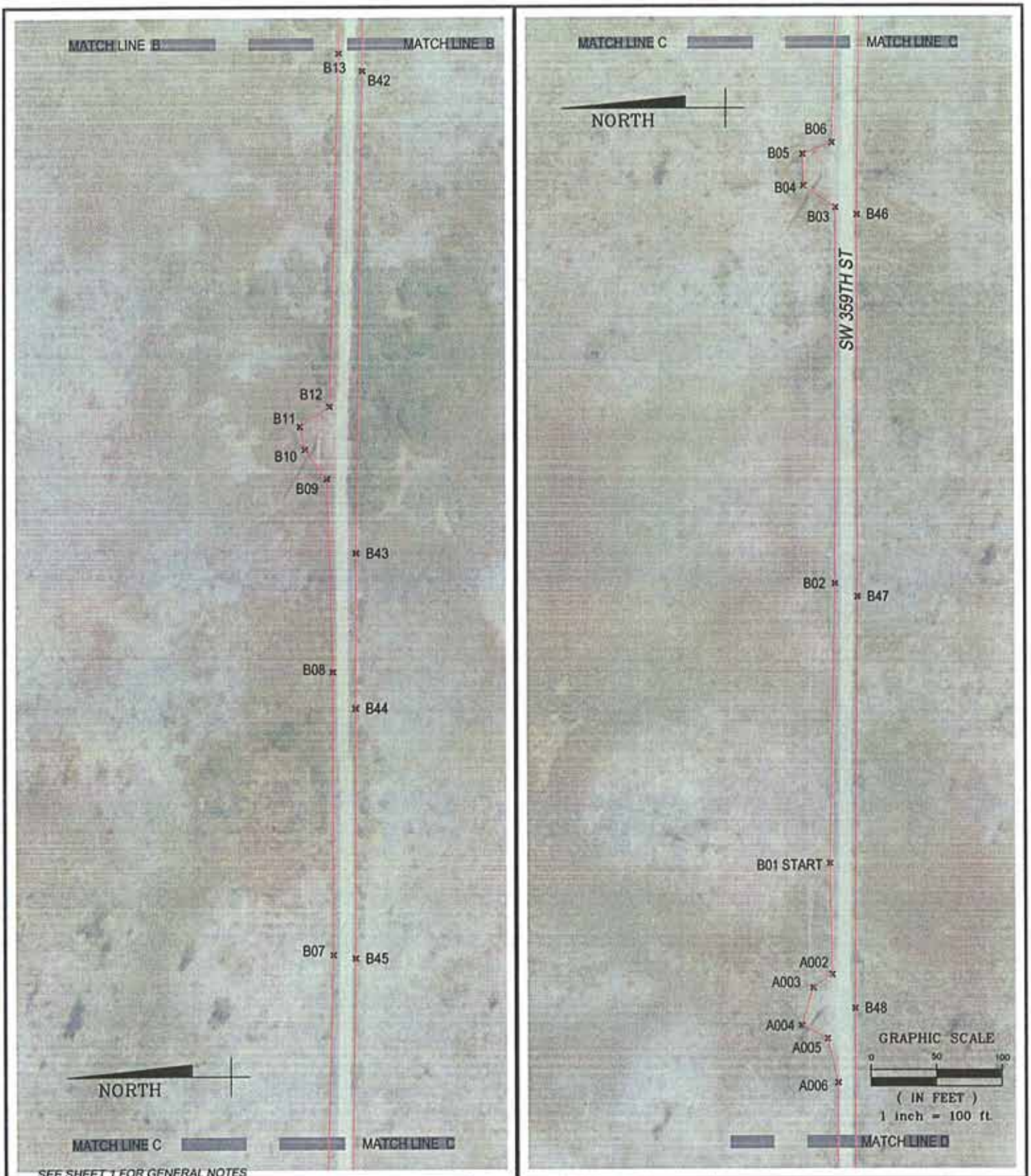

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SCALE: 1" = 100'
SHT. 2.02
DRAWING NAME: 02.01_Detail.dwg

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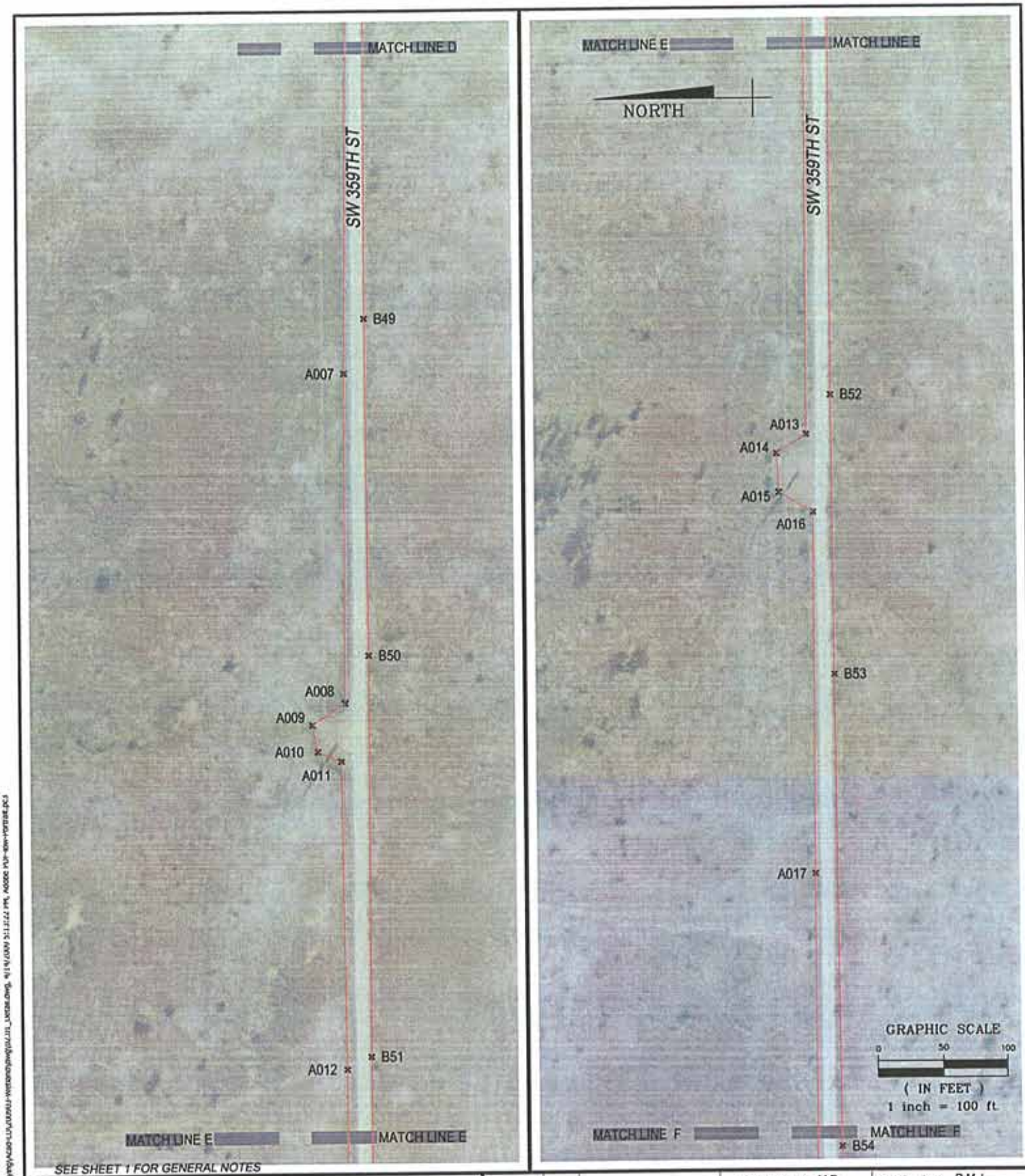

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SCALE: 1" = 100'
SHT. 2.03
DRAWING NAME: 02.01_Detail.dwg

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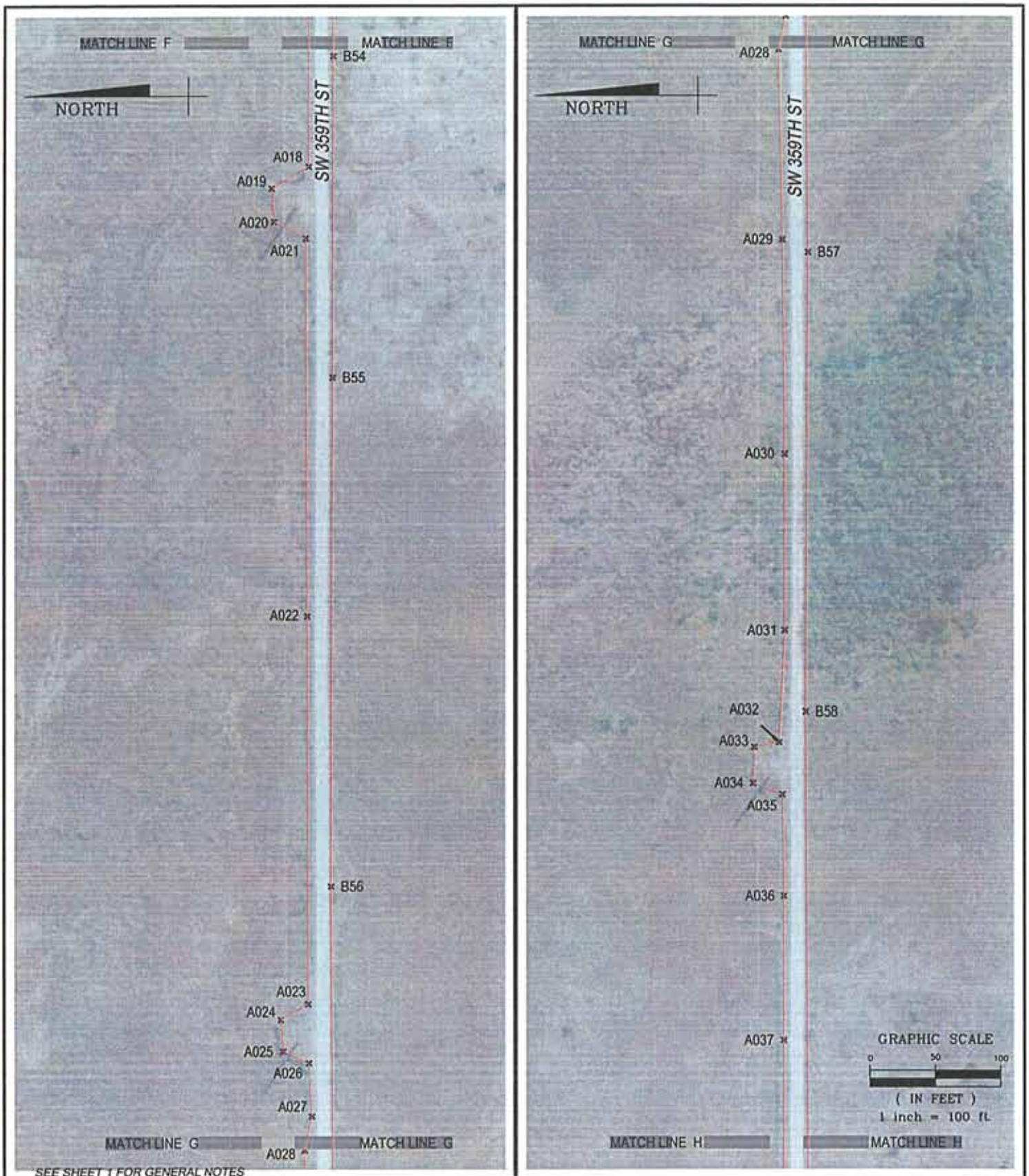

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SCALE: 1" = 100'
SHT. 2.04
DRAWING NAME: 02.01_Detail.dwg

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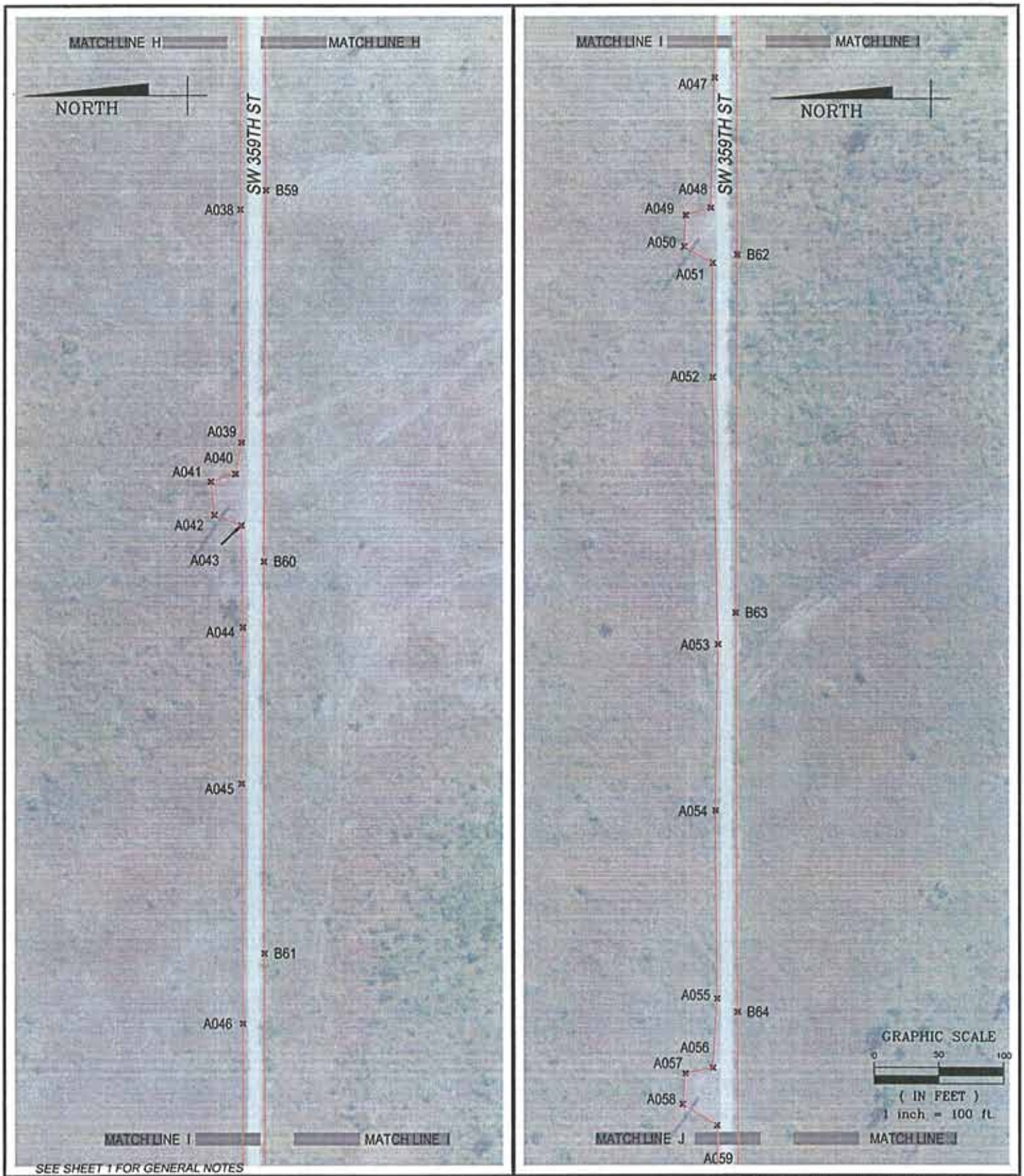

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SCALE: 1" = 100'
SHT. 2.05
DRAWING NAME: 02.01_Detail.dwg

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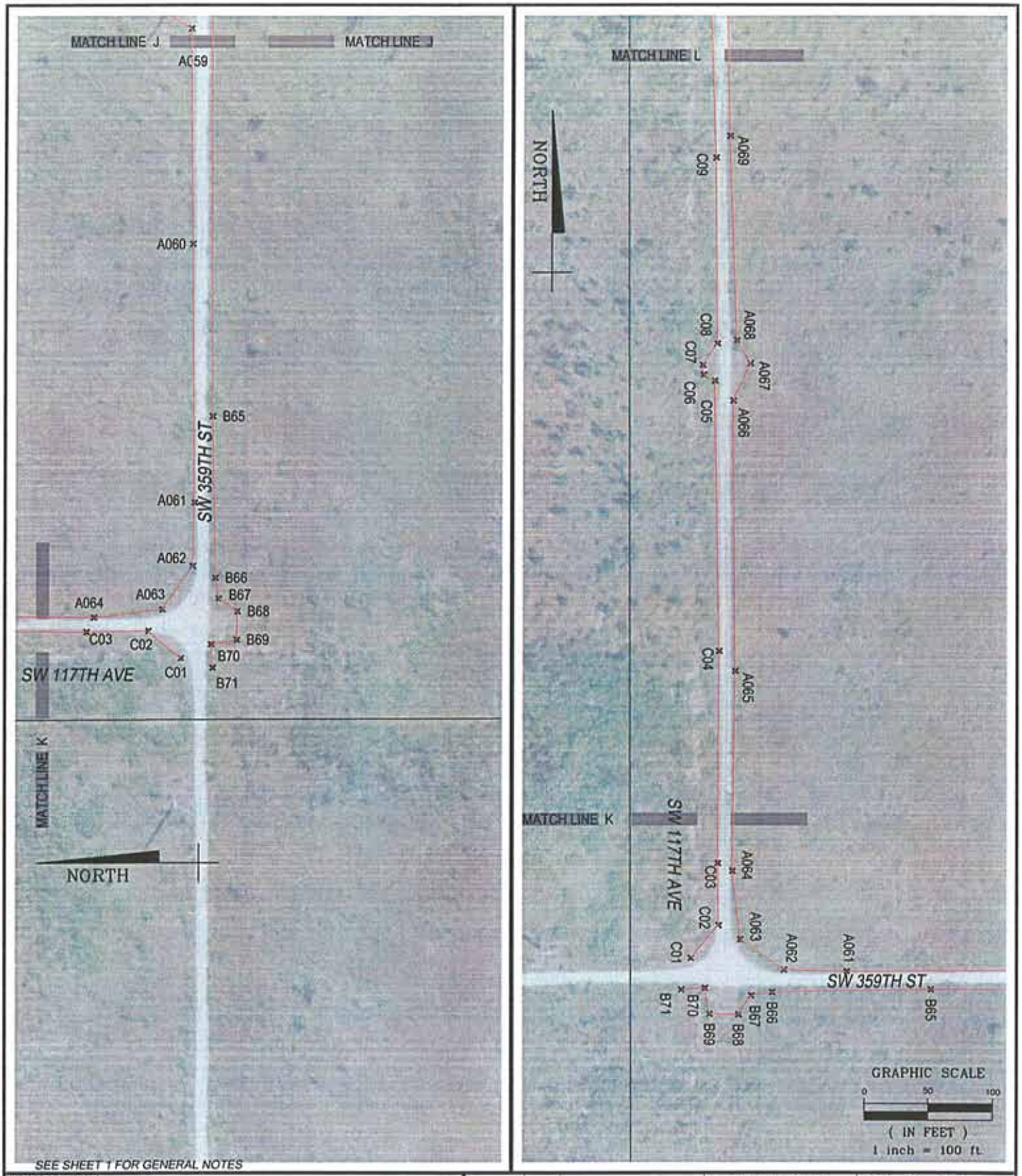

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JOB No. 6374060385
SCALE: 1" = 100'
SHT. 2.06
DRAWING NAME: 02.01_Detail.dwg

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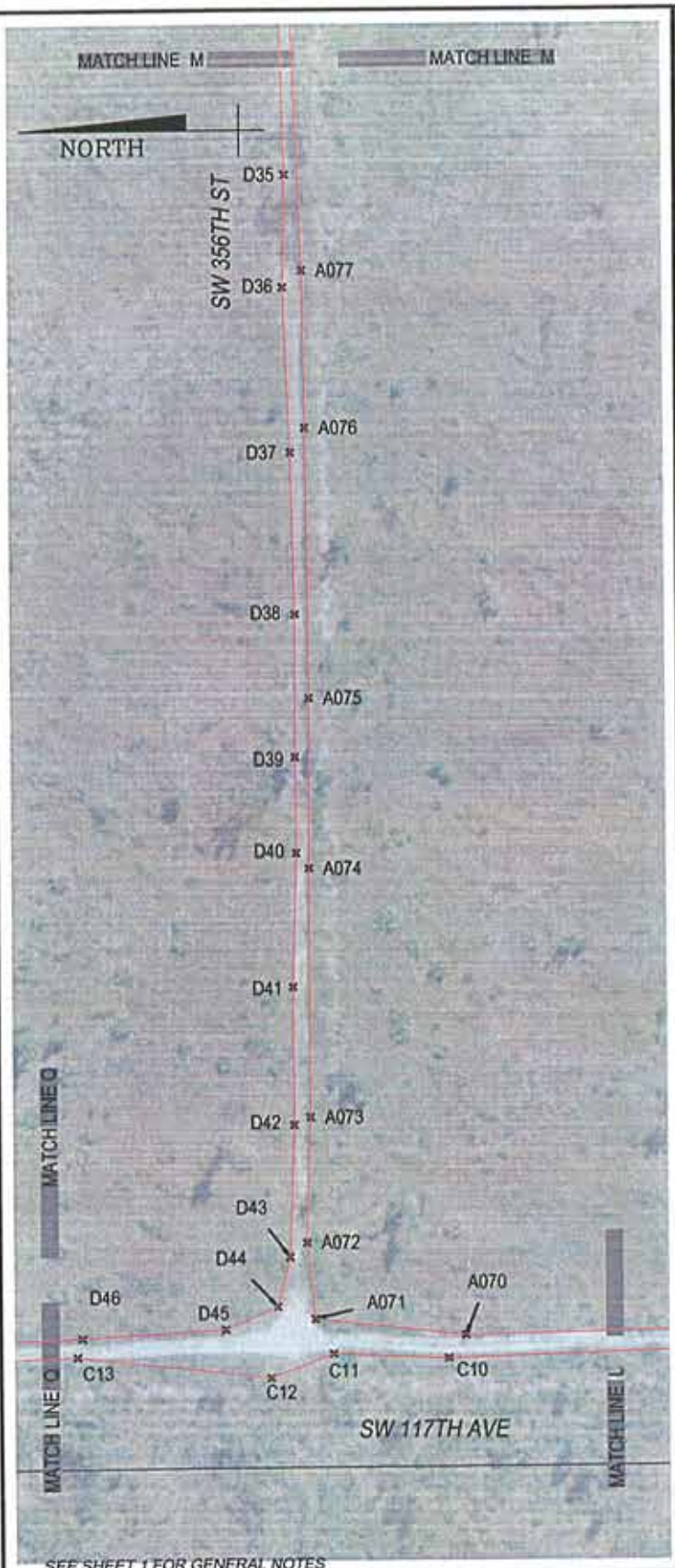

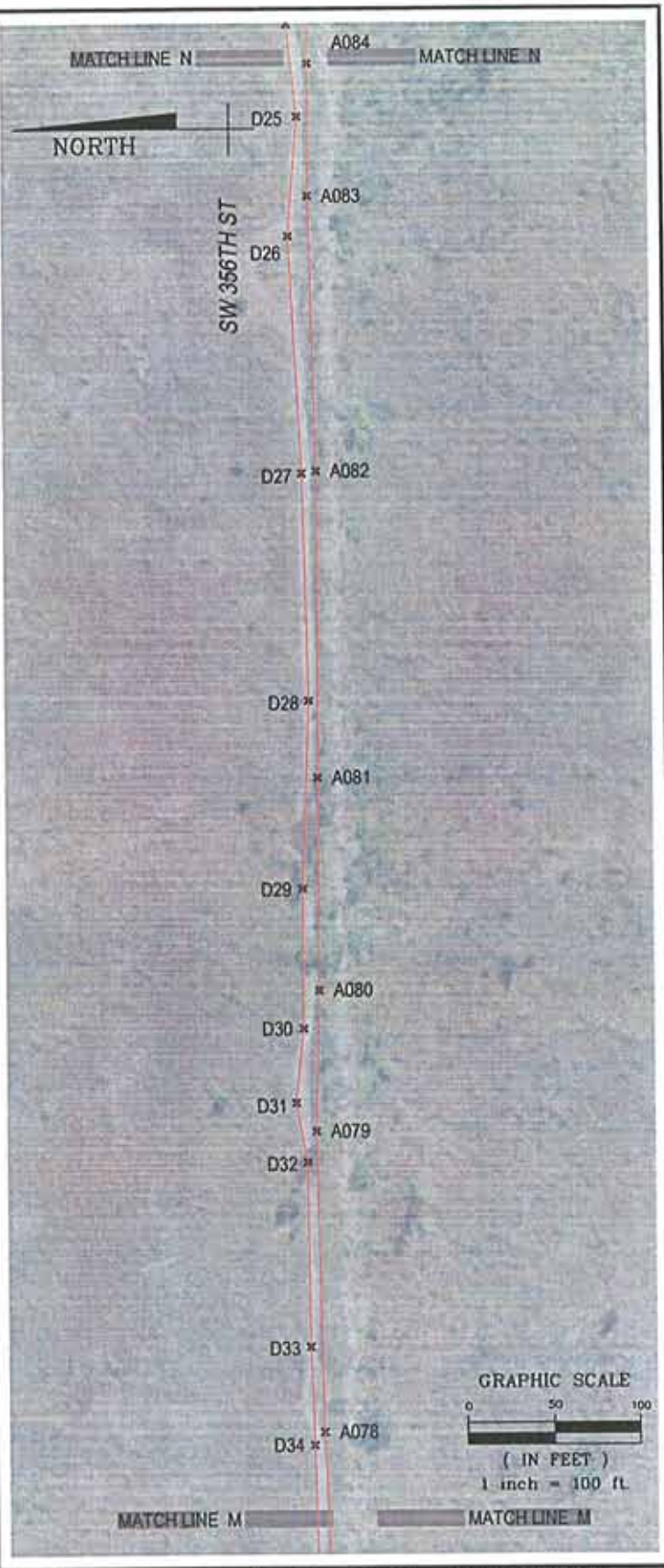

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SCALE: 1" = 100'
SHT. 2.07
DRAWING NAME: 02.01_Detail.dwg

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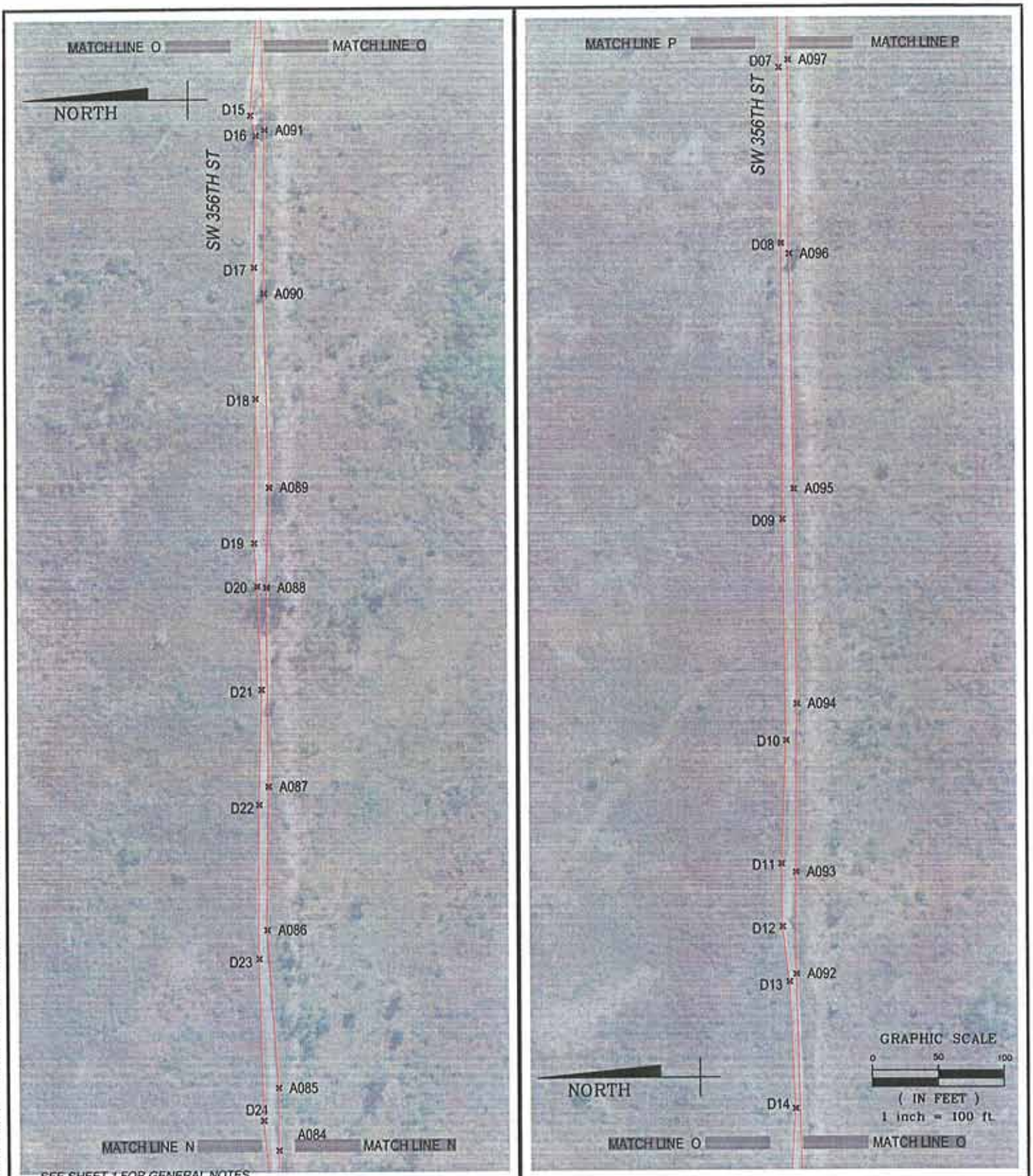

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SCALE: 1" = 100'
SHT. 2.08
DRAWING NAME: 02.01_Detail.dwg

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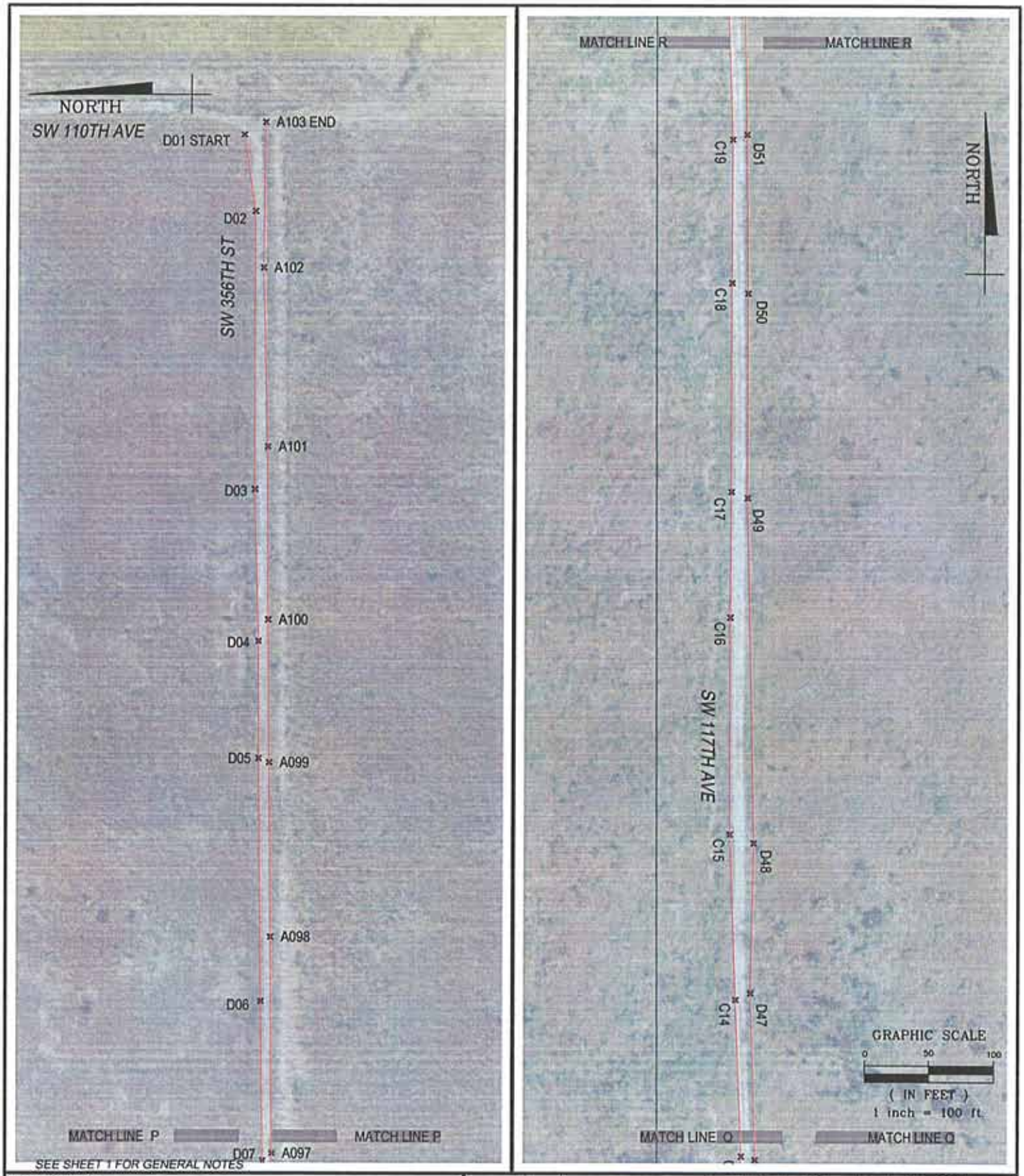

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SHT. 2.09
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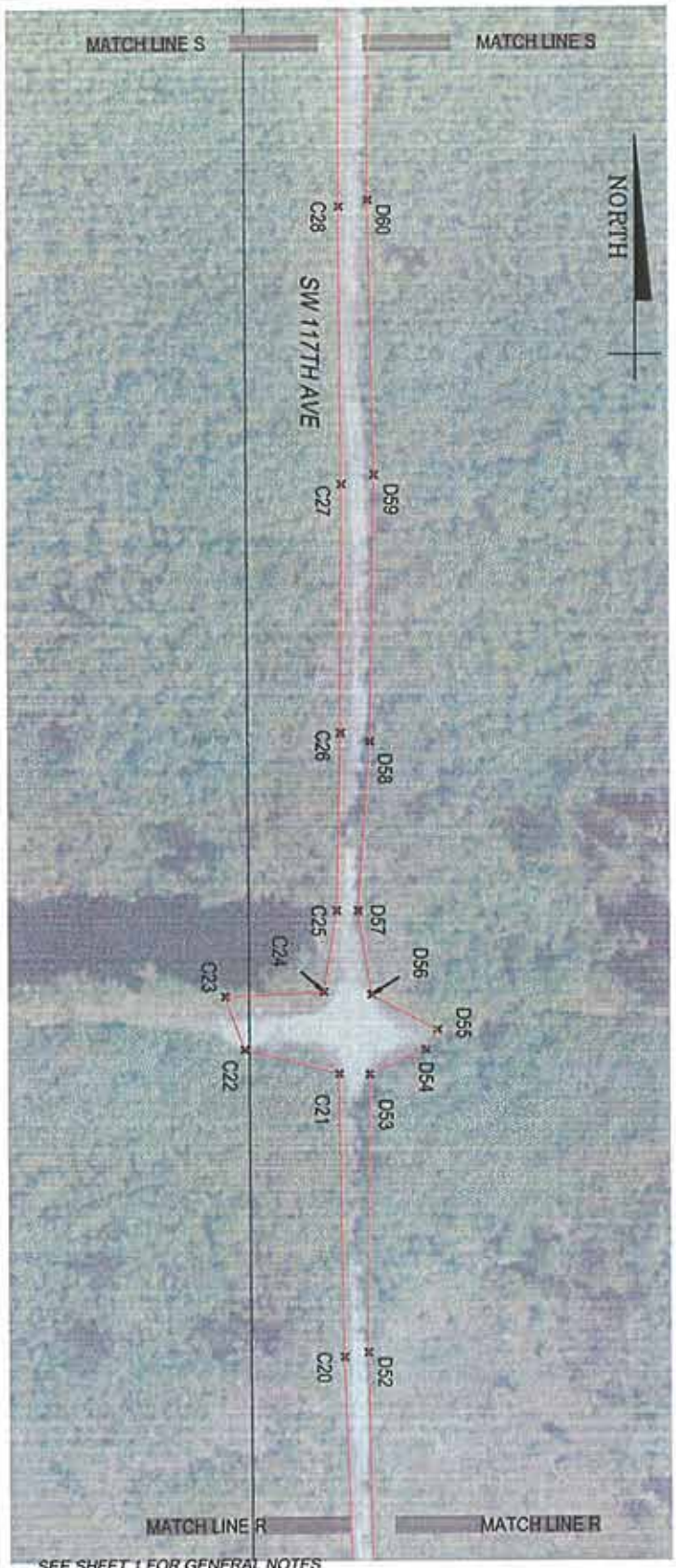
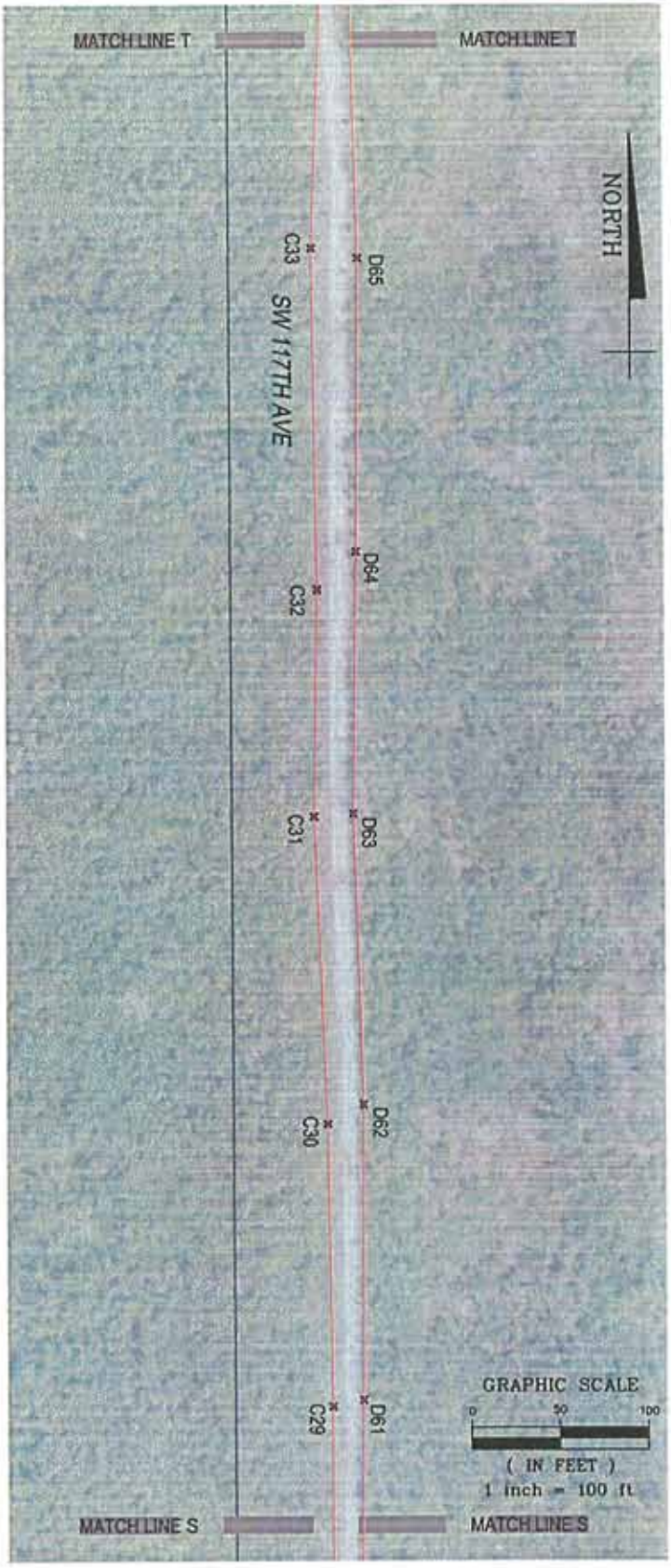
6241 NW 23rd STREET, SUITE 500
GAINESVILLE, FLORIDA 32656





SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
Miami-Dade County, Florida

DATE	BY	DESCRIPTION

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 2.10
DRAWING NAME: 02.01_Detail.dwg

PREPARED BY:
MACTEC
MACTEC Engineering & Consulting, Inc.
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CERTIFICATE OF AUTHORIZATION: LB 6969

ROBERT M. JONES
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LICENSE No. LS 4201

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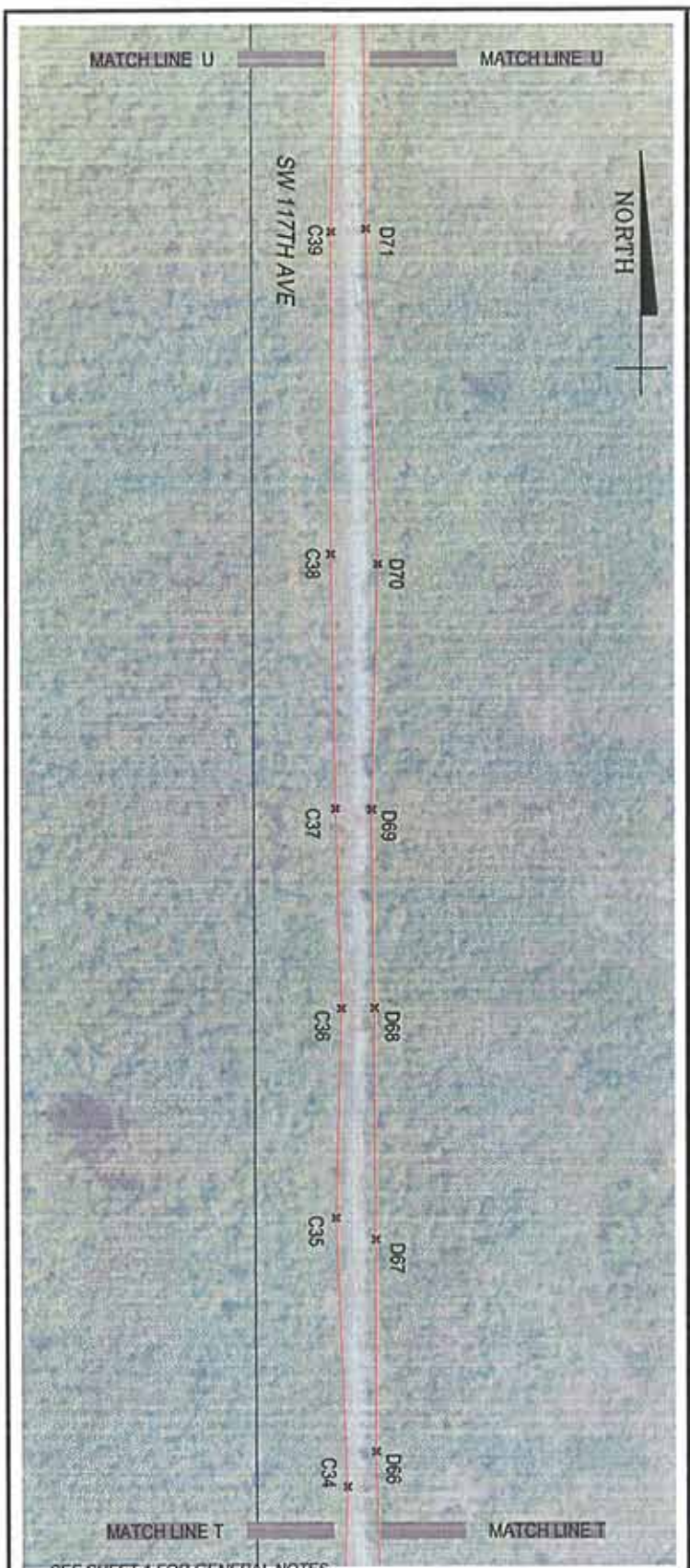

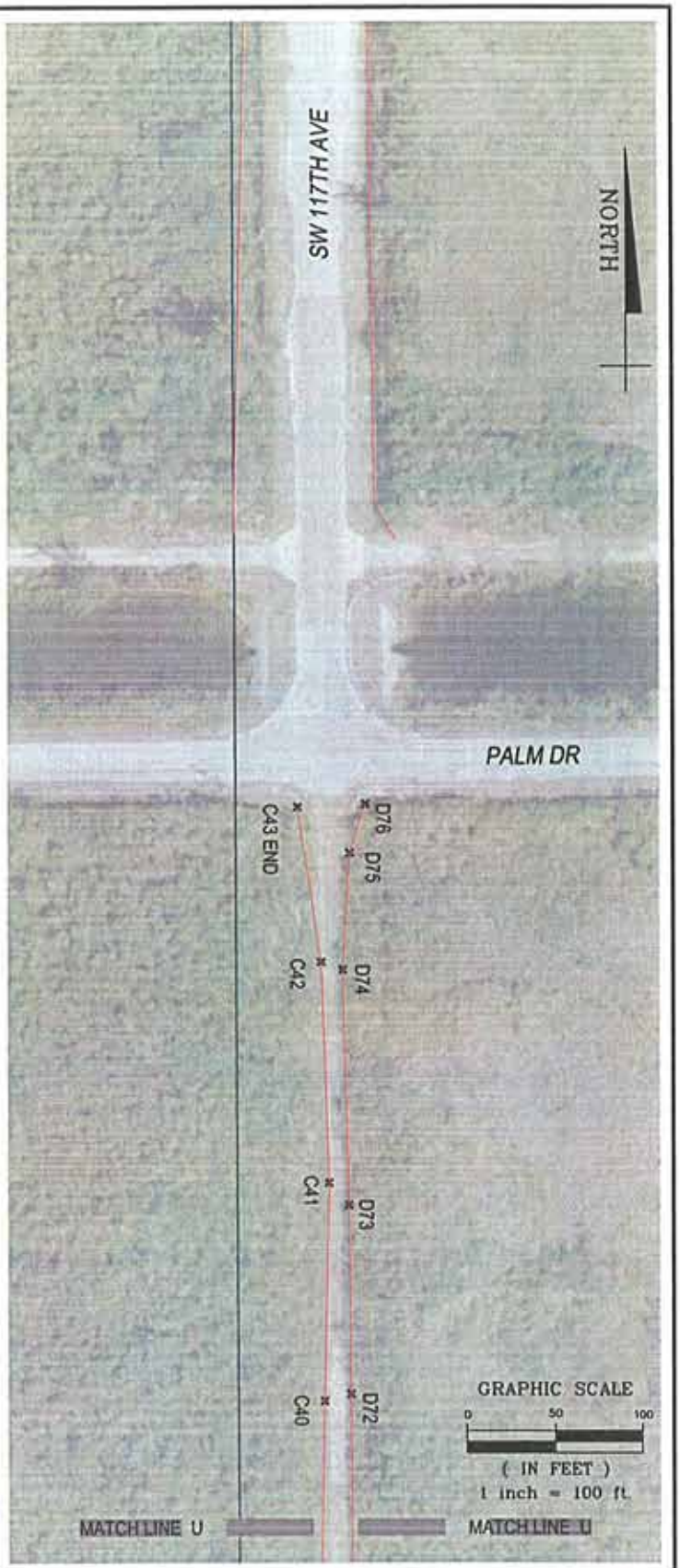

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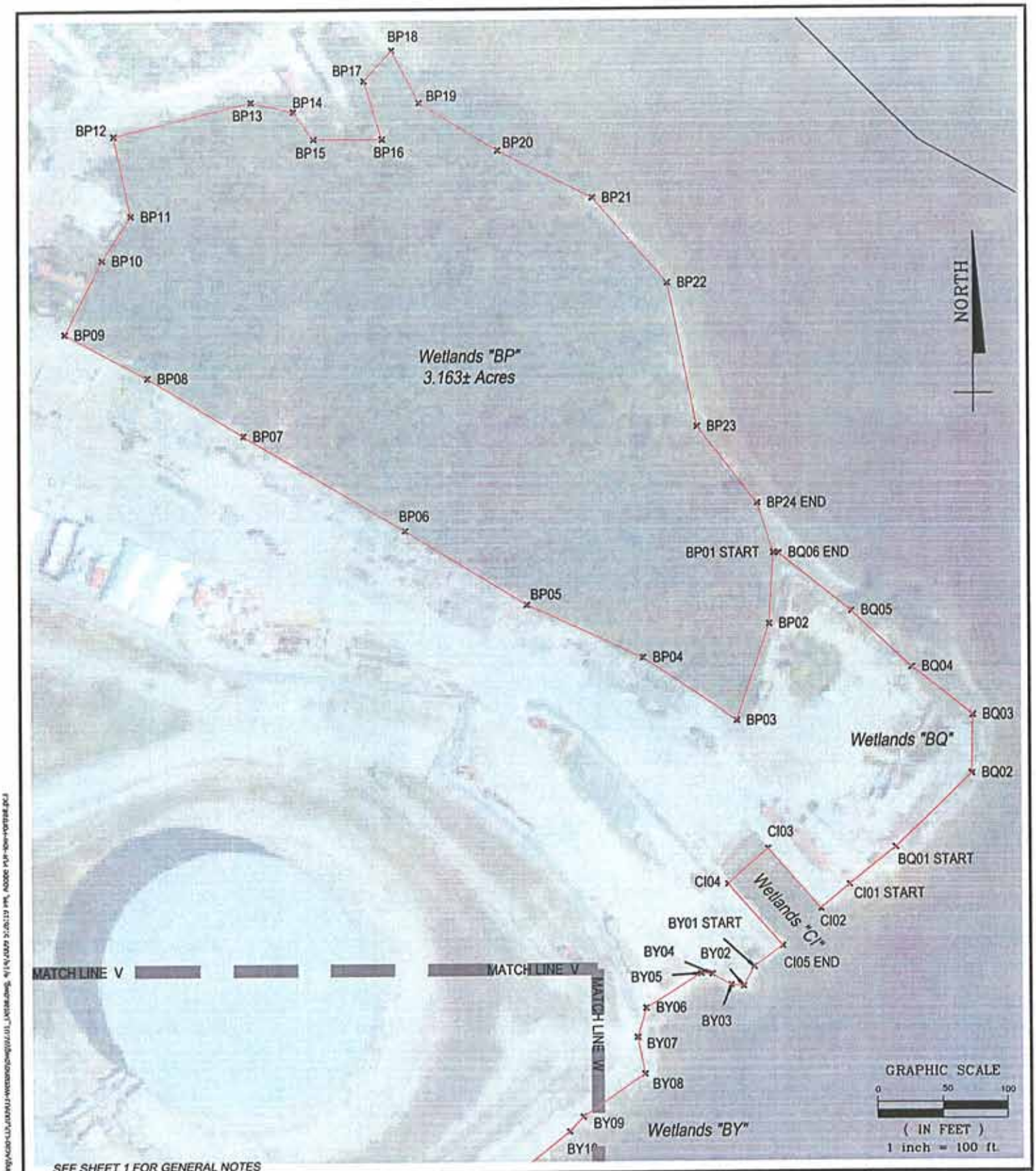

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Florida Power and Light Company
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Construction and Operation License (COL) Project
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SCALE: 1" = 100'
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DRAWING NAME: 02.01_Detail.dwg

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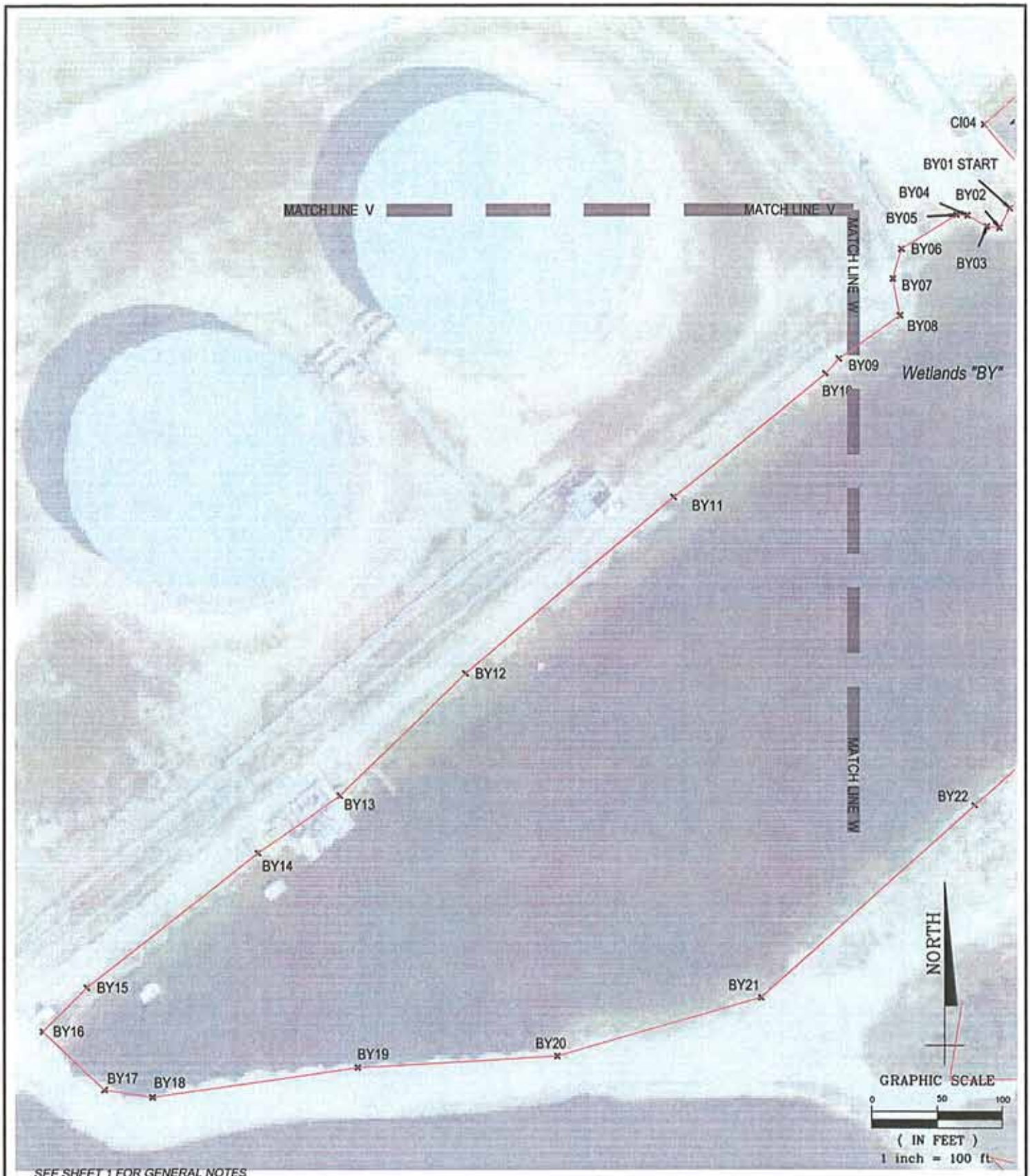

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SHT. 2.13
DRAWING NAME: 02.01_Detail.dwg

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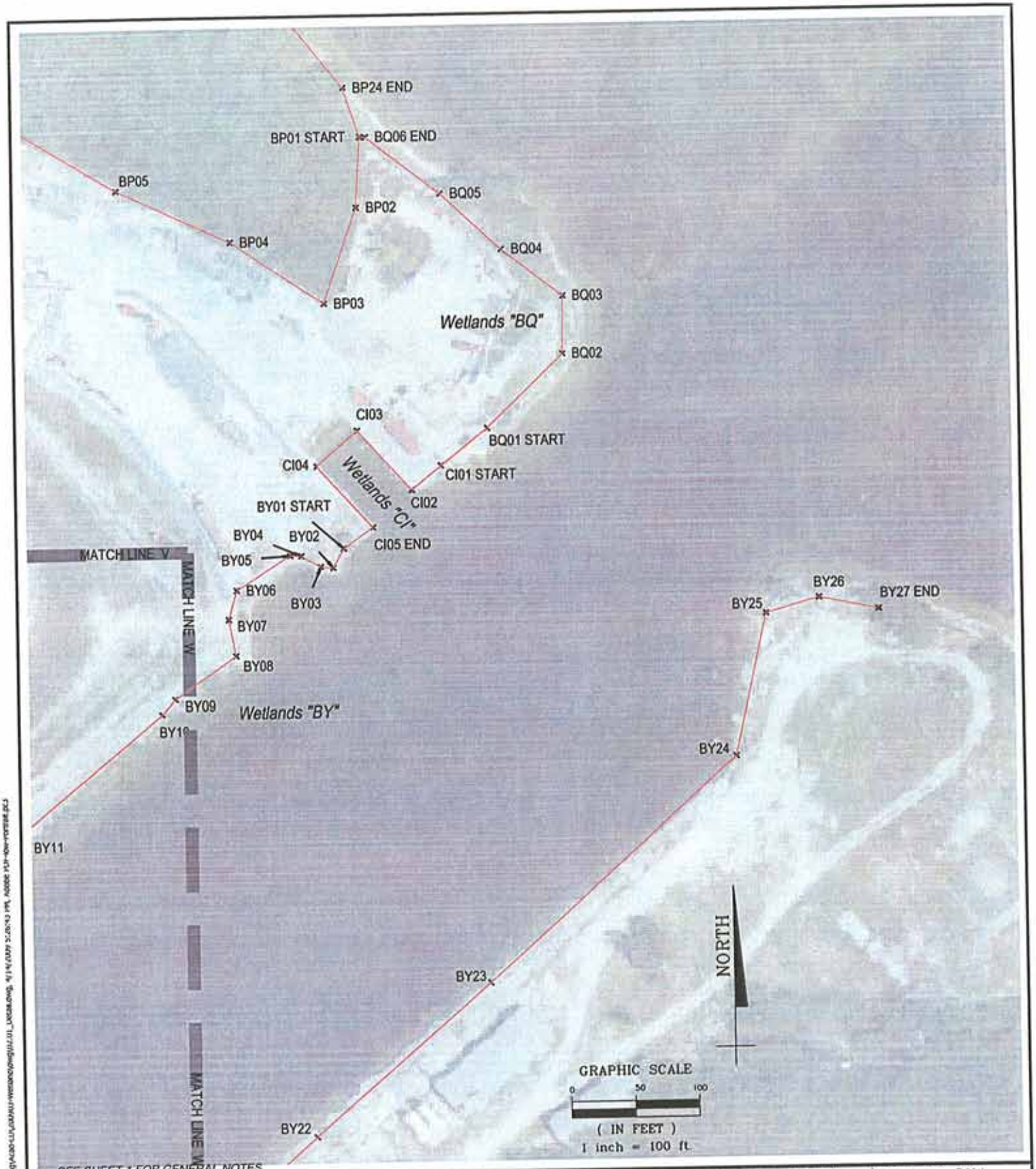

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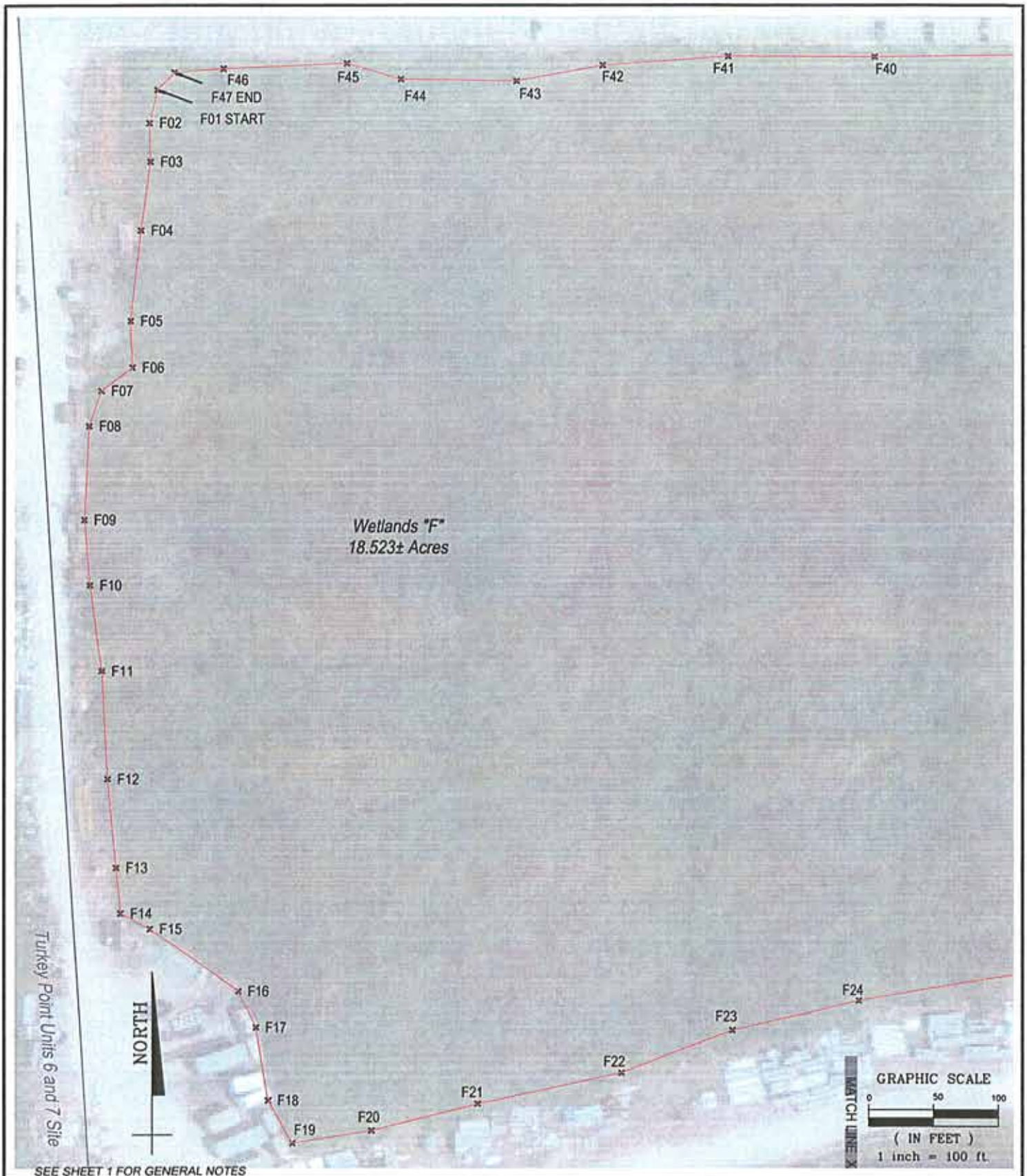

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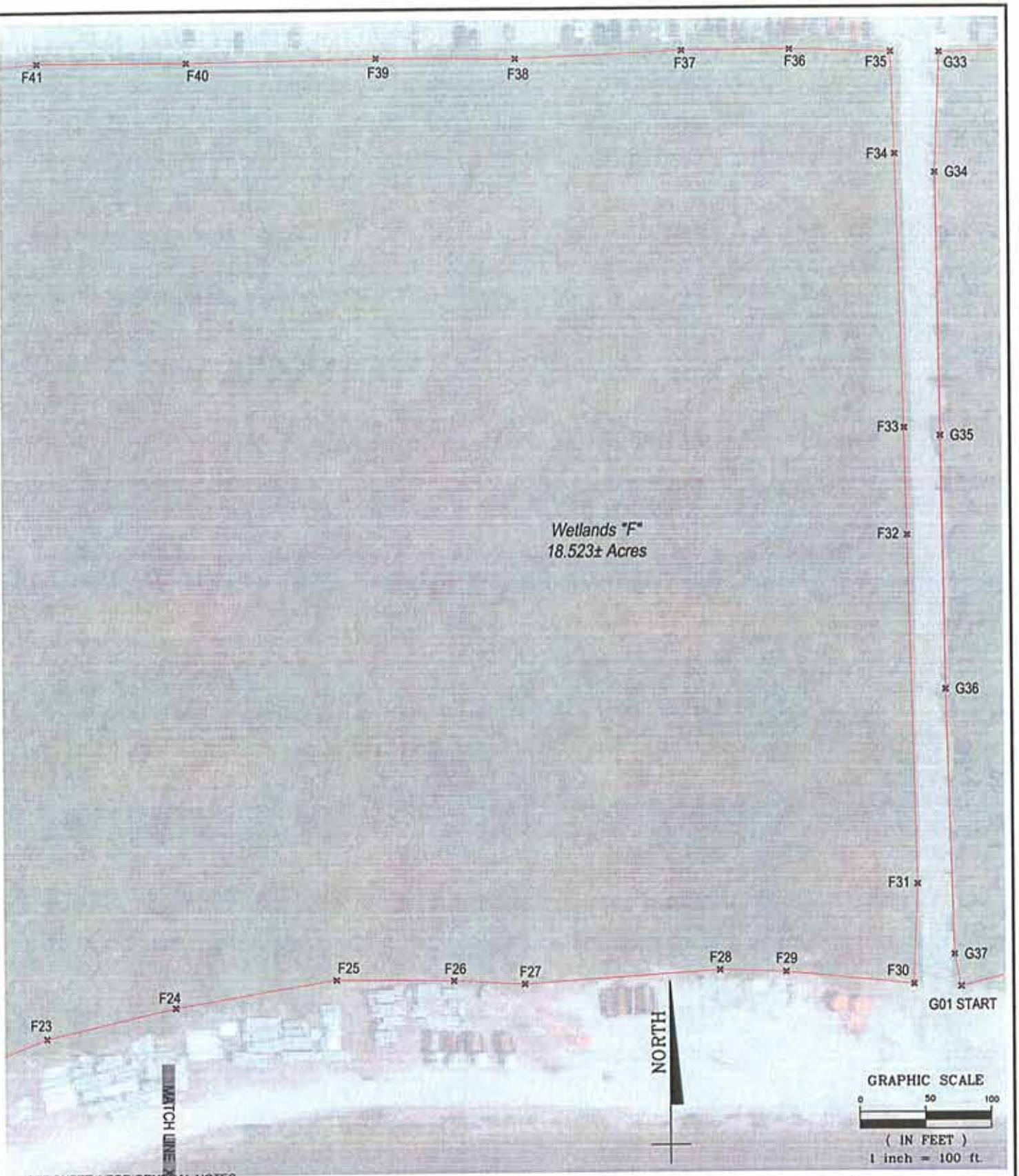

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SCALE: 1" = 100'
SHT. 2.16
DRAWING NAME: 02.01_Detail.dwg

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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 2.18
DRAWING NAME: 02.01_Detail.dwg

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6241 NW 23rd STREET, SUITE 500
GAINESVILLE, FLORIDA 32656

Flag ID,	Northing,	Easting
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Flag ID,	Northing,	Easting
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Flag ID,	Northing,	Easting
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Flag ID,	Northing,	Easting
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BP22,	402535,	878058
BP23,	402425,	878080
BP24 END,	402366,	878127

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DRAWN BY: M.R. DATE: 03/18/2009 | CHKD. BY: R.M.J. DATE: 03/18/2009

JOB No. 6374080385 | SCALE: N/A | SHT. 2.19

DRAWING NAME: 02.01_Detail.dwg

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Flag ID,	Northing,	Easting
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BY27 END,	401961,	878531

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BQ06 END,	402328,	878143

Flag ID,	Northing,	Easting
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C35,	404461,	860920
C36,	404580,	860924
C37,	404692,	860920
C38,	404836,	860918
C39,	405018,	860918
C40,	405188,	860921
C41,	405311,	860924
C42,	405436,	860920
C43 END,	405523,	860907

Flag ID,	Northing,	Easting
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CI02,	402057,	878175
CI03,	402103,	878134
CI04,	402076,	878103
CI05 END,	402029,	878145

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D11,	401678,	863556
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D13,	401672,	863467
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D16,	401669,	863277
D17,	401671,	863177
D18,	401670,	863078
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D20,	401670,	862936
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D24,	401667,	862533
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D27,	401660,	862277
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D30,	401661,	861961
D31,	401665,	861919
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D33,	401658,	861780
D34,	401657,	861724
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D67,	404449,	860943
D68,	404580,	860942
D69,	404692,	860941
D70,	404831,	860944
D71,	405020,	860938
D72,	405192,	860937
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D74,	405432,	860932
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D76,	405525,	860945

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E09,	400683,	869642
E10,	400708,	869617
E11,	400718,	869585
E12 END,	400719,	869500

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DATE	BY	DESCRIPTION

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: N/A
SHT. 2.20
DRAWING NAME: 02.01_Detail.dwg

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K:\tpa_PROJECTS\survey\dgn\2CD-LPL\DWG\Wetland\dwg\02.01_Detail.dwg, 4/15/2009 5:28:03 PM, Adobe PDF-New Portrait.pdf

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F13,	399493,	874741
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F15,	399446,	874766
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F17,	399372,	874847
F18,	399316,	874856
F19,	399284,	874875
F20,	399294,	874936
F21,	399314,	875016
F22,	399337,	875124
F23,	399370,	875208
F24,	399392,	875304
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F26,	399411,	875515
F27,	399408,	875568
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F29,	399416,	875766
F30,	399406,	875864
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F33,	399826,	875859
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F37,	400112,	875692
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F41,	400106,	875204
F42,	400099,	875109
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G09,	399424,	876756
G10,	399438,	876858
G11,	399453,	876924
G12,	399476,	876954
G13,	399463,	876987
G14,	399440,	877033
G15,	399471,	877046
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G18,	399542,	876810
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G20,	399539,	876536
G21,	399536,	876408
G22,	399537,	876258
G23,	399616,	876258
G24,	399772,	876261
G25,	399869,	876262
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G27,	399991,	876208
G28,	399989,	876121
G29,	400038,	876114
G30,	400112,	876101
G31,	400118,	876043
G32,	400112,	875969
G33,	400110,	875887
G34,	400019,	875883
G35,	399820,	875886
G36,	399628,	875889
G37,	399428,	875894

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REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: N/A
SHT. 2.21
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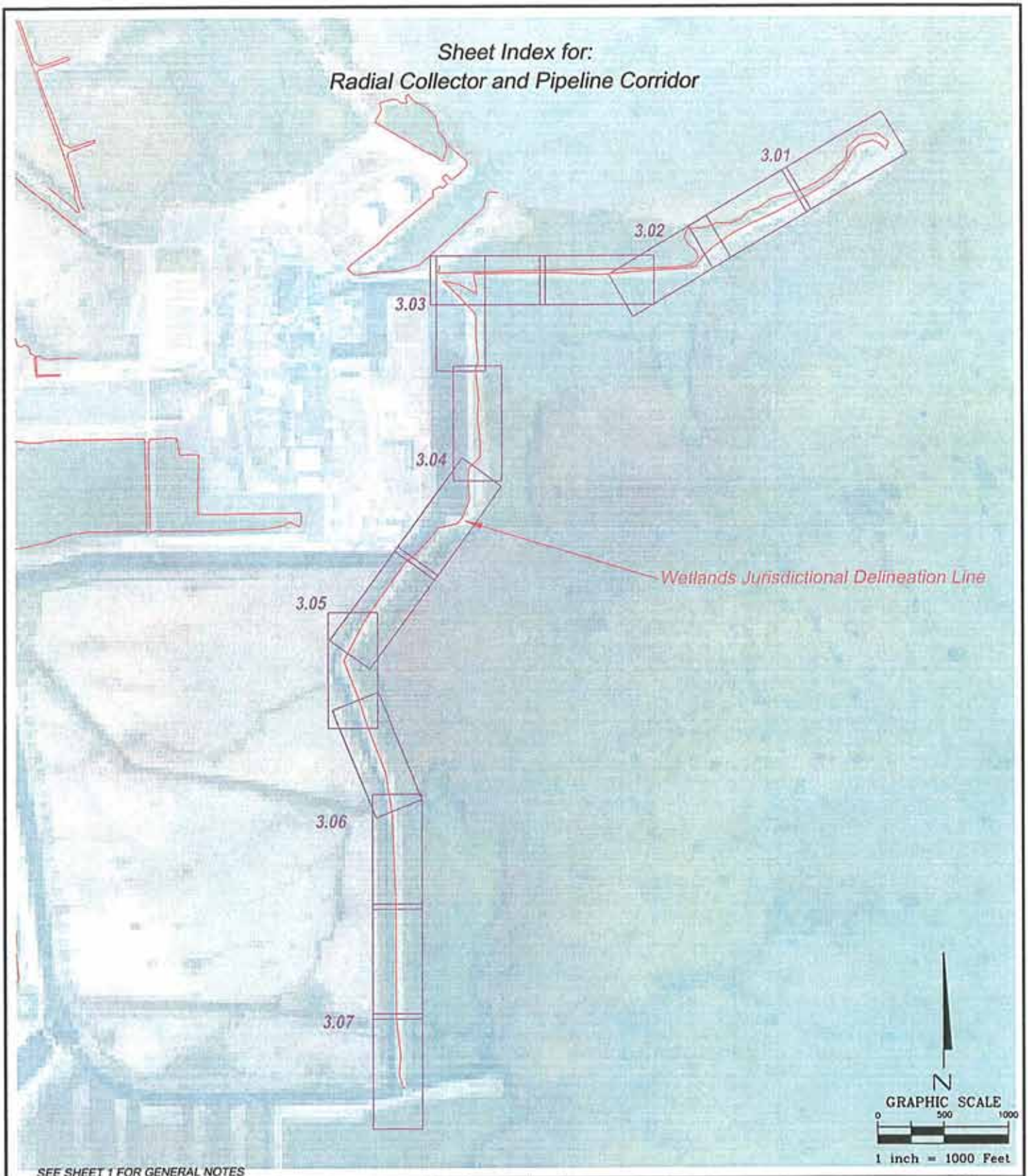
P:\6374\080385\1250 - TURKEY PNT PROJECT\Surveying\ACAD-LDT\2009\Wetlands\02.01_Detail.dwg, 6/19/2009 7:27:27 AM, ADOBE PDF 3000W, HP-HOW-PORTRAIT.pc5

Sheet Index for:
Radial Collector and Pipeline Corridor



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JOB No. 6374080385
SCALE: 1" = 1000'
SHT. 3.00
DRAWING NAME:200903-Wetland.dwg

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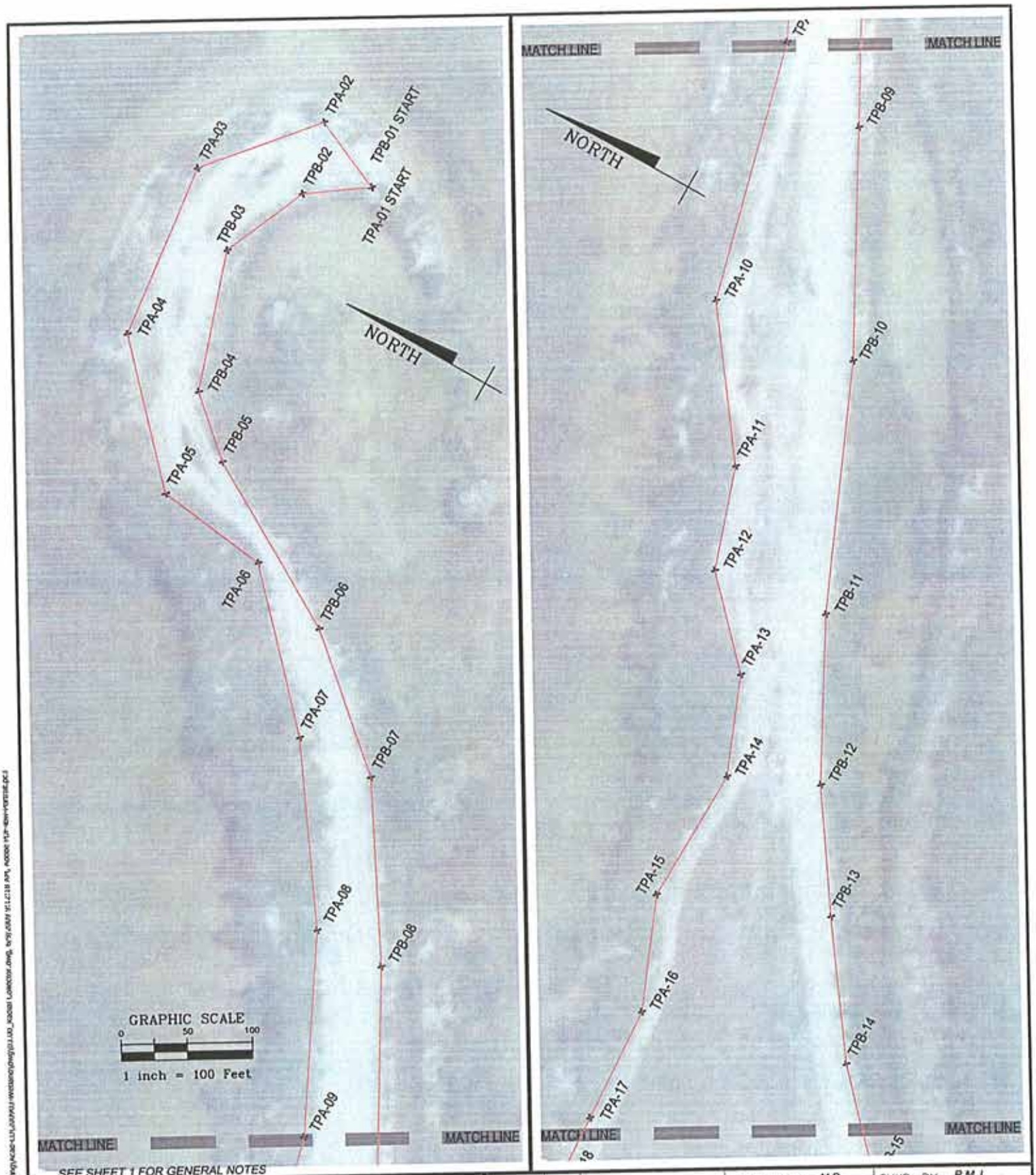

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JOB No. 6374080385
SCALE: 1" = 100'
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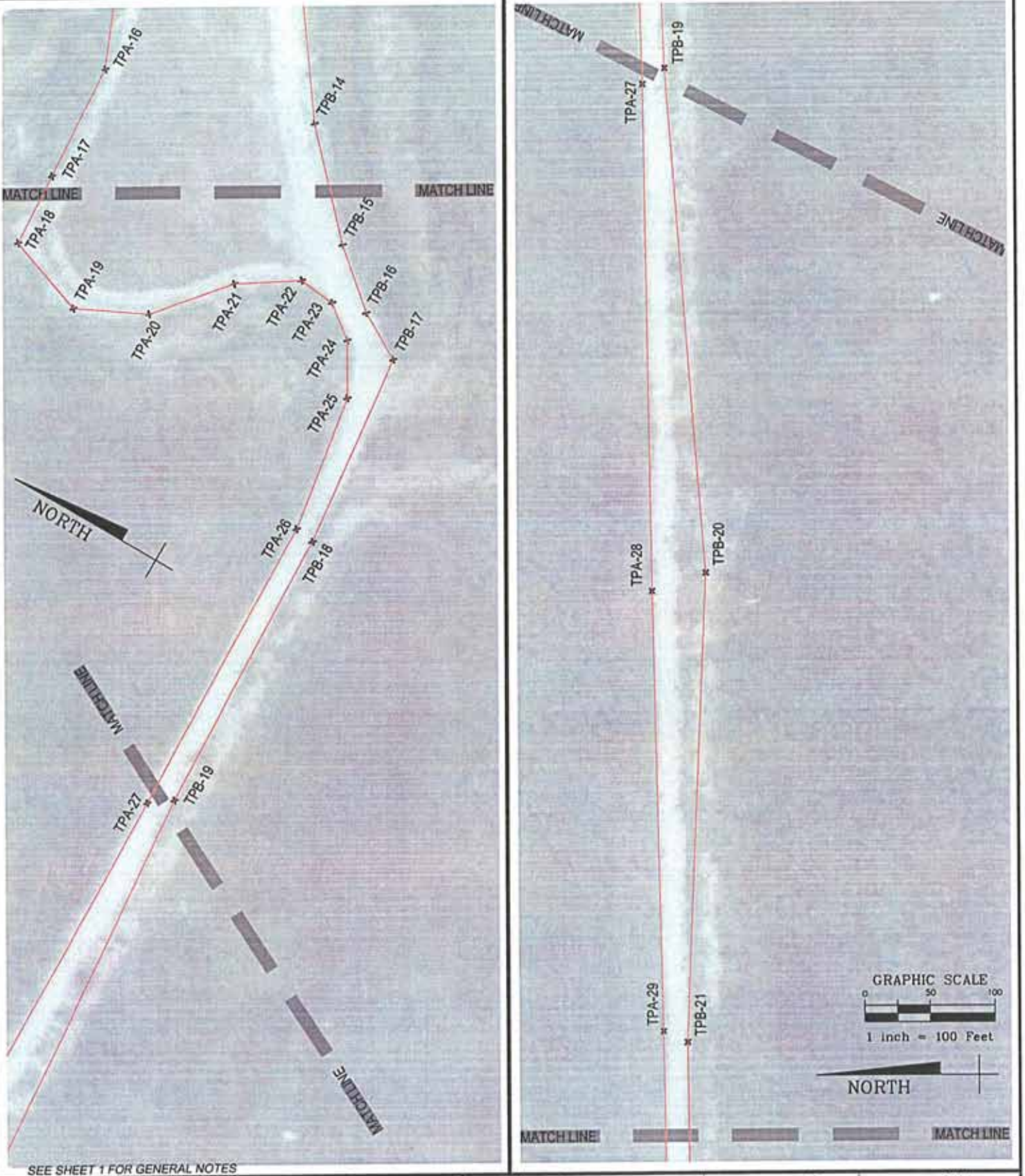

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PROJECT TITLE:
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Florida Power and Light Company
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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 3.02
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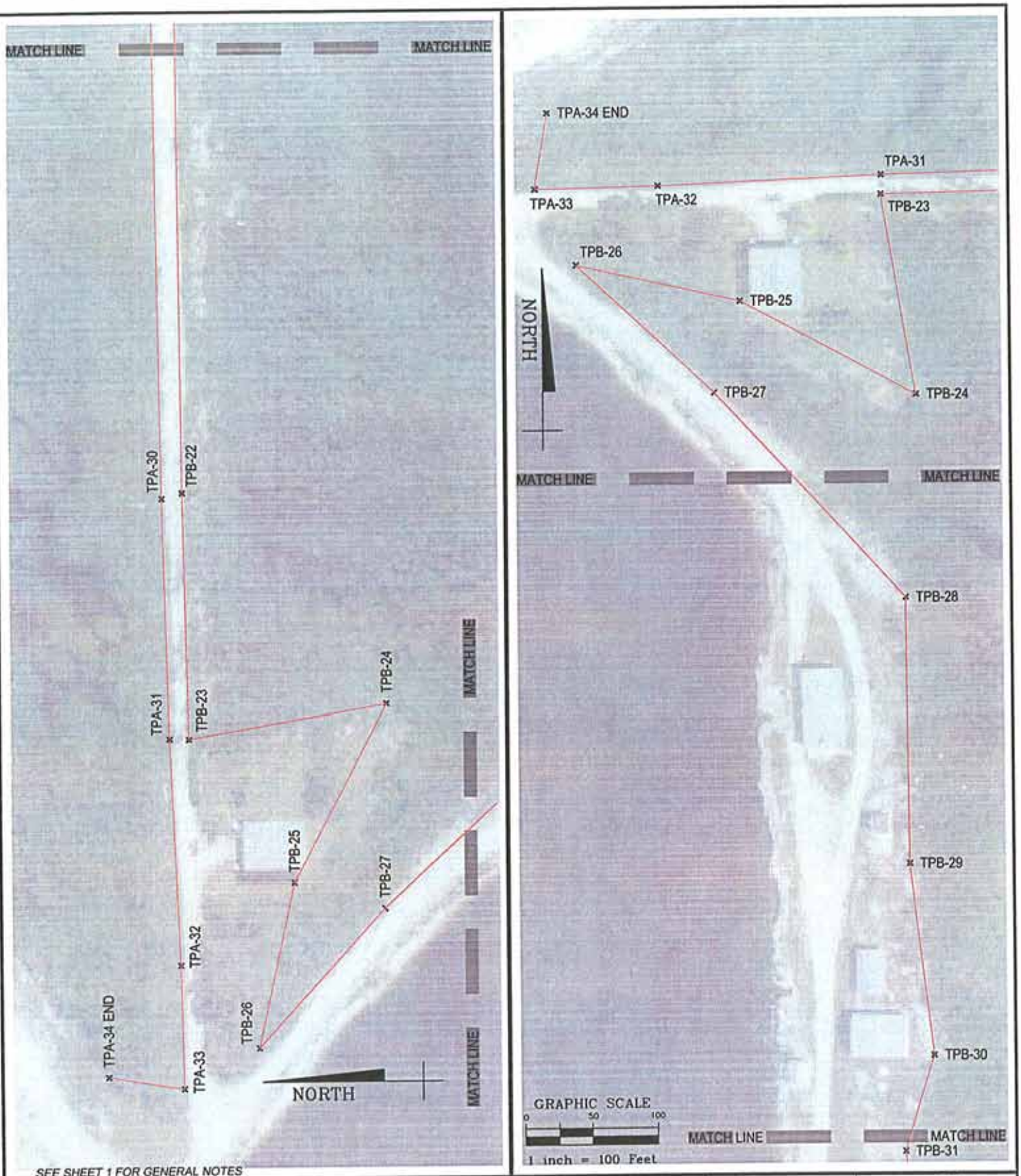

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Florida Power and Light Company
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SCALE: 1" = 100'
SHT. 3.03
DRAWING NAME: 200903-Wetland.dwg

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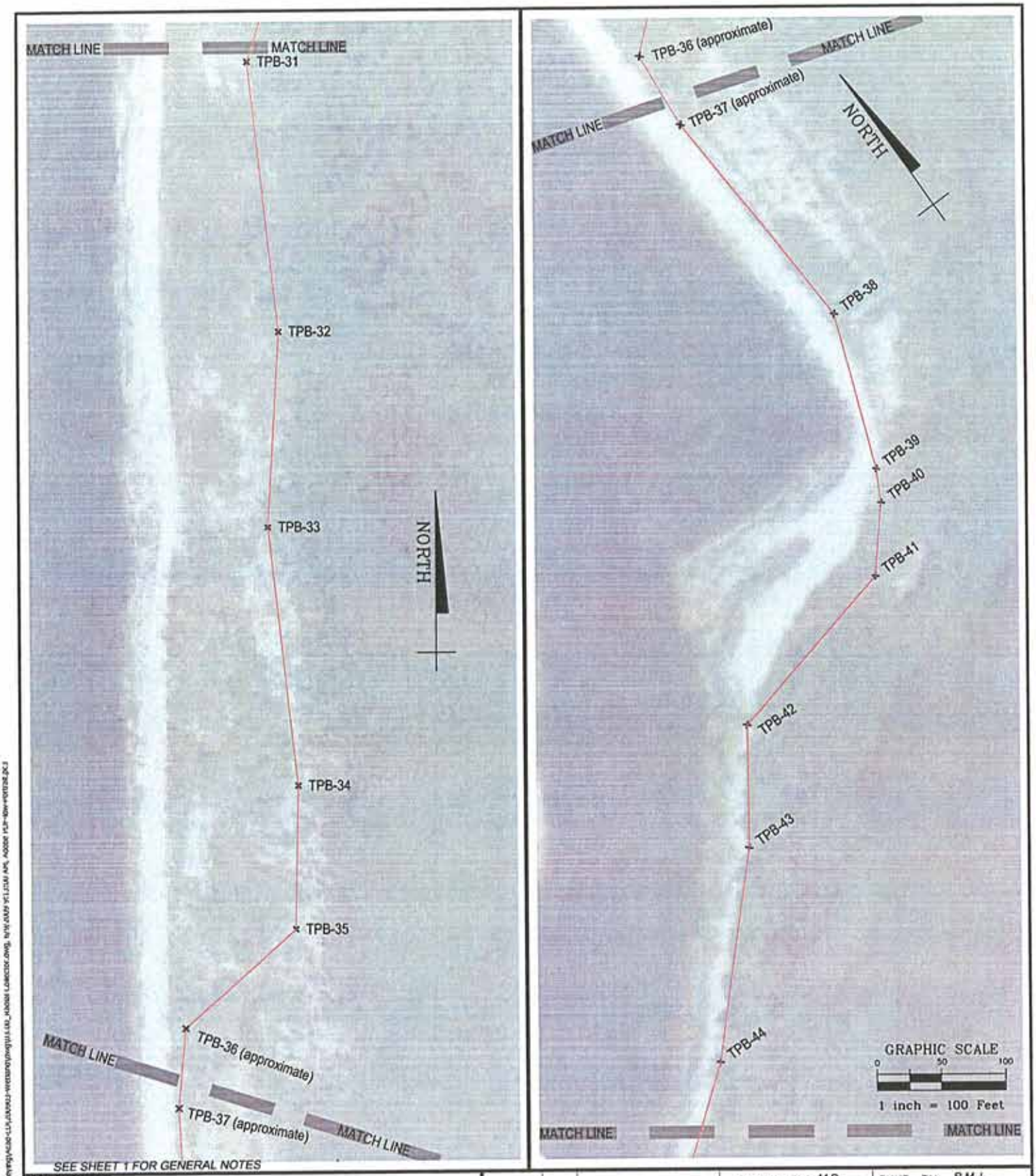

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Construction and Operation License (COL) Project
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06/08/2009	MR	EDITED WETLAND LINES

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 3.04
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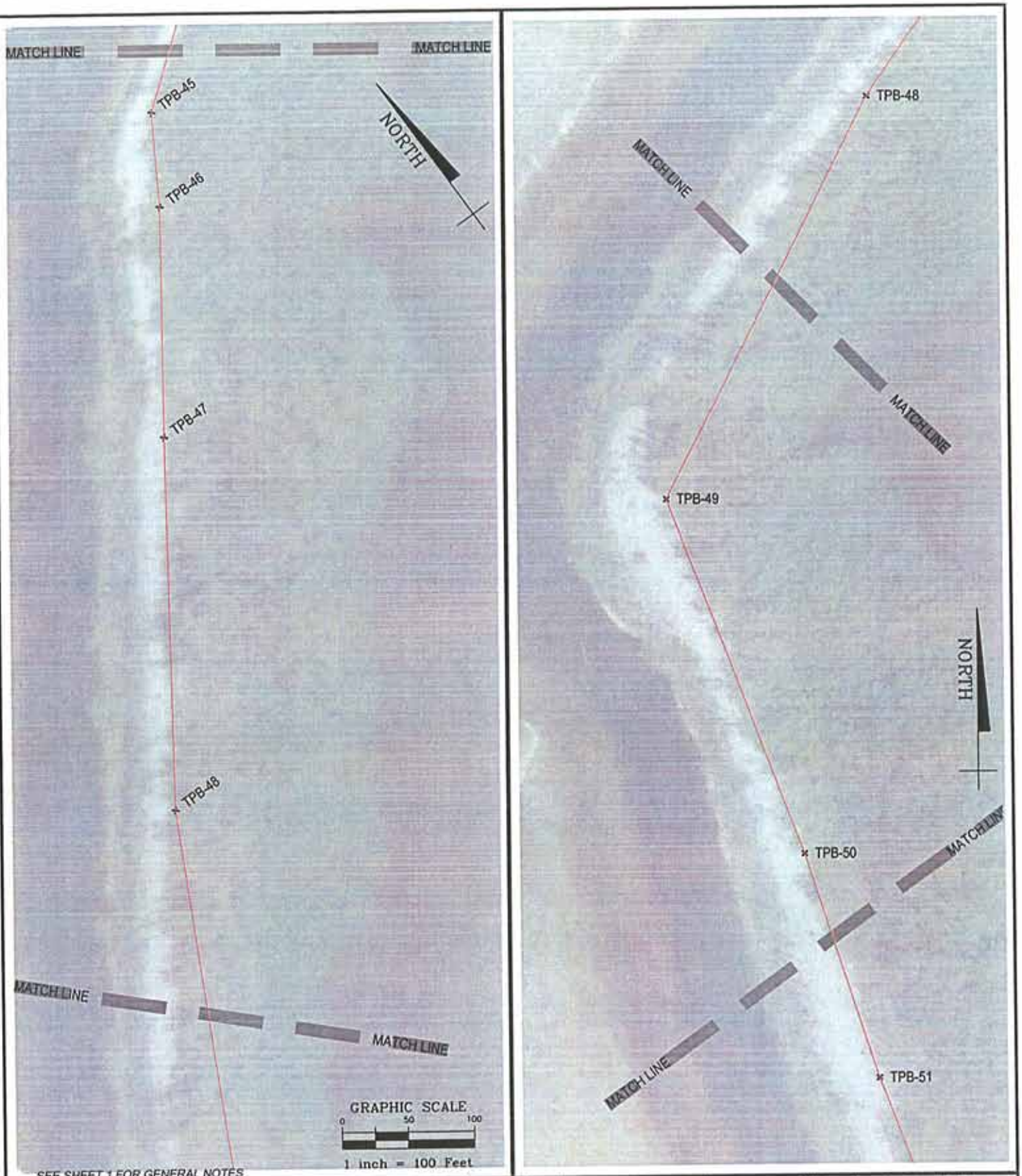

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Construction and Operation License (COL) Project
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JOB No. 6374080385
SCALE: 1" = 100'
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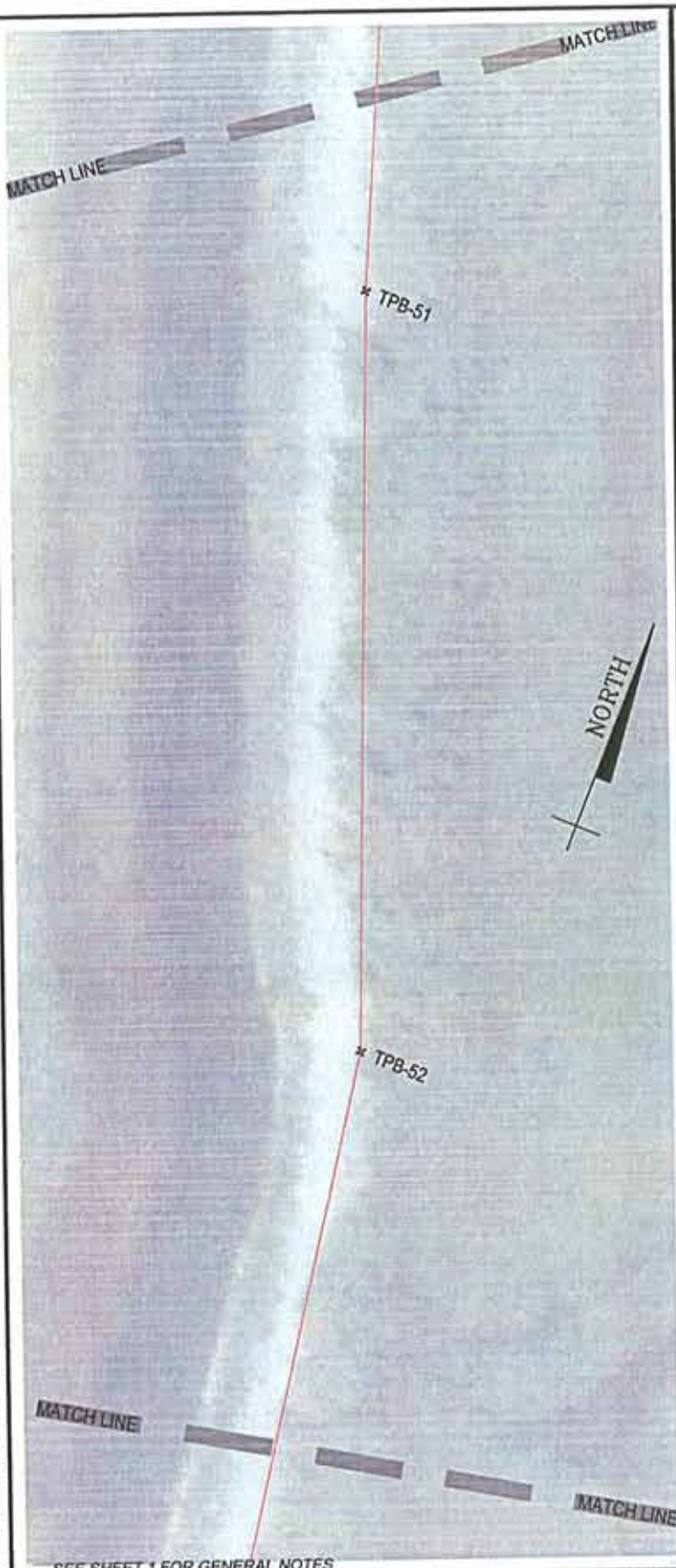

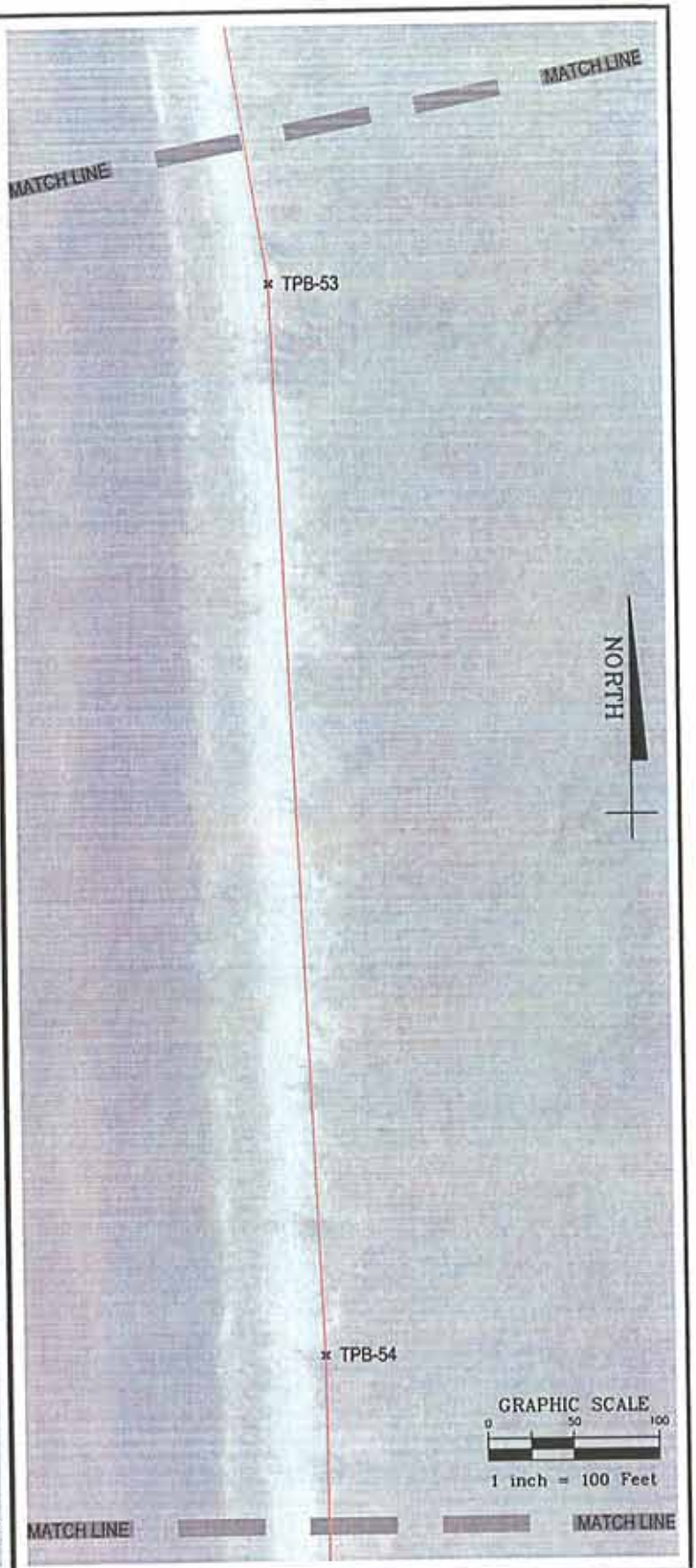

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SHT. 3.06
DRAWING NAME: 200903-Wetland.dwg

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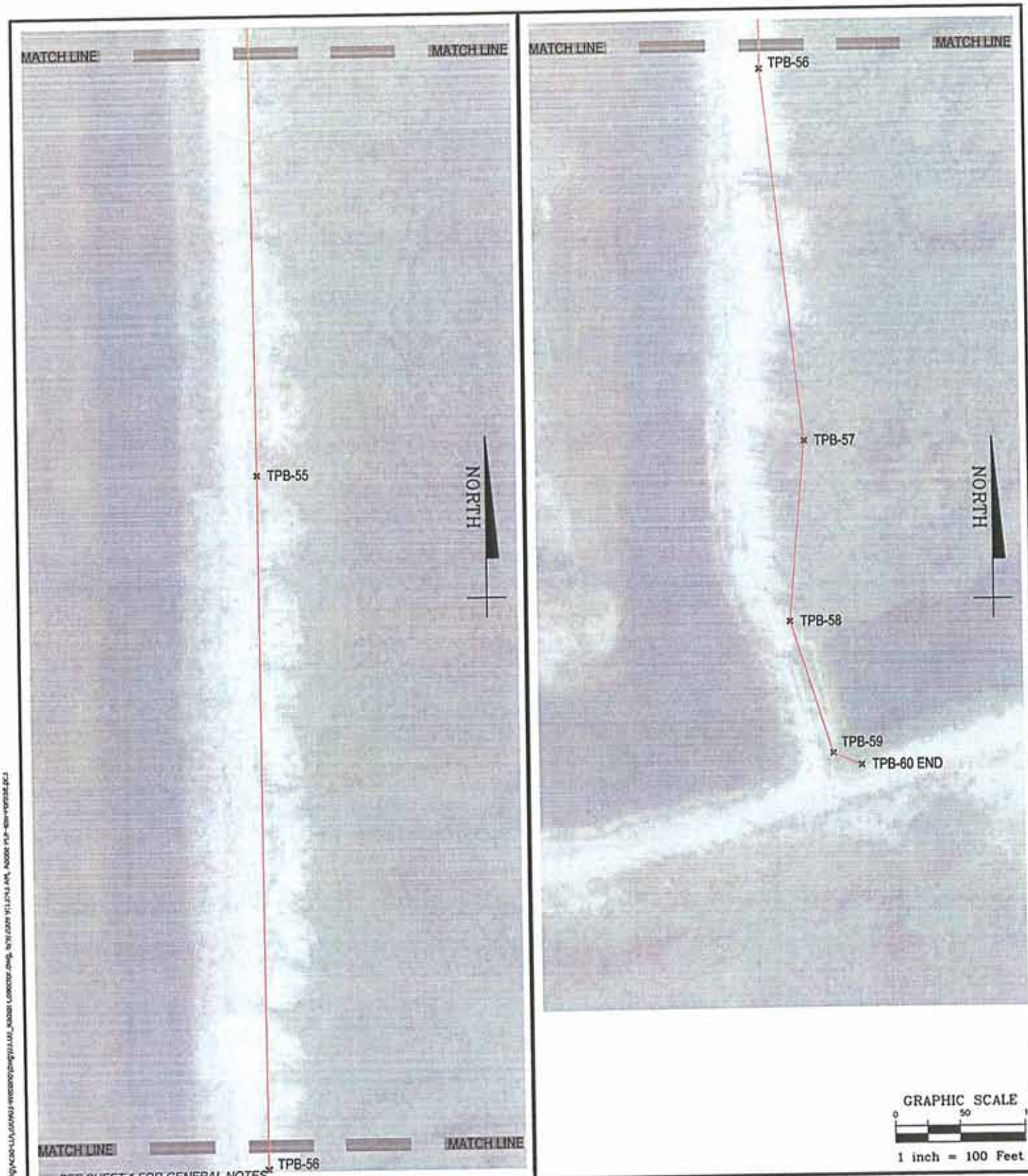

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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 3.07
DRAWING NAME:200903-Wetland.dwg

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GAINESVILLE, FLORIDA 32656

Flag ID,	Northing,	Easting
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TPB-14,	401537,	880160
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DATE	BY	DESCRIPTION
06/08/2009	MR	EDITED WETLAND LINES

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: N/A
SHT. 3.08
DRAWING NAME:200903-Wetland.dwg

PREPARED BY:
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CERTIFICATE OF AUTHORIZATION: LB 6969

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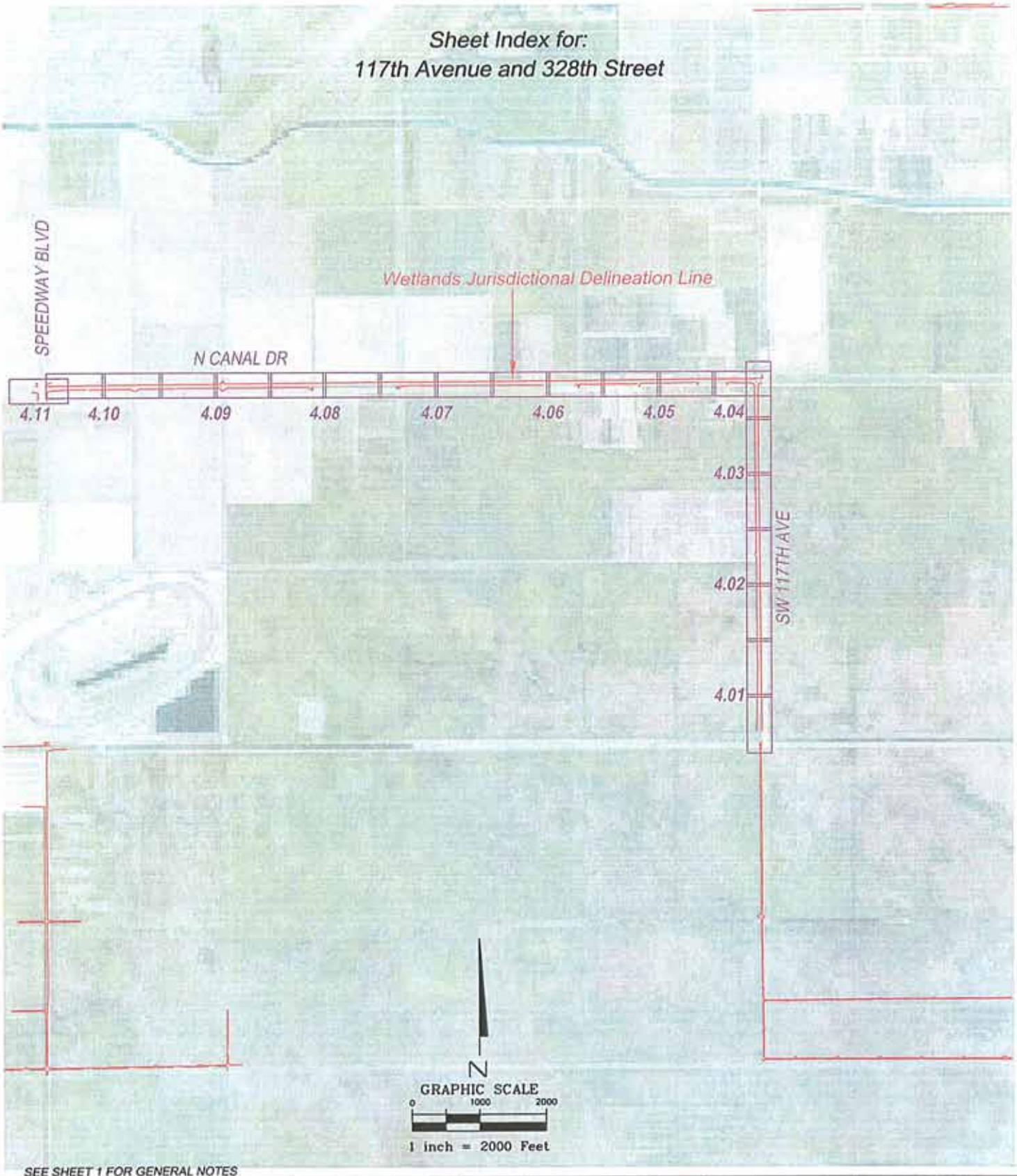
Sheet Index for:
117th Avenue and 328th Street



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SCALE: 1" = 1000'
SHT. 4.00
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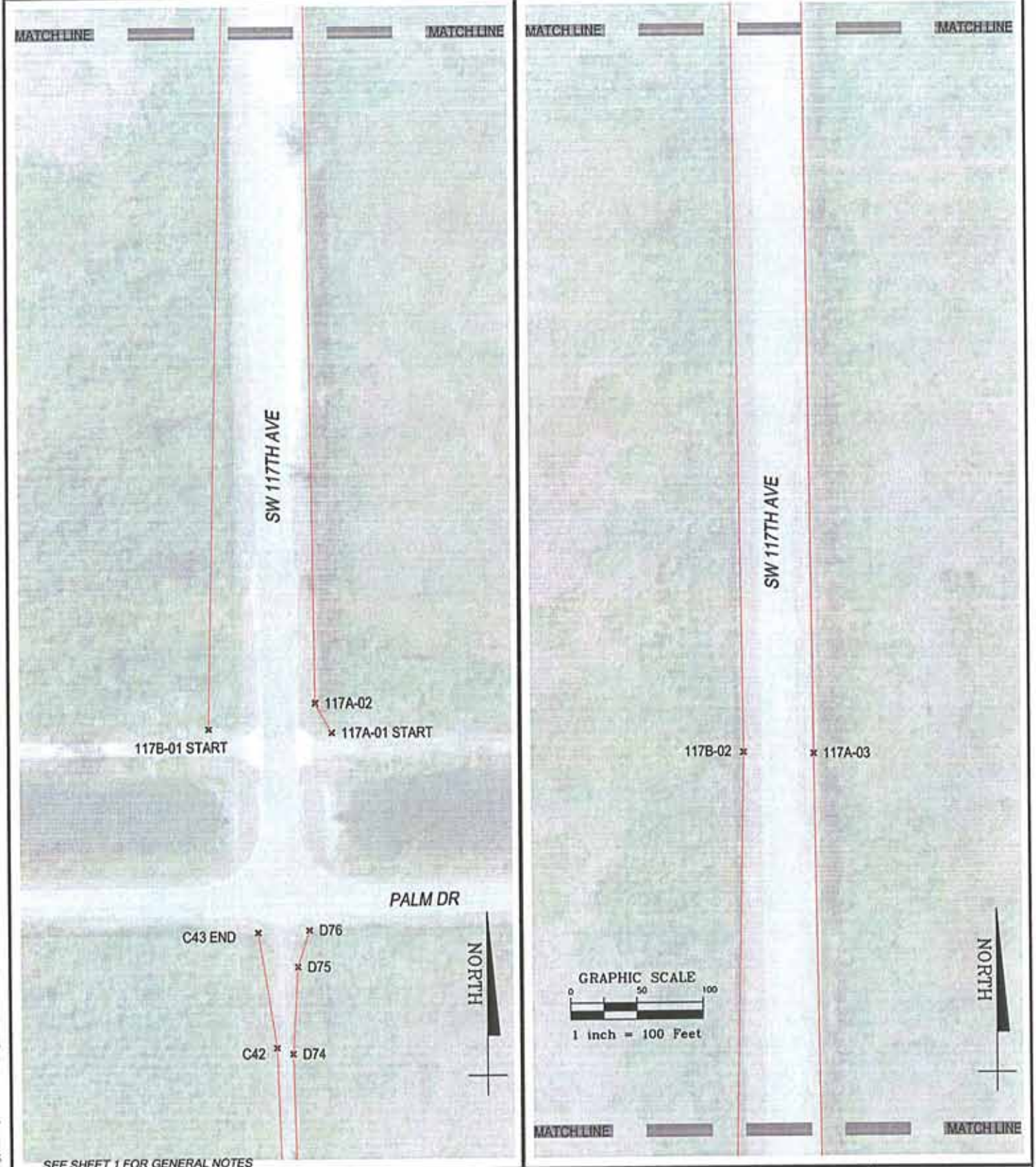

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SCALE: 1" = 100'
SHT. 4.01
DRAWING NAME:200903-Wetland.dwg

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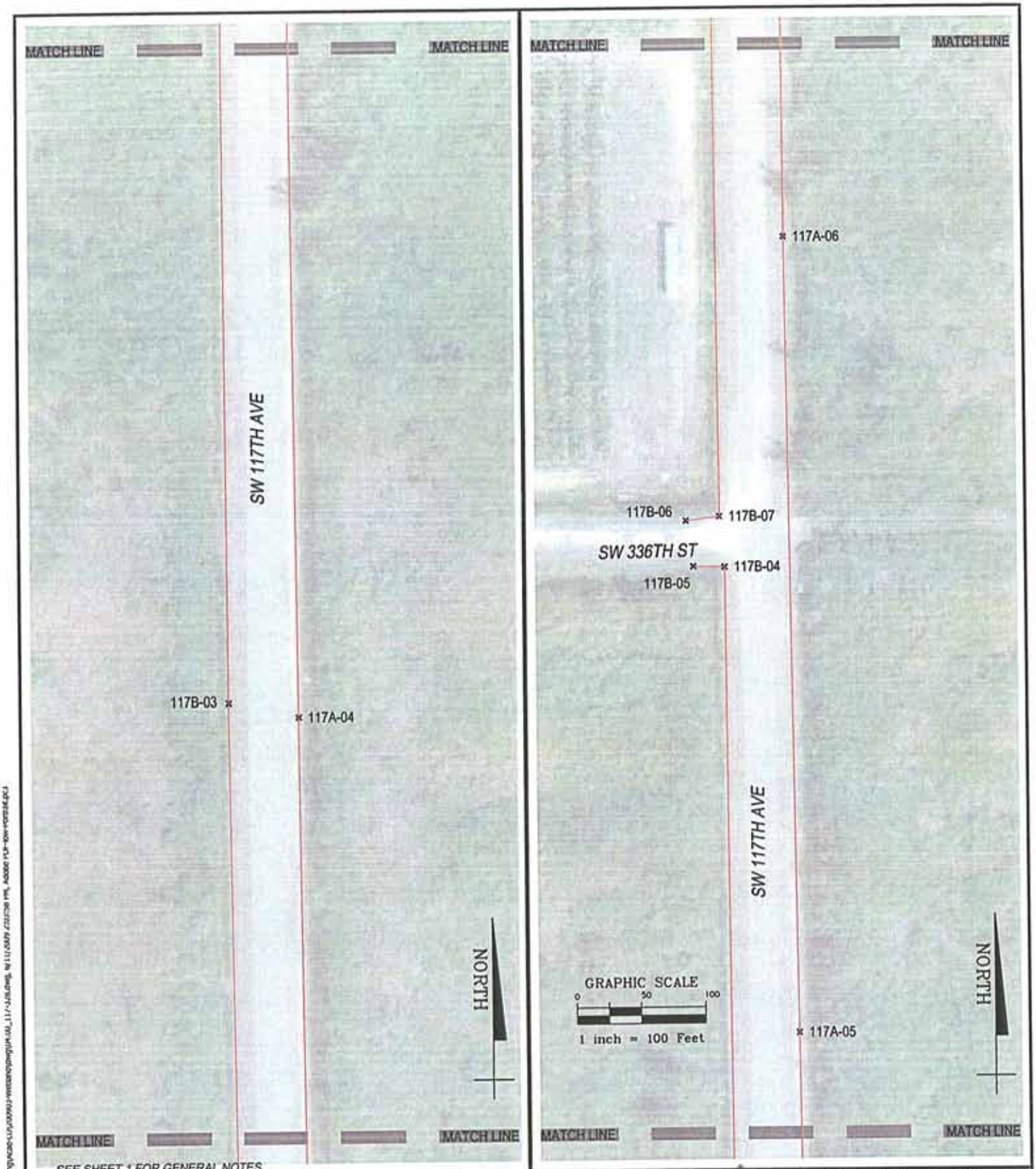

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SCALE: 1" = 100'
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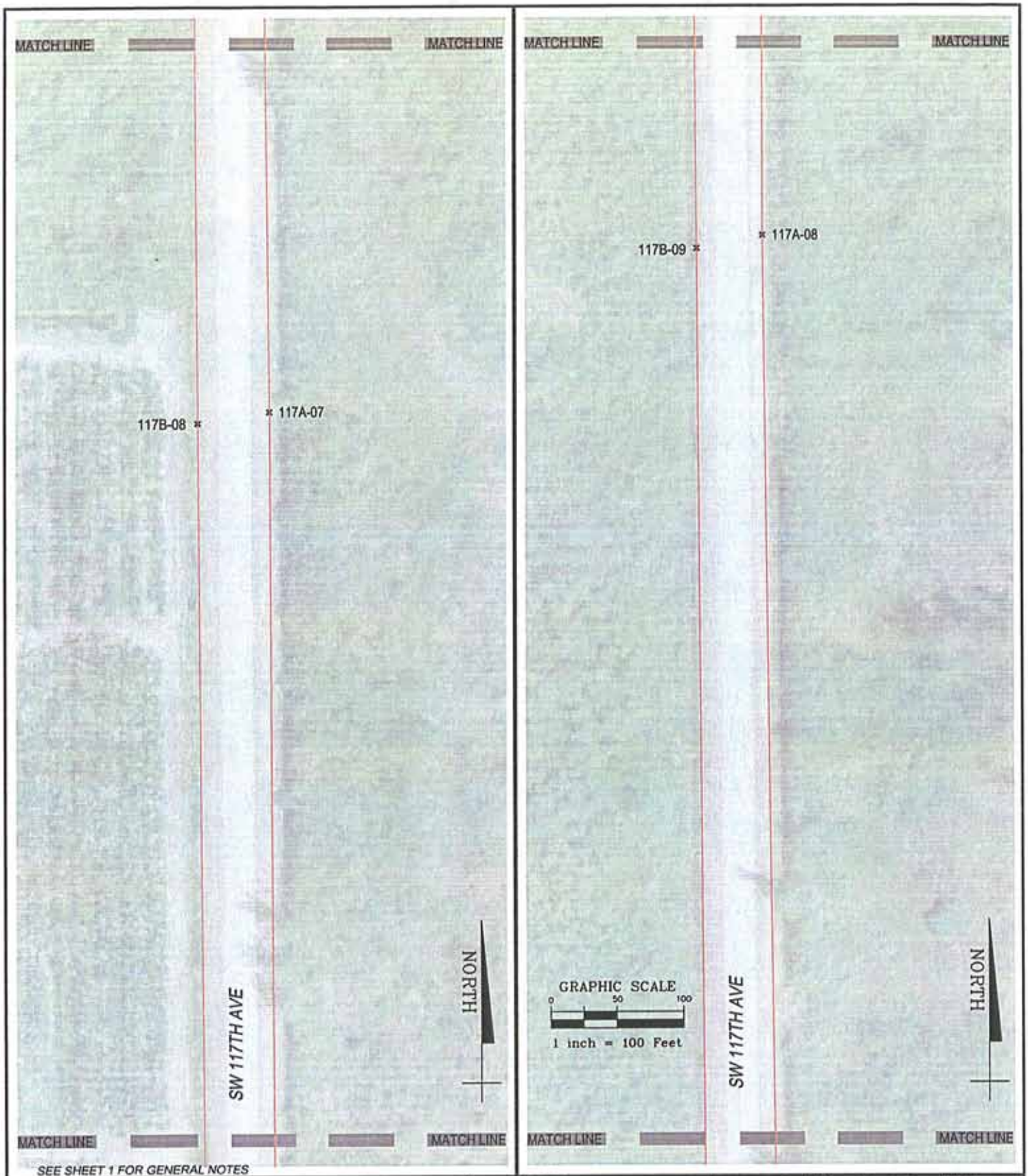

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SCALE: 1" = 100'
SHT. 4.03
DRAWING NAME:200903-Wetland.dwg

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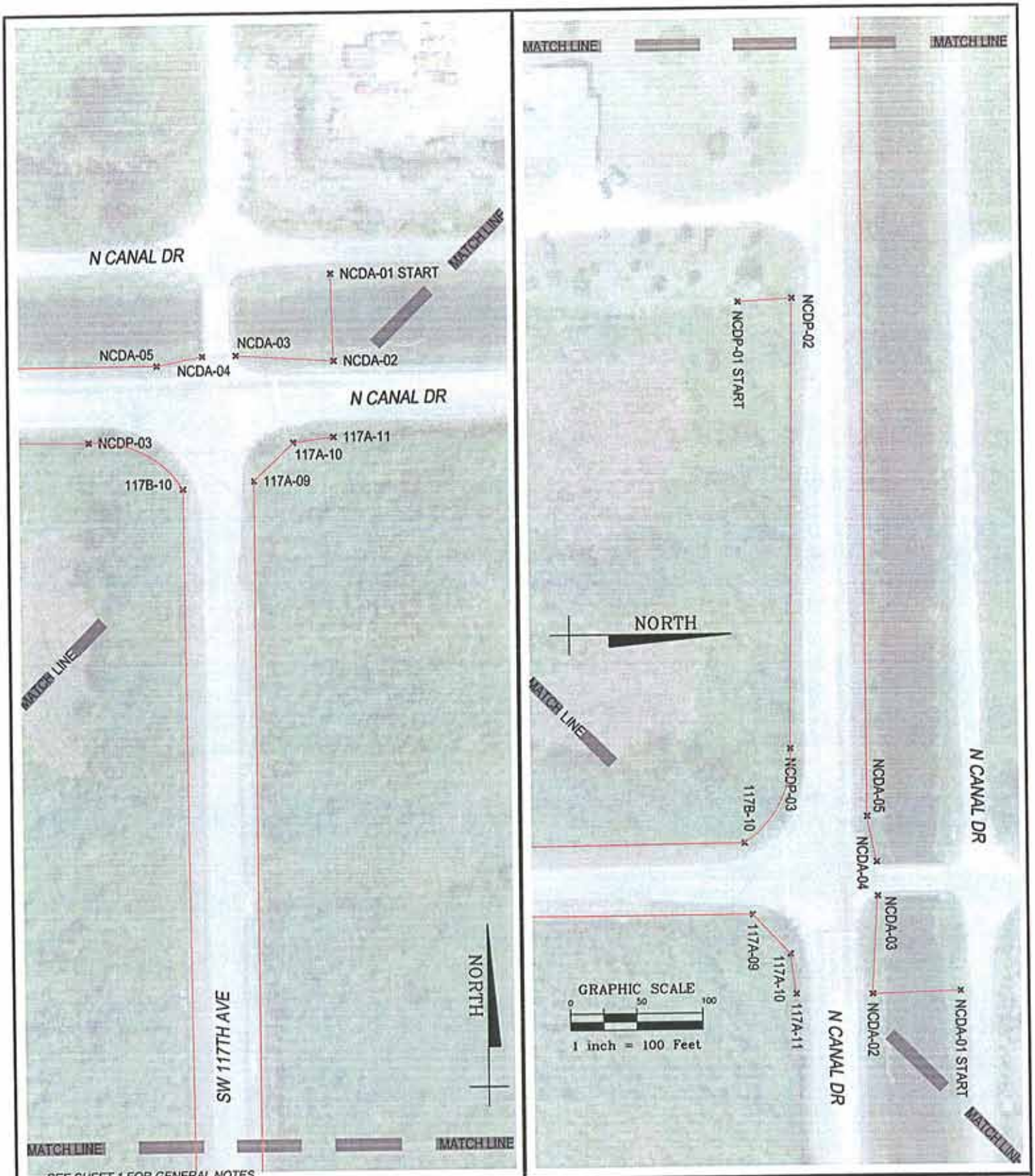

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SCALE: 1" = 100'
SHT. 4.04
DRAWING NAME: 200903-Wetland.dwg

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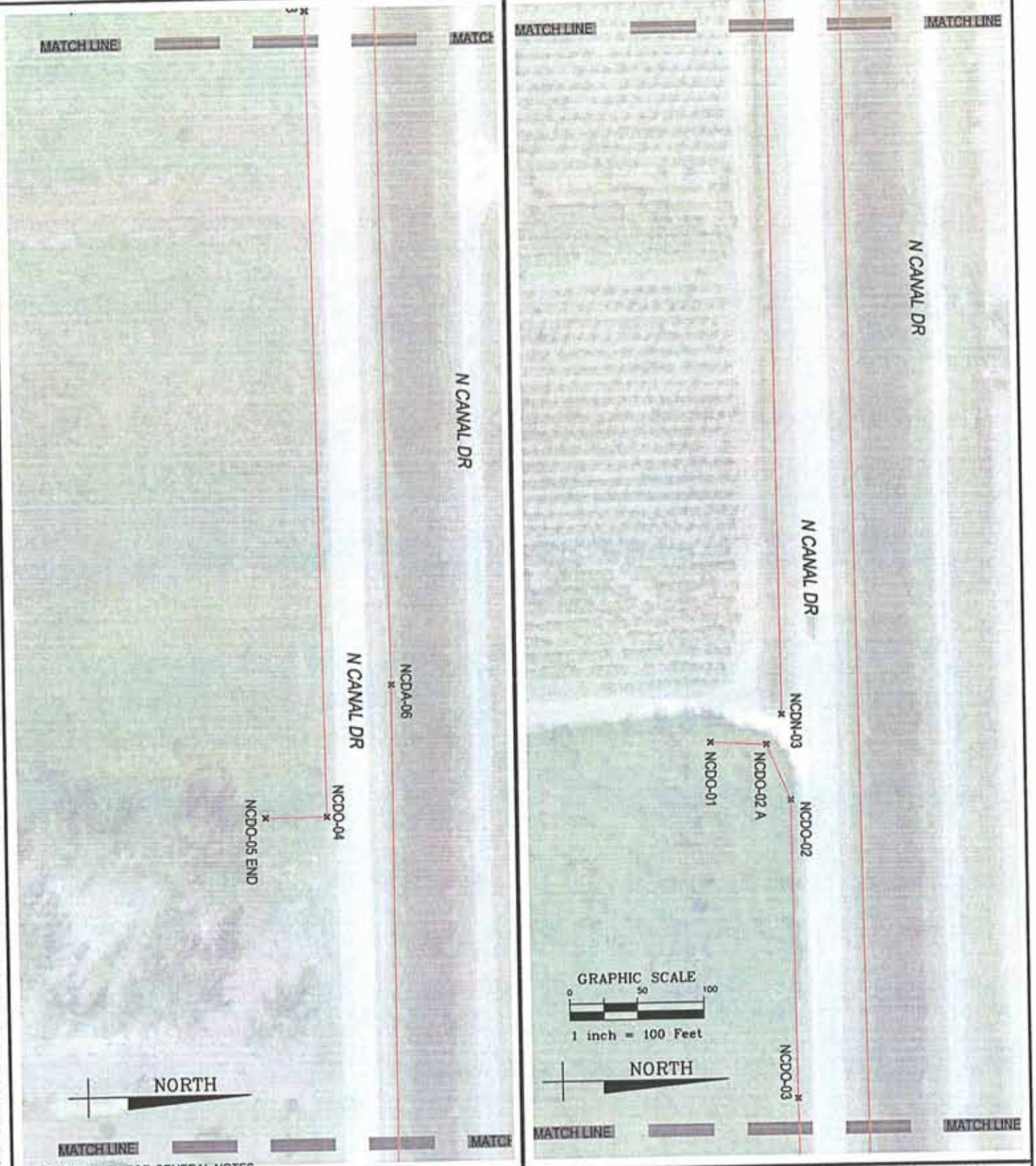

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SCALE: 1" = 100'
SHT. 4.05
DRAWING NAME:200903-Wetland.dwg

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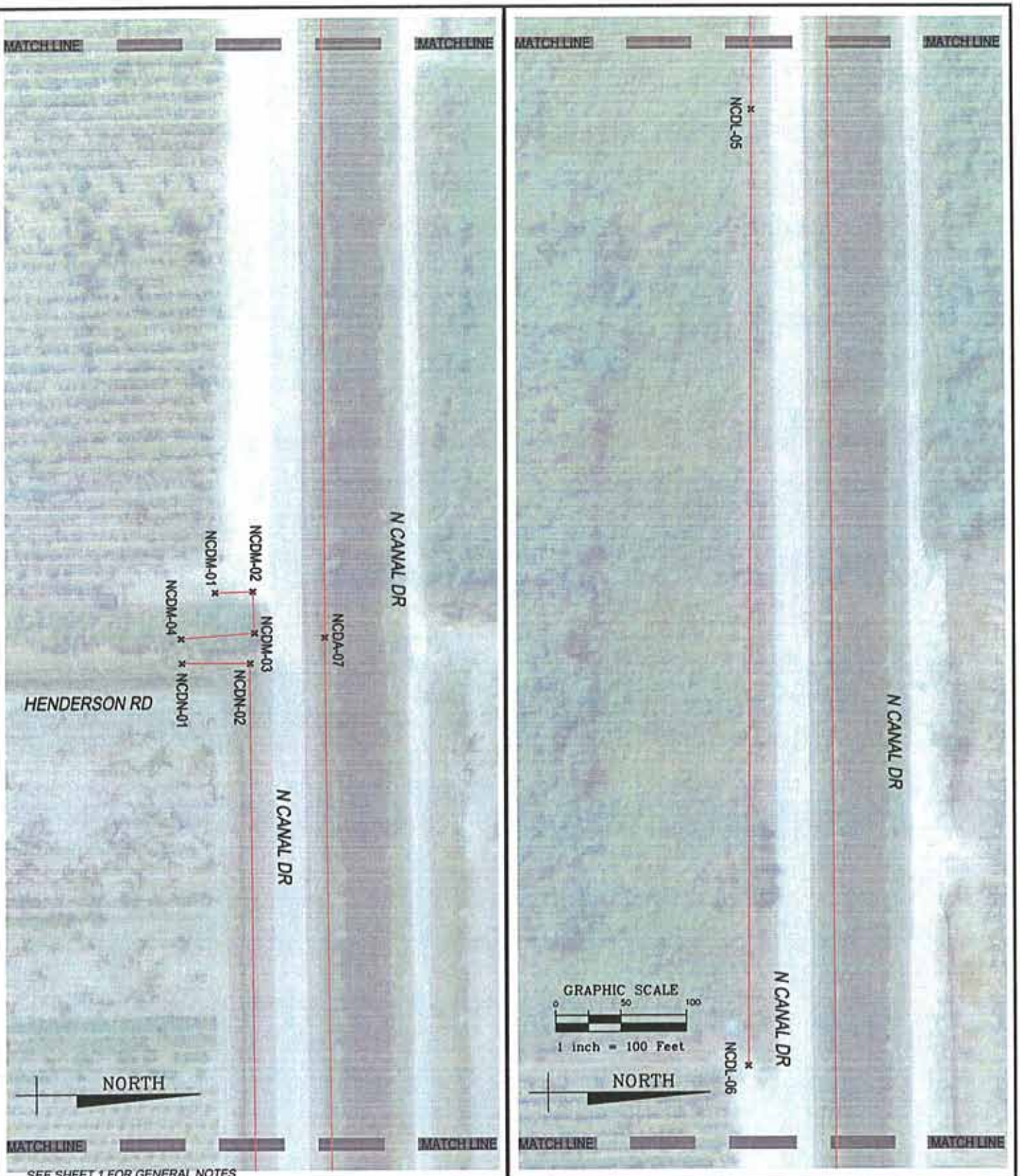

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SHT. 4.06
DRAWING NAME: 200903-Wetland.dwg

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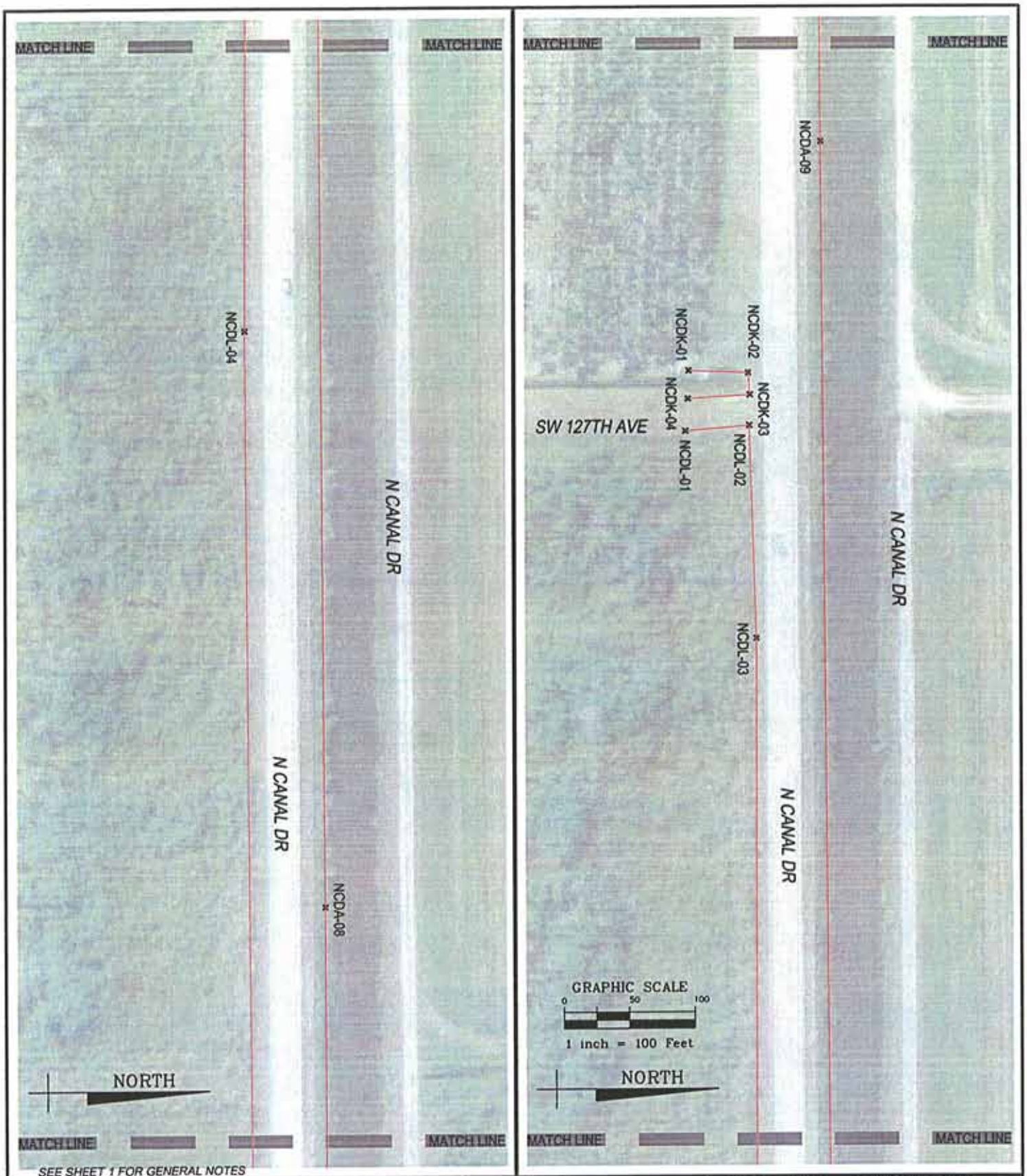

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PROJECT TITLE:
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SCALE: 1" = 100'
SHT. 4.07
DRAWING NAME:200903-Wetland.dwg

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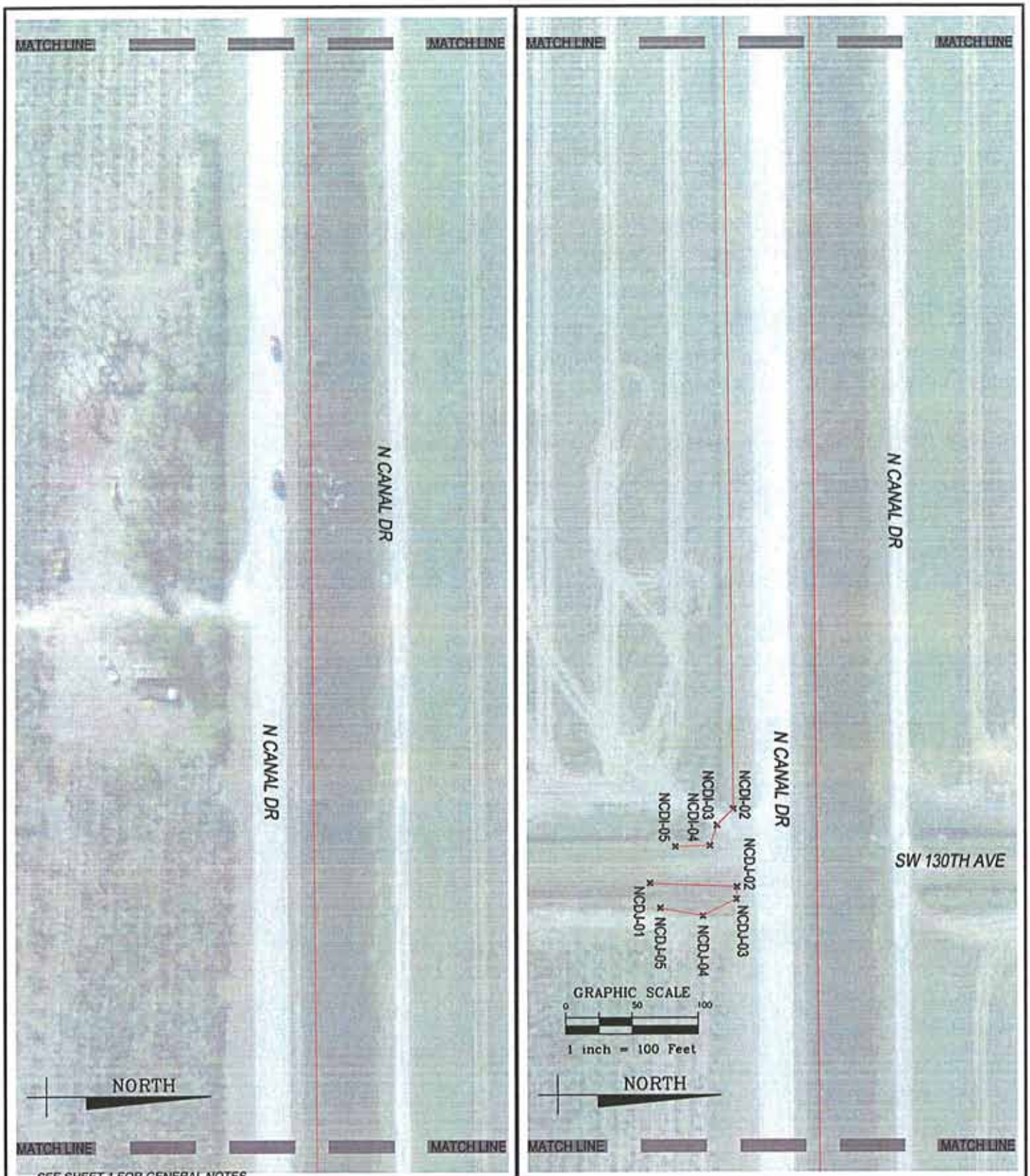

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PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 4.08
DRAWING NAME:200903-Wetland.dwg

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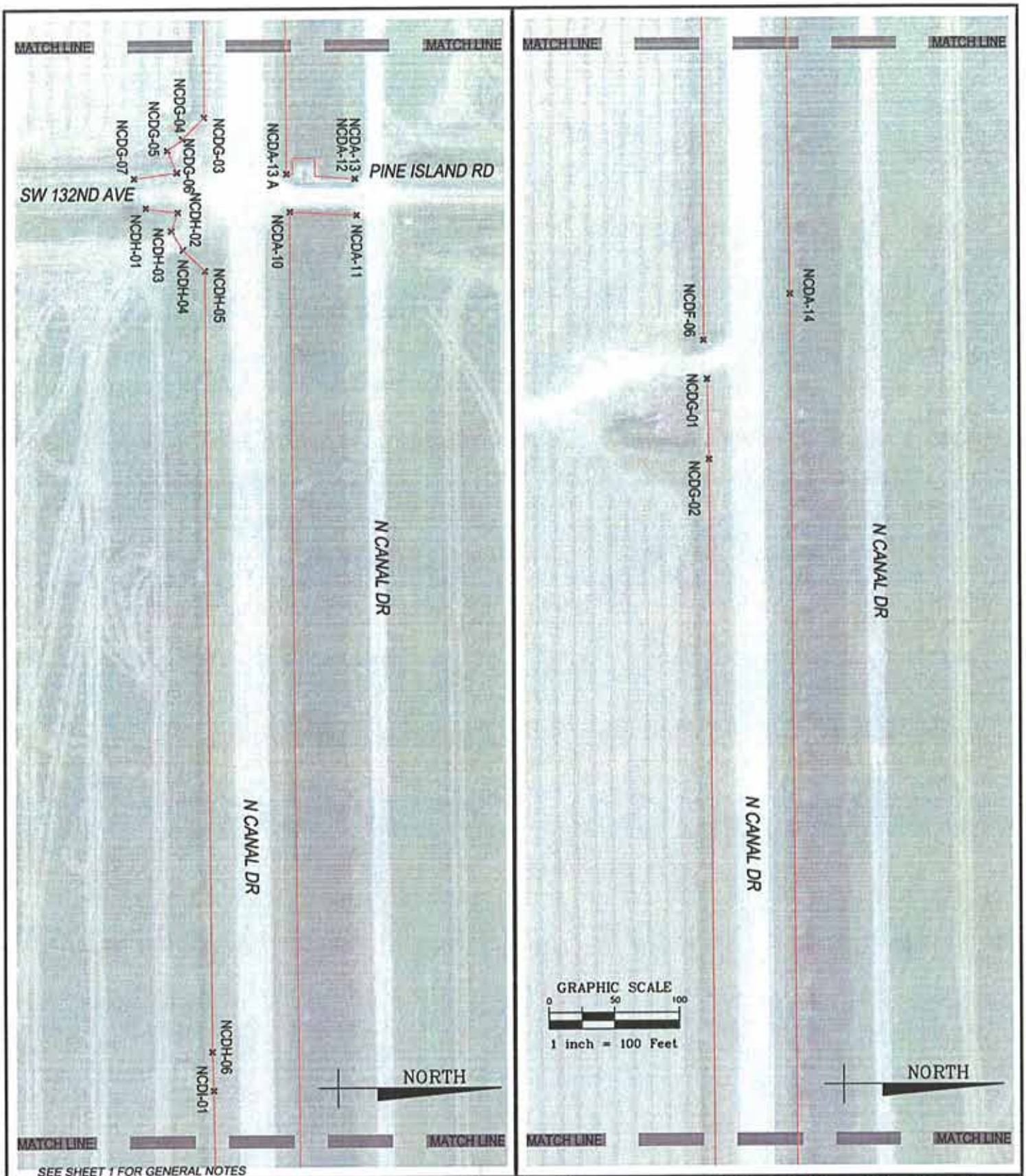

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SCALE: 1" = 100'
SHT. 4.09
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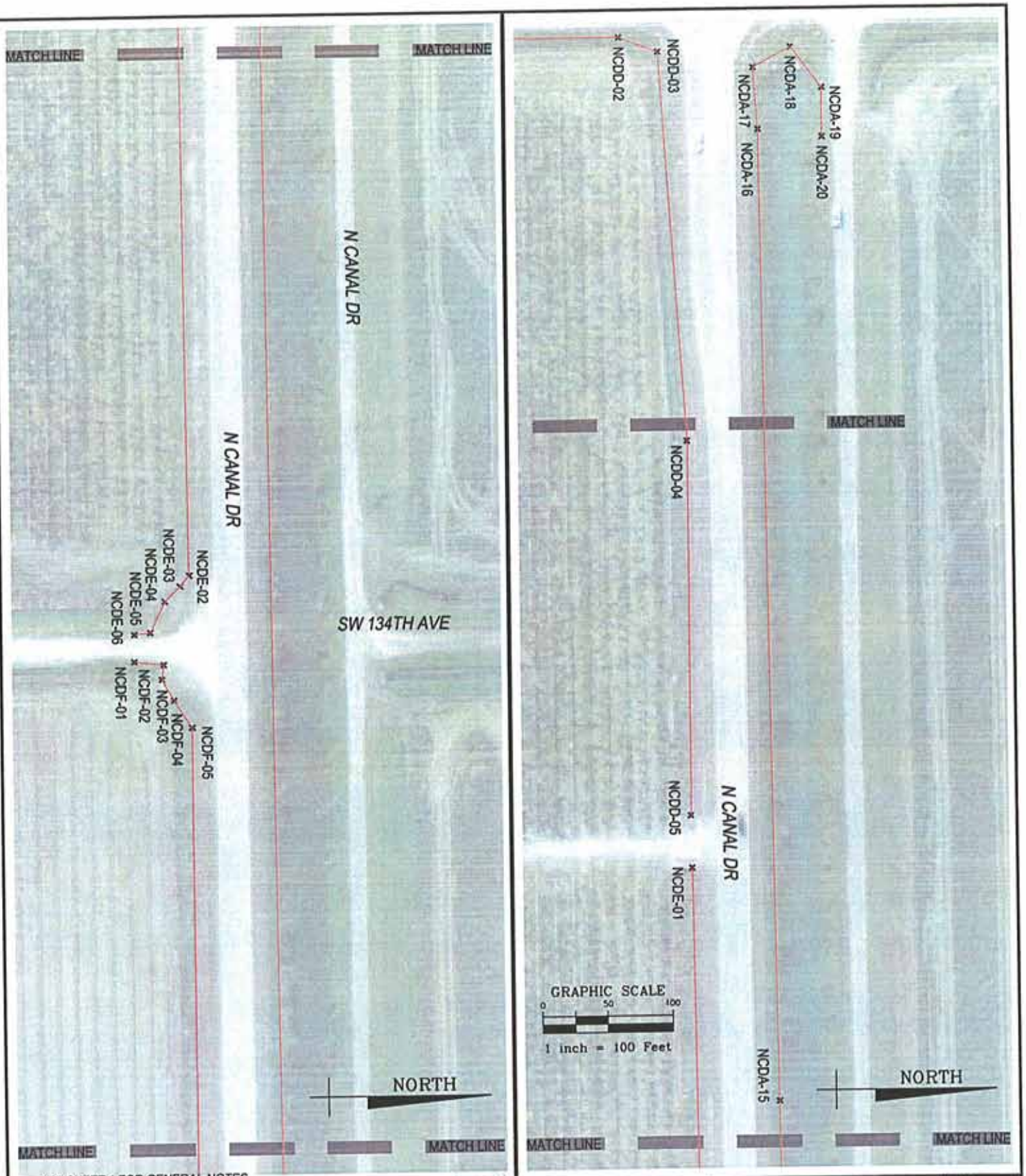

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SHT. 4.10
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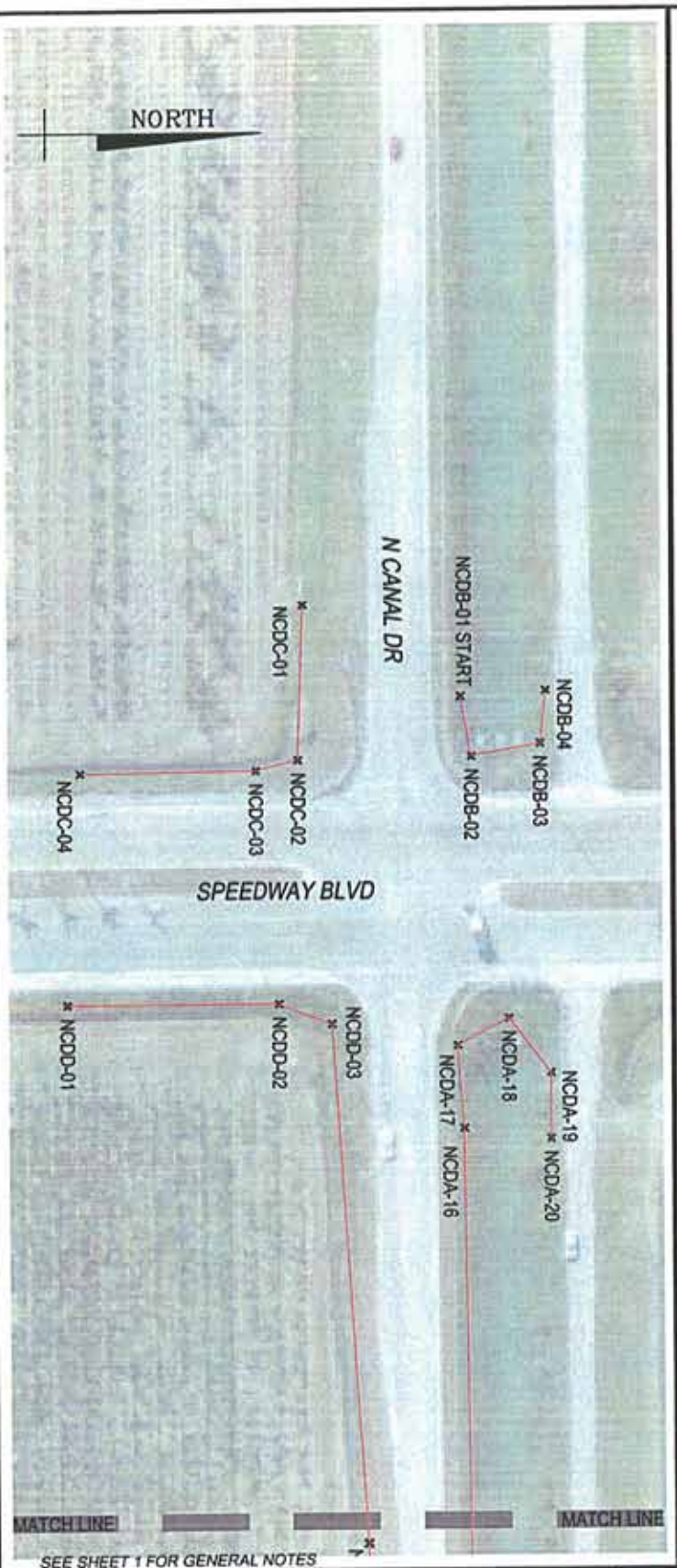

GRAPHIC SCALE

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1 inch = 100 Feet

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Flag ID,	Northing,	Easting
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CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: N/A
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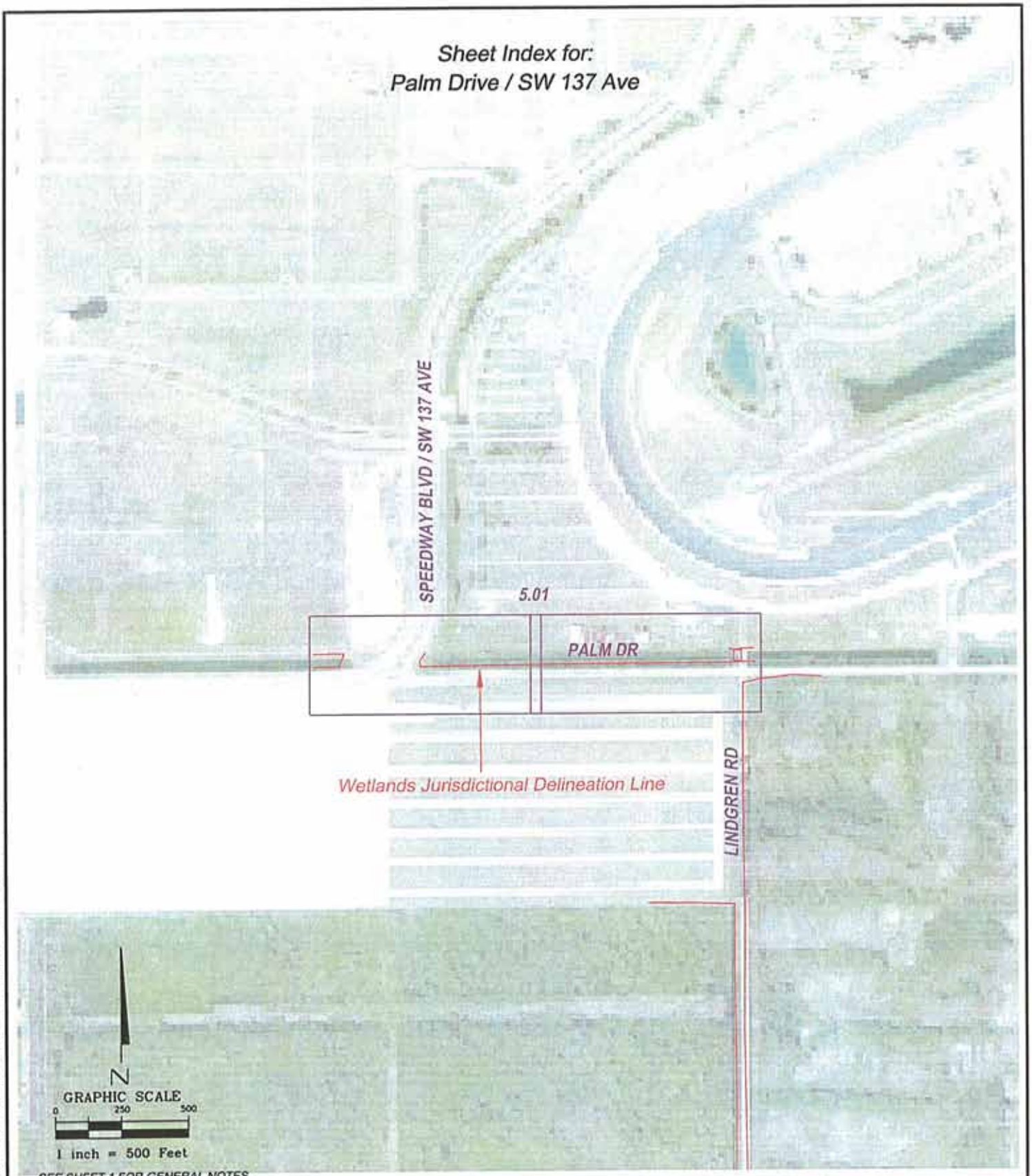

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SCALE: 1" = 500'
SHT. 5.00
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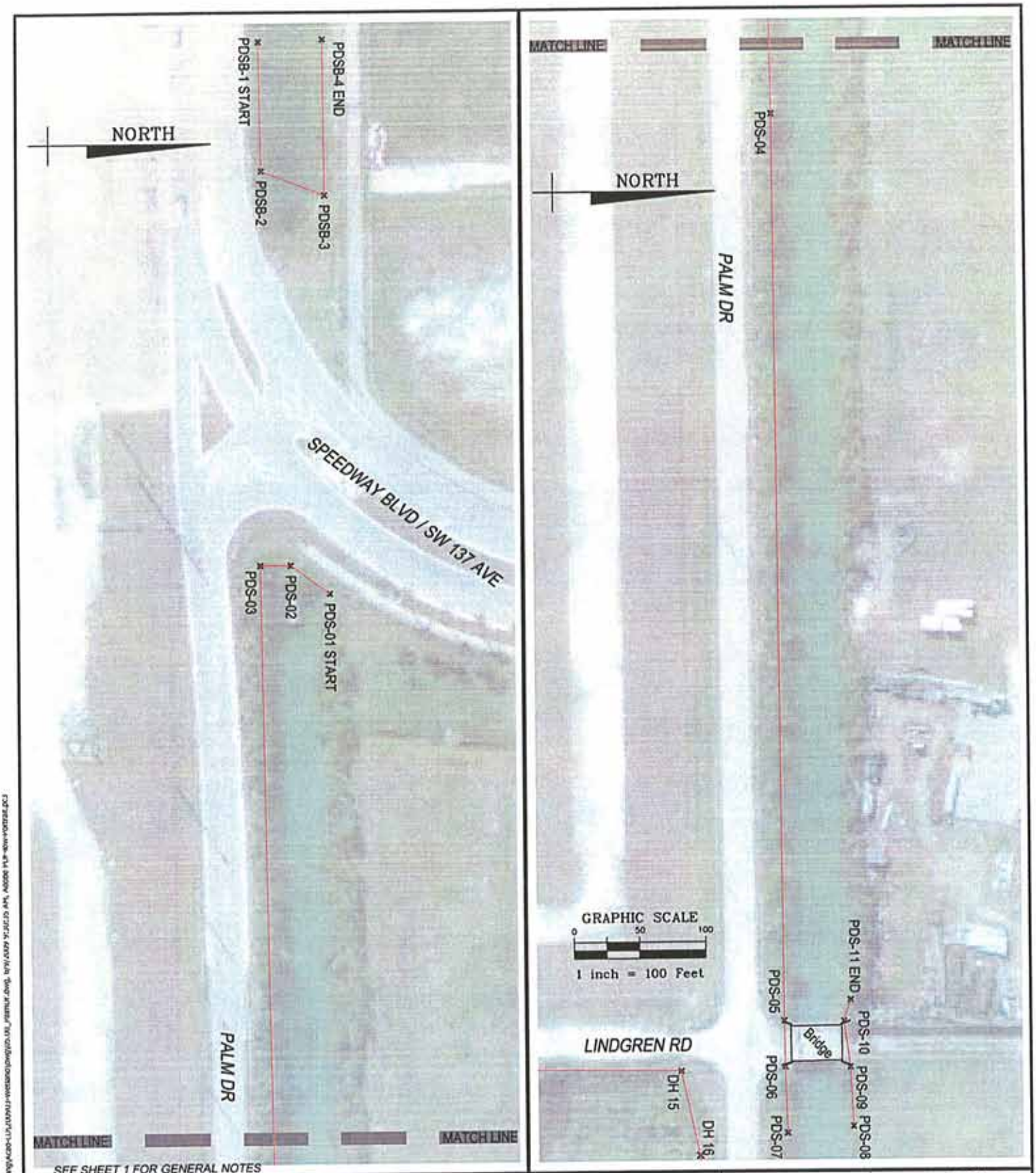

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Flag ID,	Northing,	Easting
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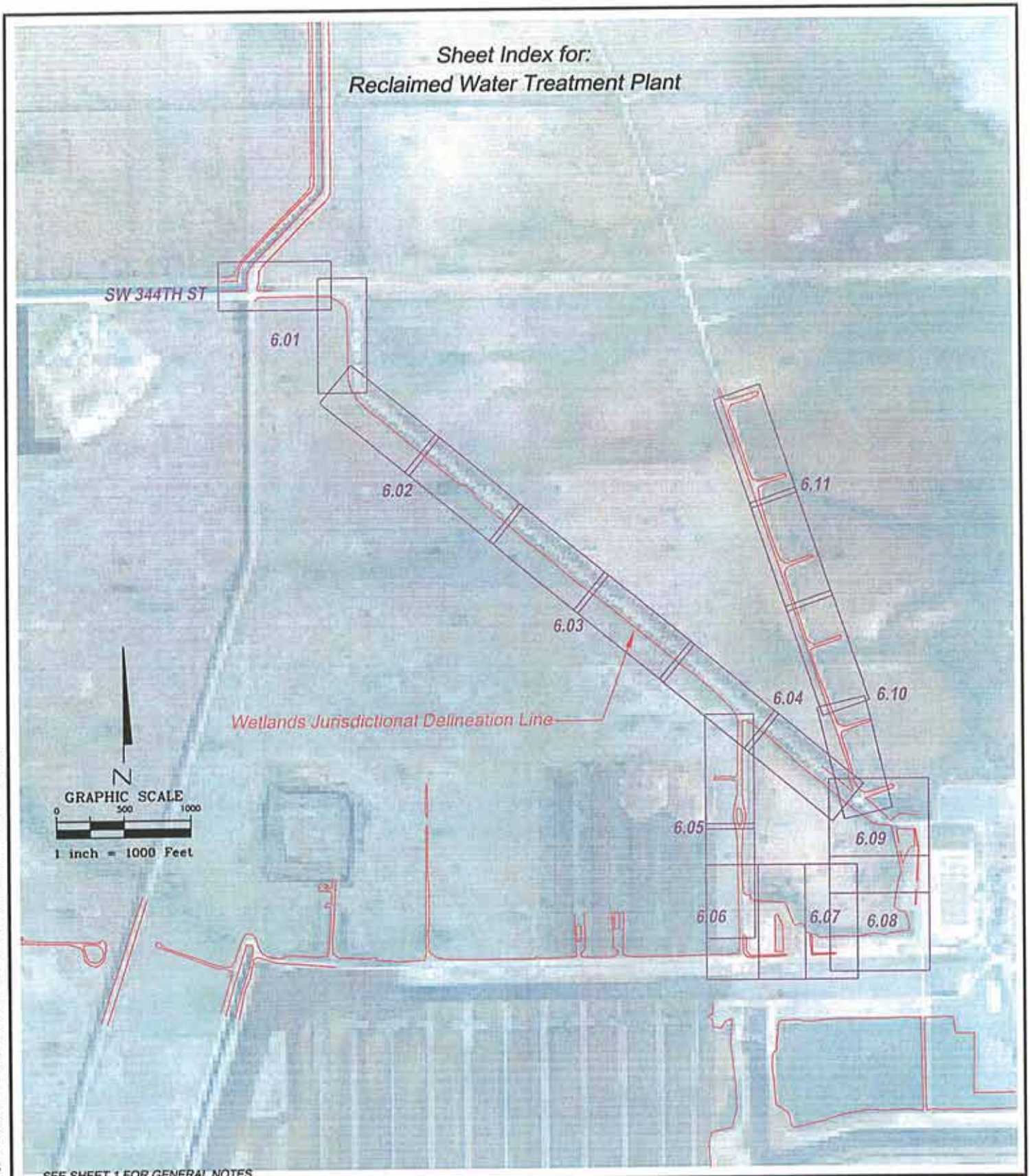
Sheet Index for:
Reclaimed Water Treatment Plant



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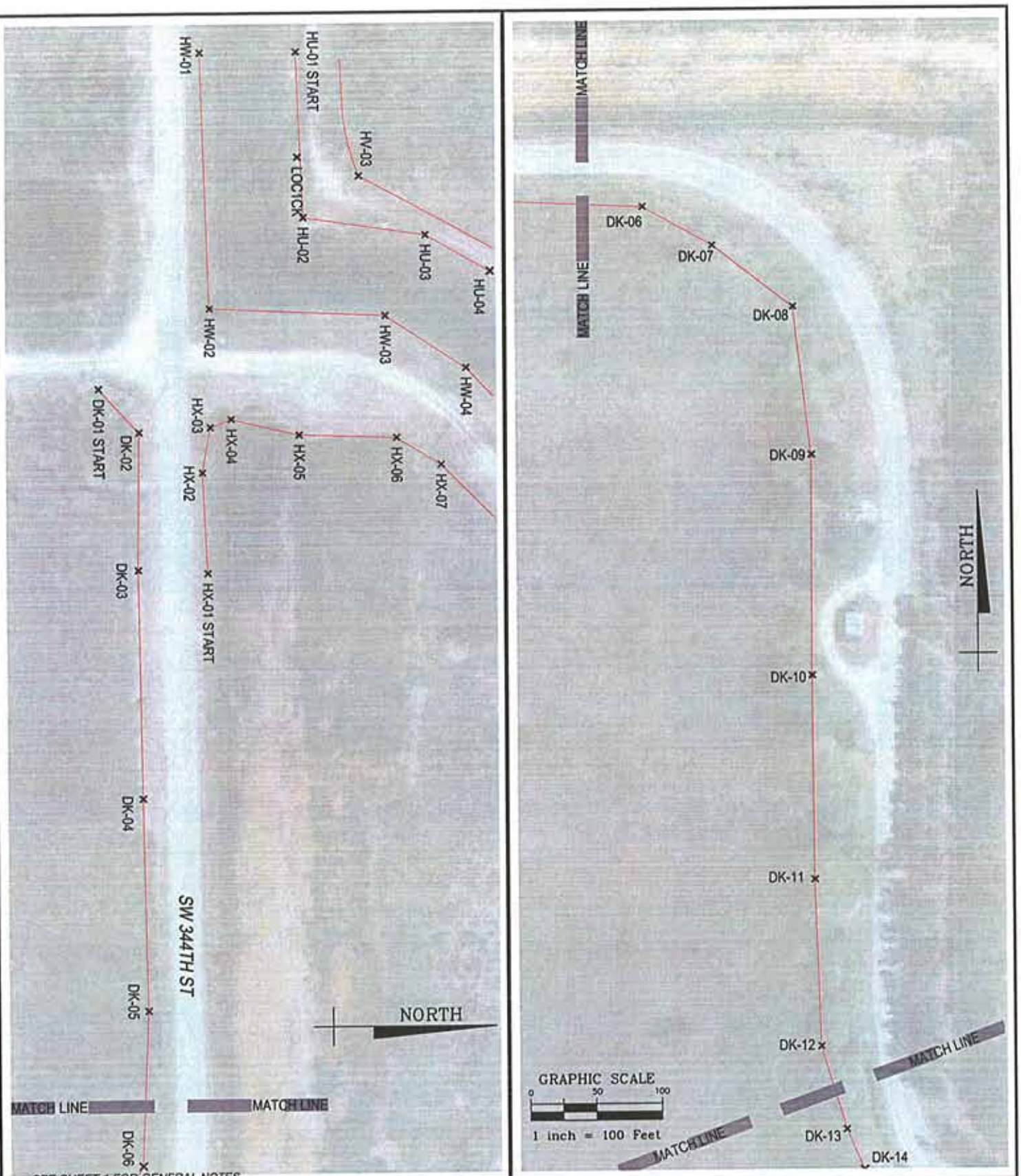

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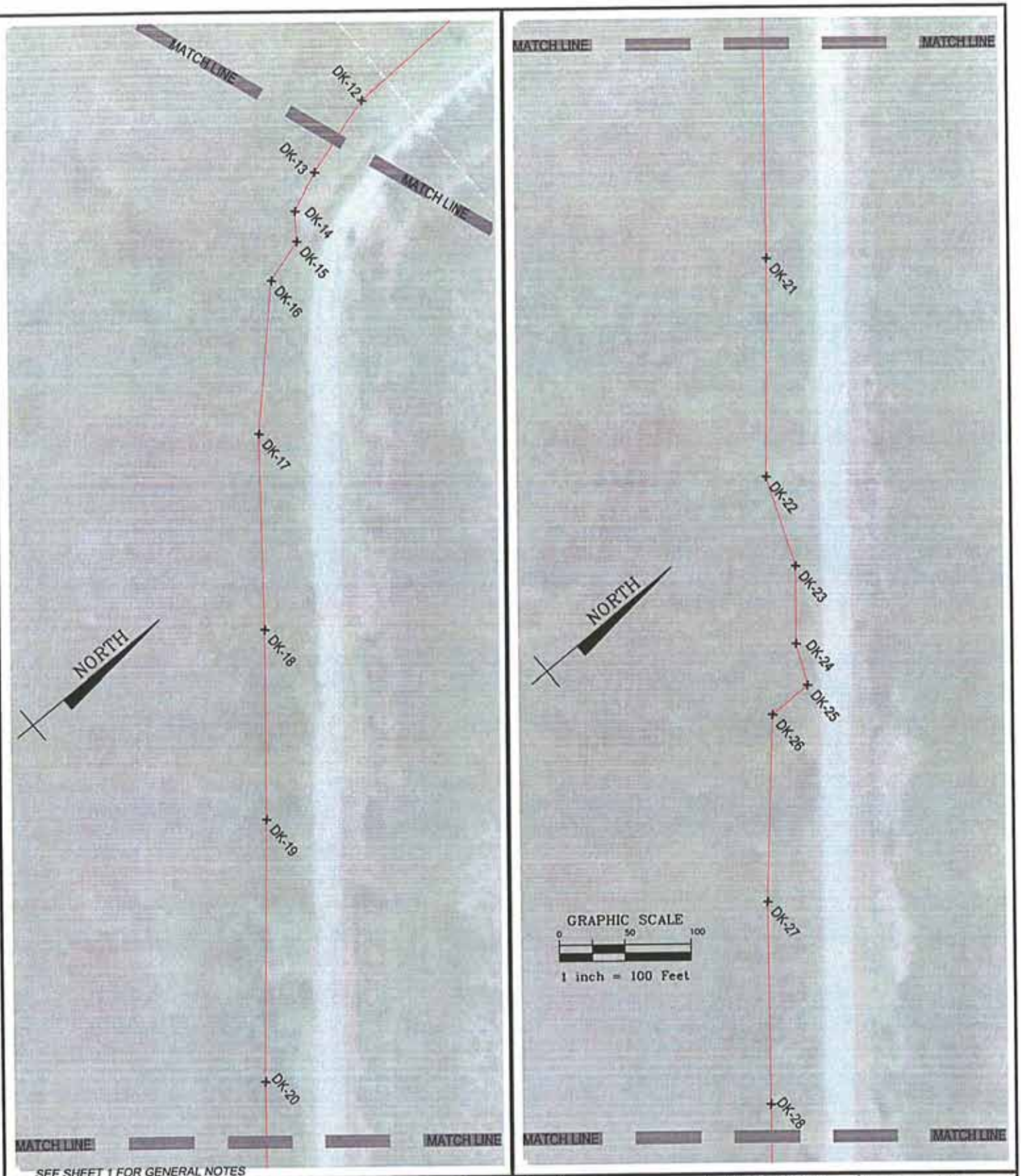

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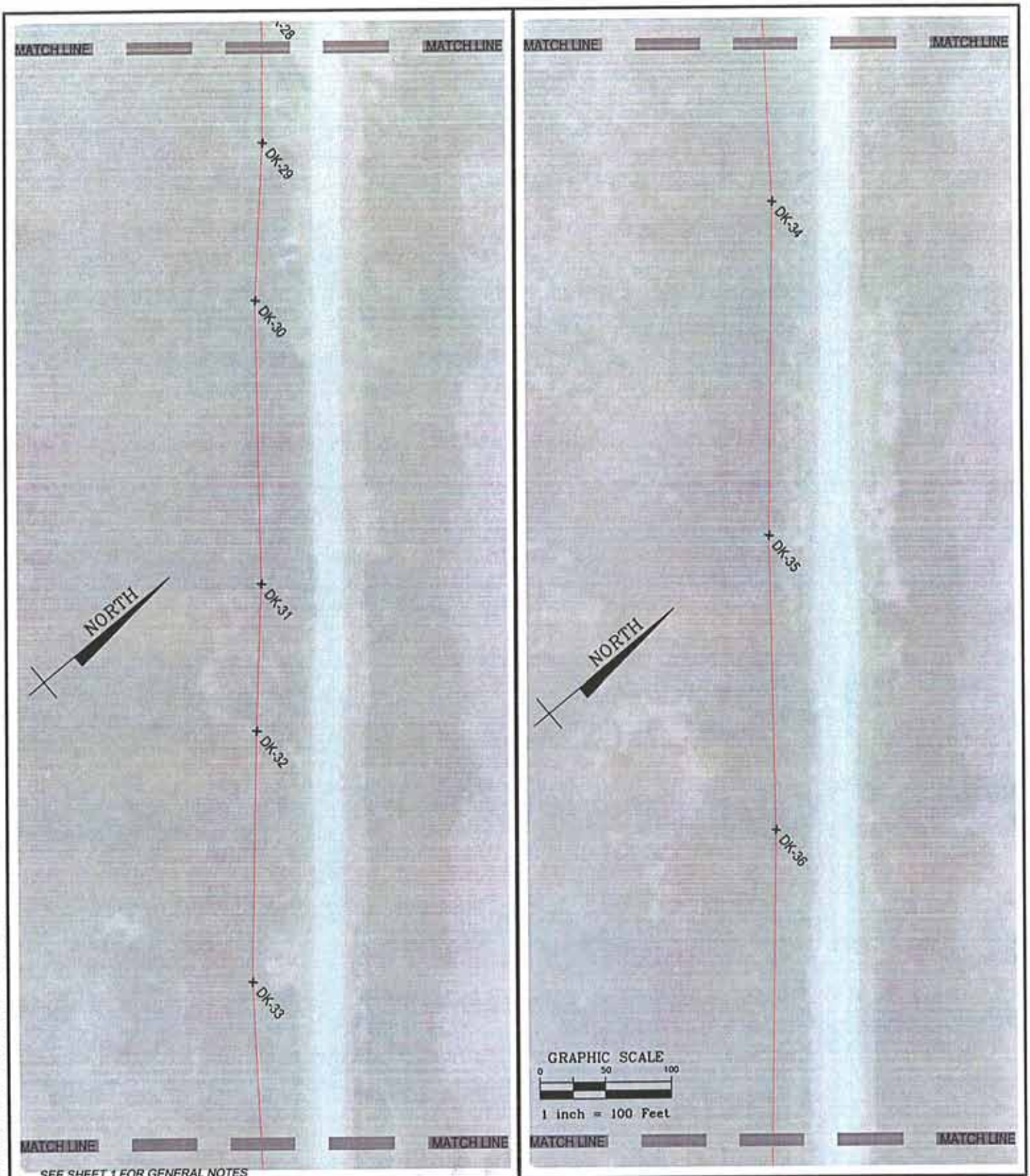

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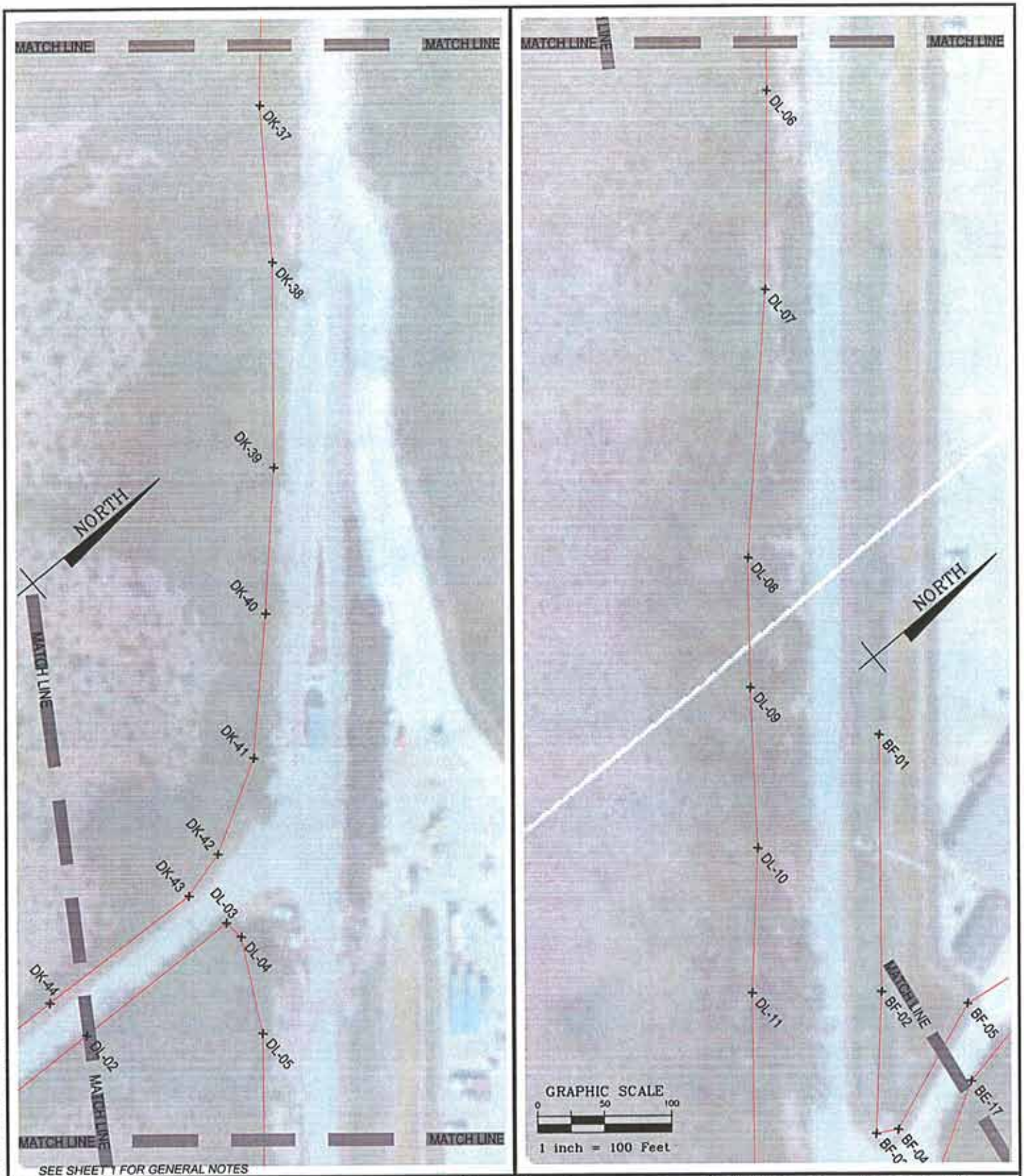

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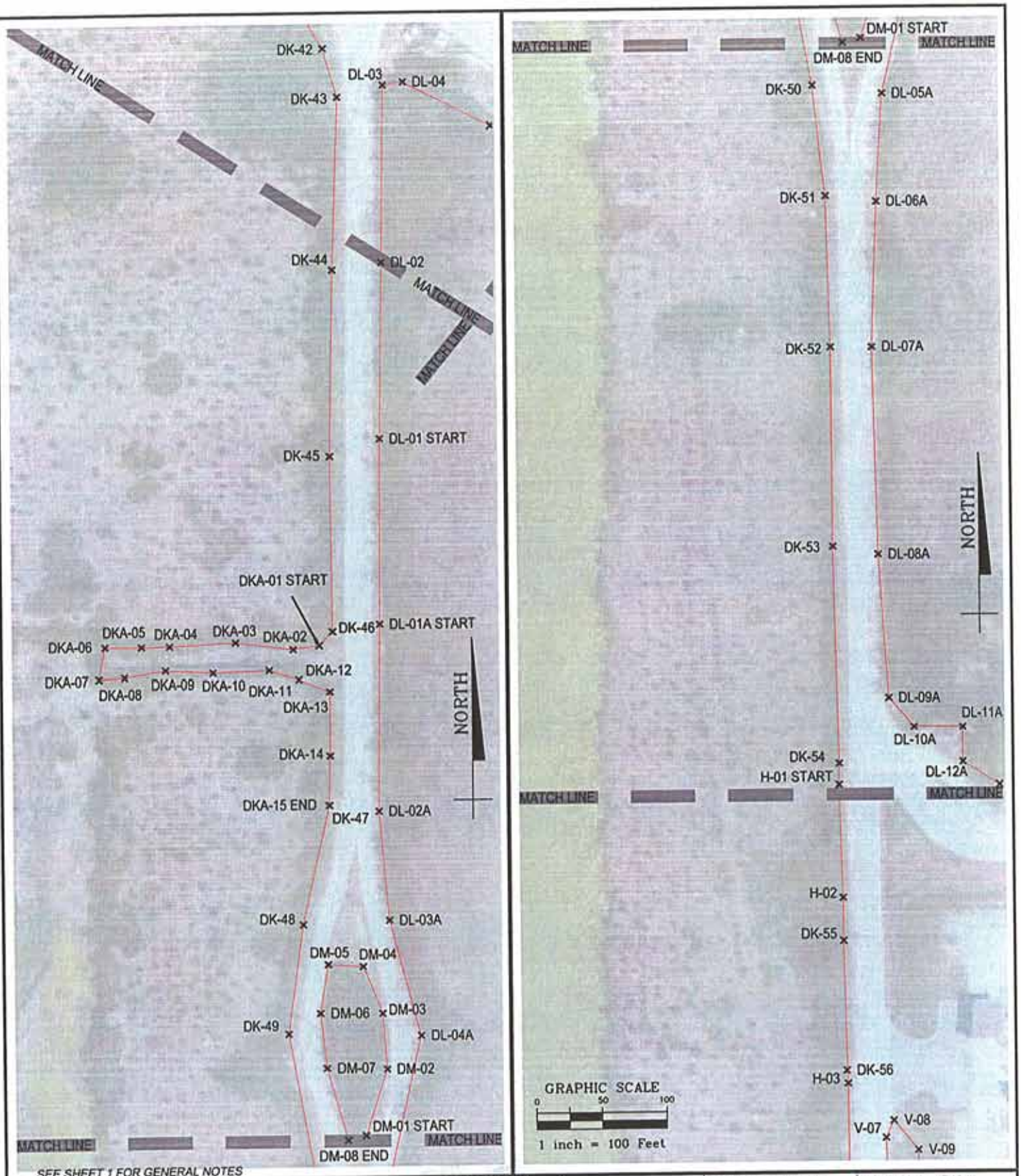

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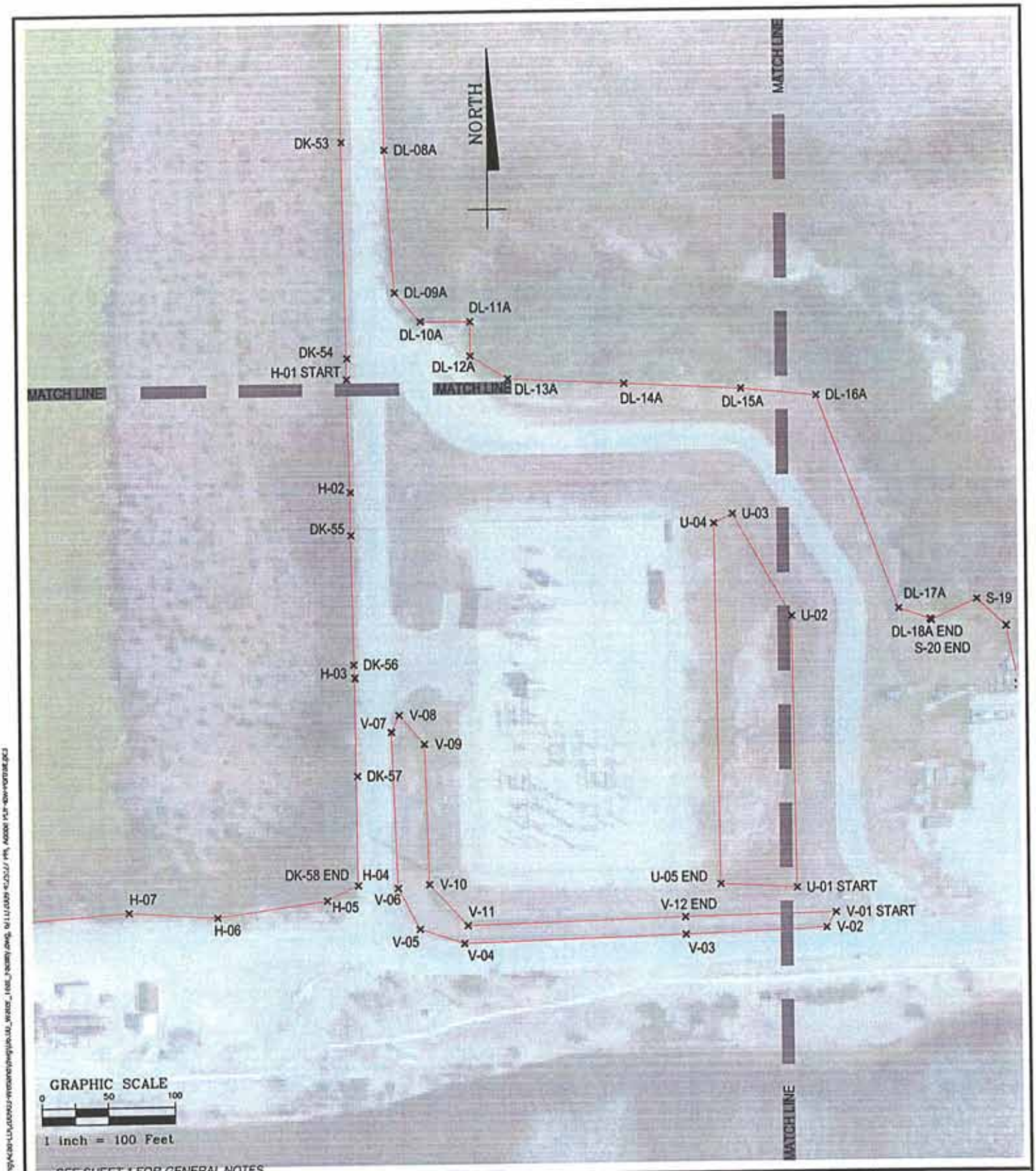

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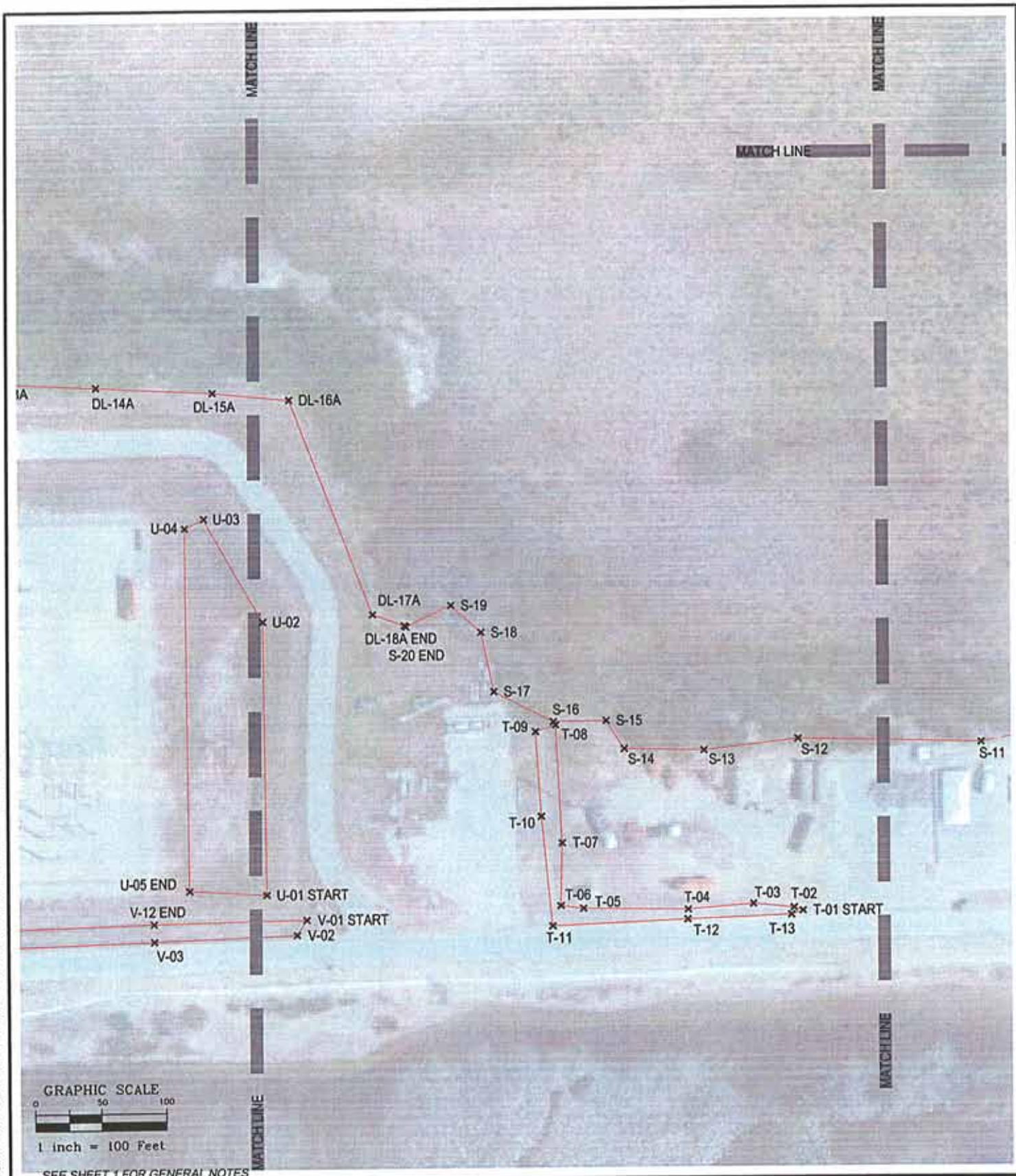

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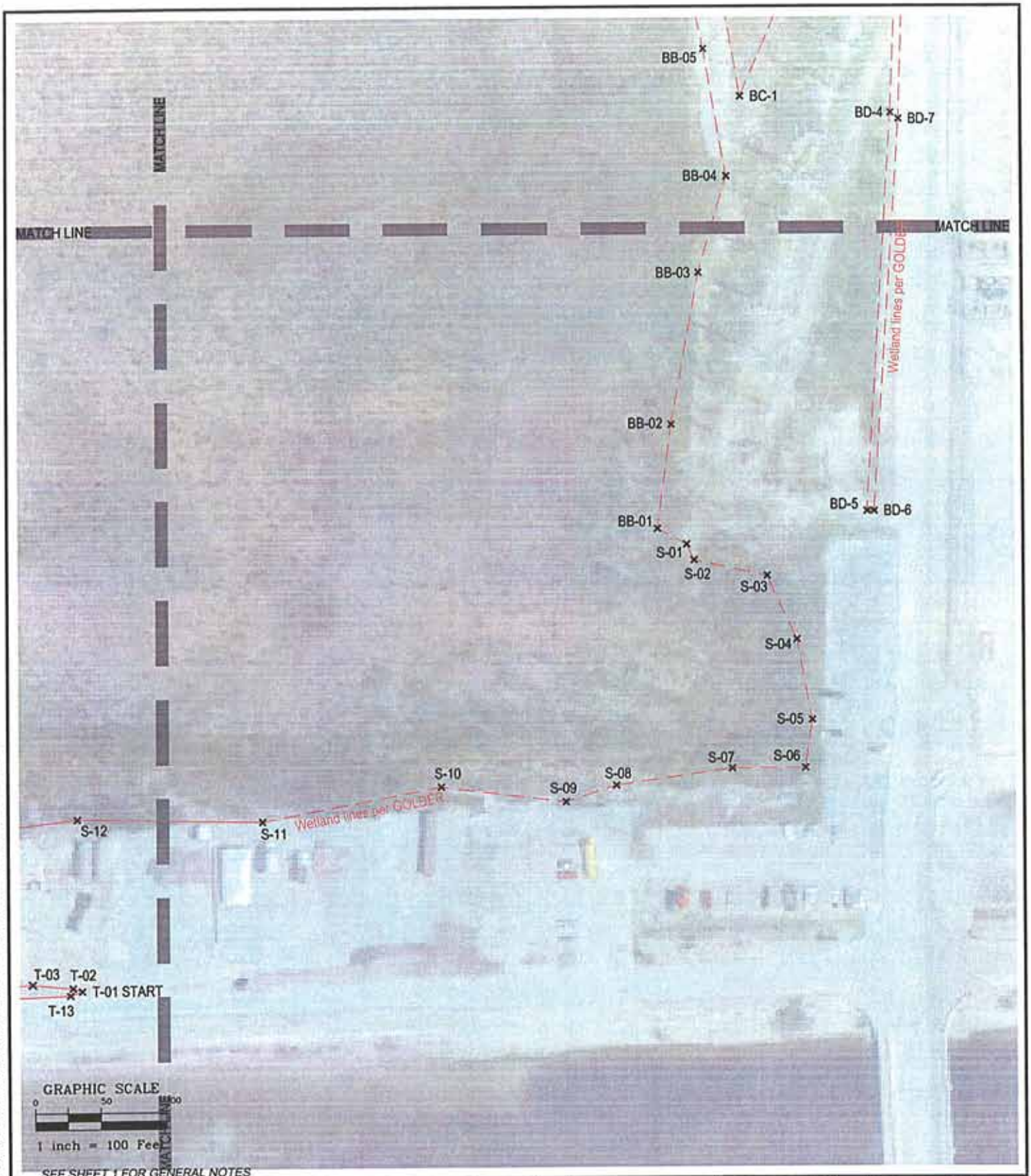

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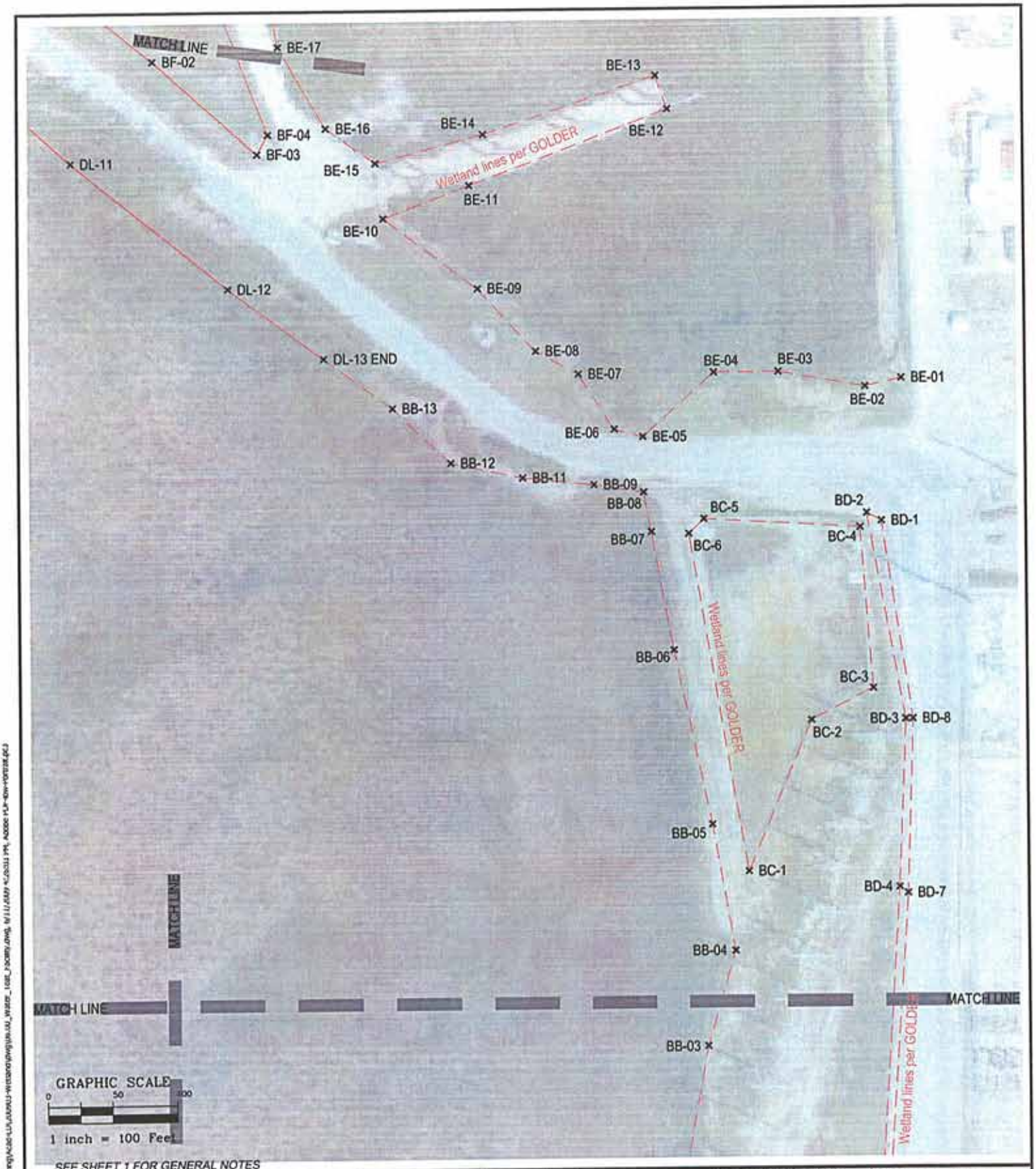

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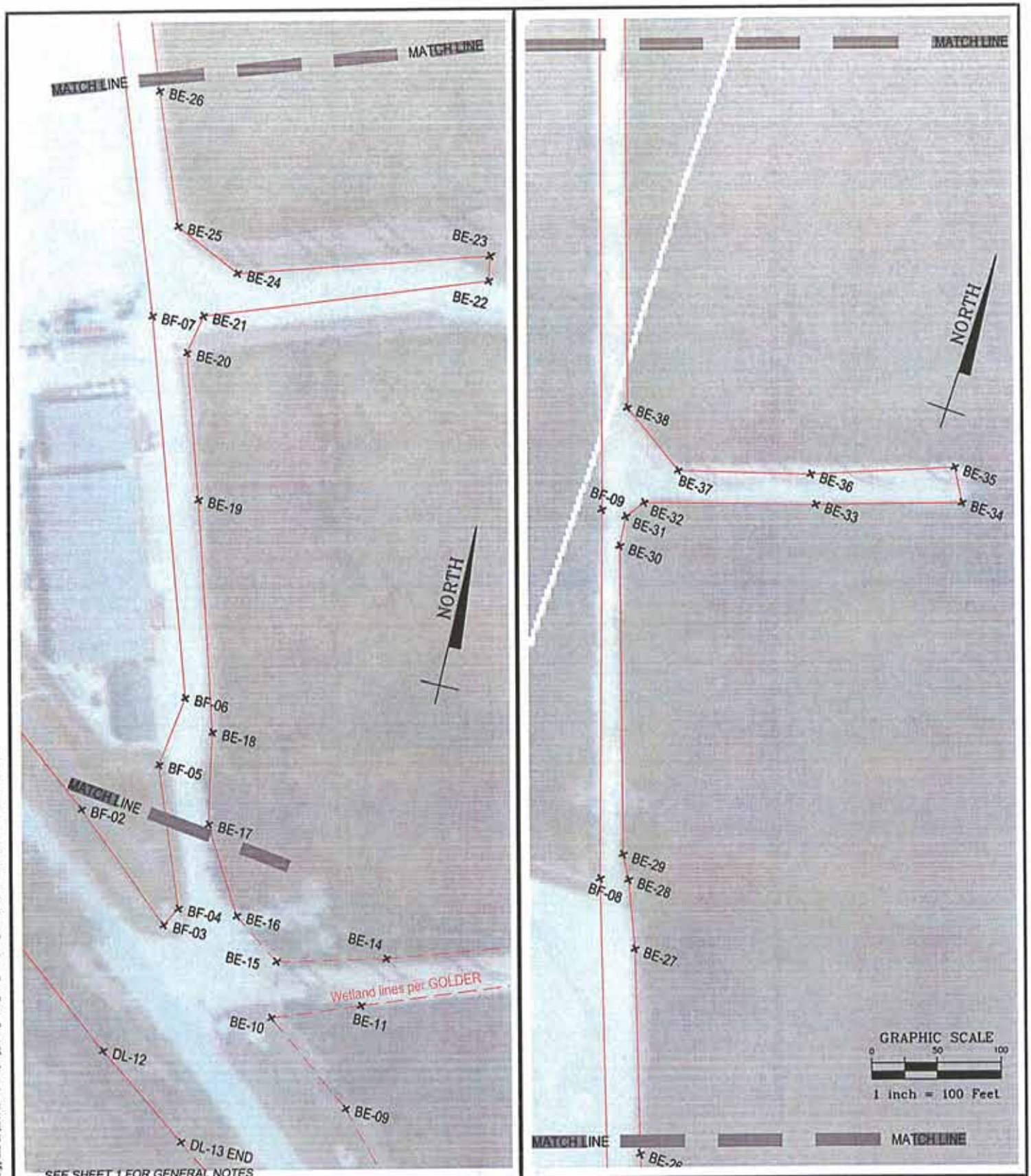

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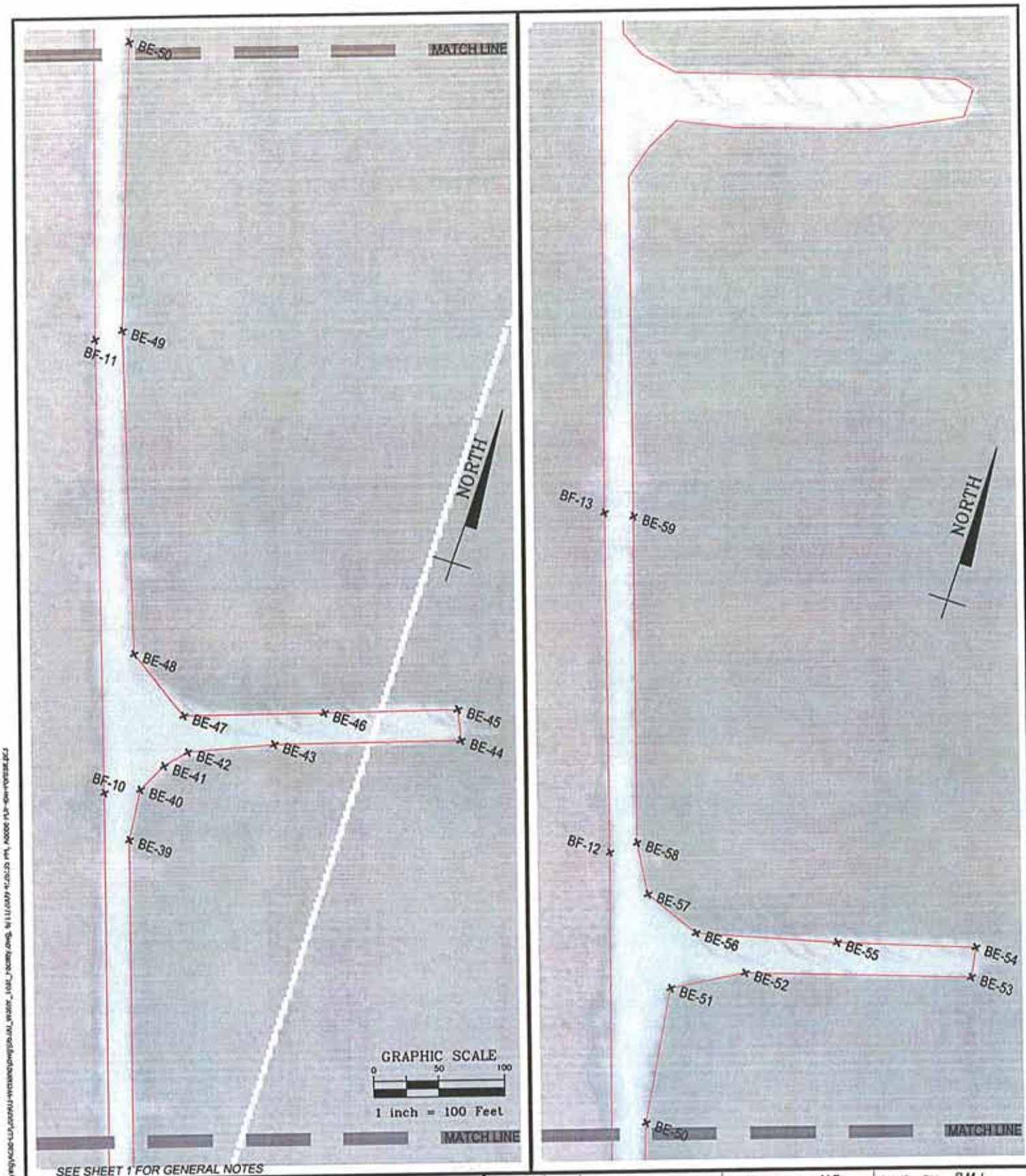

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GAINESVILLE, FLORIDA 32656

Flag ID,	Northing,	Easting
DL-01A START,	401963,	874505
DL-02A,	401821,	874503
DL-03A,	401738,	874510
DL-04A,	401650,	874534
DL-05A,	401532,	874506
DL-06A,	401450,	874501
DL-07A,	401339,	874497
DL-08A,	401181,	874500
DL-09A,	401072,	874507
DL-10A,	401049,	874526
DL-11A,	401049,	874564
DL-12A,	401023,	874563
DL-13A,	401005,	874592
DL-14A,	401000,	874681
DL-15A,	400996,	874770
DL-16A,	400990,	874828
DL-17A,	400826,	874891
DL-18A END,	400818,	874915

Flag ID,	Northing,	Easting
BE-57,	404200,	874604
BE-58,	404234,	874584
BE-59,	404470,	874503

Flag ID,	Northing,	Easting
BF-01,	402022,	875116
BF-02,	401899,	875267
BF-03,	401827,	875347
BF-04,	401842,	875356
BF-05,	401944,	875317
BF-06,	401998,	875324
BF-07,	402274,	875234
BF-08,	402630,	875106
BF-09,	402895,	875019
BF-10,	403482,	874818
BF-11,	403809,	874704
BF-12,	404221,	874566
BF-13,	404466,	874481

Flag ID,	Northing,	Easting
DK-42,	402403,	874466
DK-43,	402366,	874476
DK-44,	402234,	874472
DK-45,	402092,	874469
DK-46,	401958,	874470
DK-47,	401826,	874466
DK-48,	401735,	874446
DK-49,	401652,	874435
DK-50,	401539,	874455
DK-51,	401454,	874464
DK-52,	401339,	874466
DK-53,	401187,	874467
DK-54,	401022,	874470
DK-55,	400887,	874471
DK-56,	400788,	874473
DK-57,	400704,	874475
DK-58 END,	400620,	874475

Flag ID,	Northing,	Easting
S-11,	400728,	875355
S-12,	400731,	875215
S-13,	400722,	875142
S-14,	400724,	875081
S-15,	400745,	875068
S-16,	400745,	875028
S-17,	400768,	874983
S-18,	400813,	874974
S-19,	400833,	874951
S-20 END,	400817,	874916

Flag ID,	Northing,	Easting
BE-16,	401846,	875400
BE-17,	401909,	875363
BE-18,	401977,	875350
BE-19,	402146,	875300
BE-20,	402253,	875266
BE-21,	402283,	875272
BE-22,	402358,	875479
BE-23,	402377,	875476
BE-24,	402320,	875290
BE-25,	402345,	875238
BE-26,	402442,	875201
BE-27,	402588,	875148
BE-28,	402636,	875126
BE-29,	402653,	875116
BE-30,	402873,	875040
BE-31,	402896,	875037
BE-32,	402910,	875047
BE-33,	402951,	875173
BE-34,	402988,	875279
BE-35,	403012,	875265
BE-36,	402972,	875162
BE-37,	402942,	875065
BE-38,	402975,	875012
BE-39,	403454,	874848
BE-40,	403493,	874844
BE-41,	403516,	874855
BE-42,	403532,	874869
BE-43,	403557,	874930
BE-44,	403605,	875065
BE-45,	403627,	875056
BE-46,	403592,	874959
BE-47,	403557,	874858
BE-48,	403590,	874807
BE-49,	403822,	874721
BE-50,	404033,	874657
BE-51,	404137,	874643
BE-52,	404165,	874693
BE-53,	404217,	874860
BE-54,	404239,	874856
BE-55,	404209,	874752
BE-56,	404183,	874648

Flag ID,	Northing,	Easting
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DK-03,	405613,	870950
DK-04,	405616,	871123
DK-05,	405619,	871284
DK-06,	405614,	871401
DK-07,	405584,	871454
DK-08,	405537,	871516
DK-09,	405425,	871529
DK-10,	405258,	871528
DK-11,	405104,	871529
DK-12,	404977,	871533
DK-13,	404914,	871552
DK-14,	404884,	871565
DK-15,	404870,	871584
DK-16,	404836,	871593
DK-17,	404753,	871677
DK-18,	404661,	871794
DK-19,	404570,	871905
DK-20,	404441,	872057
DK-21,	404308,	872219
DK-22,	404201,	872346
DK-23,	404174,	872413
DK-24,	404137,	872458
DK-25,	404123,	872488
DK-26,	404088,	872488
DK-27,	403994,	872594
DK-28,	403897,	872714
DK-29,	403835,	872789
DK-30,	403754,	872878
DK-31,	403620,	873046
DK-32,	403546,	873129
DK-33,	403422,	873273
DK-34,	403276,	873468
DK-35,	403112,	873661
DK-36,	402974,	873836
DK-37,	402791,	874050
DK-38,	402722,	874148
DK-39,	402624,	874268
DK-40,	402548,	874350
DK-41,	402471,	874428

Flag ID,	Northing,	Easting
DKA-01 START,	401948,	874460
DKA-02,	401945,	874441
DKA-03,	401951,	874397
DKA-04,	401948,	874346
DKA-05,	401948,	874324
DKA-06,	401948,	874296
DKA-07,	401924,	874291
DKA-08,	401925,	874311
DKA-09,	401930,	874343
DKA-10,	401928,	874379
DKA-11,	401929,	874422
DKA-12,	401922,	874445
DKA-13,	401913,	874468
DKA-14,	401864,	874467
DKA-15 END,	401826,	874466

Flag ID,	Northing,	Easting
T-01 START,	400600,	875218
T-02,	400603,	875211
T-03,	400606,	875180
T-04,	400602,	875130
T-05,	400603,	875050
T-06,	400605,	875033
T-07,	400653,	875034
T-08,	400742,	875030
T-09,	400737,	875015
T-10,	400673,	875019
T-11,	400590,	875027
T-12,	400594,	875129
T-13,	400597,	875209

Flag ID,	Northing,	Easting
DL-01 START,	402105,	874506
DL-02,	402239,	874508
DL-03,	402374,	874511
DL-04,	402377,	874526
DL-05,	402342,	874593
DL-06,	402268,	874685
DL-07,	402171,	874800
DL-08,	402030,	874948
DL-09,	401968,	875025
DL-10,	401895,	875122
DL-11,	401821,	875204
DL-12,	401724,	875324
DL-13 END,	401670,	875397

Flag ID,	Northing,	Easting
U-01 START,	400615,	874810
U-02,	400822,	874808
U-03,	400900,	874763
U-04,	400893,	874748
U-05 END,	400618,	874751

Flag ID,	Northing,	Easting
DM-01 START,	401575,	874491
DM-02,	401625,	874507
DM-03,	401667,	874504
DM-04,	401703,	874490
DM-05,	401705,	874464
DM-06,	401668,	874458
DM-07,	401626,	874463
DM-08 END,	401571,	874478

Flag ID,	Northing,	Easting
V-01 START,	400596,	874840
V-02,	400584,	874832
V-03,	400580,	874724
V-04,	400575,	874555
V-05,	400586,	874521
V-06,	400618,	874505
V-07,	400737,	874501
V-08,	400750,	874507
V-09,	400727,	874526
V-10,	400620,	874529
V-11,	400588,	874558
V-12 END,	400593,	874723

SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
Miami-Dade County, Florida

DATE	BY	DESCRIPTION
		REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: N/A
SHT. 6.12
DRAWING NAME:200903-Wetland.dwg

PREPARED BY:
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CERTIFICATE OF AUTHORIZATION: LB 6969

ROBERT M. JONES
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LICENSE No. LS 4201

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6241 NW 23rd STREET, SUITE 500
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Additional Wetland Flag provided by GOLDER Associates

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BB-02,	401027,	875667
BB-03,	401142,	875688
BB-04,	401215,	875710
BB-05,	401311,	875693
BB-06,	401445,	875665
BB-07,	401535,	875648
BB-08,	401566,	875642
BB-09,	401571,	875604
BB-11,	401577,	875548
BB-12,	401589,	875493
BB-13,	401631,	875449
BC-1,	401275,	875720
BC-2,	401391,	875769
BC-3,	401409,	875802
BC-4,	401536,	875791
BC-5,	401554,	875681
BC-6,	401542,	875675
BD-1,	401542,	875824
BD-2,	401548,	875813
BD-3,	401391,	875841
BD-4,	401264,	875842
BD-5,	400961,	875816
BD-6,	400961,	875821
BD-7,	401258,	875842
BD-8,	401391,	875846
BE-01,	401651,	875840
BE-02,	401645,	875812
BE-03,	401657,	875746
BE-04,	401657,	875697
BE-05,	401608,	875642
BE-06,	401614,	875620
BE-07,	401656,	875592
BE-08,	401674,	875559
BE-09,	401722,	875515
BE-10,	401777,	875443
BE-11,	401801,	875509
BE-12,	401850,	875652
BE-13,	401881,	875646
BE-14,	401850,	875509
BE-15,	401819,	875437
S-01,	400936,	875678
S-02,	400924,	875684
S-03,	400912,	875739
S-04,	400864,	875761
S-05,	400803,	875772
S-06,	400767,	875767
S-07,	400766,	875712
S-08,	400754,	875624
S-09,	400741,	875586
S-10,	400753,	875492

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REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: N/A
SHT. 6.13
DRAWING NAME:200903-Wetland.dwg

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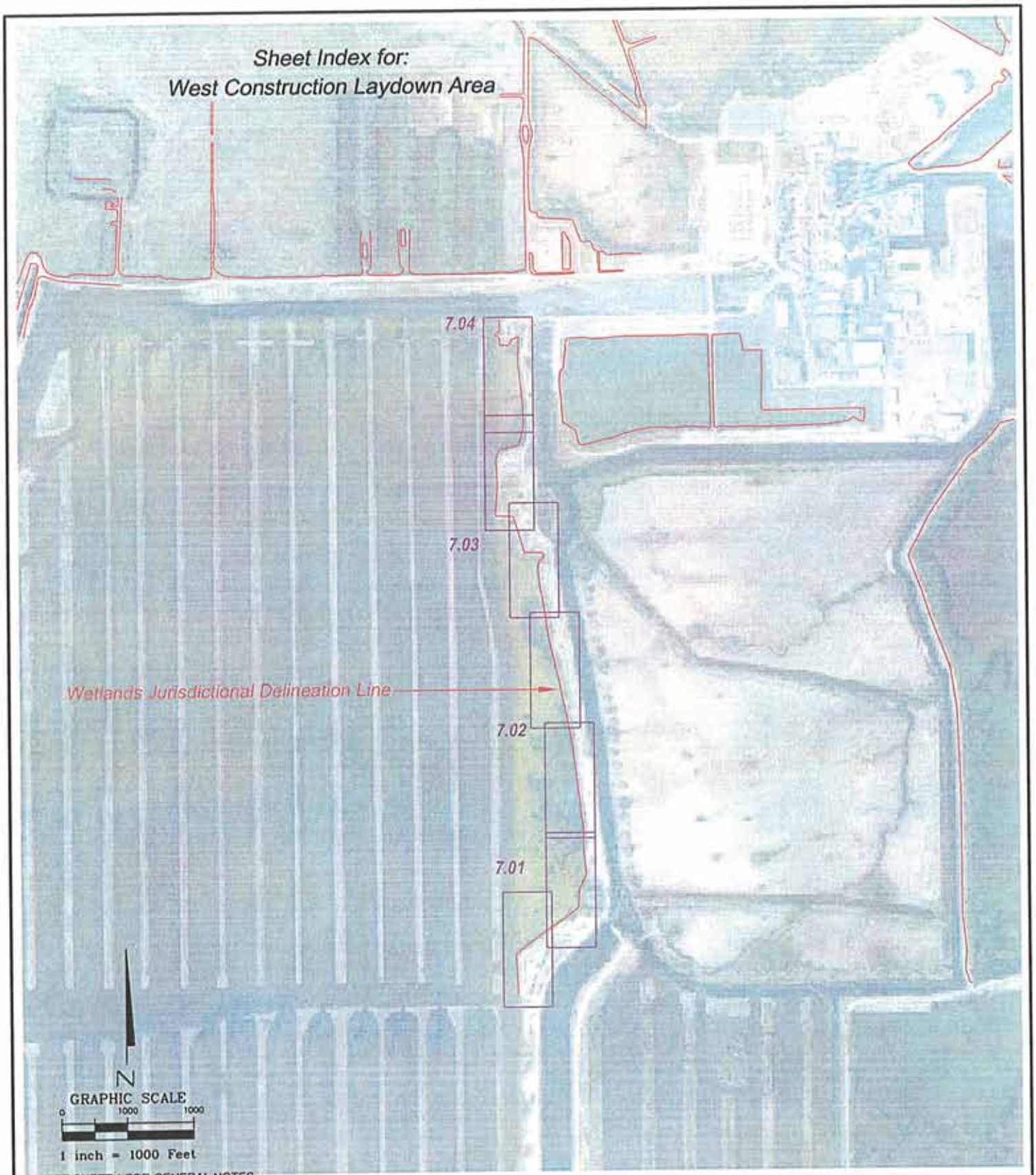
C:\Projects\2009\09-0567 - TURKEY PNT PROJECT\Surveying\Drawings\Wetland\Wetland Flag Location_Water_Test_Facility.dwg, 3/11/2009 4:17:27 PM, AutoCAD PDF (High Quality Print).pc3



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PROJECT TITLE:
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JOB No. 6374080385
SCALE: 1" = 1000'
SHT. 7.00
DRAWING NAME: 200903-Wetland.dwg

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REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080365
SCALE: 1" = 100'
SHT. 7.01
DRAWING NAME:200903-Wetland.dwg

PREPARED BY:
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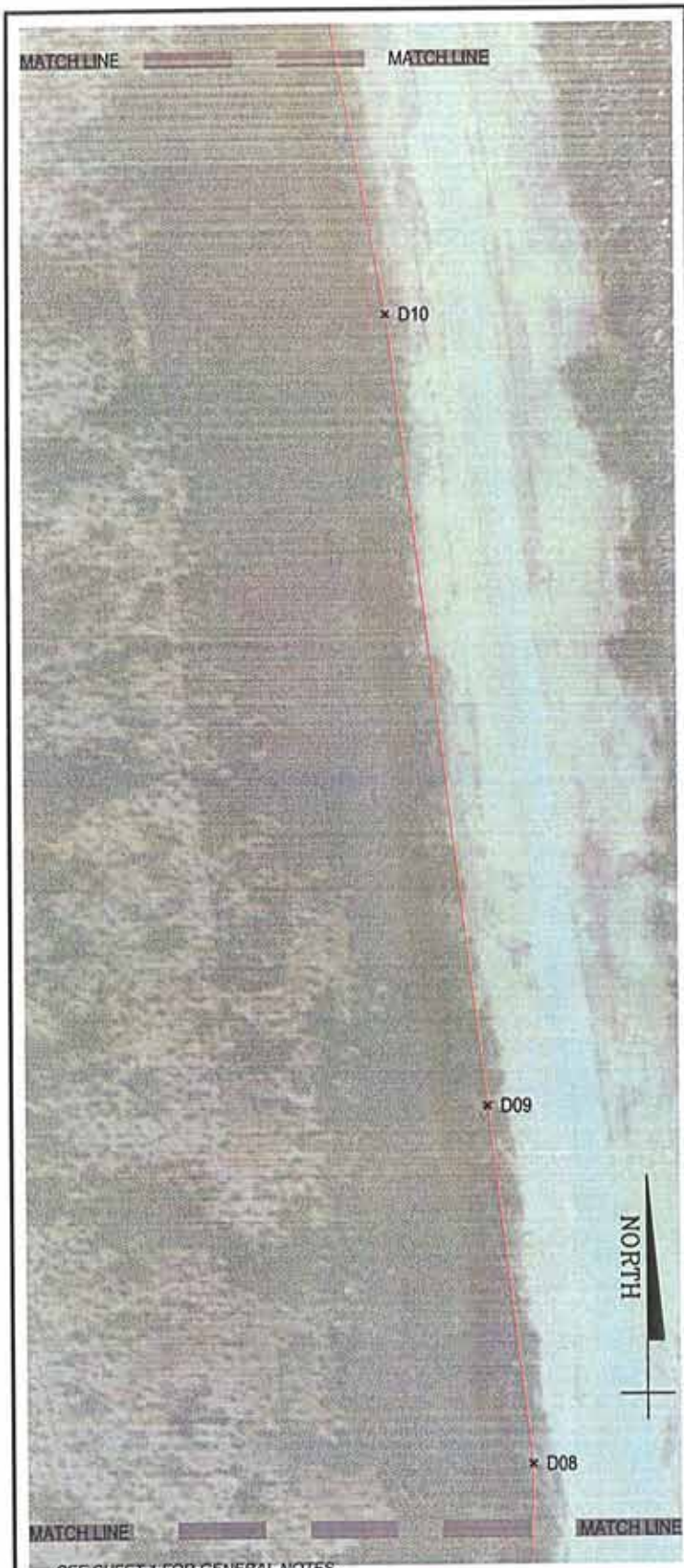
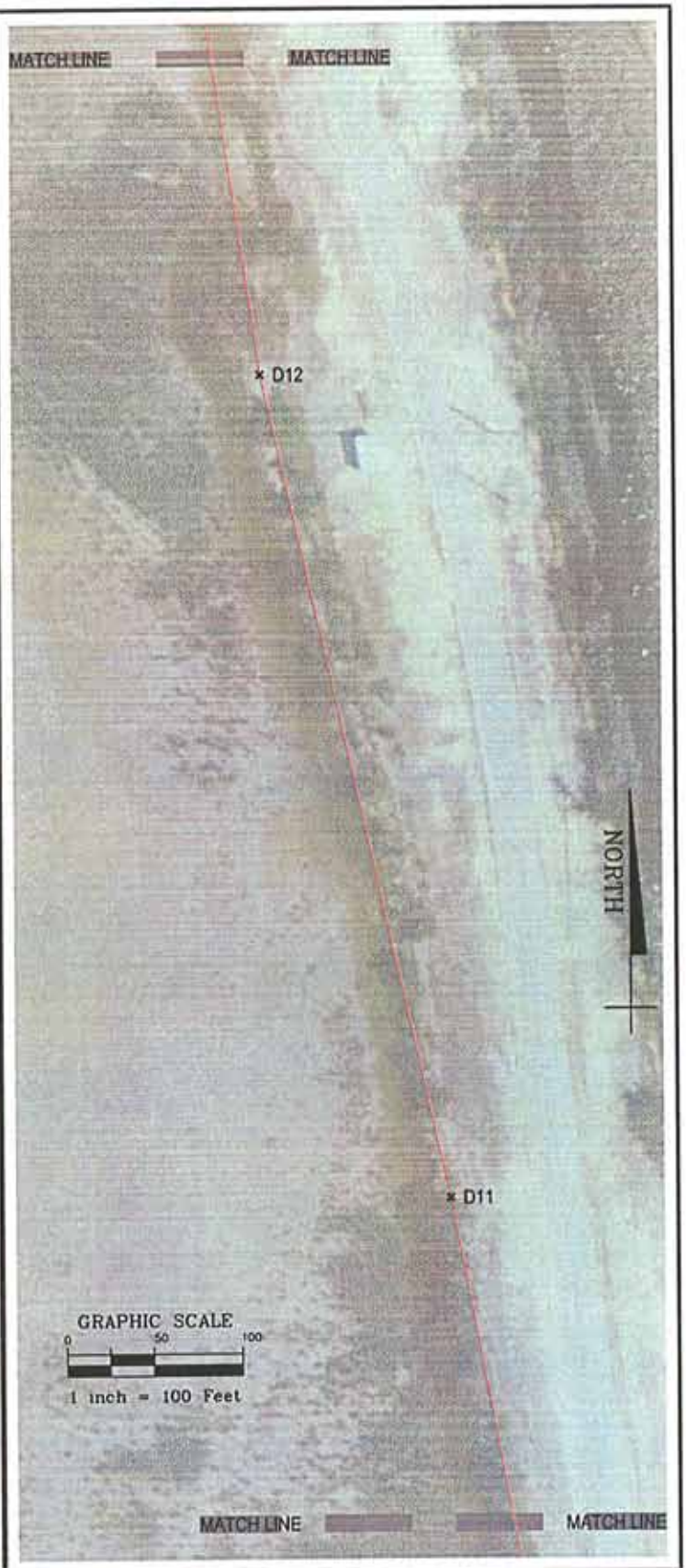
GAINESVILLE, FLORIDA 32656





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PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
Miami-Dade County, Florida

DATE	BY	DESCRIPTION

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 7.02
DRAWING NAME: 200903-Wetland.dwg

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6241 NW 23rd STREET, SUITE 500
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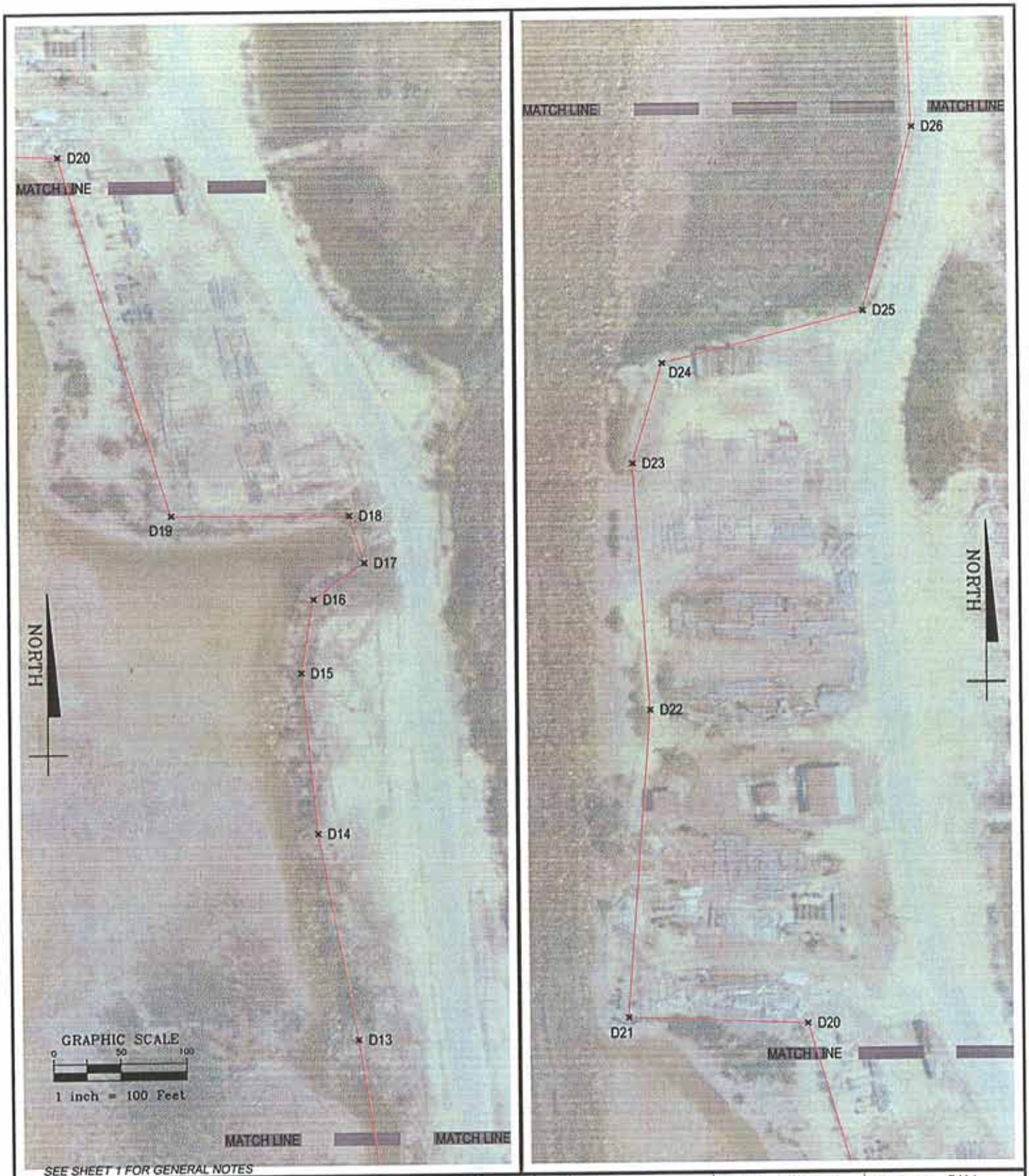

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Florida Power and Light Company
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Construction and Operation License (COL) Project
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DATE	BY	DESCRIPTION
REVISION		

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CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 7.03
DRAWING NAME: 200903-Wetland.dwg

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CERTIFICATE OF AUTHORIZATION: LB 6969

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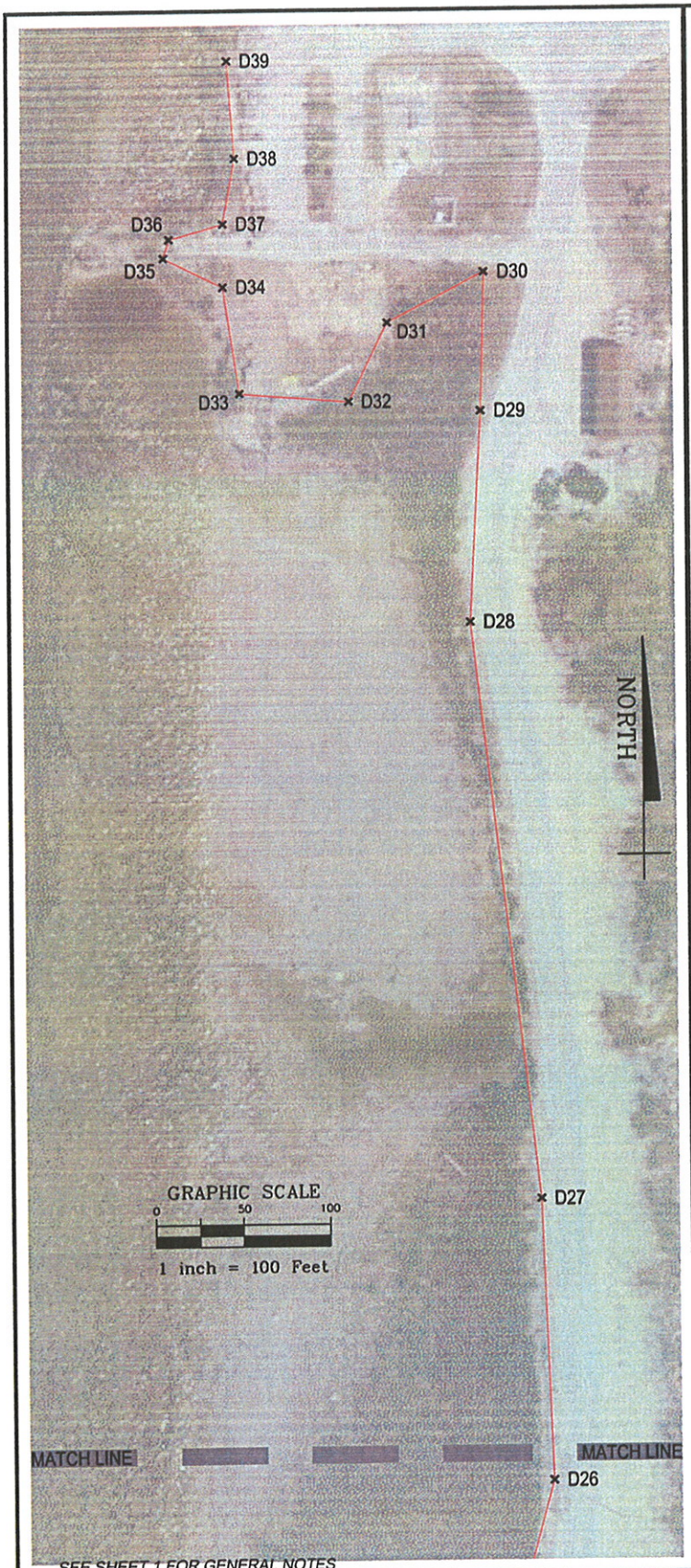

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D06,	396037,	874890
D07,	396237,	874868
D08,	396371,	874872
D09,	396573,	874848
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D11,	397350,	874730
D12,	397817,	874624
D13,	398073,	874586
D14,	398230,	874556
D15,	398352,	874544
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D18,	398472,	874582
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D23,	399175,	874231
D24,	399251,	874254
D25,	399290,	874408
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D35,	400124,	874229
D36,	400135,	874233
D37,	400143,	874264
D38,	400180,	874270
D39,	400236,	874266

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REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
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DRAWING NAME:200903-Wetland.dwg

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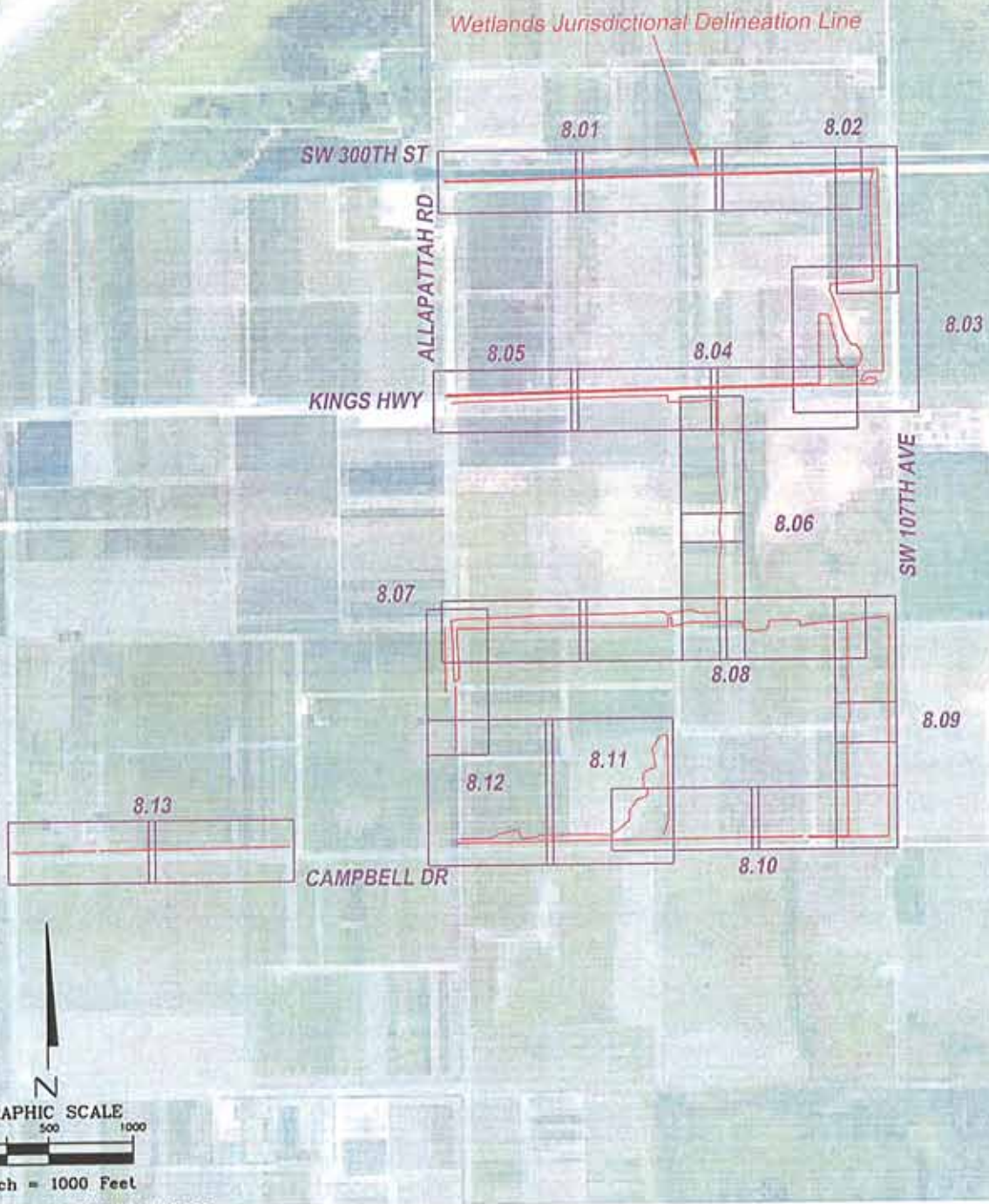
Sheet Index for:
Borrow Pit Area



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Florida Power and Light Company
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CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 1000'
SHT. 8.00
DRAWING NAME: 200903-Wetland.dwg

PREPARED BY:
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CERTIFICATE OF AUTHORIZATION: LB 6969

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6241 NW 23rd STREET, SUITE 500
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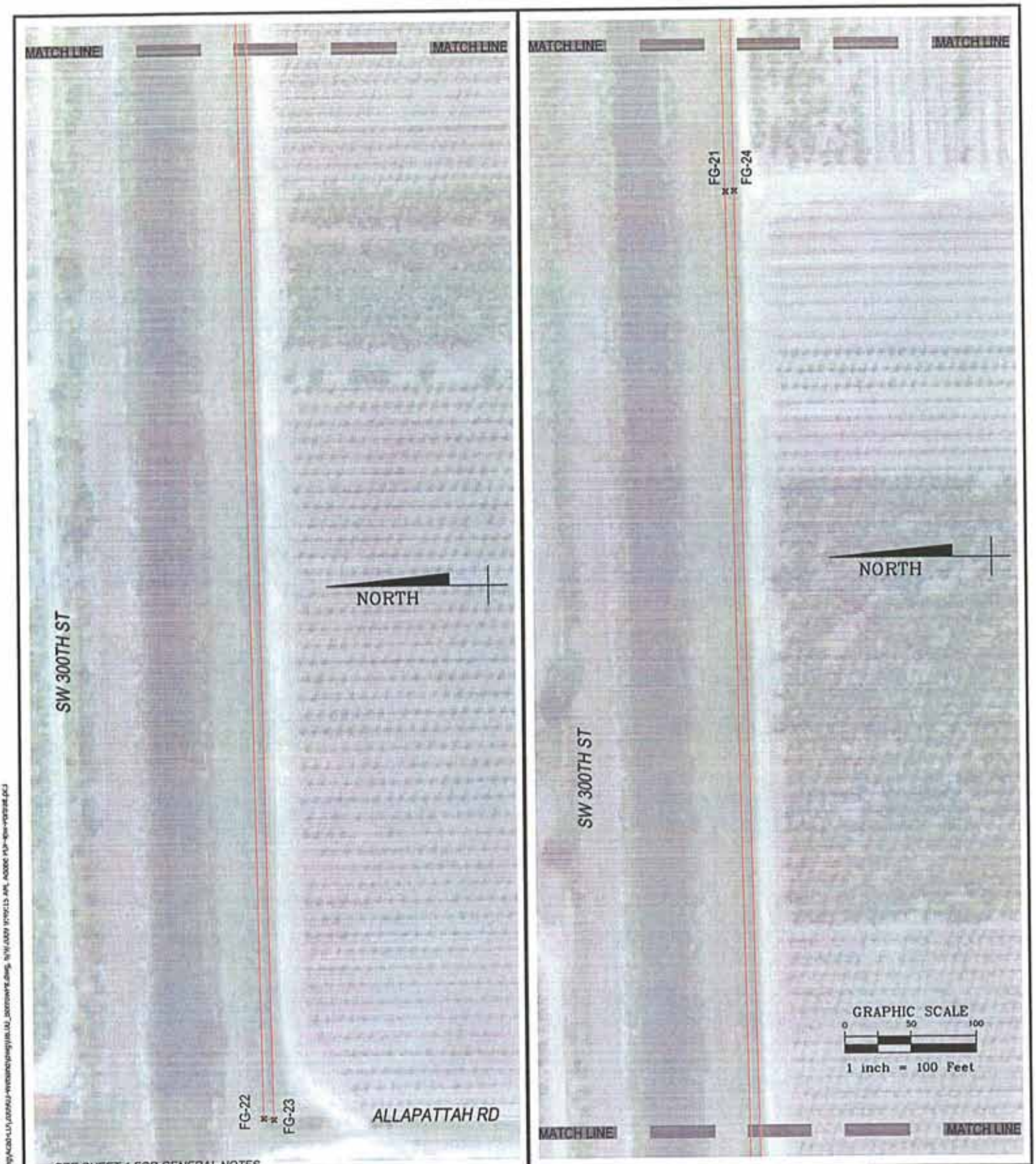

SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
Miami-Dade County, Florida

DATE	BY	DESCRIPTION

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.01
DRAWING NAME:200903-Wetland.dwg

PREPARED BY:
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CERTIFICATE OF AUTHORIZATION: LB 6969

ROBERT M. JONES
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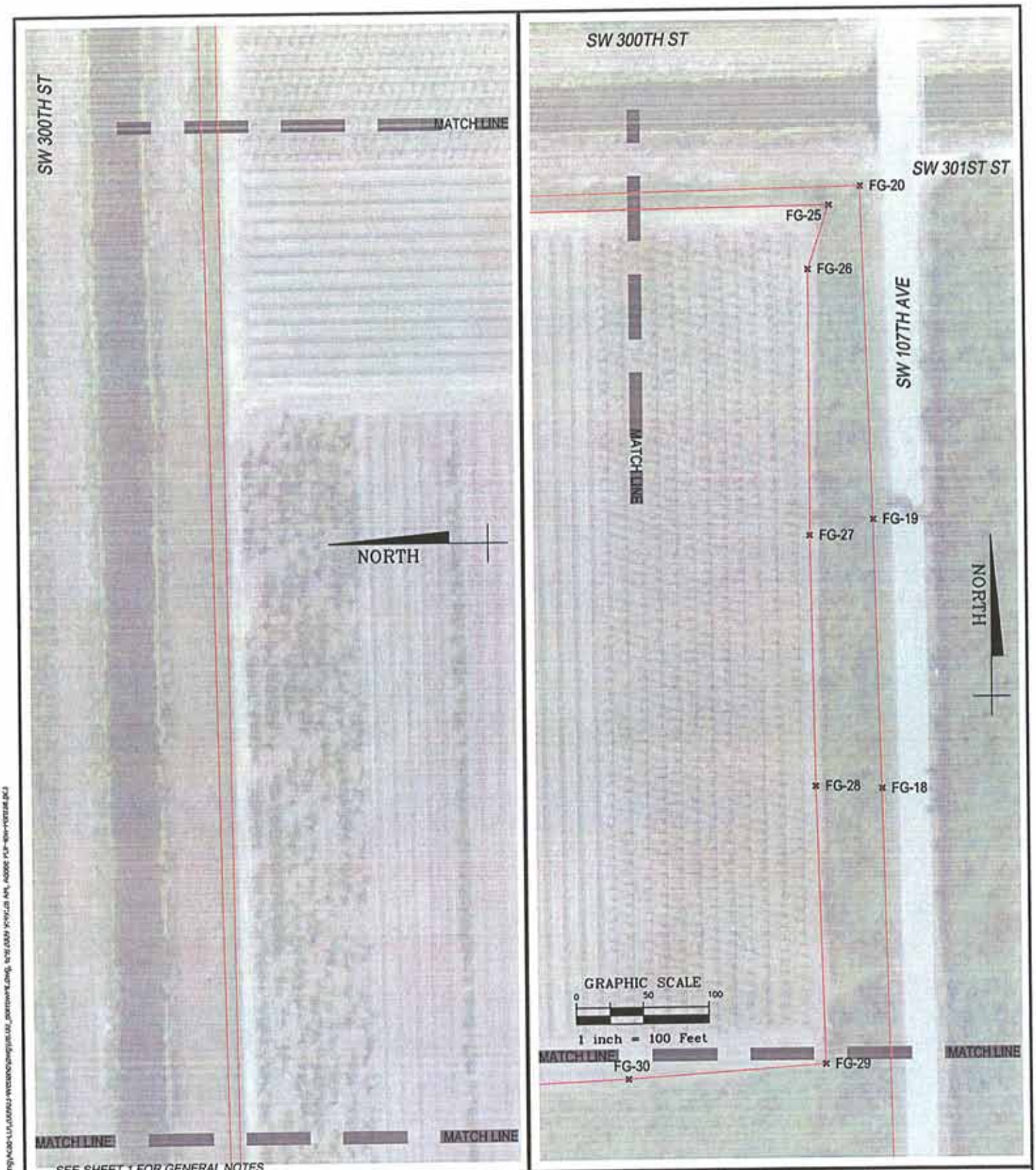

SEE SHEET 1 FOR GENERAL NOTES

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Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.02
DRAWING NAME:200903-Wetland.dwg

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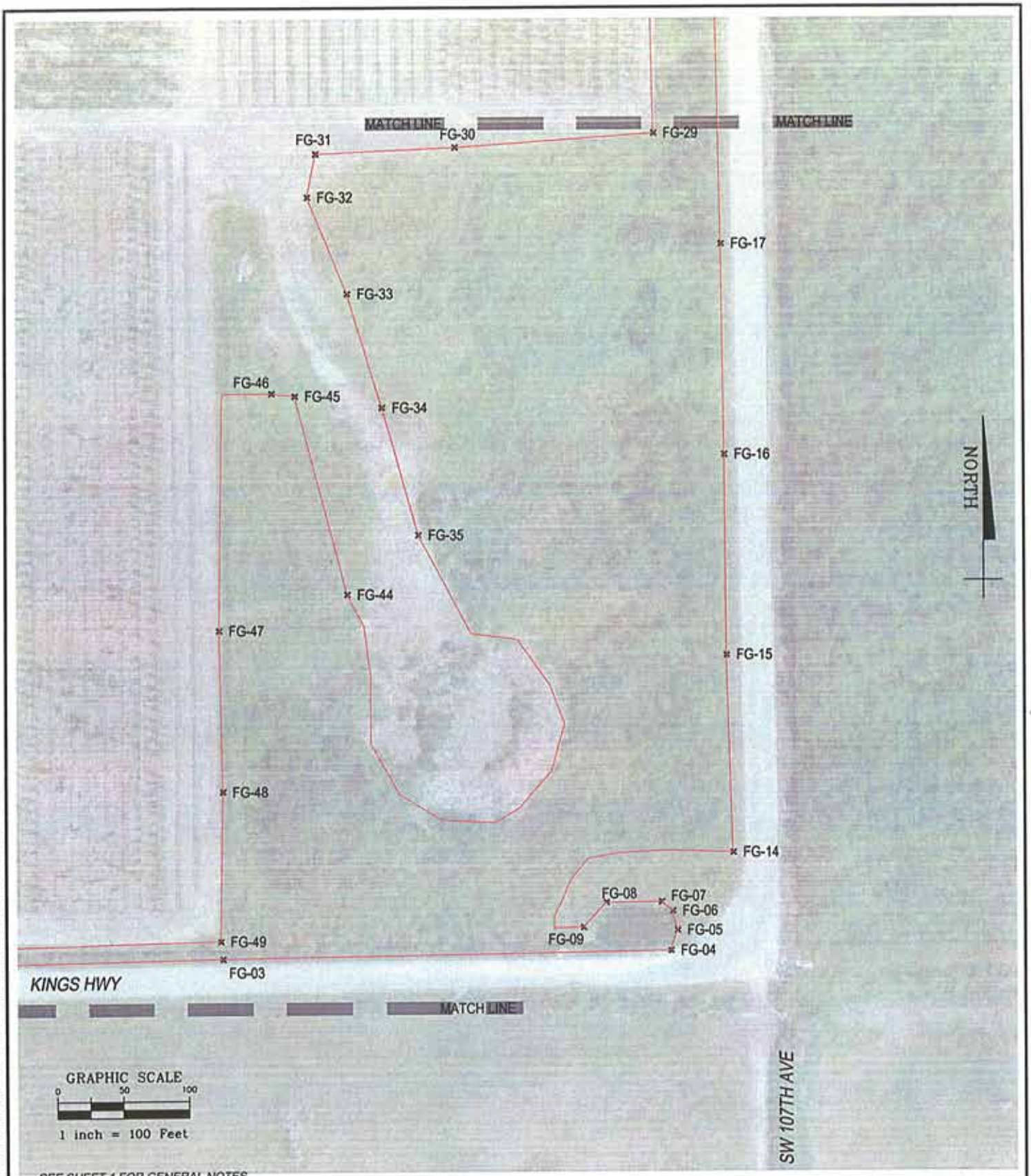

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Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
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DATE	BY	DESCRIPTION
06/08/2009	MR	EDITED WETLAND LINES

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.03
DRAWING NAME:200903-Wetland.dwg

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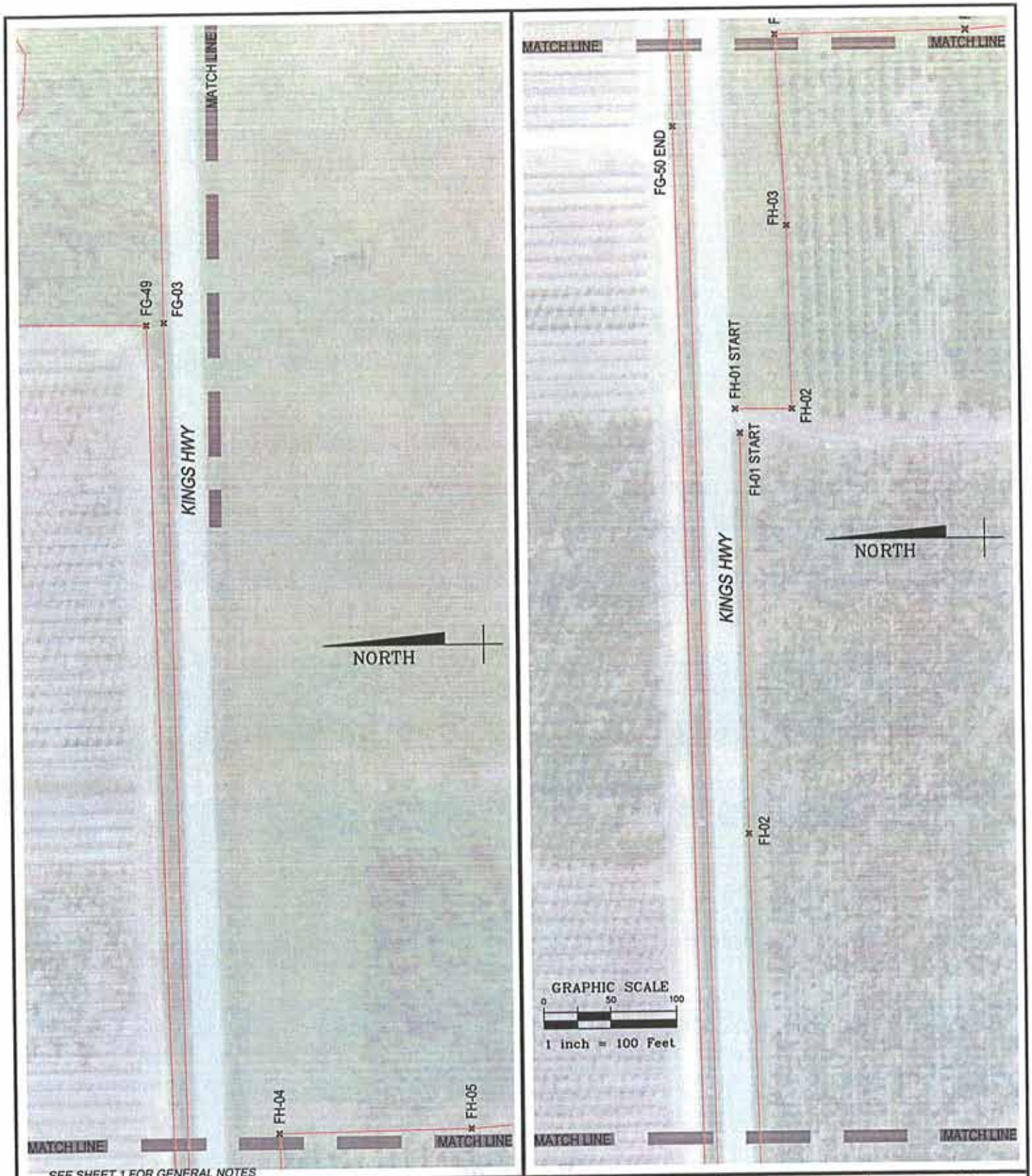

SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
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Construction and Operation License (COL) Project
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CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.04
DRAWING NAME: 200903-Wetland.dwg

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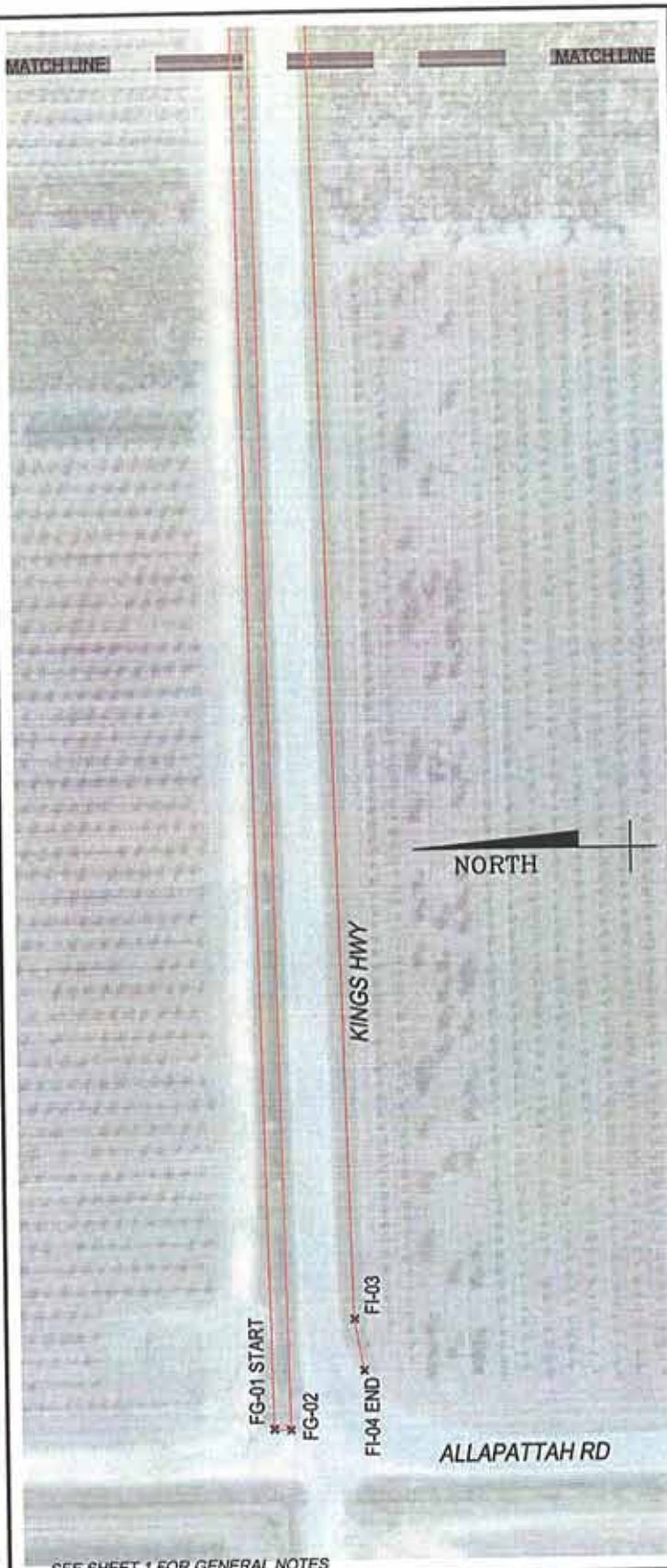

GRAPHIC SCALE
0 50 100
1 inch = 100 Feet

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PROJECT TITLE:
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Florida Power and Light Company
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REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080365
SCALE: 1" = 100'
SHT. 8.05
DRAWING NAME:200903-Wetland.dwg

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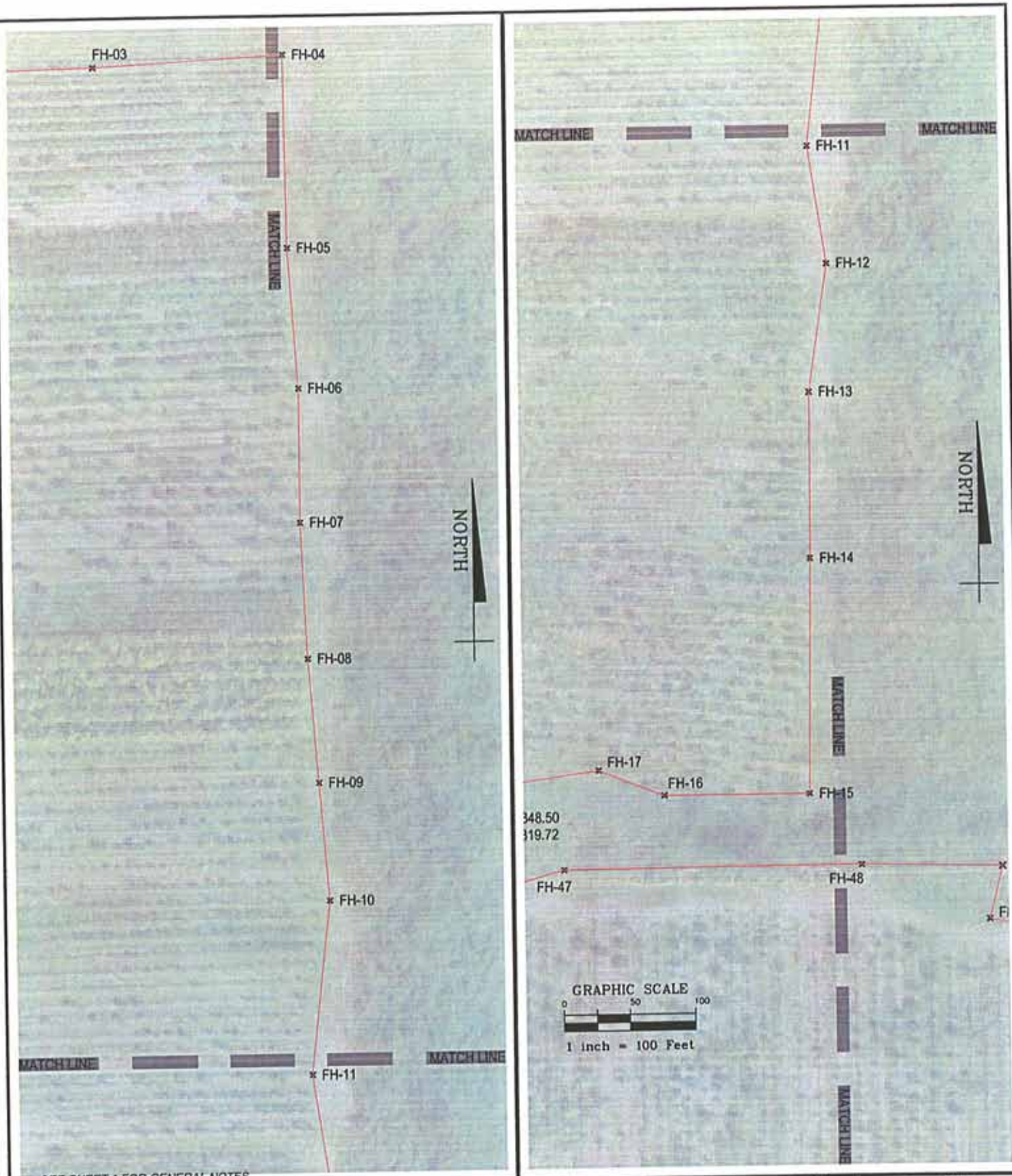

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Construction and Operation License (COL) Project
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DATE	BY	DESCRIPTION

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SCALE: 1" = 100'
SHT. 8.06
DRAWING NAME:200903-Wetland.dwg

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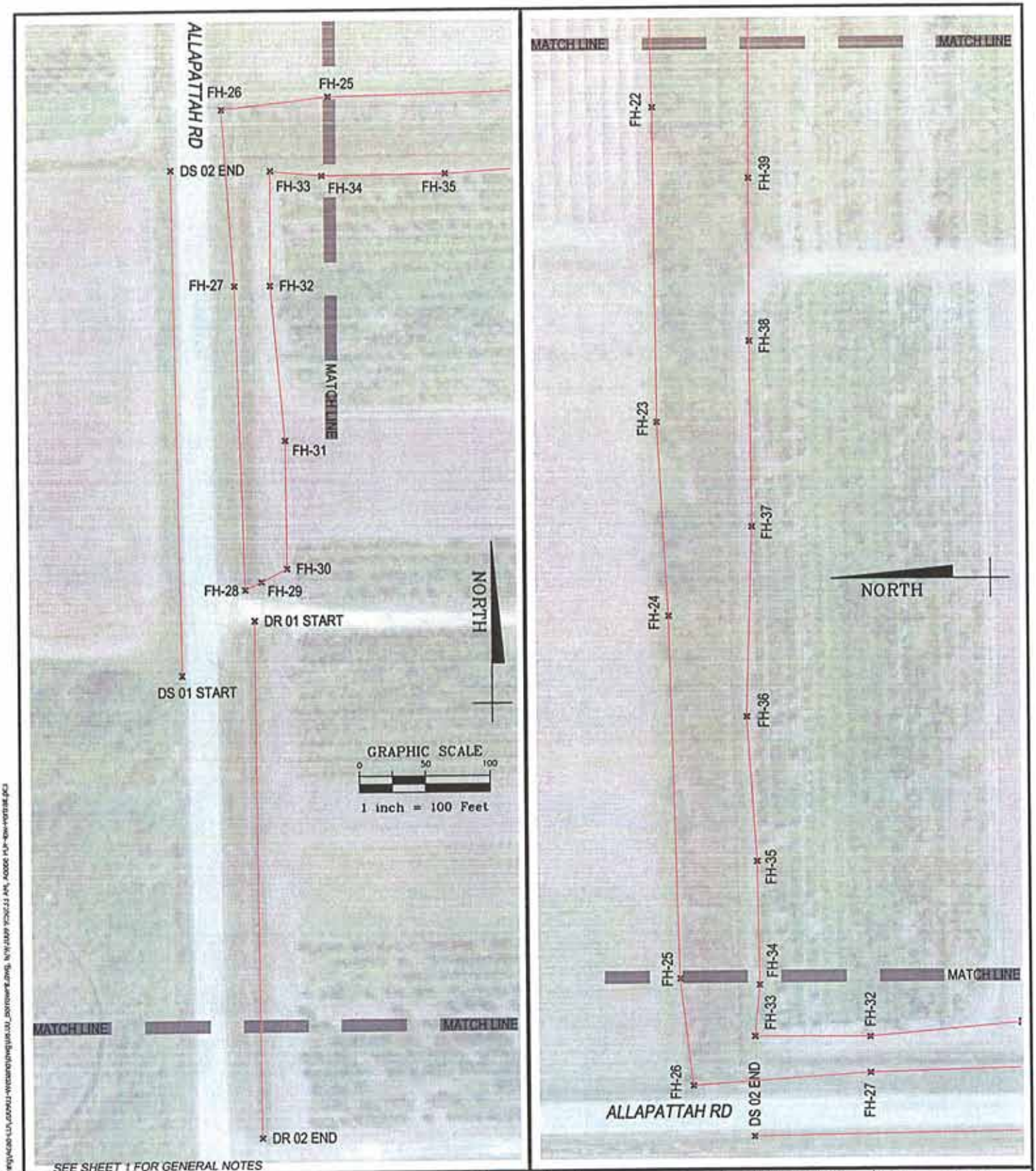

SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
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DATE	BY	DESCRIPTION

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.07
DRAWING NAME: 200903-Wetland.dwg

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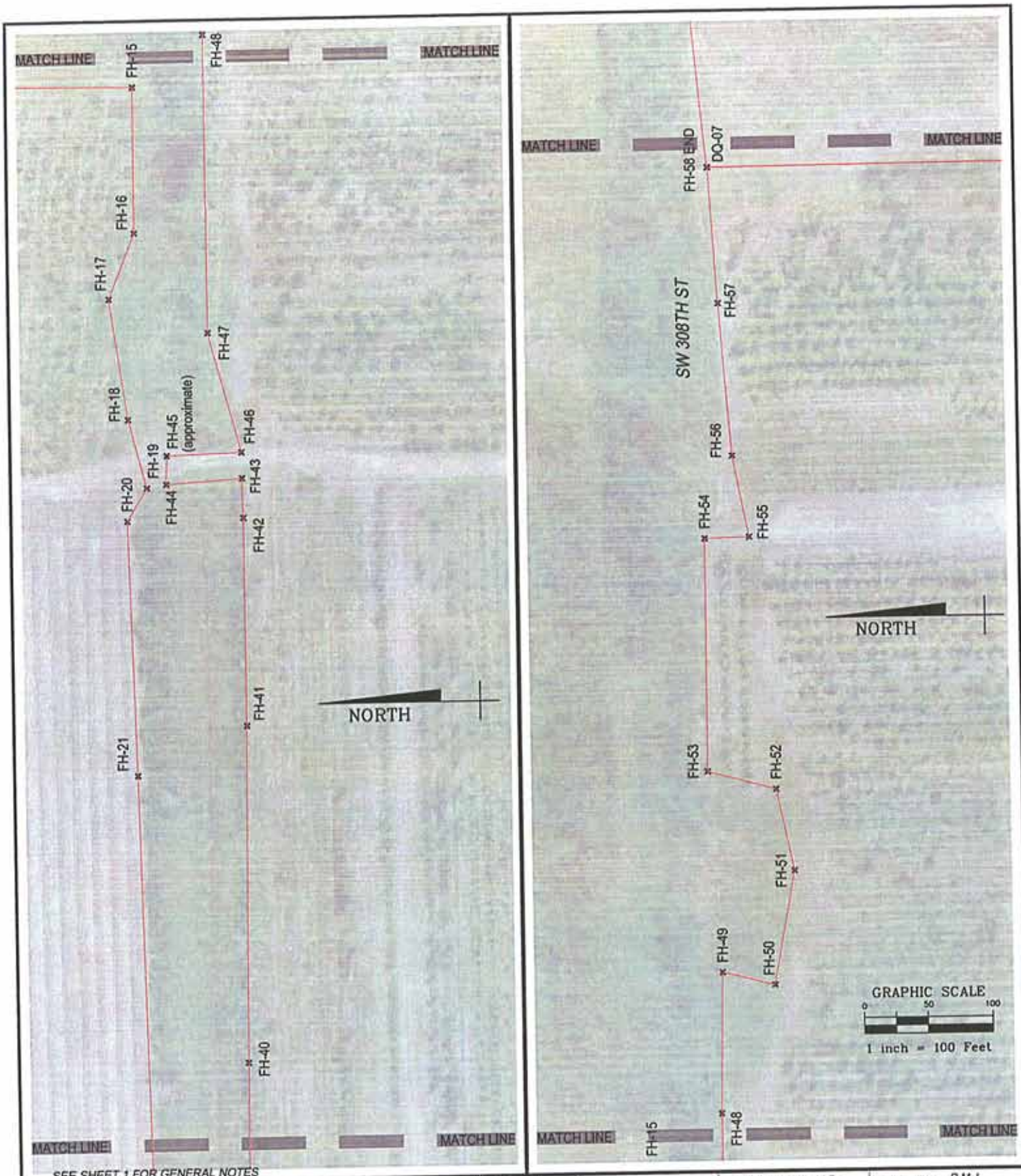

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REVISION

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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.08
DRAWING NAME:200903-Wetland.dwg

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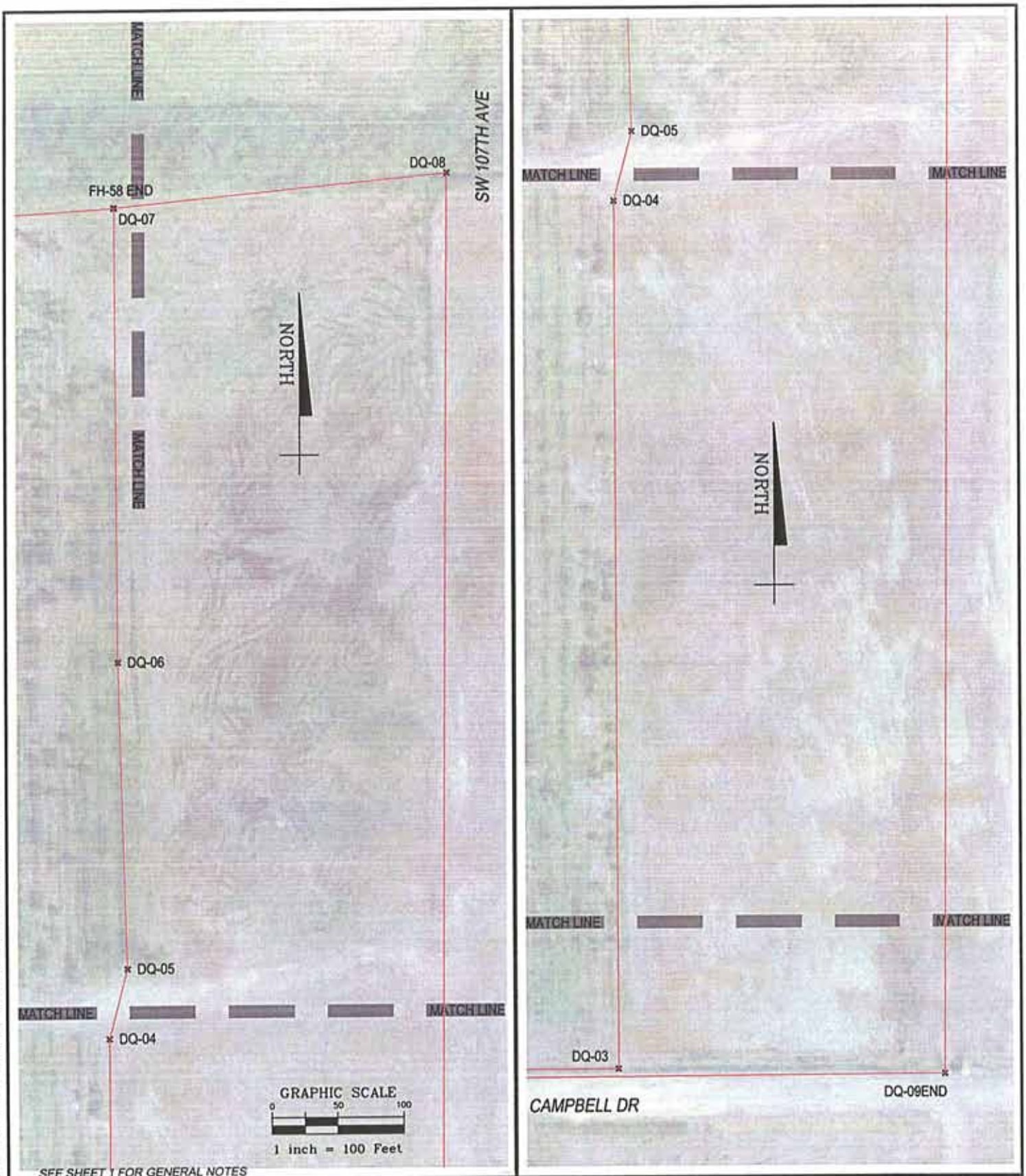

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PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
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DATE	BY	DESCRIPTION

REVISION

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CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.09
DRAWING NAME: 200903-Wetland.dwg

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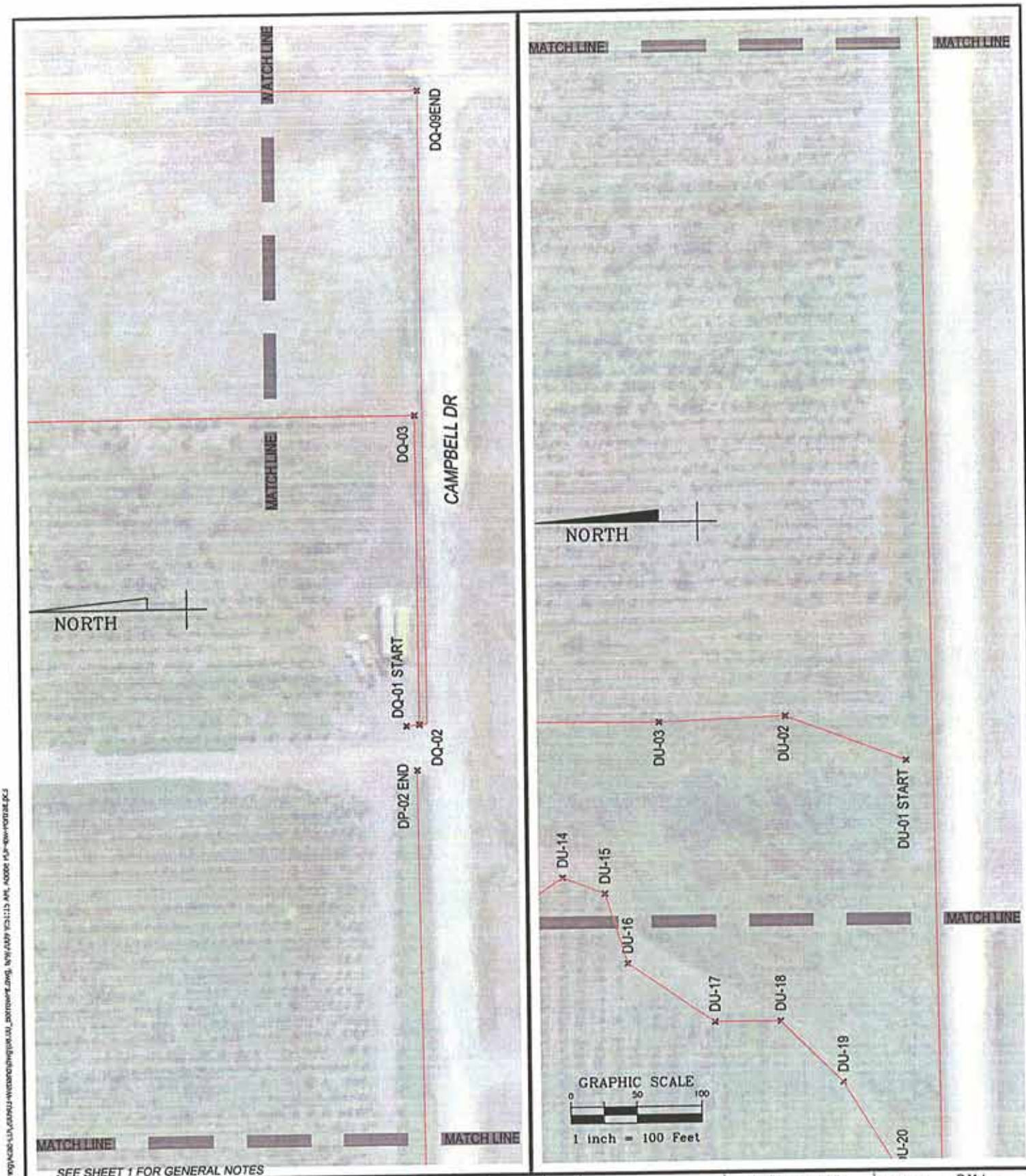

SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
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DATE	BY	DESCRIPTION
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REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.10
DRAWING NAME:200903-Wetland.dwg

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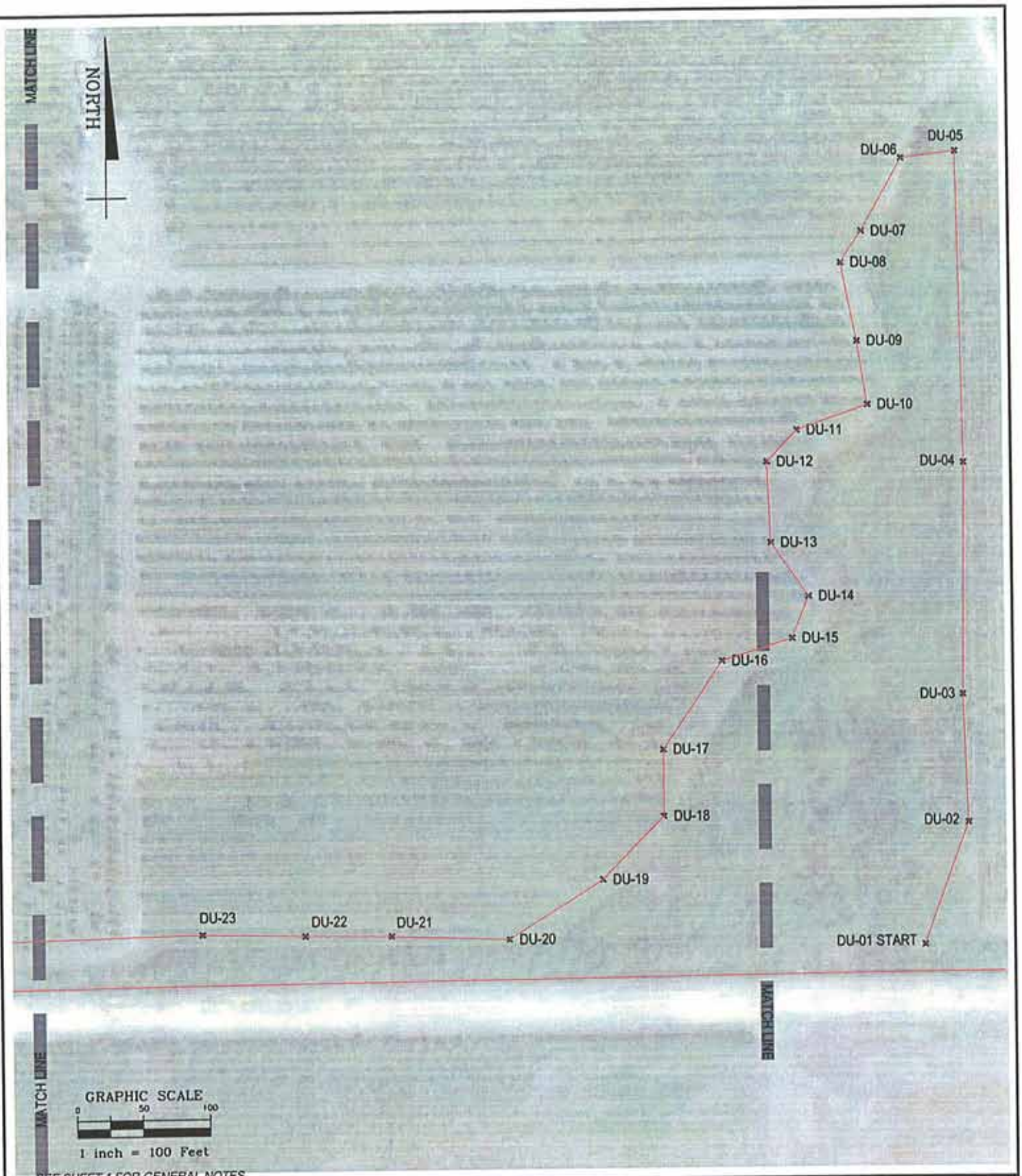

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PROJECT TITLE:
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Turkey Point Units 6 and 7
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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 8.11
DRAWING NAME:200903-Wetland.dwg

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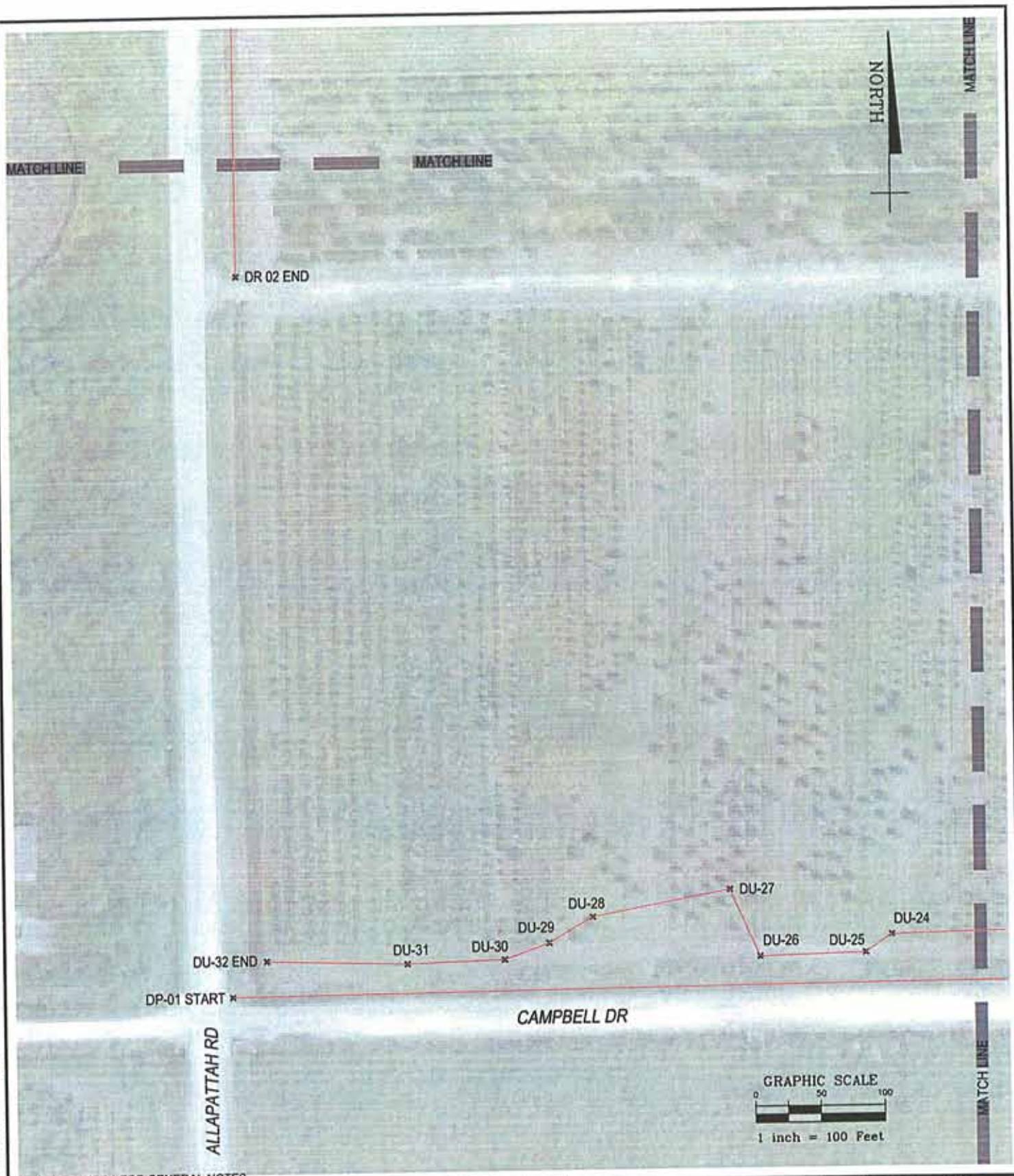

SEE SHEET 1 FOR GENERAL NOTES

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SHT. 8.12
DRAWING NAME:200903-Wetland.dwg

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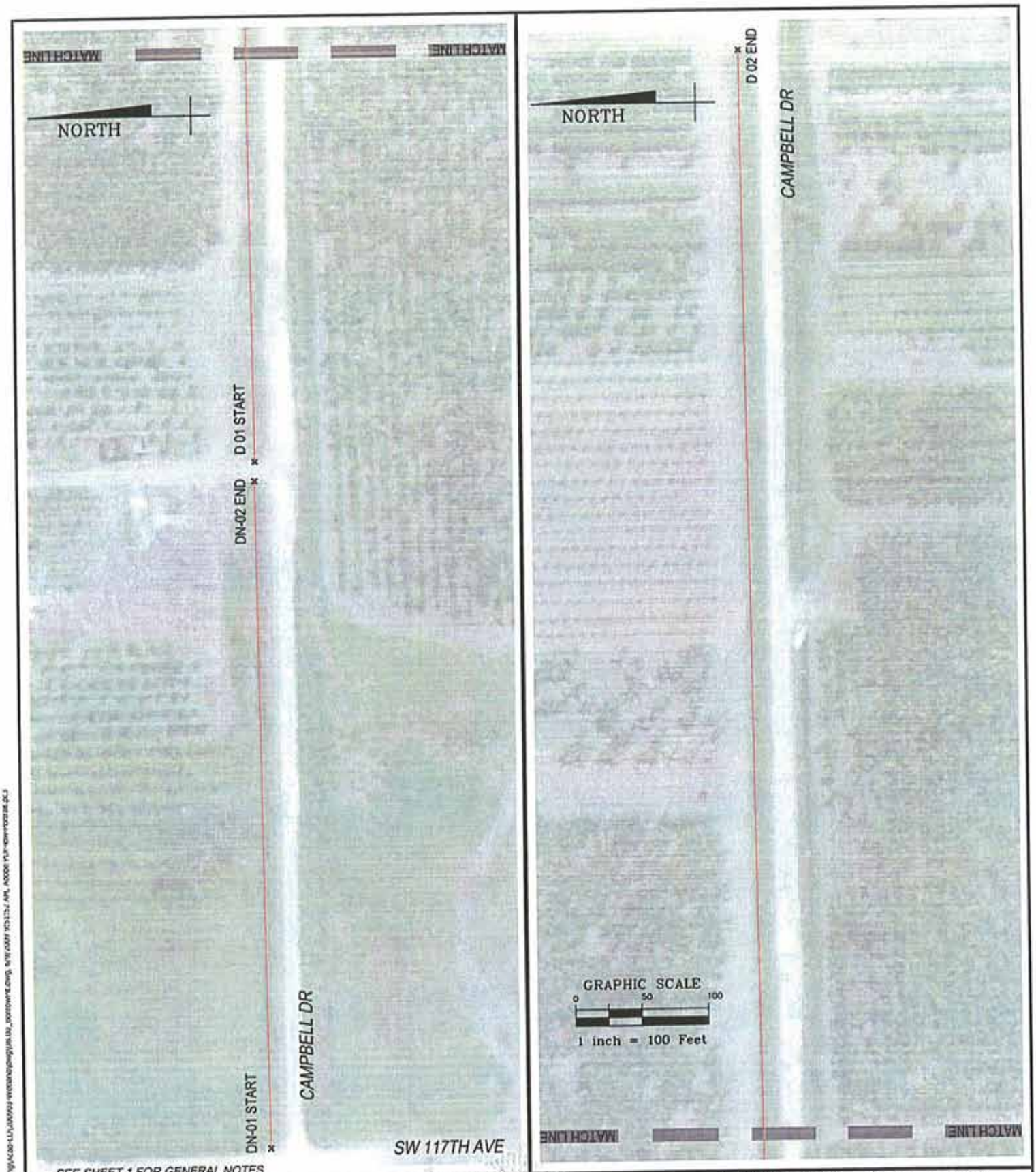

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SCALE: 1" = 100'
SHT. 8.13
DRAWING NAME:200903-Wetland.dwg

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GAINESVILLE, FLORIDA 32656

Flag ID,	Northing,	Easting
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D 02 END,	416499,	862515
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DP-02 END,	416529,	865589
DQ-01 START,	416537,	865623
DQ-02,	416527,	865624
DQ-03,	416529,	865860
DQ-04,	417187,	865859
DQ-05,	417240,	865873
DQ-06,	417472,	865866
DQ-07,	417817,	865864
DQ-08,	417842,	866117
DQ-09END,	416524,	866108
DR 01 START,	417450,	863520
DR 02 END,	417056,	863523
DS 01 START,	417409,	863465
DS 02 END,	417794,	863459
DU-01 START,	416542,	864761
DU-02,	416634,	864795
DU-03,	416732,	864792
DU-04,	416907,	864794
DU-05,	417143,	864790
DU-06,	417138,	864747
DU-07,	417083,	864716
DU-08,	417059,	864701
DU-09,	417000,	864712
DU-10,	416952,	864720
DU-11,	416932,	864666
DU-12,	416909,	864643
DU-13,	416847,	864646
DU-14,	416806,	864674
DU-15,	416774,	864661
DU-16,	416758,	864608
DU-17,	416692,	864562
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DU-20,	416548,	864444
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DU-22,	416552,	864288
DU-23,	416554,	864209
DU-24,	416550,	864018
DU-25,	416536,	863998
DU-26,	416534,	863916
DU-27,	416585,	863893
DU-28,	416566,	863789
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DU-30,	416535,	863721
DU-31,	416532,	863648
DU-32 END,	416536,	863541

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Flag ID,	Northing,	Easting
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FH-32,	417706,	863534
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FH-45,	417849,	864820 (approximate) per Golder
FH-46,	417791,	864822
FH-47,	417816,	864913
FH-48,	417817,	865142
FH-49,	417814,	865249
FH-50,	417774,	865239
FH-51,	417758,	865326
FH-52,	417771,	865389
FH-53,	417823,	865403
FH-54,	417823,	865581
FH-55,	417789,	865582
FH-56,	417801,	865644
FH-57,	417810,	865760
FH-58 END,	417817,	865864
FI-01 START,	419168,	864790
FI-02,	419164,	864485
FI-03,	419140,	863539
FI-04 END,	419135,	863510

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Miami-Dade County, Florida

DATE	BY	DESCRIPTION
06/08/2009	MR	EDITED WETLAND LINES

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
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SCALE: N/A
SHT. 8.14
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CERTIFICATE OF AUTHORIZATION: LB 6969

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I:\Turkey Pt\Projects\Surveying\ACAD-LDT\2009\Wetland\dwg\US\20_borrowPt.dwg, 9/9/2009 9:52:03 AM, Adobe PDF How+Portrait.pc3

Sheet Index for:
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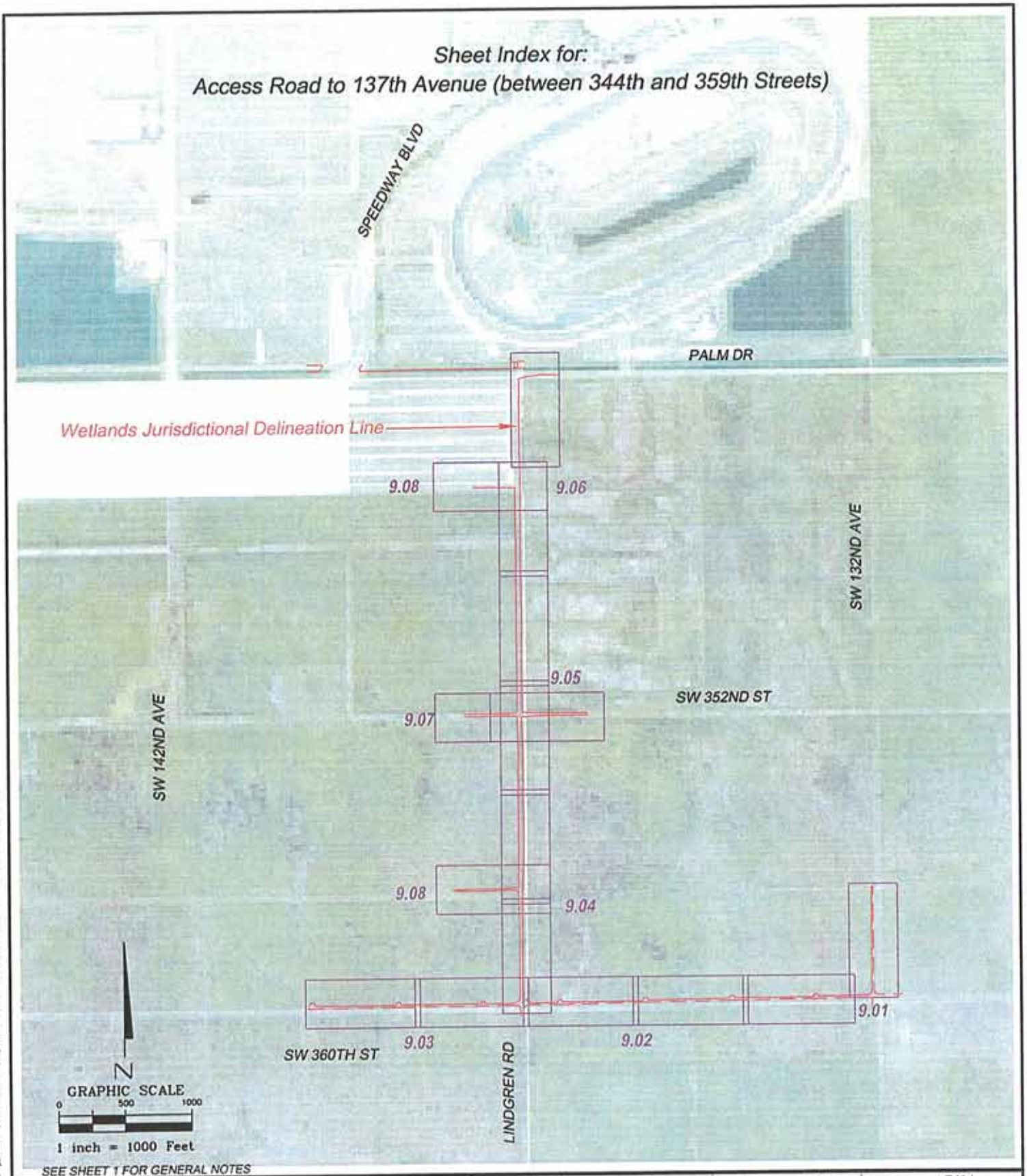

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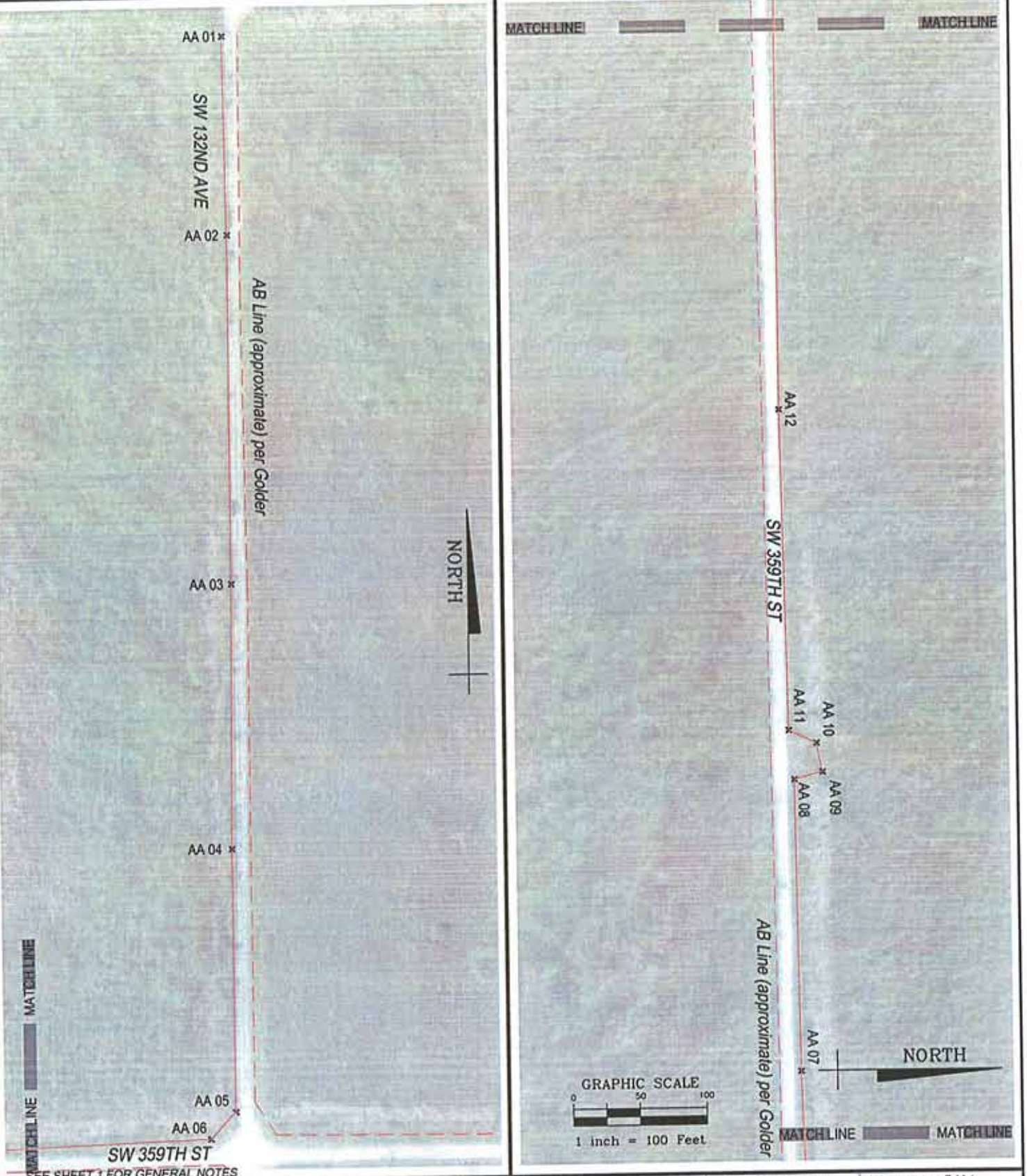

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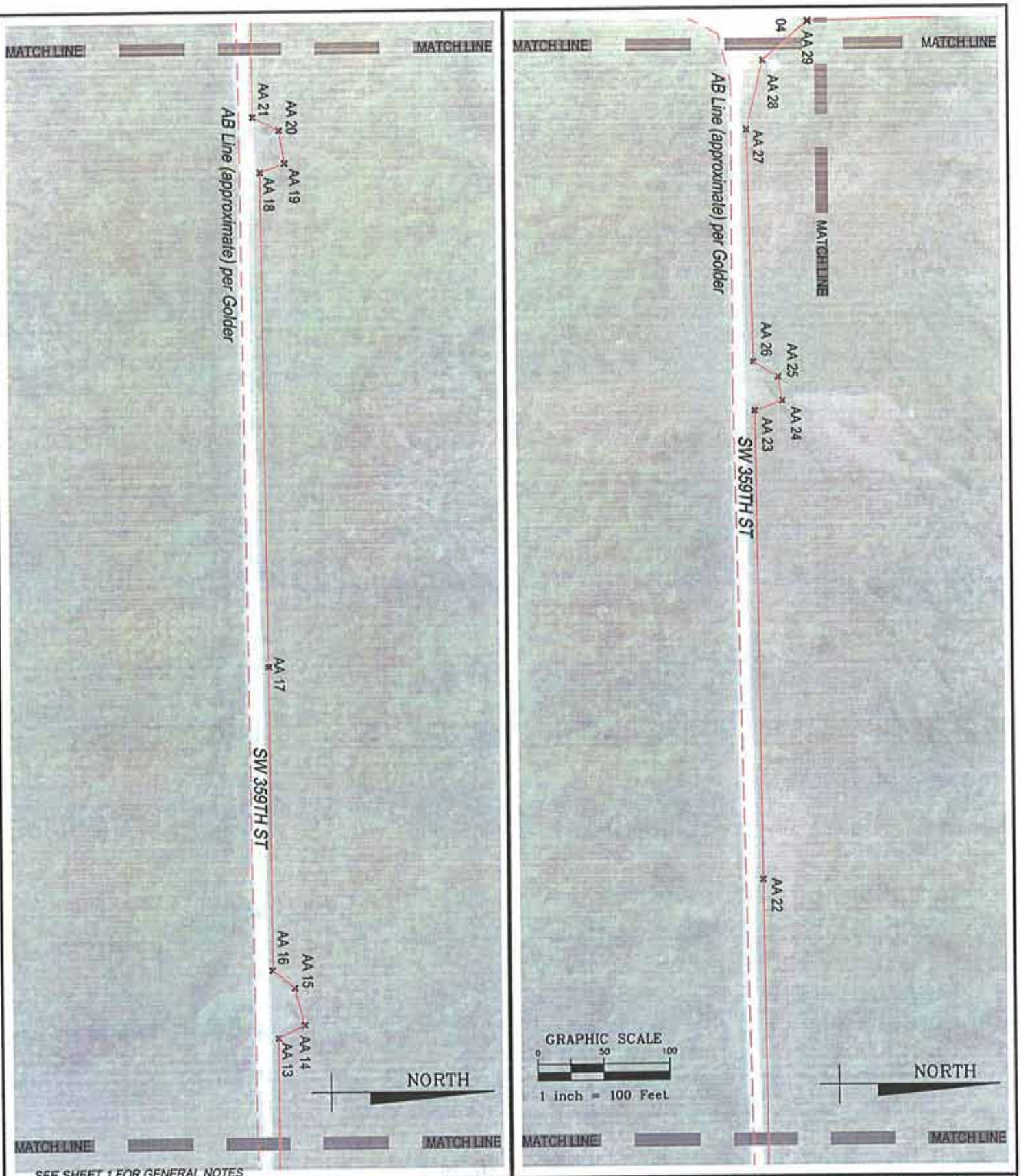

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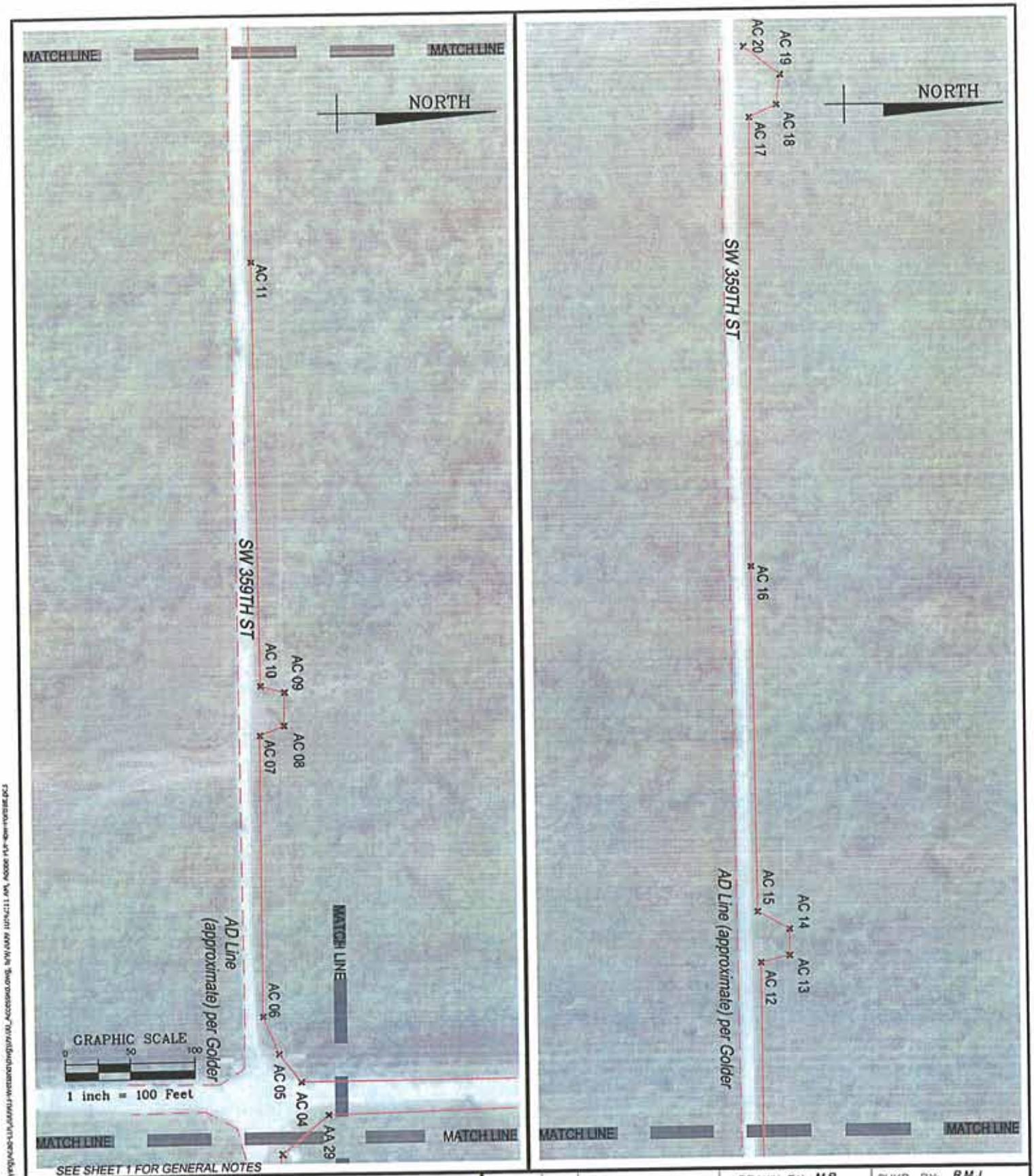

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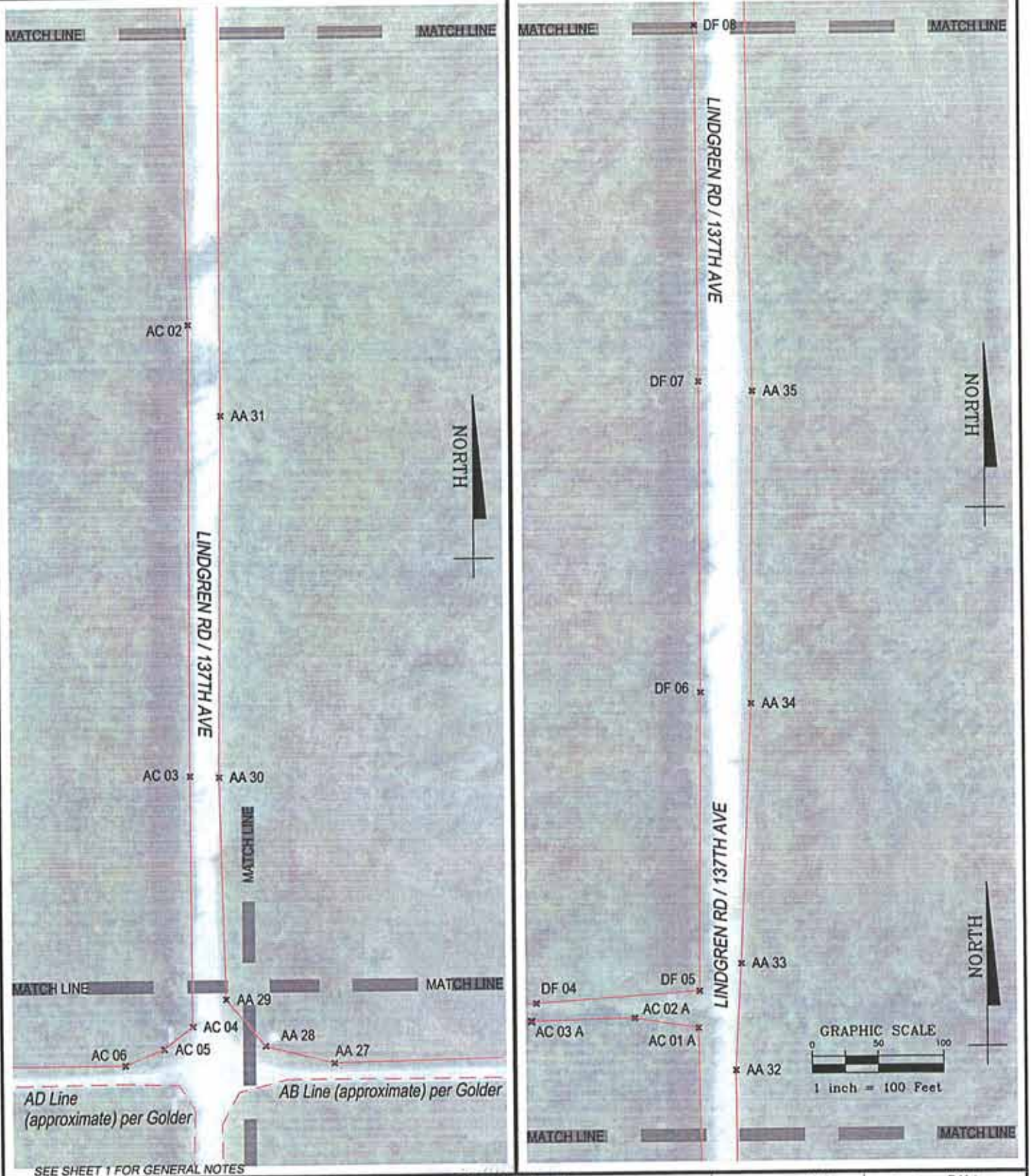

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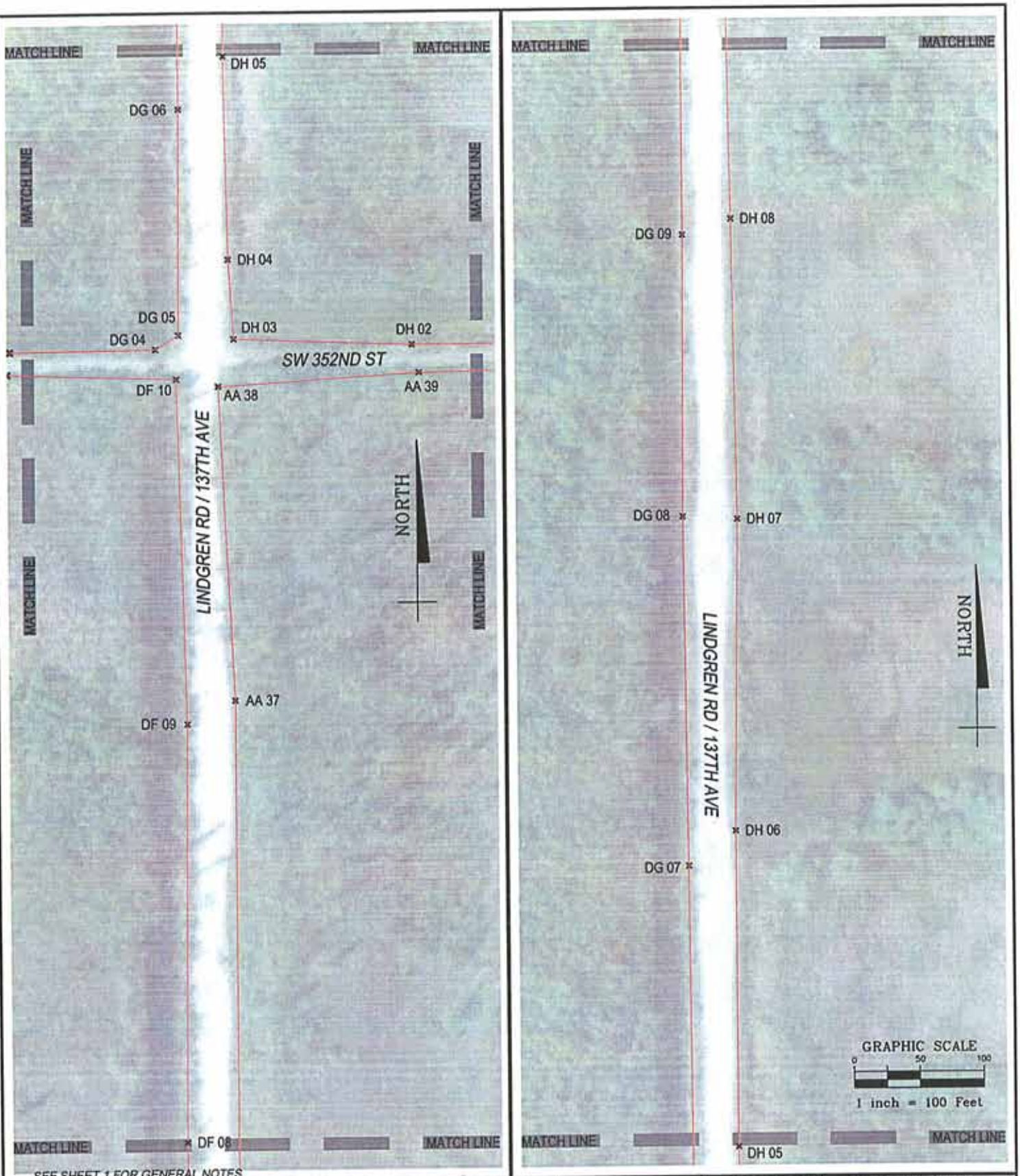

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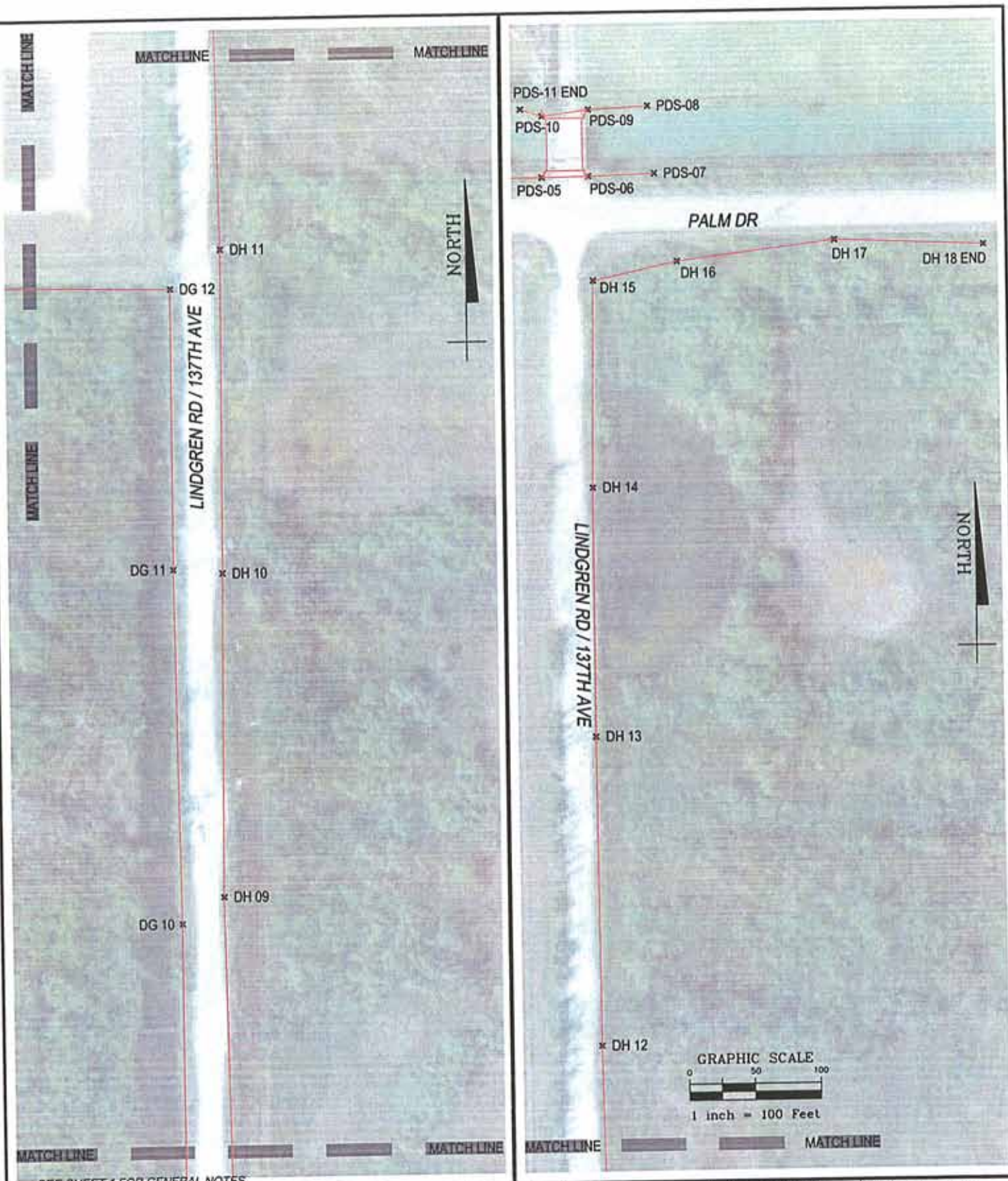

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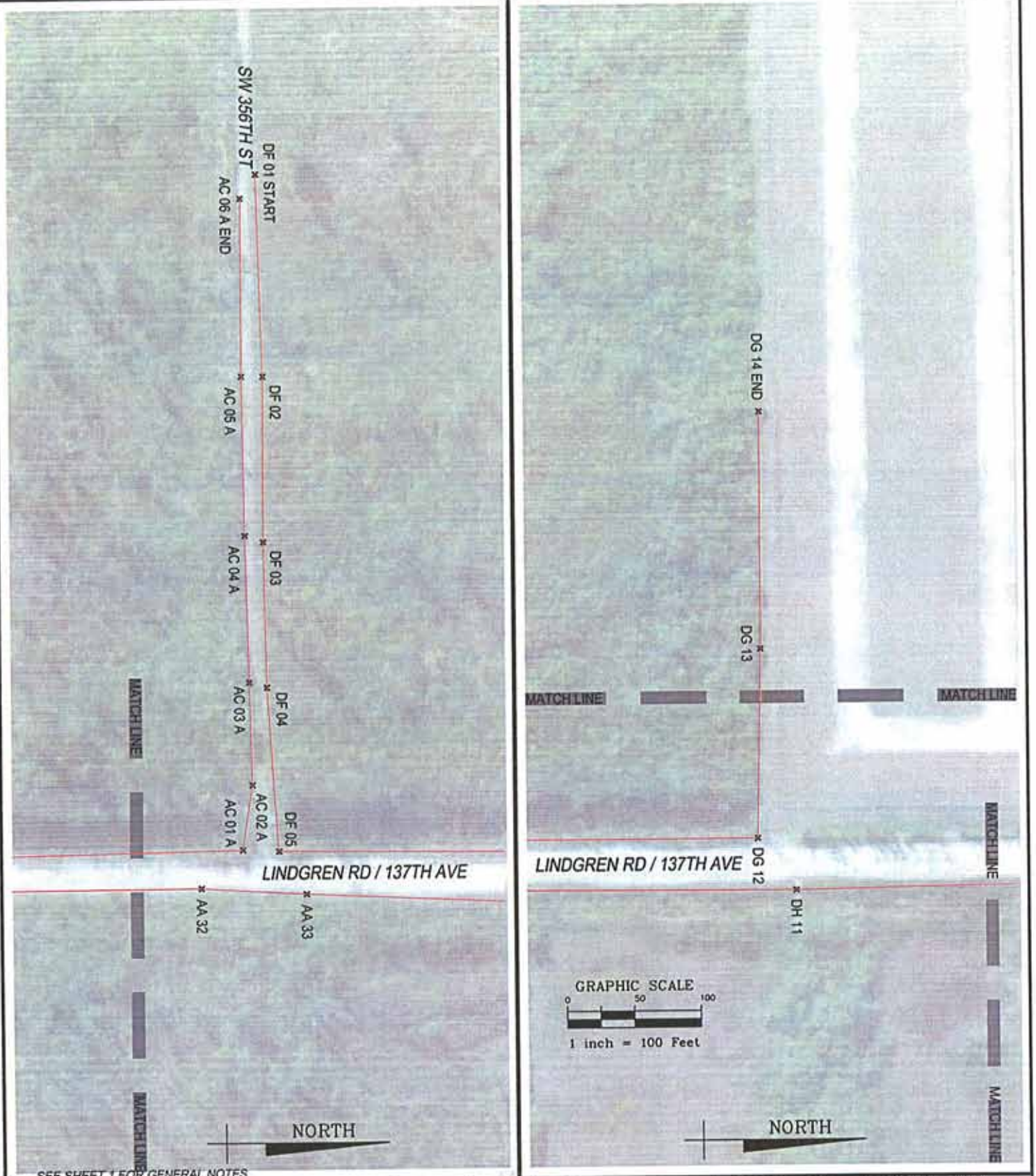

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Flag ID,	Northing,	Easting
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DH 18 END,	405446,	850551

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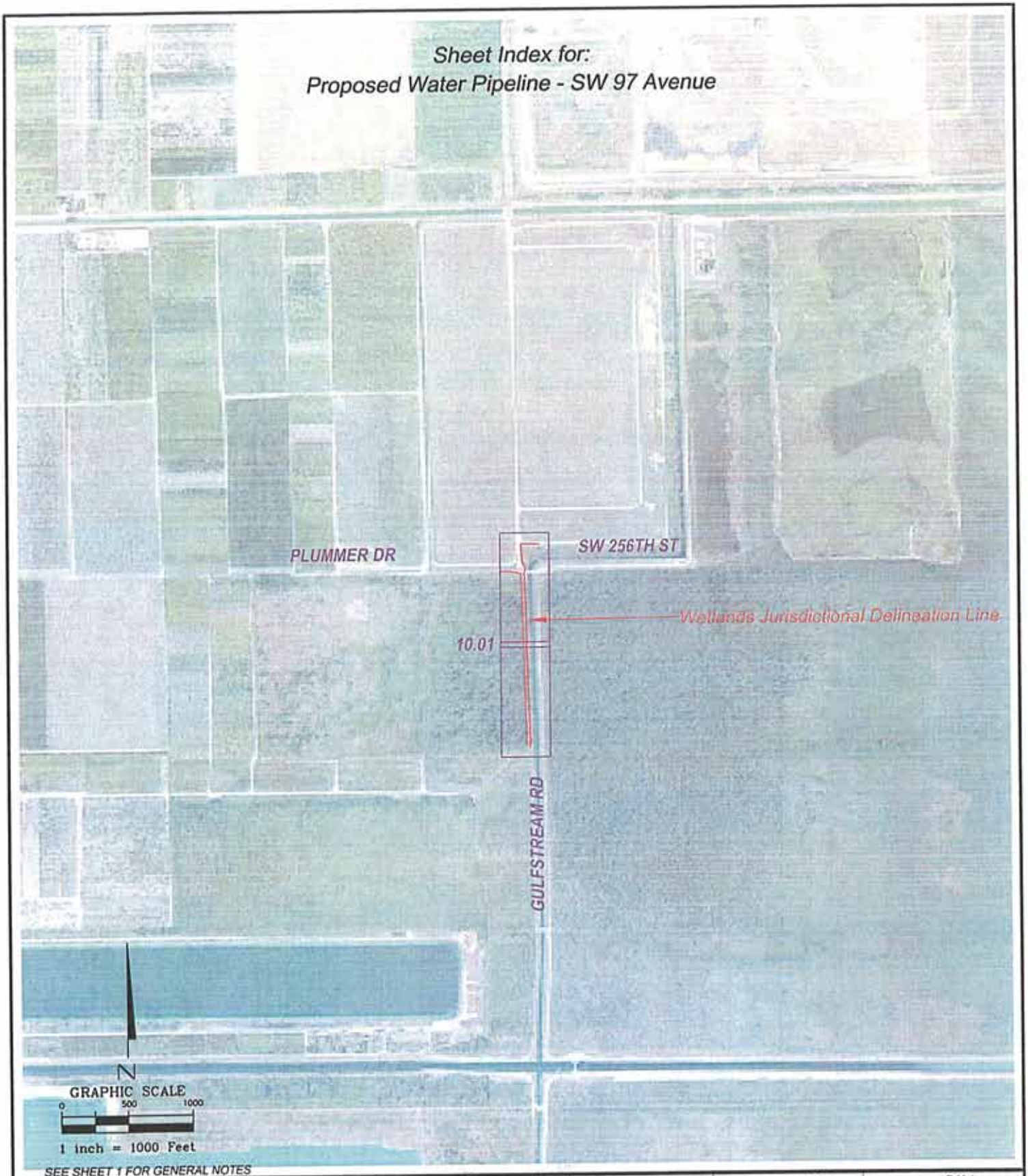

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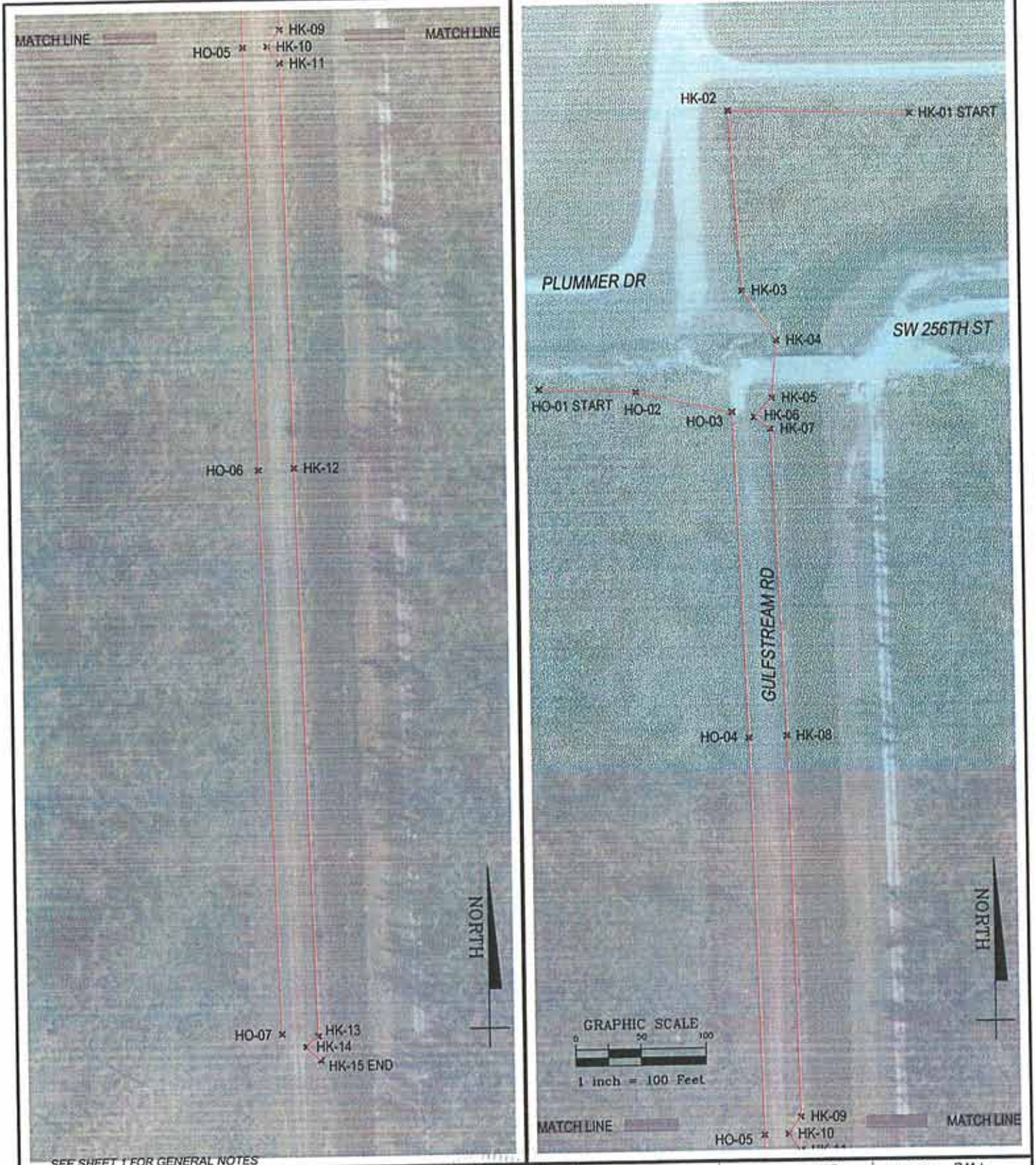

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SHT. 10.02
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PREPARED BY:
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Gainesville, Florida
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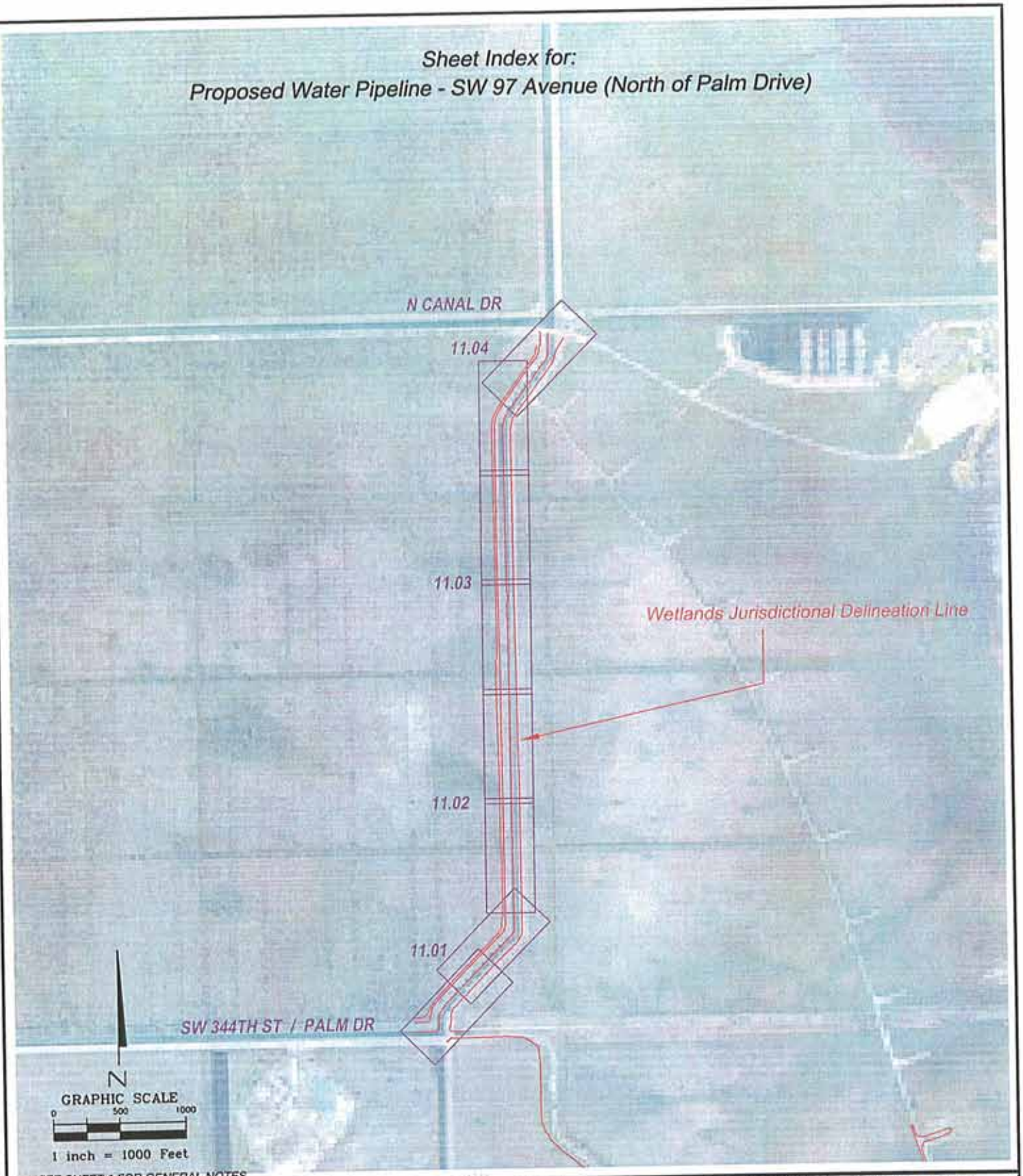
Sheet Index for:
Proposed Water Pipeline - SW 97 Avenue (North of Palm Drive)



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PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
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Construction and Operation License (COL) Project
Miami-Dade County, Florida

DATE	BY	DESCRIPTION

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DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 1000'
SHT. 11.00
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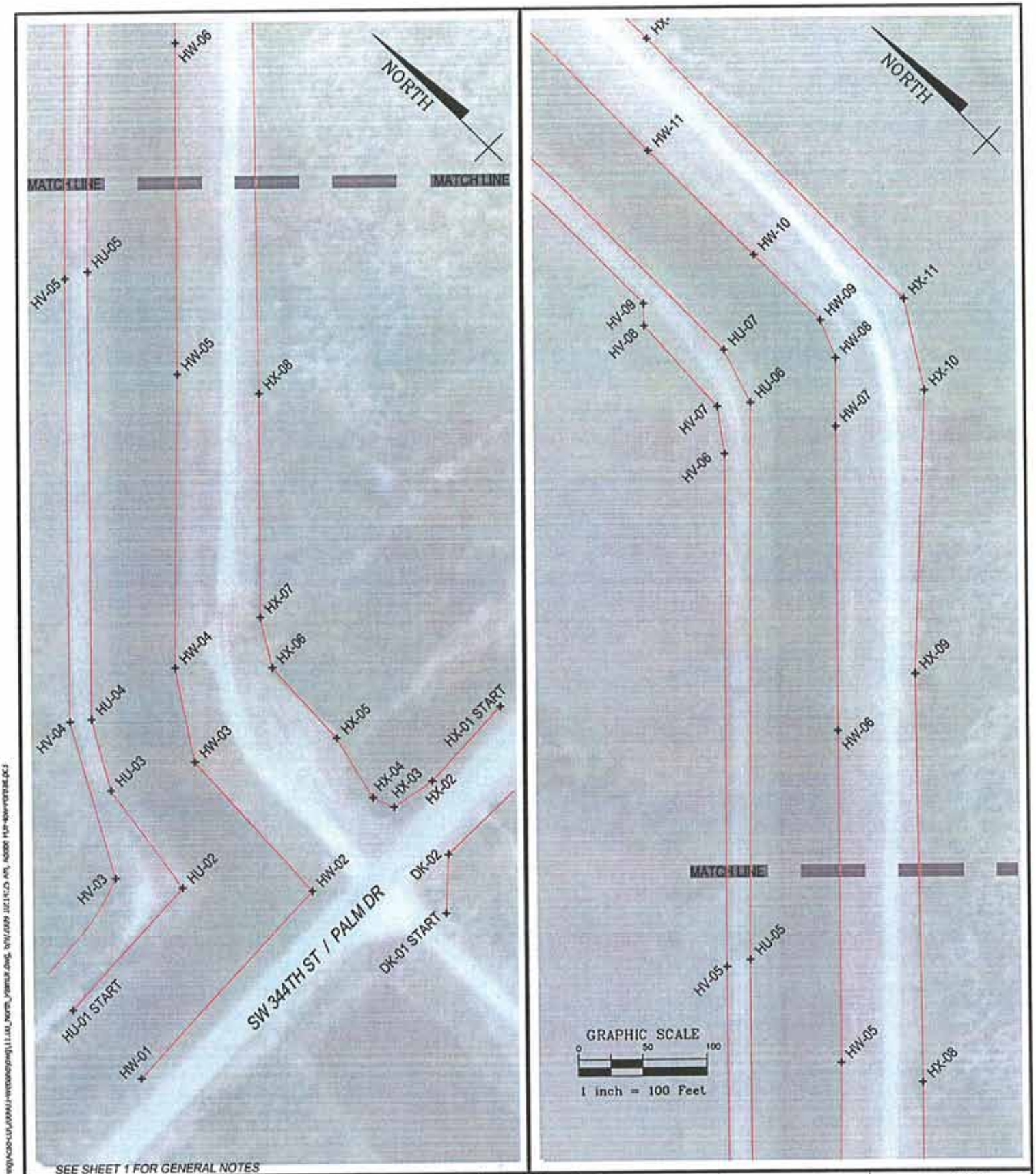

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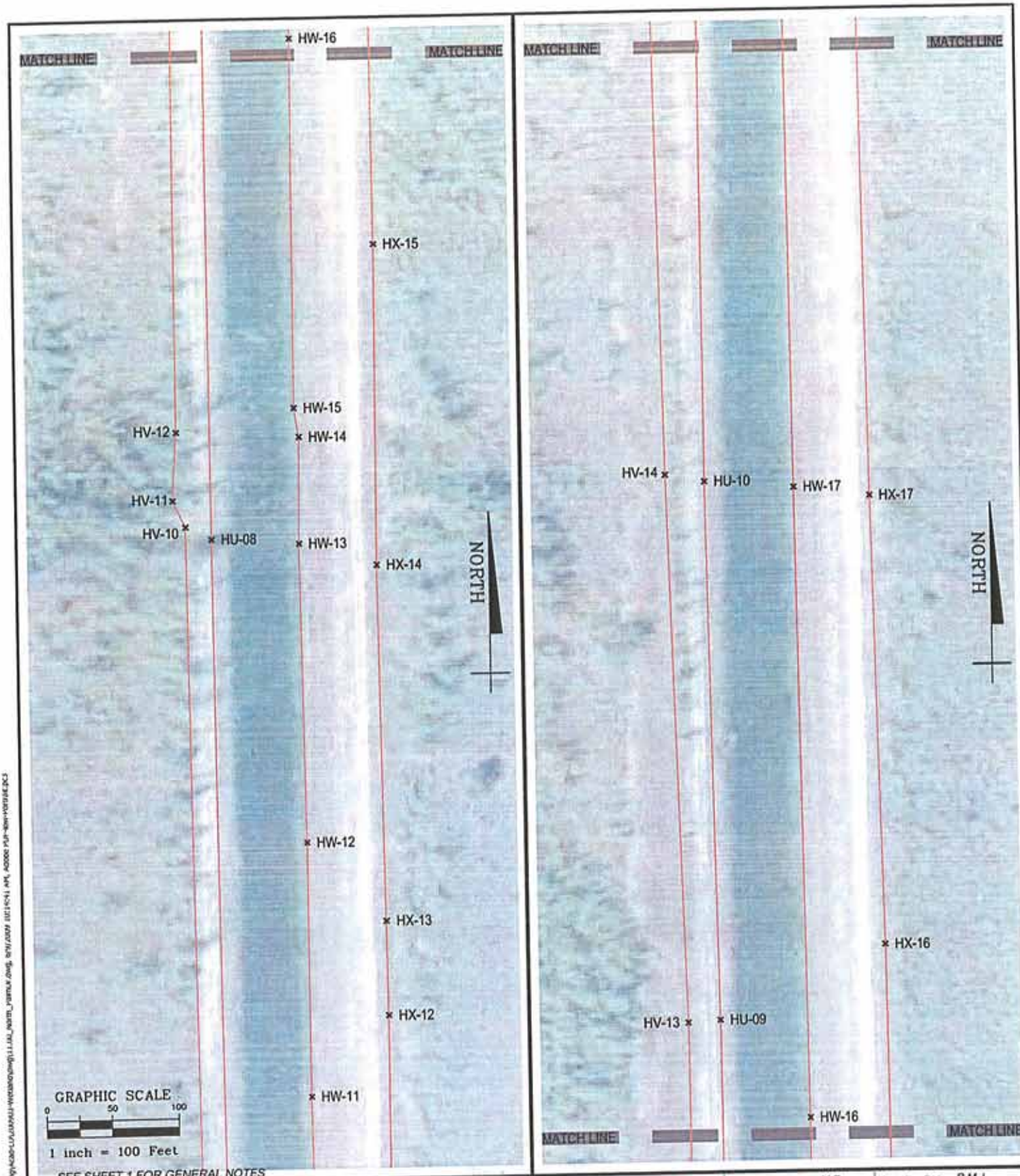

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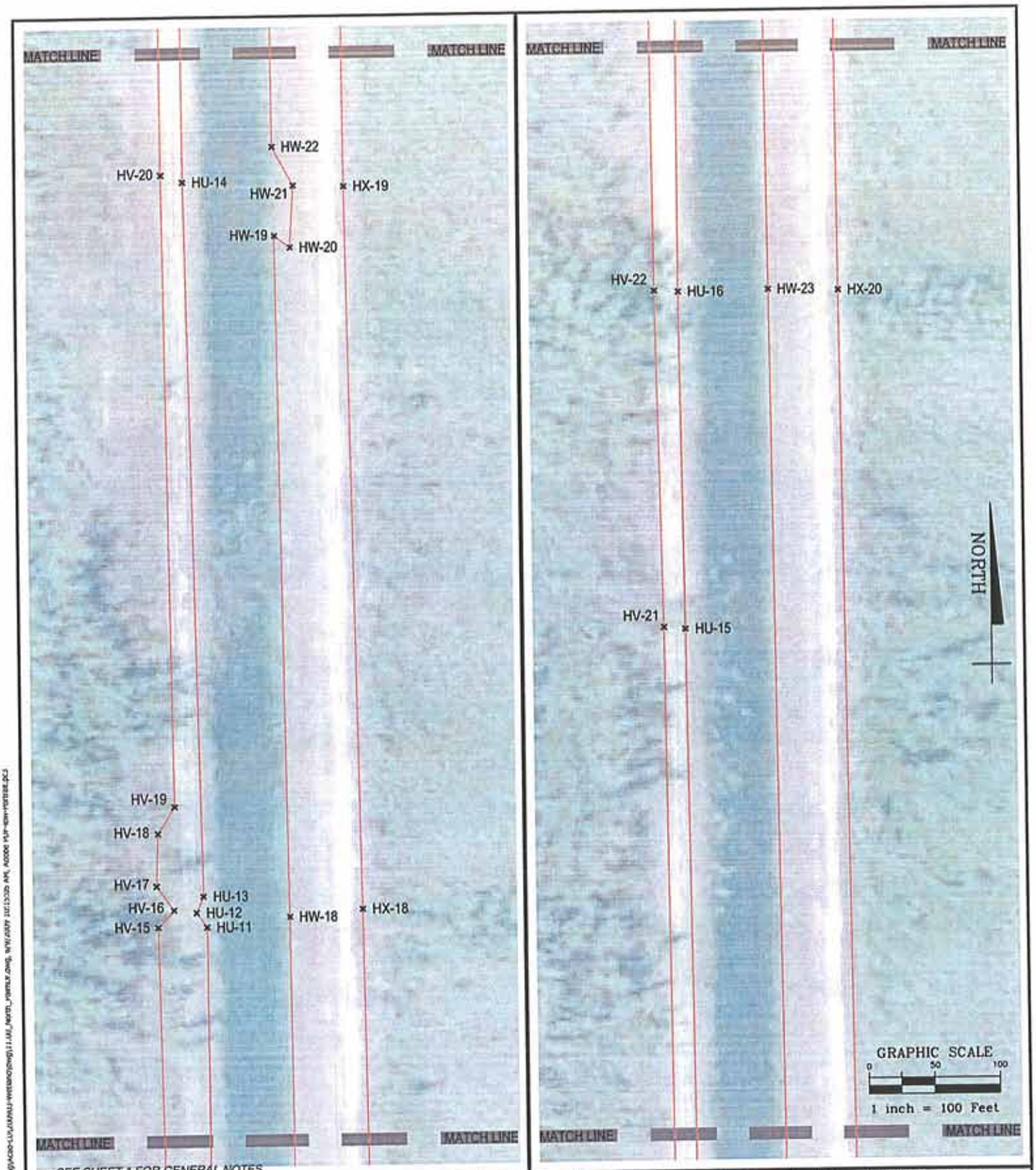

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SHT. 11.03
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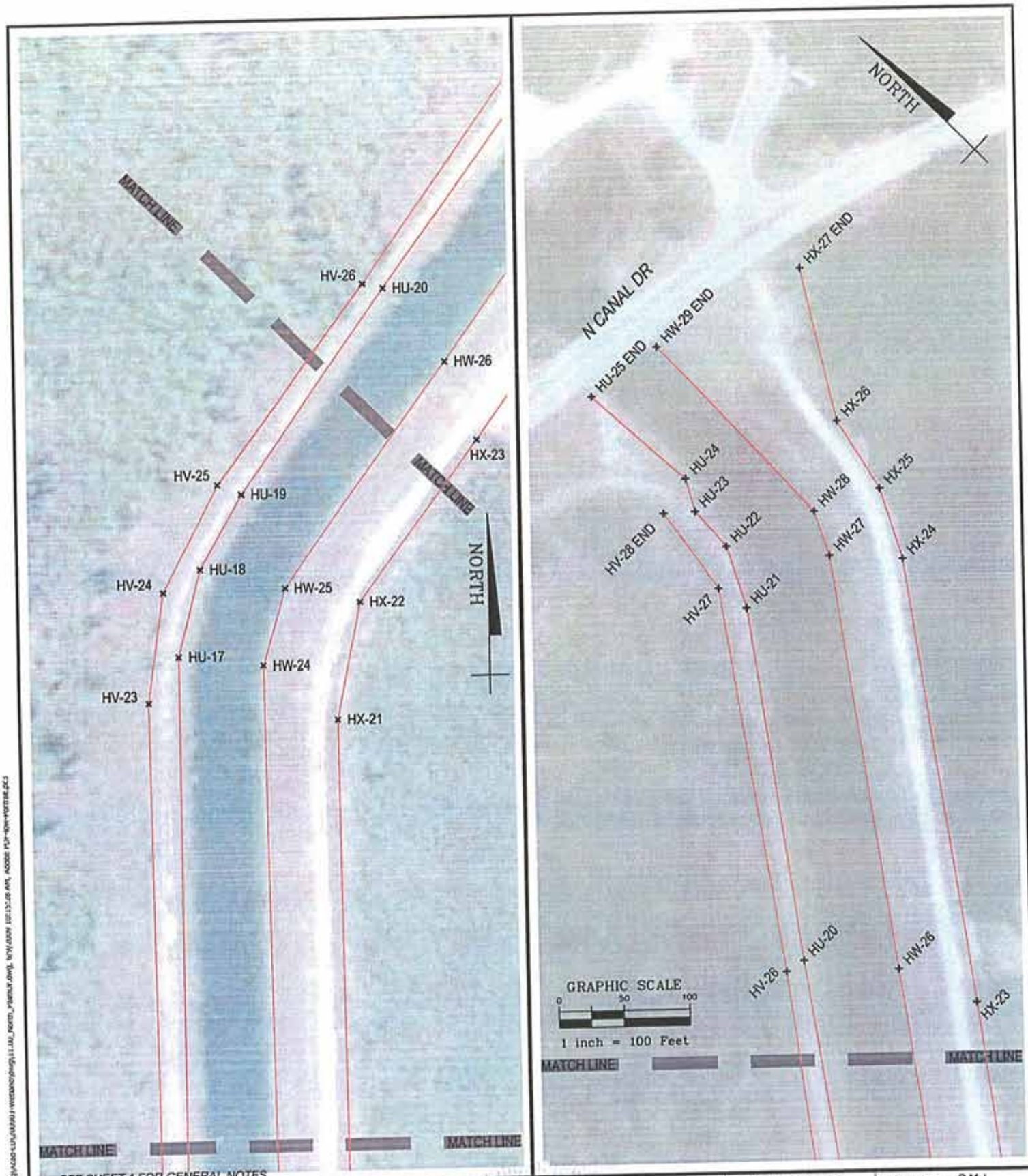

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Flag ID,	Northing,	Easting
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HV-20,	408981,	871240
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HW-17,	407905,	871338
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HW-19,	408934,	871328
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HW-21,	408972,	871343
HW-22,	409002,	871326
HW-23,	409719,	871320
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HX-27 END,	410929,	871789

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SCALE: N/A
SHT. 11.05
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I:\JUNO\Projects\6374080385 - TURKEY PNT PROJECT\Survey\dgn\CAD-LIV\200903-Wetland\dwg\11100_North_Transmittal.dwg, 6/9/2009 11:51:28 AM, ADOBE PDF 4ow+Portrait.pc3

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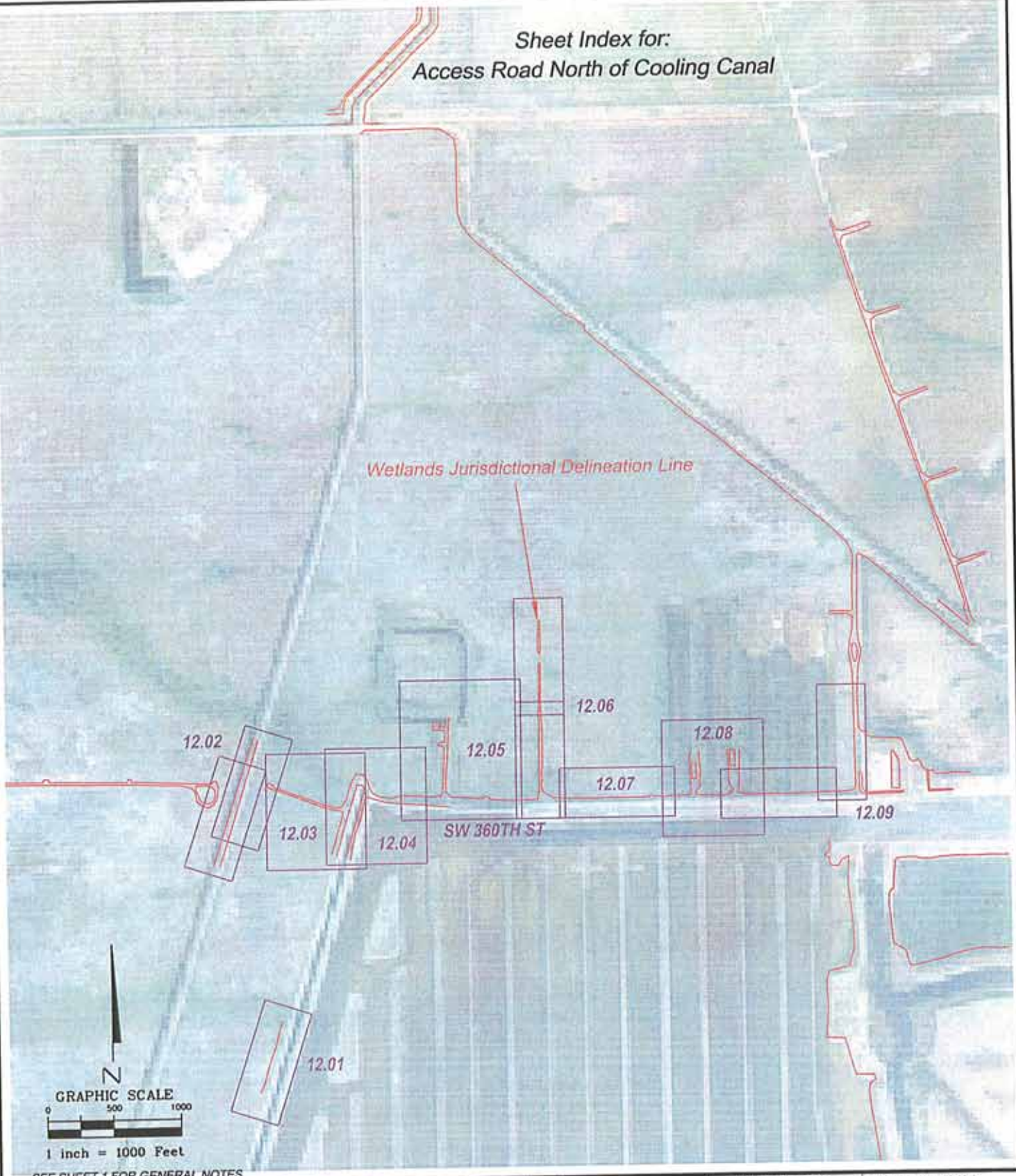

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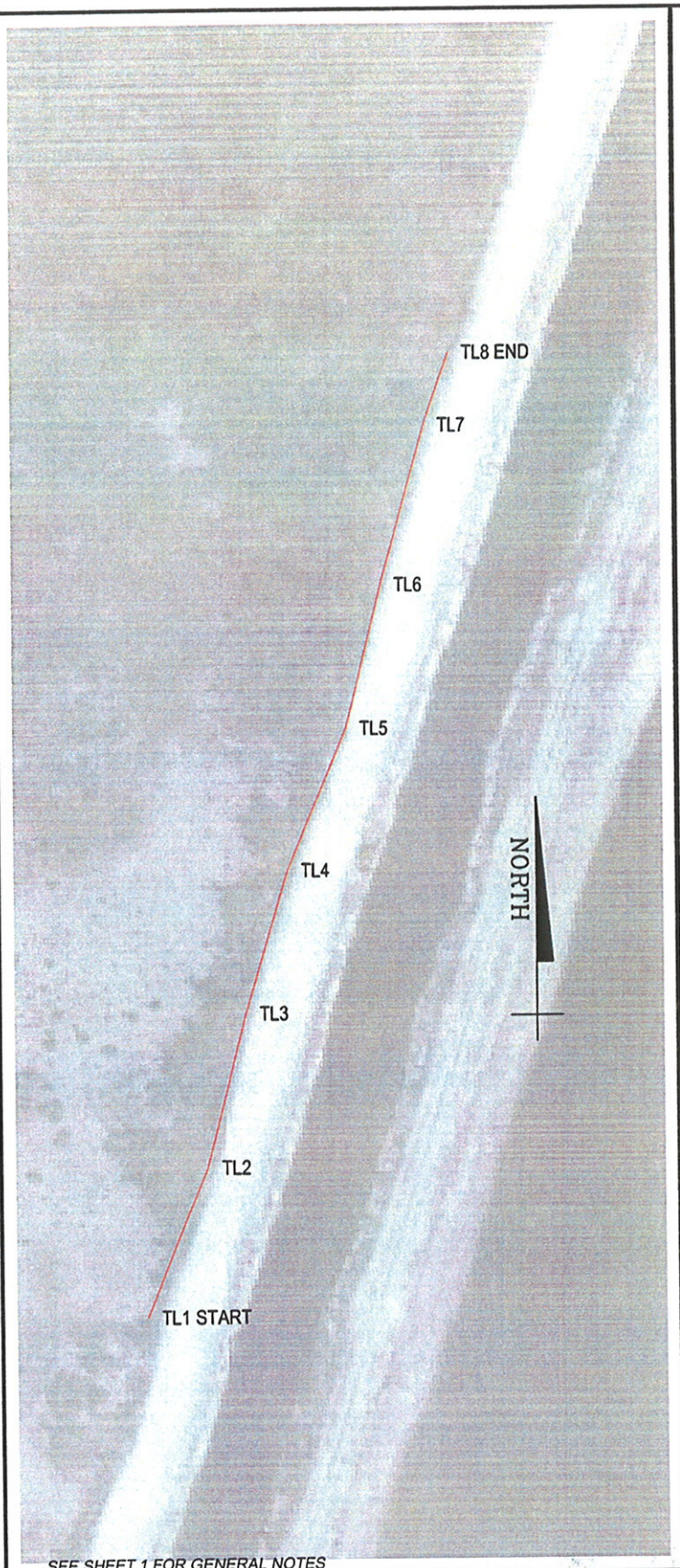

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TL8 END,	398950,	870130

GRAPHIC SCALE
0 50 100
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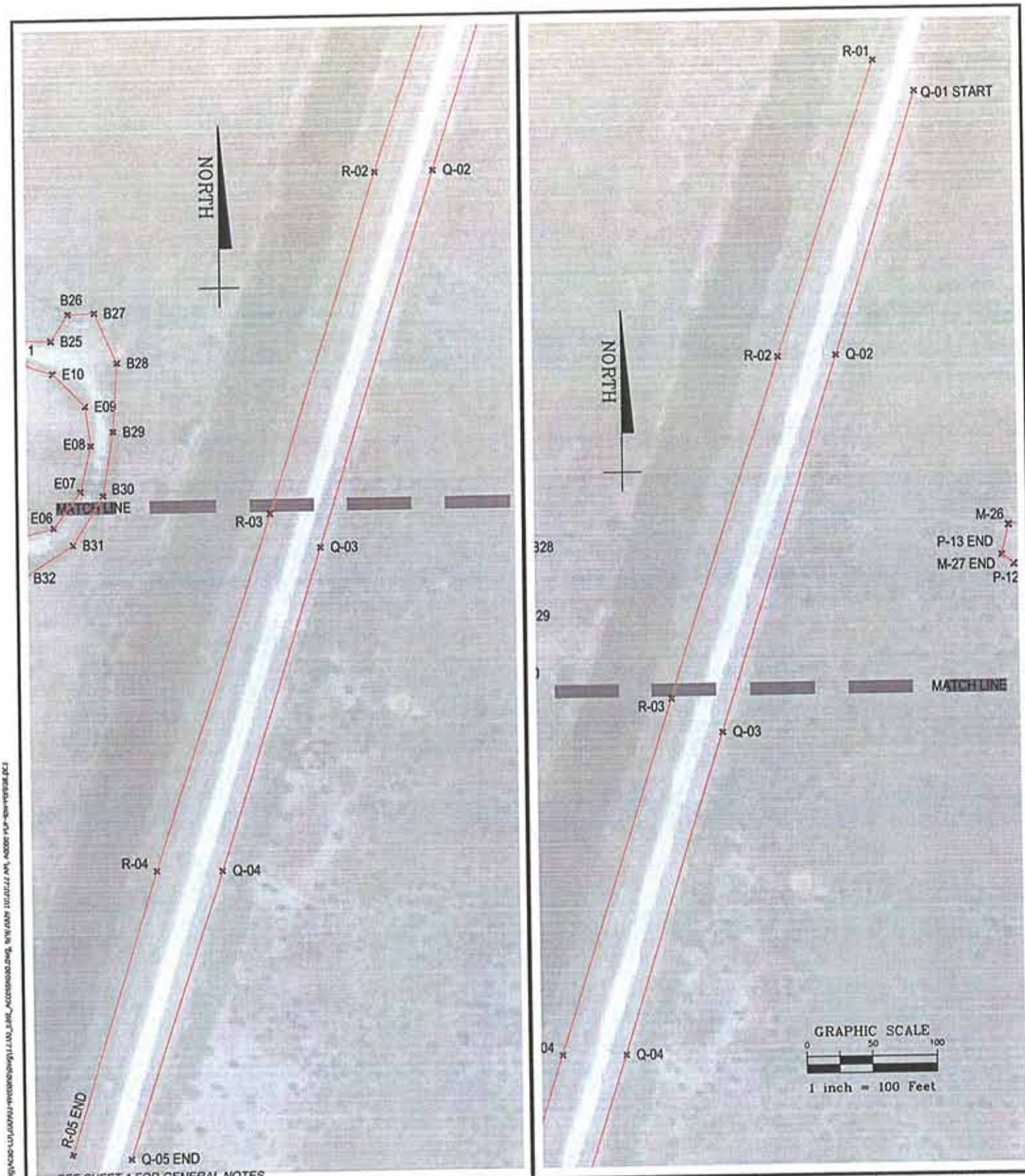

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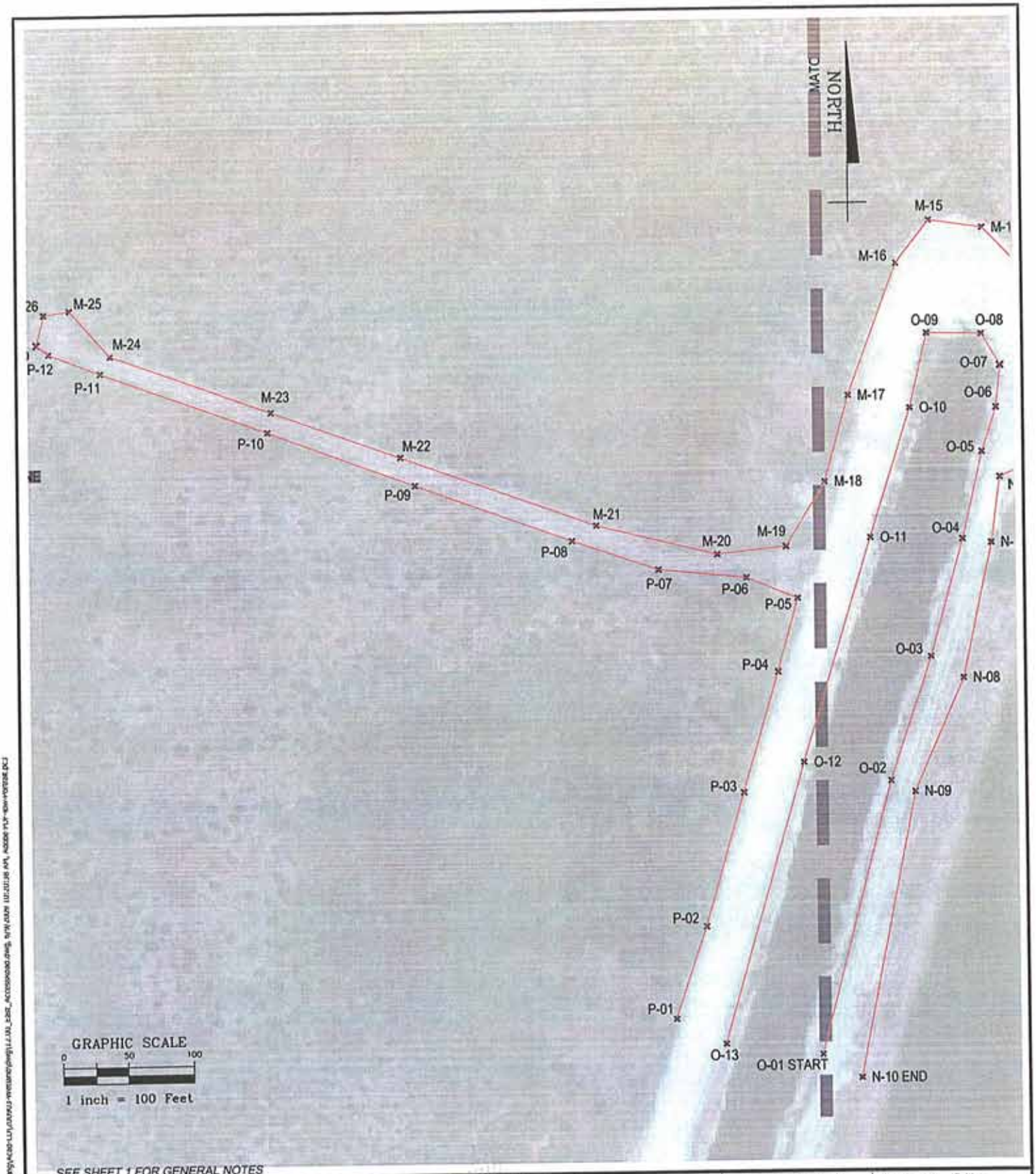

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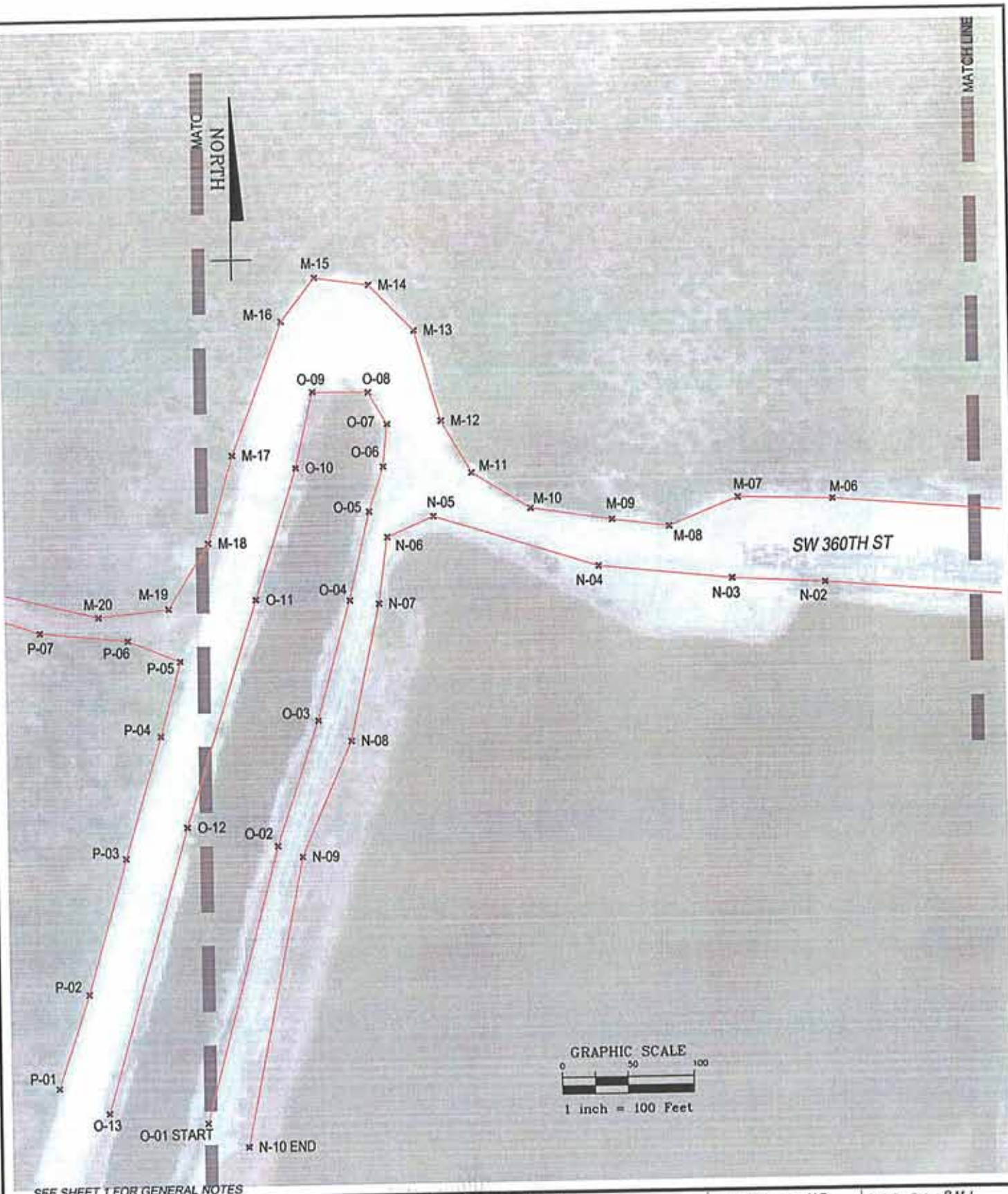

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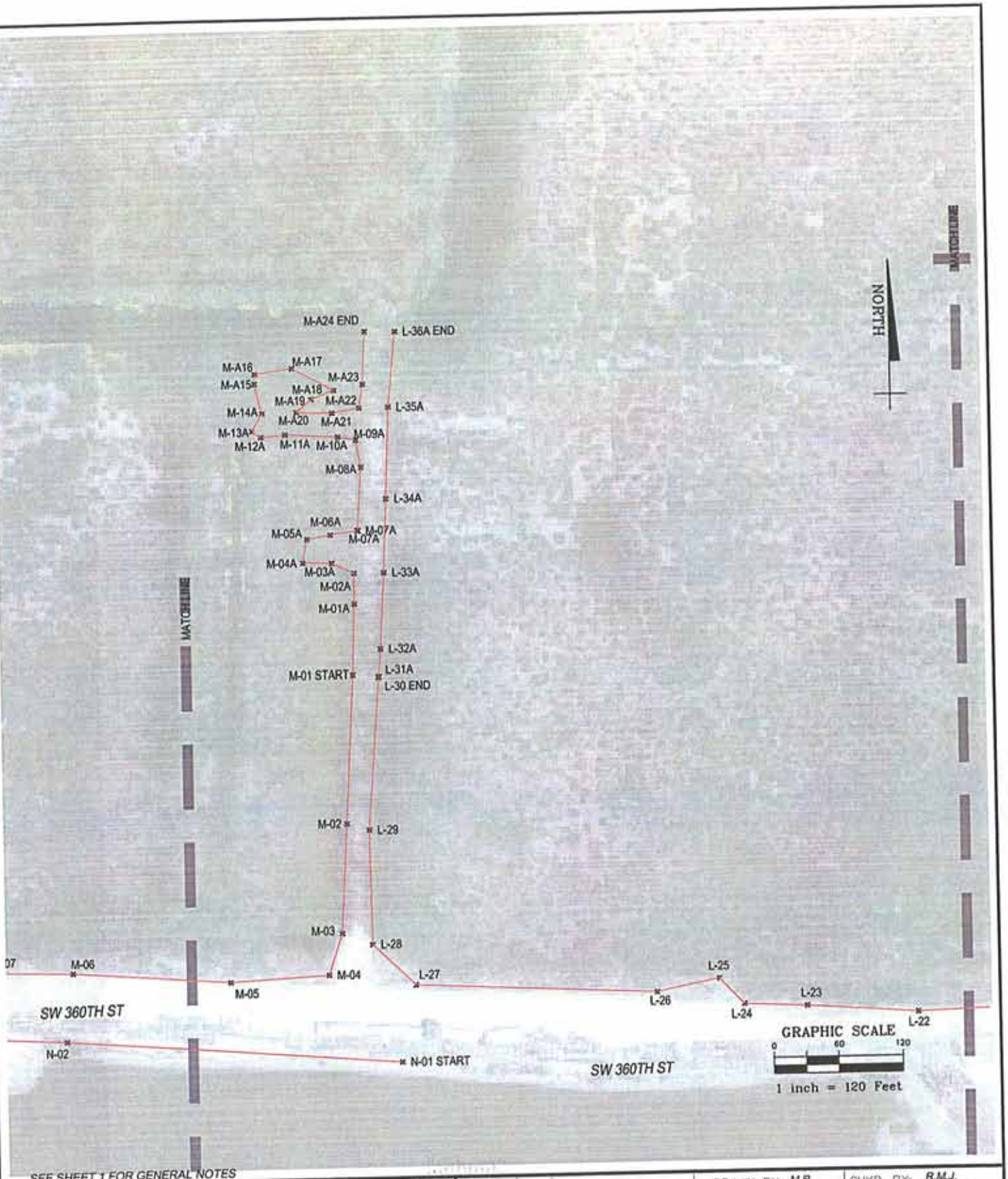

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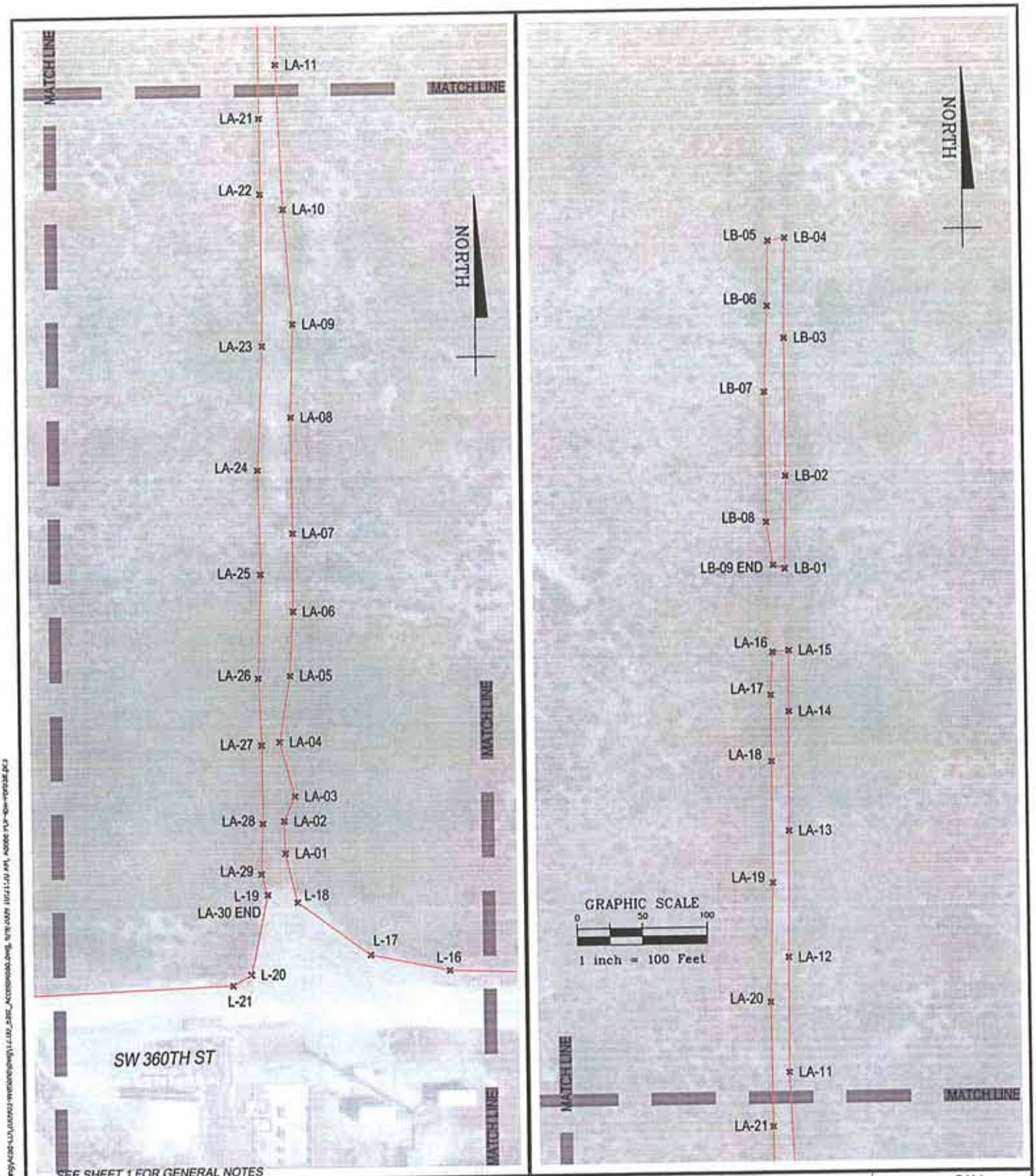

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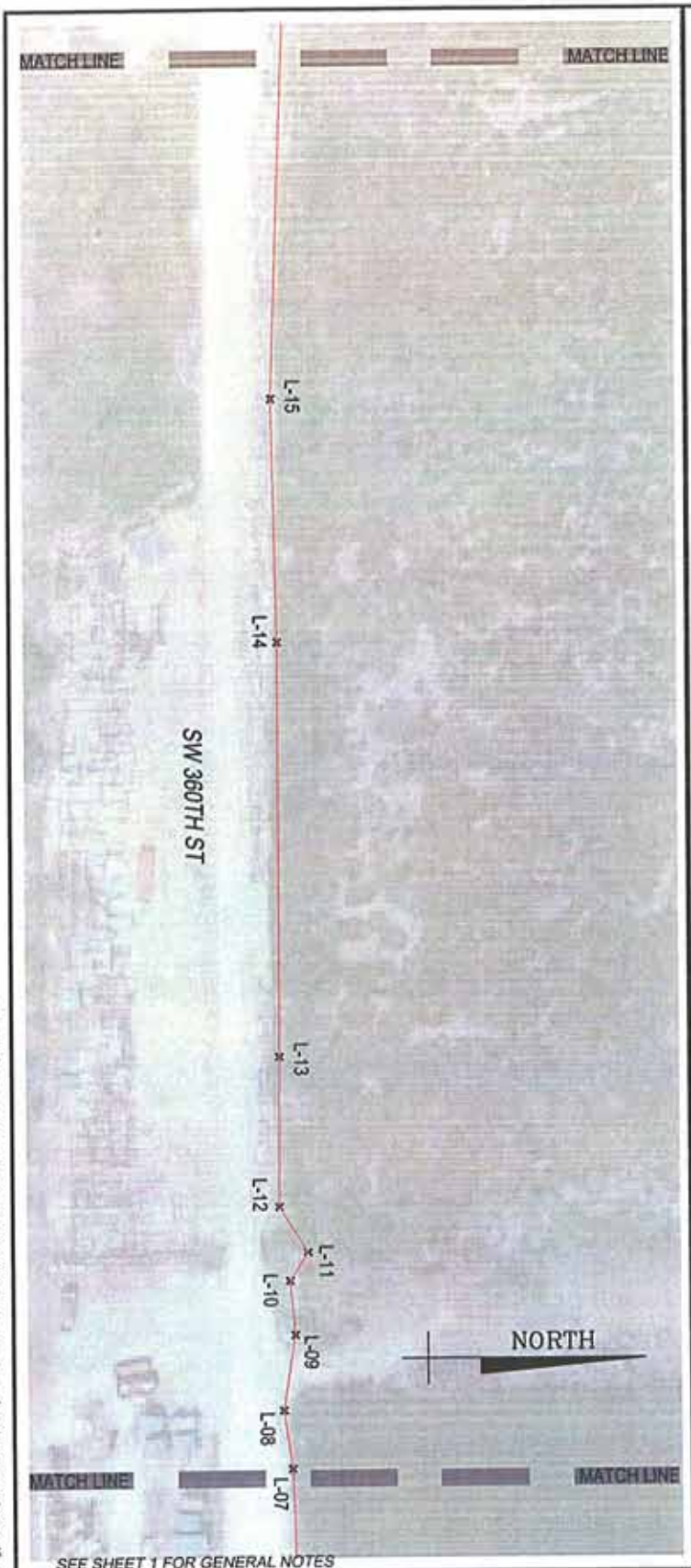

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GRAPHIC SCALE

0 50 100

1 inch = 100 Feet

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DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 12.07
DRAWING NAME: 200903-Wetland.dwg

PREPARED BY:
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FLORIDA PROFESSIONAL SURVEYOR AND MAPPER

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GOLDER ASSOCIATES
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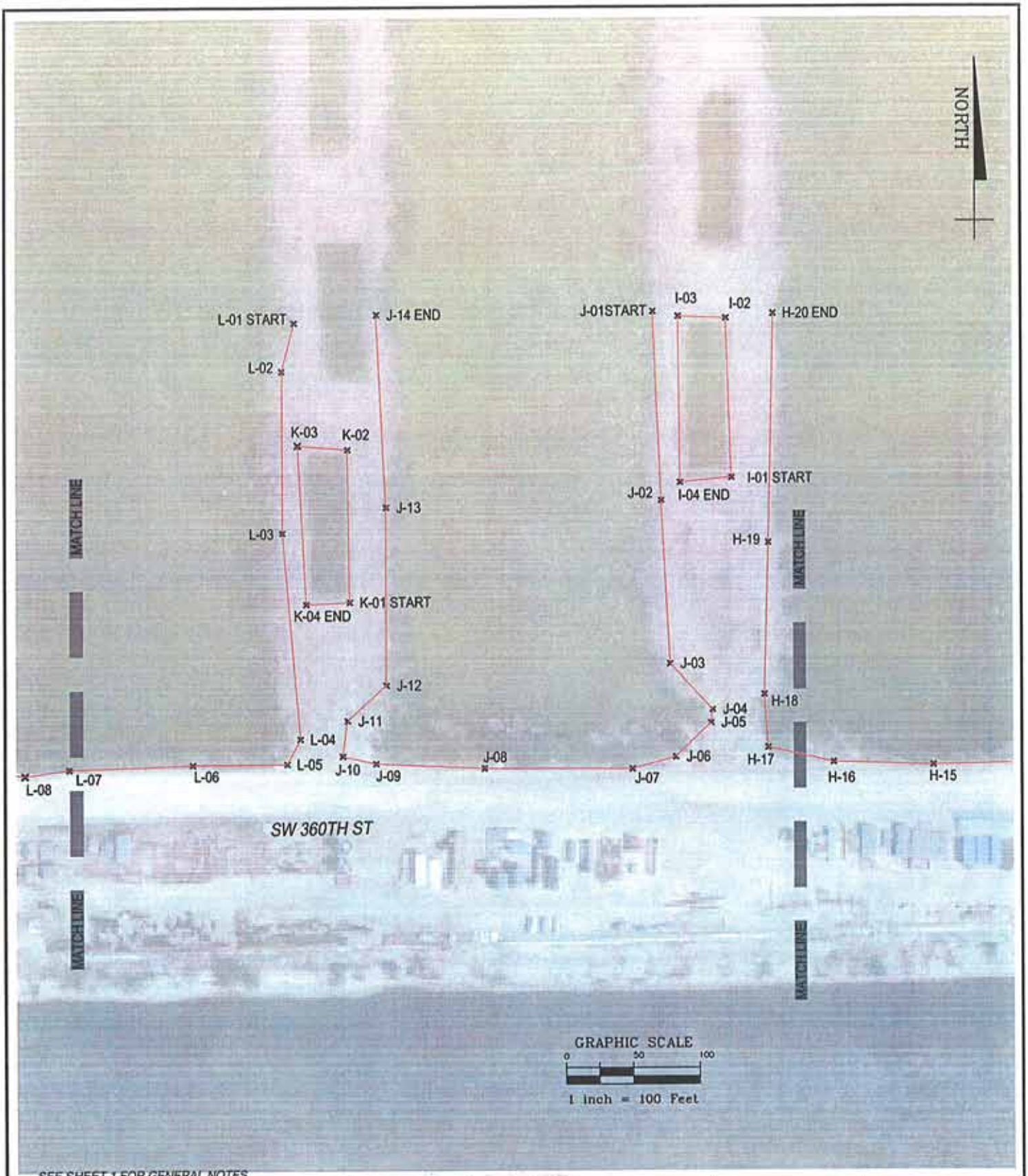

SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
Specific Purpose Survey of Landward Extent of Wetland Jurisdictional Delineation
Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
Miami-Dade County, Florida

DATE	BY	DESCRIPTION

REVISION

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CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT. 12.08
DRAWING NAME:200903-Wetland.dwg

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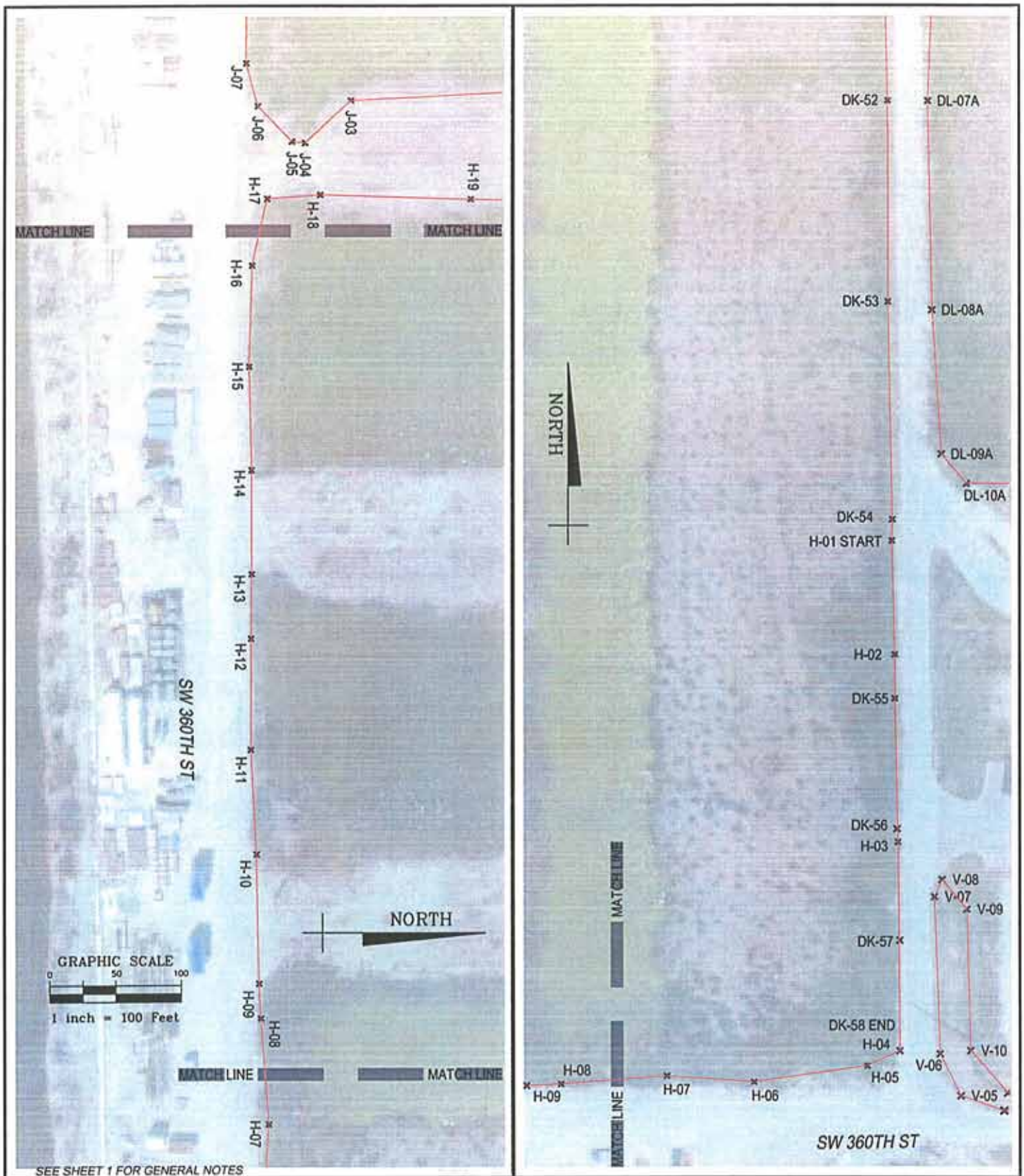

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DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 100'
SHT 12.09
DRAWING NAME:200903-Wetland.dwg

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Flag ID,	Northing,	Easting
H-01 START,	401006,	874469
H-02,	400920,	874471
H-03,	400778,	874474
H-04,	400620,	874475
H-05,	400609,	874450
H-06,	400597,	874365
H-07,	400601,	874298
H-08,	400595,	874218
H-09,	400594,	874191
H-10,	400592,	874093
H-11,	400588,	874014
H-12,	400588,	873930
H-13,	400588,	873881
H-14,	400588,	873803
H-15,	400587,	873724
H-16,	400589,	873648
H-17,	400600,	873597
H-18,	400640,	873594
H-19,	400754,	873598
H-20 END,	400927,	873602

I-01 START,	400804,	873570
I-02,	400924,	873566
I-03,	400926,	873530
I-04 END,	400800,	873531

J-01START,	400929,	873511
J-02,	400786,	873517
J-03,	400663,	873523
J-04,	400629,	873555
J-05,	400619,	873554
J-06,	400593,	873527
J-07,	400584,	873495
J-08,	400585,	873383
J-09,	400589,	873300
J-10,	400594,	873275
J-11,	400621,	873279
J-12,	400648,	873308
J-13,	400782,	873308
J-14 END,	400927,	873301

K-01 START,	400710,	873281
K-02,	400826,	873279
K-03,	400829,	873242
K-04 END,	400708,	873248

Flag ID,	Northing,	Easting
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L-02,	400885,	873230
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L-04,	400607,	873243
L-05,	400588,	873233
L-06,	400588,	873161
L-07,	400585,	873068
L-08,	400580,	873035
L-09,	400587,	872992
L-10,	400584,	872961
L-11,	400595,	872945
L-12,	400579,	872919
L-13,	400579,	872834
L-14,	400579,	872598
L-15,	400576,	872460
L-16,	400584,	872236
L-17,	400597,	872175
L-18,	400638,	872119
L-19,	400644,	872096
L-20,	400583,	872083
L-21,	400575,	872069
L-22,	400568,	871890
L-23,	400575,	871786
L-24,	400578,	871728
L-25,	400602,	871706
L-26,	400591,	871648
L-27,	400602,	871427
L-28,	400640,	871388
L-29,	400745,	871386
L-30 END,	400885,	871398

M-01 START,	400887,	871374
M-02,	400751,	871366
M-03,	400650,	871360
M-04,	400612.0	871347
M-05,	400607,	871255
M-06,	400619,	871111
M-07,	400621,	871039
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M-09,	400606,	870944
M-10,	400615,	870882
M-11,	400643,	870838
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M-13,	400751,	870796
M-14,	400786,	870762
M-15,	400791,	870721
M-16,	400759,	870695
M-17,	400659,	870657
M-18,	400593,	870638
M-19,	400544,	870607
M-20,	400538,	870555
M-21,	400561,	870462
M-22,	400615,	870314
M-23,	400651,	870213
M-24,	400695,	870091
M-25,	400730,	870060
M-26,	400728,	870040
M-27 END,	400705,	870034

Flag ID,	Northing,	Easting
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M-A16,	401165,	871287
M-A17,	401169,	871322
M-A18,	401149,	871361
M-A19,	401141,	871340
M-A20,	401129,	871326
M-A21,	401128,	871359
M-A22,	401132,	871384
M-A23,	401153,	871388
M-A24 END,	401202,	871390

N-01 START,	400531,	871413
N-02,	400556,	871104
N-03,	400560,	871034
N-04,	400571,	870933
N-05,	400611,	870809
N-06,	400595,	870774
N-07,	400545,	870767
N-08,	400443,	870744
N-09,	400356,	870706
N-10 END,	400138,	870662

O-01 START,	400156,	870631
O-02,	400365,	870687
O-03,	400459,	870719
O-04,	400548,	870745
O-05,	400615,	870760
O-06,	400649,	870771
O-07,	400681,	870775
O-08,	400705,	870761
O-09,	400705,	870718
O-10,	400649,	870705
O-11,	400550,	870673
O-12,	400379,	870619
O-13,	400165,	870557

Flag ID,	Northing,	Easting
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P-02,	400255,	870544
P-03,	400357,	870573
P-04,	400448,	870600
P-05,	400504,	870616
P-06,	400520,	870577
P-07,	400527,	870510
P-08,	400550,	870443
P-09,	400594,	870325
P-10,	400636,	870210
P-11,	400682,	870083
P-12,	400698,	870044
P-13 END,	400705,	870035

Q-01 START,	401059,	869972
Q-02,	400858,	869909
Q-03,	400573,	869820
Q-04,	400328,	869742
Q-05 END,	400110,	869670

R-01,	401082,	869940
R-02,	400858,	869865
R-03,	400599,	869781
R-04,	400329,	869692
R-05 END,	400114,	869625

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PROJECT TITLE:
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Florida Power and Light Company
Turkey Point Units 6 and 7
Construction and Operation License (COL) Project
Miami-Dade County, Florida

DATE	BY	DESCRIPTION

REVISION

DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: N/A
SHT. 12.10
DRAWING NAME:200903-Wetland.dwg

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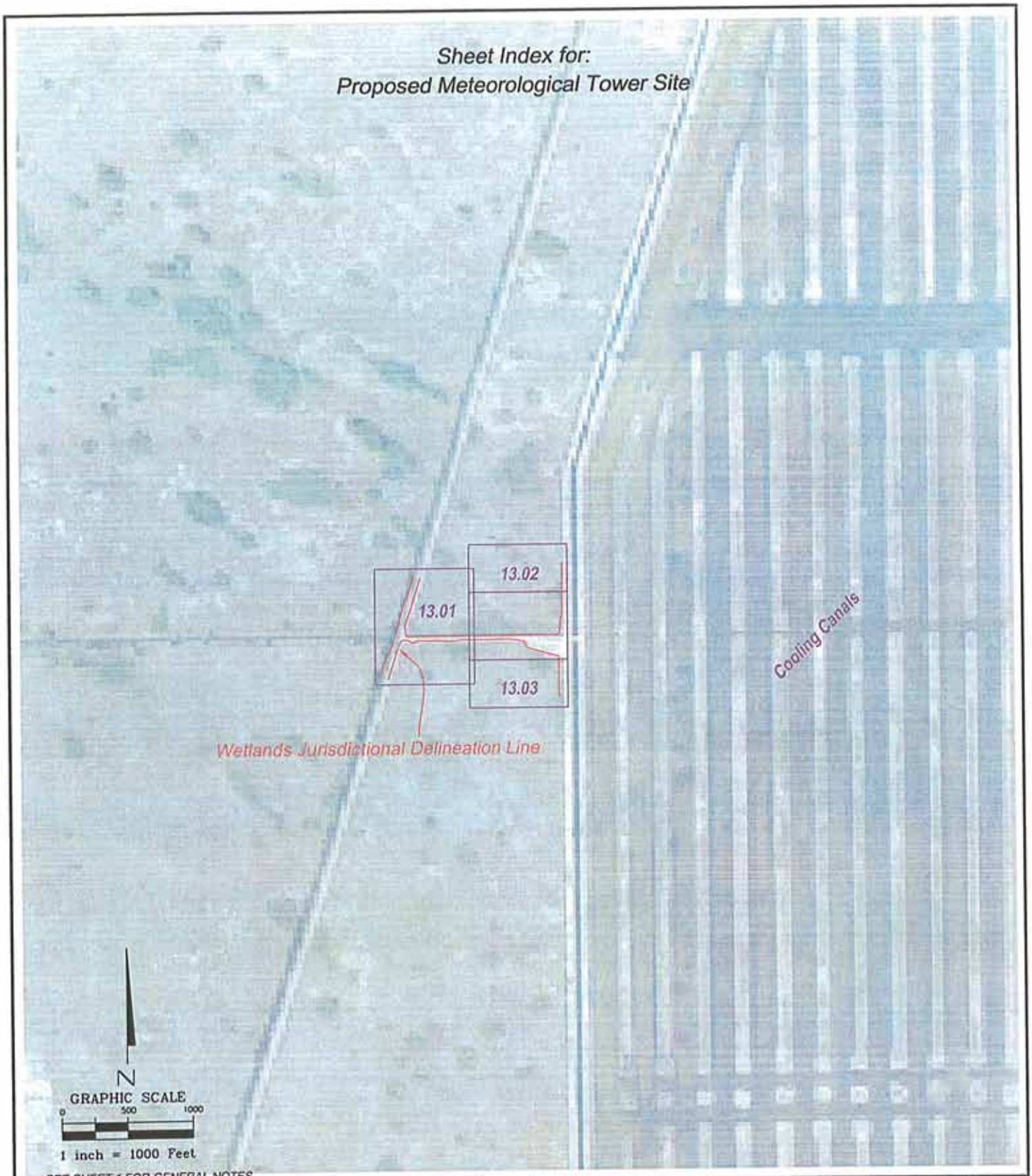
Sheet Index for:
Proposed Meteorological Tower Site



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DRAWN BY: M.R. DATE: 03/18/2009
CHKD. BY: R.M.J. DATE: 03/18/2009
JOB No. 6374080385
SCALE: 1" = 500'
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DRAWING NAME: 200903-Wetland.dwg

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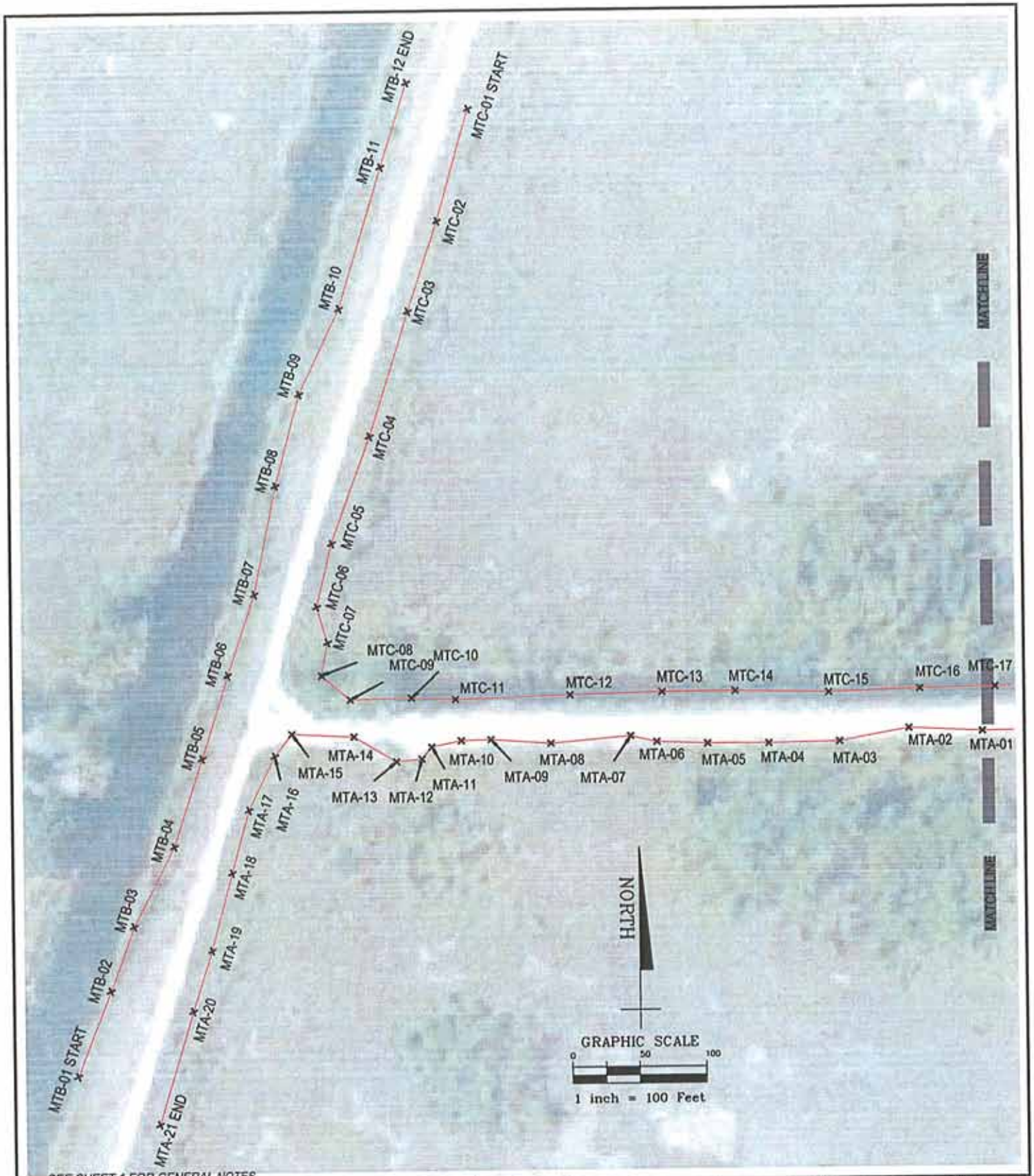

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REVISION

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JOB No. 6374080385
SCALE: 1" = 100'
SHT. 13.01
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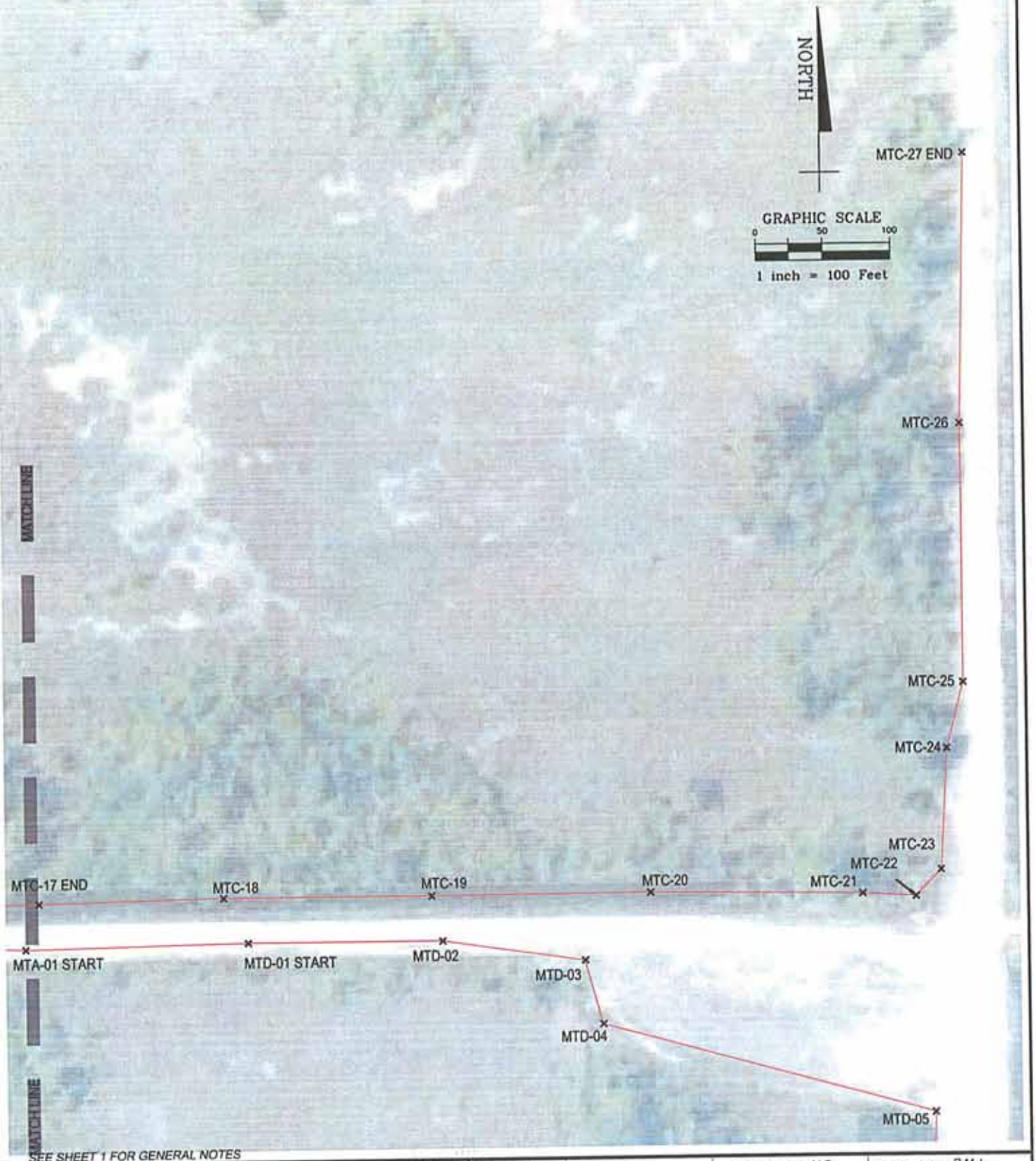

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SHT. 13.02
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SCALE: 1" = 100'
SHT 13.03
DRAWING NAME: 200903-Wetland.dwg

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Flag ID,	Northing,	Easting
MTA-01 START,	381473.96,	864294.10
MTA-02,	381476.70,	864237.32
MTA-03,	381467.16,	864184.09
MTA-04,	381466.25,	864129.47
MTA-05,	381466.57,	864082.07
MTA-06,	381468.10,	864043.93
MTA-07,	381472.67,	864024.33
MTA-08,	381467.61,	863964.72
MTA-09,	381470.97,	863918.51
MTA-10,	381470.39,	863895.90
MTA-11,	381465.81,	863873.30
MTA-12,	381456.88,	863865.58
MTA-13,	381455.05,	863845.92
MTA-14,	381474.21,	863814.67
MTA-15,	381476.68,	863767.43
MTA-16,	381459.89,	863753.97
MTA-17,	381419.21,	863733.66
MTA-18,	381371.68,	863719.80
MTA-19,	381313.16,	863703.15
MTA-20,	381267.24,	863688.13
MTA-21 END,	381181.73,	863662.01

Flag ID,	Northing,	Easting
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MTB-02,	381283.20,	863626.29
MTB-03,	381331.86,	863644.07
MTB-04,	381392.15,	863675.01
MTB-05,	381458.63,	863696.83
MTB-06,	381521.20,	863717.72
MTB-07,	381582.30,	863739.35
MTB-08,	381664.30,	863756.49
MTB-09,	381733.66,	863775.30
MTB-10,	381798.09,	863806.37
MTB-11,	381905.03,	863838.19
MTB-12 END,	381968.98,	863858.30

Flag ID,	Northing,	Easting
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MTC-02,	381863.80,	863881.01
MTC-03,	381795.48,	863857.91
MTC-04,	381701.19,	863828.21
MTC-05,	381620.26,	863799.14
MTC-06,	381572.20,	863787.31
MTC-07,	381545.33,	863795.39
MTC-08,	381520.46,	863790.62
MTC-09,	381502.33,	863812.17
MTC-10,	381503.21,	863857.95
MTC-11,	381501.77,	863891.78
MTC-12,	381504.19,	863979.49
MTC-13,	381505.88,	864048.05
MTC-14,	381506.17,	864103.75
MTC-15,	381504.57,	864175.91
MTC-16,	381506.62,	864246.09
MTC-17 END,	381507.69,	864304.28
MTC-18,	381509.92,	864441.70
MTC-19,	381509.70,	864596.07
MTC-20,	381510.25,	864760.00
MTC-21,	381507.52,	864918.61
MTC-22,	381505.25,	864958.19
MTC-23,	381524.82,	864977.04
MTC-24,	381615.01,	864982.37
MTC-25,	381664.09,	864995.00
MTC-26,	381856.22,	864994.69
MTC-27 END,	382057.21,	864999.45

MTD-01 START,	381476.42,	864459.92
MTD-02,	381476.16,	864604.01
MTD-03,	381460.46,	864711.10
MTD-04,	381412.91,	864724.00
MTD-05,	381344.78,	864970.87
MTD-06,	381231.31,	864967.22
MTD-07,	381063.57,	864970.07
MTD-08 END,	381043.45,	864985.76

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DRAWN BY: M.R. DATE: 03/18/2009
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SCALE: N/A
SHT. 13.04
DRAWING NAME:200903-Wetland.dwg

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25409-102-V14-CY00-00007-001
(Map of Topographic Survey)

BECHTEL POWER CORPORATION		25409
SUPPLIER DOCUMENT REVIEW STATUS		
STATUS NO.		
1	☒	Work may proceed.
2	☐	Revise and resubmit. Work may proceed subject to resolution of indicated comments.
3	☐	Rejected. Revise and resubmit.
4	☐	Review not required.

Permission to proceed does not constitute acceptance or approval of design details, calculations, analyses, test methods or materials developed or selected by the supplier and does not relieve supplier from full compliance with contractual obligations.

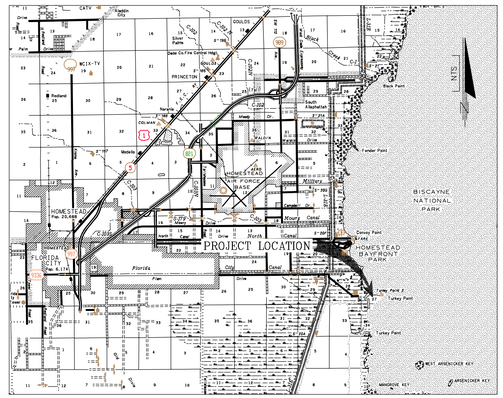
Reviewed	CIVIL	ELECT / SWITCHYARD	MECH	PD	G&HES	CONSTR	QS	LIC	ENV
	[signature]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

BY: G. A. DAVIS DATE: 1-30-08

MAP OF TOPOGRAPHIC SURVEY
OF
FPL TURKEY POINT NUCLEAR POWER PLANT
UNITS 6 AND 7 ISLAND SITE

SHEET 1 OF 2

LOCATION MAP



LEGEND

+1.8	= SPOT ELEVATIONS
NAVD	= NORTH AMERICAN VERTICAL DATUM OF 1988
FT	= FEET
EL	= ELEVATION
FPL	= FLORIDA POWER AND LIGHT COMPANY
GPS	= GLOBAL POSITIONING SYSTEM

SURVEYOR'S NOTES:

1. The primary purpose of this survey is to depict the outer boundary of Island Site Sections 1, Section 2 and Section 3 and show spot elevations.
2. This Map of Topographic Survey is not valid without the signature and original raised Seal of a Florida Licensed Surveyor and Mapper.
3. The lands surveyed were not abstracted for ownership, easements, rights-of-way or other title matters by this firm.
4. Underground improvements such as foundations and utilities were not located. Pipe locations shown hereon are approximate. Locations were not verified.
5. Date of last field survey: 1/13/08.
6. This property is subject to encumbrances, easements, and restrictions, if any, of record.
7. X-0.6 indicates spot elevation. For clarity purposes, not all spot elevations are shown.
8. Elevations shown hereon are relative to the North America Vertical Datum of 1988 based on the following benchmarks established in the course of this survey:
   CRC1, a poured in place concrete monument with brass disk stamped "CRC 1 2008" EL. = 4.58 ft
   CRC2, a poured in place concrete monument with brass disk stamped "CRC 2 2008" EL. = 3.68 ft
   These benchmarks were established by differential leveling based on the following National Geodetic Survey Control Points:
   Y314, disc set in base of light structure stamped "Y314 1970", EL = 14.14'
   A316, disc set in wall of structure stamped "A316 1970", EL = 6.83'
   LM 18 316 FLPCO , bolt and washer with steel pipe set in poured in place concrete monument stamped "LM 18", EL = 3.70'
   go to www.ngs.noaa.gov for additional information
9. Source of photography: 2004 South Florida Water Management District 2 Foot Pixel Imagery.
10. Horizontal locations of Island Site shown hereon are relative to the North American Datum of 1983/Adjustment of 1990 (NAD83/90) based on horizontal control points set in the course of this survey. The location of these control points is based on National Geodetic Survey Control Points "FIRE", "QUARRY_2" AND "TURKEY POINT RM3". See sheet 2 of 2 for details.
11. For information purposes only: the approximate datum difference between NAVD88 and the National Geodetic Vertical Datum of 1929 (NGVD29) in this geographical area is +1.53'. As an example, an elevation of 50.00' NAVD88 = 51.53' NGVD29.

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DWG. DATE:	1/17/08
PHOTO DATE:	2004
DRAWN BY:	CIU
CHECKED BY:	CJL/RMJ
COUNTY: MIAMI-DADE	
FIELD BOOK/PAGE:	97/88-17
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PROJECT TITLE: MAP OF TOPOGRAPHIC SURVEY
FPL TURKEY POINT NUCLEAR POWER PLANT
UNITS 6 AND 7 ISLAND SITE
SECTIONS 27, 28, 33 & 34, TOWNSHIP 57 SOUTH, RANGE 40 EAST
MIAMI-DADE COUNTY, FLORIDA

SHEET NO. 1 OF 2

CONTROL DIAGRAM
OF
FPL TURKEY POINT NUCLEAR POWER PLANT UNITS 6 AND 7 ISLAND SITE
SHEET 2 OF 2

TWO DIMENSIONAL CONTROL POINTS FOR FILE P:\6374\2007\646607\1650 - TURKEY PNT PROJECT\SURVEYING\GPS\TURKEY POINT STATIC\EXPORT\TRKPNTFREED.LST

POINT NO.	LATITUDE	LONGITUDE	SCALE FACTOR	CONVERGENCE	NORTHING (METERS)	EASTING (METERS)	ELEVATION (METERS)	NORTHING (FEET)	EASTING (FEET)	ELEVATION (FEET)
FIRE	N +25° 19' 07.45511"	W 80° 19' 49.773834"	1.0000059622	++0° 18' 27.76764"	105541.648 M	272442.773 M	0.30 M	358731.72 USFT	893839.33 USFT	1.0 USFT
QUARRY_2	N +25° 20' 28.148260"	W 80° 24' 45.595390"	0.9999843308	++0° 15' 05.006516"	111759.736 M	259123.900 M	0.05 M	366665.07 USFT	850142.33 USFT	0.2 USFT
TURKEYRM3	N +25° 26' 19.619260"	W 80° 19' 04.749000"	0.9999992701	++0° 17' 34.685760"	122620.197 M	266599.860 M	0.85 M	402296.43 USFT	881231.37 USFT	2.8 USFT

ONE DIMENSIONAL CONTROL POINTS FOR FILE P:\6374\2007\646607\1650 - TURKEY PNT PROJECT\SURVEYING\GPS\TURKEY POINT STATIC\EXPORT\TRKPNTFREED.LST

POINT NO.	LATITUDE	LONGITUDE	SCALE FACTOR	CONVERGENCE	NORTHING (METERS)	EASTING (METERS)	ELEVATION (METERS)	NORTHING (FEET)	EASTING (FEET)	ELEVATION (FEET)
CRC1	N +25° 20' 41.339847"	W 80° 20' 17.351710"	0.9999958950	++0° 17' 03.096629"	121432.061 M	266577.121 M	1.37 M	398398.35 USFT	874595.10 USFT	4.58 USFT*
CRC2	N +25° 20' 30.641038"	W 80° 20' 14.881454"	0.9999960512	++0° 17' 04.045689"	121103.185 M	266647.783 M	1.12 M	397319.37 USFT	874826.93 USFT	3.68 USFT*

*ELEVATIONS DERIVED BY DIFFERENTIAL LEVELING - SEE NOTE 6 ON SHEET 1 OF 2

SURVEYOR'S NOTES:

1.) The purpose of this survey and control diagram is to establish State Plane Coordinates (North American Datum of 1983/Adjustment of 1990, Florida East, Zone 0901) and elevations (North American Vertical Datum 1988) on site control monumentation for topographic purposes.

2.) GPS observations were conducted using three Trimble Navigation, Ltd. dual-frequency receivers (one model 5800, and two model 5700), on January 17-19, 2008. Vectors were processed daily and loop closures were performed for evaluation of data.

3.) Network adjustment computations were conducted using GeoLab 2001.90.20.0. Each point in the network was occupied multiple times during different satellite constellations. Vectors used in the final constrained adjustment are independent, non-trivial and are documented hereon.

4.) After loop closures were performed, a free adjustment was done. A single control point was held fixed in X, Y, and Z coordinate values. Deltas were calculated for each of the other control points and outliers were flagged for further evaluation. Any suspect vectors were re-measured to ensure that the anomalies were not caused by poor baseline data.

SYMBOLS

0567 = GPS STATION IDENTIFIER

→ = VECTOR BASELINE WITH JULIAN DAY AND DIRECTION

= THREE DIMENSIONAL CONTROL POINTS

= HORIZONTAL CONTROL POINTS (PUBLISHED NAD 1983/99 HORIZONTAL VALUES HELD FIXED)

▲ = VERTICAL CONTROL POINTS

M = METERS

USFT = UNITED STATES SURVEY FEET

NGVD = NATIONAL GEODETIC VERTICAL DATUM 1929

NAVD = NATIONAL AMERICAN VERTICAL DATUM 1988

CO. = COUNTY

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COUNTY: MIAMI-DADE	DWG. DATE: 1/17/08
FIELD BOOK/PAGE: 9798-17	PHOTO DATE: 2004
OFF. NO.: 6468071950	DRAWN BY: CIU
DWG. NAME: TRKPNT.dwg	CHECKED BY: CJL/RMJ

PROJECT TITLE:
CONTROL DIAGRAM
OF
FPL TURKEY POINT NUCLEAR POWER PLANT
UNITS 6 AND 7 ISLAND SITE
SECTIONS 27,28,33 & 34, TOWNSHIP 57 SOUTH, RANGE 40 EAST
MIAMI-DADE COUNTY, FLORIDA

SHEET NO. 2 OF 2

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ATTACHMENT H

STORMWATER MANAGEMENT PLAN (SCA APPENDIX 10.8)

STORMWATER MANAGEMENT PLAN AND CALCULATIONS

Submitted by:

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June 2009

0838-7584

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[SEAL]

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10.8 Stormwater Management and Calculations

Appendix 10.8 demonstrates that the surface water management systems for the Turkey Point Site and associated non-linear facilities will be designed to meet all applicable requirements. This analysis utilizes a 25-year, 72-hour design storm (12.6 inches) as required by applicable regulations.

The Site stormwater management system is designed to release stormwater runoff into the existing industrial wastewater facility. The stormwater runoff from the nuclear administration building, training building, and parking area will also be released to the industrial wastewater facility. The industrial wastewater facility currently has sufficient capacity and will not be impacted by Turkey Point Units 6 & 7 during the post-development condition.

All stormwater associated with industrial activity from the FPL reclaimed water treatment facility (equipment area runoff) will be captured, treated as necessary and reused within the reclaimed water treatment process. Runoff from other areas (non-equipment areas) will be routed to stormwater management facilities and released to local drainage. The surface water management system will be designed to meet all applicable requirements.

10.8.1 Stormwater Runoff Calculation

This section examines the changes in stormwater runoff in the post-development condition of the Turkey Point Units 6 & 7 plant area and laydown area (Turkey Point Site); nuclear administration building, training building, and parking area; and FPL reclaimed water treatment facility. The runoff volumes into the industrial wastewater facility at existing conditions are calculated and compared to the runoff volumes at post-development conditions. The runoff volume from the FPL reclaimed water treatment facility at existing conditions to the surrounding area is calculated and compared to the runoff volume at post-development conditions. In addition, applicable stormwater detention and discharge criteria and management practices for the FPL reclaimed water treatment facility are discussed.

10.8.1.1 Runoff Volume at Turkey Point Site

The Site is located south of the existing Turkey Point Units 3 and 4 and within the northeast portion of the existing industrial wastewater facility as shown in Figure 1. The Site includes the

plant area and the laydown area to the west of the plant area across the west return canal of the industrial wastewater facility. The plant area is approximately 218 acres, and the laydown area is approximately 51.9 acres. The total area of the Site used for stormwater analysis is 269.9 acres.

Runoff Volume at Existing Condition

Stormwater runoff from the Site currently drains to the existing industrial wastewater facility and will continue to do so during operation of Units 6 & 7. The sub-basin area of the Site is shown in Table 1 (Reference 1).

Table 1: Sub-basin Area of Units 6 & 7 Site at Existing Condition

Sub-basin	Sub-basin Area		
	sq. ft	acres	sq. mi.
Site	11,756,844	269.90	0.422

Hydrologic soil groups are used to determine the runoff curve numbers (CN). The soil survey for the plant area of Miami-Dade County as presented by United States Department of Agriculture (USDA) is shown in Figure 2 (Reference 2).

Map units 31 and 32 in Figure 2 indicate Pennsuco marl (tidal) and Terra Ceia muck (tidal), respectively (Reference 2), as listed in Table 2. These are the soil types that make up the plant area. Pennsuco marl is deep, nearly level, very poorly drained soil, and is subject to tidal flooding. Under natural conditions, Pennsuco marl remains saturated and the water table fluctuates with the tides. The soil is moderately saline or saline. Permeability is moderately low. Terra Ceia muck (tidal) is deep, level, very poorly drained soil in saltwater swamps and marshes, and is subject to tidal flooding. Under natural conditions, the Terra Ceia remains saturated (Reference 2).

Table 2: Index to Soil Survey Map Units

Soil Legend	
2	Biscayne gravelly marl, drained
3	Lauderhill muck, depressional
4	Pennsuco marl, drained
5	Pennsuco marl
6	Perrine marl, drained
7	Krome very gravelly loam
9	Udorthents-water complex
10	Udorthents, limestone substratum-Urban land complex
11	Udorthents, marl substratum-Urban land complex
12	Perrine marl
13	Biscayne marl
14	Dania muck, depressional
15	Urban land
16	Biscayne marl, drained
18	Tamiami muck, depressional
20	Cardsound-Rock outcrop complex
22	Opalocka-Rock outcrop complex
23	Chekika very gravelly loam
24	Matecumbe muck
25	Biscayne-Rock outcrop complex
26	Perrine marl, tidal
28	Demory-Rock outcrop complex
30	Pahokee muck, depressional
31	Pennsuco marl, tidal
32	Terra Ceia muck, tidal
33	Plantation muck
34	Hallandale fine sand
35	Margate fine sand
37	Basinger fine sand
38	Rock outcrop-Vizcaya-Biscayne complex
39	Beaches
40	Pomello sand
41	Dade fine sand
42	Udorthents, limestone substratum, 0 to 5 percent slopes
45	Canaveral sand
47	St. Augustine sand
48	Kesson muck, tidal

Terra Ceia muck is classified as hydrologic soil group or type B/D according to USDA's Technical Release (TR)-55 indicating that drained Terra Ceia muck is in Type B and the undrained Terra Ceia muck is in type D (Reference 3). Type B soils have moderate infiltration rates when thoroughly wetted and consist mainly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. Type D soils have high runoff potential. They have low infiltration rates when thoroughly wetted and consist of clay soils with a permanent high water table. High water table may cause a drainage problem, and some soils in areas of high water table may be classified as type D (Reference 3).

The existing elevation of the plant area ranges from -2.8 ft to -1 ft NAVD 88 in the eastern perimeter to a range of -1.6 ft to -0.5 ft NAVD 88 in the western perimeter, and ranges from 2.1 ft to 2.21 ft NAVD 88 in the northern perimeter to a range of -1.7 ft to -1.0 ft NAVD 88 in the southern perimeter (Reference 1). The soils in the plant area are saturated and would have low permeability; thus, the soils in the plant area would be classified as D (Reference 3). Some of the areas are submerged by water while other areas are composed of vegetation; thus, the ground cover percentage is estimated as shown in Table 3. The Runoff Curve Number (CN) values for different soil covers are obtained from Reference 3.

Table 3: Runoff Curve Number for the Site at Existing Condition

Subbasin	**Ground Cover Percentage**				**Composite CN**
	Impervious CN	Gravel CN (Type D)	Pond CN	Grass CN (Type D, fair)	
	98	91	100	84	
Site	0%	0%	70%	30%	95.20

The Soil Conservation Service (SCS) runoff Curve Number (CN) method is used to estimate the stormwater runoff from the design storm rainfall. The SCS runoff equation is (Reference 3):

$$Q = \frac{(P - I_a)^2}{(P - I_a) + S}$$

Where

Q = runoff (in);
P = rainfall (in);
S = potential maximum retention after runoff begins (in); and
I_a = initial abstraction (in)

S is the function of the soil and cover condition of the watershed through CN (Reference 3):

$$S = \frac{1000}{CN} - 10$$
$$I_a = 0.2S$$

Accordingly, the runoff volumes for the drainage areas are calculated using the SCS runoff equation. Table 4 shows the stormwater runoff volume from the plant area at the existing condition, for the 25-year, 72-hour rainfall of 12.6 inches.

Table 4: Runoff Volume of the Site at Existing Condition

Sub-basin	Composite CN	S	Ia	Q	Runoff Volume, ac-ft
		in	in	in	
Site	95.20	0.50	0.10	12.01	270.23

Note: The values in the table are rounded up to two decimal places

Runoff Volume at Post-Development Condition

Site includes the Units 6 & 7 plant area and the laydown area (Figure 3). The finished Units 6 & 7 plant area will consist of the Units 6 & 7 power block, parking area, Clear Sky substation, the area outside of the power block that contains the road and swales, and makeup water reservoir as shown in Figure 3 (References 1 and 4). The laydown area consists of a heavy haul road that connects the plant area to the area north of the Site, the bridge over the west return canal of the industrial wastewater facility, and the bridge over the canal north of nuclear administration building, training building and parking area.

In the post-development condition, stormwater runoff from the power block, Clear Sky substation and parking area would release to the industrial wastewater facility. The sub-basin areas of the Units 6 & 7 power block, Clear Sky Substation, and parking area are shown in Table 5 (References 4 and 5). The area for the makeup water reservoir is not included in the sub-basin area because it does not contribute to post-development runoff as discussed below.

Table 5: Sub-Basin Areas of the Plant Area at Post-Development Condition

Sub-basin	Sub-basin Area		
	sq. ft	acres	sq. mi.
Units 6 & 7 Power Block & Exterior area	5,622,649	129.08	0.202
Clear Sky Substation	1,165,154	26.75	0.042
Parking Area	1,096,519	25.17	0.039
Total	**7,884,322**	**181.00**	**0.283**

The total drainage areas for the Units 6 & 7 power block catch basins will include buildings, paved roads and grassed surfaces. The Clear Sky substation area will include a gravel yard, gravel road and some seeded areas that are not credited in this calculation. The parking area consists of a paved area. The area outside of the power block consists of paved road and grassed swale. The composite runoff curve numbers calculated for all catch basins in the Units 6 & 7 power block, substation, parking area, and the area outside of the power block are presented in Table 6. Type D soil has been considered for all areas during the operational phase condition. Type D soil yields higher runoff values; therefore it is more conservative.

Table 6: Plant Area Runoff Curve Number for Post-Development Phase

Sub-basin	Ground Cover Percentage				Composite CN
	Impervious CN	Gravel CN (Type D)	Pond CN	Grass CN (Type D, fair)	
	98	91	100	84	
Units 6 & 7 Power Block & Exterior area	90%	0%	0%	10%	96.60
Clear Sky Substation	0%	100%	0%	0%	91.00
Parking Area	100%	0%	0%	0%	98.00

Accordingly, the runoff volumes for the drainage areas are calculated using the SCS runoff equation for the design storm event and are shown in Table 7:

Table 7: Runoff Volume for Plant Area for Post-Development Phase

Sub-basin	Composite CN	S	Ia	Q	Runoff Volume
		in	in	in	Ac-ft
Units 6 & 7 Power Block & Exterior area	96.60	0.35	0.07	12.19	131.09
Clear Sky Substation	91.00	0.99	0.20	11.49	25.60
Parking Area	98.00	0.20	0.04	12.36	25.92
				Total	**182.62**

Note: The values in the table are rounded up to two decimal places.

In addition to the plant area, the Site includes the laydown area across the west return canal of the industrial wastewater facility. Stormwater runoff from the laydown area currently drains to the industrial wastewater facility and will continue to do so during the operation of Units 6 & 7. The heavy haul road and the new bridge in the laydown area as shown in the Construction Site Utilization Plan (Reference 6) would increase the imperviousness, and is considered in the post-development runoff volume calculation. The existing road north of the Site will be improved to serve as a heavy haul road. The drainage area and imperviousness of the road will remain the same with the improvement of the road; therefore the changes in stormwater runoff would be minimal. Drainage area of the laydown area is shown in Table 8.

Table 8: Sub-Basin Area of the Laydown Area West of Units 6 & 7 Plant Area

Subbasin	Subbasin Area		
	sq. ft	acres	sq. mi.
Laydown Area	2,260,764	51.90	0.081

Table 9: Laydown Area Runoff Curve Number for Post-Development Phase

Subbasin	Ground Cover Percentage				Composite CN
	Impervious CN	Gravel CN (Type D)	Pond CN	Grass CN (Type D, fair)	
	98	91	100	84	
Laydown Area	50%	50%	0%	0%	94.50

Accordingly, the runoff volumes for the drainage areas are calculated using the SCS runoff equation and are shown in Table 10:

Table 10: Runoff Volume for Laydown Area for Post-Development Phase

Subbasin	Composite CN	S	Ia	Q	Runoff Volume
		in	in	in	Ac-ft
Laydown Area	94.50	0.58	0.12	11.93	51.59

Note: The values in the table are rounded up to two decimal places

Table 11 compares the runoff at the Site at the existing and post-development condition and shows that the runoff into the industrial wastewater facility decreases at the post-development condition. The area for the makeup water reservoir is not included in the sub-basin area because it does not contribute to post-development runoff as discussed below.

Table 11: Comparison of Existing and Post-Development Runoff Volume at the Site

Runoff	Existing Condition	Post-Development Condition		Net Change
		Units 6 & 7 Plant Area	Construction Laydown Area	
Ac-ft	270.23	182.62	51.59	-36.02

Runoff from the potentially oil-contaminated areas (containment area for transformers, and other oil-containing or handling equipment) will be first directed through oil/water separators and then released to the industrial wastewater facility.

The makeup water reservoir is designed to retain reclaimed water as a storage pond. This area collects rainfall but does not contribute to the stormwater runoff to the industrial wastewater facility. Table 12 shows the storage area of the makeup water reservoir.

Table 12: Area of the Makeup Water Reservoir for Post-Development Phase

Subbasin	Subbasin Area		
	sq. ft	acres	sq. mi.
Makeup water reservoir	1,611,720	37.00	0.058

The design rainfall will add 12.6 inches of water into the makeup water reservoir. The maximum storage level of the makeup water reservoir is 22.5 ft NAVD 88 and the top of the retaining wall is at elevation 24 ft NAVD 88. Therefore, during the design storm, the water will be completely contained within the makeup water reservoir.

10.8.1.2 Runoff Volume at Nuclear Administration Building, Training Building, and Parking Area

The nuclear administration building, training building, and parking area are located north of the Units 6 & 7 plant area as shown in Figure 3. The post-development runoff from the nuclear administration building, training building, and parking area will release to the industrial wastewater facility. The following discussion compares the release from the sub-basin areas at post-development conditions.

Runoff Volume at Existing Condition

Table 13 presents the sub-basin areas of the nuclear administration building, training building, and parking area; and Figure 3 shows the existing condition of these areas.

Table 13: Sub-Basin Areas of the Nuclear Administration Building, Training Building, and Parking Area at Existing Condition

Subbasin	Subbasin Area		
	sq. ft	acres	sq. mi.
Nuclear Administration Building, Training Building and Parking Area (West)	871,200	20.00	0.031
Nuclear Administration Building, Training Building and Parking Area (East)	348,480	8.00	0.013

Currently, the areas for the nuclear administration building, training building, and parking area are surrounded by berms. Stormwater runoff in these sub-basins currently does not release by surface discharge to the industrial wastewater facility. Stormwater in these areas remains in the sub-basins and infiltrates into the ground within the industrial wastewater facility.

Runoff Volume at Post-Development Condition

The post-development runoff from the nuclear administration building, training building and parking area will be released to industrial wastewater facility. For the purposes of this calculation, the drainage area for the nuclear administration building, training building, and parking area consist of impervious ground covers. The composite runoff curve numbers calculated for the catch basins are presented in Table 14. Type D soil has been considered for all areas during the post-development condition. The CN values for different soil covers are obtained from Reference 3.

Table 14: Runoff Curve Number for the Nuclear Administration Building, Training Building, and Parking Area for Post-Development Phase Condition

Subbasin	Ground Cover Percentage				Composite CN
	Impervious CN	Gravel CN (Type D)	Pond CN	Grass CN (Type D, fair)	
	98	91	100	84	
Nuclear Administration Building, Training Building and Parking Area (West)	100%	0%	0%	0%	98.00
Nuclear Administration Building, Training Building and Parking Area (East)	100%	0%	0%	0%	98.00

Since it is assumed that there is no direct runoff into the industrial wastewater facility from the nuclear administration building, training building, and parking area at the existing condition, the surface runoff in the post-development condition would increase. With the estimated CN, runoff volume for the nuclear administration building, training building, and parking area is evaluated as shown in Table 15.

Table 15: Runoff Volume for the Nuclear Administration Building, Training Building, and Parking Area for Post-Development Phase Condition

Subbasin	Composite CN	S	Ia	Q	Runoff Volume
		in	in	in	Ac-ft
Nuclear Administration Building, Training Building and Parking Area (West)	98.00	0.20	0.04	12.36	20.60
Nuclear Administration Building, Training Building and Parking Area (East)	98.00	0.20	0.04	12.36	8.24
Total				**Total**	**28.84**

Note: The values in the table are rounded up to two decimal places

Runoff from the potentially oil-contaminated areas such as the parking area will first be directed through oil/water separators and then released to the industrial wastewater facility.

In Section 10.8.1.1 and this section, stormwater runoff into the industrial wastewater facility at the existing condition and post-development condition are discussed. The net change in the runoff volume can be estimated by comparing the runoff into the industrial wastewater facility from the

Site and the nuclear administration building, training building and parking area at the existing condition and post-development condition. Table 16 shows that the runoff into the industrial wastewater facility decreases at the post-development condition.

Table 16: Runoff Volume into the Industrial Wastewater Facility at the Existing and Post-Development Condition

Runoff	Runoff into the Industrial Waste Water Facility at Existing Condition	Post-Development		Net Change
		Units 6 & 7 Site	Nuclear Administration Building, Training Building and Parking Area	
Ac-ft	270.23	234.21	28.84	-7.18

10.8.1.3 Runoff Volume at FPL Reclaimed Water Treatment Facility and Stormwater Management Basins

The FPL reclaimed water treatment facility will be located northwest of the Site as shown in Figure 4. The minimum elevation of the FPL reclaimed water treatment facility will be 14 ft NAVD 88. The Site is presently tidally influenced and affected by the water level of the Biscayne Bay. The 100-year flood level at the site of the FPL reclaimed water treatment facility is 10.5 ft. NAVD 88. The area is flat and consists of poorly drained and saturated soil under natural conditions; therefore, the runoff would remain as sheet flow in all directions. The stormwater runoff in post-development condition will discharge to the surrounding wetland area.

All stormwater associated with industrial activity (equipment area runoff) will be captured, treated as necessary and reused within the reclaimed water treatment process. Runoff from other areas (non-equipment areas) will be routed to stormwater management facilities and released to local drainage.

The runoff volumes at the existing condition and post-development condition are compared in this section. In addition, the facility will be designed to comply with the applicable state and local stormwater regulations. This section examines the criteria set forth by the state and local stormwater regulations and describes FPL's proposed stormwater management practices to comply with applicable regulations.

Runoff Volume at Existing Condition

Figure 5 shows the soil survey of the area (Reference 2) and Table 2 shows the index to the soil survey map. The soil survey map shows that the location of the proposed FPL reclaimed water treatment facility is composed of Pennsuco marl, tidal (map unit 31) and Terra Ceia muck, tidal (map unit 32). The soils in this area are poorly drained and saturated under natural conditions. Therefore the permeability is moderately low. The soils in this area would be classified as Type D.

The area of the FPL reclaimed water treatment facility is shown in Table 17.

Table 17: Sub-Basin Area of the FPL Reclaimed Water Treatment Facility

Subbasin	Subbasin Area		
	sq. ft	acres	sq. mi.
Pre-Development FPL Reclaimed Water Treatment Facility	1,916,640	44.0	0.0687

As shown in Figure 4, the area consists of wetland where the permeability is low. Thus, the runoff curve number for the area is estimated as shown in Table 18 and runoff volume is estimated as shown in Table 19.

Table 18: Runoff Curve Number for the FPL Reclaimed Water Treatment Facility at Existing Condition

Subbasin	Ground Cover Percentage				Composite CN
	Impervious CN	Gravel CN (Type D)	Pond CN	Grass CN (Type D, fair)	
	98	91	100	84	
Pre-Development FPL Reclaimed Water Treatment Facility	0%	0%	75%	25%	96

Table 19: Runoff Volume of the FPL Reclaimed Water Treatment Facility at Existing Condition

Subbasin	Composite CN	S	Ia	Q	Runoff Volume
		in	in	in	Ac-ft
Pre-Development FPL Reclaimed Water Treatment Facility	96.00	0.42	0.08	12.11	44.42

Note: The values in the table are rounded up to two decimal places

Runoff Volume at Post-Development Condition

The FPL reclaimed water treatment facility will consist of open ponds, clarifiers, containment areas with tanks and pumps, filters, open tanks, covered facilities, roads, and parking areas as shown in Figure 6.

All stormwater associated with industrial activity (equipment area runoff) will be captured, treated as necessary and reused within the reclaimed water treatment process. Runoff from other areas (non-equipment areas) will be routed to stormwater management facilities and released to local drainage.

Approximately 8.2 acres of the FPL reclaimed water treatment facility consists of equipment areas and open basin structures. These areas do not contribute to the total runoff. The post-development drainage area of 35.8 acres (44 acres minus 8.2 acres) is shown in Table 20. Accordingly, the total post-development drainage areas including the drainage areas in the reclaimed water treatment facility minus the open basin structures and the seeded fill slope as shown in the Figure 6 is presented in Table 20.

Table 20: Sub-Basin Area for the FPL Reclaimed Water Treatment Facility

Sub-Basin	Area* (ft^2)	Area* (ac)	Area* (mi^2)
Post-Development FPL Reclaimed Water Treatment Facility	1,559,448	35.8	0.056

*Total drainage area subtracted by the open structures areas that do not contribute to runoff

The land cover percentages for the post-developed condition have been estimated in Table 21. Since the drainage area excludes the open basin structures, they are not included in the CN number computation. The reclaimed water treatment facility consists of covered water treatment units and components, and storage tanks that are impervious and the gravel-filled grounds. The seeded fill slope of the reclaimed water treatment facility is grass-covered. The calculations of composite runoff curve numbers for the areas are shown in Table 21:

Table 21: Runoff Curve Number for the FPL Reclaimed Water Treatment Facility

Subbasin	Ground Cover Percentage				Composite CN
	Impervious CN	Gravel CN(Type D)	Pond CN	Grass CN(Type D, fair)	
	98	91	100	84	
Post-Development FPL Reclaimed Water Treatment Facility	12%	50%	6%	32%	90

Accordingly, the runoff volumes for the drainage area are calculated using the SCS runoff equation and are shown in Table 22:

Table 22: Runoff Volume of the FPL Reclaimed Water Treatment Facility

Subbasin	Composite CN	S	Ia	Q	Runoff Volume
		in	in	in	Ac-ft
Post-Development FPL Reclaimed Water Treatment Facility	90	1.09	0.22	11.38	33.94

Note: The values in the table are rounded up to two decimal places

Table 23 compares the existing and post-development runoff volume at the FPL reclaimed water treatment facility.

Table 23: Comparison of Existing and Post-Development Runoff Volume at FPL Reclaimed Water Treatment Facility

Runoff	Existing Condition	Post-Development Condition	Net Change
Ac-ft	44.42	33.94	-10.48

Stormwater Management Basins

The runoff from the FPL reclaimed water treatment facility will be collected in stormwater management basins (SWB A and SWB B) as shown in Figure 6. The basins will be designed to handle the design storm event, a 25-year, 72-hour storm.

The design criteria for stormwater management of the FPL reclaimed water treatment facility include the following:

- Provide dry detention volume equal to 75 percent of the amounts computed for wet detention; wet detention volume is calculated as either the first inch of runoff from the developed project, or the total runoff of 2.5 inches times the percentage of imperviousness, whichever is greater (for this Project, the first inch of runoff is the controlling condition);
- Provide detention basin capacity for the first 0.5 inch of runoff for projects with drainage areas less than 100 acres, and an additional level of treatment equal to 50 percent of the treatment criteria specified; and
- Size the gravity control devices based upon a maximum design discharge of 0.5 inches of the detention volume in 24 hours, with a dimension no smaller than six square inches of cross-sectional area.

The stormwater basins (SWBs) are designed to provide the required detention volumes satisfying the design criteria. The stage-area-volume information of the basins is provided in Tables 24 and 25.

Table 24: Stage-Area-Storage for the Stormwater Basin (SWB A)

Elevation	Surface Area	Surface Area	Incremental Volume	Storage Volume	Storage Volume
(ft)	(ft^2)	(ac)	(ft^3)	(ft^3)	(acre-ft)
7	19481.4	0.447			
8	23687.9	0.544	21584.6	21584.6	0.496
9	28276.0	0.649	25982.0	47566.6	1.092
10	33171.0	0.762	30723.5	78290.1	1.797
10.5	35776.4	0.821	17236.8	95527.0	2.193
11	38381.7	0.881	18539.5	114066.5	2.619
12	43908.2	1.008	41144.9	155211.4	3.563
13	49781.0	1.143	46844.6	202056.0	4.639
14	55981.2	1.285	52881.1	254937.1	5.853

Table 25: Stage-Area-Storage for the Stormwater Basin (SWB B)

Elevation	Surface Area	Surface Area	Incremental Volume	Storage Volume	Storage Volume
(ft)	(ft^2)	(ac)	(ft^3)	(ft^3)	(acre-ft)
7	12266.2	0.282			
8	15653.8	0.359	13960.0	13960.0	0.320
9	19453.9	0.447	17553.8	31513.9	0.723
10	23679.0	0.544	21566.4	53080.3	1.219
10.5	25952.4	0.596	12407.8	65488.1	1.503
11	28225.8	0.648	13544.5	79032.7	1.814
12	33116.9	0.760	30671.3	109704.0	2.518
13	37325.1	0.857	35221.0	144925.0	3.327
14	43862.9	1.007	40594.0	185519.0	4.259
15	49732.2	1.142	46797.6	232316.6	5.333

The stormwater basins will have dry detention storage volume below the riser crest. Table 26 shows the available and required detention volumes. The calculation of the volumes is shown in Attachment A.

Table 26: Available and Required Detention Volumes for the SWBs

Stormwater Basin	**Available Detention: Volume between riser crest (10.5 ft) and orifice invert (8 ft)**	**Available Detention: Volume between riser crest (10.5 ft) and orifice invert (8 ft)**	**Required Detention***	**Required Detention***
	ft^3	ac-ft	ft^3	ac-ft
SWB A	73,942	1.70	42,360	0.97
SWB B	51,528	1.18	28,846	0.66
Total*	**125,470**	**2.88**	**71,206**	**1.63**

*** Note:** One inch over the 26.16 developed acres (44 total acres minus 9.64 acres of grass slope, minus 8.2 acres of non-contributing area).

Discharge hydrographs were developed using Natural Resources Conservation Service (NRCS) methodology (Reference 3) for the 2-, 5-, 10-, and 25-year, 72-hour design storm events. The HEC-HMS computer program (Reference 8) is used as the tool to generate the hydrographs and route them through the stormwater basins.

Although the traditional requirement is to limit the post-development peak outflow to no more than the pre-existing, there are three reasons not to do so for this facility:

- The stormwater management basins (SWBs) will be constructed in existing wetlands. In order to minimize the acreage of those wetlands being impacted by construction of the SWBs, its acreage has been minimized by establishing its volume to meet detention requirements, but allowing its outlets to essentially pass the inflow as it comes in, without reducing its peak. This allows the minimum footprint possible.
- The outflow from the detention pond will be used to rehydrate the tidally isolated wetland areas adjacent to the pond. The released stormwater will be spread over that area, thus the wetland area surrounding the FPL reclaimed water treatment facility will provide further peak attenuation prior to ultimate release to the environment.
- A large portion of the area is presently tidally influenced, and is inundated under high tide. Pre-existing flows are not meaningful for such tidal areas.

The stormwater design will comply with the applicable regulatory standards.

Runoff from the potentially oil-contaminated areas (oil-containing components) will be routed through oil/water separators that are designed to meet the applicable standards.

Tables 27 and 28 summarize the peak stormwater discharges and water levels in the SWB A and SWB B. Attachment A shows the calculation.

Table 27: Peak Stormwater Discharge and Water Level in the SWB A

Storm	SWB A Peak Inflow (cfs)	SWB A Peak Outflow (cfs)	SWB A Peak Water Level (ft)
2-yr	78.9	62.7	11.4
5-yr	105.1	87.5	11.7
10-yr	126.3	97.7	11.9
25-yr	152.3	107.7	12.3

Table 28: Peak Stormwater Discharge and Water Level in the SWB B

Storm	SWB B Peak Inflow (cfs)	SWB B Peak Outflow (cfs)	SWB B Peak Water Level (ft)
2-yr	56.7	48.3	11.3
5-yr	75.5	65.3	11.5
10-yr	90.7	71.7	11.7
25-yr	109.4	75.1	12.0

The capacity of the emergency spillways provided in stormwater basins has been checked by passing the 100-year, 72-hour storm through the spillway. The spillways have a width of 50 ft with its crest elevations at 12.5 ft. Table 29 shows that the spillways are sized to pass 100-year discharge without overtopping the banks.

Table 29: Peak Stormwater Discharge and Water Level for 100-year Storm

SWB	Peak Inflow (cfs)	Peak Outflow (cfs)	Peak Water Level (ft)	Top of the Basin (ft)
SWB A	231.3	178.5	13.1	14.0
SWB B	166.1	123.6	12.9	15.0

10.8.2 Erosion and Sediment Control

This section describes the effort to minimize erosion and retain sediment in order to control the nonpoint source pollutants associated with the construction activities.

Erosion control measures such as silt fences, hay bales, etc. will be installed during the construction phase to intercept and detain small amounts of sediment from disturbed areas during construction, and to decrease the velocity of sheet flows and low-to-moderate level channel flows (Reference 7).

Temporary basins/traps with a controlled stormwater release structure will be installed as necessary to detain sediment-laden runoff from disturbed areas. The best locations for the temporary sediment basins are generally low areas and natural drainage way below disturbed areas (Reference 7).

Plant Area

As the fill activity begins on the plant area, temporary sediment basins will be placed to trap the sediment-laden runoff before it enters the industrial wastewater facility that surrounds the plant area. In order to effectively divert the sediment-laden stormwater runoff from a disturbed area to the temporary sediment basins, temporary diversion dikes may be constructed (Reference 7).

The center of the plant area will become the high point of the Site after the fill activity is completed (References 4 and 5). As the plant area is being filled, temporary fill diversions may be placed to divert the stormwater runoff away from the exposed slopes surrounding the plant area to a stabilized outlet or the temporary sediment basins. The temporary fill diversion will provide some slope protection on a daily basis until the final elevations are reached and a more permanent measure can be constructed (Reference 7).

FPL Reclaimed Water Treatment Facility

During construction of the FPL reclaimed water treatment facility, temporary sediment basins will be placed to trap the sediment-laden runoff in addition to installation of silt fences. Temporary diversion dikes and fill diversions will be placed to divert the stormwater runoff away from the exposed slopes during the fill activities (Reference 7). The surface water runoff from the FPL reclaimed water treatment facility at the existing condition flows to the surrounding wetlands. In addition to the temporary erosion and sedimentation control measures such as silt fences, and/or other impermeable barriers (e.g. Fabriform, soil, cement bags, and sheet piling), temporary sediment basins/traps will be installed to capture the sediment-laden runoff during construction. Temporary erosion and sedimentation control measures will be designed to prevent the sediment from being displaced and carried off-site by the construction runoff. As necessary, the sediment collected during the construction will be removed. All temporary sediment and erosion control measures will be removed at the end of construction or at an appropriate time. Construction stormwater discharges released into waters of the state from associated non-linear facilities will be addressed through compliance with Rule 62-621.300(4) [General Permit for Stormwater from Large and Small Construction Activities].

Radial Collector Wells

The construction activities for the radial collector wells and delivery pipeline would be performed in accordance with the required local, state, and federal guidelines and accepted industry practices. Installation of the wells and delivery pipeline to the Units 6 & 7 plant area would cause short-term changes in the surface water drainage in the vicinity of the wells and pipeline route during the construction activities. Sedimentation barriers and sedimentation traps would be installed to minimize the potential impacts to the surface water bodies in accordance with FDEP regulations. The drainage characteristics would be restored to preconstruction conditions once the construction activities are completed. Construction stormwater discharges released into waters of the state from associated non-linear facilities will be addressed through compliance with Rule 62-621.300(4) [General Permit for Stormwater from Large and Small Construction Activities].

10.8.3 Conclusions

The stormwater runoff from the Turkey Point Site (plant area and laydown area) and the nuclear administration building, training building, and parking area will be released to the industrial wastewater facility.

Stormwater runoff from the 25-year, 72-hour design storm into the industrial wastewater facility from the Site and nuclear administration building, training building, and parking area will decrease by 7.18 acre-ft at the post-development condition. Thus, the industrial wastewater facility currently has sufficient capacity and will not be impacted by Turkey Point Units 6 & 7 during the post-development condition.

Stormwater runoff from the FPL reclaimed water treatment facility discharges to the surrounding wetland area. The runoff from the 25-year, 72-hour design storm will decrease by approximately 10.48 acre-ft during the operational phase compared to the existing condition runoff. The stormwater management basins are designed (a) to maintain the water quality volume of 0.75 inch of runoff for dry detention as required by the applicable detention/retention criteria; and (b) to provide the capacity for the first 0.5 inch of runoff, plus an additional 50 percent for treatment. The outlet structures are sized to release the maximum design discharge in 24 hours.

10.8.4 References

1. 25409-0-C2-0010-00001 Rev. 4: Site Plan
2. U.S. Department of Agriculture, Natural Resources Conservation Services, *Soil Survey of Dade County Area, Florida*, http://soils.usda.gov/ , Accessed 12/16/2008
3. U.S. Department of Agriculture, Natural Resources Conservation Service, Conservation Engineering Division, *Technical Release 55: Urban Hydrology for Small Watersheds*, June 1986.
4. 25409-0-CG-0010-00002 Rev.3: Site Finish Grading Plan
5. 25409-0-CG-0010-00001 Rev.3: Nuclear Island Power Block Finish Grading Plan
6. 25409-0-C2-0010-00002 Rev.F: Construction Site Utilization Plan
7. Environmental Resource Permit Information Manual Volume IV, Environmental Resource Regulation Department South Florida Water Management District, 2009.
8. HEC-HMS Hydrologic Modeling System, Version 3.1.0 User's Manual, U.S. Army Corps of Engineers, November 2006

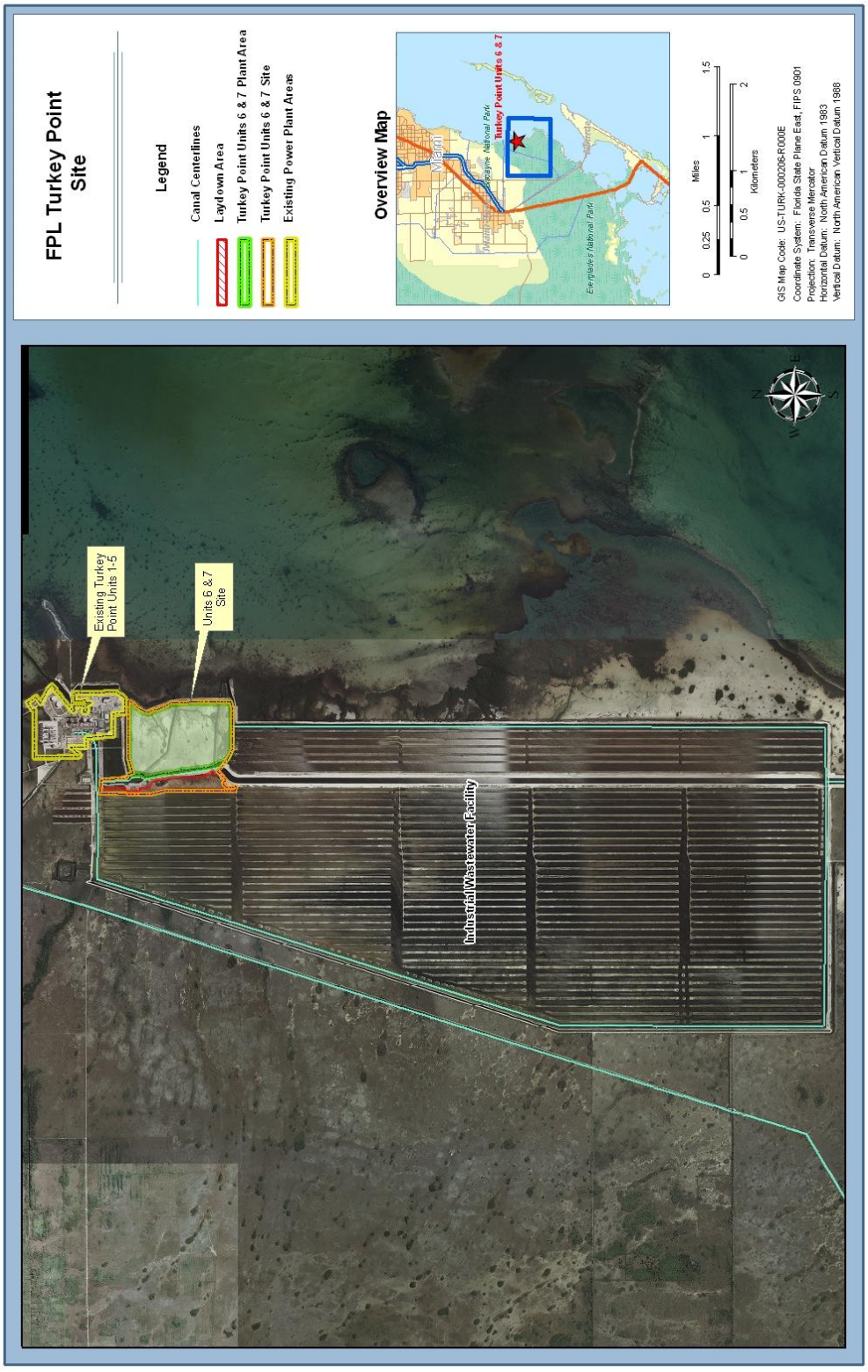


Figure 1: Turkey Point Site and Surrounding Area

Figure 2: Site Soil Survey of Miami-Dade County, Florida

Figure 3: Turkey Point Units 6 & 7 Site and Nuclear Administration Building, Training Building, and Parking Area

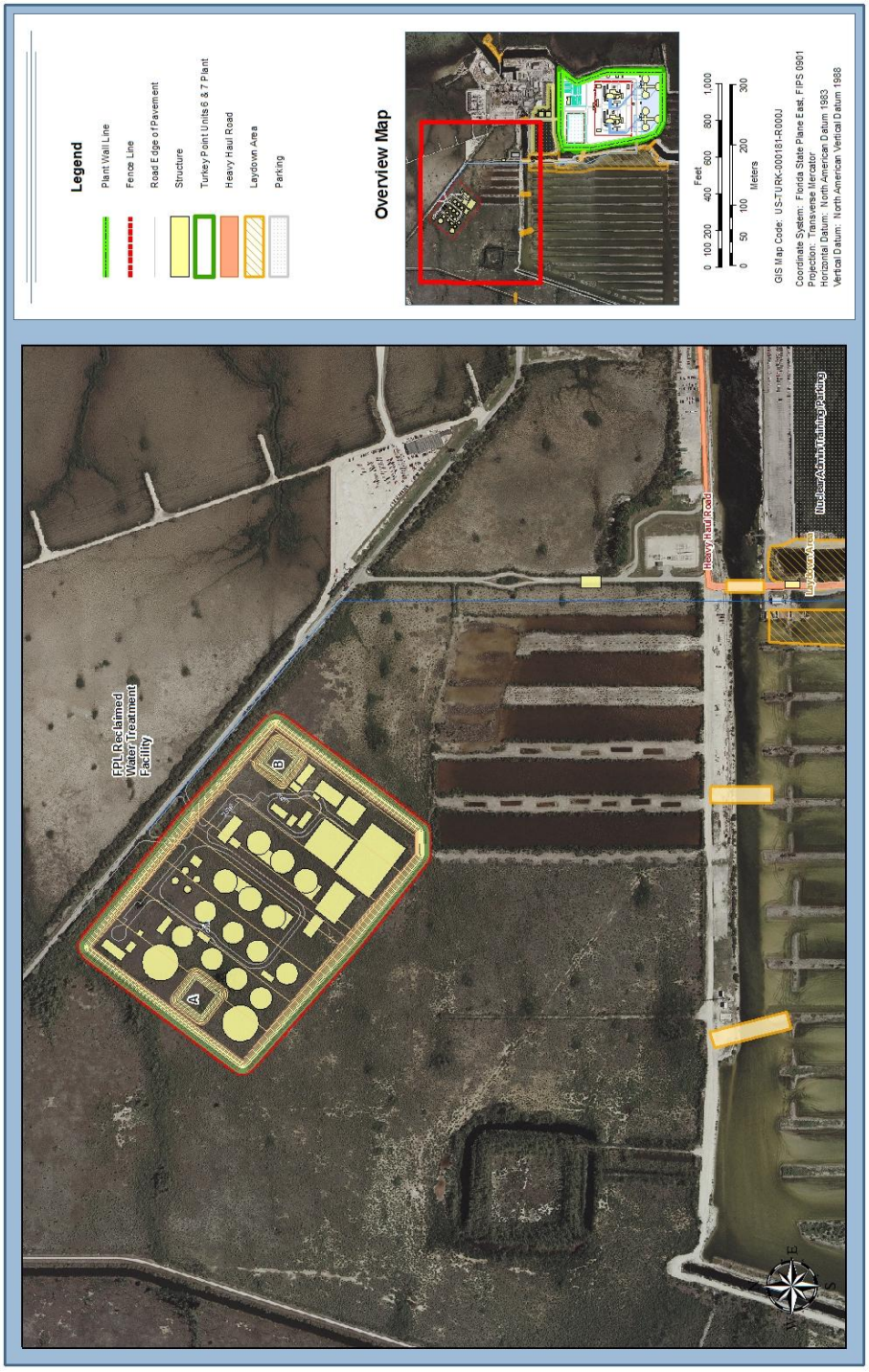


Figure 4: FPL Reclaimed Water Treatment Facility

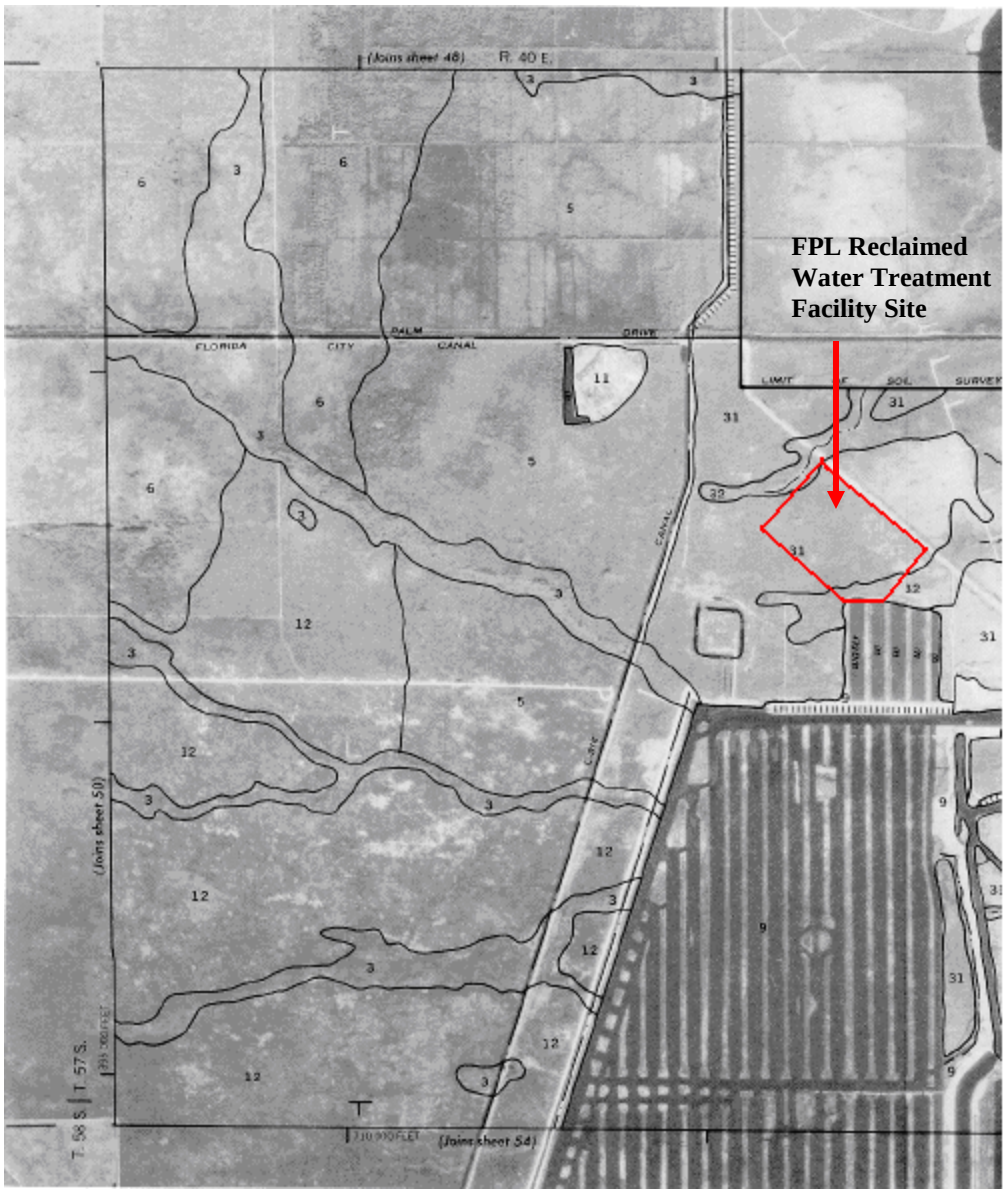


Figure 5: FPL Reclaimed Water Treatment Facility Soil Survey of Miami-Dade County Area, Florida

Figure 6: Layout of the FPL Reclaimed Water Treatment Facility

This Attachment presents the inputs, calculation details and the outputs of the stormwater basin design for the FPL Reclaimed Water Treatment Facility (RWTF).

The storm water basins (SWBs) are designed to provide the required detention of the storm water runoff to comply with applicable regulations. The computation also includes the calculation of post development peak discharge summary for the design storm events.

The inputs, outputs and the details of the calculations are presented in the following sections.

72-Hour Rainfall Depths

A Type-III rainfall distribution is used in the HEC-HMS program to develop the rainfall hyetographs for the design rainfall events using the rainfall depths. The 72-hour rainfall depths for different frequencies are given in Table A-1.

Table A-1: 72-Hour Rainfall Depths for the FPL Reclaimed Water Treatment Facility Site

Frequency	2-year	5-year	10-year	25-year	100-year
Depth (in)	6.7	8.8	10.5	12.6	19.0

Drainage Areas

The FPL reclaimed water treatment facility consists of storage tanks, pump stations, and other reclaimed water treatment components and units as shown in Table A-2.The post-development drainage areas are shown in Attachment B. Runoffs from the drainage areas A and B drain into the SWB A and SWB B, respectively and their areas are 19.4 acres and 15 acres, respectively. Open basin structures capture the rainfall and do not contribute to the total runoff. The areas consisting of the open basin structures in the drainage area A and B are approximately 3.84 acres and 4.4 acres, respectively. Thus, the post-development drainage areas are calculated by subtracting the open basin structures accordingly as shown in Table A-3.

Table A-2: FPL Reclaimed Water Treatment Facility Components

Component / Unit Process	No. of Units	Open / Covered	Dimensions, each	Height, each (above grade)
Storage Tanks (Reclaimed Water from MDWASD)	2	Covered	195-ft diameter	47.2-ft water depth 1
Trickling Filters Pump Station Return Flow/Chemical addition	2	Covered	75-ft by 35-ft	16-ft
Trickling Filters	8	Open	120-ft diameter	35-ft
Chemical Unloading Areas, stormwater from these areas is pumped to the back wash basin and is then added to the process flow stream	2	Open	37,000 sq. ft. toal area	curbed area
Solids Contact Basin	6	Open	130-ft diameter	4-ft
Sludge Pump Stations	4	Covered	14,000 sq. ft total area	14-ft
Ferric Chloride Storage Tanks	3	Covered	14-ft diameter	27-ft-4-in
Containment Area w/Pumps	1	Slab	40-ft by 100-ft	4-ft (walls)
Filter and Pump Station	1	Covered	50-ft by 120-ft	16-ft
Filters	22	Open	15-ft by 75-ft	18-ft
Filter Gallery (between 2 rows of Filters)	1	Covered	40-ft by 190-ft	18-ft
Methanol Storage Tanks	4	Covered	14-ft diameter	23-ft
Containment Area w/Pumps	1	Slab	40-ft by 100-ft	4-ft (walls)
Waste Backwash Basin	1	Open	120-ft by 120-ft	3-ft (berms)
Chlorine Contact Basin	1	Open	230-ft by 330-ft	10-ft
Sodium Hypochlorite Storage Tanks	3	Covered	12-ft diameter	25-ft
Containment Area w/Pumps	1	Slab	40-ft by 100-ft	4-ft (walls)
Treated Water Pump Station	1	Covered	135-ft by 50-ft	16-ft
Sludge Processing Facility	1	Covered	80-ft by 150-ft	25-ft
Sludge Truck Loading Canopy	1	Covered	900 sq.ft total area	25-ft
Electrical	3	Covered	40-ft by 60-ft	14-ft
Roads and Parking Areas	0	0	126,000 sq.ft total area	0
Maintenance/Control Facility and Covered Equipment Storage	1	Covered	60-ft by 155-ft	20-ft
Lime Silos	4	Covered	41-ft diameter	64-ft
Housekeeping Area	0	Slab	100-ft by 100-ft	2-ft (walls)
Slaker Facility	1	Covered	60-ft by 50-ft	16-ft
Sodium Bisulfite Tank	1	Covered	12-ft diameter	19-ft-1-in
Containment Area w/Pumps	0	Slab	30-ft by 30-ft	4-ft (walls)
Polymer	2	Covered	totes included in Sludge Processing	n/a
Acid	1	Covered	12-ft diameter	19-ft
Containment Area w/Pumps	0	0	40-ft by 40-ft	4-ft (walls)

Table A-3: Post-development Drainage Areas for Storm Water Basins

Sub-Basin	Subbasin Area		
	sq. ft	acres	sq. mi.
Drainage Area A	677,766	15.56	0.024
Drainage Area B	461,530	10.60	0.017

Runoff Curve Numbers

During the post-development condition, the soil type for all the developed areas are assumed as Type D soil for the runoff analysis as the site will consist of compacted fill. The land cover percentages for the post-developed condition have been estimated based on the FPL Reclaimed Water Treatment Facility site components and units as shown in Table A-2. The calculations of composite runoff curve numbers for the areas are shown in Table A-4.

Table A-4: Post-development CN Number Calculation for Storm Water Basins

Sub-basin	Ground Cover Percentage				
	Impervious CN	Gravel CN (Type D)	Pond CN	Grass CN (Type D, fair)	Composite CN
	98	91	100	84	
Drainage Area A	17%	76%	7%	0%	93
Drainage Area B	17%	72%	10%	0%	93

Lag Time

The HEC-HMS program uses the lag time rather than Tc directly in calculating the peak discharge. The lag time is calculated as 60% of the time of concentration (Tc) for each sub-basin.

Time of Concentration

Each flow path is divided into sheet flow, and shallow concentrated flow segments. The sheet flow and shallow concentrated flow segments for each flow path are determined using Natural Resources Conservation Service

(NRCS) procedures. The ditch or pipe flow segment travel time is determined by estimating the flow velocity and computing the travel time

The equations used for sheet flow and shallow concentrated flow are shown below.

Sheet Flow:

$$T_i = \frac{0.007(nL)^{0.8}}{P_2^{0.5} S^{0.4}}$$ Where:

n = surface roughness coefficient for sheet flows (n = 0.011 for concrete, asphalt, gravel or bare soil)
L = flow path length, ft (maximum = 100 ft)
P = 2-yr, 24-hr rainfall = 6 inches
S = Flow path slope

Shallow Concentrated Flow:

Velocity V = 20.3282 $S^{0.5}$ (for paved/gravel surfaces)

$$T_i = \frac{L}{3600 \cdot V}$$

Lag times for the post-development condition are calculated following similar procedure as described above. The time of concentration values and lag times for each basin are summarized in Table A-5.

Table A-5 Post-development Tc and Lag Time Calculation

	Sheet Flow				Shallow Concentrated Flow				Pipe/Ditch Flow				
	(Segment A-B)				(Segment B-C)					(Segment C-D)		Calculated	Calculated
Sub-Basin	Length, L (ft)	Manning's Coefficient, n	Slope, S	T1 (hr)	Length, L (ft)	Slope, S	Calculated Velocity, V (fps)	T2 (hr)	Length, L (ft)	Est. Velocity, V (fps)	T3 (hr)	Time of Concentration (min)	Lag Time (min)
Drainage Area A	100	0.011	0.005	0.026	300	0.005	1.44	0.058	430	5.00	0.024	6.5	3.9
Reach A									350	5.00	0.019	1.2	1.2
Drainage Area B	100	0.011	0.005	0.026	120	0.005	1.44	0.023	550	5.00	0.031	4.8	3.6*
Reach B									475	5.00	0.026	1.6	1.6

*Minimum Tc of 6 minutes is used

Basin Stage-Storage

The stage-area-storage relationships for storm water basins are shown in the following Tables A-6 and A-7. The elevations and areas for each basin are measured from finished grade drawing.

Table A-6: Stage-Storage for Stormwater Basin (SWB A)

Elevation	Surface Area	Surface Area	Incremental Volume	Storage Volume	Storage Volume
(ft)	(ft^2)	(ac)	(ft^3)	(ft^3)	(acre-ft)
7	19481.4	0.447			
8	23687.9	0.544	21584.6	21584.6	0.496
9	28276.0	0.649	25982.0	47566.6	1.092
10	33171.0	0.762	30723.5	78290.1	1.797
10.5	35776.4	0.821	17236.8	95527.0	2.193
11	38381.7	0.881	18539.5	114066.5	2.619
12	43908.2	1.008	41144.9	155211.4	3.563
13	49781.0	1.143	46844.6	202056.0	4.639
14	55981.2	1.285	52881.1	254937.1	5.853

Table A-7: Stage-Storage for Stormwater Basin (SWB B)

Elevation	Surface Area	Surface Area	Incremental Volume	Storage Volume	Storage Volume
(ft)	(ft^2)	(ac)	(ft^3)	(ft^3)	(acre-ft)
7	12266.2	0.282			
8	15653.8	0.359	13960.0	13960.0	0.320
9	19453.9	0.447	17553.8	31513.9	0.723
10	23679.0	0.544	21566.4	53080.3	1.219
10.5	25952.4	0.596	12407.8	65488.1	1.503
11	28225.8	0.648	13544.5	79032.7	1.814
12	33116.9	0.760	30671.3	109704.0	2.518
13	37325.1	0.857	35221.0	144925.0	3.327
14	43862.9	1.007	40594.0	185519.0	4.259
15	49732.2	1.142	46797.6	232316.6	5.333

Detention Volume Calculation

The bottom elevations for the SWBs are at 7 ft. NAVD 88. Since the ground water level in the area is approximately the same as the water level in Biscayne Bay, and the mean water level in Biscayne Bay is at Elevation 0, the SWBs are dry detention ponds. The required detentions for the respective areas are calculated by multiplying the first inch of the runoff by the area of the RWTF, or multiplying the first 2.5 inches to the impervious area. The higher value is considered as the required volume. The required detention for the dry detention pond is 75% of the wet detention requirement. The calculation of the required detention is shown in Table A-8.

Table A-8 Detention Volume Computation

2.5" over the impervious area					
SWB A			SWB B		
Total impervious area =	115,220	ft^2	Total impervious area =	83,075	ft^2
	2.65	ac		1.91	ac
Wet detention =	24004	ft^3	Wet detention =	17307	ft^3
	0.55	ac-ft		0.40	ac-ft
Dry detention =	18003.17	ft^3	Dry detention =	12980.54	ft^3
	0.41	ac-ft		0.30	ac-ft

First inch of runoff from the developed project					
SWB A			SWB B		
Total area=	677,766	ft^2	Total area=	461,530	ft^2
	15.56	ac		10.60	ac
Wet detention =	56481	ft^3	Wet detention =	38461	ft^3
	1.30	ac-ft		0.88	ac-ft
Dry detention =	42360.40	ft^3	Dry detention =	28845.64	ft^3
	0.97	ac-ft		0.66	ac-ft

Computation of the required detentions for the SWBs in Table A-8 shows that the runoff detention requirements from the first inch of runoff from the contributing area are greater. Table A-9 compares the provided storages of the SWBs with the detention requirement from the first inch of runoff from the Reclaimed Water Treatment Facility area.

Table A-9: Available and Required Detentions Volumes for the SWBs

Stormwater Basin	Available Detention: Volume between riser crest (10.5 ft) and orifice invert (8 ft)	Available Detention: Volume between riser crest (10.5 ft) and orifice invert (8 ft)	Required Detention*	Required Detention*
	ft^3	ac-ft	ft^3	ac-ft
SWB A	73,942	1.70	42,360	0.97
SWB B	51,528	1.18	28,846	0.66
Total*	**125,470**	**2.88**	**71,206**	**1.63**

*** Note:** One inch over the 26.16 developed acres (44 total acres minus 9.64 acres of grass slope, minus 8.2 acres of non-contributing area).

Therefore, the SWB A and SWB B satisfy the detention requirements.

150% Treatment

The following computation shows that the SWB A and B provide enough storage for detention of the first 0.5 inch of runoff for the FPL reclaimed water treatment facility area, plus an additional 50% treatment.

SWB A

Drainage Area=		15.56	ac		
		677766	ft^2		
Required detention=	1/2 inches * 1.5 =	3/4	inches		
Required WQ Volume=		0.97	ac-ft		
		42360	ft^3		
Volume between riser crest (10.5 ft) and orifice invert (8 ft)=		1.70	ac-ft	**OK**	(As shown on Table A-6)
		73942	ft^3	**OK**	(As shown on Table A-6)

SWB B

Drainage Area=		10.60	ac		
		461530	ft^2		
Required detention =	1/2 inches * 1.5 =	3/4	inches		
Required WQ Volume=		0.66	ac-ft		
		28846	ft^3		
Volume between riser crest (10.5 ft) and orifice invert (8 ft)=		1.18	ac-ft	**OK**	(As shown on Table A-7)
		51528	ft^3	**OK**	(As shown on Table A-7

Orifice size calculation

The gravity control devices shall be sized based upon a maximum design discharge of 0.5 inch of the detention volume in 24 hours. The outlet orifices are sized to maintain the required water quality.

SWB A Orifice size calculation

Design runoff =	1/2	inches
Required water quality volume (ft^3) =	28240	ft^3
Volume between riser crest (10.5 ft) and pond bottom=	73942	ft^3
Maximum Allowable Discharge (for 24 hour) =	0.327	cfs
Select 3" dia orifice with invert El at 8'		
Water Surface Elevation for required volume =	9.074	ft (by interpolation of Table A-6)
Surface area for required volume =	28635.8	ft^2 (by interpolation of Table A-6)
Max head above 3" dia orifice centerline =	0.949	ft
Dewatering time =	66	hrs

SWB B Orifice size calculation

Design runoff =	1/2	inches
Required water quality volume (ft^3) =	19230	ft^3
Volume between riser crest (10.5 ft) and pond bottom=	51528	ft^3
Maximum Allowable Discharge (for 24 hour) =	0.223	cfs
Select 3" dia orifice with invert El at 8'		
Surface area for required volume =	19782.3	ft^2 (by interpolation of Table A-7)
Water Surface Elevation for required volume =	9.078	ft (by interpolation of Table A-7)
Max head above 3" dia orifice centerline =	0.953	ft
Dewatering time =	45	hrs

Above computation shows that the use of 3-inch diameter orifice is adequate to comply with applicable stormwater criteria.

Basin Stage-Discharge Curve

A summary table of the outlet elevations and sizes, as well as the stage-discharge relationship is shown for each storm water basin on the Tables A-10 and A-11. The tail water levels for Pond A and Pond B have been assumed as 4.0 ft and 3.5 ft respectively considering full pipe flow.

Table A-10: Stage-discharge calculation for the SWB A basin Outlet structure

SWB A

Riser Dim (ft x ft)	6	Riser Crest EL.(ft)	10.5	Riser Crest Length (ft)	24.00	Orifice Diameter (ft)	0.25
Pipe Diameter (ft)	3	Outlet Inv. EL.(ft)	1.00	Pipe Length (ft)	120	Orifice Area (sq ft)	0.049
Em Spillway Crest EL (ft)	12.5	Pipe Area (sq ft)	7.069	Top of the basin(ft)	14	Orifice Invert EL.(ft)	8.0
		Em Spillway Width (ft)	50.0	Bottom of the basin(ft)	7	Orifice center EL.(ft)	8.125
						No. of orifice	1

	Orifice Flow		Riser Weir Flow		Total	Pipe Flow		Spillway Flow		Total Basin
Elevation	h	Q	H	Q	Riser Flow	h	Q	H	Q	Flow*
(ft)	(ft)	(cfs)	(ft)	(cfs)	(cfs)	(ft)	(cfs)	(ft)	(cfs)	(cfs)
7.00	0.00	0.00			0.00	0.00	0.00			0.00
8.00	0.00	0.00			**0.00**	4.00	78.05			0.00
8.50	0.38	0.14			**0.14**	4.50	82.78			0.14
9.00	0.88	0.22			**0.22**	5.00	87.26			0.22
10.00	1.88	0.32			**0.32**	6.00	95.59			0.32
10.50	2.38	0.36	0.00	0.00	**0.36**	6.50	99.49			0.36
11.00	2.88	0.40	0.50	23.76	**24.16**	7.00	103.25			24.16
11.50	3.38	0.43	1.00	67.20	**67.63**	7.50	106.87			67.63
11.75	3.63	0.45	1.25	93.91	**94.36**	7.75	108.64			94.36
12.50	4.38	0.49	2.00	190.07	190.56	8.50	**113.78**	0.0	0.00	113.78
12.75	4.63	0.51	2.25	226.80	227.31	8.75	**115.44**	0.3	17.50	132.94
13.00			2.50	265.63	265.63	9.00	**117.07**	0.5	49.50	166.57
13.50			3.00	349.18	349.18	9.50	**120.28**	1.0	140.00	260.28
14.00			3.50	440.02	440.02	10.00	**123.41**	1.5	257.20	380.60

* Note: Total Basin Flow is determined by adding either the Total Riser Flow or the Pipe Flow, which ever is controlling (bold type face indicates controlling flow), to the spillway flow

Total Riser Flow = Orifice + Central opening + Weir Flow

Table A-11: Stage-discharge calculation for the SWB B basin Outlet structure

SWB B

Riser Dim (ft x ft)	6	Riser Crest EL.(ft)	10.5	Riser Crest Length (ft)	24.00	Orifice Diameter (ft)	0.25
Pipe Diameter (ft)	2.5	Outlet Inv. EL.(ft)	1.00	Pipe Length (ft)	130	Orifice Area (sq ft)	0.049
Em Spillway Crest EL (ft)	12.5	Pipe Area (sq ft)	4.909	Top of the basin(ft)	15	Orifice Invert EL.(ft)	8.0
		Em Spillway Width (ft)	50.0	Bottom of the basin(ft)	7	Orifice center EL.(ft)	8.125
						No. of orifice	1

	Orifice Flow		Riser Weir Flow		Total	Pipe Flow		Spillway Flow		Total Basin
Elevation	h	Q	H	Q	Riser Flow	h	Q	H	Q	Flow*
(ft)	(ft)	(cfs)	(ft)	(cfs)	(cfs)	(ft)	(cfs)	(ft)	(cfs)	(cfs)
7.00	0.00	0.00			0.00	0.00	0.00			0.00
8.00	0.00	0.00			**0.00**	4.50	54.55			0.00
8.50	0.38	0.14			**0.14**	5.00	57.50			0.14
9.00	0.88	0.22			**0.22**	5.50	60.31			0.22
10.00	1.88	0.32			**0.32**	6.50	65.56			0.32
10.50	2.38	0.36	0.00	0.00	**0.36**	7.00	68.04			0.36
11.00	2.88	0.40	0.50	23.76	**24.16**	7.50	70.43			24.16
11.50	3.38	0.43	1.00	67.20	**67.63**	8.00	72.74			67.63
11.75	3.63	0.45	1.25	93.91	94.36	8.25	**73.86**			73.86
12.50	4.38	0.49	2.00	190.07	190.56	9.00	**77.15**	0.0	0.00	77.15
13.00	4.88	0.52	2.50	265.63	266.15	9.50	**79.26**	0.5	49.50	128.76
13.50			3.00	349.18	349.18	10.00	**81.32**	1.0	140.00	221.32
14.00			3.50	440.02	440.02	10.50	**83.33**	1.5	257.20	340.53
15.00			4.50	641.49	641.49	11.50	**87.21**	2.5	553.40	640.61

* Note: Total Basin Flow is determined by adding either the Total Riser Flow or the Pipe Flow, which ever is controlling (bold type face indicates controlling flow), to the spillway flow

Total Riser Flow = Orifice + Central opening + Weir Flow

Storm Water Management Basin Discharge Summary

The post-development peak discharges from the basins as well as the peak water levels are determined for the 2-, 5-, 10-, and 25-year, 72-hour storm using the computer program HEC-HMS. The schematic of the model, model inputs and model outputs are contained in Attachment C, and are summarized in Tables A-12 and A-13.

Table A-12 Post Development SWB A Discharge Summary

Storm	SWB A Peak Inflow (cfs)	SWB A Peak Outflow (cfs)	SWB A Peak Water Level (ft)
2-yr	78.9	62.7	11.4
5-yr	105.1	87.5	11.7
10-yr	126.3	97.7	11.9
25-yr	152.3	107.7	12.3

Table A-13 Post Development SWB B Discharge Summary

Storm	SWB B Peak Inflow (cfs)	SWB B Peak Outflow (cfs)	SWB B Peak Water Level (ft)
2-yr	56.7	48.3	11.3
5-yr	75.5	65.3	11.5
10-yr	90.7	71.7	11.7
25-yr	109.4	75.1	12.0

The peak inflow and outflow values shown in Tables A-12 and A-13 are based on a SCS Type III storm of 24-hour duration. Consequently, the peak discharges are conservatively higher than they would be if a 72-hour storm had been used.

Emergency Spillway Capacity

The capacity of the emergency spillways provided in storm water basins have been checked by passing the 100-year, 72-hour storm through the spillway. The simulation results presented in Attachment C and are also summarized in Table A-14.

Table A-14 Post Development Basin Discharge Summary for 100-year, 72-hour Storm

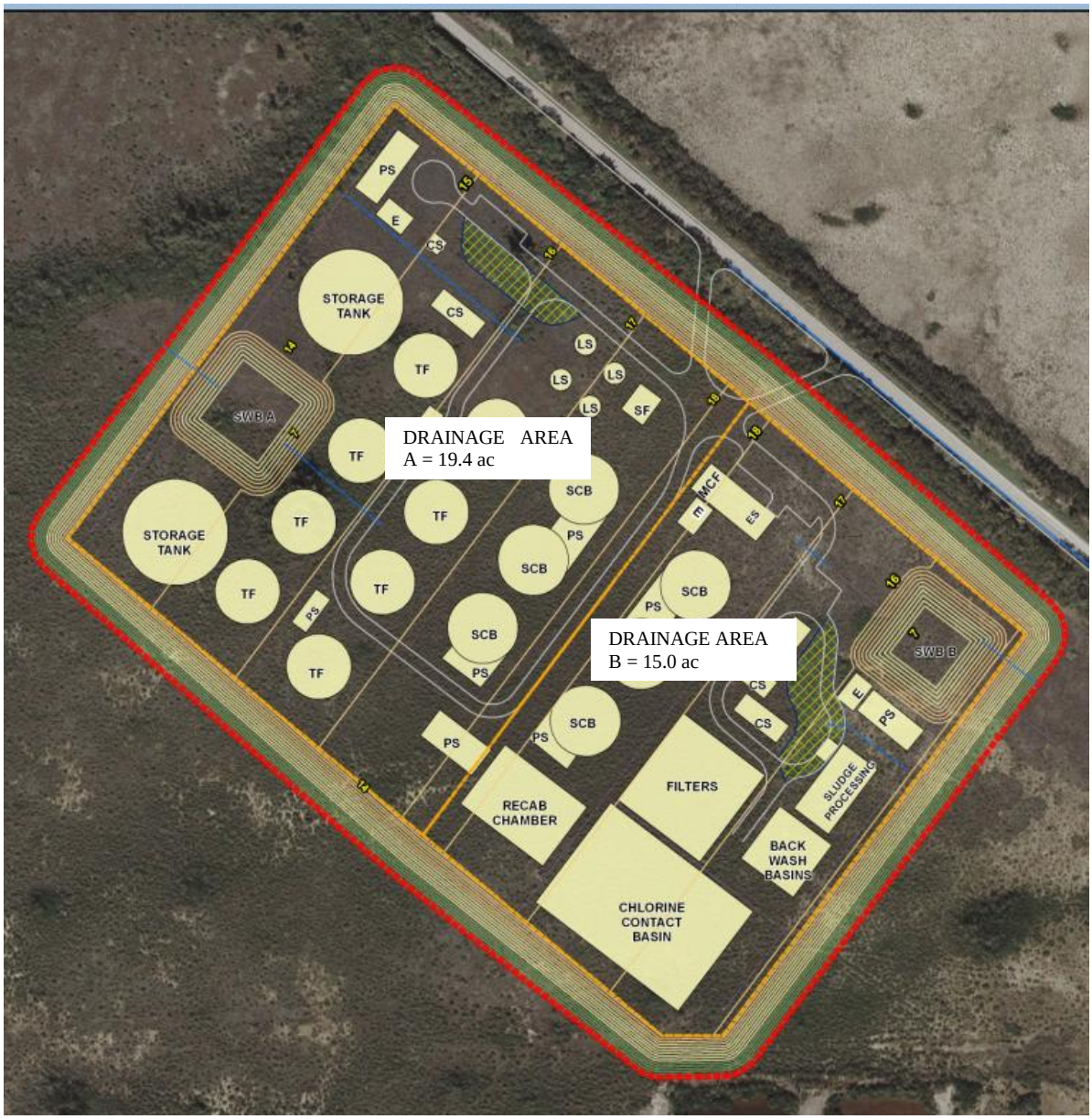
SWB	Peak Inflow (cfs)	Peak Outflow (cfs)	Peak Water Level (ft)	Top of the Basin (ft)
SWB A	231.3	178.5	13.1	14.0
SWB B	166.1	123.6	12.9	15.0

ATTACHMENT B **FPL SCA Appendix 10.8**

SUBJECT Layout for FPL Reclaimed Water Treatment Facility Storm Water Basins

SHEET NO 1 OF 1

REV. NO. 000



SCREEN CAPTURES OF HEC-HMS SCREEN FOR HYDROLOGIC ANALYSIS:

HEC-HMS INPUT FILES

Text contents of Basin input file

```
Basin: RWTF
     Last Modified Date: 17 June 2009
     Last Modified Time: 21:48:02
     Version: 3.1.0
     Unit System: English
     Missing Flow To Zero: No
     Enable Flow Ratio: No
     Allow Blending: No
     Compute Local Flow At Junctions: No
End:

Reservoir: Pond-A
     Canvas X: -4246.724890829694
     Canvas Y: -502.1834061135369
     Label X: -1.0
     Label Y: 0.0

     Route: Modified Puls
     Routing Curve: Elevation-Area-Outflow
     Initial Elevation: 8
     Elevation-Area Table: Pond A
     Elevation-Outflow Table: Pond A
End:

Reservoir: Pond-B
     Canvas X: 3417.0305676855887
     Canvas Y: 2969.43231441048

     Route: Modified Puls
     Routing Curve: Elevation-Area-Outflow
     Initial Elevation: 8
     Elevation-Area Table: Pond B
     Elevation-Outflow Table: Pond B
End:

Subbasin: Subbasin-A
     Canvas X: -2041.4847161572052
     Canvas Y: 2248.9082969432316
     Label X: -37.0
     Label Y: -27.0
     Area: 0.024
     Downstream: Reach-A

     Canopy: None

     Surface: None

     LossRate: SCS
     Percent Impervious Area: 0.0
     Curve Number: 93

     Transform: SCS
     Lag: 3.9

     Baseflow: None

     Erosion: None
End:

Subbasin: Subbasin-B
     Canvas X: 835.2941176470595
     Canvas Y: -247.0588235294117
     Label X: -39.0
```

```
     Label Y: -24.0
     Area: 0.017
     Downstream: Reach-B

     Canopy: None

     Surface: None

     LossRate: SCS
     Percent Impervious Area: 0.0
     Curve Number: 93

     Transform: SCS
     Lag: 3.6

     Baseflow: None

     Erosion: None
End:

Reach: Reach-A
     Canvas X: -4246.724890829694
     Canvas Y: -502.1834061135369
     From Canvas X: -4203.056768558952
     From Canvas Y: 2008.7336244541484
     Label X: 0.0
     Label Y: 2.0
     Downstream: Pond-A

     Route: Lag
     Lag: 1.2
     Channel Loss: None
End:

Reach: Reach-B
     Canvas X: 3417.0305676855887
     Canvas Y: 2969.43231441048
     From Canvas X: 3211.7437722419927
     From Canvas Y: -373.66548042704653
     Downstream: Pond-B

     Route: Lag
     Lag: 1.6
     Channel Loss: None
End:

Basin Schematic Properties:
     Last View N: 5000.0
     Last View S: -5000.0
     Last View W: -5000.0
     Last View E: 5000.0
     Maximum View N: 5000.0
     Maximum View S: -5000.0
     Maximum View W: -5000.0
     Maximum View E: 5000.0
     Extent Method: Elements
     Buffer: 0
     Draw Icons: Yes
     Draw Icon Labels: Yes
     Draw Gridlines: Yes
     Draw Flow Direction: No
End:
```

Text contents of meteorological input file

```
Meteorology: T02
     Last Modified Date: 2 June 2009
     Last Modified Time: 16:44:17
     Version: 3.1.0
     Unit System: English
     Precipitation Method: SCS Storm
     Snowmelt Method: None
     Basin Model List: RWTF
End:

Precip Method Parameters: SCS Storm
     Storm Depth: 6.7
     Storm Type: Type III
End:

Subbasin: Subbasin-A
End:

Subbasin: Subbasin-B
End:

Meteorology: T05
     Last Modified Date: 2 June 2009
     Last Modified Time: 16:44:21
     Version: 3.1.0
     Unit System: English
     Precipitation Method: SCS Storm
     Snowmelt Method: None
     Basin Model List: RWTF
End:

Precip Method Parameters: SCS Storm
     Storm Depth: 8.8
     Storm Type: Type III
End:

Subbasin: Subbasin-A
End:

Subbasin: Subbasin-B
End:

Meteorology: T10
     Last Modified Date: 2 June 2009
     Last Modified Time: 16:44:27
     Version: 3.1.0
     Unit System: English
     Precipitation Method: SCS Storm
     Snowmelt Method: None
     Basin Model List: RWTF
End:

Precip Method Parameters: SCS Storm
     Storm Depth: 10.5
     Storm Type: Type III
End:

Subbasin: Subbasin-A
End:

Subbasin: Subbasin-B
End:

Meteorology: T25
     Last Modified Date: 2 June 2009
```

```
     Last Modified Time: 16:44:34
     Version: 3.1.0
     Unit System: English
     Precipitation Method: SCS Storm
     Snowmelt Method: None
     Basin Model List: RWTF
End:

Precip Method Parameters: SCS Storm
     Storm Depth: 12.6
     Storm Type: Type III
End:

Subbasin: Subbasin-A
End:

Subbasin: Subbasin-B
End:

Meteorology: T100
     Last Modified Date: 2 June 2009
     Last Modified Time: 16:47:15
     Version: 3.1.0
     Unit System: English
     Precipitation Method: SCS Storm
     Snowmelt Method: None
     Basin Model List: RWTF
End:

Precip Method Parameters: SCS Storm
     Storm Depth: 19
     Storm Type: Type III
End:

Subbasin: Subbasin-A
End:

Subbasin: Subbasin-B
End:
```

Text contents of Run data file

```
Run: 100-yr POST
     Default Description: Yes
     Log File: 100_yr_POST.log
     Basin: RWTF
     Precip: T100
     Control: SWM
     Precip Last Execution Date: 17 June 2009
     Precip Last Execution Time: 21:48:43
     Basin Last Execution Date: 17 June 2009
     Basin Last Execution Time: 21:48:43
End:

Run: 10-yr POST
     Default Description: Yes
     Log File: 10_yr_POST.log
     Basin: RWTF
     Precip: T10
     Control: SWM
     Precip Last Execution Date: 17 June 2009
     Precip Last Execution Time: 22:30:07
     Basin Last Execution Date: 17 June 2009
     Basin Last Execution Time: 22:30:07
End:
```

```
Run: 25-yr POST
     Default Description: Yes
     Log File: 25_yr_POST.log
     Basin: RWTF
     Precip: T25
     Control: SWM
     Precip Last Execution Date: 17 June 2009
     Precip Last Execution Time: 22:30:13
     Basin Last Execution Date: 17 June 2009
     Basin Last Execution Time: 22:30:13
End:

Run: 2-yr POST
     Default Description: Yes
     Log File: 2_yr_POST.log
     Basin: RWTF
     Precip: T02
     Control: SWM
     Precip Last Execution Date: 17 June 2009
     Precip Last Execution Time: 22:29:55
     Basin Last Execution Date: 17 June 2009
     Basin Last Execution Time: 22:29:55
End:

Run: 5-yr POST
     Default Description: Yes
     Log File: 5_yr_POST.log
     Basin: RWTF
     Precip: T05
     Control: SWM
     Precip Last Execution Date: 17 June 2009
     Precip Last Execution Time: 22:30:01
     Basin Last Execution Date: 17 June 2009
     Basin Last Execution Time: 22:30:01
End:
```

Text contents of pdata

```
Table: Pond A
     Table Type: Stage-Flow
     Last Modified Date: 17 June 2009
     Last Modified Time: 21:47:46
     X-Units: FT
     Y-Units: CFS
     Use External DSS File: NO
     DSS File: Project_2.dss
     Pathname: //Pond A/STAGE-FLOW///TABLE/
End:

Table: Pond B
     Table Type: Stage-Flow
     Last Modified Date: 3 June 2009
     Last Modified Time: 13:48:56
     X-Units: FT
     Y-Units: CFS
     Use External DSS File: NO
     DSS File: Project_2.dss
     Pathname: //POND B/STAGE-FLOW///TABLE/
End:

Table: Pond A
     Table Type: Elevation-Area
     Last Modified Date: 17 June 2009
     Last Modified Time: 21:39:33
     X-Units: FT
```

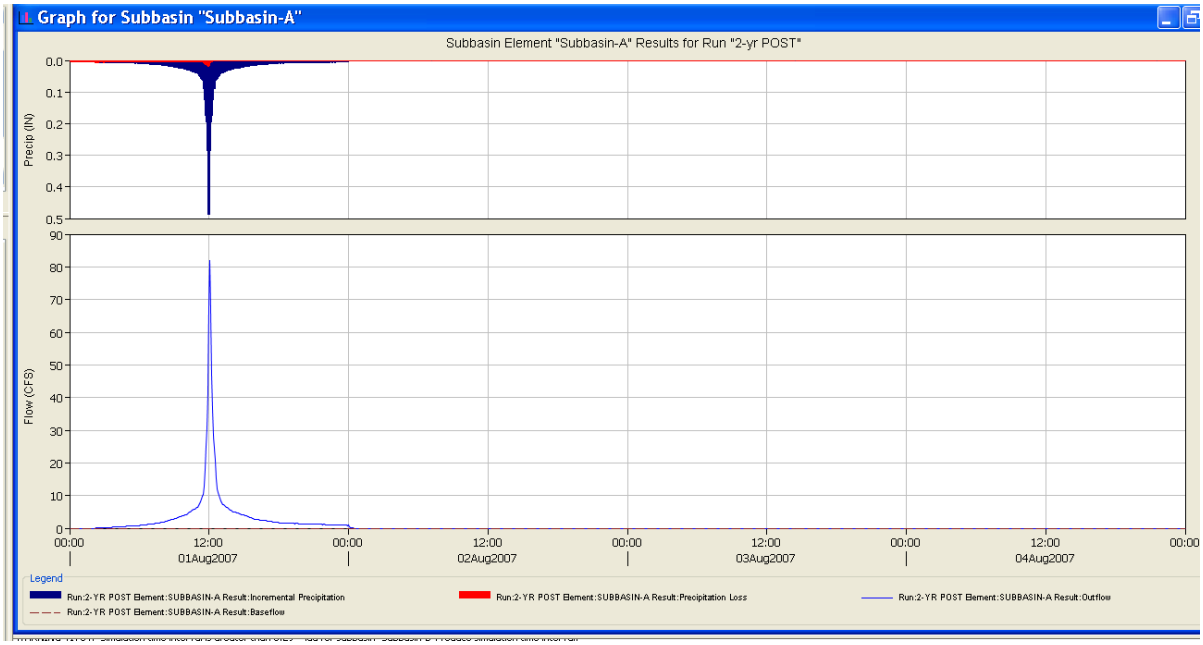
```
     Y-Units: ACRE
     Use External DSS File: NO
     DSS File: Project_2.dss
     Pathname: //Pond A/ELEVATION-AREA///TABLE/
End:

Table: Pond B
     Table Type: Elevation-Area
     Last Modified Date: 17 June 2009
     Last Modified Time: 21:41:20
     X-Units: FT
     Y-Units: ACRE
     Use External DSS File: NO
     DSS File: Project_2.dss
     Pathname: //Pond B/ELEVATION-AREA///TABLE/
End:
```

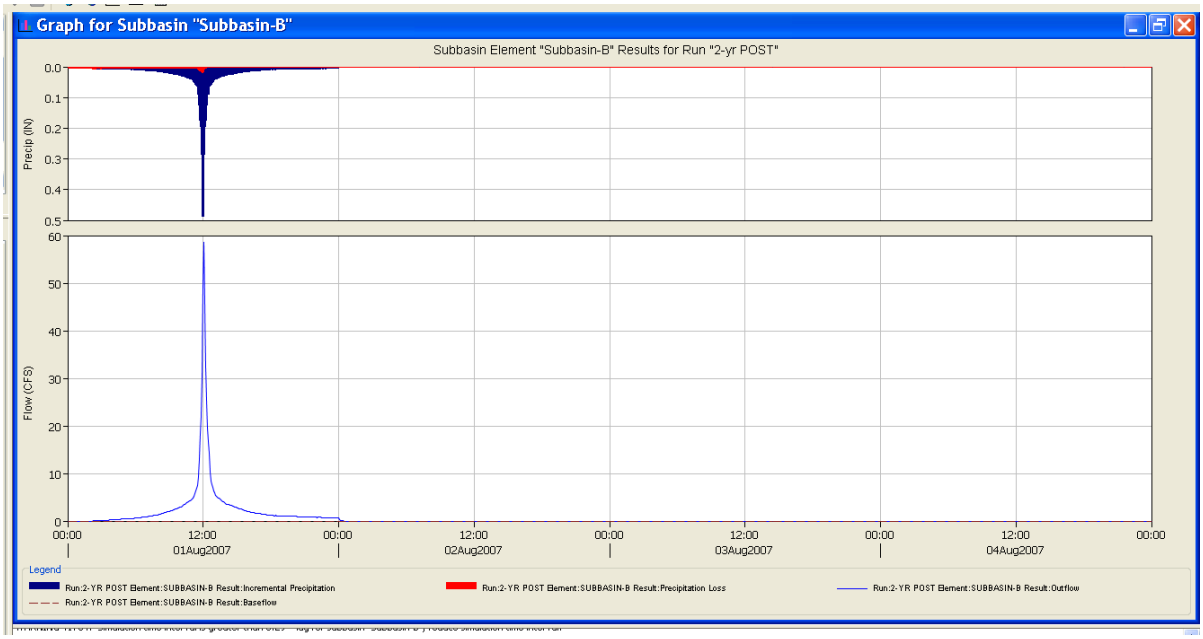
Text contents of SWM.control

```
Control: SWM
     Description: Design Storm
     Last Modified Date: 17 June 2009
     Last Modified Time: 21:42:22
     Start Date: 1 August 2007
     Start Time: 00:00
     End Date: 5 August 2007
     End Time: 00:00
     Time Interval: 5
End:
```

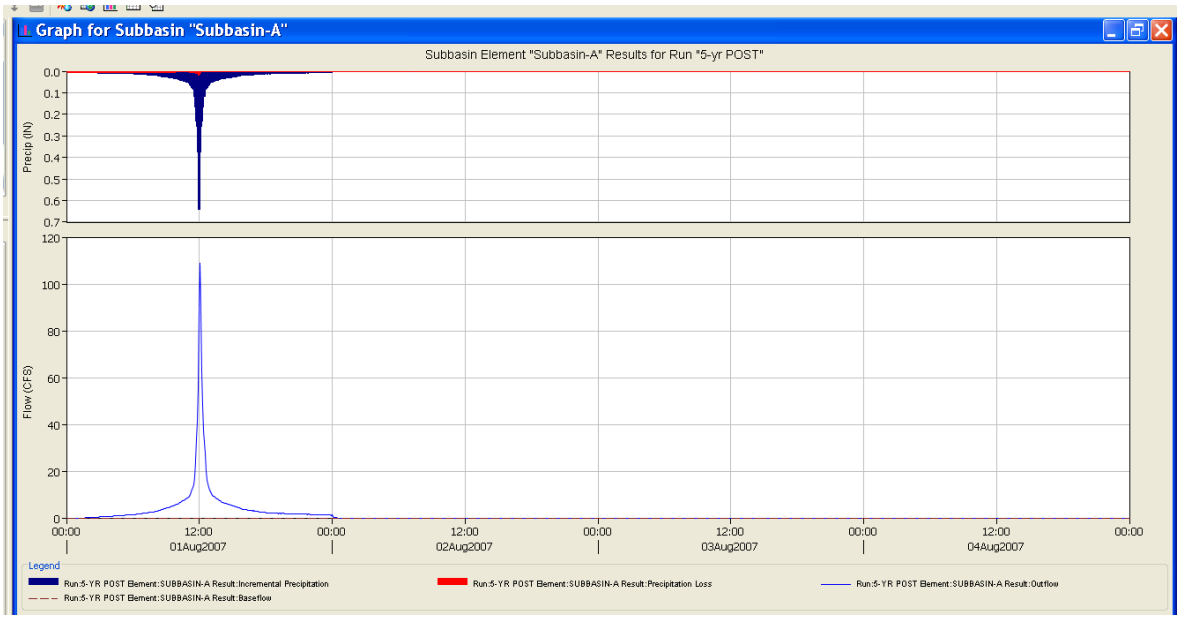
RUNOFF HYDROGRAPHS FOR DRAINAGE BASINS:

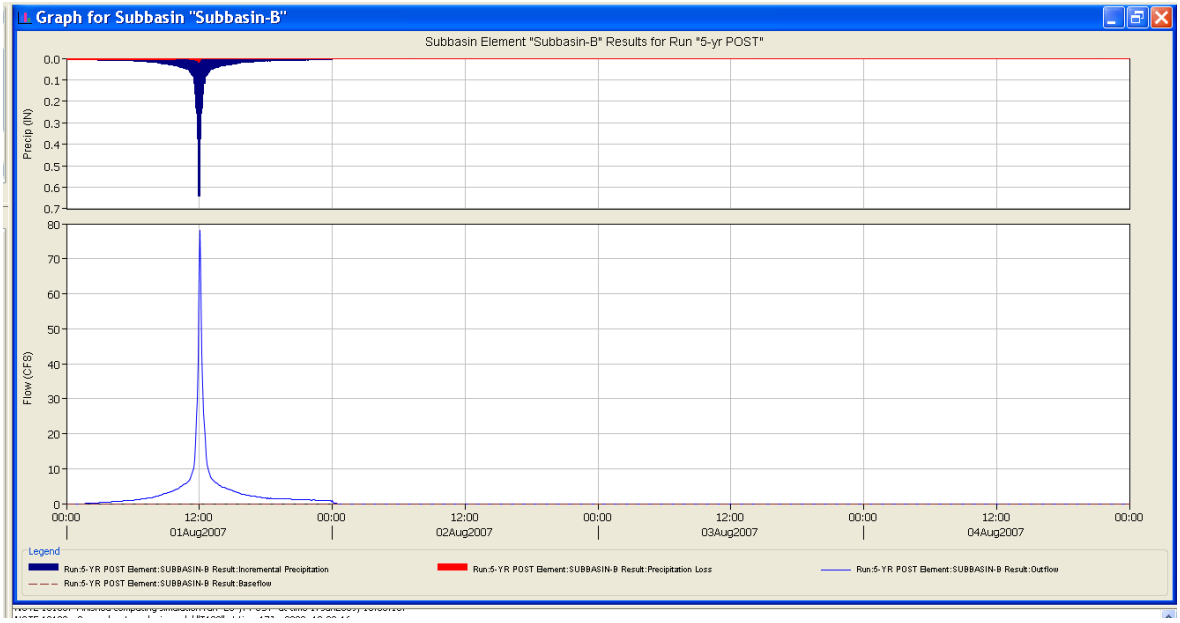
2-YEAR



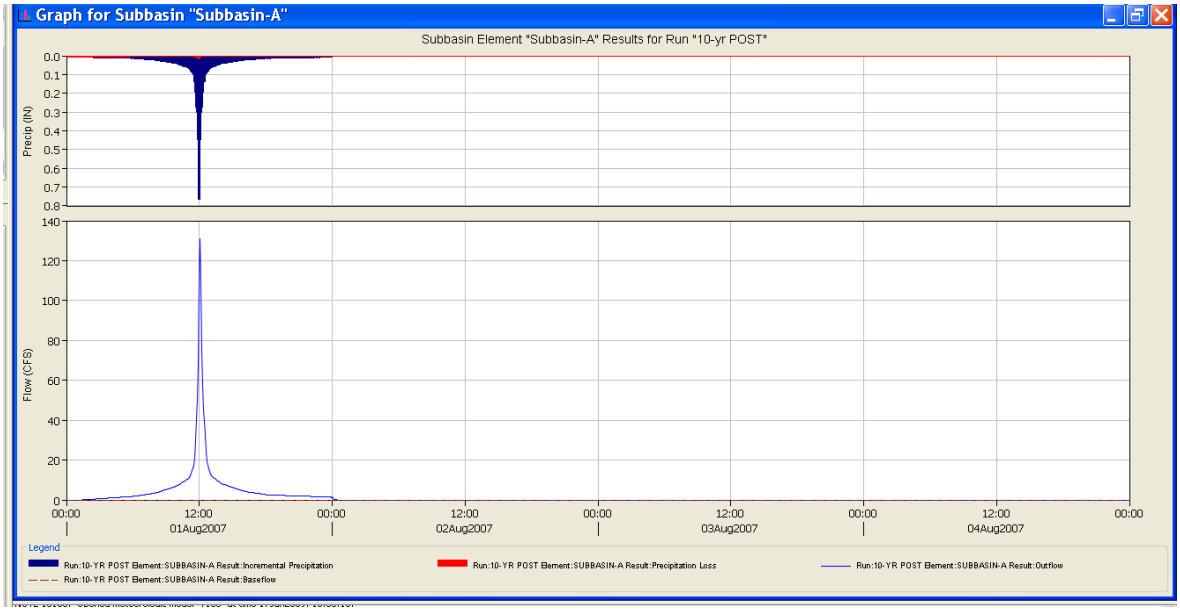


5-YEAR


Graph for Subbasin "Subbasin-A"
Subbasin Element "Subbasin-A" Results for Run "5-yr POST"
Precip (IN)
Flow (CFS)
01Aug2007
02Aug2007
03Aug2007
04Aug2007
Legend
Run:5-YR POST Element:SUBBASIN-A Result:Incremental Precipitation
Run:5-YR POST Element:SUBBASIN-A Result:Precipitation Loss
Run:5-YR POST Element:SUBBASIN-A Result:Outflow
Run:5-YR POST Element:SUBBASIN-A Result:Baseflow


Graph for Subbasin "Subbasin-B"
Subbasin Element "Subbasin-B" Results for Run "5-yr POST"
Precip (IN)
Flow (CFS)
01Aug2007
02Aug2007
03Aug2007
04Aug2007
Legend
Run:5-YR POST Element:SUBBASIN-B Result:Incremental Precipitation
Run:5-YR POST Element:SUBBASIN-B Result:Precipitation Loss
Run:5-YR POST Element:SUBBASIN-B Result:Outflow
Run:5-YR POST Element:SUBBASIN-B Result:Baseflow

10-YEAR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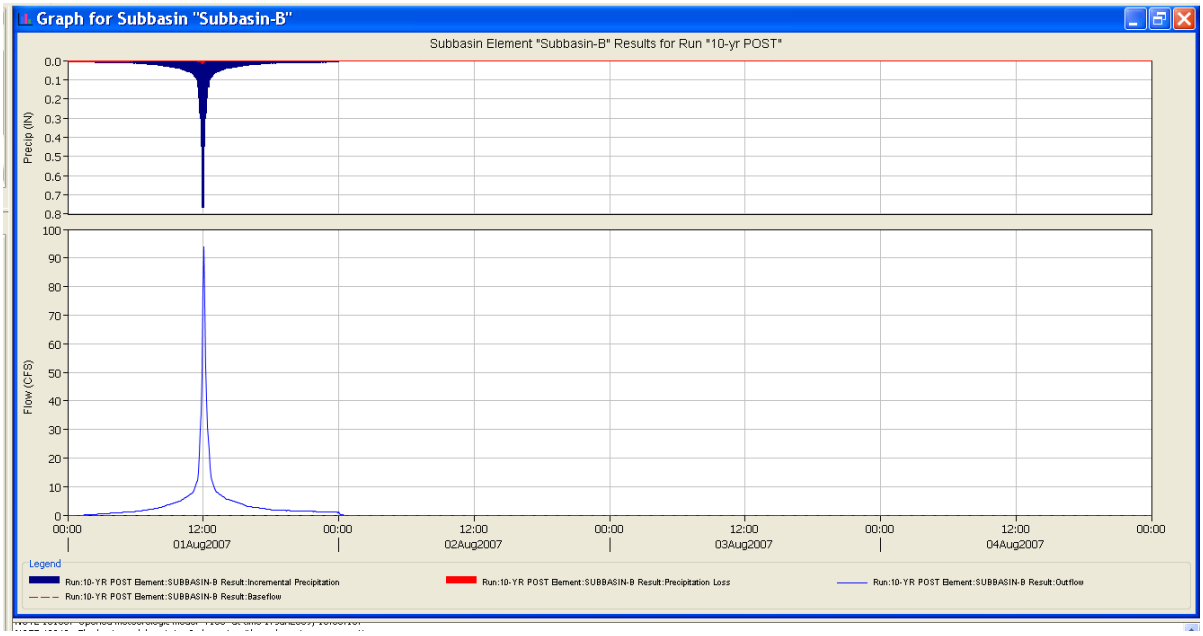
Precip (IN)
Flow (CFS)
01Aug2007
02Aug2007
03Aug2007
04Aug2007
Legend
Run:10-YR POST Element:SUBBASIN-A Result:Incremental Precipitation
Run:10-YR POST Element:SUBBASIN-A Result:Precipitation Loss
Run:10-YR POST Element:SUBBASIN-A Result:Outflow
Run:10-YR POST Element:SUBBASIN-A Result:Baseflow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Precip (IN)
Flow (CFS)
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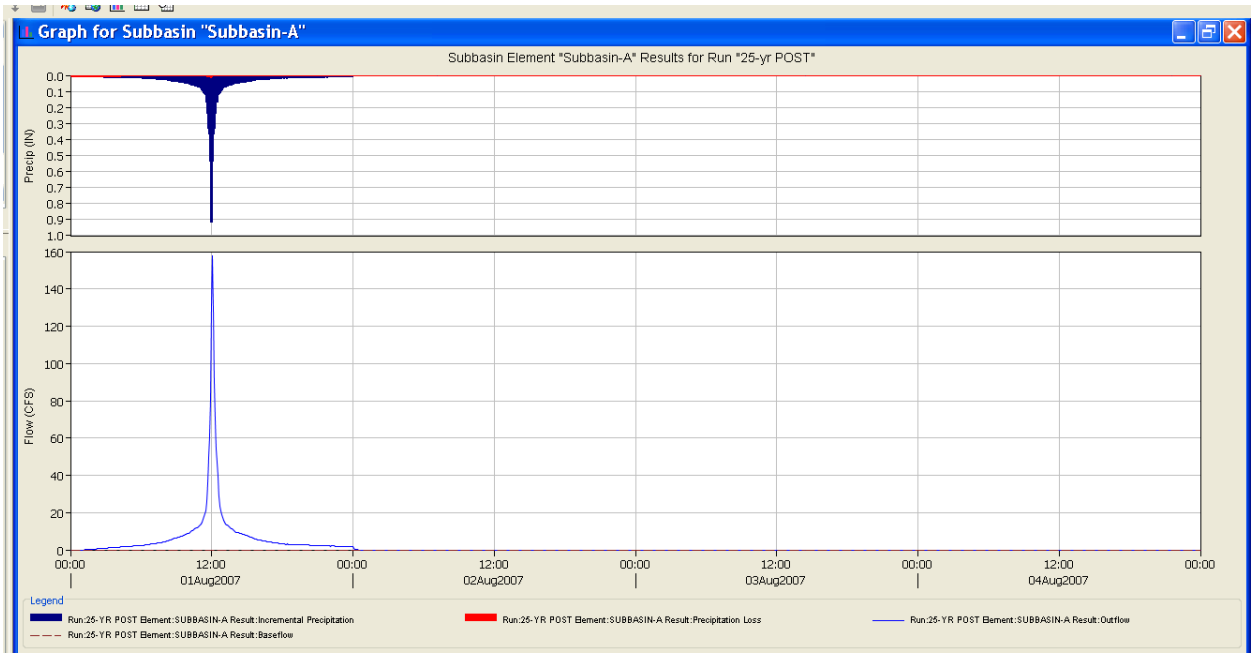
02Aug2007
03Aug2007
04Aug2007
Legend
Run:10-YR POST Element:SUBBASIN-B Result:Incremental Precipitation
Run:10-YR POST Element:SUBBASIN-B Result:Precipitation Loss
Run:10-YR POST Element:SUBBASIN-B Result:Outflow
Run:10-YR POST Element:SUBBASIN-B Result:Baseflow

25-YEAR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Flow (CFS)
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02Aug2007
03Aug2007
04Aug2007
Legend
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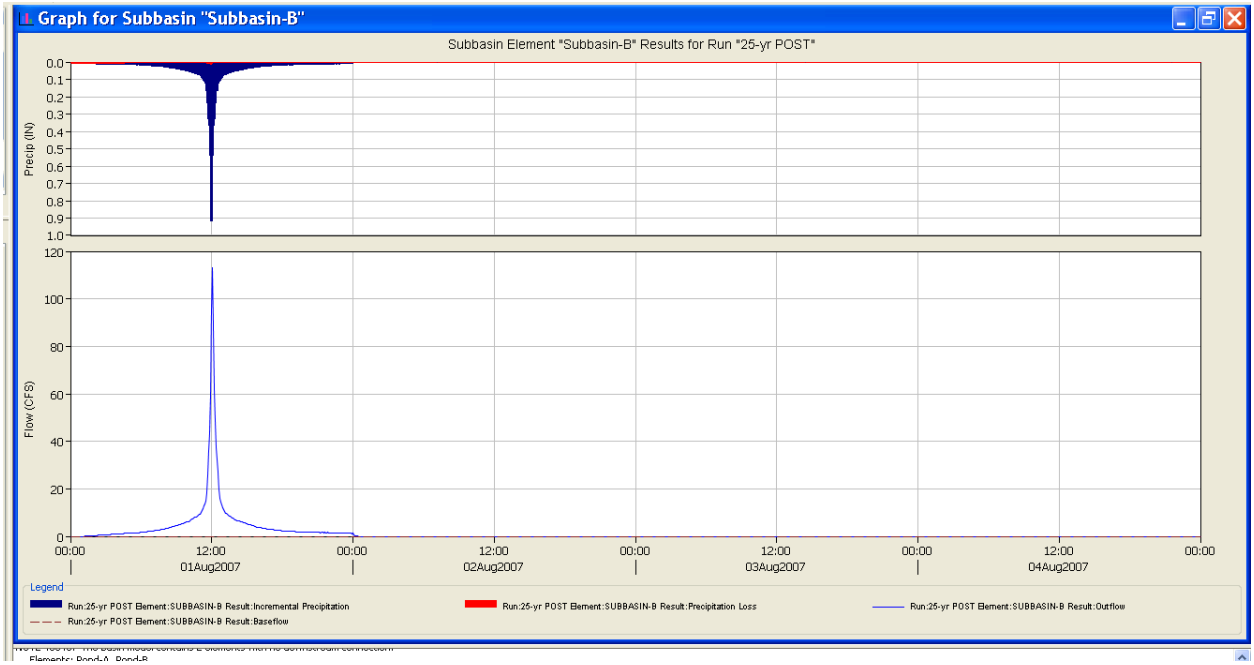
Run:25-YR POST Element:SUBBASIN-A Result:Precipitation Loss
Run:25-YR POST Element:SUBBASIN-A Result:Outflow
Run:25-YR POST Element:SUBBASIN-A Result:Baseflow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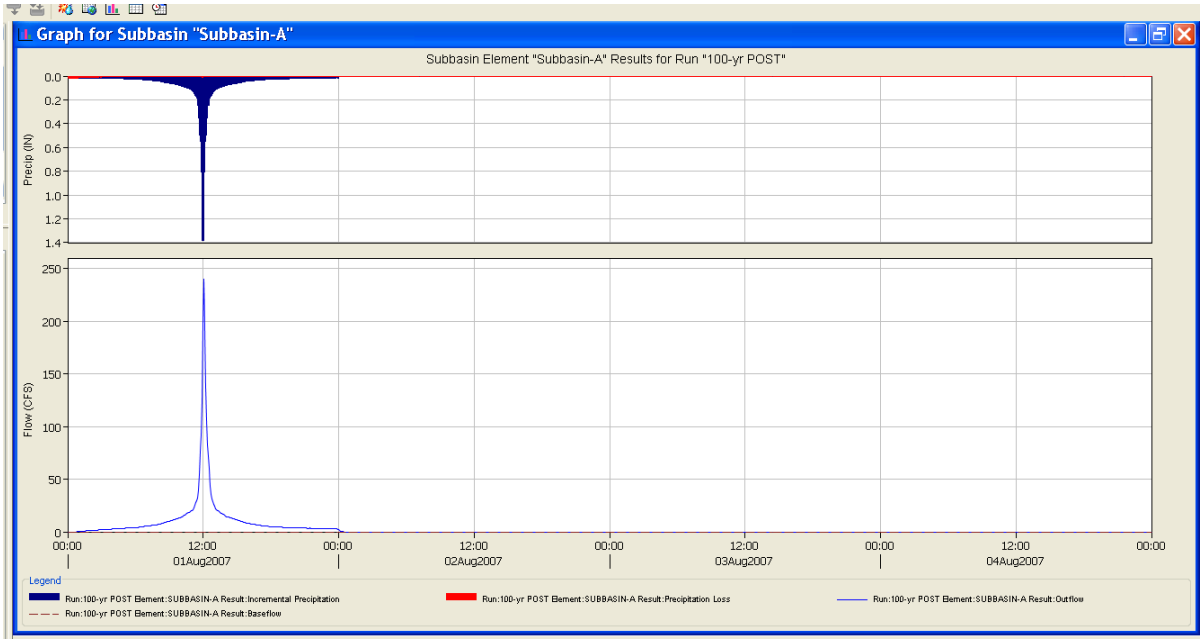
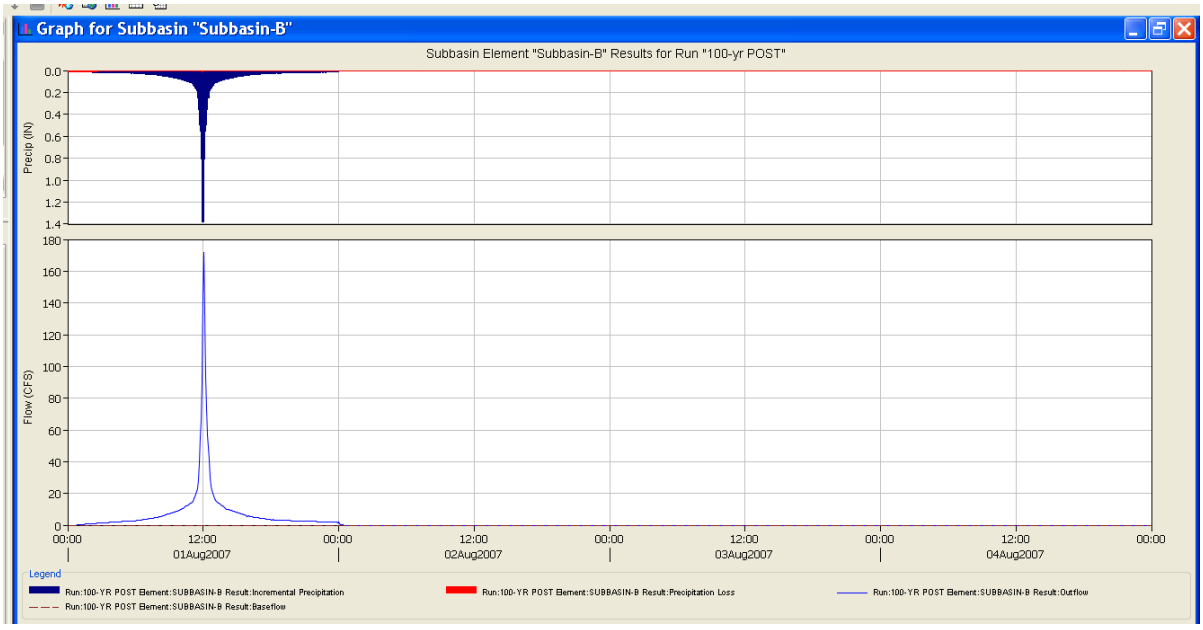
Subbasin Element "Subbasin-B" Results for Run "25-yr POST"
Precip (IN)
Flow (CFS)
01Aug2007
02Aug2007
03Aug2007
04Aug2007
Legend
Run:25-yr POST Element:SUBBASIN-B Result:Incremental Precipitation
Run:25-yr POST Element:SUBBASIN-B Result:Precipitation Loss
Run:25-yr POST Element:SUBBASIN-B Result:Outflow
Run:25-yr POST Element:SUBBASIN-B Result:Baseflow

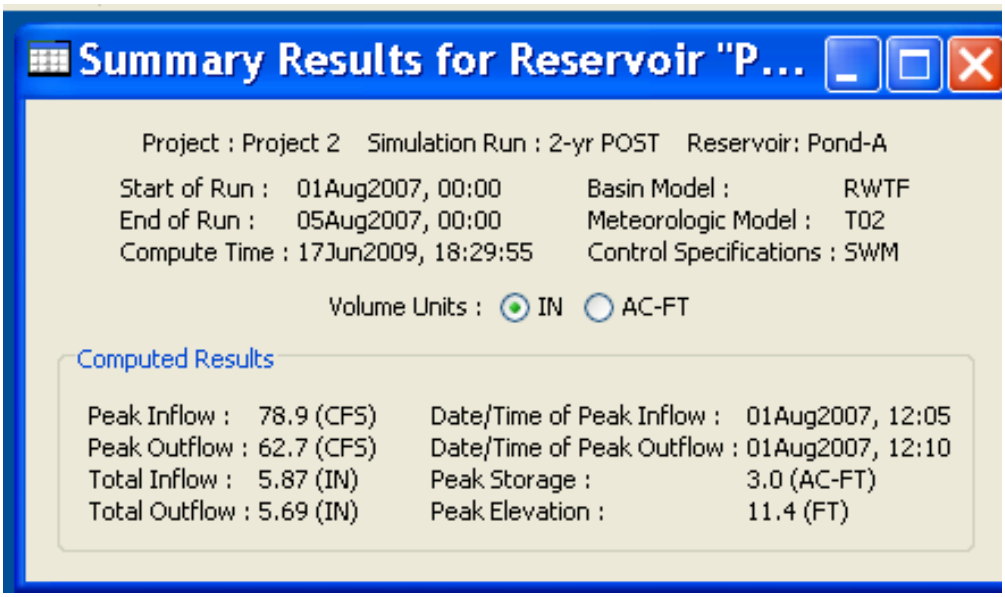
100-YEAR





STORM WATER BASIN SUMMARY TABLES

2-YEAR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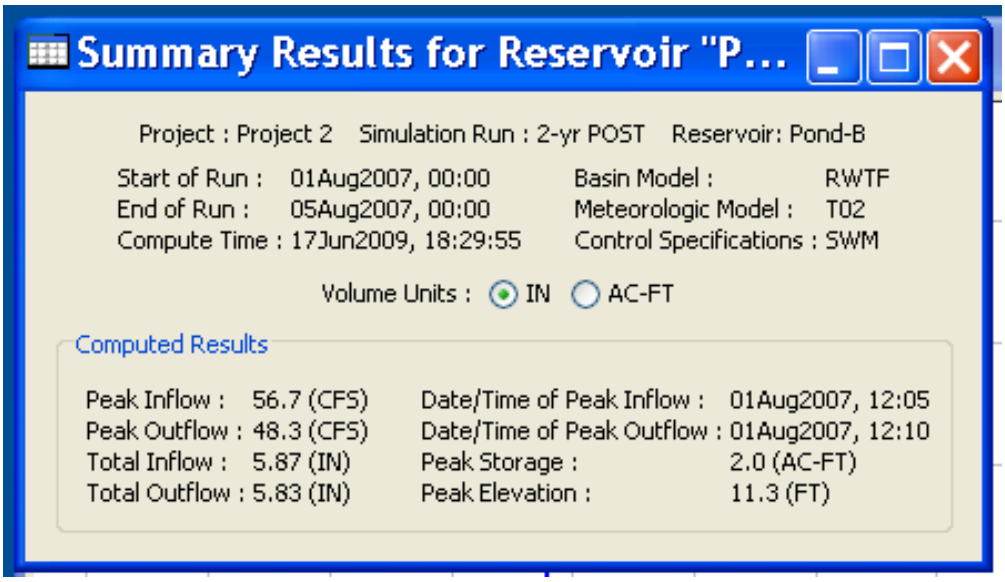
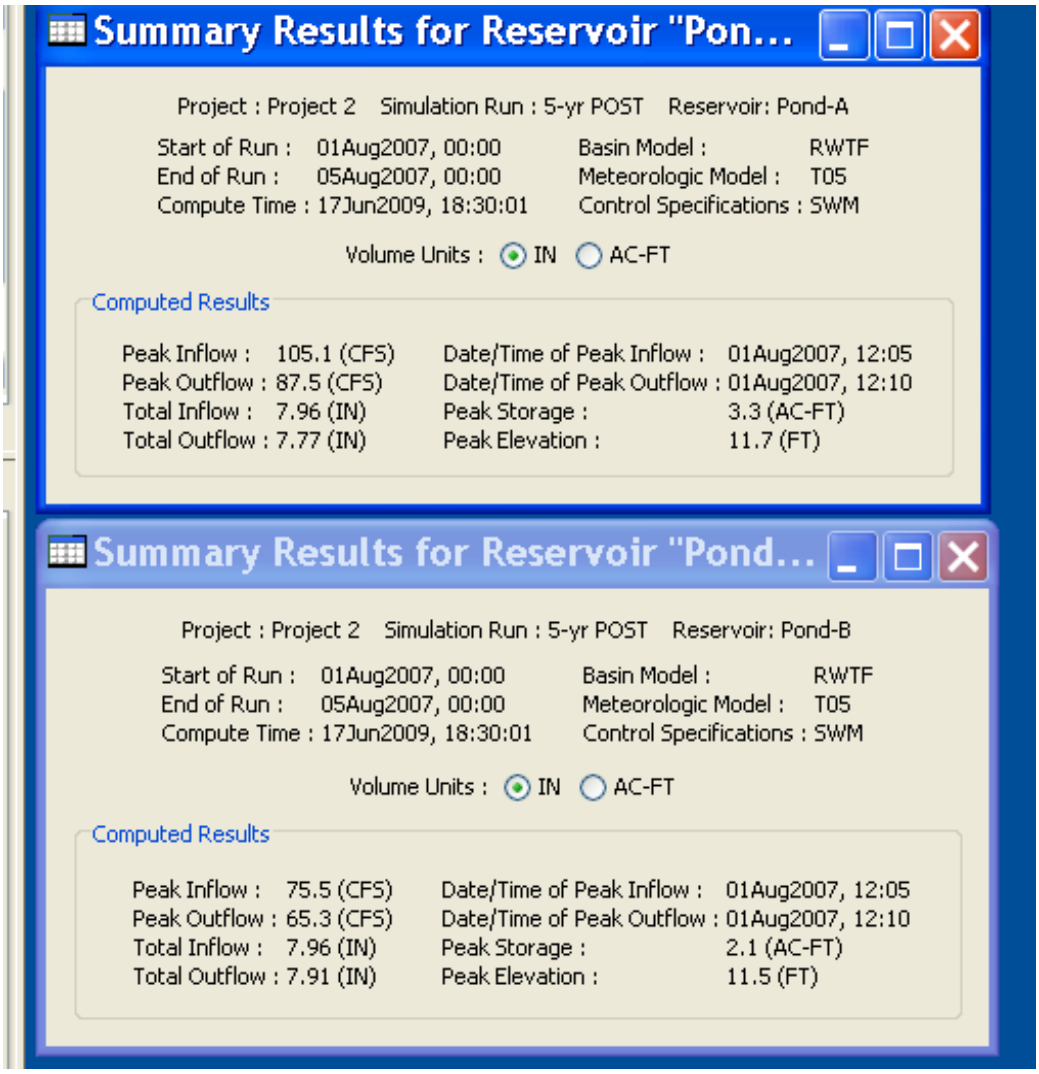
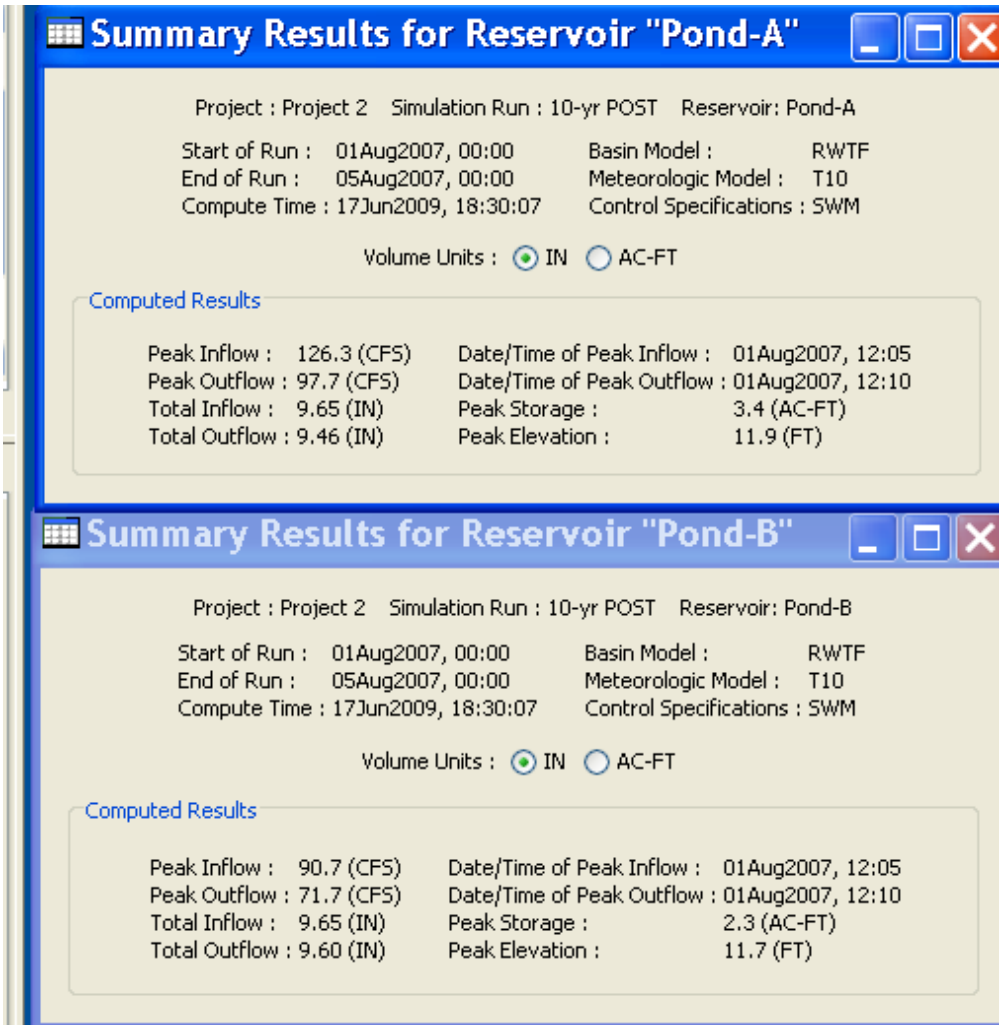
Start of Run : 01Aug2007, 00:00
End of Run : 05Aug2007, 00:00
Compute Time : 17Jun2009, 18:29:55
Basin Model : RWTF
Meteorologic Model : T02
Control Specifications : SWM
Volume Units : IN AC-FT
Computed Results
Peak Inflow : 78.9 (CFS)
Peak Outflow : 62.7 (CFS)
Total Inflow : 5.87 (IN)
Total Outflow : 5.69 (IN)
Date/Time of Peak Inflow : 01Aug2007, 12:05
Date/Time of Peak Outflow : 01Aug2007, 12:10
Peak Storage : 3.0 (AC-FT)
Peak Elevation : 11.4 (FT)


Summary Results for Reservoir "P...
Project : Project 2 Simulation Run : 2-yr POST Reservoir: Pond-B
Start of Run : 01Aug2007, 00:00
End of Run : 05Aug2007, 00:00
Compute Time : 17Jun2009, 18:29:55
Basin Model : RWTF
Meteorologic Model : T02
Control Specifications : SWM
Volume Units : IN AC-FT
Computed Results
Peak Inflow : 56.7 (CFS)
Peak Outflow : 48.3 (CFS)
Total Inflow : 5.87 (IN)
Total Outflow : 5.83 (IN)
Date/Time of Peak Inflow : 01Aug2007, 12:05
Date/Time of Peak Outflow : 01Aug2007, 12:10
Peak Storage : 2.0 (AC-FT)
Peak Elevation : 11.3 (FT)

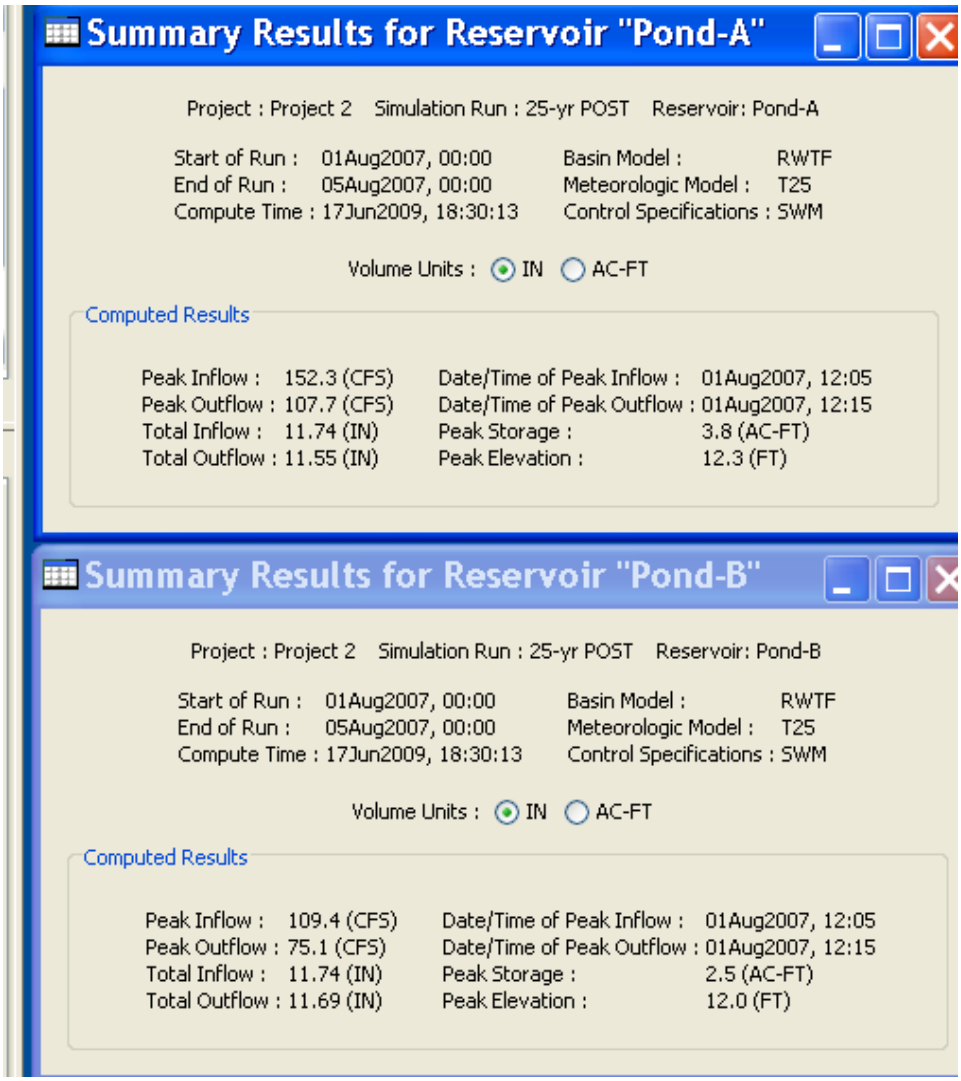
5-YEAR

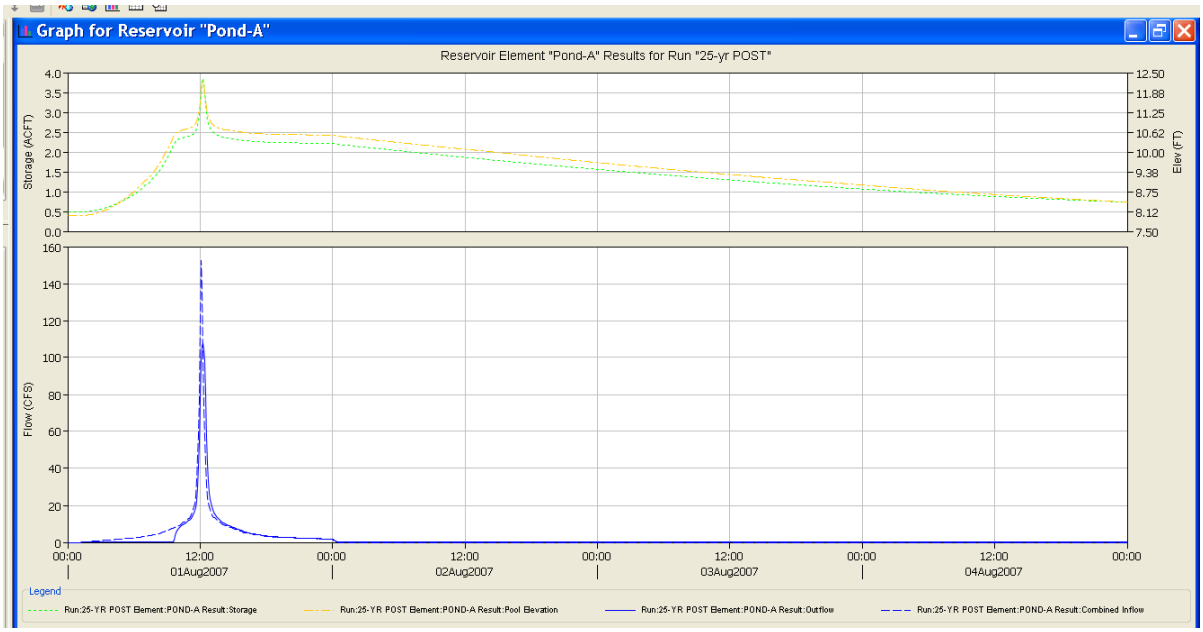

Summary Results for Reservoir "Pon...
Project : Project 2 Simulation Run : 5-yr POST Reservoir: Pond-A
Start of Run : 01Aug2007, 00:00
End of Run : 05Aug2007, 00:00
Compute Time : 17Jun2009, 18:30:01
Basin Model : RWTF
Meteorologic Model : T05
Control Specifications : SWM
Volume Units : IN AC-FT
Computed Results
Peak Inflow : 105.1 (CFS)
Peak Outflow : 87.5 (CFS)
Total Inflow : 7.96 (IN)
Total Outflow : 7.77 (IN)
Date/Time of Peak Inflow : 01Aug2007, 12:05
Date/Time of Peak Outflow : 01Aug2007, 12:10
Peak Storage : 3.3 (AC-FT)
Peak Elevation : 11.7 (FT)
Summary Results for Reservoir "Pond...
Project : Project 2 Simulation Run : 5-yr POST Reservoir: Pond-B
Start of Run : 01Aug2007, 00:00
End of Run : 05Aug2007, 00:00
Compute Time : 17Jun2009, 18:30:01
Basin Model : RWTF
Meteorologic Model : T05
Control Specifications : SWM
Volume Units : IN AC-FT
Computed Results
Peak Inflow : 75.5 (CFS)
Peak Outflow : 65.3 (CFS)
Total Inflow : 7.96 (IN)
Total Outflow : 7.91 (IN)
Date/Time of Peak Inflow : 01Aug2007, 12:05
Date/Time of Peak Outflow : 01Aug2007, 12:10
Peak Storage : 2.1 (AC-FT)
Peak Elevation : 11.5 (FT)

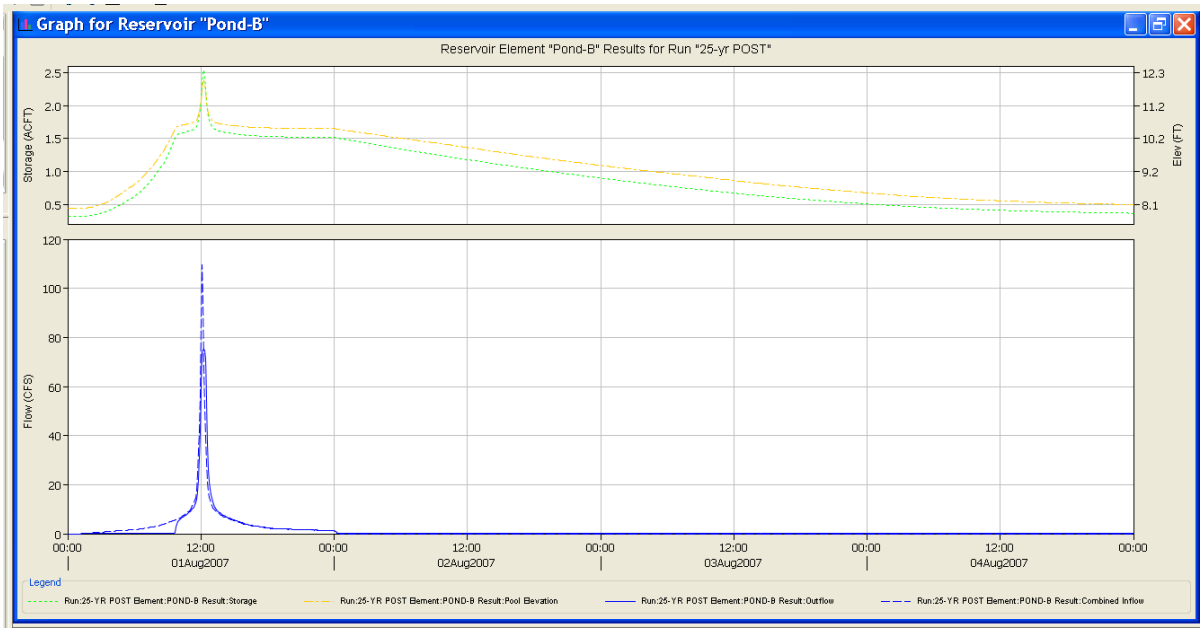
10-***YEAR***


Summary Results for Reservoir "Pond-A"
Project : Project 2 Simulation Run : 10-yr POST Reservoir: Pond-A
Start of Run : 01Aug2007, 00:00
End of Run : 05Aug2007, 00:00
Compute Time : 17Jun2009, 18:30:07
Basin Model : RWTF
Meteorologic Model : T10
Control Specifications : SWM
Volume Units : IN AC-FT
Computed Results
Peak Inflow : 126.3 (CFS)
Peak Outflow : 97.7 (CFS)
Total Inflow : 9.65 (IN)
Total Outflow : 9.46 (IN)
Date/Time of Peak Inflow : 01Aug2007, 12:05
Date/Time of Peak Outflow : 01Aug2007, 12:10
Peak Storage : 3.4 (AC-FT)
Peak Elevation : 11.9 (FT)
Summary Results for Reservoir "Pond-B"
Project : Project 2 Simulation Run : 10-yr POST Reservoir: Pond-B
Start of Run : 01Aug2007, 00:00
End of Run : 05Aug2007, 00:00
Compute Time : 17Jun2009, 18:30:07
Basin Model : RWTF
Meteorologic Model : T10
Control Specifications : SWM
Volume Units : IN AC-FT
Computed Results
Peak Inflow : 90.7 (CFS)
Peak Outflow : 71.7 (CFS)
Total Inflow : 9.65 (IN)
Total Outflow : 9.60 (IN)
Date/Time of Peak Inflow : 01Aug2007, 12:05
Date/Time of Peak Outflow : 01Aug2007, 12:10
Peak Storage : 2.3 (AC-FT)
Peak Elevation : 11.7 (FT)

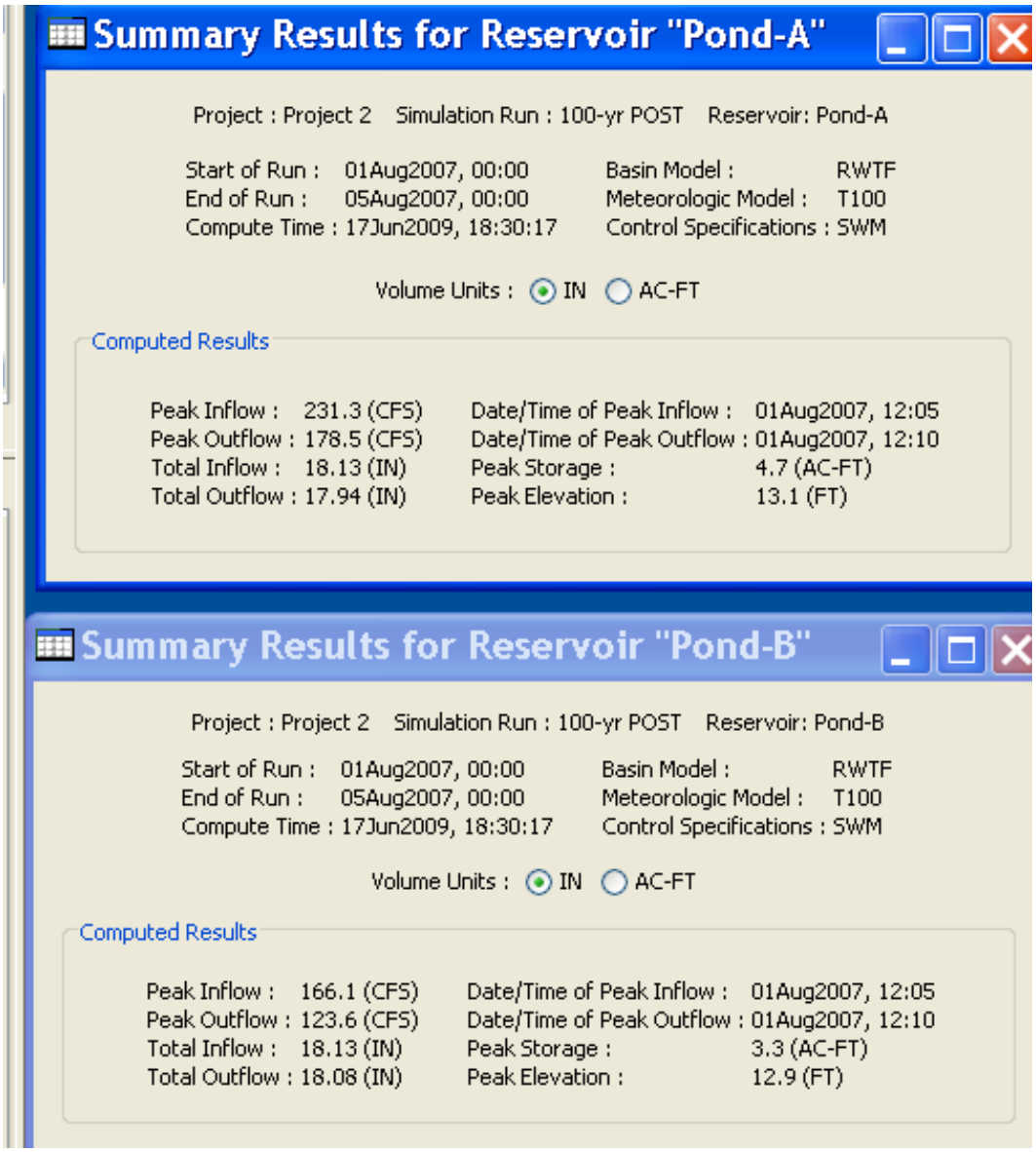
25-YEAR


Summary Results for Reservoir "Pond-A"
Project : Project 2 Simulation Run : 25-yr POST Reservoir: Pond-A
Start of Run : 01Aug2007, 00:00
End of Run : 05Aug2007, 00:00
Compute Time : 17Jun2009, 18:30:13
Basin Model : RWTF
Meteorologic Model : T25
Control Specifications : SWM
Volume Units : IN AC-FT
Computed Results
Peak Inflow : 152.3 (CFS)
Peak Outflow : 107.7 (CFS)
Total Inflow : 11.74 (IN)
Total Outflow : 11.55 (IN)
Date/Time of Peak Inflow : 01Aug2007, 12:05
Date/Time of Peak Outflow : 01Aug2007, 12:15
Peak Storage : 3.8 (AC-FT)
Peak Elevation : 12.3 (FT)
Summary Results for Reservoir "Pond-B"
Project : Project 2 Simulation Run : 25-yr POST Reservoir: Pond-B
Start of Run : 01Aug2007, 00:00
End of Run : 05Aug2007, 00:00
Compute Time : 17Jun2009, 18:30:13
Basin Model : RWTF
Meteorologic Model : T25
Control Specifications : SWM
Volume Units : IN AC-FT
Computed Results
Peak Inflow : 109.4 (CFS)
Peak Outflow : 75.1 (CFS)
Total Inflow : 11.74 (IN)
Total Outflow : 11.69 (IN)
Date/Time of Peak Inflow : 01Aug2007, 12:05
Date/Time of Peak Outflow : 01Aug2007, 12:15
Peak Storage : 2.5 (AC-FT)
Peak Elevation : 12.0 (FT)


Graph for Reservoir "Pond-A"
Reservoir Element "Pond-A" Results for Run "25-yr POST"
Storage (ACFT)
Elev (FT)
Flow (CFS)
01Aug2007
02Aug2007
03Aug2007
04Aug2007
Legend
Run:25-YR POST Element:POND-A Result:Storage
Run:25-YR POST Element:POND-A Result:Pool Elevation
Run:25-YR POST Element:POND-A Result:Outflow
Run:25-YR POST Element:POND-A Result:Combined Inflow


Graph for Reservoir "Pond-B"
Reservoir Element "Pond-B" Results for Run "25-yr POST"
Storage (ACFT)
Elev (FT)
Flow (CFS)
01Aug2007
02Aug2007
03Aug2007
04Aug2007
Legend
Run:25-YR POST Element:POND-B Result:Storage
Run:25-YR POST Element:POND-B Result:Pool Elevation
Run:25-YR POST Element:POND-B Result:Outflow
Run:25-YR POST Element:POND-B Result:Combined Inflow

100-*YEAR*



Summary Results for Reservoir "Pond-A"

Project : Project 2 Simulation Run : 100-yr POST Reservoir: Pond-A

Start of Run :	01Aug2007, 00:00	Basin Model :	RWTF
End of Run :	05Aug2007, 00:00	Meteorologic Model :	T100
Compute Time :	17Jun2009, 18:30:17	Control Specifications :	SWM

Volume Units : (•) IN ( ) AC-FT

Computed Results

Peak Inflow :	231.3 (CFS)	Date/Time of Peak Inflow :	01Aug2007, 12:05
Peak Outflow :	178.5 (CFS)	Date/Time of Peak Outflow :	01Aug2007, 12:10
Total Inflow :	18.13 (IN)	Peak Storage :	4.7 (AC-FT)
Total Outflow :	17.94 (IN)	Peak Elevation :	13.1 (FT)

Summary Results for Reservoir "Pond-B"

Project : Project 2 Simulation Run : 100-yr POST Reservoir: Pond-B

Start of Run :	01Aug2007, 00:00	Basin Model :	RWTF
End of Run :	05Aug2007, 00:00	Meteorologic Model :	T100
Compute Time :	17Jun2009, 18:30:17	Control Specifications :	SWM

Volume Units : (•) IN ( ) AC-FT

Computed Results

Peak Inflow :	166.1 (CFS)	Date/Time of Peak Inflow :	01Aug2007, 12:05
Peak Outflow :	123.6 (CFS)	Date/Time of Peak Outflow :	01Aug2007, 12:10
Total Inflow :	18.13 (IN)	Peak Storage :	3.3 (AC-FT)
Total Outflow :	18.08 (IN)	Peak Elevation :	12.9 (FT)

ATTACHMENT I

BOUNDARY SURVEY

N

LEGEND

Turkey Point Plant Property

REFERENCES

1. Imagery, Miami-Dade County, 2007.

0 1,742 3,484 6,968

Feet

ATTACHMENT 1

PLOT DATE 6/15/2009

REV. 0

FILE No. 08387584.J023

TITLE

PLANT AND NON-TRANSMISSION FACILITIES TURKEY POINT PLANT PROPERTY

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

FPL

ATTACHMENT J

TURKEY POINT UNITS 6 & 7 BARGE DELIVERY PLAN

TURKEY POINT UNITS 6 & 7
BARGE DELIVERY PLAN
BARGE FACILITY

June 2009

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2. PURPOSE 1
3. GEOGRAPHIC LOCATION AND DESCRIPTION OF FACILITY 2
4. CURRENT BARGE OPERATIONS 2
5. OIL SPILL CONTAINMENT EQUIPMENT 2
6. FIRE EXTINGUISHING EQUIPMENT 3
7. PROJECT BARGE OPERATIONS AND REQUIREMENTS 3

LIST OF FIGURES

Figure 1 Location Map
Figure 2 Turkey Point Plant Property

APPENDICES

Appendix A Barge Channel Bathymetry Survey

FLORIDA POWER & LIGHT COMPANY
INFORMATION SUMMARY

Facility Name:	Turkey Point Plant
Street Address:	9700 S.W. 344th Street Homestead, Florida 33035
Mailing Address:	Same as above
City:	City of Homestead
State:	Florida
Zip Code:	33035
County:	Miami Dade
Telephone Number:	(305) 242-3812
24 Hr. Number	(305) 242-3835 or (305) 242-3839
Facsimile Number:	(305) 242-3834
Facility Location:	Western shore of Biscayne Bay, approximately 8 miles east of Florida City, Miami-Dade County, Florida
SIC Code:	4911
Latitude:	25°25′20″ N
Longitude:	80°18′40″ W
Wellhead Protection Area:	Not Applicable
Owner/Operator:	Florida Power & Light Company P.O. Box 14000 Juno Beach, Florida 33408-0420
Contact:	Martin Gettler, Vice President New Nuclear Projects
Contact Number:	(561) 691-7487

Description of the Barge Facility Area

The Turkey Point Barge Facility consists of the following facilities:

1. Barge Turning Basin – A dead-ended canal about 300 feet wide, 1,200 feet long, and approximately 18 feet in depth. The only flushing that occurs is from very slight tidal action and rare west winds.
2. Boat Ramp – A rectangular land indentation on the north side of the barge turning basin, east end.
3. Equipment Barge Unloading Area – An area located on the north side of the barge turning basin adjacent to the boat ramp.
4. Fuel Oil Unloading Dock – A facility located on the north side of the barge turning basin, west end.
5. USAF/FDEP/Marine Patrol Docks – Docks located on the south side of the barge basin, facilities are currently inactive due to post-9/11 security restrictions.

Environmental Conditions

The Turkey Point Plant is located on the western shore of south Biscayne Bay. This portion of Biscayne Bay is approximately 8 miles wide and 9 miles long. On the west side of the Bay where the plant is located, extensive shoal areas exist. An area of relatively deep water, 7 to 8 feet, exists in the eastern half of this portion of the bay. South Biscayne Bay is separated from Card Sound to the south by a shoal area encompassing the Arsenicker Keys and Cutter Bank. The Featherbed Bank separates south Biscayne Bay from Biscayne Bay proper. The south Biscayne Bay area is connected to the Atlantic Ocean by Caesar Creek between Elliott Key and Old Rhodes Key.

Tides in the area are chiefly semidiurnal. The ocean tide has a mean range of 2.44 feet. The tide in south Biscayne Bay has a mean range of approximately 1.6 feet. High tide lags the ocean tide by approximately 2 hours and 15 minutes and low tide by approximately 2 hours and 45 minutes. There is only a slight tidal action in the plant's barge basin.

Currents in south Biscayne Bay in the area around the plant are primarily wind induced. The order of magnitude of tidal currents within this area is less than 0.5 ft/sec.

Water depths in the barge basin are approximately 18 feet. Water depths in the entrance channel are between 8 and 12 feet. The near shore shallow areas of the western side of south Biscayne Bay outside the channel are generally less than 5 feet deep.

The intertidal shoreline consists of carbonate sands. Subtidal south Biscayne Bay is underlain by shallow bedrock depressions. Sediments consisting of carbonate sands and muds form a shallow cover over the bedrock. In the shoal areas a moderate to dense cover of seagrass and calcareous green algae exists.

1. INTRODUCTION

The Turkey Point Plant has reliably supplied electric power to FPL's residential, commercial, and industrial customers since 1967, when Unit 1 began operation. The Turkey Point Plant Property occupies approximately 11,000 acres in Miami Dade County, Florida. Generating units at the Turkey Point Plant presently include Units 1 and 2 [each nominal 400- MW residual oil and/or natural gas-fired units], Units 3 and 4 (each nominal 700-MW nuclear units), and Unit 5 (a natural gas-fired combined cycle unit). There is an existing barge channel with barge turning basin for equipment and fuel oil deliveries.

FPL is seeking to construct and operate two approximately 1,100-MW (net) nuclear units on the approximately 11,000-acre Turkey Point plant property and referred to as the Project. The Project will include two nuclear units, six circulating water cooling towers, a makeup water reservoir, a substation, and other associated facilities. The technology proposed for Units 6 & 7 is the Westinghouse AP1000 PWR. The principal electric generating components of the Westinghouse AP1000 unit consist of the reactor, steam generators, pressurizer, and steam turbine/electric generator. Condenser cooling for the steam turbines will be accomplished using mechanical draft cooling towers. The principal structures for the Westinghouse AP1000 are the shield building, turbine building, annex building, and other auxiliary buildings. Turkey Point Unit 6 is expected to be in commercial operation in 2018, with Unit 7 expected to be in commercial operation in 2020.

2. PURPOSE

This document describes the minimum requirements and procedures that are to be used for the delivery of major equipment to the Project at the plant property during the Turkey Point Units 6 & 7 construction period. This plan supplements the existing Turkey Point Plant Operations Manual for Fuel Oil Unloading in accordance with U.S. Coast Guard Regulations 33 CFR 154.310.

The objective is to safely transport and transfer the cargo contents from the barge to land while preventing damage to the surrounding bay bottom and associated seagrass areas in Biscayne Bay. The existing equipment barge unloading area will be extended landward to facilitate component unloading.

3. GEOGRAPHIC LOCATION AND DESCRIPTION OF FACILITY

The Turkey Point plant property is located in southeast Miami-Dade County, Florida, on a large tract of land adjacent to Biscayne Bay. The Turkey Point Plant is 25 miles southeast of downtown Miami, 8 miles east of Florida City, and 9 miles southeast of Homestead, Florida as shown in Figure 1. An aerial view depicting the existing plant and the barge turning basin is shown in Figure 2 with the key components identified in the legend.

The barge turning basin was constructed in 1979 specifically for the purpose of transporting major equipment to the Plant. The equipment barge unloading area was constructed with on-shore anchoring bollards for securing the barge during off-loading operations.

The barge turning basin is about 300 feet wide, 1,200 feet long and 18 feet deep. The barge turning basin was designed and constructed to allow for the maneuvering of the major equipment barges within the basin and not in the bay or the bay channel. The barge turning basin is dead-ended and the only flushing that occurs is from tidal action and rare west winds.

4. CURRENT BARGE OPERATIONS

Fuel oil is delivered to the site by means of barge and tug from a fuel oil terminal at the Port of Miami on Dodge Island. The barge route to the plant is by way of the Intracoastal Waterway through Biscayne Bay utilizing the existing barge channel. The barge channel is approximately 3.4 miles in length with a width of about 90 feet at depth of -11 feet NAVD88 or more for the majority of its length (see Appendix A). The depth at -11 feet NAVD 88 is -9.37 feet mean low water. There is one fuel oil unloading dock at the plant, which is located on the north bank of the barge turning basin (Figure 2). Appropriate aids to navigation have been installed in the channel (refer to SCA Appendices 10.2.10 and 10.6).

The existing oil transfer operations can occur 24 hours a day, 7 days a week, 365 days per year. In a typical week, 5 to 7 deliveries of oil may be received. It usually requires about 5 to 8 hours to unload a barge of oil. Barge capacities vary between 10,000 and 14,000 barrels per delivery. The typical barge is approximately 230 feet long, 55 feet wide, and has a draft of 6.5 feet when loaded.

5. OIL SPILL CONTAINMENT EQUIPMENT

The existing plant has a detailed Oil Spill Response Plan. A detailed list of oil response equipment available at the plant is provided in the plant's emergency and oil spill response plans. If needed, the

barge turning basin can be contained by deploying a boom which is staged and ready for deployment at the basin entrance. Refer to Figure 2 for the storage location of the various components. Operating instructions for the use of containment equipment are provided with each piece of equipment.

In the event of a major oil spill where additional equipment is needed promptly, the Turkey Point Plant can request the oil spill containment equipment from FPL's Lauderdale Plant (55 miles away), and FPL's Port Everglades Plant (60 miles away). Refer to the Oil Spill Response Plan for each plant regarding the response equipment available.

Training exercises are held on a regular basis in accordance with the National Preparedness for Response Exercise Program (PREP). Details on the drills conducted are provided in the facility Oil Spill Response Plan.

6. FIRE EXTINGUISHING EQUIPMENT

The following fire extinguishing equipment is nearby and immediately available. These extinguishers are all applicable for flammable liquids and electrical fires.

Location	Capacity	Type
Unloading Dock	20 pounds	Dry Chemical
Unloading Dock	10 pounds	CO_2
Unloading Pump Pit	15 pounds	CO_2
Each Fuel Oil Barge/Tug	(As required by USCG)	

In the event of a major fire, assistance would be requested from the Miami-Dade County Fire Department:

Emergency: 911
Non-Emergency: (305) 595-6263

7. PROJECT BARGE OPERATIONS AND REQUIREMENTS

In addition to the current oil barge operations, delivery of major equipment is projected to occur during the construction of Units 6 & 7. The Westinghouse AP1000 has been designed to use modular construction techniques with structural, piping, and mechanical equipment modules. The largest components to be delivered are the reactor vessel, steam generators, steam turbines, and the electric generator. Transformers and other large components could also be delivered by barge. It is expected that 80 trips per unit will be needed over a six-year period to deliver large components via barge.

Delivery of the major components and equipment is expected to begin in 2013 for Unit 6 and last through 2018 for Unit 7. As with the current oil delivery operations, a majority of the deliveries are expected to commence from the Port of Miami. Alternate ports of origin include Port Everglades and Port of Palm Beach. The barge route to the plant is by way of the Intracoastal Waterway through Biscayne Bay, utilizing the existing barge channel. Deliveries will be to the equipment unloading area located on the north bank of the barge basin (see Figure 2).

Contractors experienced in the barge transportation of heavy equipment shall perform all barge deliveries of major equipment. Standard manatee conditions for construction during in-water work shall be applicable to equipment barge unloading area expansion and barge deliveries.

The barge operator shall be required to provide FPL with a 24-hour notification prior to arrival for clearance with operating facility and the construction management designee.

All deliveries will be closely coordinated with ongoing fuel oil deliveries in order to minimize the need for simultaneous barge movements within the barge turning basin and the barge entrance channel. The operating plant control room personnel will be notified by oil contractor and equipment delivery barge operators by telephone, radio, and/or facsimile prior to barge transit to the Turkey Point Plant. The control room personnel and construction project management designee will communicate by phone and/or radio with both the oil and equipment delivery operators to schedule barge deliveries and coordinate movement of barges within the barge turning basin. Only one barge will be allowed to transit the barge entrance channel at any one time in order to reduce the potential for traffic-induced impact to areas outside the channel.

As a courtesy, the barge operator will notify Biscayne National Park of its intended delivery date and time to the Turkey Point Plant.

The maximum size barge allowed shall not exceed the typical dimensions for the existing oil barges servicing the Plant (230 feet long by 55 feet wide with a maximum draft of 6.5 feet). It is expected that approximately 80 barge trips per unit will be needed over a six-year period to deliver large components. As indicated in Appendix A, the barge channel is of sufficient depth and width to accommodate barge deliveries even under mean low water conditions. Over a six-year period, the average barge deliveries will be about 27 deliveries per year or about two per month. This traffic is much less than the current number of deliveries of oil.

The barge operator for delivery of components for Units 6 & 7 will provide FPL with a detailed barge mooring and off-loading plan for review and approval prior to the departure of any barge from its originating port. The plan will include, as a minimum, the following:

A. Barge length, width, and maximum draft (6.5 feet or less).

B. Barge and cargo weight.

C. Delivery tug boat length, width, and maximum draft.

D. Detailed plan sketch showing orientation of barge to barge slip with mooring location details to on-shore anchors.

E. Detailed barge-maneuvering plan demonstrating compliance with this Barge Delivery Plan. All barge maneuvering shall be restricted to the barge basin at Turkey Point.

F. Detailed plan identifying off-loading sequences, including any accommodations required for the adjustment of the mooring to on-shore anchors.

G. Contingency plan to preclude the barge from grounding and/or damaging adjacent seagrass beds outside of the designated barge basin and barge channel.

H. Contingency plan for severe weather warnings (e.g., imminent tropical storms, hurricanes, etc.) to ensure the barge does not transit the Biscayne Bay during the storm.

I. Manatee Protection Plan (see attached).

FLORIDA POWER & LIGHT COMPANY TURKEY POINT UNITS 6 & 7 PROJECT MANATEE PROTECTION PLAN

STANDARD MANATEE CONSTRUCTION CONDITIONS FOR IN-WATER WORK WITHIN BARGE TURNING BASIN AND ENTRANCE CHANNEL AT TURKEY POINT PLANT

All contractors shall comply with the following manatee protection conditions:

a. Contractor supervisors shall instruct all personnel associated with in-water work within the barge turning basin and entrance channel of the Turkey Point Plant of the potential presence of manatees and the need to avoid manatees.

b. Contractor supervisors shall ensure that a log is maintained detailing sightings, collisions, or injuries to manatees should they occur during the project. All such incidents shall be reported immediately to FPL and FPL contractor designee. Following project completion, a report summarizing incidents and sightings will be prepared by the construction contractor and shall be submitted to the FPL Environmental Services Department, 700 Universe Blvd., Juno Beach, FL 33408.

c. Contractor supervisors shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees, which are protected under the Marine Mammal Protection Act of 1972, The Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act. The Florida Manatee is listed as an ***Endangered Species*** and is protected by Federal and State Law. **Criminal penalties under the Endangered Species Act can include up to 1-year imprisonment and/or a $50,000 fee.**

d. Any collision with and/or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission at 1-888-404-FWCC (1-888-404-3922) (24 hours). Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336). FPL will make these notifications in cooperation with the contractor.

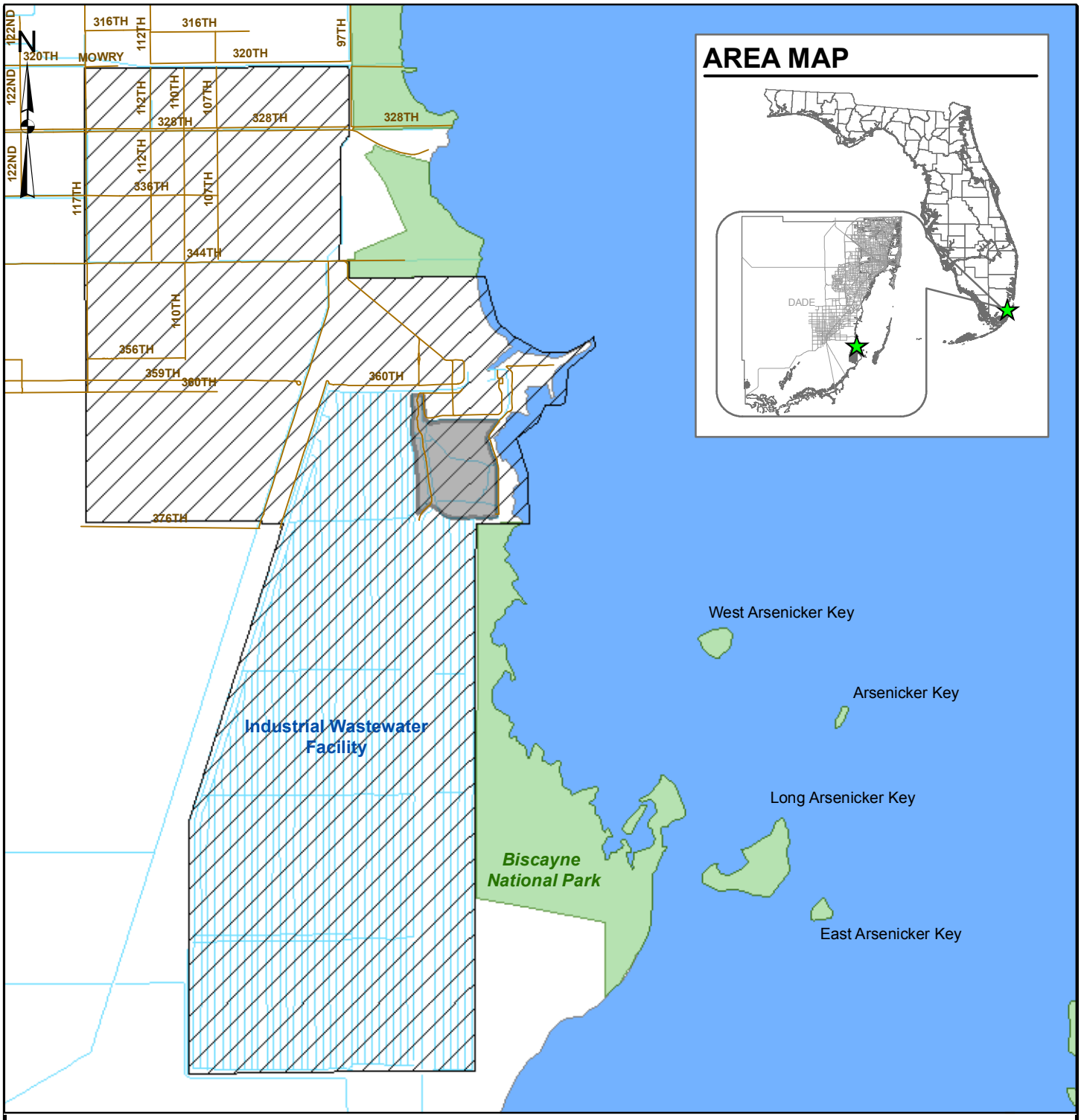
e. All vessels used in the operation or in association with the in-water work shall have a dedicated observer on board responsible for identifying the presence of manatee(s). If a manatee is observed within 100 feet of the project area, the crew should be alerted that a manatee is in the area. Work can continue but at extreme caution. The manatee observer must be present during all in-water construction activities and will advise personnel to cease operation upon sighting a manatee within 50 feet of any in-water construction activity. The manatee observer should have polarized glasses to aid in observation. In addition, all construction personnel are responsible for observing water-related activities for the presence of manatees.

f. If manatee(s) are seen within the area of in-water work, all appropriate precautions shall be implemented to ensure protection of the manatee(s). These precautions shall include the immediate shutdown of equipment if necessary. Activities will not resume until the manatee(s) has departed to a safe distance (>50 feet) on its own volition.

g. Crushing and interactions with the propellers of tugboats are two potential risks for manatees. Manatees have been known to go beneath vessels that are docked overnight. Before project activities resume each day, crews should bang on the sides of the vessel and allow ample time for the manatees to move a safe distance away.

h. Movement of a work barge, other associated vessels, or any in-water work shall not be performed after sunset or before sunrise, when the possibility of spotting manatees is negligible.

i. All vessels associated with in-water work associated with the barge turning basin or entrance channel shall operate at “no wake/idle” speeds at all times. All vessels will follow routes of deep water and stay in the channel whenever possible.



LEGEND

- Turkey Point Plant Property
- Turkey Point 6 & 7 Site

REFERENCES

1. Roads, Municipalities, Miami-Dade County GIS 2007.
2. Biscayne National Park, National Parks Service, 2006.

PROJECT

TURKEY POINT UNITS 6 & 7 PROJECT

TITLE

BARGE DELIVERY PLAN
TURKEY POINT PLANT PROPERTY

FPL

FILE No.	08387584O002
REV.	0
PLOT DATE	6/14/2009

FIGURE
1

400 0 400
Feet

LEGEND

- A - Barge turning basin
- B - Fuel oil unloading dock
- C - Fuel oil storage tank
- D - Fuel oil storage tank
- E - Units 1 & 2
- F - Nuclear units 3 & 4
- G - Floating oil boom location
- H - Equipment barge unloading area
- I - Oil spill cabinet location
- J - Unit 5

REFERENCES

1. Imagery, Miami-Dade County, 2007

PROJECT

TURKEY POINT UNITS 6 & 7
PROJECT

TITLE

BARGE DELIVERY PLAN
BARGE TURNING BASIN AREA

FPL

FILE No. 08387584O003

REV. 0

PLOT DATE 6/14/2009

FIGURE
2

APPENDIX A

FLORIDA POWER & LIGHT COMPANY
TURKEY POINT BARGE CHANNEL
BATHYMETRY DATA

ABBREVIATIONS

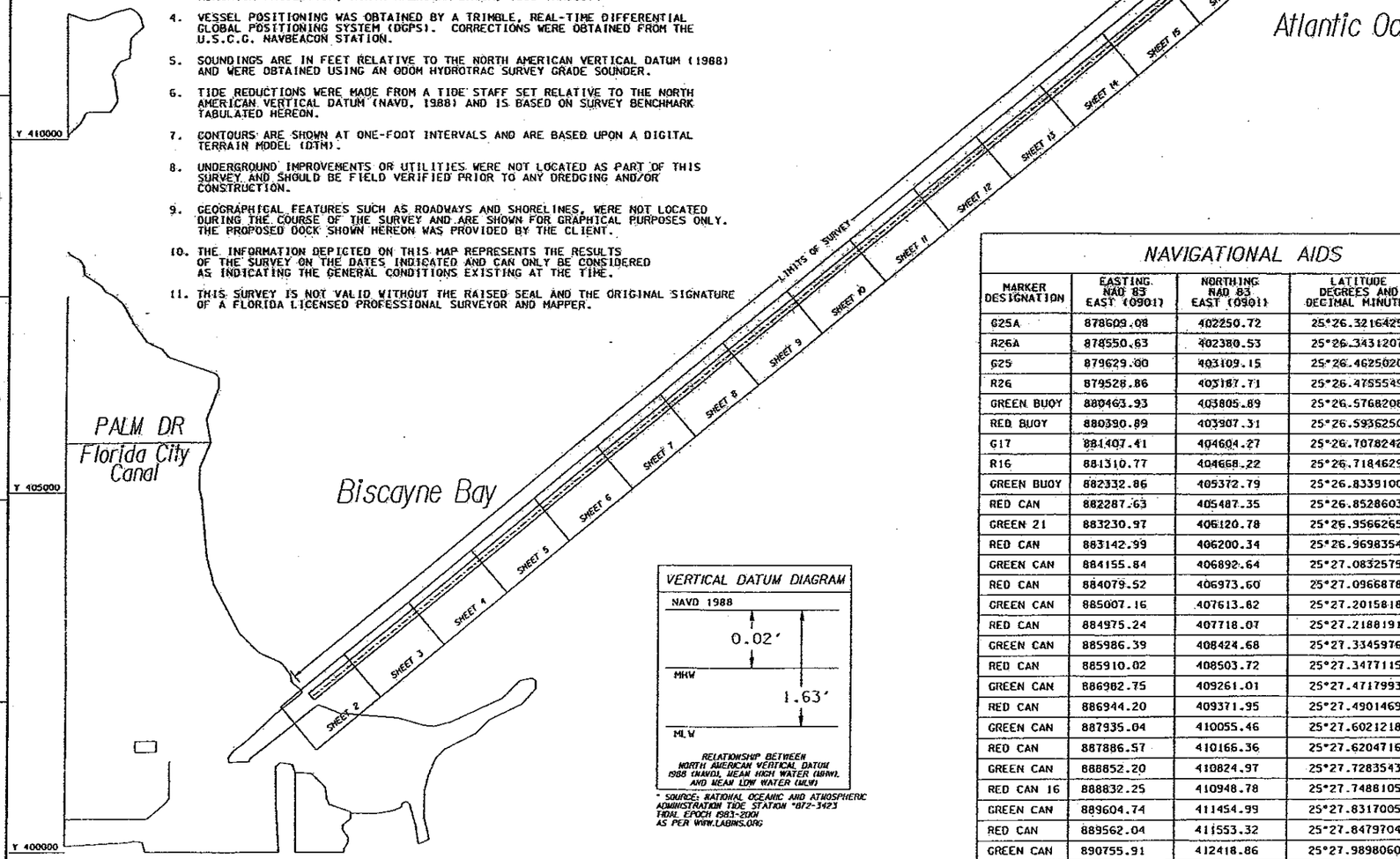
NAD	NORTH AMERICAN DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM

SURVEY CONTROL

CONTROL POINT	EL(NAVD) FEET	EASTING NAD 83 EAST (0901)	NORTHING NAD 83 EAST (0901)	DESCRIPTION
F-61 1 (AC1178)	7.13	NA	NA	COPPER WELD SET IN BRIDGE

SURVEY NOTES:

1. REFER TO SEA DIVERSIFIED SURVEY 07-1246
2. THIS HYDROGRAPHIC SURVEY WAS CONDUCTED ON MARCH 5, 2008 AND APRIL 8, 2008.
3. THE COORDINATES SHOWN HEREON ARE IN FEET AND ARE BASED ON THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE (0901), TRANSVERSE MERCATOR PROJECTION, NORTH AMERICAN DATUM, 1983 (NAD83).
4. VESSEL POSITIONING WAS OBTAINED BY A TRIMBLE, REAL-TIME DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS). CORRECTIONS WERE OBTAINED FROM THE U.S.C.G. NAVBEACON STATION.
5. SOUNDINGS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988) AND WERE OBTAINED USING AN ODOM HYDROTRAC SURVEY GRADE SOUNDER.
6. TIDE REDUCTIONS WERE MADE FROM A TIDE STAFF SET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (NAVD, 1988) AND IS BASED ON SURVEY BENCHMARK TABULATED HEREON.
7. CONTOURS ARE SHOWN AT ONE-FOOT INTERVALS AND ARE BASED UPON A DIGITAL TERRAIN MODEL (DTM).
8. UNDERGROUND IMPROVEMENTS OR UTILITIES WERE NOT LOCATED AS PART OF THIS SURVEY AND SHOULD BE FIELD VERIFIED PRIOR TO ANY DREDGING AND/OR CONSTRUCTION.
9. GEOGRAPHICAL FEATURES SUCH AS ROADWAYS AND SHORELINES, WERE NOT LOCATED DURING THE COURSE OF THE SURVEY AND ARE SHOWN FOR GRAPHICAL PURPOSES ONLY. THE PROPOSED DOCK SHOWN HEREON WAS PROVIDED BY THE CLIENT.
10. THE INFORMATION DEPICTED ON THIS MAP REPRESENTS THE RESULTS OF THE SURVEY ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THE TIME.
11. THIS SURVEY IS NOT VALID WITHOUT THE RAISED SEAL AND THE ORIGINAL SIGNATURE OF A FLORIDA LICENSED PROFESSIONAL SURVEYOR AND MAPPER.



VERTICAL DATUM DIAGRAM

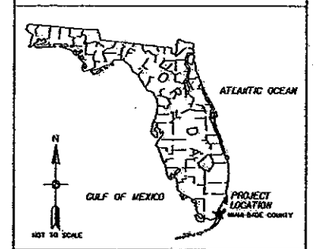
RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)

* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION #872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG

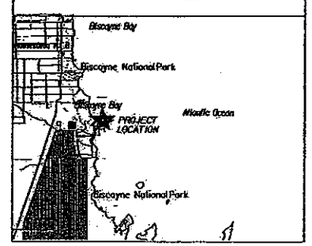
NAVIGATIONAL AIDS

MARKER DESIGNATION	EASTING NAD 83 EAST (0901)	NORTHING NAD 83 EAST (0901)	LATITUDE DEGREES AND DECIMAL MINUTES	LONGITUDE DEGREES AND DECIMAL MINUTES
G25A	878609.08	402250.72	25°26.3216425'N	80°19.5559462'W
R26A	878550.63	402380.53	25°26.3431207'N	80°19.5664536'W
G25	879629.00	403109.15	25°26.4625020'N	80°19.3697241'W
R26	879528.86	403187.71	25°26.4755549'N	80°19.3878582'W
GREEN BUOY	880463.93	403805.89	25°26.5768208'N	80°19.2172786'W
RED BUOY	880390.89	403907.31	25°26.5936250'N	80°19.2304644'W
G17	881407.41	404604.27	25°26.7078242'N	80°19.0449976'W
R16	881310.77	404668.22	25°26.7184629'N	80°19.0625089'W
GREEN BUOY	882332.86	405372.79	25°26.8339100'N	80°18.8760164'W
RED CAN	882287.63	405487.35	25°26.8528603'N	80°18.8841331'W
GREEN 21	883230.97	406120.78	25°26.9566265'N	80°18.7120198'W
RED CAN	883142.99	406200.34	25°26.9698354'N	80°18.7279420'W
GREEN CAN	884155.84	406892.64	25°27.0832575'N	80°18.5431294'W
RED CAN	884079.52	406973.60	25°27.0966878'N	80°18.5569302'W
GREEN CAN	885007.16	407613.62	25°27.2015818'N	80°18.3876548'W
RED CAN	884975.24	407718.07	25°27.2188191'N	80°18.3933601'W
GREEN CAN	885986.39	408424.68	25°27.3345976'N	80°18.2088316'W
RED CAN	885910.02	408503.72	25°27.3477115'N	80°18.2226431'W
GREEN CAN	886982.75	409261.01	25°27.4717993'N	80°18.0268629'W
RED CAN	886944.20	409371.95	25°27.4901469'N	80°18.0337668'W
GREEN CAN	887935.04	410055.46	25°27.6021218'N	80°17.8529410'W
RED CAN	887886.57	410166.36	25°27.6204716'N	80°17.8616485'W
GREEN CAN	888852.20	410824.97	25°27.7283543'N	80°17.6854251'W
RED CAN 16	888832.25	410948.78	25°27.7488105'N	80°17.6889337'W
GREEN CAN	889604.74	411454.99	25°27.8317005'N	80°17.5479734'W
RED CAN	889562.04	411553.32	25°27.8479704'N	80°17.5556432'W
GREEN CAN	890755.91	412418.86	25°27.9898060'N	80°17.3377041'W
RED CAN	890639.33	412467.10	25°27.9978722'N	80°17.3588572'W
RED 2	892259.02	414097.62	25°28.2656093'N	80°17.0627263'W

LOCATION MAP



VICINITY MAP



SCALE: 1''= 1800'

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
MONROE, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: COVER

COASTAL TUG AND BARGE
1020 Port Boulevard, Suite 2
Miami, Florida 33132

Prepared for:

Prepared by:
SEA DIVERSIFIED, INC.
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13 Executive Centre
1200 NW 19th Avenue, Suite 3
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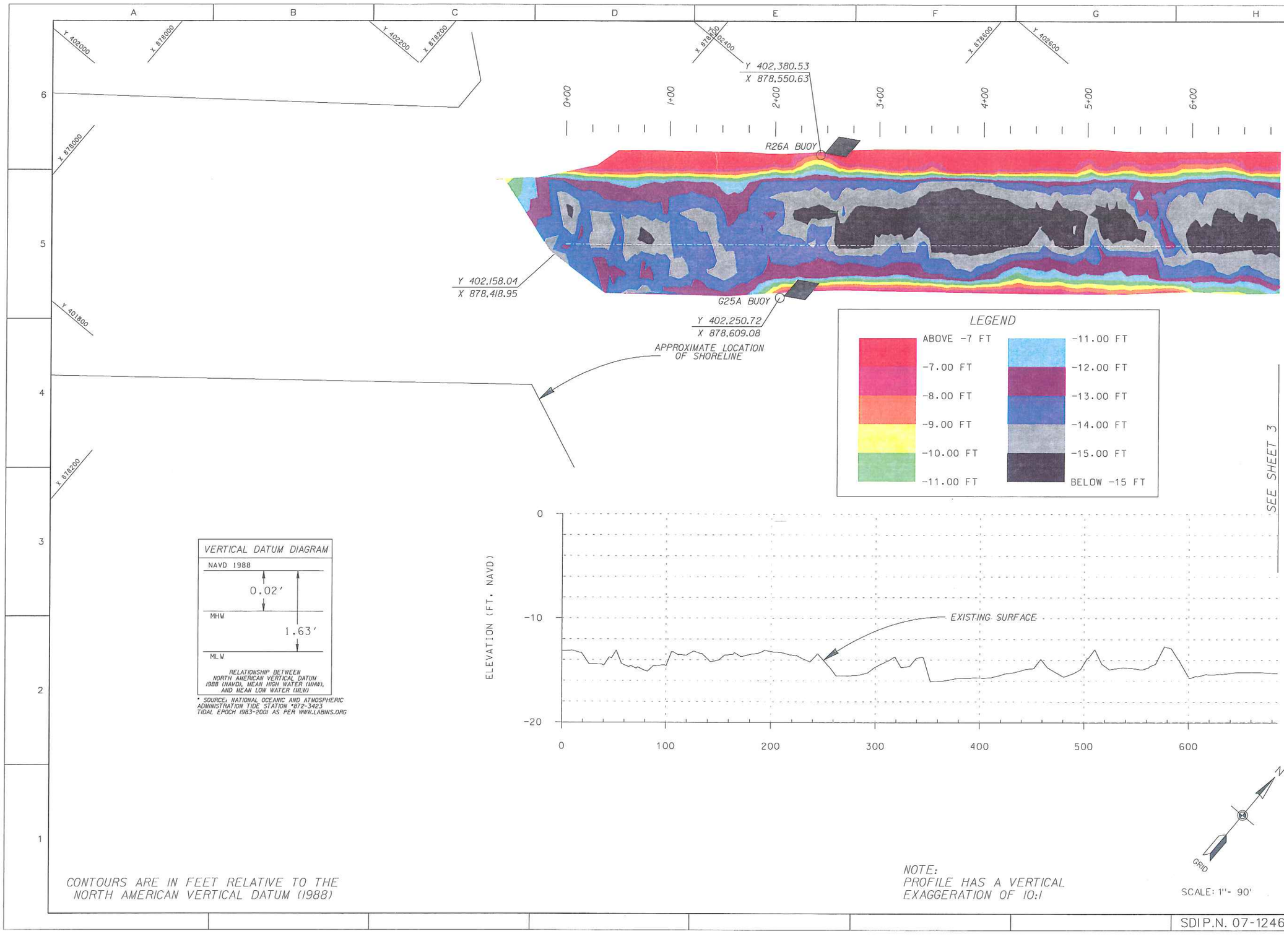
Drawn by: M.B.
Checked by: K.C.L.
Scale:
Sheet:

1 of 18

SDI P.N. 07-1246



CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

Prepared for: COASTAL TUG AND BARGE
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A | B | C | D | E | F | G | H

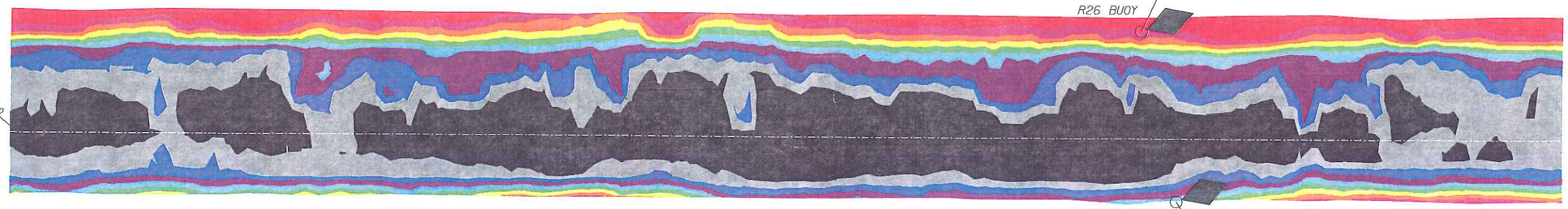
Y 402800 | X 878000 | Y 403000 | X 878200 | Y 403200 | X 878400 | X 878600 | Y 403400

PROFILE CENTERLINE AZ. = 50°6'59"

7+00 | 8+00 | 9+00 | 10+00 | 11+00 | 12+00 | 13+00 | 14+00 | 15+00 | 16+00 | 17+00 | 18+00

Y 403,187.71
X 879,528.86

R26 BUOY



G25 BUOY

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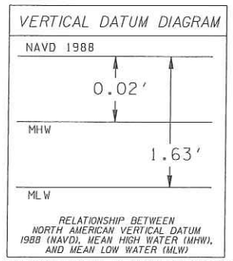
VERTICAL DATUM DIAGRAM



RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)

* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION *872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG

LEGEND

ABOVE -7 FT	-11.00 FT
-7.00 FT	-12.00 FT
-8.00 FT	-13.00 FT
-9.00 FT	-14.00 FT
-10.00 FT	-15.00 FT
-11.00 FT	BELOW -15 FT

SEE SHEET 2

SEE SHEET 4

ELEVATION (FT, NAVD)

0 | -10 | -20

700 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800

EXISTING SURFACE

N

GRID

SCALE: 1"= 90'

CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

Revisions

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Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

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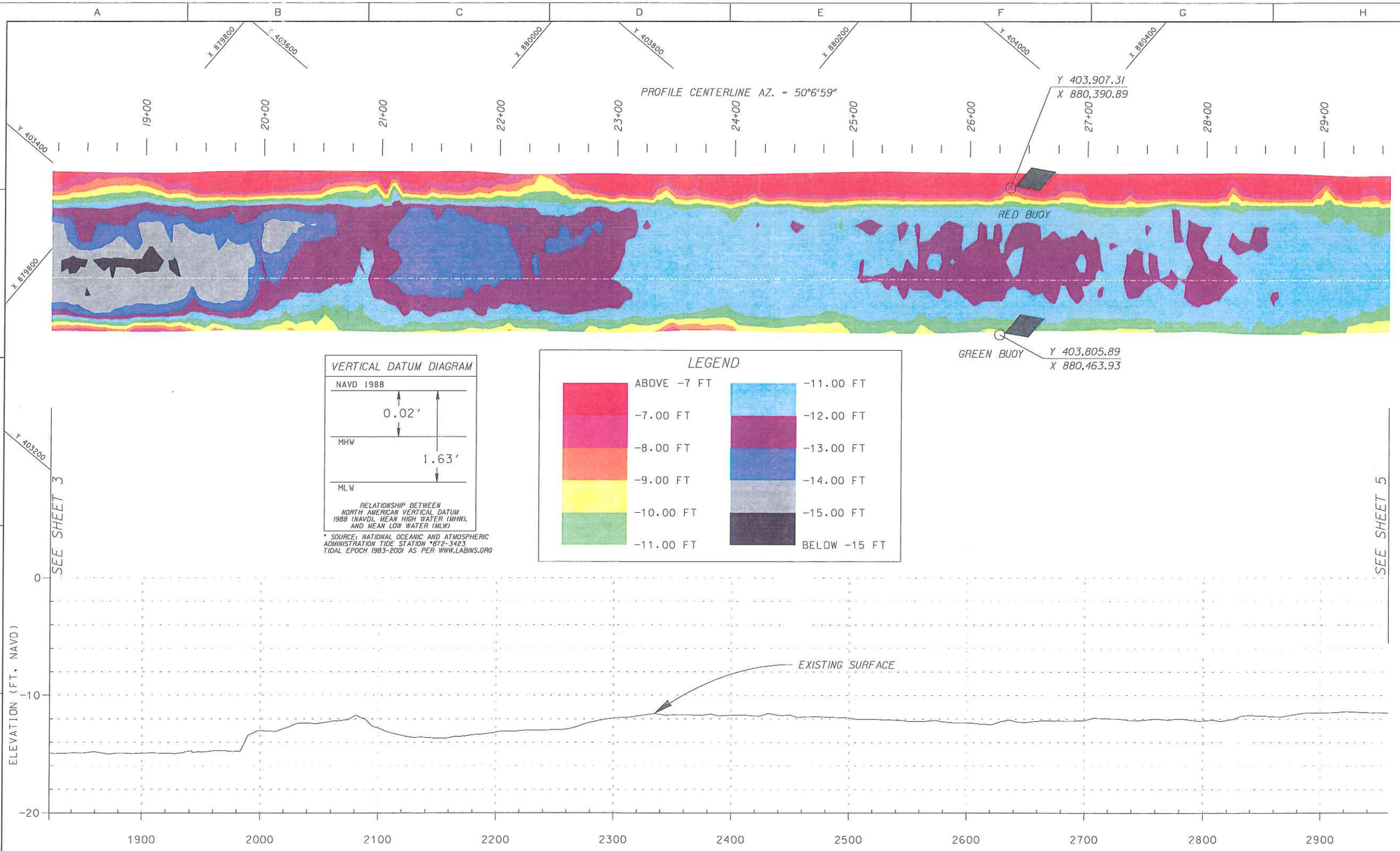

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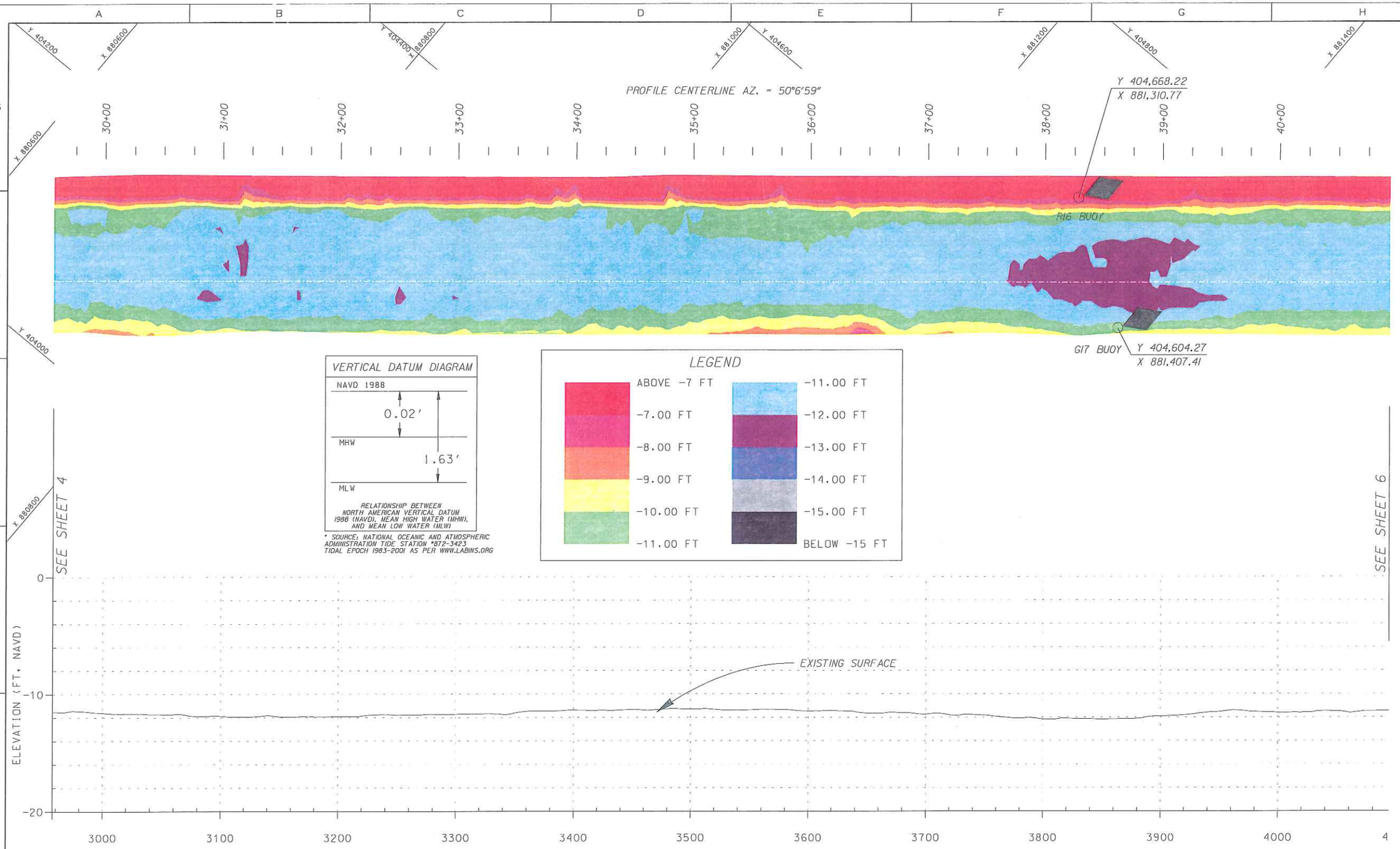

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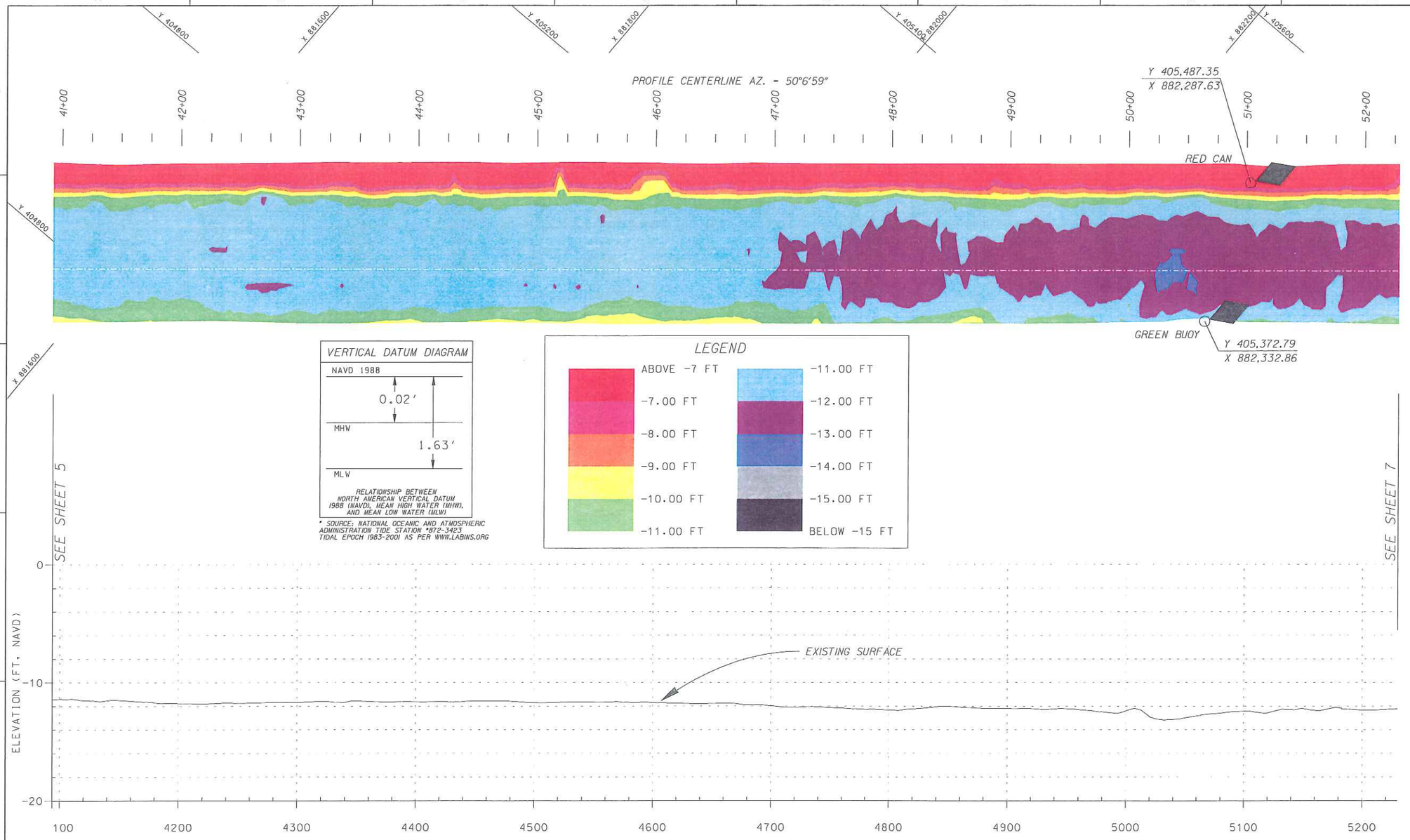

CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

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SCALE: 1"= 90'

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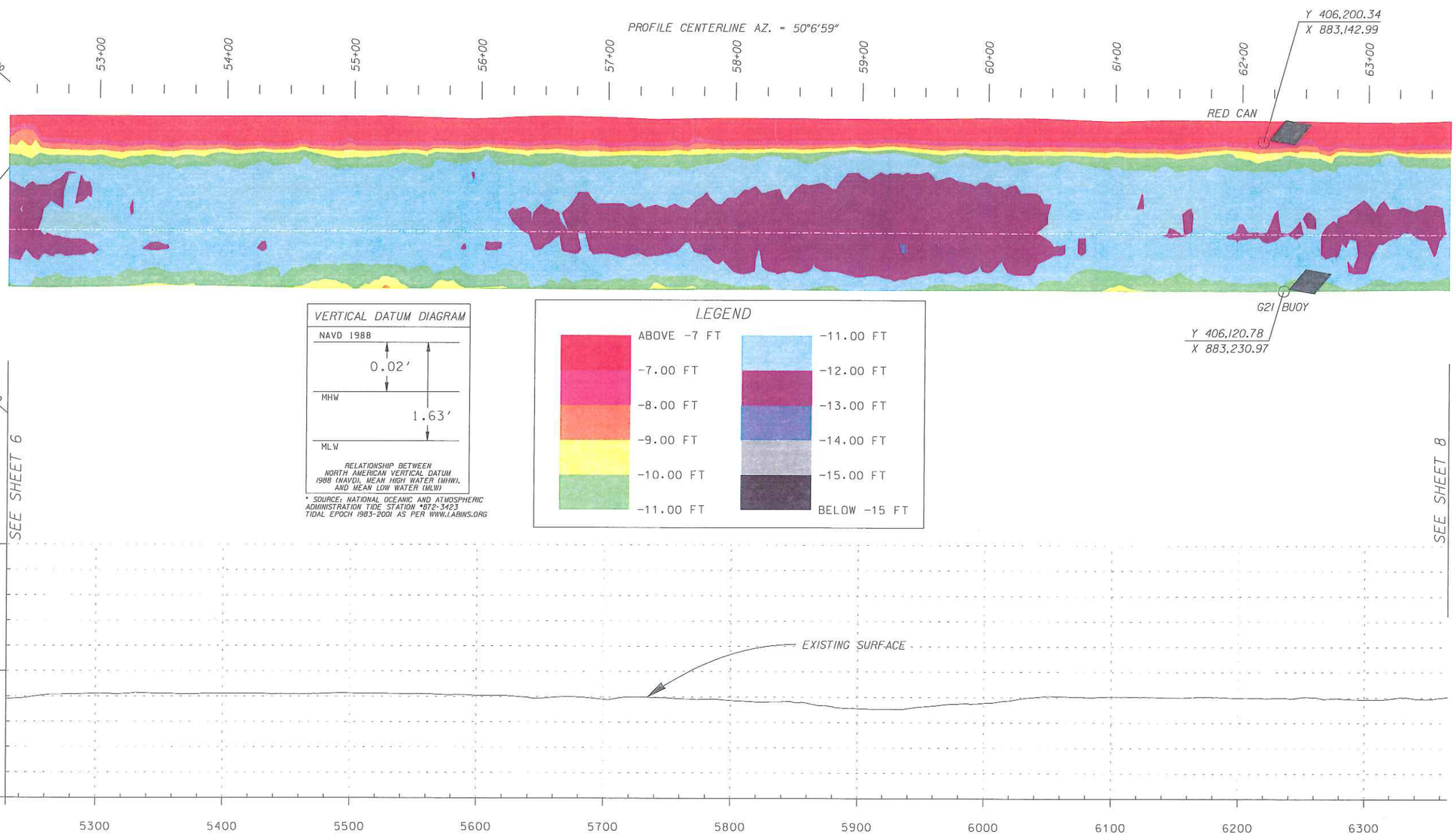

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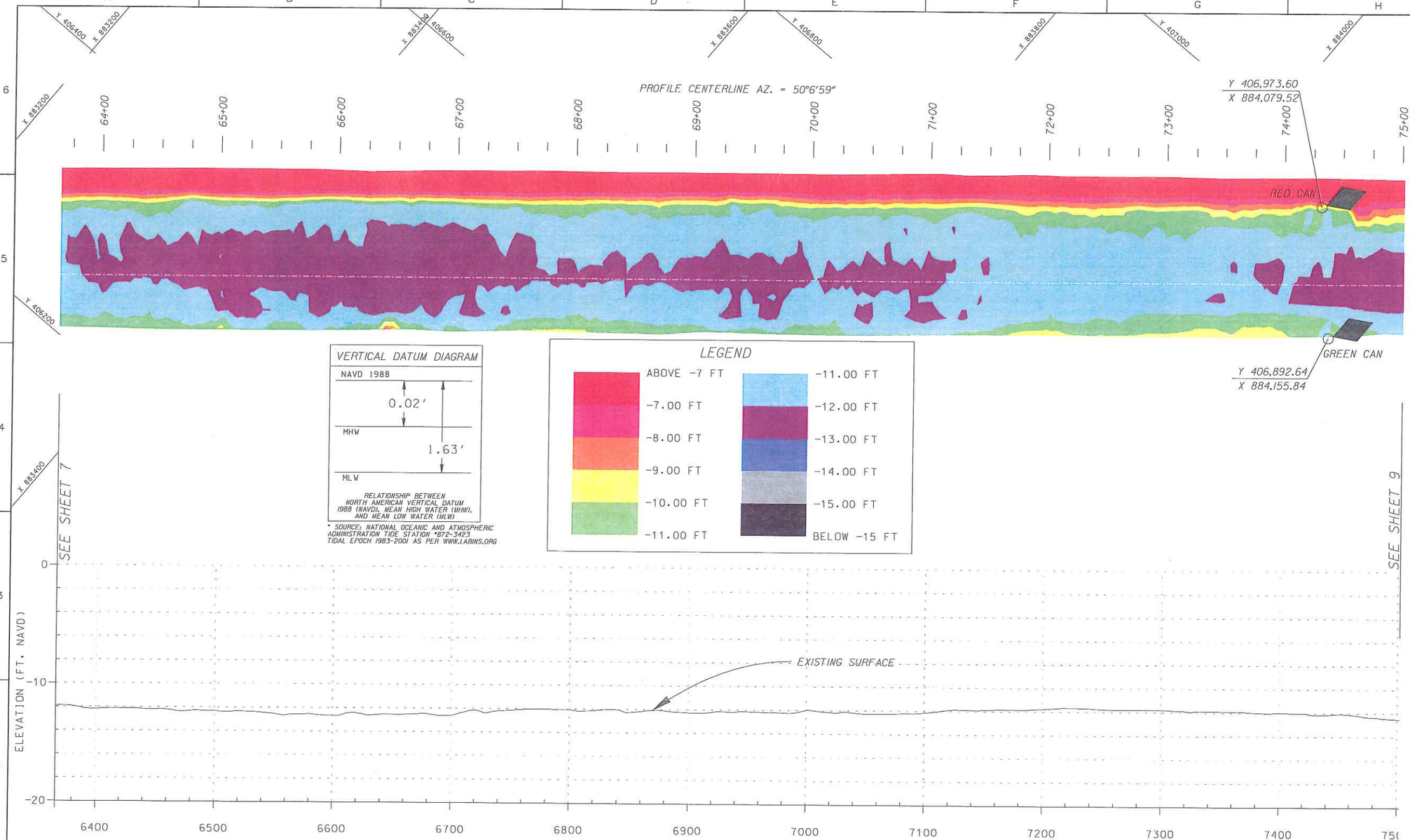
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Y 406400
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X 883600
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Y 407000
X 884000
PROFILE CENTERLINE AZ. = 50°6'59"
64+00
65+00
66+00
67+00
68+00
69+00
70+00
71+00
72+00
73+00
74+00
75+00
Y 406,973.60
X 884,079.52
RED CAN
GREEN CAN
Y 406,892.64
X 884,155.84
Y 406200
X 883400
SEE SHEET 7
SEE SHEET 9
ELEVATION (FT, NAVD)
0
-10
-20
6400
6500
6600
6700
6800
6900
7000
7100
7200
7300
7400
EXISTING SURFACE
VERTICAL DATUM DIAGRAM
NAVD 1988
0.02'
MHW
1.63'
MLW
RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)
* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION *872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG
LEGEND
ABOVE -7 FT
-7.00 FT
-8.00 FT
-9.00 FT
-10.00 FT
-11.00 FT
-11.00 FT
-12.00 FT
-13.00 FT
-14.00 FT
-15.00 FT
BELOW -15 FT
GRID
SCALE: 1"= 90'
CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)
NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1
Revisions
No.
Date
Description
Project
TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA
Sheet Title
PLAN VIEW/PROFILE
Prepared for:
COASTAL TUG AND BARGE
1020 Port Boulevard, Suite 2
Miami, Florida 33132
Certification:
SEA DIVERSIFIED, INC.
Surveying and Engineering Applications
Tel: (561) 243-4920
Fax: (561) 243-4957
13 Executive Centre
1200 NW 17th Avenue, Suite 3
Delray Beach, Florida 33445
SEA
Date:
03-05-08
Drawn by:
M.B.
Checked by:
K.C.J.
Scale:
Sheet:
8 of 18
Total sheets:
CADD ID:
SDI P.N. 07-1246

A | B | C | D | E | F | G | H

6 | 5 | 4 | 3 | 2 | 1

Y 407200 | X 884200 | Y 407400 | X 884400 | X 884600 | Y 401600 | X 884800 | Y 401800

Y 401000 | X 884200

PROFILE CENTERLINE AZ. = 50°6'59"

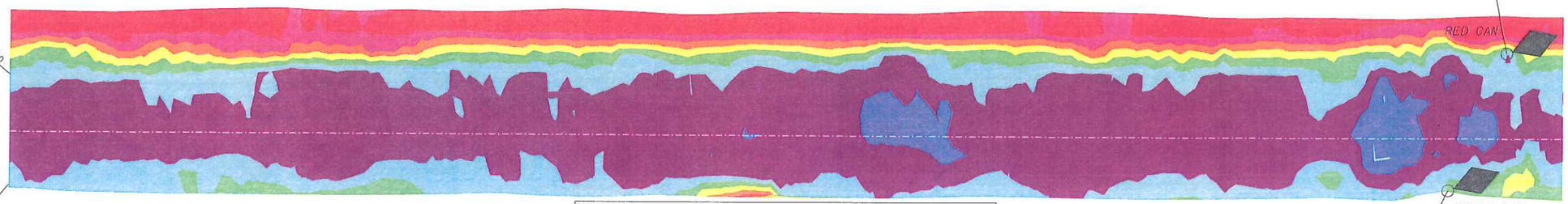
76+00 | 77+00 | 78+00 | 79+00 | 80+00 | 81+00 | 82+00 | 83+00 | 84+00 | 85+00 | 86+00

Y 407,718.07
X 884,975.24

RED CAN

GREEN CAN

Y 407,613.82
X 885,007.16



VERTICAL DATUM DIAGRAM

NAVD 1988

0.02'

MHW

1.63'

MLW

RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)

* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION #872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG

LEGEND

ABOVE -7 FT	-11.00 FT
-7.00 FT	-12.00 FT
-8.00 FT	-13.00 FT
-9.00 FT	-14.00 FT
-10.00 FT	-15.00 FT
-11.00 FT	BELOW -15 FT

SEE SHEET 8

SEE SHEET 10

ELEVATION (FT. NAVD)

0 | -10 | -20

EXISTING SURFACE

7600 | 7700 | 7800 | 7900 | 8000 | 8100 | 8200 | 8300 | 8400 | 8500 | 8600

N

GRID

SCALE: 1"= 90'

CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

Prepared for: COASTAL TUG AND BARGE
1020 Port Boulevard, Suite 2
Miami, Florida 33132

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SEA DIVERSIFIED, INC.
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J3 Executive Centre
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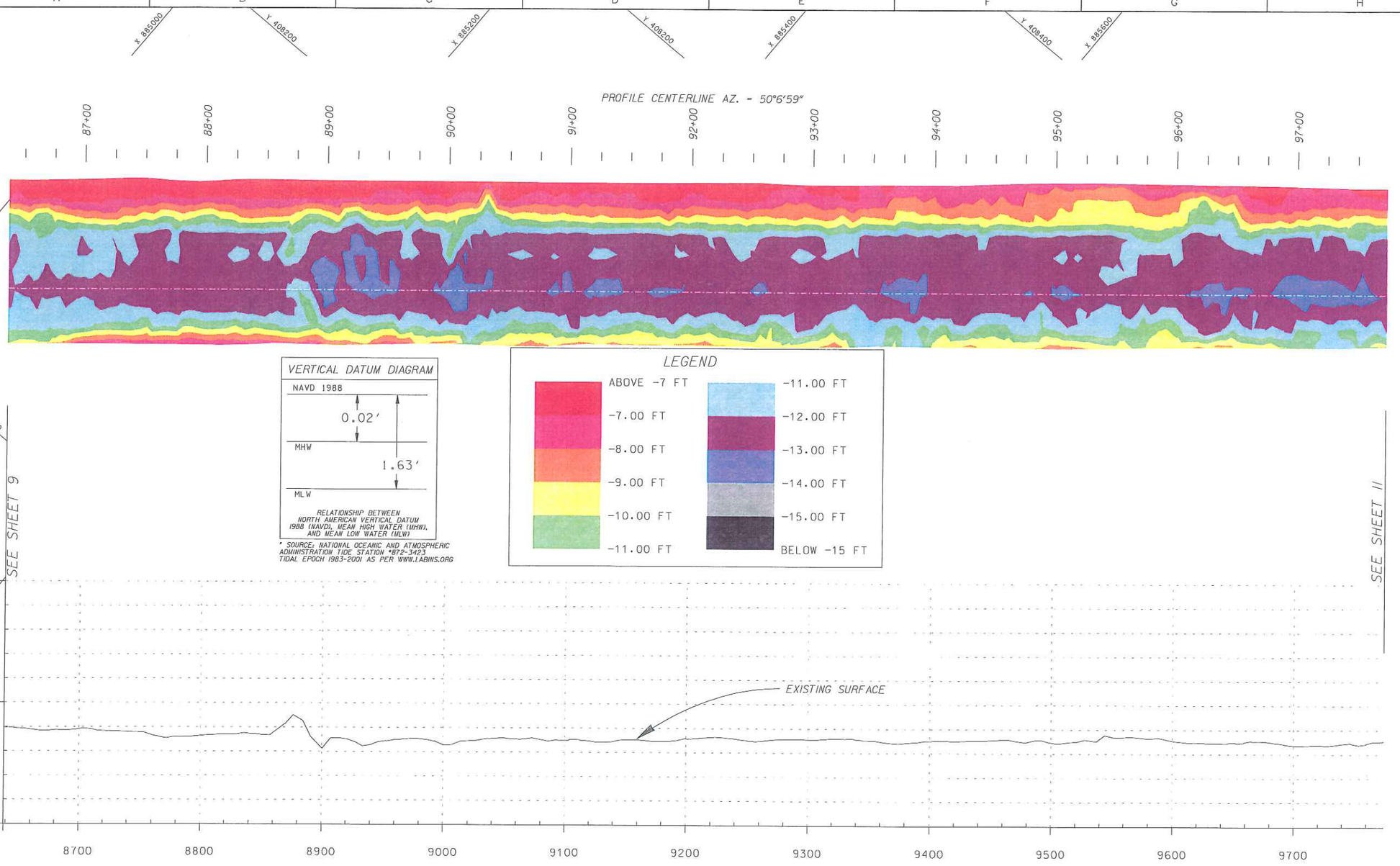
Delray Beach, Florida 33445

Date:	03-05-08
Drawn by:	M.B.
Checked by:	K.C.J.
Scale:	
Sheet:	9 of 18
Total sheets:	
CADD ID:	

SDI P.N. 07-1246



Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

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Date:	03-05-08
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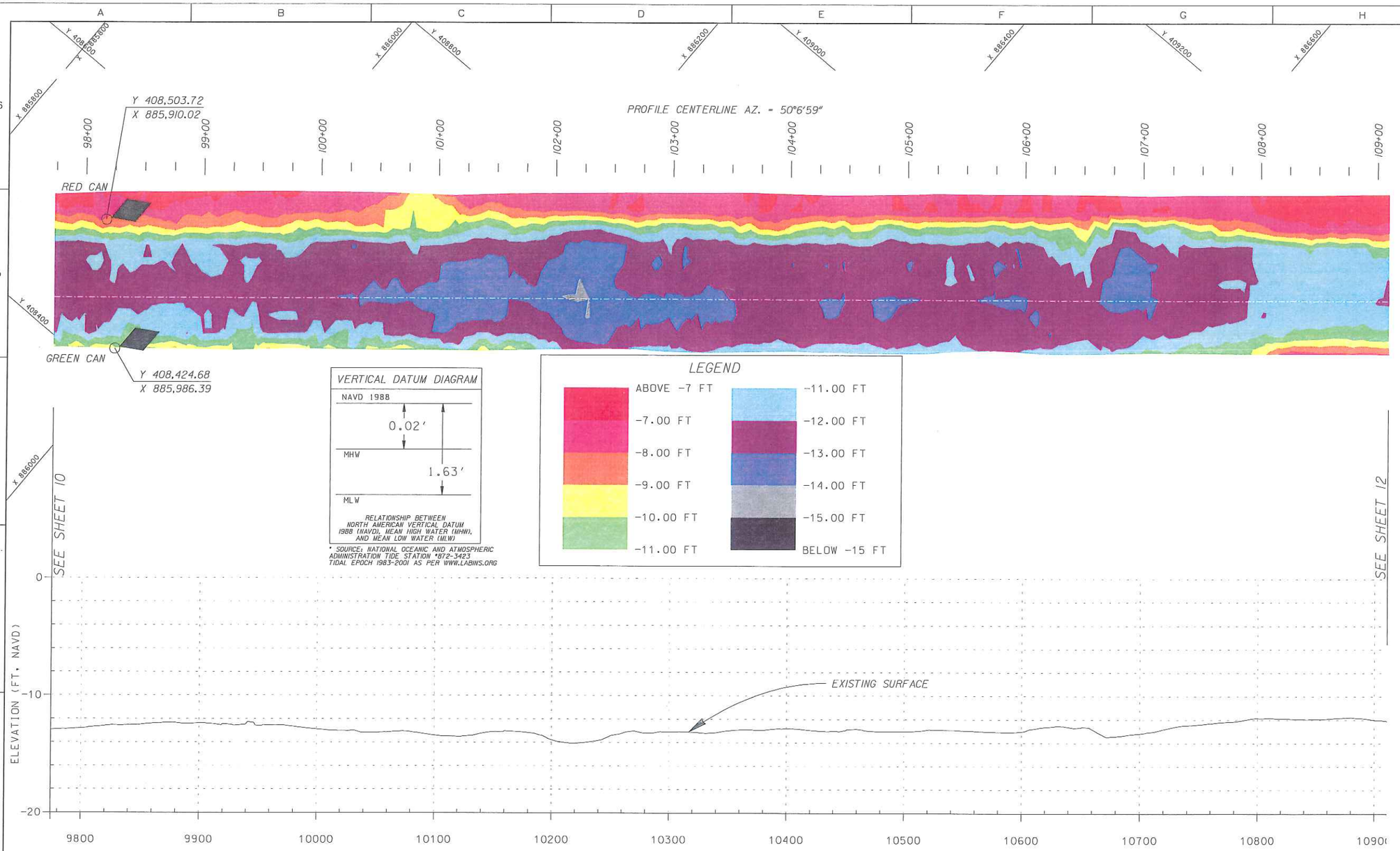
Scale:	
Sheet:	10 of 18
Total sheets in CADD ID:	

SDI P.N. 07-1246



CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

SDI P.N. 07-1246

Revisions

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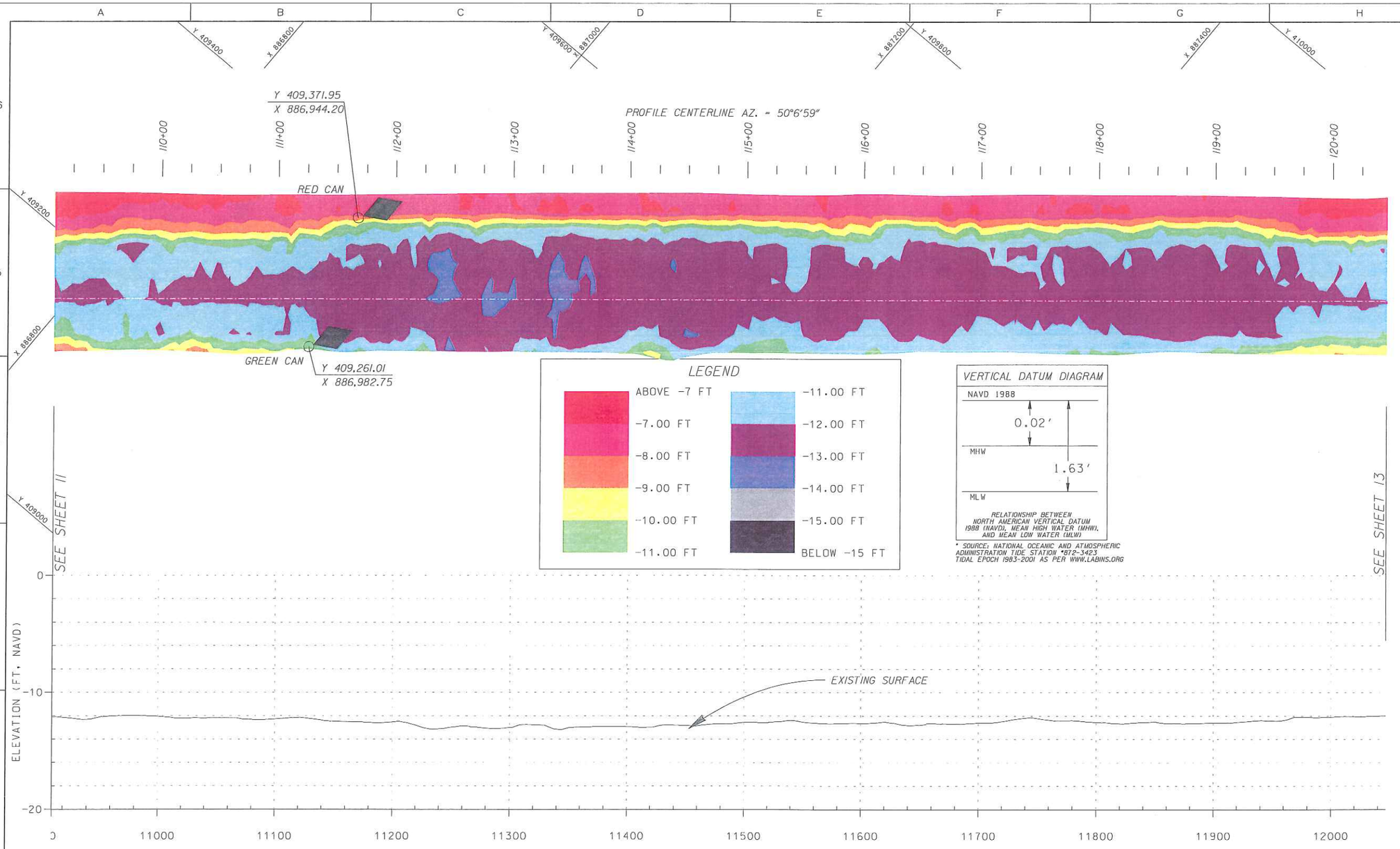
Checked by:	K.C.J.
Scale:	
Sheet:	11 of 18
Total sheets in CADD ID:	



CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

SDI P.N. 07-1246

Revisions

No.	Date	Description

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HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

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Date:	03-05-08
Drawn by:	M.B.
Checked by:	K.C.J.
Scale:	
Sheet:	12 of 18
Total sheets in CADD ID:	

A | B | C | D | E | F | G | H

6 | 5 | 4 | 3 | 2 | 1

X 887600 | Y 410200 | X 887800 | Y 410400 | X 888000 | Y 410608 888200 | X 888400

Y 410000

X 887600

Y 408800

PROFILE CENTERLINE AZ. = 50°6'59"

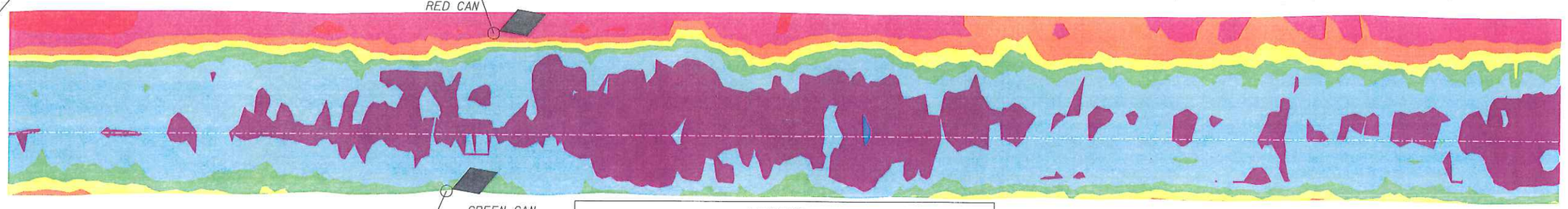
121+00 | 122+00 | 123+00 | 124+00 | 125+00 | 126+00 | 127+00 | 128+00 | 129+00 | 130+00 | 131+00

Y 410,166.36
X 887,886.57

RED CAN

GREEN CAN

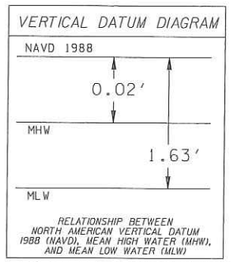
Y 410,055.46
X 887,935.04



LEGEND

ABOVE -7 FT	-11.00 FT
-7.00 FT	-12.00 FT
-8.00 FT	-13.00 FT
-9.00 FT	-14.00 FT
-10.00 FT	-15.00 FT
-11.00 FT	BELOW -15 FT

VERTICAL DATUM DIAGRAM



RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)

* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION #872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG

SEE SHEET 12

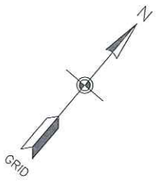
SEE SHEET 14

ELEVATION (FT. NAVD)

0 | -10 | -20

EXISTING SURFACE

12100 | 12200 | 12300 | 12400 | 12500 | 12600 | 12700 | 12800 | 12900 | 13000 | 13100



SCALE: 1"= 90'

CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

Prepared for: COASTAL TUG AND BARGE
1020 Port Boulevard, Suite 2
Miami, Florida 33132

Certifications:

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Tel: (561) 243-4920
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1200 NW 17th Avenue, Suite 3
Delray Beach, Florida 33445

Date:	03-05-08
Drawn by:	M.B.
Checked by:	K.C.J.
Scale:	
Sheet:	13 of 18

Total sheets:
CADD ID:

SDI P.N. 07-1246

A | B | C | D | E | F | G | H

Y 410800 | X 888600 | Y 411000 | X 888800 | Y 411200 | X 889000 | Y 411400 | X 889200

6 | 5 | 4 | 3 | 2 | 1

PROFILE CENTERLINE AZ. = 50°6'59"

132+00 | 133+00 | 134+00 | 135+00 | 136+00 | 137+00 | 138+00 | 139+00 | 140+00 | 141+00 | 142+00 | 143+00

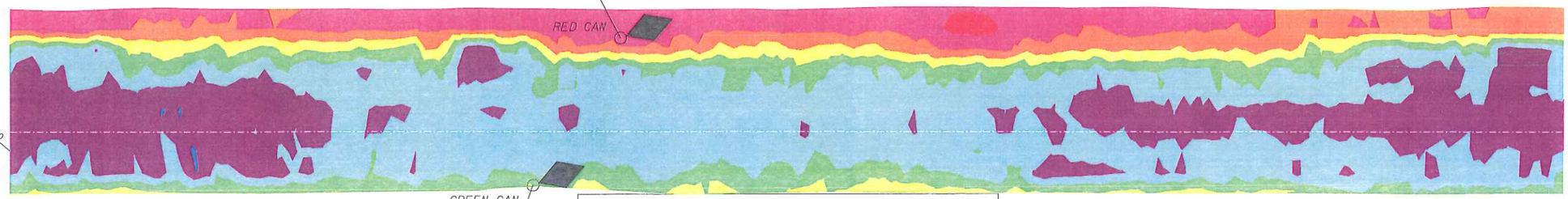
Y 410,948.78
X 888,832.25

RED CAN

Y 410600

GREEN CAN
Y 410,824.97
X 888,852.20

X 888600



LEGEND

ABOVE -7 FT	-11.00 FT
-7.00 FT	-12.00 FT
-8.00 FT	-13.00 FT
-9.00 FT	-14.00 FT
-10.00 FT	-15.00 FT
-11.00 FT	BELOW -15 FT

VERTICAL DATUM DIAGRAM

NAVD 1988
0.02'
MHW
1.63'
MLW

RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)

* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION *872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG

CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

N
GRID

SCALE: 1"= 90'

SDI P.N. 07-1246

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

Prepared for: COASTAL TUG AND BARGE
1020 Port Boulevard, Suite 2
Miami, Florida 33132

Certifications:

SEA DIVERSIFIED, INC.
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Tel: (561) 243-4920
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J3 Executive Centre
1200 NW 17th Avenue, Suite J3
Delray Beach, Florida 33445

Date:	03-05-08
Drawn by:	M.B.
Checked by:	K.C.J.
Scale:	
Sheet:	14 of 18
Total sheets/ CADD ID:	

A | B | C | D | E | F | G | H

Y 411600 X 889400 | Y 411800 X 889500 | X 889800 Y 412000 | X 890000 Y 412200

6 | 5 | 4 | 3 | 2 | 1

PROFILE CENTERLINE AZ. = 50°6'59"

144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00 154+00

Y 411,553.32
X 889,562.04

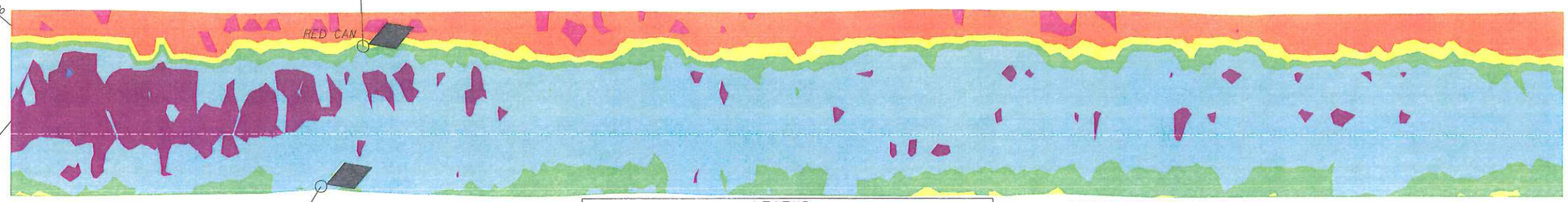
RED CAN

Y 411400 | X 889400

Y 411,454.99
X 889,604.74

GREEN CAN

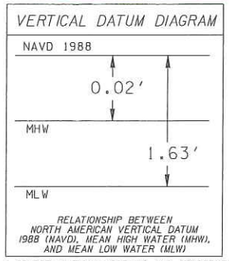
Y 411200



LEGEND

ABOVE -7 FT	-11.00 FT
-7.00 FT	-12.00 FT
-8.00 FT	-13.00 FT
-9.00 FT	-14.00 FT
-10.00 FT	-15.00 FT
-11.00 FT	BELOW -15 FT

VERTICAL DATUM DIAGRAM



RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)

* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION #872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG

SEE SHEET 14

SEE SHEET 16

ELEVATION (FT. NAVD)

0 | -10 | -20

EXISTING SURFACE

14400 14500 14600 14700 14800 14900 15000 15100 15200 15300 15400

N

GRID

SCALE: 1"= 90'

CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

Prepared for: COASTAL TUG AND BARGE
1020 Port Boulevard, Suite 2
Miami, Florida 33132

Certifications:

SEA DIVERSIFIED, INC.
Surveying and Engineering Applications
Tel: (561) 243-4920
Fax: (561) 243-4957
J3 Executive Centre
1200 NW 17th Avenue, Suite 3
Delray Beach, Florida 33445

Date:	03-05-08
Drawn by:	M.B.
Checked by:	K.C.J.
Scale:	
Sheet:	15 of 18
Total sheets in CADD ID:	

SDI P.N. 07-1246

A | B | C | D | E | F | G | H

1 | 2 | 3 | 4 | 5 | 6

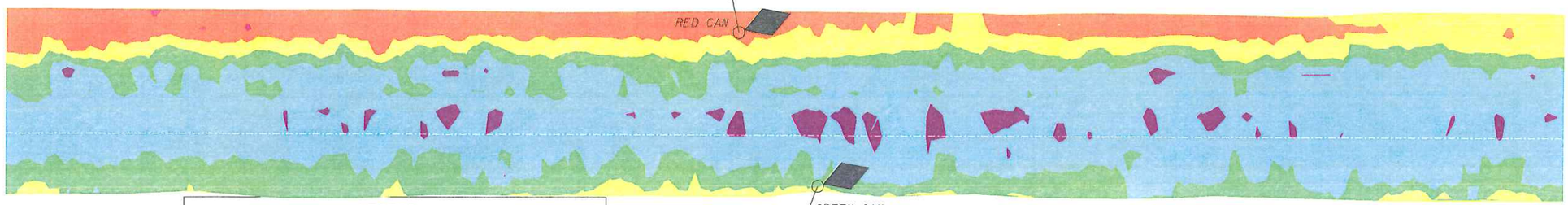
X 890200 | Y 412400 | X 890400 | Y 412600 | X 890600 | Y 412800 | X 890800 | Y 413000 | X 891000 | Y 413200

PROFILE CENTERLINE AZ. = 50°6'59"

155+00 | 156+00 | 157+00 | 158+00 | 159+00 | 160+00 | 161+00 | 162+00 | 163+00 | 164+00 | 165+00

Y 412,467.10
X 890,639.33

RED CAN



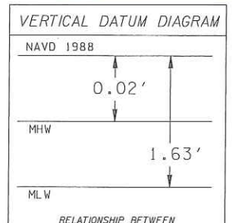
Y 412,418.86
X 890,755.91

GREEN CAN

LEGEND

ABOVE -7 FT	-11.00 FT
-7.00 FT	-12.00 FT
-8.00 FT	-13.00 FT
-9.00 FT	-14.00 FT
-10.00 FT	-15.00 FT
-11.00 FT	BELOW -15 FT

VERTICAL DATUM DIAGRAM



RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)

* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION #872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG

SEE SHEET 15

SEE SHEET 17

ELEVATION (FT, NAVD)

0 | -10 | -20

EXISTING SURFACE

15500 | 15600 | 15700 | 15800 | 15900 | 16000 | 16100 | 16200 | 16300 | 16400 | 16500 | 1

N

GRID

SCALE: 1"= 90'

CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

Prepared for: COASTAL TUG AND BARGE
1020 Port Boulevard, Suite 2
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J3 Executive Centre
1200 NW 17th Avenue, Suite 3
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Date:	03-05-08
Drawn by:	M.B.
Checked by:	K.C.J.
Scale:	
Sheet:	16 of 18

Total sheets: CADD ID:

SDI P.N. 07-1246

A | B | C | D | E | F | G | H

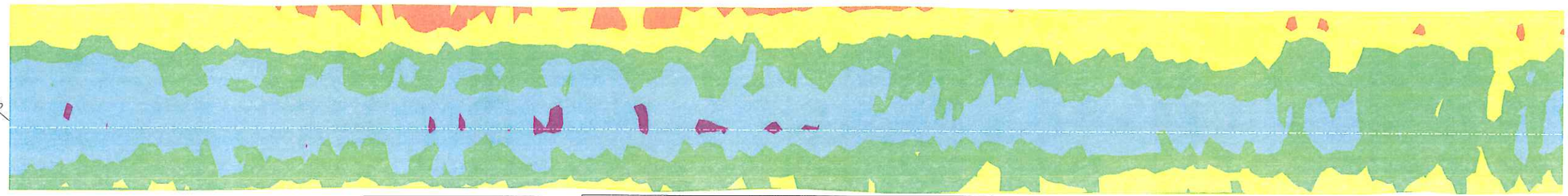
6 / 5 / 4 / 3 / 2 / 1

X 413000 | X 891200 | X 413200 | X 891400 | X 413400 | X 891600 | X 413600 | X 891800

Y 412800

PROFILE CENTERLINE AZ. = 50°6'59"

166+00 | 167+00 | 168+00 | 169+00 | 170+00 | 171+00 | 172+00 | 173+00 | 174+00 | 175+00 | 176+00 | 177+00



VERTICAL DATUM DIAGRAM

NAVD 1988

0.02'

MHW

1.63'

MLW

RELATIONSHIP BETWEEN NORTH AMERICAN VERTICAL DATUM 1988 (NAVD), MEAN HIGH WATER (MHW), AND MEAN LOW WATER (MLW)

* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION #872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG

LEGEND

ABOVE -7 FT	-11.00 FT
-7.00 FT	-12.00 FT
-8.00 FT	-13.00 FT
-9.00 FT	-14.00 FT
-10.00 FT	-15.00 FT
-11.00 FT	BELOW -15 FT

SEE SHEET 16

SEE SHEET 18

ELEVATION (FT. NAVD)

0 / -10 / -20

EXISTING SURFACE

6600 | 16700 | 16800 | 16900 | 17000 | 17100 | 17200 | 17300 | 17400 | 17500 | 17600 | 17700

GRID N

CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)

NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1

SCALE: 1"= 90'

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA

Sheet Title: PLAN VIEW/PROFILE

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Sheet:	17 of 18
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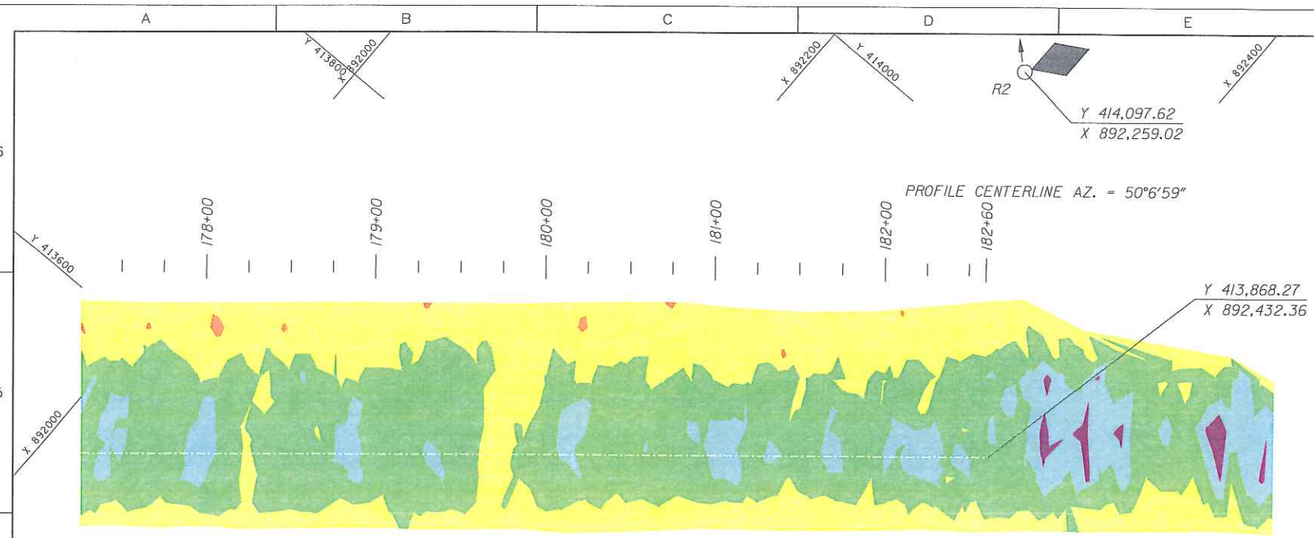
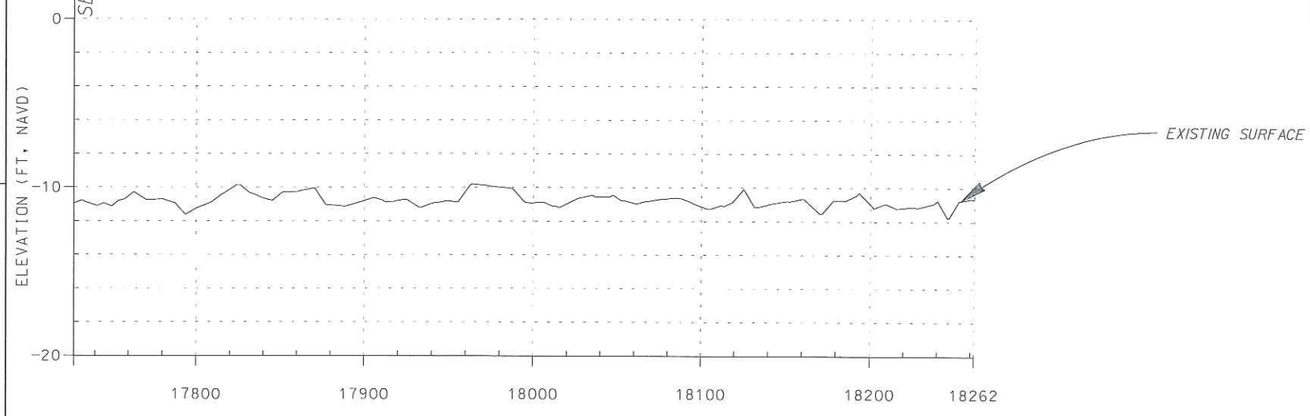
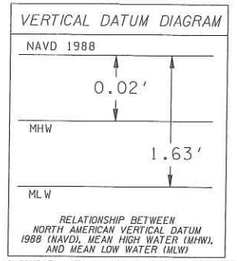
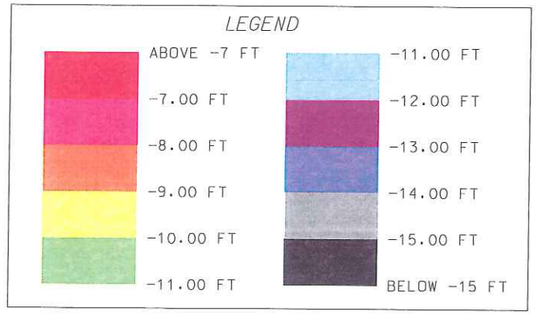




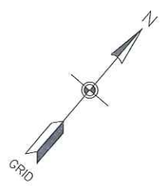
CONTOURS ARE IN FEET RELATIVE TO THE NORTH AMERICAN VERTICAL DATUM (1988)



* SOURCE: NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION TIDE STATION #872-3423 TIDAL EPOCH 1983-2001 AS PER WWW.LABINS.ORG



NOTE:
PROFILE HAS A VERTICAL EXAGGERATION OF 10:1



SCALE: 1"= 90'

SDI P.N. 07-1246

Revisions

No.	Date	Description

Project: TURKEY POINT POWER PLANT
HYDROGRAPHIC SURVEY
HOMESTEAD, MIAMI-DADE COUNTY, FLORIDA.

Sheet Title: PLAN VIEW/PROFILE

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Drawn by:	M.B.
Checked by:	K.C.J.
Scale:	
Sheet:	18 of 18
Total sheets:	
CADD ID:	