NOTE: THIS ATTACHMENT INCLUDES FLORIDA NATURAL AREAS INVENTORY (FNAI) ELEMENT OCCURRENCE MAPS AND DATA FOR THE CITRUS SUBSTATION, EXTRACTED FROM THE COMMON ROUTE FNAI ELEMENT OCCURRENCE REPORT.



1018 Thomasville Road Suite 200-C Tallahassee, FL 32303 850-224-8207 fax 850-681-9364 www.fnai.org December 1, 2009

Stacy Rizzo Golder Associates, Inc. 6026 NW 1<sup>st</sup> Place Gainesville, FL 32607

Dear Ms. Rizzo,

Thank you for your request for information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project:

Common Corridor

**Date Received:** 

November 24, 2009

Location:

Levy and Citrus Counties

#### **Element Occurrences**

A search of our maps and database indicates that currently we have several Element Occurrences mapped within the vicinity of the study area (see enclosed maps and element occurrence tables). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

The Element Occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, Element Occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant.

#### **Likely and Potential Rare Species**

In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Reports). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.



Florida Resources and Environmental realysis Center

and Public Affairs

The Florida State University

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

#### Florida Scrub-jay Survey - U.S. Fish and Wildlife Service

This survey was conducted by staff and associates of the Archbold Biological Station from 1992 to 1996. An attempt was made to record all scrub-jay (*Aphelocoma coerulescens*) groups, although most federal lands were not officially surveyed. Each map point represents one or more groups.

This data layer indicates that there are potential scrub-jay populations on or very near your site. For additional information:

Fitzpatrick, J.W., B. Pranty, and B. Stith, 1994, Florida scrub jay statewide map, 1992-1993. U. S. Fish and Wildlife Service Report, Cooperative Agreement no. 14-16-004-91-950.

#### **Managed Areas**

Portions of the site appear to be located within the Marjorie Harris Carr Cross Florida Greenway State Recreation and Conservation Area, managed by the Florida Department of Environmental Protection, Division of Greenways and Trails.

The Managed Areas data layer shows public and privately managed conservation lands throughout the state. Federal, state, local, and privately managed conservation lands are included.

#### Land Acquisition Projects

This site appears to be located within the Etoniah/Cross Florida Greenway Florida Forever BOT Project, which is part of the State of Florida's Conservation and Recreation Lands land acquisition program. A description of this project is enclosed. For more information on this Florida Forever Project, contact the Florida Department of Environmental Protection, Division of State Lands.

Florida Forever Board of Trustees (BOT) projects are proposed and acquired through the Florida Department of Environmental Protection, Division of State Lands. The state has no regulatory authority over these lands until they are purchased.

The Inventory always recommends that professionals familiar with Florida's flora and fauna should conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources: However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

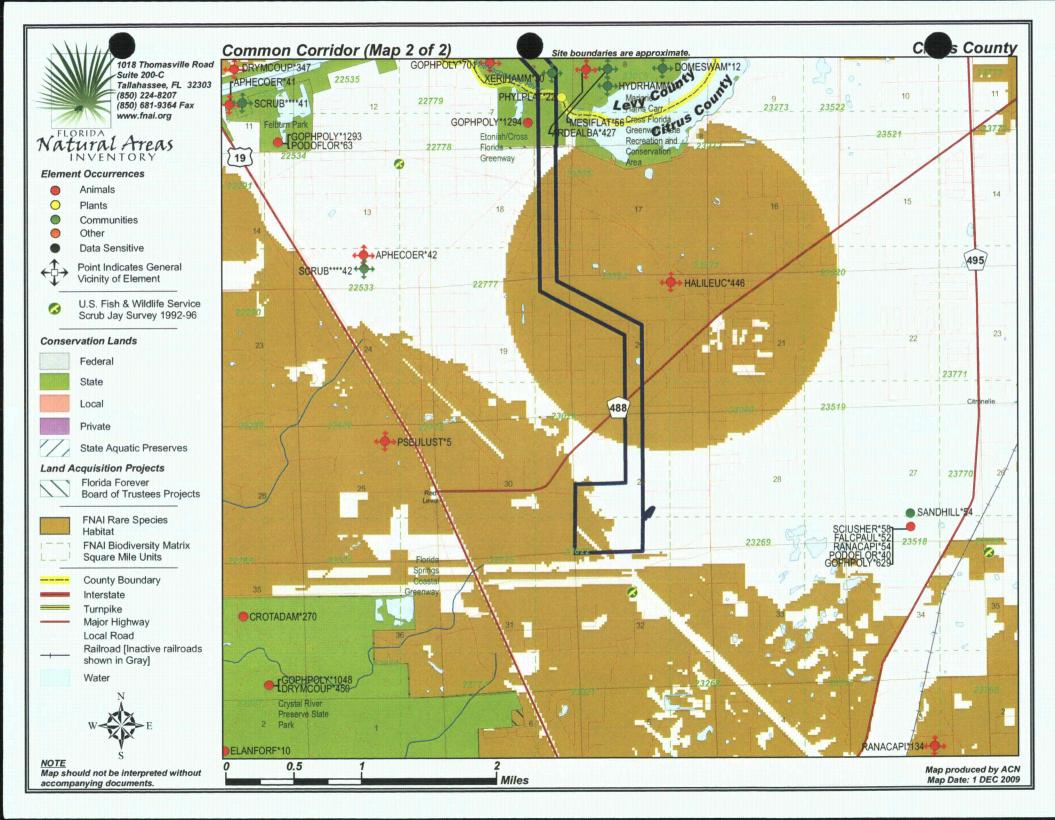
Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. FNAI data may not be resold for profit.

Thank you for your use of FNAI services. If I can be of further assistance, please give me a call at (850) 224-8207.

Alicia C. Newberry

Alicia C. Newberry
Data Services Coordinator

Encl









## ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR Common Corridor (Map 2 of 2)

| INVENT       | TO RY                   |                                  |      |      |                |         | Observatio | n  |   |
|--------------|-------------------------|----------------------------------|------|------|----------------|---------|------------|--|---|
| Map Label    | Scientific Name         | Common Name                      | Rank | Rank | Status         | Listing | Date       | Description  | EO Comments   |
| DOMESWAM*12  | Dome swamp              |                                  | G4   | S4   | N              | N       | 2004       | SCATTERED OCCURRENCES<br>UP TO 20 AC.; NO EVIDENCE OF<br>LOGGING, TREES MAY BE<br>DWARFED; WATER QUALITY<br>APPARENTLY GOOD; POOLS<br>ARE PEAT BOTTOMED. | 2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-11-12) (U05FNA02FLUS). OVERSTORY DOMINATED BY SMALL TAXODIUM ASCENDENS; WATER DEPTH UP TO 3 FEET.  |
| MESIFLAT*56  | Mesic flatwoods         |                                  | G4   | S4   | N              | N       | 2004       | No general description given   | 2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-11-12) (U05FNA02FLUS). APPROX. 50 YEAR OLD PINUS PALUSTRIS WITH RELATIVELY DENSE UNDERSTORY OF SERENOA REPENS, LYONIA LUCIDA, AND ILEX GLABRA. |
| APHECOER*42  | Aphelocoma coerulescens | Florida Scrub-jay                | G2   | S2   | LT             | LT      | 1981-02-21 | GRASSY PALMETTO SCRUB  | 1981-02-21: 11 SCRUB JAYS   |
| RANACAPI*134 | Rana capito             | Gopher Frog                      | G3   | S3   | N              | LS      | 1991-03-17 | Upland Pine Forest; old field community  | 1991-03-17: D.J. STEVENSON, observed 1 adult female.  |
| HYDRHAMM*17  | Hydric hammock          |                                  | G4   | S4   | N              | N       | 2004       |  | 2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-11-12) (U05FNA02FLUS). DOMINATED BY SABAL PALMETTO AND ACER RUBRUM.  |
| SCRUB****42  | Scrub                   |                                  | G2   | S2   | <sup>'</sup> N | N       | 2004       | GRASSY PALMETTO SCRUB  | 2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1981-02-21) (U05FNA02FLUS). OCCURRENCE AT SITE  |
| SCRUB****41  | Scrub                   |                                  | G2   | S2   | N              | N       | 1981-02-21 | PALMETTO SCRUB,<br>SCATTERED PALMS   | OCCURRENCE AT SITE  |
| GOPHPOLY*629 | Gopherus polyphemus     | Gopher Tortoise                  | G3   | \$3  | N              | LT      | 1990-04    | SANDHILL, LONGLEAF<br>PINE-TURKEY OAK,<br>WIREGRASS, ALSO SOME<br>PASTURE.   | NUMEROUS BURROWS. 300+/- INDIVIDUALS BASED ON BURROW SURVEYS TO FGFWFC STANDARDS, EST POPULATION DENSITY OF 1.3/AC. 42%, 25% AND 33% OF OBSERVED BURROWS WERE ACTIVE, INACTIVE AND OLD RESPECTIVELY.  |
| FALCPAUL*52  | Falco sparverius paulus | Southeastern American<br>Kestrel | G5T4 | S3   | N              | LT      | 1990-04    | SANDHILL, LONGLEAF<br>PINE-TURKEY OAK,<br>WIREGRASS.   | 8 INDIVIDUALS AND SURVIVING<br>FLEDGLINGS AND 2 CONFIRMED<br>NESTS.   |







## ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR Common Corridor (Map 2 of 2)

| Man Labol     | Scientific Name         | Common Name                        |           |       |        | Listing | Observation Date |  | EO Commento   |
|---------------|-------------------------|------------------------------------|-----------|-------|--------|---------|------------------|--|---|
| Map Label     | Scientific Name         | Common Name                        | Kalik     | Karik | Status | Listing | Date             | Description  | EO Comments   |
| SANDHILL*54   | Sandhill                |                                    | G3        | S2    | N      | N       | 1990-04          | SANDHILL, LONGLEAF<br>PINE-TURKEY OAK,<br>WIREGRASS.   | No EO data given  |
| PODOFLOR*40   | Podomys floridanus      | Florida Mouse                      | G3        | S3    | N      | LS      | 1990-04          | SANDHILL, LONGLEAF<br>PINE-TURKEY OAK,<br>WIREGRASS.   | 36 (ADULTS AND JUVENILE) INDIVIDUALS CAPTURED AND RELEASED, DURING 800 TRAP NIGHT SURVEY. MAJORITY OF TRAPS WERE SET IN VICINITY OF GOPHERUS BURROWS.   |
| RANACAPI*54   | Rana capito             | Gopher Frog                        | G3        | S3    | N      | LS      | 1990-04          | SANDHILL, LONGLEAF<br>PINE-TURKEY OAK,<br>WIREGRASS.   | 6 INDIVIDUALS CAPTURED IN FUNNEL<br>TRAPS SET AT ENTRANCE OF<br>GOPHER TORTOISE BURROWS.  |
| SCIUSHER*58   | Sciurus niger shermani  | Sherman's Fox Squirrel             | G5T3      | S3    | N      | LS      | 1990-04          | SANDHILL, LONGLEAF<br>PINE-TURKEY OAK,<br>WIREGRASS, ALSO IN<br>PASTURE-BAHIA GRASS.   | 6 INDIVIDUALS OBSERVED IN SANDHILL AND PASTURE.   |
| DRYMCOUP*347  | Drymarchon couperi      | Eastern Indigo Snake               | G3        | S3    | LT     | LT      | 1973-10          | No general description given   | MUSEUM SPECIMEN: S. CHRISTMAN, OCT 1973, UF.  |
| APHECOER*41   | Aphelocoma coerulescens | Florida Scrub-jay                  | G2        | S2    | LT     | LT      | 1981-02-21       | PALMETTO SCRUB,<br>SCATTERED PINES   | 1981-02-21: 2 SCRUB JAYS  |
| ARDEALBA*427  | Ardea alba              | Great Egret                        | G5        | S4    | N      | Ν       | 1987-05-26       | Swamp  | 1987/05/26: D.E. Runde, GFC; Total = 15   |
| GOPHPOLY*1048 | Gopherus polyphemus     | Gopher Tortoise                    | <b>G3</b> | S3    | N      | LT      | 1997-04-08       | Planted slash pine; includes some relic sandhill planted with slash pine and turkey oak (NW1/4 of section 2 T18SR16E).                                       | 1997-04-08: One individual sighted on dir road in NW1/4 section 1 T18SR16E (S. Blitch et al.). 1995-1997: S. Blitch made several sightings of tortoises at three different locations within element occurrence boundaries (see attached map). |
| CROTADAM*270  | Crotalus adamanteus     | Eastern Diamondback<br>Rattlesnake | G4        | S3    | N      | N       | 1996             | Planted pine.  | 1996: S. Blitch observed one individual once or twice near state buffer preserve's shop.  |
| ELANFORF*10   | Elanoides forficatus    | Swallow-tailed Kite                | G5        | S2    | N      | N       | 1995-SPRING      | No general description given   | 1995 Spring: One pair nested in planted slash pine (S. Blitch).   |
| DRYMCOUP*450  | Drymarchon couperi      | Eastern Indigo Snake               | G3        | S3    | LT     | LT      | 1996-XX-XX       | Planted slash pine and pine flatwoods (T17SR16E sec. 35); oak hammock and pasture (T18SR16E Sec. 1) (S. Blitch); mature slash pine plantation (G. Maidhoff). | 1995-1996: Individuals observed at four different locations by S. Blitch (no specific dates). 1995-02-21: One snake observed by Ms. Yulee Commander basking in fire trail (U95MAI02).   |







## ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR Common Corridor (Map 2 of 2)

| INVEN        | TORY   |                             | Global    | State      | Federal  | State   | Observation | n   |  |
|--------------|--|-----------------------------|-----------|------------|----------|---------|-------------|---|--|
| Map Label    | Scientific Name                              | Common Name                 | Rank      | Rank       | Status   | Listing | Date        | Description   | EO Comments  |
| PODOFLOR*63  | Podomys floridanus                           | Florida Mouse               | G3        | S3         | N        | LS      | 1993-01-30  | Remnant sandhills, unburned for an extensive period of time. To north is a highly disturbed dolomite mine. To south is sparsely developed subdivision.  | 1993-01-30: 3 individuals (1 juvenile male,<br>1 adult male, and 1 adult female) caught<br>e in Sherman traps (U93MAI01).  |
| GOPHPOLY*701 | Gopherus polyphemus                          | Gopher Tortoise             | <b>G3</b> | S3         | <b>N</b> | LT      | 2007-09-05  | 1996-02-24: open grassy area within a slash pine flatwoods; past disturbance from canal construction and spoil deposition (U96MAI01FLUS). 1991-11-12: xeric hammock with Quercus virginiana, Q. laurifolia, Pinus palustris, and patchy | 2007-09-05: NeSmith documented one active adult burrow (F08FNA02FLUS). 2004-01-21: A. Davis found eight burrows, only one of which was active (PNDDAV04FLUS, U04DAV01FLUS). 1996-02-24: Maidhof observed adult tortoise and three burro                        |
| XERIHAMM*30  | Xeric hammock                                |                             | _ G3      | \$3        | N        | N       | 2004        | GRADES INTO MESIC<br>FLATWOODS.   | 2004: Update to last obs date was based on interpretation of aerial photography (previous value was 1991-11-12) (U05FNA02FLUS). OVERSTORY WITH QUERCUS VIRGINIANA, Q. LAURIFOLIA, AND PINUS PALUSTRIS; GROUND COVER PATCHY WITH ARISTIDA STRICTA, DALEA SP., A |
| HALILEUC*446 | Haliaeetus leucocephalus                     | Bald Eagle                  | G5        | <b>S</b> 3 | PS       | N       | 2003        | No general description given  | Nest status 1995-2003: Continuously active. (U03FWC01FLUS). Previous data (note different format) NEST: 1995: PRODUCED 1 YOUNG; 1994: GONE; 1993: PRODUCED 2 YOUNG; 1992-87: NO DATA; 1982-1986 ACTIVE; FLEDGED YOUNG 1982-1983, 1985.                         |
| PHYLPLAT*22  | Phyllanthus leibmannianus<br>ssp. platylepis | Pinewoods Dainties          | G4T2      | \$2        | N        | LE      | 2004-05-19  | 2004-05-19: Both Source Points occurred within upland mixed forest with exposed limestone (U05HER01FLUS, U03HER01FLUS).   | 2004-05-19: Over 300 plants that were in bud and flower were observed scattered thoughout an area covering 100 feet X 10 feet in the eastern-most Source Point (U05HER01FLUS). 2003-04-24: The western-most Source Point consisted of 10 scatte                |
| PSEULUST*5   | Pseudobranchus striatus<br>lustricolus       | Gulf Hammock Dwarf<br>Siren | G5T1      | S1         | <b>N</b> | N       | 1951-03-15  | 1951: habitat not described by Nei<br>(1951) (A51NEI02FLUS).  | II 1951-03-15; W. T. Neill collected at least<br>eight adults (paratypes, ERA-WTN<br>14218-14225) (A51NEI02FLUS,<br>B92MOL01FLUS).   |







## ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR Common Corridor (Map 2 of 2)

| INVENT        |                     | ·-              | Global | State | Federal | State   | Observation | 1  |  |
|---------------|---------------------|-----------------|--------|-------|---------|---------|-------------|--|--|
| Map Label     | Scientific Name     | Common Name     | Rank   | Rank  | Status  | Listing | Date        | Description  | EO Comments  |
| GOPHPOLY*1293 | Gopherus polyphemus | Gopher Tortoise | G3     | S3    | N       | LT      | 2002-05-30  | 2002-05-30: ruderal site south of canal. Ddisturbances include land clearing, and excavation (U02HER01FLUS, PNDHER03FLUS, PNDSCH03FLUS). | 2002-05-30: 2 active burrows were documented (U02HER01FLUS, PNDHER03FLUS, PNDSCH03FLUS). |
| GOPHPOLY*1294 | Gopherus polyphemus | Gopher Tortoise | G3     | S3    | N       | LT      |             | 2001-12-20: ruderal site (limerock mine) (U02HER01FLUS, PNDHER03FLUS, PNDSCH03FLUS).   | 2001-12-20: one active burrow documented (U02HER01FLUS, PNDHER03FLUS, PNDSCH03FLUS).     |



## Florida Natural Areas Inventory

### Biodiversity Matrix Report Map 2 of 2



| Natural Areas  |  |  |   | 18                 | 51 - 8                                |
|--|--|--|---|--------------------|---------------------------------------|
| INVENTORY  Scientific Name   | Common Name  | Global<br>Rank   | State<br>Rank   | Federal<br>Status  | State<br>Listing                      |
| Matrix Unit ID: 23022  |  |  |   |                    |                                       |
| Likely   | ,  |  |   |                    |                                       |
| Aphelocoma coerulescens<br>Drymarchon couperi<br>Heterodon simus<br>Mesic flatwoods  | Florida Scrub-jay<br>Eastern Indigo Snake<br>Southern Hognose Snake  | G2<br>G3<br>G2<br>G4   | S2<br>S3<br>S2<br>S4  | LT<br>LT<br>N<br>N | LT<br>LT<br>N<br>N                    |
| Potential  |  |  |   |                    |                                       |
| Agrimonia incisa Aimophila aestivalis Asplenium heteroresiliens Corynorhinus rafinesquii Forestiera godfreyi Gopherus polyphemus Justicia cooleyi Leitneria floridana Matelea floridana Mustela frenata peninsulae Myotis austroriparius Notophthalmus perstriatus Phyllanthus leibmannianus ssp. platylepis Podomys floridanus Sciurus niger shermani Spigelia loganioides Stilosoma extenuatum | Incised Groove-bur Bachman's Sparrow Wagner's Spleenwort Rafinesque's Big-eared Bat Godfrey's Swampprivet Gopher Tortoise Cooley's Water-willow Corkwood Florida Spiny-pod Florida Long-tailed Weasel Southeastern Bat Striped Newt Pinewood Dainties Florida Mouse Sherman's Fox Squirrel Pinkroot Short-tailed Snake | G3<br>G3<br>GNA<br>G3G4<br>G2<br>G3<br>G2<br>G5T3<br>G3G4<br>G2G3<br>G4T2<br>G3<br>G5T3<br>G2Q<br>G3 | \$2<br>\$3<br>\$1<br>\$2<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$3<br>\$3<br>\$2<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3                      | X                  | LE N N N LE LT LE N N N LE LS S LE LT |
| Matrix Unit ID: 23023  |  |  |   |                    |                                       |
| Likely   |  |  |   |                    |                                       |
| Drymarchon couperi<br>Mesic flatwoods  | Eastern Indigo Snake   | G3<br>G4   | S3<br>S4  | LT<br>N            | LT<br>N                               |
| Potential  |  |  |   |                    |                                       |
| Agrimonia incisa Aimophila aestivalis Asplenium heteroresiliens Athene cunicularia floridana Forestiera godfreyi Gopherus polyphemus Heterodon simus Justicia cooleyi Leitneria floridana Matelea floridana Mustela frenata peninsulae Myotis austroriparius Notophthalmus perstriatus Phyllanthus leibmannianus ssp. platylepis Pituophis melanoleucus mugitus                                  | Incised Groove-bur Bachman's Sparrow Wagner's Spleenwort Florida Burrowing Owl Godfrey's Swampprivet Gopher Tortoise Southern Hognose Snake Cooley's Water-willow Corkwood Florida Spiny-pod Florida Long-tailed Weasel Southeastern Bat Striped Newt Pinewood Dainties Florida Pine Snake Florida Mouse               | G3<br>G3<br>GNA<br>G4T3<br>G2<br>G3<br>G2<br>G5T3<br>G3G4<br>G2G3<br>G4T2<br>G4T3<br>G3              | \$2<br>\$3<br>\$1<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$3<br>\$2<br>\$3<br>\$3<br>\$2<br>\$3<br>\$3<br>\$2<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3 | X                  | L N N S L L N L L L N N N L L S S     |

Definitions: Documented - Rare species and natural communities documented on or near this site.

Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.

Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.

Potential - This site lies within the known or predicted range of the species listed.

12/01/2009 Page 1 of 3



# Florida Natural Areas Inventory

### **Biodiversity Matrix Report** Map 2 of 2



| Natural Areas   | ·  |  |   | 18                                      | 51 . 8                          |
|---|--|--|---|---|---------------------------------|
| Natural Areas INVENTORY Scientific Name   | Common Name  | Global<br>Rank   | State<br>Rank   | Federal<br>Status                       | State<br>Listing                |
| Rana capito<br>Sciurus niger shermani<br>Spigelia loganioides<br>Stilosoma extenuatum   | Gopher Frog<br>Sherman's Fox Squirrel<br>Pinkroot<br>Short-tailed Snake  | G3<br>G5T3<br>G2Q<br>G3  | S3<br>S3<br>S2<br>S3  | N<br>N<br>N                             | LS<br>LS<br>LE<br>LT            |
| Matrix Unit ID: 23024   |  |  |   |   |                                 |
| Likely  |  |  |   |   |                                 |
| Haliaeetus leucocephalus<br>Mesic flatwoods<br>Sandhill upland lake   | Bald Eagle   | G5<br>G4<br>G3   | S3<br>S4<br>S2  | N<br>N<br>N                             | N<br>N<br>N                     |
| Potential   |  |  |   |   |                                 |
| Agrimonia incisa Aimophila aestivalis Asplenium heteroresiliens Athene cunicularia floridana Drymarchon couperi Forestiera godfreyi Gopherus polyphemus Heterodon simus Leitneria floridana Matelea floridana Mustela frenata peninsulae Myotis austroriparius Notophthalmus perstriatus Phyllanthus leibmannianus ssp. platylepis Pituophis melanoleucus mugitus Podomys floridanus Rana capito Sciurus niger shermani Spigelia loganioides Stilosoma extenuatum | Incised Groove-bur Bachman's Sparrow Wagner's Spleenwort Florida Burrowing Owl Eastern Indigo Snake Godfrey's Swampprivet Gopher Tortoise Southern Hognose Snake Corkwood Florida Spiny-pod Florida Long-tailed Weasel Southeastern Bat Striped Newt Pinewood Dainties Florida Pine Snake Florida Mouse Gopher Frog Sherman's Fox Squirrel Pinkroot Short-tailed Snake | G3<br>G3<br>GNA<br>G4T3<br>G3<br>G2<br>G3<br>G2<br>G5T3<br>G3G4<br>G2G3<br>G4T2<br>G4T3<br>G3<br>G5T3<br>G2Q<br>G3 | \$2<br>\$3<br>\$1<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$2<br>\$3<br>\$3<br>\$2<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3<br>\$3 | X X X Z Z X X X X X X X X X X X X X X X | LENNSTELNN NESSSET              |
| Matrix Unit ID: 23025   |  |  |   |   |                                 |
| Likely  |  |  |   |   |                                 |
| Hydric hammock<br>Mesic flatwoods<br>Sandhill upland lake   |  | G4<br>G4<br>G3   | S4<br>S4<br>S2  | N<br>N<br>N                             | N<br>N<br>N                     |
| Potential   |  |  |   |   |                                 |
| Acipenser oxyrinchus desotoi Agrimonia incisa Aimophila aestivalis Ardea alba Asplenium heteroresiliens Athene cunicularia floridana Corynorhinus rafinesquii Drymarchon couperi  | Gulf Sturgeon Incised Groove-bur Bachman's Sparrow Great Egret Wagner's Spleenwort Florida Burrowing Owl Rafinesque's Big-eared Bat Eastern Indigo Snake   | G3T2<br>G3<br>G3<br>G5<br>GNA<br>G4T3<br>G3G4<br>G3  | \$2<br>\$3<br>\$4<br>\$1<br>\$3<br>\$2<br>\$3   | LT<br>N<br>N<br>N<br>N<br>N             | LS<br>LE<br>N N N<br>LS<br>N LT |

Definitions:

Documented - Rare species and natural communities documented on or near this site.

Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years. Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity. Potential - This site lies within the known or predicted range of the species listed.

12/01/2009 Page 2 of 3



## Florida Natural Areas Inventory

## Biodiversity Matrix Report Map 2 of 2



| Scientific Name                           | Common Name                 | Global<br>Rank | State<br>Rank | Federal<br>Status | State<br>Listing |
|---|-----------------------------|----------------|---------------|-------------------|------------------|
| Forestiera godfreyi                       | Godfrey's Swampprivet       | G2             | S2            | N                 | LE               |
| Gopherus polyphemus                       | Gopher Tortoise             | G3             | S3            | N                 | LT               |
| Heterodon simus                           | Southern Hognose Snake      | G2             | S2            | N                 | N                |
| Leitneria floridana                       | Corkwood                    | G3             | S3            | N                 | LT               |
| Litsea aestivalis                         | Pondspice                   | G3             | S2            | N                 | LE               |
| Matelea floridana                         | Florida Spiny-pod           | G2             | S2            | N                 | LE               |
| Mustela frenata peninsulae                | Florida Long-tailed Weasel  | G5T3           | S3            | N                 | N                |
| Myotis austroriparius                     | Southeastern Bat            | G3G4           | S3            | N                 | N                |
| Notophthalmus perstriatus                 | Striped Newt                | G2G3           | S2S3          | Ν                 | N                |
| Phyllanthus leibmannianus ssp. platylepis | Pinewood Dainties           | G4T2           | S2            | N                 | LE               |
| Pituophis melanoleucus mugitus            | Florida Pine Snake          | G4T3           | S3            | N                 | LS               |
| Podomys floridanus                        | Florida Mouse               | G3             | S3            | Ν                 | LS               |
| Pseudemys concinna suwanniensis           | Suwannee Cooter             | G5T3           | S3            | Ν                 | LS               |
| Pteroglossaspis ecristata                 | Giant Orchid                | G2G3           | S2            | Ν                 | LT               |
| Rana capito                               | Gopher Frog                 | G3             | S3            | N                 | . LS             |
| Rhexia parviflora                         | Small-flowered Meadowbeauty | G2             | S2            | N                 | LE               |
| Sciurus niger shermani                    | Sherman's Fox Squirrel      | G5T3           | S3            | N                 | LS               |
| Spigelia loganioides                      | Pinkroot                    | G2Q            | S2            | N                 | LE               |
| Stilosoma extenuatum                      | Short-tailed Snake          | G3             | S3            | Ν                 | LT               |



Documented - Rare species and natural communities documented on or near this site.

Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years. Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity. Potential - This site lies within the known or predicted range of the species listed.

#### **GLOBAL AND STATE RANKS**

Florida Natural Areas Inventory (FNAI) defines an **element** as any rare or exemplary component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. FNAI assigns two ranks to each element found in Florida: the **global rank**, which is based on an element's worldwide status, and the **state rank**, which is based on the status of the element within Florida. Element ranks are based on many factors, including estimated number of occurrences, estimated abundance (for species and populations) or area (for natural communities), estimated number of adequately protected occurrences, range, threats, and ecological fragility.

#### GLOBAL RANK DEFINITIONS

| G1            | Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.                   |
|---------------|--|
| <i>G2</i>     | Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.   |
| <i>G3</i>     | Either very rare and local throughout its range (21-100 occurrences or less than 10,0000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.                               |
| G4            | Apparently secure globally (may be rare in parts of range).  |
| G5            | Demonstrably secure globally.  |
| G#?           | Tentative rank (e.g., G2?)   |
| G#G#          | Range of rank; insufficient data to assign specific global rank (e.g., G2G3)   |
| <i>G#T#</i>   | Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1) |
| G#Q           | Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)   |
| G#T#Q         | Same as above, but validity as subspecies or variety is questioned.  |
| GH            | Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)   |
| <b>GNA</b>    | Ranking is not applicable because element is not a suitable target for conservation (e.g. as for hybrid species)   |
| <b>GNR</b>    | Not yet ranked (temporary)   |
| <b>GNRTNR</b> | Neither the full species nor the taxonomic subgroup has yet been ranked (temporary)  |
| GX            | Believed to be extinct throughout range  |
| GXC           | Extirpated from the wild but still known from captivity/cultivation  |
| GU            | Unrankable. Due to lack of information, no rank or range can be assigned (e.g., GUT2).   |

#### STATE RANK DEFINITIONS

Definition parallels global element rank: substitute "S" for "G" in above global ranks, and "in Florida" for "globally" in above global rank definitions.

## FEDERAL AND STATE LEGAL STATUSES (U.S. Fish and Wildlife Service – USFWS) PROVIDED BY FNAI FOR INFORMATION ONLY.

For official definitions and lists of protected species, consult the relevant state or federal agency.

#### FEDERAL LEGAL STATUS

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

- LE Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species which is in danger of extinction throughout all or a significant portion of its range.
- LE,XN A non essential experimental population of a species otherwise Listed as an Endangered Species in the List of Endangered and Threatened Wildlife and Plants. LE,XN for Grus americana (Whooping crane), Federally listed as XN (Non essential experimental population) refers to the Florida experimental population only. Federal listing elsewhere for Grus americana is LE.
- PE Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
- LT Listed as Threatened Species, defined as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
- LT,PDL Species currently listed Threatened but has been proposed for delisting.
- **PT** Proposed for listing as Threatened Species.
- C Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants, Category 1. Federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
- **SAT** Threatened due to similarity of appearance to a threatened species.
- SC Species of Concern, species is not currently listed but is of management concern to USFWS.
- Not currently listed, nor currently being considered for addition to the List of Endangered and Threatened Wildlife and Plants.

#### FLORIDA LEGAL STATUSES (Florida Fish and Wildlife Conservation Commission – FFWCC/ Florida Department of Agriculture and Consumer Services – FDACS)

**Animals:** Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission - FFWCC, 1 August 1997, and subsequent updates.

- LE Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
- LT Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
- LT\* Indicates that a species has LT status only in selected portions of its range in Florida. LT\* for Ursus americanus floridanus (Florida black bear) indicates that LT status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. LT\* for Neovison vison pop. 1 (Southern mink, South Florida population) state listed as Threatened refers to the Everglades population only (Note: species formerly listed as Mustela vison mink pop. 1. Also, priorly listed as Mustela evergladensis).
- LS Listed as Species of Special Concern by the FFWCC, defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification,

environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

LS\* Indicates that a species has LS status only in selected portions of its range in Florida. LS\* for Pandion haliaetus (Osprey) state listed as LS (Species of Special Concern) in Monroe County only.

PE Proposed for listing as Endangered.PT Proposed for listing as Threatened.

**PS** Proposed for listing as a Species of Special Concern.

Not currently listed, nor currently being considered for listing.

**Plants:** Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or please visit: http://DOACS.State.FL.US/PI/Images/Rule05b.pdf

LE Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.

**PE** Proposed by the FDACS for listing as Endangered Plants.

LT Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered. LT\* indicates that a species has LT status only in selected portions of its range in Florida.

**PT** Proposed by the FDACS for listing as Threatened Plants.

Not currently listed, nor currently being considered for listing.



## Etoniah/Cross Florida Greenway Group A: Full Fee

Clay, Putnam, Marion, Levy and Citrus Counties Group A: Less-Than-Fee

#### **Purpose for State Acquisition**

Though partially logged and planted in pine, the large expanse of flatwoods, sandhills, and scrub in central Putnam County, extending to the Cross-Florida Greenway along the Ocklawaha River, is important for the survival of many kinds of wildlife and plants. The Greenway itself is a unique strip of land for recreation and conservation that makes a cross-section of the peninsula from the Withlacoochee River to the St. Johns. The Etoniah/Cross Florida Greenway project will conserve the Putnam County land as well as fill in gaps in the Greenway; ensure that wildlife such as Florida black bear and scrub jays and plants such as the Etoniah rosemary will have areas in which to live; and provide recreation for the public ranging from longdistance hiking trails to fishing, camping, and hunting. This project may also help complete the Florida National Scenic Trail, a statewide non-motorized trail that crosses a number of Florida Forever project sites.

#### Manager

Division of Forestry (DOF), Florida Department of Agriculture and Consumer Services (Etoniah Creek tract) and Office of Greenways and Trails (OGT), Florida Department Environmental Protection (remaining tracts). DOF will monitor compliance with the terms of any less-than-fee purchase agreement.

| tonia Rosemary            | G1/SI         |
|---------------------------|---------------|
| lorida Scrub-jay          | G2/S2         |
| lorida Black Bear         | G5T2/S2       |
| astern Indigo Snake       | G3/S3         |
| Sopher Tortoise           | G3/S3         |
| lorida Mouse              | G3/S3         |
| swallow-tailed Kite       | G5/S2         |
| inkroot 🐭                 | G2Q/S2        |
| Torida Willow             | G2/S2         |
| ariable-leaved Indian-pla | àntain G2/\$2 |
| linewood Dainties         | G4T2/S2       |
| Black Creek Cravfish      | G2/S2         |

#### **General Description**

The project consists of a large tract extending north from the Cross Florida Greenway to Clay County, and four smaller tracts designed to fill in gaps in state ownership along the Cross Florida Greenway. The original Etoniah/Cross Florida Greenway project is important for the survival of black bear in northeast Florida, includes many acres of pine plantation and cutover flatwoods, but also high-quality sandhill, a unique white-cedar swamp along Deep Creek, and patches of sand pine scrub near Etoniah Creek that harbor at least a dozen rare species including fox squirrel, gopher tortoise, indigo and pine snakes, rare crayfish, and seven rare plants including the only known site for federally listed Etoniah rosemary. The smaller tracts include high-quality floodplain swamps along the Ocklawaha River; mixed forest land near U.S. 441 south of Ocala; and Inglis Island, disturbed pinelands between the old Cross Florida Barge Canal and the Withlacoochee River. Eight archaeological sites are known from the project. The greatest threat to the project area is intensive logging, but the uplands on the large tract are suitable for residential development. The smaller sites would lose their value as connectors if developed for residences.

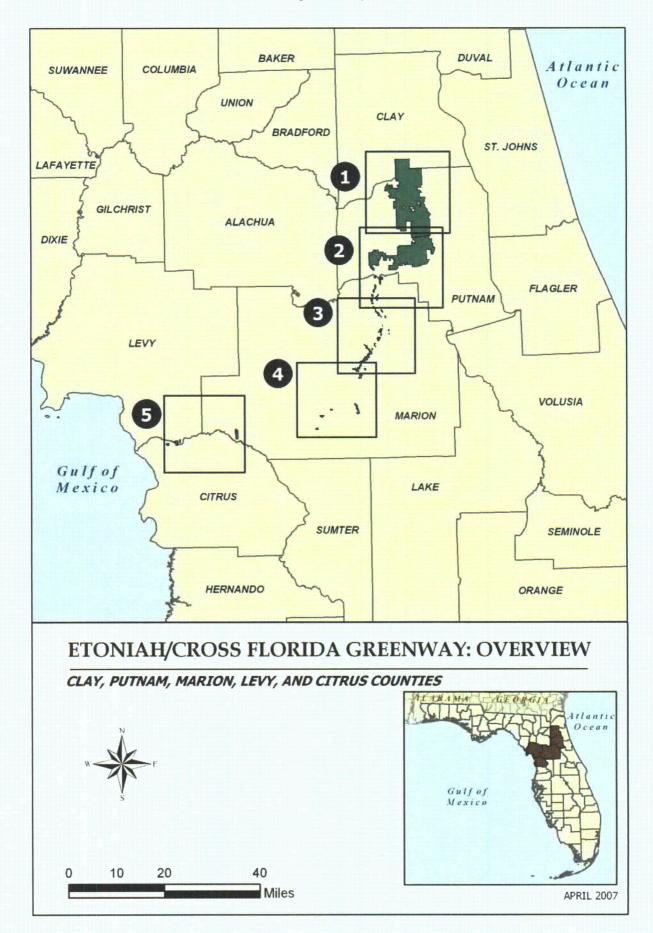
#### **Public Use**

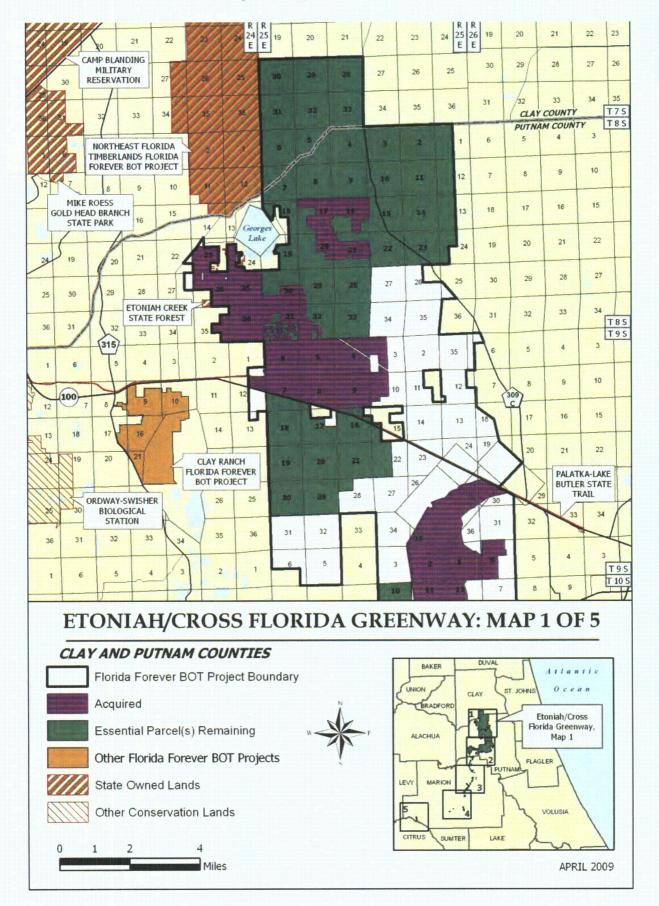
The Cross Florida Greenway connectors will form part of a conservation and recreation area; the majority of

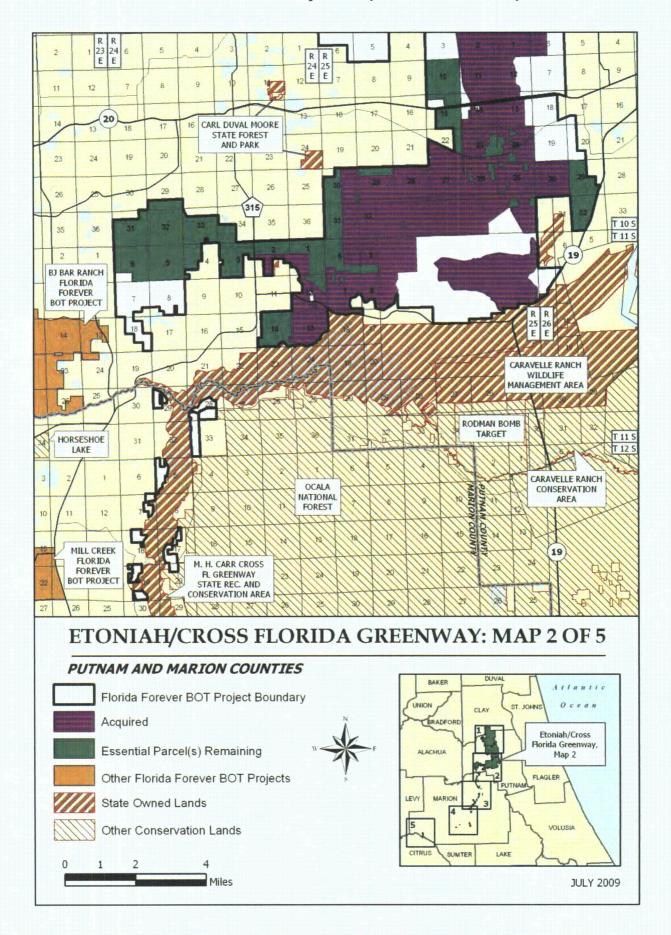
| Placed on list                      | 1995*              |
|-------------------------------------|--------------------|
| Project Area (Not GIS Acreage)      | 89,907             |
| Acres Acquired                      | 22,143**           |
| at a Cost of                        | \$20,256,131**     |
| Acres Remaining                     | 67,764             |
| with Estimated (Tax Assessed) Value | e of \$174 247 293 |

<sup>\*</sup>Etoniah Creek, Cross Florida Greenways and Cross Florida Greenways Phase II were combined in 1995 to create Etoniah/ Cross Florida Greenway. A Less-Than-Fee parcel of approximately 18,406 acres was added to the project in 1997.

<sup>\*\*</sup> Includes a donation of 43 acres and acreage acquired and funds spent by the SJRWMD on Plum Crk/Rick Co.







the large (Etoniah) tract will become a state forest. The various parts of the project will offer opportunities for hiking, hunting, fishing and nature appreciation.

#### **Acquisition Planning**

#### Etoniah Creek

Phase I tracts (essential) include Stokes and Agricola, formerly Deltona (acquired), Union Camp, Manning (acquired) and Interlachen Lake Estates Subdivision. Life-of-the-South (Odom) is also an essential tract. Phase II includes other large ownerships, such as Roberts, as well as other smaller tracts and subdivisions.

#### Cross Florida Greenway

Phase I (essential) includes the westernmost segment (Deep Creek Corridor) consisting of a portion of the Miller family ownerships and approximately 14 other owners.

#### Cross Florida Greenway Phase II

The priority tract (essential) within this portion of the project is the Inglis Island site (acquired by the Office of Greenways and Trails).

On July 20, 1994 the Council added 210 acres to the boundaries of the predecessor projects.

On December 7, 1995, the Council approved the addition of 2,664 acres to the project boundary. The addition included lakeshore and lake bottom associated with Rodman Reservoir. A second modification was made to allow the St. Johns River Water Management District to acquire, on the State's behalf, a large ownership (Odom) not identified in the original Phase I area. Acquisition of the canal easement areas is also a priority.

On March 15, 1996 the Council approved adding 141 acres to the project boundaries.

On December 5, 1996, the Council transferred the Georgia-Pacific ownership (18,146 acres) to the Less-Than-Fee category.

On October 15, 1998, the Council designated as essential an additional 9,870 acres - Georgia-Pacific and seven smaller tracts in a corridor between two already acquired tracts, and portions of the Roberts ownership.

On August 22, 2000, the Acquisition and Restoration Council (ARC) added 2,110 acres (Florida Power ownership along the Cross Florida Greenway State Recreation and Conservation areas) to the project.

On January 25, 2001, ARC added 1,543 acres to the project (boundary in the Deep Creek area).

On May 17, 2001, ARC added 1,110 acres to the boundaries of the project.

On February 25, 2003 the project was added to the Group A list of Florida Forever projects.

On April 13, 2007, the ARC approved a fee-simple, 85-acre addition, known as Foxtrotter Ranch, to the project boundary. It was sponsored by the Office of Greenways & Trails (OGT), consisted of one landowner, Richard Simon, one parcel, and a taxable value of \$2,267,908. OGT will manage the site. The house (approximately 2.5 acres) is not included in the addition, however, it may be donated to the state subsequent to acquisition.

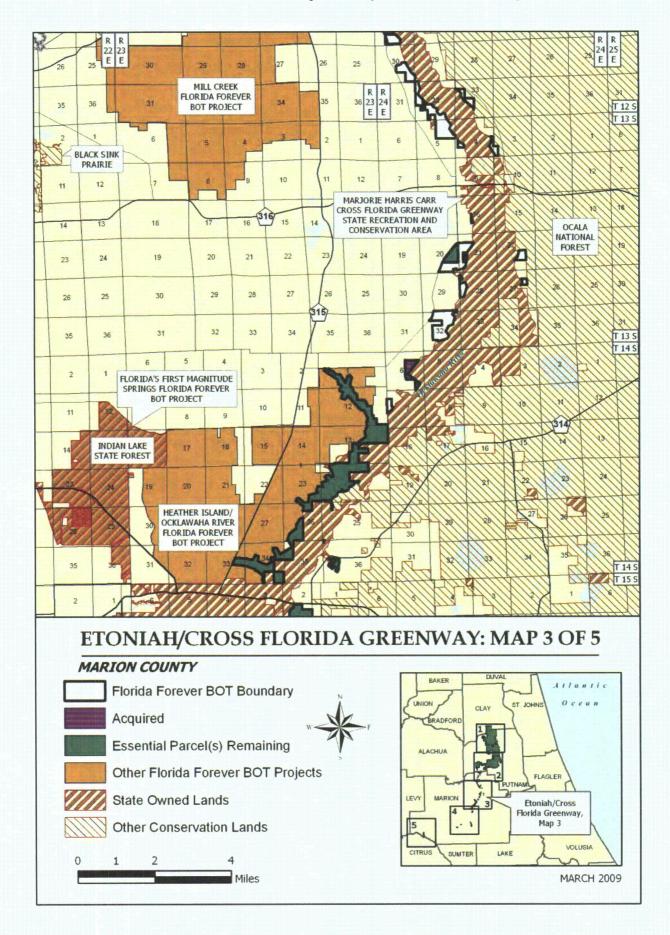
In June, 2008, some 1.19 acres of the Harrington ownership were purchased for \$15,000 with the Division of Forestry (DOF) Florida Forever funds. Forestry will manage this section.

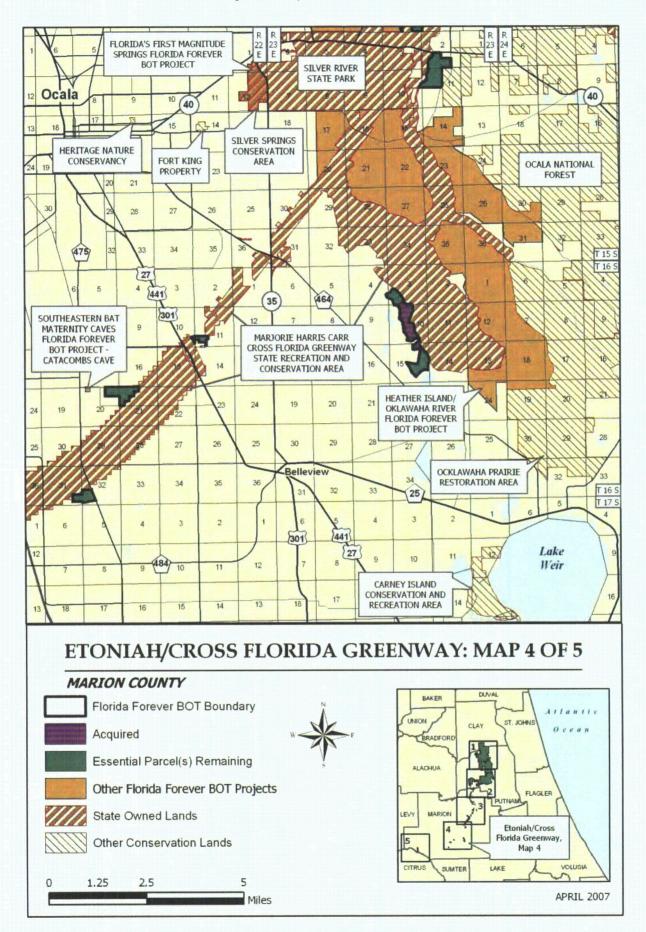
In September, 2008, the DOF used Florida Forever funds to buy the following acreages: 1.08 acres (Fred Yankee, LLC) for \$13,500; 0.87 acres (Goddard) for \$23,000; 1.01 acres (Land Reclamation, Inc.) for \$15,000; 2.52 acres (Cann) for \$23,000; 1.21 acres (Martin) for \$14,000; 1.27 acres (Vehoski) for \$14,000; and 1 acre (Murray) for \$15,000. The DOF will manage all of these parcels.

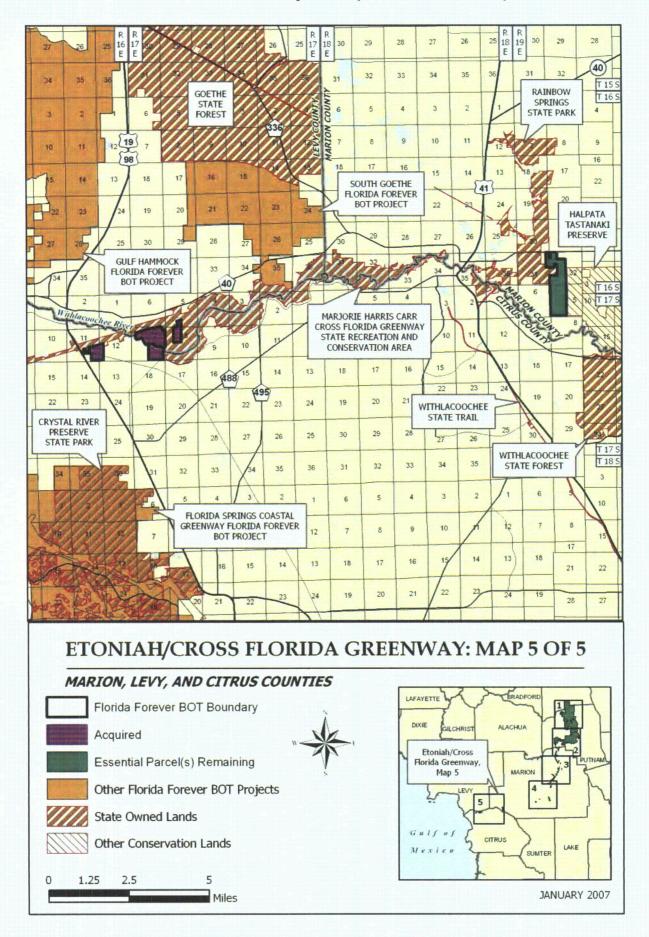
In October, 2008, the DOF used Florida Forever funds to buy 1.25 acres (Uttech) for \$11,500; 2.5 acres (Lachmansingh) for \$25,000; 3.61 acres (Chapman) for \$37,500; and 2.53 acres (Thornton) for \$23,000. The DOF will manage these parcels.

In November, 2008, the DOF used Florida Forever funds to buy 1.27 acres (Dubay) for \$14,000; 1.24 acres (Hood) for \$15,500; 1.25 acres (Contreras) for \$14,000; and 1.24 acres (South) for \$14,000. The DOF will manage these parcels.

January 21, 2009 SJRWMD purchased 208 acres for \$474,363 (Plum Creek/Rick Co.).







#### Coordination

The SJRWMD was the intermediary in the acquisition of the Manning tract and has provided information and expertise on several other tracts. The Office of Greenways and Trails used additions and inholding funds to acquire Inglis Island. The Division of State Lands will assume the lead on acquisition of the remaining tracts.

#### **Management Policy Statement**

The primary goals of management of the Etoniah/ Cross Florida Greenway project are: to conserve and protect environmentally unique and irreplaceable lands that contain native, relatively unaltered flora and fauna representing a natural area unique to, or scarce within, a region of this state or a larger geographic area; to conserve and protect significant habitat for native species or endangered and threatened species; to conserve, protect, manage, or restore important ecosystems, landscapes, and forests, in order to enhance or protect significant surface water, coastal, recreational, timber, fish or wildlife resources which local or state regulatory programs cannot adequately protect; and to provide areas, including recreational trails, for natural-resourcebased recreation.

#### **Management Prospectus**

Qualifications for state designation The large size, restorable pine plantations, and diversity of the Etoniah Creek portion of this project make it highly desirable for management as a state forest. The Cross Florida Greenway State Recreation and Conservation Area includes scenic and historic rivers, lakes, wetlands, and uplands. It is also near, or contiguous with, many other state-owned lands. The Cross Florida Greenway portion of this project, together with the lands already in the Greenway, has the configuration, location, and resources to qualify as a state recreation area.

**Manager** The DOF proposes to manage the 57,000-acre Etoniah Creek portion of the project and the OGT will manage the remaining lands in the vicinity of the old Cross Florida Barge Canal.

Conditions affecting intensity of management There are no known major disturbances in the Etoniah Creek portion that will require extraordinary attention, so management intensity is expected to be typical for a state forest. Lands in the Cross Florida Greenway portion are generally moderate-need tracts.

Timetable for implementing management and provisions for security and protection of infrastructure Once the core area of the Etoniah Creek portion is

acquired, the DOF will provide access to the public for low-intensity, non-facilities-related outdoor recreation. Initial activities will include securing the tract, providing public and fire management accesses, inventorying resources, and removing trash. The Division will provide access to the public while protecting sensitive resources. The tract's natural resources and threatened and endangered plants and animals will be inventoried to provide the basis for a management plan.

Long-range plans for the Etoniah Creek portion will generally be directed toward restoring disturbed areas to their original conditions, as far as possible, as well as protecting threatened and endangered species. An all-season burning program will use, whenever possible, existing roads, black lines, foam lines and natural breaks to contain fires. Timber management will mostly involve improvement thinning and regeneration harvests. Plantations will be thinned and, where appropriate, reforested with species found in natural ecosystems. Stands will not have a targeted rotation age. Infrastructure will primarily be located in disturbed areas and will be the minimum required for management and public access. The Division will promote environmental education. For the Greenway portion, activities within the first year after acquisition will primarily consist of site security, resource inventory, removal of trash, and resource-management planning. Long-range activities proposed include a multipurpose trail and facilities for public access.

Revenue-generating potential In the Etoniah Creek portion, the DOF sell timber as needed to improve or maintain desirable ecosystem conditions. These sales will provide a variable source of revenue, but the revenue-generating potential for this project is expected to be moderate. In the Greenway portion, no revenues are expected to be generated within the first three years after acquisition. However, as the Greenway is developed during its 20-year facility development plan, revenues will be derived from user fees, the sale of products from the lands (limerock berm and timber), and the sale of surplus lands.

Cooperators in management activities The DOF will cooperate with and seek the assistance of other state agencies, local government entities and interested parties as appropriate. Currently, properties along the Greenway are managed in partnership with Marion County, the Florida Game and Fresh Water Fish Commission, and private individuals for recreational purposes.

| Full Fee:       |             |           |               |
|-----------------|-------------|-----------|---------------|
| Management Cost | Summary/OGT |           |               |
| Category        | Startup     | Recurring |               |
| Source of Funds | LATF        | LATF      |               |
| Salary          | \$36,380    | \$36,380  |               |
| OPS             | \$72,660    | \$72,660  |               |
| Expense         | \$62,301    | \$46,362  |               |
| oco             | \$3,167     | \$0       |               |
| FCO             | \$100,000   | \$0       |               |
| TOTAL           | \$274,508   | \$185,402 |               |
| Management Cost | Summary/DOF |           |               |
| Category        | 1996/97     | 1997/98   | 1998/99       |
| Source of Funds | CARL        | CARL      | CARL          |
| Salary          | \$45,337    | \$56,489  | \$58,183.67   |
| OPS             | \$0         | \$3,000   | \$7,650.00    |
| Expense         | \$11,225    | \$22,825  | \$58,203.75   |
| OCO             | \$43,320    | \$50,500  | \$128,775.00  |
| FCO             | \$0         | \$0       | , <b>\$</b> 0 |
| TOTAL           | \$99,882    | \$132,814 | \$252,812.42  |







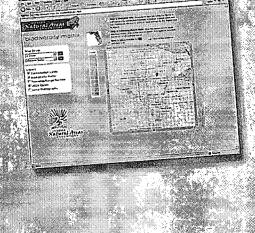


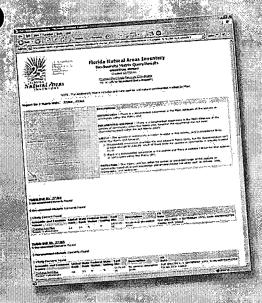


The Biodiversity Matrix Map Server is a new screening tool from FNAI that provides immediate, free access to rare species occurrence information statewide. This tool allows you to zoom to your site of interest and create a report listing documented, likely, and potential occurrences of rare species and natural communities.

The FNAI Biodiversity Matrix offers built-in interpretation of the likelihood of species occurrence for each 1-square-mile Matrix Unit across the state. The report includes a site map and list of species and natural communities by occurrence status: Documented, Documented-Historic, Likely, and Potential.

Try it today: www.fnai.org/biointro.cfm





Please note: FNAI will continue to offer our Standard Data Report service as always. The Standard Data Report offers the most communities, conservation lands, and other natural resources.



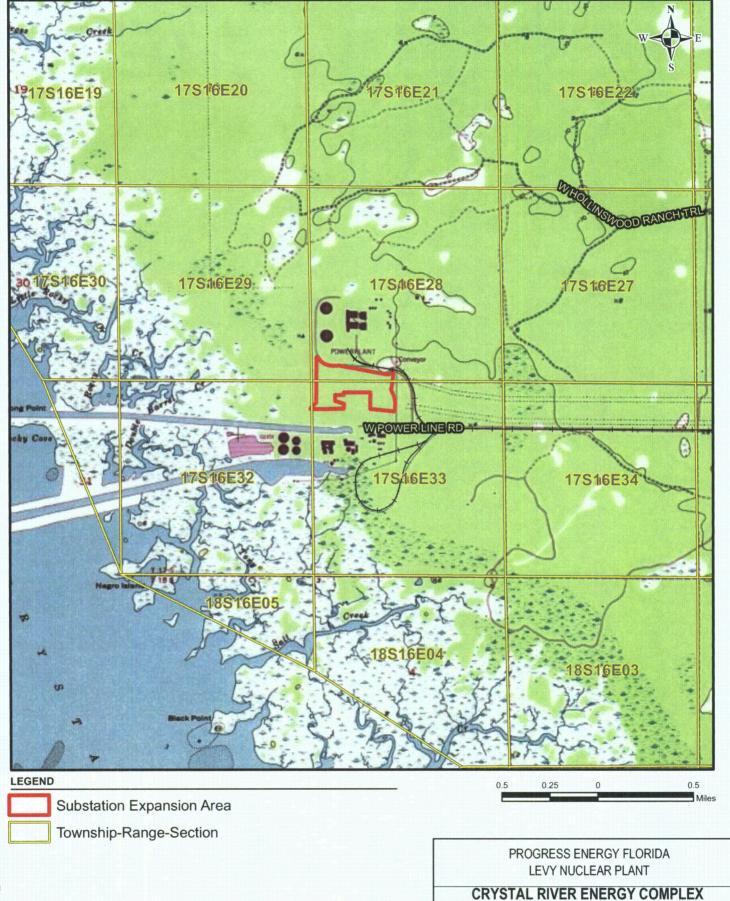


## Progress Energy Florida Levy Baseload Project Citrus Substation Wetland Impacts

| Wetland ID | FLUCFCS<br>Code | FLUCFCS<br>Definition | Impact<br>Acreage | Total<br>Impact<br>Acreage | UMAM | Mitigation<br>Credits | Total<br>Mitigation<br>Credits |
|------------|-----------------|-----------------------|-------------------|----------------------------|------|-----------------------|--------------------------------|
| Α          | 641             | Freshwater Marshes    | 7.75              | 7.75                       | 0.73 | 5.66                  | 5.66                           |
|            |                 |                       |                   |                            |      |                       |                                |
| D          | 534             | Reservoirs < 10 acres | 0.18              | 0.18                       | 0.47 | 0.08                  | 0.08                           |
|            |                 |                       |                   |                            |      |                       |                                |
| E          | 534             | Reservoirs < 10 acres | 0.57              | 0.57                       | 0.47 | 0.27                  | 0.27                           |
|            |                 |                       |                   |                            |      |                       |                                |
| G          | 534             | Reservoirs < 10 acres | 0.08              | 0.08                       | 0.47 | 0.04                  | 0.04                           |
|            |                 |                       |                   |                            |      |                       |                                |
| Н          | 641             | Freshwater Marshes    | 0.11              | 0.11                       | 0.73 | 0.08                  | 0.08                           |
|            |                 |                       |                   |                            |      |                       |                                |
| IB         | 511             | Ditches               | 0.14              | 0.14                       | 0.47 | 0.07                  | 0.07                           |
|            |                 | Total                 |                   | 8.83                       |      |                       | 6.20                           |



CIDBO IECTSIONS PRO



#### REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; USGS Topographic Map: National Geographic Society, 2009; Township-Range-Section: Florida Department of Environmental Protection, 1994

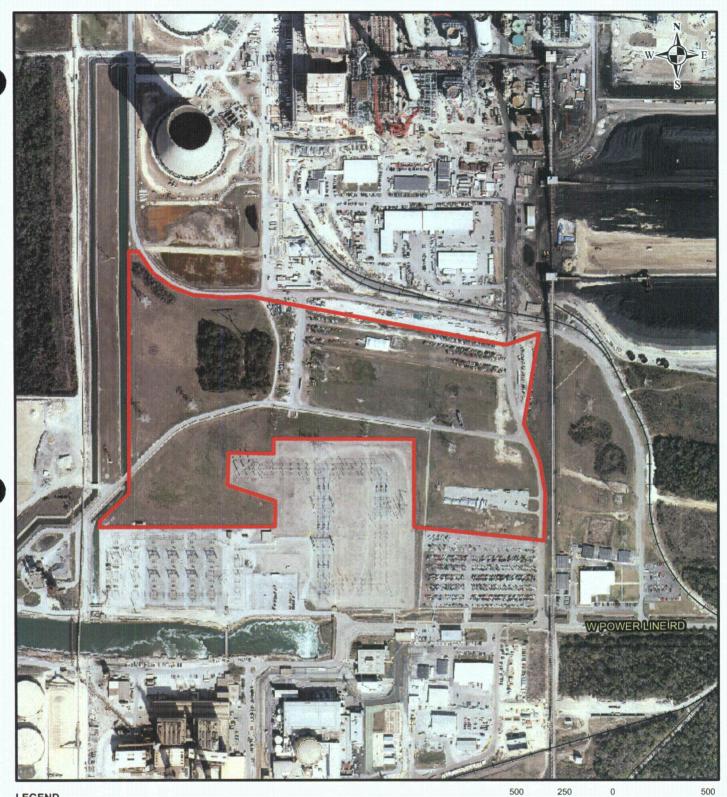
CRYSTAL RIVER ENERGY COMPLEX
SUBSTATION EXPANSION
USGS TOPOGRAPHIC MAP

MOD FIG NO. 093-89547.002 SCALE AS SHOWN REV. 0



| MXD File I | SCALE |              |   |
|------------|-------|--------------|---|
| DESIGN     | DLH   | 22 Sept 2009 |   |
| GIS        | DLH   | 02 Mar 2010  |   |
| CHECK      | SAR   | 02 Mar 2010  | Г |
| DEL METAL  | VD    | 00 14 0040   |   |

FIGURE 2

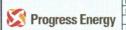


LEGEND

Substation Expansion Area

PROGRESS ENERGY FLORIDA LEVY NUCLEAR PLANT

CRYSTAL RIVER ENERGY COMPLEX
SUBSTATION EXPANSION
AERIAL MAP
MXD Fig. No. 083-89547L003 | SCALE AS SHOWN | REV. 0



| MXD File I | No. 093 | -89547L003   | S |
|------------|---------|--------------|---|
| DESIGN     | DLH     | 22 Sept 2009 |   |
| GIS        | DLH     | 02 Mar 2010  |   |
| CHECK      | SAR     | 02 Mar 2010  |   |
|            | LOD     | 0011 0010    |   |

FIGURE 3

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; Aerials: Progress Energy, 2009



Substation Expansion Area

#### **CITRUS SOILS**

22, QUARTZIPSAMMENTS/0 TO 5 PERCENT SLOPES

39, HALLANDALE-ROCK OUTCROP COMPLEX/RARELY FLOODED

51, BOCA-PINEDA/LIMESTONE SUBSTRATUM COMPLEX

59, BOCA FINE SAND/DEPRESSIONAL

99, WATER

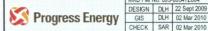
#### REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; Soils: SWFWMD, 2006; Aerials: Progress Energy Florida, 2009

PROGRESS ENERGY FLORIDA LEVY NUCLEAR PLANT

### **CRYSTAL RIVER ENERGY COMPLEX** SUBSTATION EXPANSION SOILS MAP

REVIEW KB 02 Mar 20



|                          | - 11 | 17 48        |                    |     |  |  |
|--------------------------|------|--------------|--------------------|-----|--|--|
| D File No. 093-89547L004 |      |              | SCALE AS SHOWN REN |     |  |  |
| SIGN                     | DLH  | 22 Sept 2009 |                    |     |  |  |
| GIS                      | DLH  | 02 Mar 2010  | FIGURE             | - 4 |  |  |
| IECK                     | SAR  | 02 Mar 2010  | FIGURE             | - 4 |  |  |



LEGEND

Substation Expansion Area

#### LAND USE/LAND COVER CODES

212, UNIMPROVED PASTURES

511, DITCHES

534, RESERVOIRS < 10 ACRES

615, STREAM AND LAKE SWAMPS (BOTTOMLAND)

630, WETLAND FORESTED MIXED

631, WETLAND SCRUB

641, FRESHWATER MARSHES

643, WET PRAIRIES

812, RAILROADS

816, CANALS AND LOCKS

831, ELECTRIC POWER FACILITIES

Progress Energy

PROGRESS ENERGY FLORIDA LEVY NUCLEAR PLANT

200

### CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION HABITAT CLASSIFICATION MAP

DESIGN DLH 24 Sept 2009
GIS DLH 15 Mar 2010
CHECK SAR 15 Mar 2010
REVIEW KB 15 Mar 2010

FIGURE 5

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; FLUCCS Data: SWFWMD, 2007, Golder edited 2009; Aerials: Progress Energy, 2009



LEGEND

Substation Expansion Area

 $\triangle$ 

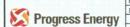
Florida Natural Areas Inventory Occurrence

1,000 500 0 1,000

NOTE: No portion of the Crystal River Energy Complex line lies within Wood Stork Core Foraging Areas.

> PROGRESS ENERGY FLORIDA LEVY NUCLEAR PLANT

CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION LISTED SPECIES MAP



| AXD File I | No. 093 | -89547L006   | SCALE AS SHOWN | REV. 0 |
|------------|---------|--------------|----------------|--------|
| DESIGN     | DLH     | 24 Sept 2009 |                |        |
| GIS        | DLH     | 02 Mar 2010  | FICURE         | - c    |
| CHECK      | SAR     | 02 Mar 2010  | FIGURE         | - 0    |
|            |         |              |                |        |

#### REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; Wood Stork Colony Data: U.S. Fish & Wildlife Service, 2009; Aerials: ESRI, 2009



## FEMA FLOOD ZONES

100-yr Floodplain
AE (Base Flood Elevations have been determined)

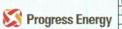
VE 100-yr Floodplain with wave velocity

REFERENCE

Substation Expansion Area: Progress Energy Florida, 2009; Roads: Florida Department of Transportation, 2010; Railroads: FDEP, 1992; Flood Zones: FEMA, 1996; Aerials: ESRI, 2009

PROGRESS ENERGY FLORIDA LEVY NUCLEAR PLANT

CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION FEMA 100 YEAR FLOODPLAIN MAP



MXD File No. 093-89547L007 S
DESIGN DLH 28 Sept 2009
GIS DLH 02 Mar 2010
CHECK SAR 02 Mar 2010

PEVIEW KB 02 Mar 2010

FIGURE 7



### **Wetland Descriptions**

### Florida Power Corporation d/b/a Progress Energy Florida, Inc.

## Crystal River Energy Complex Substation Expansion Citrus County, Florida

| Wetland ID | FLUCFCS<br>Code | Acreage | UMAM Score | Soil Type                                     | Corps<br>Jurisdictional | OFW | Wetland Description   |
|------------|-----------------|---------|------------|---|-------------------------|-----|---|
| Wetland AC | 641             | 0.09    | 0.40       | Quartzipsamments,<br>0 to 5 percent<br>slopes | No                      | No  | This is an isolated, depressional marsh sprayed with herbicides. Dominant species in this wetland include Panicum repens and Cladium jamaicense.  |
|            | 630             | 1.77    | 0.53       | Quartzipsamments,<br>0 to 5 percent<br>slopes | No                      | No  | This is an isolated mixed forested wetland with a wet prairie fringe that has been  |
| Wetland AD | 643             | 0.58    | 0.53       | Quartzipsamments,<br>0 to 5 percent<br>slopes | No                      | No  | mowed. Dominant woody species include <i>Pinus elliottii</i> and <i>Fraxinus</i> sp. Dominant species within the wet prairie area include <i>Eragrostis</i> sp. and <i>Rhynchospora colorata</i> .      |
| Wetland AE | 630             | 0.82    | 0.53       | Quartzipsamments,<br>0 to 5 percent<br>slopes | No                      | No  | This is an isolated mixed forested wetland separated from Wetland AD by a road. Species composition is similar to Wetland AD.   |
| Wetland AF | 511             | 0.14    | 0.53       | Quartzipsamments,<br>0 to 5 percent<br>slopes | Yes                     | No  | This is a ditch that drains the parking lots and switchyard. A culvert connects the ditch to the discharge canal. <i>Cyperus</i> sp., <i>Ludwigia</i> sp., <i>Setaria</i> sp. are the dominant species. |
| Wetland AG | 630             | 0.41    | 0.53       | Quartzipsamments,<br>0 to 5 percent<br>slopes | No                      | No  | This is an isolated mixed forested wetland with a wet prairie fringe that has been  |



#### **Wetland Descriptions**

## Florida Power Corporation d/b/a Progress Energy Florida, Inc.

## Crystal River Energy Complex Substation Expansion Citrus County, Florida

| Wetland ID | FLUCFCS<br>Code | Acreage | UMAM Score | Soil Type                                     | Corps<br>Jurisdictional | OFW | Wetland Description   |
|------------|-----------------|---------|------------|---|-------------------------|-----|---|
|            | 643             | 0.28    | 0.53       | Quartzipsamments,<br>0 to 5 percent<br>slopes | No                      | No  | sprayed with herbicides.  Dominant species within the wetland include <i>Vitis</i> sp., <i>Baccharis halimifolia</i> , and <i>Salix caroliniana</i> .                                   |
| Wetland AH | 641             | 0.44    | 0.40       | Quartzipsamments,<br>0 to 5 percent<br>slopes | No                      | No  | This is an isolated stormwater retention area under an existing transmission line. The wetland has mucky soils and marsh vegetation dominated by Cyperus sp. and Hydrocotyle umbellata. |
| Wetland Al | 534             | 0.81    | 0.40       | Quartzipsamments,<br>0 to 5 percent<br>slopes | No                      | No  | This is an isolated retention pond that holds runoff from the car wash. Ludwigia peruviana is the dominant species in this wetland.   |



## Florida Power Corporation d/b/a Progress Energy Florida, Inc. Crystal River Energy Complex Substation Expansion

# Protected Plants and Animals Potentially Occurring within the Crystal River Energy Complex Substation Expansion Area Citrus County, Florida

|  |  | Likelihood of          |       |     |          |
|--|--|------------------------|-------|-----|----------|
| Species  | Habitat of Occurrence  | Occurrence on Property | USFWS | FWC | Observed |
|  | BIRDS  |                        |       |     |          |
| Ammodramus maritimus peninsulae<br>Scott's seaside sparrow | Saltwater marshes  | Low                    | N     | SSC | No       |
| Aramus guarauna<br>Limpkin                                 | Freshwater marshes, swamps, springs, spring runs, pond, river, and lake margins                        | Low                    | N     | SSC | No       |
| Charadrius melodus Piping plover                           | Mudflats   | Low                    | Т     | T   | No       |
| Cistothorus palustris marianae<br>Marian's marsh wren      | Saltwater marshes  | Low                    | N     | SSC | No       |
| Egretta caerulea Little blue heron                         | Freshwater lakes, marshes, swamps, and streams, cypress  | Low                    | N     | SSC | No       |
| Egretta thula<br>Snowy egret                               | Wetlands, streams, lakes, and swamps, manmade impoundments, ditches                                    | Low                    | N     | SSC | No       |
| Egretta tricolor Tricolored heron                          | Wetlands, ditches, pond and lake edges, coastal areas  | Low                    | N     | SSC | No       |
| Eudocimus albus<br>White ibis                              | Freshwater and brackish marshes, salt flats, forested wetlands, wet prairies, swales, man-made ditches | Low                    | N     | SSC | No       |
| Grus canadensis pratensis Florida sandhill crane           | Prairies, freshwater marshes, and pastures   | Low                    | N     | Т   | No       |
| Haematopus palliatus American oystercatcher                | Saltwater marshes, estuaries, mudflats   | Low                    | N     | SSC | No       |
| Haliaeetus leucocephalus<br>Bald eagle                     | Coastal areas, bays, rivers, lakes, or other bodies of water   | Low                    | N     | N   | No       |
| Mycteria americana<br>Wood stork                           | Cypress strands and domes, mixed hardwood swamps, freshwater marshes                                   | Low                    | Е     | Е   | No       |
| Platalea ajaja<br>Roseate spoonbill                        | Tidal flats, coastal and freshwater marshes  | Low                    | N     | SSC | No       |
| Rynchops niger Black skimmer                               | Bays, estuaries, lagoons, mudflats   | Low                    | N     | SSC | No       |



## Florida Power Corporation d/b/a Progress Energy Florida, Inc. Crystal River Energy Complex Substation Expansion

# Protected Plants and Animals Potentially Occurring within the Crystal River Energy Complex Substation Expansion Area Citrus County, Florida

|  |  | Likelihood of          | Statu  | ıs  | 1.5      |
|--|--|------------------------|--------|-----|----------|
| Species  | Habitat of Occurrence  | Occurrence on Property | USFWS  | FWC | Observed |
| Sterna antillarum<br>Least tern                  | Bays, estuaries, lagoons, mudflats   | Low                    | N      | Т   | No       |
|  | MAMMALS  |                        |        |     |          |
|  | None   |                        |        |     |          |
|  | REPTILES   |                        |        |     |          |
| Alligator mississippiensis<br>American alligator | Most permanent bodies of fresh water, including marshes, swamps, lakes, and rivers | Low                    | T (SA) | SSC | No       |
|  | PLANTS   | . B. (1889)            |        |     |          |
|  | None   |                        |        |     |          |

Notes:

N = Not Listed

T = Threatened

E = Endangered

SSC = Species of Special Concern

T (SA) = Threatened due to similarity in appearance to a federally listed species

#### SPECIFIC PURPOSE SURVEY OF WETLAND JURISDICTIONAL DELINEATION AND THREATENED AND ENDANGERED SPECIES

### PROGRESS ENERGY FLORIDA

### CRYSTAL RIVER ENERGY COMPLEX SUBSTATION EXPANSION

LOCATED IN SECTION29

TOWNSHIP 17 SOUTH, RANGE 17 EAST CITRUS COUNTY, FLORIDA

|               | ND DESIGNA<br>AE, AF, AG, |                  | SQU           | A WITHIN<br>PARE FEET<br>132506 | BOUNDARY<br>ACRES +/-<br>5.34 |                | CITR               | US COUNTY        |
|---------------|---------------------------|------------------|---------------|---------------------------------|-------------------------------|----------------|--------------------|------------------|
| WETLAN        | D FLAG LO                 | CATIONS          | WETLAN        | ND FLAG LO                      | OCATIONS                      | WETLAN         | D FLAG L           | OCATIONS         |
| Desc N        | orthing                   | Easting          | Desc N        | orthing                         | Easting                       | Desc N         | orthing            | Easting          |
| ai-1<br>ai-2  | 1683247<br>1683357        | 433784<br>433773 | ac-1<br>ac-4  | 1683516<br>1683477              | 431946<br>431988              | an-19<br>an-18 | 1682877<br>1682762 | 436937<br>436918 |
| ai-3          | 1683412                   | 433482           | ac-3          | 1683519                         | 432036                        | an-21          | 1682998            | 436843           |
| ai-4          | 1683292                   | 433465           | ac-2          | 1683567                         | 431994                        | at-20          | 1683022            | 436961           |
| af-6          | 1682823                   | 433370           | ag-2          | 1683741                         | 431935                        | an-23          | 1683029            | 436628           |
| af-1          | 1682822                   | 433397           | ag-1          | 1683741                         | 432103                        | an-22          | 1683029            | 436728           |
| af-2          | 1682643                   | 433393           | ag-7          | 1683783                         | 432142                        | an-24          | 1683050            | 436533           |
| af-5          | 1682648                   | 433367           | ag-6          | 1683812                         | 432110                        | an-26          | 1683078            | 436385           |
| af-4          | 1682588                   | 433367           | ag-4          | 1683981                         | 431907                        | an-25          | 1683097            | 436494           |
| af-3          | 1682591                   | 433393           | ag-3          | 1683902                         | 431907                        | at-27          | 1683102            | 436283           |
| ah-2          | 1683446                   | 432986           | ap-3          | 1682341                         | 436979                        | an-28          | 1683118            | 436163           |
| ah-3          | 1683364                   | 433010           | ap-2          | 1682357                         | 437042                        | an-29          | 1683146            | 436036           |
| ah-4          | 1683355                   | 433176           | ap-1          | 1682407                         | 437053                        | an-30          | 1683164            | 435907           |
| ah-5          | 1683435                   | 433194           | ap-4          | 1682157                         | 436941                        | an-31          | 1683195            | 435764           |
| ah-1          | 1683483                   | 433050           | ap-9          | 1682137                         | 436946                        | an-32          | 1683227            | 435650           |
| ae-2          | 1683623                   | 432569           | ap-10         | 1682099                         | 436947                        | an-33          | 1683234            | 435534           |
| ae-1          | 1683579                   | 432486           | ap-8          | 1682132                         | 436968                        | an-34          | 1683257            | 435417           |
| ad-7          | 1683576                   | 432460           | ap-7          | 1682128                         | 437046                        | an-35          | 1683267            | 435349           |
| ad-8          | 1683524<br>1683302        | 432471           | ap-6          | 1682150<br>1682166              | 437060<br>437040              | an-36          | 1683291            | 435247           |
| ae-7<br>ad-10 | 1683305                   | 432460           | ap-5<br>ao-19 | 1682355                         | 436913                        | an-37<br>an38  | 1683298<br>1683320 | 435158<br>435120 |
| ae-6          | 1683298                   | 432598           | ao-18         | 1682410                         | 436913                        | an-39          | 1683328            | 435120           |
| ae-4          | 1683465                   | 432614           | ao-2          | 1682410                         | 436893                        | an-40          | 1683341            | 434855           |
| ae-2          | 1683602                   | 432586           | ao-1          | 1682361                         | 436888                        | an-41          | 1683364            | 434790           |
| ae-3          | 1683592                   | 432600           | ao-3          | 1682430                         | 436896                        | an-43          | 1683312            | 434604           |
| ad-6          | 1683628                   | 432405           | ao-17         | 1682427                         | 436920                        | an-44          | 1683318            | 434542           |
| ad-5          | 1683671                   | 432302           | ao-16         | 1682525                         | 436963                        | an-1           | 1683292            | 434494           |
| ad-4          | 1683633                   | 432162           | ao-15         | 1682631                         | 436973                        | an-2           | 1683189            | 434530           |
| ad-3          | 1683490                   | 432133           | ao-14         | 1682692                         | 436973                        | an-3           | 1683072            | 434571           |
| ad-2          | 1683357                   | 432184           | ao-13         | 1682714                         | 436974                        | an-4           | 1682967            | 434610           |
| ad-1          | 1683299                   | 432261           | ao-12         | 1682744                         | 436973                        | an-5           | 1682768            | 434604           |
| ad-11         | 1683306                   | 432338           | ao-11         | 1682828                         | 436977                        | an-6           | 1682758            | 434645           |
|               |                           |                  | at-6          | 1682894                         | 436992                        | an-7           | 1682770            | 434695           |
|               |                           |                  | ao-10         | 1682961                         | 436998                        | an-8           | 1682749            | 434751           |
|               |                           |                  | at-5          | 1682968                         | 437006                        | an-9           | 1682643            | 435253           |
| 1             |                           |                  | at-4<br>at-3  | 1682971<br>1683034              | 437065<br>437068              | an-10          | 1682581            | 435666           |
| 9             |                           |                  | at-2          | 1683110                         | 437069                        | at-19          | 1682475            | 437172           |
|               |                           |                  | at-1          | 1683163                         | 437103                        | at-18          | 1682503            | 437172           |
|               |                           |                  | ao-9          | 1682972                         | 436983                        | at-17<br>at-16 | 1682581<br>1682639 | 437199           |
|               |                           |                  | ao-8          | 1682828                         | 436959                        | ap-11          | 1682092            | 437392           |
|               |                           |                  | ao-7          | 1682717                         | 436947                        | ap-11          | 1682094            | 437736           |
|               |                           |                  | an-17         | 1682696                         | 436941                        | ap-13          | 1682090            | 437819           |
|               |                           |                  | ao-6          | 1682690                         | 436952                        | ap-14          | 1682089            | 438024           |
|               |                           |                  | ao-5          | 1682629                         | 436954                        | ap-15          | 1682095            | 438385           |
|               |                           |                  | an-16         | 1682631                         | 436942                        | ap-16          | 1682162            | 438464           |
|               |                           |                  | an-15         | 1682538                         | 436934                        | ap-17          | 1682160            | 438723           |
|               |                           |                  | ao-4          | 1682505                         | 436938                        | ap-18          | 1682157            | 438983           |
|               |                           |                  | an-14         | 1682490                         | 436922                        | ap-19          | 1682095            | 439097           |
|               |                           |                  | an-13         | 1682434                         | 436888                        |                |                    |                  |
|               |                           |                  | an-12         | 1682414                         | 436752                        |                |                    |                  |
|               |                           |                  | an-11         | 1682494                         | 436159                        |                |                    |                  |
|               |                           |                  | at-10         | 1682712                         | 437073                        |                |                    |                  |
|               |                           |                  | at-11         | 1682708                         | 437223                        |                |                    |                  |
|               |                           |                  | at-12<br>at-9 | 1682693<br>1682806              | 437237<br>437107              |                |                    |                  |
|               |                           |                  | at-8          | 1682907                         | 437107                        |                |                    |                  |
|               |                           |                  | at-7          | 1682893                         | 437078                        |                |                    |                  |
|               |                           |                  |               | . 002093                        | 357070                        |                |                    |                  |



LEGEND:

WETLANDS JURISDICTIONAL DELINEATION LINE WITHIN SUBSTATION LIMITS

PEF = PROGRESS ENERGY FLORIDA

al-2, ac-1, an-19, etc. = WETLAND FLAG DELINEATOR

= DIFFERENTIAL GLOBAL POSITIONING SYSTEM

= NORTHING (coordinate)

P/L = BOUNDARY LINE

GIS = GEOGRAPHIC INFORMATION SYSTEM

= EASTING (coordinate)

= GOPHER TORTOISE BURROWS

#### 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 AND LOCATION OF THREATENED AND ENDANGERED SPECIES (AS DETERMINED BY OTHERS) IN RELATION TO THE APPROXIMATE SUBSTATION LIMITS, IN CONFORMANCE WITH U.S. ARMY CORPS OF ENGINEERS REQUIREMENTS.

LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR OWNERSHIP, RIGHTS-OF-WAY, EASEMENTS OR HER MATTERS OF TITLE BY THIS FIRM, NOR WERE ANY SUCH DOCUMENTS PROVIDED BY CLIENT.

4) THE BOUNDARY DELINEATION OF THE PEF CRYSTAL RIVER ENERGY COMPLEX SHOWN HEREON IS BASED ON GIS SHAPE FILES PROVIDED BY GOLDER ASSOCIATES. THIS SPECIFIC PURPOSE SURVEY IS NOT A BOUNDARY SURVEY OF THE SUBSTATION PROPERTY.

5) THIS SURVEY WAS PERFORMED USING A COMBINATION OF GLOBAL POSITIONING SYSTEM AND CONVENTIONAL SURVEY METHODOLOGY. HORIZONTAL ACCURACY IS AT THE SUBMETER LEVEL.

6) COORDINATES OF WETLAND FLAGS SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE (902), NORTH AMERICAN DATUM OF 1983/2007 ADJUSTMENT.

WETLAND JURISDICTIONAL DELINEATIONS AND THREATENED AND ENDANGERED SPECIES LOCATIONS WERE DETERMINED AND FLAGGED BY GOLDER ASSOCIATES, GAINESVILLE, FLORIDA.

8) THE WETLAND FLAG DESCRIPTIONS AND/OR THREATENED AND ENDANGERED SPECIES LOCATIONS SHOWN HEREON CORRESPOND TO THE NUMBERS SHOWN ON EACH FLAG LOCATED IN THE FIELD.

9) THIS SURVEY IS CERTIFIED TO PROGRESS ENERGY FLORIDA AND GOLDER ASSOCIATES, INC..

10) EXCEPT AS SHOWN HEREON, INTERIOR IMPROVEMENTS WERE NOT LOCATED.

11) THE GEOREFERENCED AERIAL PHOTOGRAPHY DEPICTED HEREON WAS FLOWN IN 2008 DATA: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT.

#### NOT A BOUNDARY SURVEY THIS IS

DELINEATED WETLAND AREAS WITHIN SURSTATION LIMITS

SHEET INDEX:

COUNTY: CITRUS

PROJECT TITLE:

HATCH LEGEND

SHEET DESCRIPTION COVER SHEET

LOCATION MAP WITH PHOTO

LAST DATE IN FIELD: 11/11/2009

DRAWN BY: PR.W. CHKD BY: R.M.J. DATE: 11/30/09 DATE: 11/30/09 JOB No. n/a 6374090435

SPECIFIC PURPOSE SURVEY OF WETLAND JURISDICTIONAL DELINEATION
AND THREATENED AND ENDANGERED SPECIES
PROGRESS ENERGY FLORIDA
CRYSTAL RIVER ENERGY COMPLEX SUBSTATION
EXPANSION
Citrus County, Florida

DESCRIPTION DATE BY REVISION

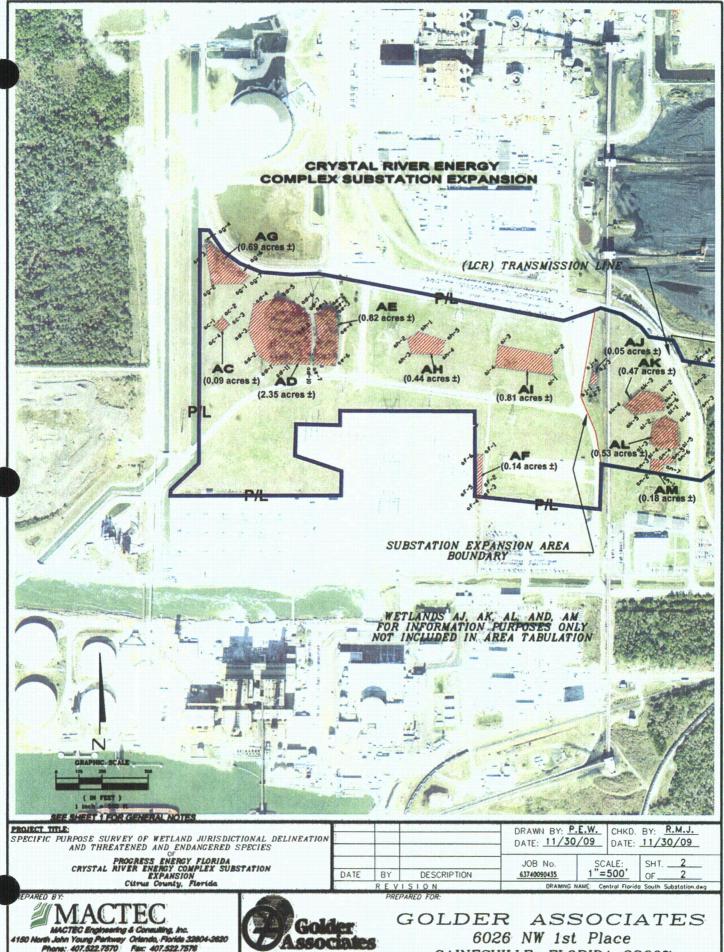
OF\_\_\_ DRAWING NAME: PHP Transmission Line.dwg



ey Orlando, Florida 32804-2620 CERTIFICATE OF AUTHORIZATION: LB &



GOLDER ASSOCIATES 6026 NW 1st Place GAINESVILLE, FLORIDA 32607



orth John Young Parkway Orlando, Florida 326 Phone: 407.522.7870 | Fax: 407.522.7578 CERTIFICATE OF AUTHORIZATION: L8 698



GAINESVILLE, FLORIDA 32607

| Project/Site: Levy Nuclear Plant - Transmission    | Lines, CREC Substation                | City/County: Citrus  | _Sampling Date:     | 10/28/09                               |                                 |  |  |
|--|---------------------------------------|--|---------------------|--|---------------------------------|--|--|
| Applicant/Owner: Progress Energy Florida, Inc.     | S                                     | State:FL   | Sampling Point:     | AC                                     |                                 |  |  |
| Investigator(s): Stacy Rizzo, Tony Davanz          | .0                                    | Section, Township, Range: 28 17S 16E                           |                     |  |                                 |  |  |
| Landform (hillslope, terrace, etc.): N             | /A                                    | Local relief (concave, convex, none): <u>none</u> Slope (%): _ |                     |  |                                 |  |  |
| Subregion (LRR or MLRA): LRR U                     | Lat: 28.96303                         | 3036 Long: -82.701071 Datum: WGS84                             |                     |  |                                 |  |  |
| Soil Map Unit Name: Quartzipsamments, 0 to         |                                       |  | NWI classification  |  |                                 |  |  |
| Are climatic / hydrologic conditions on the site t |                                       |  | _ No                | _ (If no, explain in                   | Remarks)                        |  |  |
| Are Vegetation, Soil,                              | or Hydrology                          |  | Are circumstances   |  | esNo                            |  |  |
| Are Vegetation, Soil,                              |                                       |  | (If needed, explain | any answers in                         | Remarks)                        |  |  |
| SUMMARY OF FINDINGS - Attach si                    | te map showing sampli                 | ng point locations, to   | ansects, impo       | rtant features                         | s, etc                          |  |  |
| Hydrophytic Vegetation Present?                    | Yes No                                |  |                     |  |                                 |  |  |
| Hydric Soil Present?                               | Is the Sampled Area w                 | ithin a Wetland?   | Yes <u></u> ✓ N     | o                                      |                                 |  |  |
| Wetland Hydrology Present?                         | ]                                     |  |                     |  |                                 |  |  |
| Remarks:   |                                       |  |                     |  |                                 |  |  |
|  |                                       |  |                     |  |                                 |  |  |
| 1  |                                       |  |                     |  |                                 |  |  |
|  |                                       |  |                     |  |                                 |  |  |
| UVDBOLOCV  |                                       |  |                     |  |                                 |  |  |
| HYDROLOGY Westland Understand                      |                                       |  | Ozzazdani Indinat   | ······································ | · · · · · · · · · · · · · · · · |  |  |
| Wetland Hydrology Indicators:                      | Control One America                   |  | Secondary Indicat   |  | two requirea)                   |  |  |
| Primary Indicators (minimum of one is required;    |                                       | 200  | Cracks (B6)         | O: (DO)                                |                                 |  |  |
| Surface Water (A1)                                 | Water-Stained Leaves (                | B9)  |                     | getated Concave                        | Ѕипасе (вв)                     |  |  |
| High Water Table (A2)                              | Aquatic Fauna (B13)                   |  | Drainage Pa         |  |                                 |  |  |
| Saturation (A3)                                    | Marl Deposits (B15) (LR               | •  | Moss Trim L         | , ,                                    |                                 |  |  |
| Water Marks (B1)                                   | Hydrogen Sulfide Odor (               |  |                     |  |                                 |  |  |
| Sediment Deposits (B2)                             | Oxidized Rhizospheres                 | - · · · · · · · · · · · · · · · · · · ·                        |                     |  |                                 |  |  |
| Drift Deposits (B3)                                | Presence of Reduced Ire               |  |                     | isible on Aerial In                    | nagery (C9)                     |  |  |
| Algal Mat or Crust (B4)                            | Recent Iron Reduction in              | ·  | Geomorphic          |  |                                 |  |  |
| Iron Deposits (B5)                                 | Thin Muck Surface (C7)                | <u> </u>   |                     |  |                                 |  |  |
| ✓ Inundation Visible on Aerial Imagery (B7         | Other (Explain in Remar               | narks)FAC Neutral Test (D5)                                    |                     |  |                                 |  |  |
| Field Observations:                                |                                       |  |                     | •                                      |                                 |  |  |
| Surface Water Present?                             | Yes No                                |  |                     |  |                                 |  |  |
| Water Table Present?                               | Yes No                                |  | Wetland             |  |                                 |  |  |
| Saturation Present?                                | Yes No                                | Depth (inches): 0  | Hydrology           |  |                                 |  |  |
| (includes capillary fringe)                        | · · · · · · · · · · · · · · · · · · · | '                | Present?            | Yes <u>√N</u>                          | o                               |  |  |
| Describe Recorded Data (stream gauge, monitor      | oring well, aerial photos, previou    | us inspections), ii avaliable                                  |                     |  |                                 |  |  |
|  |                                       |  |                     |  |                                 |  |  |
| Remarks:   |                                       | - <del></del> -  |                     |  |                                 |  |  |
|  |                                       |  |                     |  |                                 |  |  |
|  |                                       |  |                     |  |                                 |  |  |
|  |                                       |  |                     |  | •                               |  |  |
|  |                                       |  |                     |  |                                 |  |  |
|  |                                       |  |                     |  |                                 |  |  |
|  |                                       |  |                     | •                                      |                                 |  |  |
|  |                                       |  |                     |  |                                 |  |  |
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|  |                                       |  |                     |  |                                 |  |  |
|  |                                       |  |                     | _                                      |                                 |  |  |

| That Are OBL, FACW, or FAC:   3 (A)  | VEGETATION - Use scientific nar   | mes of plants |             |      |  | ling Point:         | AC         |
|--|-----------------------------------|---------------|-------------|------|--|---------------------|------------|
| Species   Status      |                                   |               |             |      | Dominance Test Worksheet:                        |                     |            |
| Number of Dominant Species   (A)   | Tree Stratum (Plot size: )        |               |             |      |  |                     |            |
| Test   No.   Test   No.   Test   | 1.                                |               |             |      | Number of Dominant Species                       | 3                   | (4)        |
| Species Across All Strata:   |                                   |               |             |      | That Are OBL, FACW, or FAC:                      | 2                   | (^)        |
| Species Arcos All Stratus   Percent of Dominant Species   100.00 (A/S  |                                   |               |             |      | -₫   | 3                   | (B)        |
| That Are OBL, FACW, or FAC: 100.00 (AVE)   Total Ye Cover of:   Multiply by:   |                                   |               |             |      | <b>-</b>   | =                   | (-)        |
| Prevalance Index worksheet:   Total % Cover of:   Multiply by.   |                                   |               |             |      |  | 100.00              | (A/B)      |
| Sapling Stratum (Plot size:)   |                                   |               |             |      |  |                     |            |
| OBL species  | 7.                                |               |             |      | 4  |                     |            |
| FACW species   x2 =  | One line Otentum (Districts)      | 0             | = Total Cov | er   |  |                     |            |
| FAC species   X3=  | Sapling Stratum (Plot size:)      |               |             |      |  | X1=                 | _          |
| FACU species   | 1.                                |               |             |      | FACW species                                     | x2=                 | _          |
| UPL species  | 2.                                |               |             |      | FAC species                                      | x3=                 | _          |
| Column Totals:   | 3.                                |               |             |      | FACU species                                     | x4=                 |            |
| Column Totals:   | 4.                                |               |             |      | <del></del>                                      | x5=                 | _          |
| Prevalance Index = B/A =   | 5.                                |               |             |      |  | (A)                 | —<br>(B)   |
| Prevalance Index = B/A =   |                                   |               |             |      |  | (                   | _ \_/      |
| 2  | 7.                                |               |             |      | Prevalance Index = B/A =                         |                     |            |
| Prevalence Index is ≤3.0¹   Problematic Hydrophytic Vegetation¹ (Explain)   3.3  |                                   | 0             | = Total Cov | er   | Hydrophytic Vegetation Indica                    | itors:              |            |
| Prevalence Index is ≤3.0¹   Problematic Hydrophytic Vegetation¹ (Explain)   3.3  | Shrub Stratum (Plot size:         | )             |             | ė    | ✓ Dominance Test is 50%                          |                     |            |
| Problematic Hydrophytic Vegetation   (Explain)   |                                   | ·             |             | •    | Prevalence Index is ≤3.0                         | 1                   |            |
| Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  |                                   |               | -           |      | <del>                                     </del> |                     | olain)     |
| Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  | 3.                                |               |             |      | . robiemano riyaropnyno                          | vogotation (EX      | Jiani,     |
| be present, unless disturbed or problematic.  Definitions of Vegetation Strata:  Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Panicum repens 40 yes FACW approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in | 4.                                |               |             |      | <sup>1</sup> Indicators of hydric soil and wet   | land hydrology r    | nust       |
| Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 2 in. (7.6 cm) DBH.  Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height and 2 in. (7.6 cm) DBH.  Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in (7.6 cm) DBH | 5.                                |               |             |      |  |                     |            |
| Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).  2. Panicum repens 40 yes FACW 33. Cyperus spp. 20 yes FACW 4. Ludwigia repens 10 no OBL 10. (7.6 cm) DBH.  5. Polygonum spp. 5 no FAC 34. Shrub- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.  5. Polygonum spp. 5 no FAC 34. Shrub- Woody plants, excluding woody vines, approximately 30 ft (1 to 6 m) in height.  7. Pluchea spp. 1 no OBL 40. Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (m) in height.  10. m) in height.  Woody vine- All woody vines, regardless of height.  137 = Total Cover  Woody Vine Stratum (Plot size:)  1.   | 6.                                |               |             |      | Definitions of Vegetation Strat                  | ta:                 |            |
| Herb Stratum (Plot size:   | 7.                                |               |             |      | 1  | •                   |            |
| Herb Stratum (Plot size:   |                                   | 0             | = Total Cov | er   | Tree- Woody plants, excluding wo                 | ody vines.          |            |
| 1. Cladium spp. 60 yes OBL 2. Panicum repens 40 yes FACW 3apling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub- Woody plants, excluding woody vines, approximately 30 ft (10 ft of 6 m) in height. Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (m) in height. Woody Vine Stratum (Plot size:)  1. 137 = Total Cover  Woody Vine Stratum (Plot size:)  1. 2. 3. 4. Hydrophytic  Vegetation Present? YesNo   | Herb Stratum (Plot size:          | )             |             |      |  |                     | (7.6       |
| 2. Panicum repens 3. Cyperus spp. 20 yes FACW 3. Ludwigia repens 10 no OBL 5. Polygonum spp. 5. no FAC 6. Xyris spp. 1 no OBL 7. Pluchea spp. 1 no FAC 8. Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, regardless of height.  11. 12. 137 = Total Cover  Woody Vine Stratum (Plot size:  |                                   |               | ves         | OBL  | cm) or larger in diameter at breast              | theight (DBH).      |            |
| 4. Ludwigia repens 10 no OBL in. (7.6 cm) DBH. 5. Polygonum spp. 5 no FAC Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.  7. Pluchea spp. 1 no FACW Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (m) in height.  10.  | ·                                 | 40            |             | FACW | Sapling- Woody plants, excluding                 | woody vines,        |            |
| 5. Polygonum spp. 6. Xyris spp. 1 no OBL approximately 3 to 20 ft (1 to 6 m) in height.  7. Pluchea spp. 1 no FACW Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (m) in height.  10. m) in height.  11. Woody vine- All woody vines, regardless of height.  12. 137 = Total Cover  Woody Vine Stratum (Plot size:  | 3. Cyperus spp.                   | 20            | yes         | FACW | approximately 20 ft (6m) or more i               | n height and less   | than 3     |
| 6. Xyris spp. 1 no OBL 7. Pluchea spp. 1 no OBL 8.   |                                   |               | no          |      |  |                     |            |
| 7. Pluchea spp. 1 no FACW Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (m) in height.  10. m) in height.  11. Woody vine- All woody vines, regardless of height.  12. 137 = Total Cover  Woody Vine Stratum (Plot size:   |                                   | · — — —       | no          |      |  |                     |            |
| herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (m) in height.  10.  11.  12.  137 = Total Cover  Woody Vine Stratum (Plot size:) 1. 2. 3. 4. 5.  0 = Total Cover  Hydrophytic Vegetation Present? Yes No  |                                   |               |             |      | <b>- </b> '''                                    | -                   |            |
| 9.   |                                   | 1             | no          | FACW | <b></b>  |                     | . al       |
| 10.  |                                   |               |             |      |  |                     |            |
| 11.  |                                   |               |             | -    |  | ian approximates    | y 5 it ( i |
| 12.  |                                   | -             | <del></del> |      | <b>⊣</b> ` `                                     | ardless of height.  |            |
| 137  |                                   | •             | <del></del> |      | , ,  | ar areas or margina |            |
| Woody Vine Stratum (Plot size:)         1.         2.         3.         4.         5.         Uegetation Present?         Yes✓No         0 = Total Cover  |                                   | 137           | = Total Cov | er   | 1  |                     |            |
| 1. 2. 3. 4. Hydrophytic 5. Vegetation Present? Yes _ ✓ _ No  0 = Total Cover   | Woody Vine Stratum (Plot size:    |               |             |      |  |                     |            |
| 3.   | 1.                                | _             |             |      |  |                     |            |
| 4. Hydrophytic 5. Vegetation Present? Yes ✓ No  0 = Total Cover  | 2.                                |               |             |      | <u> </u>   |                     |            |
| 5. Vegetation Present? Yes <u>✓ No</u> 0 = Total Cover   | 3.                                |               |             |      |  |                     |            |
| 5.   | 4.                                |               |             |      | Hydrophytic                                      |                     |            |
| 0 = Total Cover  | 5.                                |               |             |      | 1 * * *  | No                  |            |
|  |                                   | 0             | = Total Cov | er   | 1 -  |                     |            |
|  | Remarks: (If observed, list morph |               |             |      | •  |                     |            |

Percent cover estimates based on meandering survey of the broader community.

| County/soil: | Citrus- | Quartzipsamments |
|--------------|---------|------------------|
|              |         |                  |

| SOIL       |                        |             |                     |             |                   |                          |                                | Sampling Point:AC                                |
|------------|------------------------|-------------|---------------------|-------------|-------------------|--------------------------|--------------------------------|--|
| Profile De | scription: (Describe t | to the de   | pth needed to docu  | ıment t     | he indicator or   | confirm the at           | sence of indicators.)          |  |
| Depth      | Matrix                 |             |                     | Redox       | (Features         |                          | •                              |  |
| (inches)   | Color (moist)          | %           | Color (moist)       | %           | Type <sup>1</sup> | Loc²                     | Texture                        | Remarks  |
|            |                        |             | Color (moist)       | 76          | Турс              | . <del></del>            | Texture                        | dark grayish brown sand                          |
| 0-6        | 10 YR 4/2              | 100         |                     |             |                   |                          |                                | dark grayish brown sand                          |
|            |                        |             | 10 YR 6/2; 10       |             |                   |                          |                                |  |
|            |                        |             | YR 8/1; 10 YR       |             |                   |                          | splotches and                  |  |
| 6-32       | N 5/0; 10 YR 7/1       | 80          | 5/2                 | 20          | RM                | М                        | pockets                        | gray and light gray sand                         |
| 32-42      | 7.5 YR 5/8             | 80          | 5 YR 3/4            | 20          | RM                | M                        | splotches                      | strong brown sand                                |
| 42-60      | 10 YR 5/2              | 100         | 0 111 0/-1          |             |                   |                          | opiotorioo                     | grayish brown sand                               |
| 42-60      | 10 YR 5/2              | 100         |                     |             |                   |                          |                                | grayish brown sand                               |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
| Type: C=   | Concentration, D=Dept  | otion PM    | I-Doduced Matrix C  | S=Cove      | rod or Coated     | Sand Grains              | <sup>2</sup> Location: PL=Pore | Lining M=Matrix                                  |
| ,,         |                        | etion, ixiv | i-Neduced Matrix, C | 3-C0V6      | ered or Coaled    | Sand Grants.             |                                | ·  |
|            | il Indicators:         |             |                     |             |                   |                          |                                | Indicators for Problematic Hydric Soils 3:       |
| Histol     | • •                    |             | _                   |             |                   | ırface (S8) (LRF         |                                | 1 cm Muck (a9) (LRR O)                           |
| Histic     | Epidon (A2)            |             | _                   | Thin        | Dark Surface (    | (S9) (LRR S, T,          | U) _                           | 2 cm Muck (A10) (LRR S)                          |
| Black      | Histic (A3)            |             |                     | Loa         | my Mucky Mine     | ral (F1) (LRR O          | )                              | Reduced Vertic (F18) (outside MLRA 150A, B)      |
|            | gen Sulfide (A4)       |             | -                   |             | my Gleyed Matr    | · , •                    |                                | Piedmont Floodplain Soils (F19) (LRR P, S, T)    |
|            | ed Lavers (A5)         |             | -                   |             | leted Matrix (F3  |                          | •                              | <del></del>                                      |
|            | ic Bodies (A6) (LRR P  | T 111       | -                   |             | ox Dark Surfac    |                          | -                              | Anomalous Bright Loamy Soils (F20)               |
| Organ      | ic bodies (Ab) (LKK P  | ', I, U)    | -                   |             |                   | , ,                      |                                | (MLRA 153B)                                      |
| 5 cm l     | Mucky Mineral (A7) (LF | RR P.T.U    | } _                 | Dep         | leted Dark Surf   | ace (F7)                 | -                              | Red Parent Material (TF2)                        |
| ✓ Muck     | Presence (A8) (LRR I   | n .         | •                   | Red         | ox Depressions    | s (F8)                   |                                | Very Shallow Dark Surface (TF12) (LRR T, U)      |
|            | Muck (A9) (LRR P,T)    | ٥,          | -                   |             | I (F10) (LRR U)   | ` '                      | -                              | Other (Explain in Remarks)                       |
| 1          | ted Below Dark Surfac  | ο (Δ11)     | -                   |             |                   | ,<br>F11) (MLRA 151      | `                              | ,  |
| <u> </u>   | Dark Surface (A12)     | C (A11)     | -                   |             | -                 | asses (F12) (LR          | POPT)                          | 3  |
| _          |                        |             |                     |             | -                 |                          |                                | Indicators of hydrophytic vegetation and wetland |
| Coast      | Prairie Redox (A16) (I | MLRA 15     | 0A) _               |             | •                 | 13) <b>(LRR P, T</b> , L | •                              | hydrology must be present, unless disturbed or   |
| Sandy      | Mucky Mineral (S1) (L  | LRR O, S    | ) _                 |             | a Orchric (F17)   | •                        | •                              | problematic.                                     |
| Sandy      | Gleyed Matrix (S4)     |             | -                   | Red         | luced Vertic (F1  | 8) (MLRA 150A            | , 150B)                        |  |
| Sandy      | Redox (S5)             |             | _                   | Pied        | imont Floodpiai   | n Soils (F19) (M         | LRA 149A)                      |  |
| Stripp     | ed Matrix (S6)         |             |                     | Ano         | malous Bright L   | oamy Soils (F26          | 0) (MLRA 149A, 153C            | , 153D)  |
|            |                        |             | -                   | <del></del> |                   |                          | ,                              | •  |
|            | Surface (S7) (LRR P, S |             |                     |             |                   |                          |                                |  |
| Restrictiv | e Layer (If observed): | :           |                     |             |                   |                          |                                |  |
|            | Type:                  |             |                     |             |                   |                          | İ                              |  |
|            | Depth (inches):        |             |                     |             |                   |                          | Hydric Soil Presen             | t? Yes✓_ No                                      |
|            | Deptir (mones).        |             |                     |             |                   |                          | Triyaric Con Frederi           | . 100  |
| Remarks:   |                        |             |                     |             |                   |                          |                                |  |
| İ          |                        |             |                     |             |                   |                          |                                |  |
| ľ          |                        |             |                     |             |                   |                          |                                |  |
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| Į.         |                        |             |                     |             |                   |                          |                                |  |
| i          |                        |             |                     |             |                   |                          |                                |  |
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| i          |                        |             |                     |             |                   |                          |                                |  |
| l          |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
| l          |                        |             |                     |             |                   |                          |                                |  |
| I          |                        |             |                     |             |                   |                          |                                |  |
| l          |                        |             |                     |             |                   |                          |                                |  |
| 1          |                        |             |                     |             |                   |                          |                                |  |
| 1          |                        |             |                     |             |                   | •                        |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |
| I          |                        |             |                     |             |                   |                          |                                |  |
|            |                        |             |                     |             |                   |                          |                                |  |

| Project/Site: Levy Nuclear Plant - Transmission    | Lines, CREC Substation                | _City/County:Citrus                   | _Sampling Date:_        | 10/28/09             |              |  |
|--|---------------------------------------|---------------------------------------|-------------------------|----------------------|--------------|--|
| Applicant/Owner: Progress Energy Florida, Inc      | <u>).</u>                             | State: FL                             |                         | Sampling Point:      | AD           |  |
| Investigator(s): Stacy Rizzo, Tony Davanz          | :0                                    | Section, Township, Range: 28 17S 16E  |                         |                      |              |  |
| Landform (hillslope, terrace, etc.): N             | /A                                    | Local relief (concave, con            | vex, none): <u>none</u> | Slo                  | ope (%):     |  |
| Subregion (LRR or MLRA): LRR U                     | Lat:28.96290                          | 2904 Long: _82.699946 Datum: _WGS8    |                         |                      |              |  |
| Soil Map Unit Name: Quartzipsamments, 0 to         |                                       |                                       | _NWI classification     |                      |              |  |
| Are climatic / hydrologic conditions on the site t |                                       |                                       | No                      | _ (If no, explain in | Remarks)     |  |
| Are Vegetation, Soil,                              | or Hydrology                          |                                       | Are circumstance        |                      |              |  |
| Are Vegetation, Soil,                              |                                       |                                       | (If needed, explain     |                      |              |  |
| SUMMARY OF FINDINGS - Attach si                    |                                       | - • •                                 |                         | -                    |              |  |
| Hydrophytic Vegetation Present?                    | Yes No                                |                                       |                         |                      |              |  |
| Hydric Soil Present?                               | Yes No                                | Is the Sampled Area v                 | vithin a Wetland?       | Yes✓ No              |              |  |
| Wetland Hydrology Present?                         |                                       |                                       |                         |                      |              |  |
| Remarks:   | , , , , , , , , , , , , , , , , , , , | _                                     |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
| HYDROLOGY  |                                       |                                       |                         |                      | -            |  |
| Wetland Hydrology Indicators:                      |                                       |                                       | Secondary Indica        | tors (minimum of t   | wo required) |  |
| Primary Indicators (minimum of one is required     | check all that apply)                 |                                       | Surface Soil            | Cracks (B6)          |              |  |
| Surface Water (A1)                                 | Water-Stained Leaves                  | (B9)                                  | Sparsely Ve             | getated Concave      | Surface (B8) |  |
| High Water Table (A2)                              | Aquatic Fauna (B13)                   | ,                                     | Drainage Pa             | atterns (B10)        | . ,          |  |
| ✓ Saturation (A3)                                  | Marl Deposits (B15) (LI               | RR U)                                 | Moss Trim L             |                      |              |  |
| ✓ Water Marks (B1)                                 | Hydrogen Sulfide Odor                 | •                                     |                         | Water Table (C2)     |              |  |
| Sediment Deposits (B2)                             | Oxidized Rhizospheres                 | · · · · · · · · · · · · · · · · · · · |                         |                      |              |  |
| Drift Deposits (B3)                                | Presence of Reduced I                 |                                       |                         | isible on Aerial Im  | agery (C9)   |  |
| Algal Mat or Crust (B4)                            | Recent Iron Reduction                 |                                       |                         | Position (D2)        | agory (ac)   |  |
| Iron Deposits (B5)                                 | Thin Muck Surface (C7                 | , ,                                   | Shallow Aqu             | • •                  |              |  |
| Inundation Visible on Aerial Imagery (B7           |                                       | •                                     | FAC Neutra              |                      | •            |  |
| Field Observations:                                | )Other (Explain in Rema               | irkoj                                 | TAG Neutra              | rest (Bb)            |              |  |
|  | Yes No                                | Donth (inches):                       |                         |                      |              |  |
| Surface Water Present?                             | Yes No                                |                                       | 1                       |                      |              |  |
| Water Table Present?                               |                                       |                                       | Wetland                 |                      |              |  |
| Saturation Present?                                | Yes No                                | _ Depth (inches):0-12                 | Hydrology               |                      |              |  |
| (includes capillary fringe)                        |                                       |                                       | Present?                | Yes <u>✓</u> No      | ວ            |  |
| Describe Recorded Data (stream gauge, monit        | oring well, aerial priotos, previo    | ous inspections), ir available        | :<br>-                  |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
| Remarks:   |                                       |                                       |                         |                      |              |  |
| }  |                                       |                                       |                         |                      |              |  |
| ·  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
| 1  | •                                     |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
|  |                                       |                                       |                         |                      |              |  |
| I .  |                                       |                                       |                         |                      |              |  |

| VEGETATION - Use scientific na                     | mes or plants       |                      |                     | .,  | iing Font.          | AD           |
|--|---------------------|----------------------|---------------------|---|---------------------|--------------|
|  | A h = = 1:.1 = .0/  | Daminari             | المطاعمة            | Dominance Test Worksheet:   |                     |              |
| Trac Stratum (Diet size:                           | Absolute %<br>Cover | Dominant<br>Species? | Indicator<br>Status |   |                     |              |
| Tree Stratum (Plot size:)  1. Fraxinus caroliniana | - 20                | Species?             | OBL                 | Number of Dominant Species  |                     |              |
| Pinus elliottii                                    | 20                  | yes                  | FACW                | That Are OBL, FACW, or FAC:                                       | <u>12</u>           | (A)          |
| Acer rubrum  | 10                  | no                   | OBL                 | Total Number of Dominant  |                     |              |
| Juniperus silicicola                               | 10                  | no                   | FAC                 | Species Across All Strata:  | <u>12</u>           | (B)          |
| Sabal palmetto                                     | 10                  | no                   | FAC                 | Percent of Dominant Species                                       |                     |              |
| Nyssa sylvatica var. biflora                       | 5                   | no                   | FAC                 | That Are OBL, FACW, or FAC:                                       | <u>100.00</u>       | (A/B)        |
| 7. Persea palustris                                | 5                   | no                   | NL                  | Prevalance Index worksheet:                                       |                     |              |
| 7. Tersea palustris                                | 80                  | = Total Cov          |                     | Total % Cover of:   | Multiply by:        |              |
| <br> Sapling Stratum (Plot size:)                  | 00                  | - Total Cov          | Ci                  | OBL species   | x1=                 |              |
|  |                     |                      | 540                 | · · · · · · · · · · · · · · · · · · ·                             |                     | <del>-</del> |
| Sabal palmetto                                     | 20                  | yes                  | FAC                 | FACW species  | x2=                 | _            |
| Liquidambar styraciflua                            | 10                  | yes                  | FAC                 | FAC species   | x3=                 | _            |
| Salix caroliniana                                  | 2                   | no                   | OBL                 | FACU species  | x4=                 |              |
| 4.   |                     |                      |                     | UPL species   | x5=                 | _            |
| 5.   |                     |                      | -                   | Column Totals:  | (A)                 | (B)          |
| 6.   |                     |                      |                     |   |                     |              |
| 7.   | -                   |                      |                     | Prevalance Index = B/A =  |                     |              |
|  | 32                  | = Total Cov          | <br>ver             | Hydrophytic Vegetation Indica                                     | ators:              |              |
| Shrub Stratum (Plot size:                          | )                   |                      |                     | ✓ Dominance Test is 50%   |                     |              |
| Ilex cassine                                       | 5                   | yes                  | -<br>FACW           | Prevalence Index is ≤3.0  | ,1                  |              |
|  | -                   |                      | FAC                 | <del>                                     </del>                  |                     | (مزمام       |
| Baccharis sp.     Myrica cerifera                  | 5 5                 | yes                  | FAC                 | Problematic Hydrophytic   | vegetation (Ex      | piairi)      |
| 4.   |                     | yes                  | - 170               | Indicators of hydric soil and we                                  | tland hydrology r   | must         |
| 5.   |                     |                      | -                   | be present, unless disturbed or                                   |                     | Hust         |
| 6.   |                     |                      |                     | Definitions of Vegetation Stra                                    | ·                   |              |
| 7.   | <del></del>         |                      |                     |   | ····                |              |
|  | 15                  | = Total Cov          |                     | Tree- Woody plants, excluding we                                  | andy vinos          |              |
| Llorb Stratum (Diat size:                          | \                   | - Total Cov          | CI                  | approximately 20 ft (6m) or more                                  |                     | (7.6         |
| Herb Stratum (Plot size:                           | _)                  | V00                  | OBL                 | cm) or larger in diameter at breas                                |                     | . ( , . •    |
| Cladium spp.     Centella asiatica                 | 5 5                 | yes                  | - OBL<br>FACW       | <i>┧ ′</i> ઁ  | <del>*</del> ', '   |              |
| Rhynchospora colorata                              | 5                   | yes yes              | OBL                 | Sapling- Woody plants, excluding approximately 20 ft (6m) or more |                     | than 3       |
| 4. Fimbristylis spp.                               | 5                   | yes                  | FACW                | in. (7.6 cm) DBH.   | m noight and loop   | inano        |
| Andropogon glomeratus                              | 1                   | no                   | FACW                | Shrub- Woody plants, excluding                                    | woody vines.        |              |
| 6.   |                     |                      | -                   | approximately 3 to 20 ft (1 to 6 m)                               |                     |              |
| 7.   |                     | -                    |                     | Herb- All herbaceous (non-wood)                                   | /)plants, including |              |
| 8.   |                     |                      |                     | herbaceous vines, regardless of s                                 |                     |              |
| 9.   |                     |                      |                     | plants, except woody vines, less t                                | han approximatel    | y 3 ft (1    |
| 10.  |                     |                      |                     | m) in height.   |                     |              |
| 11.  |                     |                      |                     | Woody vine- All woody vines, reg                                  | gardless of height  | •            |
| 12.  |                     |                      | _                   |   |                     |              |
|  | 21                  | = Total Cov          | /er                 |   |                     |              |
| Woody Vine Stratum (Plot size:_                    | )                   |                      |                     |   |                     |              |
| 1. Vitus rotundifolia                              | 10                  | yes                  | FAC                 |   |                     |              |
| 2. Smilax spp.                                     | 2                   | no                   | FAC                 | Ī   |                     |              |
| 3.   |                     |                      |                     |   |                     |              |
| 4.   |                     |                      |                     | Hydrophytic   |                     | ,            |
| 5.   | _                   |                      |                     | Vegetation Present? Yes   | No                  |              |
|  | 12                  | = Total Cov          | – ———<br>/er        | 7   |                     |              |
| Remarks: (If observed, list morph                  | nological adapta    |                      |                     | 1   |                     |              |

Percent cover estimates based on meandering survey of the broader community.

| rofile De<br>epth |  |           |                    |         |                                    |                   |                     | Sampling Point:   |
|-------------------|--|-----------|--------------------|---------|------------------------------------|-------------------|---------------------|---|
| epm               | scription: (Describe t<br>Matrix           | o the de  | pth needed to doc  |         | ie indicator or<br>Features        | confirm the at    | sence of indicators | .)  |
| nches)            | Color (moist)                              | %         | Color (moist)      | %       | Type                               | Loc²              | Texture             | Remarks   |
| 3                 | 10 YR 4/2                                  | 100       | Color (moist)      |         | Турс                               |                   | Texture             | dark grayish brown sand                                       |
|                   | 10 11( 4/2                                 |           | 10 YR 6/2; 10      |         |                                    | <del></del>       |                     | dant grayion brown band                                       |
|                   |  |           | YR 8/1; 10 YR      |         |                                    |                   | splotches and       |   |
| 32                | N 5/0; 10 YR 7/1                           | 80        | 5/2                | 20      | RM                                 | М                 | pockets             | gray and light gray sand                                      |
| -42               | 7.5 YR 5/8                                 | 100       | 5 YR 3/4           | 20      | RM                                 | M                 | splotches           | strong brown sand   |
| -60               | 10 YR 5/2                                  | 100       | 3 113/4            |         | rivi                               | . <u>IVI</u>      | spiolares           | grayish brown sand  |
| <del></del>       | 10 TR 3/2                                  |           |                    |         |                                    |                   |                     | grayish brown sand  |
|                   |  |           |                    |         |                                    |                   |                     |   |
|                   |  |           |                    |         |                                    |                   |                     |   |
|                   |  |           | Ded and Mark       |         |                                    | 0                 | 21                  | - Nieles Mandel   |
|                   | Concentration, D=Deple                     | etion, RM | =Reduced Matrix, t | US=Cove | red of Coated                      | Sand Grains.      | Location: PL=Po     | re Lining, M=Matrix.  |
|                   | il Indicators:                             |           |                    | 5.1     | -1 - D-1 0                         | (OO) (I DE        |                     | Indicators for Problematic Hydric Soils 3:                    |
| _Histol           |  |           |                    |         |                                    | urface (S8) (LRF  |                     | 1 cm Muck (a9) (LRR O)  |
| -                 | Epidon (A2)                                |           |                    |         |                                    | (S9) (LRR S, T,   | •                   | 2 cm Muck (A10) (LRR S)                                       |
| _                 | Histic (A3)                                |           |                    |         |                                    | ral (F1) (LRR O   | )                   | Reduced Vertic (F18) (outside MLRA 150A, E                    |
|                   | gen Sulfide (A4)                           |           |                    |         | ny Gleyed Mati                     |                   |                     | Piedmont Floodplain Soils (F19) (LRR P, S, T)                 |
|                   | ied Layers (A5)<br>nic Bodies (A6) (LRR P. | T 111     |                    |         | leted Matrix (F3<br>ox Dark Surfac |                   |                     | Anomalous Bright Loamy Soils (F20)                            |
|                   | , , ,                                      |           |                    |         |                                    |                   |                     | (MLRA 153B)   |
|                   | Mucky Mineral (A7) (LF                     |           | )                  |         | leted Dark Surf                    | , ,               |                     | Red Parent Material (TF2)                                     |
| Muck              | Presence (A8) (LRR L                       | 1)        |                    | Red     | ox Depressions                     | s (F8)            |                     | Very Shallow Dark Surface (TF12) (LRR T, U)                   |
| 1 cm l            | Muck (A9) (LRR P,T)                        |           |                    | Mart    | (F10) (LRR U)                      | )                 |                     | Other (Explain in Remarks)                                    |
| _                 | ted Below Dark Surface                     | \ (A11)   |                    | Den     | leted Orchric (F                   | 11) (MLRA 151     | ١.                  |   |
|                   |  | (A11)     |                    |         | •                                  | asses (F12) (LR   | •                   |   |
| _                 | Dark Surface (A12)                         |           |                    |         | -                                  |                   |                     | <sup>3</sup> Indicators of hydrophytic vegetation and wetland |
| _Coast            | Prairie Redox (A16) (N                     | ILRA 15   | 0A)                | Umb     | oric Surface (F1                   | 13) (LRR P, T, U  | ))                  | hydrology must be present, unless disturbed or                |
| Sandy             | Mucky Mineral (S1) (L                      | RR O. S   | a                  | Delta   | a Orchric (F17)                    | (MLRA 151)        |                     | problematic.  |
|                   | Gleyed Matrix (S4)                         |           | •                  |         | uced Vertic (F1                    | 8) (MLRA 150A     | . 150B)             |   |
|                   | Redox (S5)                                 |           |                    |         | ,                                  | in Soils (F19) (M |                     |   |
| _                 | ed Matrix (S6)                             |           |                    |         | •                                  | , , <b>,</b>      | O) (MLRA 149A, 153  | C. 153D)  |
|                   | , ,  |           |                    |         |                                    |                   | -, <b>(-</b> , 100  | -,,   |
|                   | Surface (S7) (LRR P, S                     | <u> </u>  |                    |         |                                    |                   |                     |   |
| estrictiv         | e Layer (If observed):                     |           |                    |         |                                    |                   |                     |   |
|                   | Type:                                      |           |                    |         |                                    |                   |                     |   |
|                   | Depth (inches):                            |           |                    |         |                                    |                   | Hydric Soil Prese   | nt? Yes <u>√</u> No   |
| marks:            |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| iliaiks.          |  |           |                    |         |                                    |                   |                     |   |
| ilidiks.          |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| erria KS.         |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| illaiks.          |  |           |                    |         |                                    |                   |                     |   |
| eriidiks.         |  |           |                    |         |                                    |                   |                     |   |
| emarks.           |  |           |                    |         |                                    |                   |                     |   |
| elliai KS.        |  |           |                    |         |                                    |                   |                     |   |
| ellia KS.         | ·  |           |                    |         |                                    |                   |                     |   |
| miarks.           | ,  |           | ·                  |         |                                    |                   |                     |   |
| marks.            |  |           | ·                  |         |                                    |                   |                     |   |

| Project/Site: Levy Nuclear Plant - Transmission     | Lines, CREC Substation            | _City/County:Citrus                              | Sampling Date: 10/28/09  |                    |   |  |
|---|-----------------------------------|--|--|--------------------|---|--|
| Applicant/Owner: Progress Energy Florida, Inc.      | State: FL                         | <del></del>                                      | Sampling Poin  | t:AE               |   |  |
| Investigator(s): Stacy Rizzo, Tony Davanzo          |                                   |  |  |                    | ·<br>                                   |  |
| Landform (hillslope, terrace, etc.): N/.            | Α                                 | Local relief (concave, conv                      | vex, none): none   |                    | Slope (%):                              |  |
| Subregion (LRR or MLRA): LRR U                      |                                   | 8037 Long: <u>-82.699298</u> Datum: <u>WGS84</u> |  |                    |   |  |
| Soil Map Unit Name: Quartzipsamments, 0 to          | 5 percent slopes                  |  | NWI classification:  | : <u>N/A</u>       |   |  |
| Are climatic / hydrologic conditions on the site ty |                                   | Yes <u>√</u>                                     | . No   | (If no, explain i  | n Remarks)                              |  |
| Are Vegetation, Soil,                               |                                   |  | Are circumstances  |                    | /es/_No                                 |  |
|   | or Hydrology                      |  | (If needed, explain  | any answers in     | Remarks)                                |  |
| SUMMARY OF FINDINGS - Attach sit                    | te map showing sampli             | ing point locations, tr                          | ansects, impo  | rtant feature      | s, etc.                                 |  |
| Hydrophytic Vegetation Present?                     | Yes No                            |  |  |                    |   |  |
| Hydric Soil Present?                                | Yes No                            | Is the Sampled Area within a Wetland? Yes No     |  |                    |   |  |
| Wetland Hydrology Present?                          | Yes No                            | <u> </u>   |  |                    |   |  |
| HYDROLOGY   |                                   |  | ,,   |                    |   |  |
| Wetland Hydrology Indicators:                       |                                   | No.  | Secondary Indicat  | ors (minimum of    | f two required)                         |  |
| Primary Indicators (minimum of one is required;     | check all that apply)             |  | Surface Soil   |                    |   |  |
| Surface Water (A1)                                  | Water-Stained Leaves (            | (B9)   |  | getated Concavi    | e Surface (B8)                          |  |
| High Water Table (A2)                               | Aquatic Fauna (B13)               | (20)   | Drainage Pa  | _                  | , |  |
| ✓ Saturation (A3)                                   | Marl Deposits (B15) (LF           | RR IJ)   | Moss Trim L  |                    |   |  |
| Water Marks (B1)                                    | Hydrogen Sulfide Odor             | •  |  | , ,                | ٥١                                      |  |
| Sediment Deposits (B2)                              | Oxidized Rhizospheres             | •  | Dry-Season Water Table (C2) ving Roots (C3)Crayfish Burrows (C8) |                    |   |  |
| Drift Deposits (B3)                                 | Presence of Reduced Ir            | . ,  |  | isible on Aerial I | magery (C9)                             |  |
| Algal Mat or Crust (B4)                             | Recent Iron Reduction i           | , ,  |  | Position (D2)      | maga., (52,                             |  |
| Iron Deposits (B5)                                  | Thin Muck Surface (C7)            | ` ,  | Shallow Aqu  |                    |   |  |
| Inundation Visible on Aerial Imagery (B7)           | _                                 |  | FAC Neutral  |                    |   |  |
| Field Observations:                                 |                                   | Thoy   |  | 100.12-7           |   |  |
| Surface Water Present?                              | Yes No                            | _ Depth (inches):                                |  |                    |   |  |
| Water Table Present?                                | Yes No                            |  | 1  |                    |   |  |
| Saturation Present?                                 | Yes No                            |  | Wetland  |                    |   |  |
| (includes capillary fringe)                         |                                   | • • •• (•••••••)•                                | Hydrology<br>Present?  | Yes <u>✓</u>       | No                                      |  |
| Describe Recorded Data (stream gauge, monito        | oring well, aerial photos, previo | us inspections), if available:                   | ·  |                    |   |  |
| Remarks:  |                                   |  |  |                    |   |  |
|   | •                                 |  |  |                    |   |  |
|   |                                   |  |  |                    |   |  |
| ·   |                                   |  |  |                    |   |  |
|   |                                   |  |  |                    |   |  |
|   |                                   |  |  |                    |   |  |
|   |                                   |  |  |                    |   |  |
|   |                                   |  |  |                    |   |  |
|   |                                   |  |  |                    |   |  |
|   |                                   |  |  |                    |   |  |
|   |                                   |  |  |                    |   |  |

| VEGETATION - Ose scientific flair                                    | ico oi pianto   |               |             | Dominance Test Worksheet:   | omig i omit         |           |
|--|-----------------|---------------|-------------|---|---------------------|-----------|
|  | Absolute %      | Dominant      | Indicator   |   |                     |           |
| Tree Stratum (Plot size:)  | Cover           | Species?      | Status      |   |                     |           |
| Fraxinus caroliniana   | 20              | yes           | OBL         | Number of Dominant Species  | <u>12</u>           | (A)       |
| 2. Pinus elliottii   | 20              | yes           | FACW        | That Are OBL, FACW, or FAC:   | 12                  | (^)       |
| Acer rubrum  | 10              | no            | OBL         | Total Number of Dominant  | <u>12</u>           | (B)       |
| Juniperus silicicola   | 10              | no            | FAC         | Species Across All Strata:  | 25                  | (5)       |
| Sabal palmetto   | 10              | no            | FAC         | Percent of Dominant Species   | 100.00              | (A/B)     |
| Nyssa sylvatica var. biflora   | 5               | no            | FAC         | That Are OBL, FACW, or FAC:   |                     |           |
| 7. Persea palustris  | 5               | no            | NL          | Prevalance Index worksheet:   |                     |           |
|  | 80              | = Total Cov   | er          | Total % Cover of:   | Multiply by:        |           |
| Sapling Stratum (Plot size:)   |                 |               |             | OBL species   | _x1=                |           |
| Sabal palmetto   | 20              | yes           | FAC         | FACW species  | x2=                 |           |
| 2. Liquidambar styraciflua   | 10              | yes           | FAC         | FAC species   | x3=                 |           |
| 3. Salix caroliniana   | 2               | no            | OBL         | FACU species  | x4=                 |           |
| 4.   |                 |               |             | UPL species   | x5=                 |           |
| 5.   |                 |               |             | Column Totals:  | (A)                 | —<br>(B)  |
| 6.   |                 |               |             |   | _                   | _ ( ' '   |
| 7.   |                 |               |             | Prevalance Index = B/A =  |                     |           |
| 1.   | 32              | = Total Cov   |             | Hydrophytic Vegetation Indic  | otoro:              |           |
|  | 32              | - Total Cov   | е           |   |                     |           |
| Shrub Stratum (Plot size:)   |                 |               |             | ✓ Dominance Test is 50%   |                     |           |
| 1. Ilex cassine  | 5               | yes           | FACW        | Prevalence Index is ≤3.0  |                     |           |
| 2. Baccharis sp.   | 5               | yes           | FAC         | Problematic Hydrophytic   | : Vegetation ' (Exp | olain)    |
| 3. Myrica cerifera   | 5               | yes           | FAC         |   |                     |           |
| 4.   |                 |               |             | Indicators of hydric soil and we                                    |                     | nust      |
| 5.   |                 |               |             | be present, unless disturbed or                                     |                     |           |
| 6.   |                 |               | -           | Definitions of Vegetation Stra                                      | ata:                |           |
| 7.   |                 |               |             |   |                     |           |
|  | 15              | = Total Cov   | er          | Tree- Woody plants, excluding w                                     |                     | (7.6      |
| Herb Stratum (Plot size:)  |                 |               |             | approximately 20 ft (6m) or more cm) or larger in diameter at breas |                     | (7.6      |
| 1. Cladium spp.  | 5               | yes           | OBL         |   |                     |           |
| Centella asiatica     Dhurchespera calerata                          | 5               | yes           | FACW        | Sapling- Woody plants, excludin approximately 20 ft (6m) or more    |                     | than 2    |
| <ol> <li>Rhynchospora colorata</li> <li>Fimbristylis spp.</li> </ol> | 5<br>           | yes           | OBL<br>FACW | in. (7.6 cm) DBH.   | in neight and less  | lilali 3  |
| Andropogon glomeratus  | 1               | yes           | FACW        | Shrub- Woody plants, excluding                                      | woody vines         |           |
| 6.   |                 |               | 171011      | approximately 3 to 20 ft (1 to 6 m                                  |                     |           |
| 7.   |                 |               |             | Herb- All herbaceous (non-wood                                      |                     |           |
| 8.   |                 |               |             | herbaceous vines, regardless of                                     |                     |           |
| 9.   |                 |               |             | plants, except woody vines, less                                    | than approximately  | y 3 ft (1 |
| 10.  |                 |               |             | m) in height.   |                     |           |
| 11.  |                 |               |             | Woody vine- All woody vines, re                                     | gardless of height. |           |
| 12.  |                 |               |             |   |                     |           |
|  | 21              | = Total Cov   | ver         |   |                     |           |
| Woody Vine Stratum (Plot size:                                       | )               |               |             |   |                     |           |
| Vitus rotundifolia   | 10              | yes           | FAC         |   |                     |           |
| 2. Smilax spp.   | 2               | no            | FAC         |   |                     |           |
| 3.   |                 |               |             |   |                     |           |
| 4.   |                 |               |             | Hydrophytic   |                     |           |
| 5.   |                 |               |             |   | sNo                 |           |
|  | 12              | = Total Cov   | ver         |   |                     |           |
| Remarks: (If observed, list morpho                                   | ological adapta | ations below) |             |   |                     |           |
| Percent cover estimates based or                                     | meandering      | survey of the | broader co  | mmunity.  |                     |           |

| Adark grayish brown sand  10 YR 4/2 100  10 YR 6/2; 10  YR 8/1; 10 YR  ADARD Splotches and pockets gray and light gray sand splotches and pockets gray and light gray sand splotches strong brown sand grayish gray sand gray and light gray sand gray and gray and gray and light gray sand gray and g | Remarks dark grayish brown sand  gray and light gray sand strong brown sand grayish brown sand  | splotches and pockets splotches  ains.   *Location: PL=F | Type Lo               | Redox<br>%<br> | Color (moist)<br>10 YR 6/2; 10<br>YR 8/1; 10 YR<br>5/2 | %<br>100<br>80<br>80 | Matrix Color (moist) 10 YR 4/2  N 5/0; 10 YR 7/1 7.5 YR 5/8  | Depth<br>inches)<br>D-6<br>S-32<br>S2-42 |  |
|--|---|--|-----------------------|----------------|--|----------------------|--|--|--|
| Tolor (moist)  | gray and light gray sand strong brown sand grayish brown sand grayish brown sand  e Lining, M=Matrix. Indicators for Problematic Hydric Soils 3:1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, B | splotches and pockets splotches                          | M M M                 | 20             | 10 YR 6/2; 10<br>YR 8/1; 10 YR<br>5/2                  | 80 80                | Color (moist)<br>10 YR 4/2<br>N 5/0; 10 YR 7/1<br>7.5 YR 5/8 | -32<br>2-42                              |  |
| Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  To Muck (A9) (LRR P,T, U)  Stands Mack (A9) (LRR P,T, U)  Depleted Below Dark Surface (A12)  To WR (A7) (LRR Q, S)  Sandy Mucky Mineral (S1) (LRR Q, S)  Sandy Mucky Mineral (S1) (LRR Q, S)  Splotches and  splotches and pockets  gray and light gray sand splotches  strong brown sand  grayish brown sand  applotches  strong brown sand  grayish brown sand  *Location: PL=Pore Lining, M=Matrix.  Indicators for Problemati  1 cm Muck (A9) (LRR S, T, U)  1 cm Muck (A9) (LRR S, T, U)  2 cm Muck (A10) (LRR O)  Reduced Vertic (F18)  Polyvalue Below Surface (S9) (LRR S, T, U)  1 cm Muck (A9) (LRR O)  Reduced Vertic (F18)  Polyteded Matrix (F2)  Depleted Matrix (F3)  Anomalous Bright Loa  (MLRA 153B)  Acomalous Bright Loa  (MLRA 153B)  Senduced Vertic (F11) (MLRA 151)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Depleted Orchric (F17) (MLRA 151)  Problematic.  Reduced Vertic (F18) (MLRA 150A)  Depleted Orchric (F17) (MLRA 151)  Problematic.  Reduced Vertic (F18) (MLRA 150A)  Depleted Orchric (F17) (MLRA 151)  Problematic.  | gray and light gray sand strong brown sand grayish brown sand grayish brown sand  e Lining, M=Matrix. Indicators for Problematic Hydric Soils 3:1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, B | splotches and pockets splotches                          | M M                   | 20             | 10 YR 6/2; 10<br>YR 8/1; 10 YR<br>5/2                  | 80 80                | 10 YR 4/2<br>N 5/0; 10 YR 7/1<br>7.5 YR 5/8                  | -6<br>-32<br>2-42                        |  |
| 10 YR 6/2; 10  | gray and light gray sand strong brown sand grayish brown sand  e Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, B       | pockets splotches ains.   PL=F                           | М М                   |                | YR 8/1; 10 YR<br>5/2                                   | 80                   | N 5/0; 10 YR 7/1<br>7.5 YR 5/8                               | -32<br>2-42                              |  |
| YR 8/1; 10 YR   Splotches and pockets   Gray and light gray sand   Splotches and pockets   Gray and light gray sand   Splotches   Gray and light gray sand   Splotches   Strong brown sand   Gray   Splotches   Splotches   Strong brown sand   Gray   Splotches   Splotches   Strong brown sand   Gray   Splotches   Splotches   Splotches   Splotches   Splotches   Splotches   Splotches   Splotches   Splotches   Strong brown sand   Gray   Splotches   | strong brown sand grayish brown sand  e Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :  1 cm Muck (a9) (LRR O)  2 cm Muck (A10) (LRR S)  Reduced Vertic (F18) (outside MLRA 150A, B                          | pockets splotches ains.   PL=F                           | М М                   |                | YR 8/1; 10 YR<br>5/2                                   | 80                   | 7.5 YR 5/8   | 2-42                                     |  |
| N 5/0; 10 YR 7/1 80 5/2 20 RM M pockets gray and light gray sand strong brown sand grayish grayish grayish grayish grayish gray | strong brown sand grayish brown sand  e Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :  1 cm Muck (a9) (LRR O)  2 cm Muck (A10) (LRR S)  Reduced Vertic (F18) (outside MLRA 150A, B                          | pockets splotches ains.   PL=F                           | М М                   |                | 5/2  | 80                   | 7.5 YR 5/8   | 2-42                                     |  |
| 242 7.5 YR 5/8 80 5 YR 3/4 20 RM M splotches strong brown sand grayish grayish brown sand grayish grayish brown sand grayish brown sand grayish grayish brown sand grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish grayish gr | strong brown sand grayish brown sand  e Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> :  1 cm Muck (a9) (LRR O)  2 cm Muck (A10) (LRR S)  Reduced Vertic (F18) (outside MLRA 150A, B                          | splotches  ains. <sup>2</sup> Location: PL=F             | М М                   |                |  | 80                   | 7.5 YR 5/8   | 2-42                                     |  |
| Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C=Concentration, D=Depleted Ining, M=Matrix.  Indicators for Problemati Indicators:  Indicators for Problemati According to the Muck (a9) (LRR S, T, U)  I cm Muck (a9) (LRR S, T, U)  I cm Muck (a9) (LRR O, D)  I cm Muck (a9) (LRR O, D)  Type: C=Concentration, D=Depleted Matrix, CS=Covered or Coated Sand Grains.  *Location: PL=Pore Lining, M=Matrix.  Indicators for Problematic.  Tom Muck (a9) (LRR O, D)  I cm Muck (a9) (LRR O, T, U)  Tom Muck (a9) (LRR O, T, U)  Tom Muck (a9) (LRR O, P, T, U)  Tother (Explain in Remulting Indicators of hydrophytic value (F13) (LRR O, P, T)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Sandy Mucky Mineral (S1) (LRR O, S)  Type: C=Coated Sand Grains.  *Location: PL=Pore Lining, M=Matrix.  *Location: PL=Pore Lining, M=Edicators of Problematic.  *Location: PL=Pore Lining, M=Edicators of Problematic.  *Location: PL=Pore Lining, M=Matrix.  *Location: PLevel Lining, M=Matrix.  *Location: PLevel Lining, M=Matrix.  *Location: PLevel Lining, M=Matrix.  *Location: PLevel Lining, M=Matrix.  *Location: PLevel Lining, M=Matrix.  *Location: PLevel Lining, M=Matrix.  *Location: PLevel Lining, M=Matrix.  *Location: Ple | grayish brown sand  e Lining, M=Matrix.  Indicators for Problematic Hydric Soils <sup>3</sup> : 1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, B   | ains. <sup>2</sup> Location: PL=F                        |                       |                |  |                      |  |  |  |
| Fype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.    Varic Soil Indicators:   | Indicators for Problematic Hydric Solls <sup>3</sup> : 1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, E  |  | or Coated Sand Gra    |                |  |                      |  | Z-0U                                     |  |
| ydric Soil Indicators:  Histol (A1)  Polyvalue Below Surface (S8) (LRR S, T, U)  Thin Dark Surface (S9) (LRR S, T, U)  Black Histic Epidon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Organic Bodies (A6) (LRR P, T, U)  Stratified Layers (A5)  Popleted Matrix (F3)  Sem Mucky Mineral (A7) (LRR P,T,U)  Popleted Dark Surface (F6)  Muck Presence (A8) (LRR U)  Tem Muck (A9) (LRR P,T)  Depleted Dark Surface (F7)  Redox Depressions (F8)  Very Shallow Dark Surface (A11)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Sendy Mucky Mineral (S1) (LRR O, S)  Detta Orchric (F18) (MLRA 150A)  Detta Orchric (F18) (MLRA 150A)  Detta Orchric (F17) (MLRA 151)  Problematic  Indicators for Problematic  Indicators for Problematic  Indicators for Problematic  Indicators for Problematic  Indicators for Problematic  Indicators for Problematic  Indicators for Problematic  Indicators for Problematic  Indicators for Problematic  Indicators for Problematic  | Indicators for Problematic Hydric Solls <sup>3</sup> : 1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, E  |  | or Coated Sand Grai   |                |  |                      |  |  |  |
| ydric Soil Indicators:  Histol (A1)  Histol (A2)  Black Histic Epidon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Organic Bodies (A6) (LRR P, T, U)  Muck Presence (A8) (LRR P,T, U)  To Muck (A9)  Loamy Gleyed Matrix (F3)  Depleted Dark Surface (F6)  Muck Presence (A8) (LRR P,T)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Polyvalue Below Surface (S8) (LRR S, T, U)  Loamy Gleyed Matrix (F3)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F2)  Anomalous Bright Loa  (MLRA 153B)  Marl (F10) (LRR U)  Depleted Dark Surface (F7)  Red Parent Material (T1)  Loamy Gleyed Matrix (F10) (LRR U)  Depleted Orchric (F11) (MLRA 151)  Thick Dark Surface (A12)  Loamy Gleyed Matrix (F3)  Detta Orchric (F17) (MLRA 151)  Problematic.  Indicators for Problematic  1 cm Muck (A9) (LRR S, T, U)  1 cm Muck (A9) (LRR O, P,T)  Popleted Dark Surface (A12)  Loamy Gleyed Matrix (F3)  Loamy Gleyed Matrix (F3)  Indicators for Problematic  | Indicators for Problematic Hydric Soils <sup>3</sup> : 1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, E  |  | or Coated Sand Grai   |                |  |                      |  |  |  |
| ydric Soil Indicators:  Histol (A1)  Histol (A2)  Black Histic Epidon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Organic Bodies (A6) (LRR P, T, U)  Muck Presence (A8) (LRR P,T, U)  To Muck (A9)  Loamy Gleyed Matrix (F3)  Depleted Dark Surface (F6)  Muck Presence (A8) (LRR P,T)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Polyvalue Below Surface (S8) (LRR S, T, U)  Loamy Gleyed Matrix (F3)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F2)  Anomalous Bright Loa  (MLRA 153B)  Marl (F10) (LRR U)  Depleted Dark Surface (F7)  Red Parent Material (T1)  Loamy Gleyed Matrix (F10) (LRR U)  Depleted Orchric (F11) (MLRA 151)  Thick Dark Surface (A12)  Loamy Gleyed Matrix (F3)  Detta Orchric (F17) (MLRA 151)  Problematic.  Indicators for Problematic  1 cm Muck (A9) (LRR S, T, U)  1 cm Muck (A9) (LRR O, P,T)  Popleted Dark Surface (A12)  Loamy Gleyed Matrix (F3)  Loamy Gleyed Matrix (F3)  Indicators for Problematic  | Indicators for Problematic Hydric Soils <sup>3</sup> : 1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, E  |  | or Coated Sand Grai   |                |  |                      |  |  |  |
| Histol (A1)  | 1 cm Muck (a9) (LRR O)2 cm Muck (A10) (LRR S)Reduced Vertic (F18) (outside MLRA 150A, E   | 100 // DD C T III  |                       | S=Cove         | =Reduced Matrix, C                                     | letion, RM           | Concentration, D=Depl  | Type: C=                                 |  |
| Histic Epidon (A2)  Thin Dark Surface (S9) (LRR S, T, U)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Organic Bodies (A6) (LRR P, T, U)  Stratified Layers (A7)  Depleted Matrix (F3)  Stratified Layers (A5)  Organic Bodies (A6) (LRR P, T, U)  Stratified Layers (A7)  Depleted Matrix (F3)  Stratified Layers (A5)  Organic Bodies (A6) (LRR P, T, U)  Depleted Dark Surface (F6)  Mucky Mineral (A7) (LRR P,T,U)  Pedet Dark Surface (F7)  Red Parent Material (T  Muck Presence (A8) (LRR U)  Redox Depressions (F8)  Very Shallow Dark Surl  1 cm Muck (A9) (LRR P,T)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Sandy Mucky Mineral (S1) (LRR O, S)  Sandy Mucky Mineral (S1) (LRR O, S)  Seduced Vertic (F18) (MLRA 150A, 150B)   | 2 cm Muck (A10) (LRR S)<br>Reduced Vertic (F18) (outside MLRA 150A, E   | O 4 55 6 T 11  |                       |                |  |                      | il Indicators:   | ydric Sc                                 |  |
| Black Histic (A3) Loamy Mucky Mineral (F1) (LRR O) Reduced Vertic (F18) Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Stratified Layers (A5) Depleted Matrix (F3) Anomalous Bright Loa (MLRA 153B) 5 cm Mucky Mineral (A7) (LRR P,T,U) Depleted Dark Surface (F6) Red Parent Material (T Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Sur 1 cm Muck (A9) (LRR P,T) Marl (F10) (LRR U) Other (Explain in Rem Depleted Below Dark Surface (A11) Depleted Orchric (F11) (MLRA 151) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR O, P,T) Andicators of hydrophytic v hydrology must be present Sandy Mucky Mineral (S1) (LRR O, S) Delta Orchric (F18) (MLRA 150A) Piedmatic. Reduced Vertic (F18) (MLRA 150A) Piedmatic.   | Reduced Vertic (F18) (outside MLRA 150A, E  | 8) (LKK 5, 1, U)   | e Below Surface (S8   | Poly           | _  |                      | (A1)   | Histol                                   |  |
| Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F2) Depleted Matrix (F3) Anomalous Bright Loa (MLRA 153B)  5 cm Mucky Mineral (A7) (LRR P,T,U) Depleted Dark Surface (F6) Muck Presence (A8) (LRR U) Redox Depressions (F8) Very Shallow Dark Sur 1 cm Muck (A9) (LRR P,T) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Coast Prairie Redox (A16) (MLRA 150A) Sandy Mucky Mineral (S1) (LRR O, S) Sandy Gleyed Matrix (S4)  Loamy Gleyed Matrix (F2) Piedmont Floodplain S Anomalous Bright Loa (MLRA 153B) Anomalous Bright Loa (MLRA 153B)  PRedox Dark Surface (F7) Red Parent Material (T (MLRA 151)  Popleted Drchric (F11) (MLRA 151)  Iron-Manganese Masses (F12) (LRR O, P,T) Mydrology must be present problematic.  Problematic.   |   | R S, T, U)   | rk Surface (S9) (LRR  | Thin           | _  |                      | Epidon (A2)  | Histic                                   |  |
| Stratified Layers (A5)  Organic Bodies (A6) (LRR P, T, U)  5 cm Mucky Mineral (A7) (LRR P,T,U)  Muck Presence (A8) (LRR U)  1 cm Muck (A9) (LRR P,T)  Depleted Dark Surface (F7)  Marl (F10) (LRR U)  Depleted Dark Surface (F7)  Marl (F10) (LRR U)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Sandy Mucky Mineral (S1) (LRR O, S)  Sandy Gleyed Matrix (S4)  Depleted Matrix (F3)  Anomalous Bright Loa  (MLRA 153B)  Redox Dark Surface (F7)  Red Parent Material (1  (MLRA 151)  Inon-Manganese Masses (F12) (LRR O, P,T)  Mydrology must be present problematic.  Poblematic.   | Piedmont Floodplain Soils (F19) (LRR P, \$, T)  | (LRR O)  | Mucky Mineral (F1) (L | Loan           | _  |                      | Histic (A3)  | Black                                    |  |
| Organic Bodies (À6) (LRR P, T, U)  |   |  | Gleyed Matrix (F2)    | Loan           | _  |                      | gen Sulfide (A4)   | Hydro                                    |  |
|  | Anomalous Bright Loamy Soils (F20)  |  |                       |                | -  |                      |  |  |  |
| ✓ Muck Presence (A8) (LRR U)       Redox Depressions (F8)      Very Shallow Dark Sur         1 cm Muck (A9) (LRR P,T)      Marl (F10) (LRR U)      Other (Explain in Rem         Depleted Below Dark Surface (A11)      Depleted Orchric (F11) (MLRA 151)         Thick Dark Surface (A12)      Iron-Manganese Masses (F12) (LRR O, P,T)       _³Indicators of hydrophytic v hydrology must be present problematic.        Sandy Mucky Mineral (S1) (LRR O, S)      Delta Orchric (F17) (MLRA 151)       problematic.        Sandy Gleyed Matrix (S4)      Reduced Vertic (F18) (MLRA 150A, 150B)  | (MLRA 153B)   |  | Dark Surface (F6)     | Redo           | -  | P, T, U)             | nic Bodies (A6) (LRR F                                       | Orgar                                    |  |
| 1 cm Muck (A9) (LRR P,T)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Sandy Mucky Mineral (S1) (LRR O, S)  Sandy Gleyed Matrix (S4)  Marl (F10) (LRR U)  Depleted Orchric (F11) (MLRA 151)  Iron-Manganese Masses (F12) (LRR O, P,T)  Jumbric Surface (F13) (LRR P, T, U)  Marl (F10) (LRR U)  Jumbric Surface (F13) (LRR O, P,T)  Sound Orchric (F17) (MLRA 151)  Marl (F10) (LRR U)  Jumbric Surface (F13) (LRR P, T, U)  Mydrology must be present problematic.   | Red Parent Material (TF2)   | )  | d Dark Surface (F7)   | Depl           | ) -  | RR P,T,U             | Mucky Mineral (A7) (L  | 5 cm                                     |  |
| Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Coast Prairie Redox (A16) (MLRA 150A)  Sandy Mucky Mineral (S1) (LRR O, S)  Sandy Gleyed Matrix (S4)  Depleted Orchric (F11) (MLRA 151)  Liron-Manganese Masses (F12) (LRR O, P,T)  Jendicators of hydrophytic v hydrology must be present problematic.  Peduced Vertic (F18) (MLRA 151)  Reduced Vertic (F18) (MLRA 150A, 150B)  | Very Shallow Dark Surface (TF12) (LRR T, U)   |  | Depressions (F8)      | Redo           | ·<br>_   | U)                   | Presence (A8) (LRR   | ✓ Muck                                   |  |
| Depleted Below Dark Surface (A11)  | Other (Explain in Remarks)  |  | 0) (LRR U)            | Marl           |  |                      | Muck (A9) (I RR P T)   | 1 cm                                     |  |
| Thick Dark Surface (A12)   |   | DA 454\  |                       |                | -  | (8.4.4)              |  | _  |  |
| Coast Prairie Redox (A16) (MLRA 150A)  Sandy Mucky Mineral (S1) (LRR O, S)  Sandy Gleyed Matrix (S4)  — Umbric Surface (F13) (LRR P, T, U)  Delta Orchric (F17) (MLRA 151)  Reduced Vertic (F18) (MLRA 150A, 150B)   |   | •  | , , ,                 |                |  |                      |  |  |  |
| Sandy Mucky Mineral (S1) (LRR O, S)  Sandy Gleyed Matrix (S4)  Delta Orchric (F17) (MLRA 151)  Reduced Vertic (F18) (MLRA 150A, 150B)  | <sup>3</sup> Indicators of hydrophytic vegetation and wetland   |  | •                     |                | -  |                      | , ,  |  |  |
| Sandy Mucky Millera (31) (LRR 0, 3)  Sandy Gleyed Matrix (S4)  Reduced Vertic (F18) (MLRA 150A, 150B)  | hydrology must be present, unless disturbed or  | R P, T, U)   | (A)                   | MLRA 15        | Prairie Redox (A16) (                                  | Coast                |  |  |  |
| Sandy Gleyed Matrix (S4) Reduced Vertic (F18) (MLRA 150A, 150B)  | problematic.  | 151)   | rchric (F17) (MLRA 1  | Delta          | )  | LRR O. S             | / Mucky Mineral (S1) (I                                      | Sand                                     |  |
|  |   | RA 150A, 150B)   | d Vertic (F18) (MLRA  | Redu           | •  | •                    |  |  |  |
| Sandy Redox (S5)Piedmont Floodplain Soils (F19) (MLRA 149A)  |   |  | , , ,                 |                | •  |                      |  |  |  |
| Stripped Matrix (S6)Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)   | C, 153D)  | oils (F20) (MLRA 149A, 15                                | ous Bright Loamy Soi  | <br>Anor       |  |                      | . ,  |  |  |
| Dark Surface (S7) (LRR P, S, T, U)   |   |  | ,                     |                | -  | S T III              | ` '  |  |  |
| Restrictive Layer (If observed):   |   |  |                       |                |  |                      |  |  |  |
| Type:  |   | i  |                       |                |  | ١٠                   | , , ,  | vesu icu v                               |  |
|  |   |  |                       |                |  |                      |  |  |  |
|  | yt? Vas √ No  | Hydric Soil Pres   |                       |                |  |                      | Donth (inchae):  |  |  |
| Charles.   | nt? Yes No  | Hydric Soil Pres   |                       |                | · · · · · · · · · · · · · · · · · · ·                  |                      | Depth (inches):  | emarks:                                  |  |
|  | nt? Yes <u>✓</u> No   | Hydric Soil Pre  |                       |                |  |                      | Depth (inches):  | emarks:                                  |  |

| Project/Site: Levy Nuclear Plant - Transmission    | Lines, CREC Substation           | City/County:Citrus             | _Sampling Date:_                          | 10/28/09            |              |
|--|----------------------------------|--------------------------------|---|---------------------|--------------|
| Applicant/Owner: Progress Energy Florida, Inc      | )                                | State: FL                      |   | Sampling Point:_    | AF           |
| Investigator(s): Stacy Rizzo, Tony Davanz          | 20                               | Section, Township, Range       | e: <u>33 17S 16E</u>                      |                     |              |
| Landform (hillslope, terrace, etc.): N             | /A                               | Local relief (concave, con     | ivex, none): none                         | Slo                 | pe (%):      |
| Subregion (LRR or MLRA): LRR U                     | Lat: 28.9608                     | 325 Long:82.6                  | 96680                                     | Da                  | tum: WGS84   |
| Soil Map Unit Name: Quartzipsamments, 0 to         | 5 percent slopes                 |                                | _ NWI classification                      | : <u>N/A</u>        |              |
| Are climatic / hydrologic conditions on the site t | ypical for this time of year?    | Yes <u>✓</u>                   | _ No                                      | (If no, explain in  | Remarks)     |
| Are Vegetation, Soil,                              | or Hydrology                     |                                | Are circumstances                         |                     | sNo          |
| Are Vegetation, Soil,                              |                                  |                                | (If needed, explain                       | n any answers in R  | lemarks)     |
| SUMMARY OF FINDINGS - Attach si                    |                                  |                                | •   | -                   | ,            |
| Hydrophytic Vegetation Present?                    | Yes No                           |                                | •   |                     |              |
| Hydric Soil Present?                               | Yes✓ No                          | Is the Sampled Area v          | vithin a Wetland?                         | Yes✓No              |              |
| Wetland Hydrology Present?                         | Yes✓ No                          |                                |   |                     |              |
| Remarks:   |                                  |                                |   |                     |              |
|  |                                  |                                |   |                     |              |
| HYDROLOGY  |                                  |                                | O a ser de su terdired                    |                     |              |
| Wetland Hydrology Indicators:                      |                                  |                                |   | tors (minimum of to | wo requirea) |
| Primary Indicators (minimum of one is required     |                                  | (00)                           | Surface Soil                              | , ,                 | Durfo (DO)   |
| Surface Water (A1)                                 | Water-Stained Leaves             | (Ba)                           |   | getated Concave (   | Suпасе (B8)  |
| High Water Table (A2)                              | Aquatic Fauna (B13)              | BB 111                         | Drainage Pa                               |                     |              |
| Saturation (A3)                                    | Marl Deposits (B15) (L           | •                              | Moss Trim L                               | • •                 |              |
| Water Marks (B1)                                   | Hydrogen Sulfide Odo             | , ,                            |   | Water Table (C2)    |              |
| Sediment Deposits (B2)                             | Oxidized Rhizospheres            |                                | Crayfish Bur                              |                     |              |
| Drift Deposits (B3)                                | Presence of Reduced              |                                | Saturation Visible on Aerial Imagery (C9) |                     |              |
| Algal Mat or Crust (B4)                            | Recent Iron Reduction            | • •                            | Geomorphic Position (D2)                  |                     |              |
| Iron Deposits (B5)                                 | Thin Muck Surface (C7            |                                | Shallow Aquitard (D3)                     |                     |              |
| Inundation Visible on Aerial Imagery (B7           | )Other (Explain in Rema          | arks)                          | Test (D5)                                 |                     |              |
| Field Observations:                                |                                  |                                |   |                     |              |
| Surface Water Present?                             | Yes No                           |                                | -   |                     |              |
| Water Table Present?                               | Yes No                           |                                | Wetland                                   |                     |              |
| Saturation Present?                                | Yes No                           | Depth (inches):0-12            | Hydrology                                 |                     |              |
| (includes capillary fringe)                        |                                  |                                | Present?                                  | Yes <u>√</u> No     |              |
| Describe Recorded Data (stream gauge, monit        | oring well, aerial photos, previ | ous inspections), if available | <b>)</b> :                                |                     |              |
|  |                                  |                                |   |                     |              |
| Remarks:   |                                  |                                |   |                     |              |
|  |                                  |                                |   |                     |              |
|  |                                  |                                |   |                     |              |
|  |                                  |                                |   |                     |              |
|  |                                  |                                |   |                     |              |
|  |                                  |                                |   |                     |              |
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|  |                                  |                                |   |                     |              |
|  |                                  |                                |   |                     |              |
|  |                                  |                                |   |                     |              |

| VEGETATION - Use scientific na              | ames of plants      |                      |                     |  | mpling Point:                    | AF       |
|---|---------------------|----------------------|---------------------|--|----------------------------------|----------|
| Tree Stratum (Plot size:)                   | Absolute %<br>Cover | Dominant<br>Species? | Indicator<br>Status | Dominance Test Workshee  | <b>t:</b>                        |          |
| 1.  |                     | <u></u>              |                     | Number of Dominant Species                                     |                                  | (A)      |
| 2.<br>3.                                    |                     |                      |                     | That Are OBL, FACW, or FACT Total Number of Dominant           | <u>-</u><br>1                    | (B)      |
| <u>4.</u><br>5.                             |                     |                      |                     | Species Across All Strata:<br>Percent of Dominant Species      | <del>_</del>                     |          |
| 6.  |                     |                      |                     | That Are OBL, FACW, or FAC                                     | C: <u>100.00</u>                 | (A/B     |
| 7.  |                     |                      |                     | Prevalance Index workshee                                      | et:                              |          |
|   | 0                   | = Total Cove         | er                  | Total % Cover of:  | Multiply by:                     |          |
| Sapling Stratum (Plot size:)                |                     |                      |                     | OBL species  | x1=                              | _        |
| 1.  |                     |                      |                     | FACW species   | x2=                              |          |
| 2.  |                     |                      |                     | FAC species  | x3=                              | _        |
| 3.  |                     |                      |                     | FACU species   | x4=                              | _        |
| 4.  |                     |                      |                     | UPL species  | x5=                              | _        |
| 5.  |                     |                      |                     | Column Totals:   | (A)                              | _(B)     |
| 6.  |                     |                      |                     |  |                                  |          |
| 7.  |                     |                      |                     | Prevalance Index = B/A   |                                  |          |
|   | 0                   | = Total Cove         | er                  | Hydrophytic Vegetation Ind                                     | icators:                         |          |
| Shrub Stratum (Plot size:                   | _)                  |                      |                     | ✓ Dominance Test is 50   | %                                |          |
| 1.  |                     |                      |                     | Prevalence Index is ≤  | 3.0 <sup>1</sup>                 |          |
| 2.  |                     |                      |                     | Problematic Hydrophy   | tic Vegetation <sup>1</sup> (Exp | plain)   |
| 3.  |                     |                      |                     | 1  | . 41. 1. 1. 1                    |          |
| <u>4.</u><br>5.                             |                     |                      | -                   | Indicators of hydric soil and be present, unless disturbed     |                                  | nust     |
| 6.  |                     | <del></del>          |                     | Definitions of Vegetation S                                    |                                  |          |
| 7.  |                     |                      |                     | Deminions of Vegetation of                                     | uu.                              |          |
| Herb Stratum (Plot size:                    | 0                   | = Total Cove         | er<br>er            | Tree- Woody plants, excluding approximately 20 ft (6m) or mo   |                                  | (7.6     |
| Cyperus spp.                                | _/<br>30            | yes                  | FACW                | cm) or larger in diameter at bre                               | east height (DBH).               |          |
| Andropogon glomeratus                       | 10                  | no                   | FACW                | Sapling- Woody plants, exclud                                  | ling woody vines,                |          |
| 3. Ludwigia spp.                            | 10                  | no                   | OBL                 | approximately 20 ft (6m) or mo                                 | re in height and less            | than 3   |
| 4. Setaria spp.                             | _ 5                 | no                   | FAC                 | in. (7.6 cm) DBH.  |                                  |          |
| Eustachys petracea     Eupatorium serotinum | - <del>5</del> 2    | no                   | FACU<br>FAC         | Shrub- Woody plants, excludir approximately 3 to 20 ft (1 to 6 |                                  |          |
| 7. Aeschynomene spp.                        |                     | no                   | FACW                | Herb- All herbaceous (non-woo                                  | , •                              |          |
| 8.  |                     |                      |                     | herbaceous vines, regardless of                                |                                  |          |
| 9.  |                     |                      |                     | plants, except woody vines, les                                | s than approximately             | y 3 ft ( |
| 10.   |                     |                      |                     | m) in height.  |                                  |          |
| 11.   |                     |                      |                     | Woody vine- All woody vines,                                   | regardless of height.            |          |
| 12.   |                     |                      |                     |  |                                  |          |
| Woody Vine Stratum (Plot size:_             | 64                  | = Total Cove         | er                  |  |                                  |          |
| 1.  |                     |                      |                     |  |                                  |          |
| 2.  |                     |                      |                     |  |                                  |          |
| 3.  |                     |                      |                     |  |                                  |          |
| 4.  | _                   |                      |                     | Hydrophytic  |                                  |          |
| 5.  |                     |                      |                     | Vegetation Present? Y  | es <u> </u>                      |          |
|   | 0                   | = Total Cove         | er                  |  |                                  |          |

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

| rofile Des<br>epth<br>nches)      | ecription: /Doccribo:   |            |                     |                                    |                  |                   |                             | Sampling Point:   |
|-----------------------------------|-------------------------|------------|---------------------|------------------------------------|------------------|-------------------|-----------------------------|---|
| •                                 |                         | to the de  | pth needed to doc   |                                    |                  | r confirm the al  | osence of indicato          | rs.)  |
| nches)                            | Matrix                  |            |                     |                                    | Features         | 12                |                             | 0   |
|                                   | Color (moist)           | - %        | Color (moist)       | %_                                 | Type             | Loc²              | Texture                     | Remarks   |
| -6                                | 10 YR 4/2               | 100        |                     |                                    |                  |                   |                             | dark grayish brown sand                                       |
|                                   |                         |            | 10 YR 6/2; 10       |                                    |                  |                   |                             |   |
|                                   |                         |            | YR 8/1; 10 YR       |                                    |                  |                   | splotches and               |   |
| -32                               | N 5/0; 10 YR 7/1        | 80         | 5/2                 | 20                                 | RM               | <u>M</u>          | pockets                     | gray and light gray sand                                      |
| 2-42                              | 7.5 YR 5/8              | 100        |                     |                                    |                  |                   |                             | strong brown sand   |
| -60                               | 10 YR 5/2               | 100        |                     |                                    |                  |                   | <del></del>                 | grayish brown sand  |
|                                   |                         |            |                     |                                    | -                |                   |                             |   |
|                                   |                         |            |                     |                                    |                  | -                 |                             |   |
| ype: C=C                          | Concentration, D=Depl   | letion, RM | 1=Reduced Matrix, 0 | S=Cove                             | ered or Coated   | Sand Grains.      | <sup>2</sup> Location: PL=F | Pore Lining, M=Matrix.  |
| dric Soi                          | I Indicators:           |            |                     |                                    |                  |                   |                             | Indicators for Problematic Hydric Soils 3:                    |
| Histol                            |                         |            |                     | Poly                               | value Below St   | urface (S8) (LRF  | R S, T, U)                  | 1 cm Muck (a9) (LRR O)  |
|                                   | Epidon (A2)             |            |                     |                                    |                  | (S9) (LRR S, T,   |                             | 2 cm Muck (A10) (LRR S)                                       |
|                                   | Histic (A3)             |            |                     |                                    |                  | ral (F1) (LRR O   | •                           | Reduced Vertic (F18) (outside MLRA 150A, E                    |
|                                   | gen Sulfide (A4)        |            | •                   |                                    | my Gleyed Mat    |                   | ,                           | Piedmont Floodplain Soils (F19) (LRR P, S, T)                 |
|                                   | ed Lavers (A5)          |            |                     |                                    | leted Matrix (F: |                   |                             | Anomalous Bright Loamy Soils (F20)                            |
|                                   | ic Bodies (A6) (LRR F   | P. T. 11\  | •                   |                                    | ox Dark Surfac   |                   |                             | (MLRA 153B)   |
|                                   |                         |            |                     |                                    | leted Dark Surl  | ` '               |                             | Red Parent Material (TF2)                                     |
|                                   | /lucky Mineral (A7) (LI |            | ))                  |                                    |                  | , ,               |                             |   |
|                                   | Presence (A8) (LRR      | U)         |                     |                                    | ox Depression:   | . ,               |                             | Very Shailow Dark Surface (TF12) (LRR T, U)                   |
| 1 cm N                            | Muck (A9) (LRR P,T)     |            |                     | Mar                                | (F10) (LRR U     | )                 |                             | Other (Explain in Remarks)                                    |
| Depleted Below Dark Surface (A11) |                         |            |                     |                                    | leted Orchric (I | F11) (MLRA 151    | 1)                          |   |
| Thick Dark Surface (A12)          |                         |            |                     |                                    | -Manganese M     | asses (F12) (LF   | RR O, P,T)                  | <sup>3</sup> Indicators of hydrophytic vegetation and wetland |
| Coast                             | Prairie Redox (A16) (   | MLRA 15    | i0A)                | Umbric Surface (F13) (LRR P, T, U) |                  |                   |                             | hydrology must be present, unless disturbed or                |
| Sandy                             | Mucky Mineral (S1) (    | LRR O, S   | 3)                  | Delt                               | a Orchric (F17)  | (MLRA 151)        |                             | problematic.  |
|                                   | Gleyed Matrix (S4)      | ,          | •                   | Red                                | uced Vertic (F1  | 8) (MLRA 150A     | A, 150B)                    |   |
| _ ′                               | Redox (S5)              |            |                     |                                    | •                | in Soils (F19) (N |                             |   |
| _ ′                               | ed Matrix (S6)          |            |                     |                                    | •                | , , ,             | 0) (MLRA 149A, 15           | 3C. 153D)   |
|                                   | Surface (S7) (LRR P,    | STIB       | ,                   |                                    | ···              | , (               | -, (,                       | ,,  |
|                                   | Layer (if observed)     |            |                     |                                    |                  |                   |                             |   |
| -                                 | Type:                   |            |                     |                                    |                  |                   |                             |   |
|                                   | Depth (inches):         |            |                     |                                    |                  |                   | Hydric Soil Pres            | sent? Yes <u>√</u> No   |

| Project/Site: Levy Nuclear Plant - Transmission     | Lines, CREC Substation            | _City/County:Citrus            | _Sampling Date: 10/2                  | 8/09                        |        |  |
|---|-----------------------------------|--------------------------------|---------------------------------------|-----------------------------|--------|--|
| Applicant/Owner: Progress Energy Florida, Inc.      | 2                                 | State: FL                      | ·                                     | Sampling Point: AG          |        |  |
| Investigator(s): Stacy Rizzo, Tony Davanz           | :0                                | _Section, Township, Range      | e: <u>28 17S 16E</u>                  |                             |        |  |
| Landform (hillslope, terrace, etc.):N               | /A                                | Local relief (concave, con     | vex, none): none                      | Slope (%)                   | ı:     |  |
| Subregion (LRR or MLRA): LRR U                      | Lat: 28.96386                     | 69 Long:82.7                   | 01050                                 | Datum:                      | WGS84  |  |
| Soil Map Unit Name: Quartzipsamments, 0 to          |                                   | NWI classification: N/A        |                                       |                             |        |  |
| Are climatic / hydrologic conditions on the site to | ypical for this time of year?     | Yes✓                           | _ No                                  | _ (If no, explain in Remark | ks)    |  |
| Are Vegetation, Soil,                               | or Hydrology                      |                                |                                       | s normal? Yes ✓             |        |  |
| Are Vegetation, Soil,                               |                                   |                                |                                       | n any answers in Remarks    | s)     |  |
| SUMMARY OF FINDINGS - Attach si                     | te map showing sampli             | ing point locations, t         | ransects, impo                        | rtant features, etc.        | •      |  |
| Hydrophytic Vegetation Present?                     | Yes No                            |                                | · · · · · · · · · · · · · · · · · · · | ,                           |        |  |
| Hydric Soil Present?                                | YesNo                             | Is the Sampled Area w          | vithin a Wetland?                     | Yes No                      |        |  |
| Wetland Hydrology Present?                          | Yes✓ No                           |                                |                                       |                             |        |  |
| Remarks:  |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
| HYDROLOGY   |                                   |                                |                                       |                             |        |  |
| Wetland Hydrology Indicators:                       |                                   |                                | Secondary Indicat                     | ors (minimum of two requ    | uired) |  |
| Primary Indicators (minimum of one is required;     | check all that apply)             |                                | Surface Soil                          | Cracks (B6)                 |        |  |
| Surface Water (A1)                                  | Water-Stained Leaves              | (B9)                           | Sparsely Ve                           | getated Concave Surface     | ; (B8) |  |
| High Water Table (A2)                               | Aquatic Fauna (B13)               |                                | Drainage Pa                           | itterns (B10)               |        |  |
| ✓ Saturation (A3)                                   | Marl Deposits (B15) (LI           | RR U)                          | Moss Trim L                           | ines (B16)                  |        |  |
| Water Marks (B1)                                    | Hydrogen Sulfide Odor             | (C1)                           | Dry-Season                            | Water Table (C2)            |        |  |
| Sediment Deposits (B2)                              | Oxidized Rhizospheres             | on Living Roots (C3)           | Crayfish Bur                          | rows (C8)                   |        |  |
| Drift Deposits (B3)                                 | Presence of Reduced I             | ron (C4)                       | Saturation V                          | isible on Aerial Imagery (  | C9)    |  |
| Algal Mat or Crust (B4)                             | Recent Iron Reduction             | in Tilled Soils (C6)           | Geomorphic Position (D2)              |                             |        |  |
| Iron Deposits (B5)                                  | Thin Muck Surface (C7             | )                              | Shallow Aquitard (D3)                 |                             |        |  |
| Inundation Visible on Aerial Imagery (B7            | )Other (Explain in Rema           | arks)FAC Neutral Test (D5)     |                                       |                             |        |  |
| Field Observations:                                 |                                   |                                |                                       |                             |        |  |
| Surface Water Present?                              | Yes No                            | Depth (inches):                |                                       |                             |        |  |
| Water Table Present?                                | Yes No                            |                                |                                       |                             |        |  |
| Saturation Present?                                 | Yes No                            | _ Depth (inches):0-12          | Wetland<br>Hydrology                  |                             |        |  |
| (includes capillary fringe)                         | <del></del>                       | _                              | Present?                              | Yes <u>✓</u> No             |        |  |
| Describe Recorded Data (stream gauge, monitor       | oring well, aerial photos, previo | ous inspections), if available | ε .                                   |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
| Remarks:  |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   | -                                 |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
|   |                                   |                                |                                       |                             |        |  |
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| Jan | IVIII | IU I | OII | Ht. |

|   | 1   | · · · · · · · · · · · · · · · · · · · |            | Dominance Test Workshe                         | et:  |             |
|---|---|---------------------------------------|------------|--|--|-------------|
|   | Absolute %  | Dominant                              | Indicator  |  |  |             |
| Tree Stratum (Plot size:)                 | Cover   | Species?                              | Status     |  |  |             |
| Sabal palmetto                            | 5   | yes                                   | FAC        | Number of Dominant Specie                      | es o                                       | (4)         |
| Taxodium distichum                        | 2   | yes                                   | OBL        | That Are OBL, FACW, or FA                      | AC: <u>9</u>                               | (A)         |
| 3. Ulmus americana                        | 1   | no                                    | FACW       | Total Number of Dominant                       | <u>9</u>                                   | (B)         |
| Fraxinus caroliniana                      | 11  | no                                    | OBL        | Species Across All Strata:                     |  | (0)         |
| 5.  |   |                                       |            | Percent of Dominant Specie                     |  | (A/B)       |
| 6.  |   |                                       |            | That Are OBL, FACW, or FA                      | AC:  | V/          |
| 7.  |   |                                       |            | Prevalance Index workshe                       | eet:                                       |             |
|   | 9   | = Total Cov                           | er         | Total % Cover of:                              | Multiply by:                               |             |
| Sapling Stratum (Plot size:)              |   |                                       |            | OBL species                                    | x1=  | _           |
| Salix caroliniana                         | 40  | yes                                   | OBL        | FACW species                                   | x2=  | _           |
| 2. Juniperus silicicola                   | 2   | no                                    | FAC        | FAC species                                    | x3=  | _           |
| 3.  |   |                                       |            | FACU species                                   | x4=  |             |
| 4.  |   | -                                     |            | UPL species                                    | x5=  |             |
| 5.  |   |                                       |            | Column Totals:                                 | (A)  | —<br>(B)    |
| 6.  |   |                                       |            |  |  | _ ` `       |
| 7.  |   |                                       | •          | Prevalance Index = B/A                         | <i>\</i> =                                 |             |
|   | 42  | = Total Cov                           | <br>er     | Hydrophytic Vegetation In                      | dicators:                                  |             |
| Shrub Stratum (Plot size:                 | )   |                                       |            | ✓ Dominance Test is 5                          |  |             |
| Baccharis sp.                             | 40  | yes                                   | FAC        | Prevalence Index is                            |  |             |
| Myrica cerifera                           | 30  | yes                                   | FAC        | <del>+</del>                                   | -5.0<br>nytic Vegetation <sup>1</sup> (Exp | lain)       |
| 3.  |   | yes                                   | 170        | 1 Toblematic Hydropi                           | iyile vegetation (Exp                      | nan ij      |
| 4.  |   |                                       |            | Indicators of hydric soil and                  | d wetland hydrology n                      | nust        |
| 5.  |   |                                       | -          | be present, unless disturbed                   |  |             |
| 6.  |   |                                       |            | Definitions of Vegetation                      |  |             |
| 7.  |   |                                       |            | 1  |  |             |
|   | 70  | = Total Cov                           | er         | Tree- Woody plants, excluding                  | a woody vines                              |             |
| Herb Stratum (Plot size:                  | )   |                                       |            | approximately 20 ft (6m) or m                  | _  | (7.6        |
| 1. Fimbristylis spp.                      | ,<br>10   | yes                                   | FACW       | cm) or larger in diameter at b                 | reast height (DBH).                        |             |
| Panicum repens                            | 10  | yes                                   | FACW       | Sapling- Woody plants, exclu                   | ıdına woody vines.                         |             |
| 3. Cyperus spp.                           | 5   | no                                    | FACW       | approximately 20 ft (6m) or m                  |  | than 3      |
| Andropogon glomeratus                     | 2   | no                                    | FACW       | in. (7.6 cm) DBH.                              | J  |             |
| 5. Eleocharis spp.                        | 2   | no                                    | OBL        | Shrub- Woody plants, exclud                    | ling woody vines,                          |             |
| 6.  |   |                                       |            | approximately 3 to 20 ft (1 to                 | 6 m) in height.                            |             |
| 7.  |   |                                       | -          | Herb- All herbaceous (non-w                    |  |             |
| 8.  | · <del>· · · · · · · · · · · · · · · · · · </del> |                                       |            | herbaceous vines, regardless                   |  |             |
| 9.  |   |                                       | ·          | plants, except woody vines, lend m) in height. | ess than approximately                     | / 3π(1      |
| 10.                                       | ·   |                                       | ·          | <b>⊣</b> `                                     |  |             |
| 11.                                       |   |                                       |            | Woody vine- All woody vines                    | , regardless of neight.                    |             |
| 12.                                       |   | Total Con                             |            | -  |  |             |
|   | . 29  | = Total Cov                           | er         |  |  |             |
| Woody Vine Stratum (Plot size:            |   | 1/00                                  | EAC        |  |  |             |
| Vitus rotundifolia     Ampelopsis arborea | <u>60</u><br>20                                   | yes                                   | FAC<br>FAC | -{   |  |             |
| 3.  |   | yes                                   | FAC        |  |  |             |
| 4.  | ·   |                                       | -          | Hudrophutio                                    |  |             |
| 5.  | · <del></del>                                     |                                       |            | _Hydrophytic<br>Vegetation Present?            | Yes ✓ No                                   |             |
| <u> </u>                                  | 80  | = Total Cov                           |            | - regetation Fresents                          | . 50                                       | <del></del> |
| Remarks: (If observed, list morph         |   |                                       |            |  |  |             |
| , , , ,                                   |   |                                       |            | mmunity  |  |             |
| Percent cover estimates based or          | i incanuenng s                                    | ourvey of the                         | PIOGREI CO | aranusacy.                                     |  |             |

| SOIL                 |                                 |                  |                                |   |  |                   |                               | Sampling Point:   |  |
|----------------------|---------------------------------|------------------|--------------------------------|---|--|-------------------|-------------------------------|---|--|
|                      | escription: (Describe<br>Matrix | to the de        | pth needed to doc              |   | he indicatoi<br>k Features                                 | r or confirm the  | absence of indicato           | rs.)  |  |
| Depth                |                                 | 0/               | Calar (maint)                  |   |  | Loc²              |                               | Remarks   |  |
| (inches)<br>0-6      | Color (moist)<br>10 YR 4/2      | <del>%</del> 100 | Color (moist)                  |   | Type   |                   | Texture                       | dark grayish brown sand                                       |  |
| 0-0                  | 10 11 4/2                       |                  | 10.1/0.0/0.10                  |   |  | <del></del>       |                               | dark grayish brown sand                                       |  |
|                      |                                 |                  | 10 YR 6/2; 10<br>YR 8/1; 10 YR |   |  |                   | splotches and                 |   |  |
| 6-32                 | N 5/0; 10 YR 7/1                | 80               | 5/2                            | 20  | RM   | М                 | pockets                       | gray and light gray sand                                      |  |
| 32-42                | 7.5 YR 5/8                      | 80               | 5 YR 3/4                       | 20  | RM   | M                 | splotches                     | strong brown sand   |  |
| 42-60                | 10 YR 5/2                       | 100              | 3 11( 3/4                      |   | 1714)  |                   | - spiotories                  | grayish brown sand  |  |
| 72-00                | - 10 11( 3/2                    |                  |                                |   |  |                   | _                             | grayish brown saild   |  |
|                      | _                               |                  |                                |   |  | <del></del>       | <del></del>                   |   |  |
|                      |                                 |                  |                                |   |  |                   |                               |   |  |
| Type: C              | Concentration, D=Dep            | etion RM         | A=Reduced Matrix (             | S=Cove                                      | ered or Coat   | ed Sand Grains    | <sup>2</sup> I ocation: PI =I | Pore Lining, M=Matrix.  |  |
|                      | oil Indicators:                 | Chon, ran        | n-reduced Madrix,              | 0010  | or cour  | ca ouna oranio.   | LOGGROTI. T E                 | Indicators for Problematic Hydric Soils 3:                    |  |
| Histol (A1)          |                                 |                  |                                | Poly  | value Below  | Surface (S8) (LF  | RR S. T. U)                   | 1 cm Muck (a9) (LRR O)  |  |
|                      | c Epidon (A2)                   |                  |                                |   |  | ce (S9) (LRR S, 1 |                               | 2 cm Muck (A10) (LRR S)                                       |  |
| _                    | k Histic (A3)                   |                  |                                |   |  | lineral (F1) (LRR |                               | Reduced Vertic (F18) (outside MLRA 150A, B)                   |  |
|                      | ogen Sulfide (A4)               |                  |                                |   | my Gleyed N  | , , ,             |                               | Piedmont Floodplain Soils (F19) (LRR P, S, T)                 |  |
|                      | ified Layers (A5)               |                  |                                |   | leted Matrix   |                   |                               | Anomalous Bright Loamy Soils (F20)                            |  |
| Orga                 | nic Bodies (A6) (LRR F          | P, T, U)         |                                | Red   | lox Dark Sur   | facé (F6)         |                               | (MLRA 153B)   |  |
| 5 cm                 | Mucky Mineral (A7) (L           | RR P.T.U         | 1)                             | Dep   | leted Dark S   | Surface (F7)      |                               | Red Parent Material (TF2)                                     |  |
|                      | k Presence (A8) (LRR            |                  | •                              | Red   | lox Depressi   | ions (F8)         |                               | Very Shallow Dark Surface (TF12) (LRR T, U)                   |  |
|                      | Muck (A9) (LRR P,T)             | -,               |                                |   | I (F10) (LRF   |                   |                               | Other (Explain in Remarks)                                    |  |
|                      | eted Below Dark Surfac          | ·α (Δ11)         |                                | —<br>Den                                    | leted Orchri   | c (F11) (MLRA 1   | 51)                           |   |  |
|                      | k Dark Surface (A12)            | æ (A11)          |                                |   |  | Masses (F12) (L   | •                             |   |  |
|                      | ` ,                             |                  |                                |   | -  |                   | •                             | <sup>3</sup> Indicators of hydrophytic vegetation and wetland |  |
| Coa                  | st Prairie Redox (A16) (        | MLRA 15          | 50A)                           | Umi   | огіс Ѕиласе  | (F13) (LRR P, T,  | U)                            | hydrology must be present, unless disturbed or                |  |
| Sand                 | dy Mucky Mineral (S1) (         | LRR O, S         | 5)                             | Delt  | a Orchric (F   | 17) (MLRA 151)    |                               | problematic.  |  |
| Sand                 | dy Gleyed Matrix (S4)           |                  |                                | Red   | luced Vertic   | (F18) (MLRA 150   | A, 150B)                      |   |  |
| Sand                 | ty Redox (S5)                   |                  |                                | Piedmont Floodplain Soils (F19) (MLRA 149A) |  |                   |                               |   |  |
| Stripped Matrix (S6) |                                 |                  |                                |   | Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |                   |                               |   |  |

Yes <u>✓</u> No

Hydric Soil Present?

\_\_\_\_\_Dark Surface (S7) (LRR P, S, T, U)
Restrictive Layer (If observed):
Type:

Depth (inches):

Remarks:

| Applicant/Owner: Progress Energy Flori      |                                       | City/County: Citrus                        |                               | Sampling Date:       | 10/29/09      |  |
|---|---------------------------------------|--|-------------------------------|----------------------|---------------|--|
|   | da, Inc.                              | State: FL                                  | Sampling Point: AH            |                      |               |  |
| nvestigator(s): Stacy Rizzo, Tony E         | Davanzo                               | Section, Township, Range                   | 28 17S 16E                    |                      |               |  |
| _andform (hillslope, terrace, etc.):        | N/A                                   | Local relief (concave, conv                | vex, none): none              | s                    | lope (%):     |  |
| Subregion (LRR or MLRA): LRF                | RU Lat: 28.9627                       | '73 Long: <u>-82.69</u>                    | 7632                          | D                    | atum: WGS84   |  |
| Soil Map Unit Name: Quartzipsamment         | s, 0 to 5 percent slopes              | NWI classification: N/A                    |                               |                      |               |  |
| Are climatic / hydrologic conditions on the | e site typical for this time of year? | Yes✓                                       | No (If no, explain in Remarks |                      |               |  |
| Are Vegetation, Soil                        | or Hydrology                          | _significantly disturbed?                  | Are circumstance              | es normal? Y         | es/No         |  |
| Are Vegetation, Soil                        | or Hydrology                          | naturally problematic?                     | (If needed, expla             | ain any answers in   | Remarks)      |  |
| SUMMARY OF FINDINGS - Atta                  | ch site map showing sampl             | ling point locations, tr                   | ansects, imp                  | ortant features      | s, etc.       |  |
| Hydrophytic Vegetation Present?             | Yes✓ No                               |  |                               |                      |               |  |
| Hydric Soil Present?                        | Yes No                                | Is the Sampled Area w                      | ithin a Wetland?              | Yes/ N               | 0             |  |
| Wetland Hydrology Present?                  | Yes No                                |  |                               |                      |               |  |
| HANDON OOA                                  |                                       |  |                               |                      |               |  |
| HYDROLOGY Wetland Hydrology Indicators:     |                                       |  | Secondary Indica              | ators (minimum of    | two required) |  |
| Primary Indicators (minimum of one is re-   | guired; check all that apply)         |  | Surface So                    |                      |               |  |
| Surface Water (A1)                          | Water-Stained Leaves                  | (B9)                                       |                               | egetated Concave     | Surface (B8)  |  |
| High Water Table (A2)                       | Aquatic Fauna (B13)                   |  |                               | Patterns (B10)       |               |  |
| ✓ Saturation (A3)                           | Marl Deposits (B15) (L                | .RR U)                                     | Moss Trim                     | Lines (B16)          |               |  |
| Water Marks (B1)                            | Hydrogen Sulfide Odo                  | r (C1)                                     | Dry-Season                    | n Water Table (C2    | )             |  |
| Sediment Deposits (B2)                      | Oxidized Rhizospheres                 | s on Living Roots (C3)                     | Crayfish Bu                   | urrows (C8)          |               |  |
| Drift Deposits (B3)                         | Presence of Reduced                   | Iron (C4)                                  | Saturation                    | Visible on Aerial In | nagery (C9)   |  |
| Algal Mat or Crust (B4)                     | Recent Iron Reduction                 | in Tilled Soils (C6)Geomorphic Position (C |                               |                      |               |  |
| Iron Deposits (B5)                          | Thin Muck Surface (C7                 | 7)Shallow Aquitard (D3)                    |                               |                      |               |  |
| Inundation Visible on Aerial Image          | ery (B7)Other (Explain in Rema        | narks)FAC Neutral Test (D5)                |                               |                      |               |  |
| Field Observations:                         |                                       |  |                               |                      |               |  |
| Surface Water Present?                      | Yes No                                | _ Depth (inches):                          | 1                             |                      |               |  |
| Water Table Present?                        | Yes No                                | _ Depth (inches):                          | 10/14/15/14                   |                      |               |  |
| Saturation Present?                         | Yes No                                | Depth (inches):0-12                        | Wetland<br>Hydrology          |                      |               |  |
| (includes capillary fringe)                 |                                       |  | Present?                      | Yes ✓ N              |               |  |

| VEGETATION - Use scientific nar   | mes of plants |              |           | Sampling Point:                          |                                       |             |  |  |
|-----------------------------------|---------------|--------------|-----------|--|---------------------------------------|-------------|--|--|
|                                   |               |              |           | Dominance Test Worksh                    | eet:                                  |             |  |  |
|                                   | Absolute %    | Dominant     | Indicator |  |                                       |             |  |  |
| Tree Stratum (Plot size:)         | . Cover       | Species?     | Status    |  |                                       |             |  |  |
| 1.                                |               |              |           | Number of Dominant Spec                  | · · · · · · · · · · · · · · · · · · · | (A)         |  |  |
| 2.                                |               |              |           | That Are OBL, FACW, or                   | -AC:                                  | ` '         |  |  |
| 3.                                |               |              |           | Total Number of Dominan                  | t <u>2</u>                            | (B)         |  |  |
| 4.                                |               |              |           | Species Across All Strata:               |                                       |             |  |  |
| 5.<br>6.                          |               |              |           | Percent of Dominant Spec                 |                                       | (A/B)       |  |  |
| 7.                                |               |              |           | That Are OBL, FACW, or                   |                                       |             |  |  |
| 7.                                |               |              |           | Prevalance Index works                   |                                       |             |  |  |
|                                   | 0             | = Total Cove | r         | Total % Cover of:                        | Multiply by                           |             |  |  |
| Sapling Stratum (Plot size:)      |               |              |           | OBL species                              | x1=                                   |             |  |  |
| 1.                                |               |              |           | FACW species                             | x2=                                   |             |  |  |
| 2.                                |               |              |           | FAC species                              | x3=                                   |             |  |  |
| 3.                                |               |              |           | FACU species                             | x4=                                   |             |  |  |
| 4.                                |               |              |           | UPL species                              | x5=                                   |             |  |  |
|                                   |               |              |           |  |                                       | —— (D)      |  |  |
| 5.                                |               |              |           | Column Totals:                           | (A)                                   | (B)         |  |  |
| 6.                                |               |              |           |  |                                       |             |  |  |
| 7.                                |               |              |           | Prevalance Index = B                     |                                       |             |  |  |
|                                   | 0             | = Total Cove | r         | Hydrophytic Vegetation                   | Indicators:                           |             |  |  |
| Shrub Stratum (Plot size:         | )             |              |           | ✓ Dominance Test is                      | 50%                                   |             |  |  |
| 1.                                |               |              |           | Prevalence Index is                      | s ≤3.0 <sup>1</sup>                   |             |  |  |
| 2.                                |               |              |           | Problematic Hydro                        | ohytic Vegetation <sup>1</sup> (E     | xnlain)     |  |  |
| 3.                                |               |              |           | ,  | onjuo rogotation (=                   |             |  |  |
| 4.                                |               |              |           | <sup>1</sup> Indicators of hydric soil a | nd wetland hydrology                  | must        |  |  |
| 5.                                |               |              |           | be present, unless disturb               |                                       |             |  |  |
| 6.                                |               |              |           | Definitions of Vegetation                | Strata:                               |             |  |  |
| 7.                                |               |              |           |  |                                       |             |  |  |
|                                   | 0             | = Total Cove | r         | Tree- Woody plants, exclud               | ing woody vines                       |             |  |  |
| Herb Stratum (Plot size:          |               | rotal core   |           | approximately 20 ft (6m) or              |                                       | n. (7.6     |  |  |
| Cyperus spp.                      | 60            | yes          | FACW      | cm) or larger in diameter at             |                                       | · · · · · · |  |  |
| Hydrocotyle spp.                  | 40            | yes          | OBL       | Sapling- Woody plants, exc               | sluding woody vines                   |             |  |  |
| Diodia virginiana                 | 5             | no           | FACW      | approximately 20 ft (6m) or              |                                       | s than 3    |  |  |
| Chamaesyce serpens                | 5             | no           | FAC       | in. (7.6 cm) DBH.                        | , , ,                                 |             |  |  |
| 5. Desmodium spp.                 | 5             | no           | FACU      | Shrub- Woody plants, exclu               | uding woody vines,                    |             |  |  |
| 6. Galium spp.                    | 2             | no           | FACU      | approximately 3 to 20 ft (1 to           |                                       |             |  |  |
| 7.                                |               |              |           | Herb- All herbaceous (non-               | woody)plants, includir                | ıg          |  |  |
| 8.                                |               |              |           | herbaceous vines, regardle               |                                       |             |  |  |
| 9.                                |               |              |           | plants, except woody vines,              | less than approximate                 | ely 3 ft (1 |  |  |
| 10.                               |               |              |           | m) in height.                            |                                       |             |  |  |
| 11.                               |               |              |           | Woody vine- All woody vine               | es, regardless of heigl               | nt.         |  |  |
| 12.                               |               |              |           |  |                                       |             |  |  |
|                                   | 117           | = Total Cove | r         |  |                                       |             |  |  |
| Woody Vine Stratum (Plot size:    | )             |              |           |  |                                       |             |  |  |
| 1.<br>2.                          |               |              |           | 1  |                                       |             |  |  |
| 3.                                | - 1           |              |           | <b>†</b>                                 |                                       |             |  |  |
| 4.                                | ·             |              |           | Hydrophytic                              |                                       |             |  |  |
| 5.                                | 77            |              |           | Hydrophytic Vegetation Present?          | Yes ✓ No                              |             |  |  |
|                                   |               | = Total Carr |           |  | .00110_                               |             |  |  |
| Remarks: (If observed, list morph | 0             | = Total Cove | 1         | 1  |                                       |             |  |  |

Percent cover estimates based on meandering survey of the broader community.

| thes) Color (n 10 YR 4/2  2 N 5/0; 10 Y 42 7.5 YR 5/8 60 10 YR 5/2  pe: C=Concentration dric Soil Indicators: Histol (A1) Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A Stratified Layers (A Organic Bodies (A6 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (Li Depleted Below Da Thick Dark Surface Coast Prairie Redo Sandy Mucky Miner  | Matrix (moist) 9 2 1  2 7 7/1  /8 2 1  ion, D=Depletion rs: 2) 2 (A4) (A5)   | Color (mc 10 YR 6/2; YR 8/1; 10 5/2 5 YR 3/4      | Reddoist)                  | RM RM vered or Coated | M M                | splotches and pockets splotches | Remarks  dark grayish brown sand  gray and light gray sand  strong brown sand  grayish brown sand |  |
|--|--|---|----------------------------|-----------------------|--------------------|---------------------------------|---|--|
| hes) Color (n 10 YR 4/2  2 N 5/0; 10 Y 42 7.5 YR 5/8 60 10 YR 5/2  pe: C=Concentration dric Soil Indicators: Histol (A1) Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A) Stratified Layers (A Organic Bodies (A6) 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (Li Depleted Below Da Thick Dark Surface Coast Prairie Redo Sandy Mucky Miner | (moist) 9 2 1  2 1  3 YR 7/1  78  2 1  5 on, D=Depletion  75: 2) 2 (A4) (A5) | 10 YR 6/2;<br>YR 8/1; 10 5/2<br>80 5/2 5 YR 3/4   | 10                         | RM RM vered or Coated | M<br>              | splotches and pockets splotches | dark grayish brown sand  gray and light gray sand  strong brown sand  grayish brown sand          |  |
| 2 N 5/0; 10 YR 4/2  2 N 5/0; 10 Y  42 7.5 YR 5/8  60 10 YR 5/2  pe: C=Concentration dric Soil Indicators: Histol (A1) Histic Epidon (A2) Black Histic (A2) Hydrogen Sulfide (A Organic Bodies (A6  5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (Li Depleted Below Da Thick Dark Surface Coast Prairie Redo Sandy Mucky Miner                          | 2 1<br>9 YR 7/1<br>/8 2 1<br>ion, D=Depletion<br>rs:<br>2)                   | 10 YR 6/2;<br>YR 8/1; 10 5/2<br>80 5/2 5 YR 3/4   | 10 YR 20 20 atrix, CS=Cov  | RM RM vered or Coated | M<br>              | splotches and pockets splotches | dark grayish brown sand  gray and light gray sand  strong brown sand  grayish brown sand          |  |
| 2 N 5/0; 10 Y 42 7.5 YR 5/8 60 10 YR 5/2  pe: C=Concentration dric Soil Indicators: Histol (A1) Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A Stratified Layers (A Organic Bodies (A6 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (L1 Depleted Below Da Thick Dark Surface Coast Prairie Redo Sandy Mucky Miner                            | ion, D=Depletion rs:   | 10 YR 6/2;<br>YR 8/1; 10<br>80 5/2<br>80 5 YR 3/4 | 20 20 20 atrix, CS=CovPoTh | RM vered or Coated    | M                  | pockets<br>splotches            | gray and light gray sand<br>strong brown sand<br>grayish brown sand                               |  |
| pe: C=Concentration dric Soil Indicators: _Histol (A1) _Histic Epidon (A2) _Black Histic (A3) _Hydrogen Sulfide (/ _Stratified Layers (A _Organic Bodies (A6 _5 cm Mucky Minera _Muck Presence (Ai _1 cm Muck (A9) (Li _Depleted Below Da _Thick Dark Surface _Coast Prairie Redo _Sandy Mucky Miner   | /8<br>2<br>1<br>ion, D=Depletion<br>rs:<br>2)<br>e (A4)<br>(A5)              | YR 8/1; 10<br>5/2<br>80<br>5 YR 3/4               | 20 20 20 atrix, CS=CovPoTh | RM vered or Coated    | M                  | pockets<br>splotches            | strong brown sand<br>grayish brown sand   |  |
| pe: C=Concentration dric Soil Indicators: _Histol (A1) _Histic Epidon (A2) _Black Histic (A3) _Hydrogen Sulfide (/ _Stratified Layers (A _Organic Bodies (A6 _5 cm Mucky Minera _Muck Presence (Ai _1 cm Muck (A9) (LI _Depleted Below Da _Thick Dark Surface _Coast Prairie Redo _Sandy Mucky Miner   | /8<br>2<br>1<br>ion, D=Depletion<br>rs:<br>2)<br>e (A4)<br>(A5)              | 80 5/2<br>80 5 YR 3/4                             | 20<br>20<br>latrix, CS=Cov | RM vered or Coated    | M                  | pockets<br>splotches            | strong brown sand<br>grayish brown sand   |  |
| pe: C=Concentration dric Soil Indicators: _Histol (A1) _Histic Epidon (A2) _Black Histic (A3) _Hydrogen Sulfide (/ _Stratified Layers (A _Organic Bodies (A6 _5 cm Mucky Minera _Muck Presence (Ai _1 cm Muck (A9) (LI _Depleted Below Da _Thick Dark Surface _Coast Prairie Redo _Sandy Mucky Miner   | /8<br>2<br>1<br>ion, D=Depletion<br>rs:<br>2)<br>e (A4)<br>(A5)              | 80 5 YR 3/4                                       | 20<br>                     | RM vered or Coated    | M                  | splotches                       | strong brown sand<br>grayish brown sand   |  |
| pe: C=Concentration dric Soil Indicators: Histol (A1) Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A Organic Bodies (A6 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (Li Depleted Below Da Thick Dark Surface Coast Prairie Redo   | 2 1 ion, D=Depletion rs: 2) e (A4) (A5)                                      | 100   | latrix, CS=Cov             | vered or Coated       |                    |                                 | grayish brown sand  |  |
| pe: C=Concentration fric Soil Indicators: Histol (A1) Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A Stratified Layers (A Organic Bodies (A6 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (LI Depleted Below Da Thick Dark Surface Coast Prairie Redo  | ion, D=Depletion<br>rs:<br>2)<br>e (A4)<br>(A5)                              |   | Po<br>Thi                  | lyvalue Below S       | 1 Sand Grains.     | <sup>2</sup> Location: PL=P     |   |  |
| ric Soil Indicators: Histol (A1) Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A) Stratified Layers (A Organic Bodies (A6) 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (Li Depleted Below Da Thick Dark Surface Coast Prairie Redo   | rs:<br>2)<br>e (A4)<br>(A5)  | , RM=Reduced M                                    | Po<br>Thi                  | lyvalue Below S       | Sand Grains.       | <sup>2</sup> Location: PL=P     |   |  |
| ric Soil Indicators: Histol (A1) Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A) Stratified Layers (A Organic Bodies (A6) 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (Li Depleted Below Da Thick Dark Surface Coast Prairie Redo   | rs:<br>2)<br>e (A4)<br>(A5)  | , RM=Reduced M                                    | Po<br>Thi                  | lyvalue Below S       | Sand Grains.       | <sup>2</sup> Location: PL=P     |   |  |
| Histol (A1) Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A Stratified Layers (A Organic Bodies (A6 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (LI Depleted Below Da Thick Dark Surface Coast Prairie Redo  | 2)<br>e (A4)<br>(A5)   |   | Th                         | •                     |                    |                                 | ore Lining, M=Matrix.   |  |
| Histic Epidon (A2) Black Histic (A3) Hydrogen Sulfide (A) Stratified Layers (A) Organic Bodies (A6) 5 cm Mucky Minera Muck Presence (A1) 1 cm Muck (A9) (L1) Depleted Below Da Thick Dark Surface Coast Prairie Redo   | (A4)<br>(A5)   |   | Th                         | •                     |                    |                                 | Indicators for Problematic Hydric Soils 3:  |  |
| Black Histic (A3) Hydrogen Sulfide (A Stratified Layers (A Organic Bodies (A6 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (L1 Depleted Below Da Thick Dark Surface Coast Prairie Redo Sandy Mucky Miner   | (A4)<br>(A5)   |   |                            | in Dock Curtons       | Surface (S8) (LRI  |                                 | 1 cm Muck (a9) (LRR O)  |  |
| Hydrogen Sulfide (/<br>Stratified Layers (A<br>Organic Bodies (A6<br>5 cm Mucky Minera<br>Muck Presence (Ai<br>1 cm Muck (A9) (L1<br>Depleted Below Da<br>Thick Dark Surface<br>Coast Prairie Redo<br>Sandy Mucky Miner  | e (A4)<br>(A5)   |   | Lo                         |                       | (S9) (LRR S, T,    | •                               | 2 cm Muck (A10) (LRR S)   |  |
| Stratified Layers (A Organic Bodies (A6 5 cm Mucky Minera Muck Presence (Ai 1 cm Muck (A9) (Li Depleted Below Da Thick Dark Surface Coast Prairie Redo Sandy Mucky Miner   | (A5)   |   |                            | amy Mucky Min         | eral (F1) (LRR C   | )                               | Reduced Vertic (F18) (outside MLRA 150A,  |  |
| Organic Bodies (A6<br>5 cm Mucky Minera<br>Muck Presence (Ai<br>1 cm Muck (A9) (Li<br>Depleted Below Da<br>Thick Dark Surface<br>Coast Prairie Redo<br>Sandy Mucky Miner   | ` '  |   |                            | amy Gleyed Ma         |                    |                                 | Piedmont Floodplain Soils (F19) (LRR P, S, T  |  |
| _5 cm Mucky Minera<br>_Muck Presence (Ai<br>_1 cm Muck (A9) (LI<br>_Depleted Below Da<br>_Thick Dark Surface<br>_Coast Prairie Redo<br>_Sandy Mucky Miner  | A6) (LRR P, T, I   |   |                            | pleted Matrix (F      |                    |                                 | Anomalous Bright Loamy Soils (F20)  |  |
| Muck Presence (Ai _1 cm Muck (A9) (Li _Depleted Below Da _Thick Dark Surface _Coast Prairie Redo _Sandy Mucky Miner  |  | J)  | Re                         | dox Dark Surfa        | ce (F6)            |                                 | (MLRA 153B)   |  |
| 1 cm Muck (A9) (LI<br>Depleted Below Da<br>Thick Dark Surface<br>Coast Prairie Redo<br>Sandy Mucky Miner   | eral (A7) (LRR P   | ,T,U)   | De                         | pleted Dark Su        | rface (F7)         |                                 | Red Parent Material (TF2)   |  |
| Depleted Below Da<br>Thick Dark Surface<br>Coast Prairie Redo<br>Sandy Mucky Minel   | Muck Presence (A8) (LRR U)   |   |                            | dox Depression        | ns (F8)            |                                 | Very Shallow Dark Surface (TF12) (LRR T, U  |  |
| _Thick Dark Surface<br>_Coast Prairie Redo<br>_Sandy Mucky Miner   | 1 cm Muck (A9) (LRR P,T)   |   | Ma                         | arl (F10) (LRR L      | J)                 |                                 | Other (Explain in Remarks)  |  |
| -<br>_Coast Prairie Redo<br>_Sandy Mucky Minei   | Dark Surface (A1   | 11)   | De                         | pleted Orchric        | (F11) (MLRA 15     | 1)                              |   |  |
| -<br>_Sandy Mucky Minei  | ce (A12)   |   | lro                        | n-Manganese N         | Masses (F12) (LF   | RR O, P,T)                      | <sup>3</sup> Indicators of hydrophytic vegetation and wetland                                     |  |
|  | dox (A16) (MLR/  | A 150A)   | Un                         | nbric Surface (F      | 13) (LRR P, T, l   | J)                              | hydrology must be present, unless disturbed or  |  |
|  | neral (S1) (LRR  | O, S)   | De                         | elta Orchric (F17     | 7) (MLRA 151)      |                                 | problematic.  |  |
| Sandy Gleyed Matr  | atrix (S4)   |   | Re                         | duced Vertic (F       | 18) (MLRA 150A     | A, 150B)                        |   |  |
| Sandy Redox (\$5)  | , ,  |   | Pie                        | edmont Floodpla       | ain Soils (F19) (N | ILRA 149A)                      |   |  |
| Stripped Matrix (S6  | Ś6)  |   | An                         | omalous Bright        | Loamy Soils (F2    | 0) (MLRA 149A, 15               | 3C, 153D)   |  |
| Dark Surface (S7)  | 7) (LRR P, S, T,   | U)  |                            |                       |                    |                                 |   |  |
| strictive Layer (If ol   | observed):   |   |                            |                       |                    |                                 |   |  |
| Type:<br>Depth (inche  | haa):  | · · · · · · · · · · · · · · · · · · ·             |                            |                       |                    | Hydric Soil Pres                | ent? Yes ✓ No .   |  |
| marks:   | 103).  |   |                            |                       |                    | Invario Son Fres                | ent: 163 7 140 .  |  |

| Project/Site: Levy Nuclear Plant - Transmission    | Lines, CREC Substation            | _City/County:Citrus                                   |                       | _Sampling Date:_     | 10/29/09     |
|--|-----------------------------------|---|-----------------------|----------------------|--------------|
| Applicant/Owner: Progress Energy Florida, Inc      | 2.                                | State: FL   |                       | Sampling Point:      | Al           |
| Investigator(s): Stacy Rizzo, Tony Davanz          |                                   |   |                       |                      |              |
| Landform (hillslope, terrace, etc.): N             | /A                                | Local relief (concave, convex, none): none Slope (%): |                       |                      |              |
| Subregion (LRR or MLRA): LRR U                     | Lat: 28.9624                      | 90 Long:82.6  | 95989                 | Da                   | itum: WGS84  |
| Soil Map Unit Name: Quartzipsamments, 0 to         |                                   |   |                       |                      |              |
| Are climatic / hydrologic conditions on the site t | ypical for this time of year?     | Yes   | _ No                  | _ (If no, explain in | Remarks)     |
| Are Vegetation, Soil,                              | or Hydrology                      |   |                       |                      | esNo         |
| Are Vegetation, Soil,                              |                                   |   |                       | n any answers in F   | Remarks)     |
| SUMMARY OF FINDINGS - Attach si                    | te map showing sampl              | ing point locations, t                                | ransects, impo        | rtant features       | , etc.       |
| Hydrophytic Vegetation Present?                    | Yes No                            |   | •                     |                      |              |
| Hydric Soil Present?                               | Yes/No                            | Is the Sampled Area w                                 | vithin a Wetland?     | Yes✓No               | ·            |
| Wetland Hydrology Present?                         | YesNo                             |   |                       |                      |              |
| Remarks:   |                                   | •   |                       |                      |              |
|  |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
| •  |                                   |   |                       |                      |              |
| L  |                                   |   |                       |                      |              |
| HYDROLOGY  |                                   |   |                       |                      |              |
| Wetland Hydrology Indicators:                      |                                   |   | Secondary Indica      | tors (minimum of t   | wo required) |
| Primary Indicators (minimum of one is required     | check all that apply)             |   | Cracks (B6)           |                      |              |
| ✓ Surface Water (A1)                               | Water-Stained Leaves              | (B9)  | Sparsely Ve           | egetated Concave     | Surface (B8) |
| High Water Table (A2)                              | Aquatic Fauna (B13)               |   | Drainage Pa           | atterns (B10)        |              |
| ✓ Saturation (A3)                                  | Marl Deposits (B15) (L            | RR U)   | Moss Trim L           | ines (B16)           |              |
| Water Marks (B1)                                   | Hydrogen Sulfide Odor             | (C1)  | Dry-Season            | Water Table (C2)     |              |
| Sediment Deposits (B2)                             | Oxidized Rhizospheres             | s on Living Roots (C3)                                | rrows (C8)            |                      |              |
| Drift Deposits (B3)                                | Presence of Reduced I             | Iron (C4)Saturation Visible on Aerial Imagery         |                       |                      | agery (C9)   |
| Algal Mat or Crust (B4)                            | Recent Iron Reduction             | in Tilled Soils (C6)Geomorphic Position               |                       |                      |              |
| Iron Deposits (B5)                                 | Thin Muck Surface (C7             | 7)Shallow Aquitard (D3)                               |                       |                      |              |
| ✓ Inundation Visible on Aerial Imagery (B7         | )Other (Explain in Rema           | arks)   | FAC Neutra            | l Test (D5)          |              |
| Field Observations:                                | <i>,</i>                          | ·   | <u> </u>              |                      |              |
| Surface Water Present?                             | Yes No                            | Depth (inches): 2                                     | _                     |                      |              |
| Water Table Present?                               | Yes No                            |   | ]                     |                      |              |
| Saturation Present?                                | Yes✓ No                           |   | Wetland               |                      |              |
| (includes capillary fringe)                        |                                   |   | Hydrology<br>Present? | Yes ✓ No             | <b>)</b>     |
| Describe Recorded Data (stream gauge, monit        | oring well, aerial photos, previo | ous inspections), if available                        |                       |                      |              |
|  |                                   |   |                       |                      |              |
| Pomorko:   |                                   |   |                       |                      |              |
| Remarks:   |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
| 1  |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
|  |                                   |   |                       |                      |              |
| 1  |                                   |   |                       |                      |              |

| VEGETATION - Use scientific nar | nes of plants |             |                     |  | pling Point:                            | Al          |
|---------------------------------|---------------|-------------|---------------------|--|---|-------------|
| T. O. J. (D. J.)                | Absolute %    | Dominant    | Indicator           | Dominance Test Worksheet:  |   |             |
| Tree Stratum (Plot size:)       | Cover         | Species?    | Status              | Number of Dominant Species                                       |   |             |
| <u>1.</u><br>2.                 |               |             |                     | That Are OBL, FACW, or FAC:                                      | <u>2</u>                                | (A)         |
| 3.                              |               |             |                     | Total Number of Dominant   | •                                       | <b>(D)</b>  |
| 4.                              |               |             |                     | Species Across All Strata:                                       | <u>2</u>                                | (B)         |
| 5.                              |               |             |                     | Percent of Dominant Species                                      | 100.00                                  | (A/B)       |
| 6.                              |               |             |                     | That Are OBL, FACW, or FAC:                                      | 100.00                                  | (, 00)      |
| 7.                              |               |             |                     | Prevalance Index worksheet:                                      |   |             |
|                                 | 0             | = Total Cov | er                  | Total % Cover of:  | Multiply by:                            |             |
| Sapling Stratum (Plot size:)    |               |             |                     | OBL species  | x1=                                     | _           |
| 1.                              |               |             |                     | FACW species   | x2=                                     |             |
| 2.                              |               |             |                     | FAC species  | x3=                                     | _           |
| 3.                              |               |             |                     | FACU species   | x4=                                     | _           |
| 4.                              |               |             |                     | UPL species  | x5=                                     |             |
| 5.                              |               |             |                     | Column Totals:   | (A)                                     | –<br>(B)    |
| 6.                              |               |             |                     |  | _                                       | _(_,        |
| 7.                              | -             |             |                     | Prevalance Index = B/A =   |   |             |
| 7.                              |               | = Total Cov | . <del></del>       | Hydrophytic Vegetation Indic                                     | atore:                                  |             |
| Chrub Ctratum (Diat aire)       | ,             | - Total Cov | <b>5</b> 1          | 1 ' ' '  | ators.                                  |             |
| Shrub Stratum (Plot size:       | ?             |             |                     |  | _1                                      |             |
| 1.                              | . <del></del> |             |                     | Prevalence Index is ≤3.0   |   |             |
| 2.                              |               |             |                     | Problematic Hydrophytic  | : Vegetation' (Exp                      | olain)      |
| 3.<br>4.                        | ·             | -           |                     | Indicators of hydric soil and we                                 | stland hydrology n                      | ouet        |
| 5.                              |               |             |                     | be present, unless disturbed or                                  |   | iiuSt       |
| 6.                              |               |             | · <del></del>       | Definitions of Vegetation Stra                                   | ·                                       |             |
| 7.                              | · ———         |             | -                   |  |   |             |
|                                 | 0             | = Total Cov | . <del></del><br>er | Tree- Woody plants, excluding w                                  | oody vines                              |             |
| Herb Stratum (Plot size:        | _             | rotar oov   | o,                  | approximately 20 ft (6m) or more                                 |   | (7.6        |
| Ludwigia peruviana              | .)<br>50      | yes         | OBL                 | cm) or larger in diameter at breas                               | _                                       | `           |
| Cyperus spp.                    | 20            | yes         | FACW                | Sapling- Woody plants, excludin                                  | a woodv vines.                          |             |
| Ludwigia leptocarpa             | 10            | no          | OBL                 | approximately 20 ft (6m) or more                                 |   | than 3      |
| 4. Setaria spp.                 | 10            | no          | FAC                 | in. (7.6 cm) DBH.  |   |             |
| 5. Aster subulatus              | 5             | no          | OBL                 | Shrub- Woody plants, excluding                                   |   |             |
| 6. Diodia spp.                  | 2             | no          | FAC                 | approximately 3 to 20 ft (1 to 6 m                               | =                                       |             |
| 7.                              |               |             |                     | Herb- All herbaceous (non-wood                                   | • |             |
| 8.<br>9.                        |               |             |                     | herbaceous vines, regardless of plants, except woody vines, less |   | •           |
| 10.                             | · —           |             |                     | m) in height.  | aran approximator                       | 0 ( .       |
| 11.                             | ·             |             |                     | Woody vine- All woody vines, re                                  | gardless of height.                     |             |
| 12.                             |               |             |                     |  | gg                                      |             |
|                                 | 97            | = Total Cov | er                  | 1  |   |             |
| Woody Vine Stratum (Plot size:  |               | . 5.61 504  | <del>-</del> -      |  |   |             |
| 1.                              |               |             |                     |  |   |             |
| 2.                              |               |             |                     |  |   |             |
| 3.                              |               |             |                     |  |   |             |
| 4.                              |               |             |                     | Hydrophytic  |   |             |
| 5.                              |               |             |                     | Vegetation Present? Yes  | sNo                                     | <del></del> |
|                                 | n             | = Total Cov | er                  |  |   |             |

Adapted from U.S. Army Corps of Engineers Atlantic and Gulf Coastal Plain Region- Interim Version

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

| County/soil: Citrus- Quartzipsamments |                 |
|---------------------------------------|-----------------|
| SOIL                                  | Sampling Point: |

| JOIL       |  |           |                     |            |                  |                   |                      | Outripling Folia:   |
|------------|--|-----------|---------------------|------------|------------------|-------------------|----------------------|---|
| Profile De | scription: (Describe t                           | o the de  | pth needed to doc   | ument t    | he indicator o   | r confirm the ab  | sence of indicators. | .)  |
| Depth      | Matrix   |           |                     | Redox      | k Features       | *                 |                      |   |
| (inches)   | Color (moist)                                    | %         | Color (moist)       | %          | Type1            | Loc²              | Texture              | Remarks   |
| 0-6        | 10 YR 4/2  | 100       |                     |            |                  |                   |                      | dark grayish brown sand                                       |
|            |  |           | 10 YR 6/2; 10       |            |                  | •                 |                      |   |
|            |  |           | YR 8/1; 10 YR       |            |                  |                   | splotches and        |   |
| 6-32       | N 5/0; 10 YR 7/1                                 | 80        | 5/2                 | 20         | RM               | M                 | pockets              | gray and light gray sand                                      |
| 32-42      | 7.5 YR 5/8                                       | 80        | 5 YR 3/4            | 20         | RM               | - <u>M</u>        | splotches            | strong brown sand   |
| 42-60      | 10 YR 5/2  | 100       | 3 11( 0/4           |            | 1300             |                   | - Spiotories         | grayish brown sand  |
| 42-00      | 10 11372   | -100      |                     |            |                  | <del></del>       |                      | grayish brown sand  |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            | Concentration, D=Deple                           | etion, RM | I=Reduced Matrix, ( | CS=Cove    | ered or Coated   | Sand Grains.      | *Location: PL=Por    | e Lining, M=Matrix.   |
|            | il Indicators:                                   |           |                     |            |                  |                   |                      | Indicators for Problematic Hydric Soils 3:                    |
| Histo      | (A1)   |           |                     | Poly       | walue Below Sເ   | ırface (S8) (LRF  | ₹ S, T, U)           | 1 cm Muck (a9) (LRR O)  |
| Histic     | Epidon (A2)                                      |           |                     | Thir       | Dark Surface     | (S9) (LRR S, T,   | U)                   | 2 cm Muck (A10) (LRR S)                                       |
| Black      | Histic (A3)                                      |           |                     | Loa        | my Mucky Mine    | ral (F1) (LRR O   | )                    | Reduced Vertic (F18) (outside MLRA 150A, B)                   |
| Hydro      | gen Sulfide (A4)                                 |           |                     | Loa        | my Gleyed Mat    | rix (F2)          |                      | Piedmont Floodplain Soils (F19) (LRR P, S, T)                 |
|            | fied Layers (A5)                                 |           |                     |            | leted Matrix (F3 |                   |                      | Anomalous Bright Loamy Soils (F20)                            |
| Orga       | nic Bodies (À6) (LRR P                           | , T, U)   |                     | Red        | lox Dark Surfac  | é (F6)            |                      | (MLRA 153B)   |
|            | Mucky Mineral (A7) (LF                           | -         | ١                   |            | leted Dark Surf  |                   |                      | Red Parent Material (TF2)                                     |
|            |  |           | ,                   |            | lox Depressions  |                   |                      | Very Shallow Dark Surface (TF12) (LRR T, U)                   |
| 1          | Presence (A8) (LRR L                             | ")        |                     |            | •                |                   |                      |   |
| 1 cm       | Muck (A9) (LRR P,T)                              |           |                     |            | I (F10) (LRR U   |                   |                      | Other (Explain in Remarks)                                    |
| 1—         | ted Below Dark Surfac                            | e (A11)   |                     |            | •                | 11) (MLRA 151     | •                    |   |
| Thick      | Dark Surface (A12)                               |           |                     |            | -                | asses (F12) (LR   | · · · ·              | <sup>3</sup> Indicators of hydrophytic vegetation and wetland |
| Coas       | t Prairie Redox (A16) (I                         | VILRA 15  | 0A)                 | Uml        | bric Surface (F  | 13) (LRR P, T, U  | ))                   | hydrology must be present, unless disturbed or                |
| Sand       | y Mucky Mineral (S1) (L                          | RR O, S   | )                   | Delt       | a Orchric (F17)  | (MLRA 151)        |                      | problematic.  |
| Sand       | y Gleyed Matrix (S4)                             |           | •                   | Red        | luced Vertic (F1 | 8) (MLRA 150A     | . 150B)              |   |
|            | Redox (S5)                                       |           |                     | ——<br>Pied | lmont Floodplai  | in Soils (F19) (M | LRA 149A)            |   |
|            | ed Matrix (S6)                                   |           |                     |            |                  |                   | ) (MLRA 149A, 1530   | C. 153D)  |
| I          | ` '  |           |                     |            | · ·              | , ,               | , ,                  | •   |
|            | Surface (S7) (LRR P, S<br>e Layer (If observed): |           |                     |            |                  |                   | 1                    |   |
| Restrictiv | Type:  |           |                     |            |                  |                   |                      |   |
|            | Depth (inches):                                  |           |                     |            |                  |                   | Hydric Soil Prese    | nt? Yes ✓ No .  |
| Damada     | Deptil (iliches).                                |           |                     |            |                  |                   | Invaric 2011 Flese   | itt fes   |
| Remarks:   |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
| i          |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
| I          |  |           |                     |            |                  |                   |                      |   |
| ı          |  |           |                     |            |                  |                   |                      |   |
| I          |  |           |                     |            |                  |                   |                      |   |
| 1          |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
| 1          |  |           |                     |            |                  |                   |                      |   |
| 1          |  |           |                     |            |                  |                   |                      |   |
| 1          |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
|            |  |           |                     |            |                  |                   |                      |   |
| 1          |  |           |                     |            |                  |                   |                      |   |

Assessment Area: Crystal River Energy Complex Substation Expansion

# 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.

| SE | CTION | ŀ | RA | CKGROUND | INFORMATION | Ī |
|----|-------|---|----|----------|-------------|---|
|    |       |   |    |          |             |   |

- A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):
- B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

| $\sim$ | PDO IFCT I | OCATION | AND BACKCROUND | INFORMATION |
|--------|------------|---------|----------------|-------------|

State: Florida County/parish/borough: Citrus City: Crystal River
Center coordinates of site (lat/long in degree decimal format): Lat. 28.962214° N. Long. -82.698695° W.

Universal Transverse Mercator:

Name of nearest waterbody: Crystal Bay

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Crystal Bay

Name of watershed or Hydrologic Unit Code (HUC): Direct Runoff to Gulf/03100207

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: November 30, 2009

Field Determination. Date(s): October 28-29, 2009

#### 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. [/ | Reauired1            |                  |                    |                        |                   |                      |

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 and are not "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.

| Я. | Indicate presence of | f waters of U.S. | in review area | (check all that apply | v): ˈ |
|----|----------------------|------------------|----------------|-----------------------|-------|

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs (Wetland AF)

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: 230 linear feet: 10 width (ft) and/or 0.14 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):<sup>3</sup>

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: Wetlands AC, AD, AE, AG, AH, and AI are isolated wetlands that are not hydrologically connected to TNWs or RPWs that flow into TNWs, and are therefore not jurisdictional.

<sup>&</sup>lt;sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>&</sup>lt;sup>2</sup> 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).

Supporting documentation is presented in Section III.F.

Assessment Area: Crystal River Energy Complex Substation Expansion

### SECTION III: CWA ANALYSIS

#### 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.

**TNW** 

Identify TNW:

Summarize rationale supporting determination:

Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

#### 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-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 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: 31,476 acres Drainage area: 31,476 acres Average annual rainfall: 52 inches Average annual snowfall: 0 inches

| 'ny | sical Characteristics:   |
|-----|--|
| a)  | Relationship with TNW:   |
| •   | Tributary flows directly into TNW.                               |
|     | Tributary flows through 2 tributaries before entering TNW.       |
|     | Decided waters and 1/2 1200 circum miles from TNW                |
|     | Project waters are 1 (or less) river miles from TNW.             |
|     | Project waters are 1 (or less) river miles from RPW.             |
|     | Project waters are 1 (or less) aerial (straight) miles from TNW. |
|     | Project waters are 1 (or less) aerial (straight) miles from RPW. |
|     | Project waters cross or serve as state boundaries. Explain: N/A. |

A Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

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|     | is a TNW (portion of Crystal Bay).  Tributary stream order, if known:  |
|-----|--|
|     | General Tributary Characteristics (check all that apply):  Tributary is: Natural  Artificial (man-made). Explain: Wetland AF is a man-made ditch that drains the switchyard lots during high rain events.  Manipulated (man-altered). Explain:   |
|     | Tributary properties with respect to top of bank (estimate):  Average width: 10 feet  Average depth: 3 feet  Average side slopes: Vertical (1:1 or less).  Primary tributary substrate composition (check all that apply):  Silts Sands Concrete  Cobbles Gravel Muck  Bedrock Vegetation. Type/% cover: Herbaceous/90%  Other. Explain:   |
|     | Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: Stable - no erosion evident. Presence of run/riffle/pool complexes. Explain: N/A. Tributary geometry: Relatively straight Tributary gradient (approximate average slope): 2 %  |
| (c) | Flow: Tributary provides for: Intermiftent but not seasonal flow Estimate average number of flow events in review area/year: 11-20 Describe flow regime: Intermittent based on high rain events. Other information on duration and volume: Surface flow is: Confined. Characteristics: Surface flow is contained within the banks of the ditch.  |
|     | Subsurface flow: Unknown. Explain findings:  Dye (or other) test performed:  |
| ·   | Tributary has (check all that apply):    Bed and banks   |
|     | If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):  High Tide Line indicated by:  oil or scum line along shore objects  fine shell or debris deposits (foreshore)  physical markings/characteristics  tidal gauges  other (list):  Mean High Water Mark indicated by:  survey to available datum;  physical markings;  vegetation lines/changes in vegetation types. |

Identify flow route to TNW<sup>5</sup>: Wetland AF is a ditch with intermittent flow that is hydrologically connected by a culvert to a second perennial ditch to the south. The perennial ditch flows directly into the discharge canal, which

<sup>&</sup>lt;sup>5</sup> 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.

<sup>6</sup>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.

<sup>7</sup>Ibid.

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|    | (iii) | Chemical Characteristics: Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc. Explain: Unknown.   | ). |
|----|-------|---|----|
|    |       | 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. | Cha   | aracteristics 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  | i) 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. | Cha   | aracteristics 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.

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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: Due to the distance from the Withlacoochee River and because the tributaries are intermittent, it is not expected that the tributaries or the wetlands that abut the tributaries within the review area have a significant effect on the chemical, physical, or biological integrity of the Withlacoochee River.
- 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 | y and provide size estimates in review area: |  |
|----|----------|---------------------|----------------------|--|--|
|    | TNWs:    | linear feet         | width (ft), Or,      | acres.                                       |  |
|    | Wetland  | s 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: At the time of the site visit, there was no standing or flowing water in Wetland AF, but there was hydrophytic vegetation present, indicating that the ditch receives water at least seasonally/intermittently so that it is able to support wetland vegetation.

Assessment Area: Crystal River Energy Complex Substation Expansion Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: 230 linear feet 10 width (ft). Other non-wetland waters: acres. Identify type(s) of waters: Non-RPWs<sup>8</sup> 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: Identify type(s) of waters: 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. 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. 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: 3.68 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:

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<sup>&</sup>lt;sup>8</sup>See Footnote # 3.

<sup>&</sup>lt;sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>&</sup>lt;sup>10</sup> 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.

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: 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): linear feet width (ft). Non-wetland waters (i.e., rivers, streams): 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: 5.2 acres (Wetlands AC, AD, AE, AG, AH, and AI). **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 2006; www.fgdl.org. 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: USFWS, HRC 2008; www.fgdl.org. State/Local wetland inventory map(s): FEMA/FIRM maps: 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929) Photographs: Aerial (Name & Date): AerialExpress 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):

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B. ADDITIONAL COMMENTS TO SUPPORT JD:

# PART I – Qualitative Description (See Section 62-345.400, F.A.C.)

| Site/Project Name   |                         | Application Number |   |            | Assessment Area Name or Number          |                              |  |  |
|---|-------------------------|--------------------|---|------------|---|------------------------------|--|--|
| Progress Energy Florida, Inc./Levy<br>Transmission Lines/Crystal River I<br>Substation Expansio   | Energy Complex          |                    | ,   |            | FLUCFCS 511 - Wetland AF                |                              |  |  |
| FLUCCs code   | Further classificat     | ion (optional)     |   | Impact     | Impact or Mitigation Site? Assessment A |                              |  |  |
| 511 - Ditches   |                         |                    | Impact  |            |   | 0.14 acres                   |  |  |
| Basin/Watershed Name/Number Affe  | ected Waterbody (Class  | ;)                 | Special Classification  | ON (i.e.OF | W, AP, other local/state/federa         | I designation of importance) |  |  |
| Direct Runoff to Gulf/03100207  |                         |                    |   |            | None                                    |                              |  |  |
| Geographic relationship to and hydrolo  | ogic connection with v  | wetlands, other si | urface water, upla  | nds        |   |                              |  |  |
| Located within the Crystal River Energy Complex property, west of the existing substation. Hydrologically connected to ditch to the south by a culvert, which flows to the discharge canal and ultimately the Gulf of Mexico.   |                         |                    |   |            |   |                              |  |  |
| Assessment area description   |                         |                    |   |            |   |                              |  |  |
| Wetland AF is a ditch located west of the existing switchyard, and it drains stormwater from the switchyard and adjacent parking lot. Vegetation consists of herbaceous species including flatsedges ( <i>Cyperus</i> spp.), bushy bluestem ( <i>Andropogon glomeratus</i> ), primrosewillow ( <i>Ludwigia</i> spp.), bristlegrass ( <i>Setaria</i> spp.), fingergrass ( <i>Eustachys</i> spp.), lateflowering thoroughwort ( <i>Eupatorum serotinum</i> ), and jointvetch ( <i>Aeschynomene</i> spp.). |                         |                    |   |            |   |                              |  |  |
| Significant nearby features   |                         |                    | Uniqueness (considering the relative rarity in relation to the regional landscape.)   |            |   |                              |  |  |
| Crystal River Energy C  | omplex, Gulf of Mexic   | co                 | Not unique  |            |   |                              |  |  |
| Functions   |                         |                    | Mitigation for previous permit/other historic use   |            |   |                              |  |  |
| Water storage, foraging   | habitat for wading bir  | rds                | N/A   |            |   |                              |  |  |
| Anticipated Wildlife Utilization Based of that are representative of the assessm 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, various amphibians and herpetofauna   |                         |                    | Potential foraging by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), limpkin (SSC), wood stork (E). |            |   |                              |  |  |
| Observed Evidence of Wildlife Utilizati   | ion (List species direc | ctly observed, or  | I<br>other signs such a   | as track   | s, droppings, casings,                  | nests, etc.):                |  |  |
| none  |                         |                    |   |            |   |                              |  |  |
| Additional relevant factors:  |                         |                    |   |            |   |                              |  |  |
| Assessment conducted by:  |                         |                    | Assessment date   | e(s):      |   |                              |  |  |
| S Rizzo T Davanzo   |                         |                    | 10/28/2009  |            |   |                              |  |  |

# PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

|  |                | •  |  |   |   |   |  |
|--|----------------|--|--|---|---|---|--|
| Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant -   |                |  | Application Number   |   | Assessment Area Name or Number  |   |  |
| Transmission Lines/Crystal   |                | Energy Complex Substation  |  |   | FLUCFC  | S 511 - Wetland A   | F  |
| Impact or Mitigation   |                |  | Assessment conducted by:   |   | Assessment date   | <b>e</b> :  |  |
| Impact - Fill  |                |  | S. Rizzo, T. Davan   | zo  |   | 10/28/2009  |  |
| Scoring Guidance   | Г              | Optimal (10)   | Moderate(7)  | Mi  | nimal (4)   | Not Present   | (0)  |
| The scoring of each  | Ī              | Condition is optimal and   | Condition is less than   |   |   |   |  |
| indicator is based on what would be suitable for the   |                | optimal, but sufficient to<br>maintain most                                    |  | vel of support of<br>/surface water   | Condition is insuf<br>provide wetland   |   |  |
| type of wetland or surface   |                | wetland/surface water<br>functions   | wetland/surface  | fu  | ınctions  | water functi  | ons  |
| water assessed   | L              | Tariottorio  | waterfunctions   |   |   |   |  |
| Location and landscape support  Woo pres or current  5  Location and landscape support lindividual parameter scores: within plant; b) Invasive exotidue to limitations imposed by plant is a barrier; e) Impacts to loss; f) Hydrologically connect Dependency of downstream at loss; f) Hydrologically connect Hydrologically connect Hydrologically connect Hydrologically connect Hydrologically connect Hydrologically connect Hydrologically connect Hydrologically connect Hydrologically connec |                |  | a) Support to wildlife listed in ic species = 10, none observed plant; d) functions that bene to wildlife listed in Part 1 by octed areas downstream of ass  | n Part 1 by o<br>ed; c) Wildlife<br>fit fish & wild<br>outside land u<br>sessment are                                 | utside habitats = 4 e access to and fr<br>life downstream-d<br>uses = 4, reduced<br>ea = 8, connected   | 4, reduced due to I om outside = 4, de distance or barriers due to surrounding to ditch to the sou  | creased<br>= 4,<br>g habitat   |
|  |                |  | scores: a) water levels and flut with expected; c) soil moisturence of fire history = N/A; f) veduced by occasional mowing pecific hydrological requirement to the stolerant of and associated direct observation of water q | ows = 4, alter<br>ure = 4, drier<br>regetation co<br>g; g) hydrolog<br>ents = 4, dry<br>with water q<br>uality = N/A, | red due to surrour<br>than expected; d;<br>mmunity zonation<br>gic stress on vege<br>at the time of site<br>uality degradation<br>no water present; | nding plant; b) wate<br>) soil erosion or de<br>n = 6, mostly consise<br>etation = 8, not app<br>e visit, so no anima<br>n = 4, community g | er level<br>position<br>stent witl<br>parent; h<br>I species<br>enerally |
| The vegetative community structure is dominated by herbaceous species, and is reduced due to some uplative egetation encroachment. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, some upland vegetation encroachment; b) invasive exotics or other invasive plant species. The vegetative community species in the canopy, shrub, or ground stratum = 6, some upland vegetation encroachment; b) invasive exotics or other invasive plant species. The vegetative community structure is dominated by herbaceous species, and is reduced due to some uplative exotics or other invasive plant species. The vegetative community structure is dominated by herbaceous species, and is reduced due to some uplative exotics. The vegetative community structure is dominated by herbaceous species, and is reduced due to some uplative exotics. The vegetative community structure is dominated by herbaceous species, and is reduced due to some uplative exotics. The vegetative community structure is dominated by herbaceous species, and is reduced due to some uplative exotics. The vegetative community structure is dominated by herbaceous species, and is reduced due to some uplative exotics or other invasive plant species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, some uplant community species in the canopy, shrub, or ground stratum = 6, so |                |  |  |   |   | or<br>ecies =<br>educed<br>by of<br>g) land   |  |
| Score = sum of above scores/ uplands, divide by 20) current or w/o pres 0.53   | /30 (if with 0 | If preservation as mitig<br>Preservation adjustment<br>Adjusted mitigation del | nt factor =  |   | For impact asses<br>delta x acres = -0  |   |  |
|  |                | If mitigation  |  | <u> </u>  | or mitigation acco  | ocement cross   | ]  |
| Delta = [with-current]   |                | Time lag (t-factor) =  |  |   | or mitigation asse  | essment areas   |  |
| -0.53  |                | Risk factor =  |  | RFG   | = delta/(t-factor x   | risk) =   |  |
|  |                |  |  |   |   |   |  |

# PART I – Qualitative Description (See Section 62-345.400, F.A.C.)

| Site/Project Name  | Application Numbe  | mber Assessment Area Name or Number |   |           | or Number                         |                              |  |  |
|--|--|-------------------------------------|---|-----------|-----------------------------------|------------------------------|--|--|
| Progress Energy Florida, Inc./Levy Nuclear Plant -<br>Transmission Lines/Crystal River Energy Complex<br>Substation Expansion  |  |                                     | FLUCFCS 534 - We  |           | 34 - Wetland Al                   |                              |  |  |
| FLUCCs code  | Further classifica   | tion (optional)                     |   | Impac     | Assessment Area Size              |                              |  |  |
| 534 - Reservoirs < 10 acres  |  |                                     |   |           | Impact 0.81 acr                   |                              |  |  |
| Basin/Watershed Name/Number  | Affected Waterbody (Clas   | is)                                 | Special Classification  | on (i.e.C | DFW, AP, other local/state/federa | l designation of importance) |  |  |
| Direct Runoff to Gulf/03100207   |  |                                     | None  |           |                                   |                              |  |  |
| Geographic relationship to and hyd   | rologic connection with  | wetlands, other s                   | urface water, upla  | nds       |                                   |                              |  |  |
| Located within the Crystal River En or surface waters.   | Located within the Crystal River Energy Complex property, north and west of the existing substation. No hydrologic connection to other wetlands or surface waters. |                                     |   |           |                                   |                              |  |  |
| Assessment area description  |  |                                     |   |           |                                   |                              |  |  |
| Wetland Al is an isolated retention area that retains runoff water from the adjacent car wash and roadways. Vegetation consists of herbaceous species including Peruvian primrosewillow ( <i>Ludwigia peruviana</i> ), anglestem primrosewillow ( <i>Ludwigia leptocarpa</i> ), flatsedges ( <i>Cyperus</i> spp.), bristlegrass ( <i>Setaria</i> spp.), annual saltmarsh aster ( <i>Symphyotrichum subulatum</i> ), Virginia buttonweed ( <i>Diodia virginiana</i> ), sawgrass ( <i>Cladium jamaicense</i> ), spotflower ( <i>Acmella</i> spp.), marsh mermaidweed ( <i>Proserpinaca palustris</i> ), and lizard's tail ( <i>Saururus cernuus</i> ). |  |                                     |   |           |                                   |                              |  |  |
| Significant nearby features  |  |                                     | Uniqueness (considering the relative rarity in relation to the regional landscape.)   |           |                                   |                              |  |  |
| Crystal River Energy Complex, Gulf of Mexico   |  |                                     | Not unique  |           |                                   |                              |  |  |
| Functions  | Functions  |                                     |   | vious     | permit/other historic use         | 9                            |  |  |
| Water storage, forag   | ing habitat for wading b   | irds                                | N/A   |           |                                   |                              |  |  |
| Anticipated Wildlife Utilization Base that are representative of the assesbe 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, various amphibians and herpetofauna  |  |                                     | Potential foraging by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), limpkin (SSC), wood stork (E). |           |                                   |                              |  |  |
| Observed Evidence of Wildlife Utili:   | zation (List species dire  | ctly observed, or                   | other signs such a  | s trac    | ks, droppings, casings,           | nests, etc.):                |  |  |
|  |  |                                     |   |           |                                   |                              |  |  |
|  | none   |                                     |   |           |                                   |                              |  |  |
| Additional relevant factors:   |  |                                     |   |           |                                   |                              |  |  |
|  |  |                                     |   |           |                                   |                              |  |  |
| Assessment conducted by:   |  |                                     | Assessment date   | e(s):     |                                   |                              |  |  |
| S. Rizzo, T. Davanzo   |  |                                     | 10/29/2009  |           |                                   |                              |  |  |

# 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  |  |  |                        |
|--|--|--|---|--|--|------------------------|
| Progress Energy Florida, Ir<br>Transmission Lines/Crystal River<br>Expansior | Energy Complex Substation  |  |   | FLUCFC   | S 534 - Wetland A  | Al                     |
| Impact or Mitigation   |  | Assessment conducted by:   |   | Assessment date  | <b>)</b> ;   |                        |
| Impact -   | - Fill   | S. Rizzo, T. Davanz  | 20  | 10/2   | 8/09, 10/29/09   |                        |
|  | Optimal (10)   |  |   |  | ·  |                        |
| Scoring Guidance The scoring of each   | Moderate(7) Condition is less than   | Miı  | nimal (4)   | Not Presen   | t (0)  |                        |
| indicator is based on what   | optimal, but sufficient to   | Minimal le   | vel of support of   | Condition is insu  | fficient to  |                        |
| would be suitable for the  | fully supports<br>wetland/surface water  | maintain most  |   | surface water  | provide wetland  |                        |
| type of wetland or surface water assessed                                    | functions  | wetland/surface<br>waterfunctions  | fu  | inctions   | water functi   | ions                   |
| water assessed   | wateriunctions   |  |   |  |  |                        |
| .500(6)(a) Location and Landscape Support  w/o pres or current with          | Individual parameter scores:<br>within plant; b) Invasive exot<br>outside = 4, decreased due t<br>distance or barriers = 4, area<br>to surrounding habitat loss; f   | port variable is reduced due to<br>a) Support to wildlife listed in<br>ic species = 4, Peruvian primo<br>o limitations imposed by plant<br>is isolated; e) Impacts to wildli<br>) Hydrologically connected are<br>areas on assessment area = 4   | Part 1 by or osewillow do ; d) functions fe listed in Feas downstre   | utside habitats = 4<br>ominant; c) Wildlife<br>s that benefit fish<br>Part 1 by outside la<br>eam of assessmer                     | 4, reduced due to be access to and from the wildlife downstrough the and uses = 4, redunt area = 4, isolates | om<br>eam-<br>uced due |
| .500(6)(b)Water Environment (n/a for uplands)  w/o pres or current with      | e is reduced due to isolation from existing plant. Individual parain revel indicators = 4, not consistent with expected; if the hydrological requirements eles tolerant of and associated direct observation of water quave, wave energy, currents and existing the hydrological requirements. | meter score:<br>sistent with e<br>n; e) evidenc<br>g) hydrologic<br>= 4, potentia<br>with water q<br>uality = N/A,   | s: a) water levels<br>expected; c) soil no<br>ce of fire history =<br>c stress on vegeta<br>I wading bird habi<br>uality degradation<br>no water present; | and flows = 4, alto<br>moisture = 4, drier<br>N/A; f) vegetation<br>ation = 4, apparentitat, but no wading<br>n = 4, community g   | ered due<br>than<br>t; h) use<br>birds<br>generally  |                        |
| .500(6)(c)Community structure  1. Vegetation and/or 2. Benthic Community     | tructure is dominated by herba<br>al parameter scores: a) plant<br>ome undesirable wetland spec<br>generation and recruitment = 4<br>npacted by application of herb<br>d cavity = N/A; f) plant condition<br>at practices = 4, impacted by a<br>ept for Wetland AC; i) siltation               | community sties; b) invasibles; b) invasibles; impacted to icides and non = 4, impacted to object to objec | species in the can<br>sive exotics or oth<br>by application of h<br>nowing; e) density<br>cted by applicatio<br>f herbicides and n                        | nopy, shrub, or gro<br>ner invasive plant a<br>nerbicides and mon<br>and quality of coan<br>of herbicides an<br>nowing; h) topogra | ound<br>species =<br>wing; d)<br>arse<br>d<br>aphic  |                        |
| current with   | = N/A.   | . , , =====  | 5 5   | 3  |  | -                      |
| 4 0  |  |  |   |  |  |                        |
|  | 3  |  | <u> </u>  |  |  | ,                      |
| Score = sum of above scores/30 (if uplands, divide by 20) current            | If preservation as mitig<br>Preservation adjustme  |  |   | For impact assess  |  |                        |
| or w/o pres with 0.40 0  | Adjusted mitigation del  | ta =   | rL =  | delta x acres = -0   | .40 X 0.81 = 0.32  |                        |
| <u> </u>   | J<br>  |  |   |  |  | _                      |
|  | If mitigation  |  | F   | or mitigation asse   | ssment areas   | ]                      |
| Delta = [with-current]   | Time lag (t-factor) =  |  |   |  |  |                        |
| -0.40  | Risk factor =  |  | 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 |   |  |
|---|----------------------|----------------------|---|-------------------------------|--------------------------------|---|--|
| Progress Energy Florida, Inc./Levy<br>Transmission Lines/Crystal River E<br>Substation Expansion  |                      |                      | FLUCFCS 630, 643 - Wetlands AD and FLUCFCS 630 - Wetland AE   |                               |                                |   |  |
| FLUCCs code   | Further classifica   | ition (optional)     | Impact or Mitigation Site? Assessmen  |                               |                                | Assessment Area Size  |  |
| 630 - Mixed Forested Wetland; 643 -<br>Wet Prairie  |                      |                      |   | Impact AD = 2.38<br>AE = 0.82 |                                | 3.86 acres (Wetland<br>AD = 2.35; Wetland<br>AE = 0.82; Wetland<br>AG = 0.69) |  |
| Basin/Watershed Name/Number Affect  | cted Waterbody (Clas | ss)                  | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)   |                               |                                |   |  |
| Direct Runoff to Gulf/03100207  |                      |                      |   |                               | None                           |   |  |
| Geographic relationship to and hydrolog   | gic connection with  | wetlands, other si   | urface water, upla  | nds                           |                                |   |  |
| Located within the Crystal River Energy waters.   | Complex property,    | , north of the exist | ing substation. No  | o hydro                       | ologic connection to oth       | er wetlands or surface  |  |
| Assessment area description   |                      |                      |   |                               |                                |   |  |
| Wetlands AD and AE are isolated mixed forested wetlands bisected by a dirt road. Wetlands AD and AG have small areas of wet prairie fringe. All wetlands have been impacted by either herbicide application, mowing, dumping, or rutting by tires. Dominant canopy species included slash pine ( <i>Pinus elliotti</i> ), Carolina ash ( <i>Fraxinus caroliniana</i> ), cabbage palm ( <i>Sabal palmetto</i> ), sweetgum ( <i>Liquidambar styraciflua</i> ), and red maple ( <i>Acer rubrum</i> ). Dominant herbaceous species included torpedograss ( <i>Panicum repens</i> ), sawgrass ( <i>Cladium jamaicense</i> ), flatsedges ( <i>Cyperus</i> spp.), hurricanegrass ( <i>Fimbristylis cymosa</i> ), spadeleaf ( <i>Centella asiatica</i> ), and starrush whitetop ( <i>Rhynchospora colorata</i> ). |                      |                      |   |                               |                                |   |  |
| Significant nearby features   |                      |                      | Uniqueness (considering the relative rarity in relation to the regional landscape.)   |                               |                                |   |  |
| Crystal River Energy Co   | mplex, Gulf of Mexi  | ico                  | Not unique  |                               |                                |   |  |
| Functions   |                      | • • • •              | Mitigation for pre  | vious p                       | permit/other historic use      | :   |  |
| Water storage, foraging h   | nabitat for wading b | irds                 | N/A   |                               |                                |   |  |
| Anticipated Wildlife Utilization Based or that are representative of the assessment 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, various ampl  | nibians and herpeto  | ofauna               | Potential foraging by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), limpkin (SSC), wood stork (E). |                               |                                |   |  |
| Observed Evidence of Wildlife Utilization   | n (List species dire | ectly observed, or o | ther signs such a   | s track                       | ks, droppings, casings,        | nests, etc.):   |  |
| black vulture, red-winged blackbird   |                      |                      |   |                               |                                |   |  |
| Additional relevant factors:  |                      |                      |   |                               |                                |   |  |
| Assessment conducted by:  |                      |                      | Assessment date   | a/e):                         |                                |   |  |
| S. Rizzo, T. Davanzo  |                      |                      | 10/28/2009  | - ( <b>-</b> ).               |                                |   |  |

# PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

| Site/Project Name  | Application Number   | Assess   | Assessment Area Name or Number   |   |  |
|--|--|--|--|---|--|
| Progress Energy Florida, Inc./Levy Nuclear Plant -<br>Transmission Lines/Crystal River Energy Complex Substation<br>Expansion  |  |  | FLUCFCS 630, 643 - Wetlands AD and A<br>FLUCFCS 630 - Wetland AE   |   |  |
| Impact or Mitigation   | Assessment conducted by:   | Assess   | ment date:   |   |  |
| Impact - Fill  | S. Rizzo, T. Davan   |  | 10/28/2009   |   |  |
| 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 si<br>wetland/surface<br>functions  | upport of Condition is insur-  | fficient to<br>/surface                                   |  |
| Landscape Support  Complex. Individual parame to location within plant; b) In outside = 4, decreased due distance or barriers = 4, are due to surrounding habitat lo   | port variable is reduced due teter scores: a) Support to wild vasive exotic species = 4, tory to limitations imposed by plan as isolated; e) Impacts to wild bas; f) Hydrologically connected am areas on assessment area  | llife listed in Part 1 I<br>pedograss dominan<br>t; d) functions that t<br>life listed in Part 1 b<br>ed areas downstreal  | oy outside habitats = 4, redu<br>t; c) Wildlife access to and f<br>benefit fish & wildlife downst<br>y outside land uses = 4, red<br>n of assessment area = 4, is  | roed due<br>rom<br>ream-<br>uced                          |  |
| .500(6)(b)Water Environment (n/a for uplands)  (n/a | e is reduced due to isolation f<br>existing plant. Individual para<br>water level indicators = 4, not<br>on or deposition = 8, minimal e<br>est areas consistent with expe-<br>species with specific hydrologi<br>evegetative species tolerant of<br>ts of typical species; j) direct of<br>N/A; I) water depth wave, wa | ameter scores: a) w<br>consistent with exp<br>crosion; e) evidence<br>cted; g) hydrologic s<br>cal requirements =<br>f and associated wi<br>observation of water   | rater levels and flows = 4, al<br>sected; c) soil moisture = 4, of<br>of fire history = N/A; f) veges<br>stress on vegetation = 8, not<br>4, potential wading bird habit<br>th water quality degradation<br>quality = N/A, no water pres   | tered<br>drier<br>etation<br>tat, but<br>= 8,<br>sent; K) |  |
| ·  |  |  |  | •   |  |
| .500(6)(c)Community structure  The vegetative community sapplication of herbicides. In ground stratum = 8, dominar species = 6, moderate cove species = 6, moderate cove   | structure is slightly reduced du<br>dividual parameter scores: a)<br>ted by mostly desirable wetlan<br>rage; c) regeneration and recr<br>age & size distribution = 8. soi  | plant community sp<br>d species; b) invas<br>uitment = 8, some a   | ecies in the canopy, shrub,<br>live exotics or other invasive<br>areas impacted by application   | nd<br>or<br>e plant<br>en of                              |  |
| .500(6)(c)Community structure  The vegetative community sapplication of herbicides. In ground stratum = 8, dominal species = 6, moderate cove herbicides and mowing; d) a mowing; e) density and qual areas impacted by application of herbicides and mowing.  | dividual parameter scores: a) ted by mostly desirable wetlan   | plant community sp<br>d species, b) invas<br>uitment = 8, some a<br>ne areas impacted<br>ag, den, and cavity<br>g) land managemer<br>ographic features =   | necies in the canopy, shrub,<br>vive exotics or other invasive<br>areas impacted by application<br>by application of herbicides<br>= 8; f) plant condition = 8, s<br>at practices = 8, some areas  | nd<br>or<br>plant<br>on of<br>and<br>ome                  |  |
| .500(6)(c)Community structure  The vegetative community sapplication of herbicides. In ground stratum = 8, dominar species = 6, moderate cove herbicides and mowing; d) amowing; e) density and qual areas impacted by application of home of the current with siltation or algal growth in su   | dividual parameter scores: a) ted by mostly desirable wetlan rage; c) regeneration and recr age & size distribution = 8, so ity of coarse woody debris, sn on of herbicides and mowing; erbicides and mowing; h) topo ubmerged aquatic plant comm gation, ent factor =   | plant community spid species; b) invasivitment = 8, some areas impacted ag, den, and cavity g) land managemer ographic features = unities = N/A.  For imp. FL = delta x a (Wetland AD (Wetland AE)   | ecies in the canopy, shrub, live exotics or other invasive areas impacted by application by application of herbicides = 8; f) plant condition = 8, s at practices = 8, some areas 8, mostly consistent with expanding the strength of the stre | nd<br>or<br>e plant<br>en of<br>and<br>ome                |  |
| The vegetative community structure  1. Vegetation and/or 2. Benthic Community  w/o pres or current  7  Score = sum of above scores/30 (if uplands, divide by 20) current or w/o pres  w/o pres  1. Vegetation and/or 2. Benthic Community  with  7  O  The vegetative community species = 6, moderate cove herbicides and mowing; d) a mowing; e) density and qual areas impacted by application of h siltation or algal growth in su  If preservation as mitigation de  If mitigation  If mitigation  | dividual parameter scores: a) ted by mostly desirable wetlan rage; c) regeneration and recr age & size distribution = 8, so ity of coarse woody debris, sn on of herbicides and mowing; erbicides and mowing; h) topo ubmerged aquatic plant comm gation, ent factor =   | plant community spid species; b) invasivitment = 8, some ame areas impacted ag, den, and cavity g) land managemer graphic features = unities = N/A.  For impact   | ecies in the canopy, shrub, live exotics or other invasive areas impacted by application by application of herbicides = 8; f) plant condition = 8, s at practices = 8, some areas 8, mostly consistent with expanding the strength of the stre | nd<br>or<br>e plant<br>en of<br>and<br>ome                |  |
| The vegetative community structure  1. Vegetation and/or 2. Benthic Community  Wo pres or current  7  0  Score = sum of above scores/30 (if uplands, divide by 20) current or w/o pres  with or w/o pres  0.53  0  The vegetative community sapplication of herbicides. In ground stratum = 8, dominat species = 6, moderate cove herbicides and mowing; d) amowing; e) density and qual areas impacted by application of h siltation or algal growth in su  If preservation as mitigation de Adjusted mitigation de   | dividual parameter scores: a) ted by mostly desirable wetlan rage; c) regeneration and recr age & size distribution = 8, so ity of coarse woody debris, sn on of herbicides and mowing; erbicides and mowing; h) topo ubmerged aquatic plant comm gation, ent factor =   | plant community spid species; b) invasivitment = 8, some areas impacted ag, den, and cavity g) land managemer graphic features = unities = N/A.  For impact   For impact   Full the content   Full the cont | ecies in the canopy, shrub, live exotics or other invasive areas impacted by application by application of herbicides = 8; f) plant condition = 8, s at practices = 8, some areas 8, mostly consistent with expanding the same areas acres = -0.53 x 2.35 = 1.34 ); -0.53 x 0.82 = 0.43 ); -0.53 x 0.69 = 0.37 ); total of 3.86 acres and  | nd<br>or<br>e plant<br>on of<br>and<br>ome                |  |

# PART I – Qualitative Description (See Section 62-345.400, F.A.C.)

| Site/Project Name   |   | Application Number |  |   | Assessment Area Name or Number |   |  |  |
|---|---|--------------------|--|---|--------------------------------|---|--|--|
| Progress Energy Florida, Inc./Levy<br>Transmission Lines/Crystal River E<br>Substation Expansion  | nergy Complex   |                    |  | FLUCFCS 641 - Wetlands AC and A   |                                |   |  |  |
| FLUCCs code   | Further classifica  | ation (optional)   |  | Impact or Mitigation Site? Assessment Area  |                                |   |  |  |
| 641 - Freshwater Marshes  | 641 - Freshwater Marshes  |                    |  |   | Impact                         | 0.53 acres (Wetland<br>AC = 0.09; Wetland<br>AH = 0.44) |  |  |
| Basin/Watershed Name/Number Affected Waterbody (Class)  |   |                    | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)  |   |                                |   |  |  |
| Direct Runoff to Gulf/03100207 None   |   |                    |  |   |                                |   |  |  |
| Geographic relationship to and hydrolog   | gic connection with   | wetlands, other s  | urface water, upla   | ınds  |                                |   |  |  |
| Located within the Crystal River Energy waters.   | Located within the Crystal River Energy Complex property, north of the existing substation. No hydrologic connection to other wetlands or surface waters. |                    |  |   |                                |   |  |  |
| Assessment area description   |   |                    |  |   |                                |   |  |  |
| Wetland AC is an isolated depressional freshwater marsh sprayed with herbicides, and Wetland AH is an isolated stormwater retention area that retains water from surrounding parking lots. Vegetation consists of herbaceous species including torpedograss ( <i>Panicum repens</i> ), sawgrass ( <i>Cladium jamaicense</i> ), flatsedges ( <i>Cyperus</i> spp.), creeping primrosewillow ( <i>Ludwigia repens</i> ), manyflower marshpennywort ( <i>Hydrocotyle umbellata</i> ), Virginia buttonweed ( <i>Diodia virginiana</i> ), ticktrefoil ( <i>Desmodium</i> spp.), bedstraw ( <i>Galium</i> spp.), and smartweed ( <i>Polygonum</i> spp.). |   |                    |  |   |                                |   |  |  |
| Significant nearby features   |   |                    | Uniqueness (considering the relative rarity in relation to the regional landscape.)  |   |                                |   |  |  |
| Crystal River Energy Complex, Gulf of Mexico Functions  |   |                    | Not unique   |   |                                |   |  |  |
|   |   |                    | Mitigation for previous permit/other historic use  |   |                                |   |  |  |
| Water storage, foraging t   | nabitat for wading b  | pirds              | N/A  |   |                                |   |  |  |
| Anticipated Wildlife Utilization Based or<br>that are representative of the assessme<br>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, various ampl  | Wading birds, various amphibians and herpetofauna   |                    |  | Potential foraging by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), limpkin (SSC), wood stork (E). |                                |   |  |  |
| Observed Evidence of Wildlife Utilization   | on (List species dire   | ectly observed, or | other signs such a   | as trac   | ks, droppings, casings,        | nests, etc.):   |  |  |
|   |   |                    |  |   |                                |   |  |  |
| chipping sparrow  |   |                    |  |   |                                |   |  |  |
| Additional relevant factors:  |   |                    |  |   |                                |   |  |  |
|   |   |                    |  |   |                                |   |  |  |
| Assessment conducted by:  |   |                    | Assessment date  | e(s):   |                                |   |  |  |
| S. Rizzo, T. Davanzo  |   |                    | 10/28/09, 10/29/0  | 09  |                                |   |  |  |

# PART II – Quantification of Assessment Area (impact or mitigation) (See Sections 62-345.500 and .600, F.A.C.)

| ١.   |  |   |  |   |   |   |   |
|--|--|---|--|---|---|---|---|
| Site/Project Name  |  |   | Application Number Assessment Area Name or Numb  |   |   | a Name or Numbe   | г   |
|  | Progress Energy Florida, li<br>Transmission Lines/Crystal Rive<br>Expans | r Energy Complex Substation   |  |   | FLUCFCS 64  | 1 - Wetlands AC a   | nd AH   |
|  | Impact or Mitigation   |   | Assessment conducted by:   |   | Assessment date   | 9:  |   |
|  | Impact   | S. Rizzo, T. Davana   | zo   | 10/2  | 28/09, 10/29/09   |   |   |
| Scoring Guidance Optimal (10)  The scoring of each   |  |   | <u> </u>   |   | <u> </u>  |   |   |
| 1  |  | Optimal (10)  | Moderate(7)  | Mi  | nimal (4)   | Not Present   | (0)   |
| ı  | The scoring of each indicator is based on what                           | Condition is optimal and  | Condition is less than optimal, but sufficient to  | Minimallo   | vel of support of   | Condition is insu   | fficient to   |
|  | would be suitable for the  | fully supports  | maintain most  | 1   | /surface water  | provide wetland   |   |
| type of wetland or surface functions   |  | wetland/surface water functions   | wetland/surface  | fu  | unctions  | water functi  | ons   |
| water assessed   |  |   | waterfunctions   |   |   |   |   |
|  | .500(6)(a) Location and Landscape Support  w/o pres or current with      | Complex. Individual parame to location within plant; b) Invoutside = 4, decreased due t distance or barriers = 4, area to surrounding habitat loss; f | port variable is reduced due to<br>ter scores: a) Support to wild<br>vasive exotic species = 4, torp<br>to limitations imposed by plant<br>as isolated; e) Impacts to wildli<br>hydrologically connected are<br>areas on assessment area =   | life listed in i<br>edograss do<br>t; d) function<br>ife listed in F<br>eas downstre  | Part 1 by outside pminant; c) Wildlifes that benefit fish Part 1 by outside learn of assessme                                 | habitats = 4, reductive access to and from the wildlife downstreamd uses = 4, reductive and area = 4, isolate                                       | ed due<br>om<br>eam-<br>iced due                    |
| .500(6)(b)Water Environment (n/a for uplands)  clearing associated with the to surrounding plant; b) wal expected; d) soil erosion or community zonation = 4, al 4, apparent; h) use by anim no wading birds observed; community generally consists.   |  |   | e is reduced due to isolation frexisting plant. Individual parar level indicators = 4, not condeposition = 8, minimal erosionared due to application of herbal species with specific hydrolovegetative species tolerant of s of typical species; j) direct o N/A; I) water depth wave, war | meter score sistent with on; e) evidend icides and megical required and associated bservation of the sistem of the servation of the sistem of | es: a) water levels expected; c) soil roce of fire history = nowing; g) hydrolocements = 4, poten ated with water quality = N | and flows = 4, alternoisture = 4, drier<br>N/A; f) vegetation<br>ogic stress on vegetal wading bird hauality degradation =<br>N/A, no water present | ered due<br>than<br>etation =<br>bitat, but<br>= 4, |
| The vegetative community structure is dominated by herbaceous wetland species, and is reduced due to preserve of exotic species torpedograss. Individual parameter scores: a) plant community species in the canopy, shrunground stratum = 4, dominated by some undesirable wetland species; b) invasive exotics or other invasive properties and invasive properties and invasive properties and invasive properties. The vegetative community structure is dominated by herbaceous wetland species, and is reduced due to preserve and invasive properties. Individual parameter scores: a) plant community species in the canopy, shrunground stratum = 4, dominated by some undesirable wetland species; b) invasive exotics or other invasive properties and invasive properties. The vegetative community structure is dominated by herbaceous wetland species, and is reduced due to preserve |  |   |  |   |   | hrub, or<br>e plant<br>es and<br>quality of<br>ides and<br>phic   |   |
| ı  | Score = sum of above scores/30 (i  | f If preservation as mitig  | action   |   | For impact asses  | ement areas   |   |
|  | uplands, divide by 20)   | Preservation adjustme   |  |   | delta x acres = -0  | .40 x 0.09 = 0.04   |   |
|  | current  | - 1000. Valion adjustine  |  | ,   | land AC); -0.40 x   |   |   |
|  | pr w/o pres with  0.40 0   | Adjusted mitigation del   | lta =  | Ι,  | land AH); total of<br>FL of 0.22  | o.oo acres and  |   |
|  | 0.40   |   |  |   |   |   | -   |
|  |  | If mitigation   |  |   |   |   | l   |
|  | Dolto - fuith  |   |  | F   | or mitigation asse  | essment areas   |   |
|  | Delta = [with-current]   | Time lag (t-factor) =   |  | REG   | = delta/(t-factor x   | risk) =   |   |
| •  | -0.40  | Risk factor =   |  | IKEG.   | - deita/(t-lactor X   | . IISK) -   |   |