

LEGEND

- Common Right-of-Way
- ▲ Florida Natural Areas Inventory Occurrence

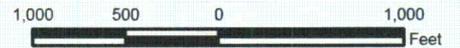
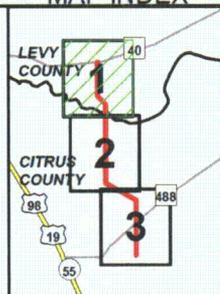
GOLDER OBSERVED SPECIES

- ▲ Gopher Tortoise
- Bald Eagle
- Britton's Bear Grass
- White Ibis

REFERENCE

Substations and Right-of-Way: Progress Energy Florida and Golder Associates Inc., 2009; Roads: Florida Department of Transportation, 2010; Listed Species Data: Florida Natural Areas Inventory, 2006 and Golder Observed, 2009; Wood Stork Colony Data: U.S. Fish & Wildlife Service, 2009; Aerials: Progress Energy, 2009

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NOTE: No portion of the Common Corridor lies within Wood Stork Core Foraging Areas.

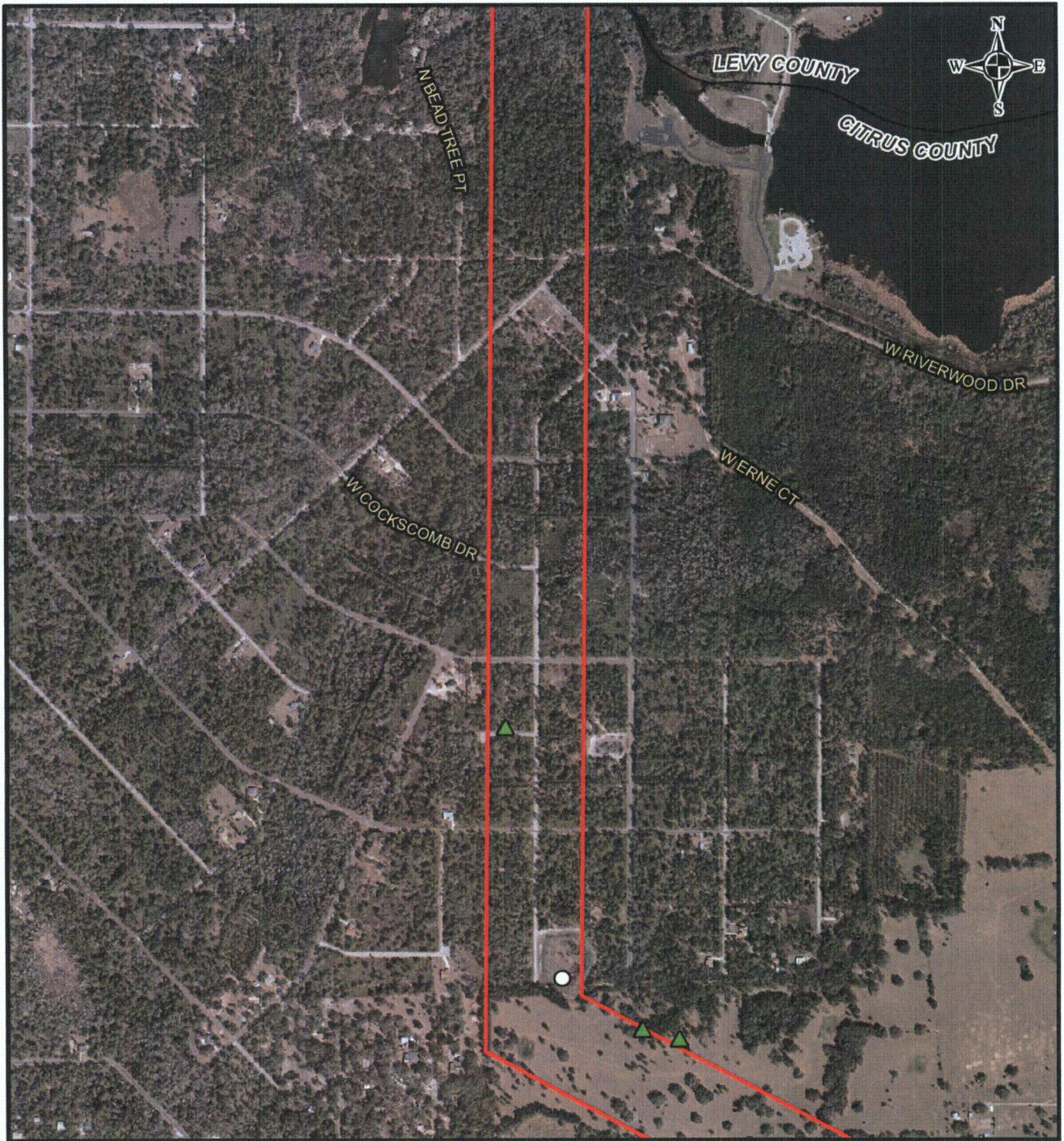
PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

**COMMON ROUTE
LISTED SPECIES MAP**



MXD File No. 093-89547F006		SCALE AS SHOWN	REV 0
DESIGN	DLH	24 Sept 2009	
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CHECK	SAR	12 Mar 2010	
REVIEW	KB	12 Mar 2010	

**FIGURE 6
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LEGEND

- Common Right-of-Way
- ▲ Florida Natural Areas Inventory Occurrence

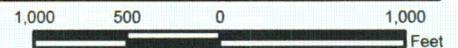
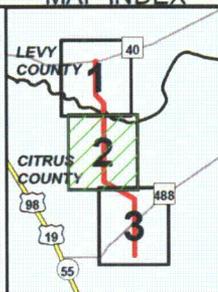
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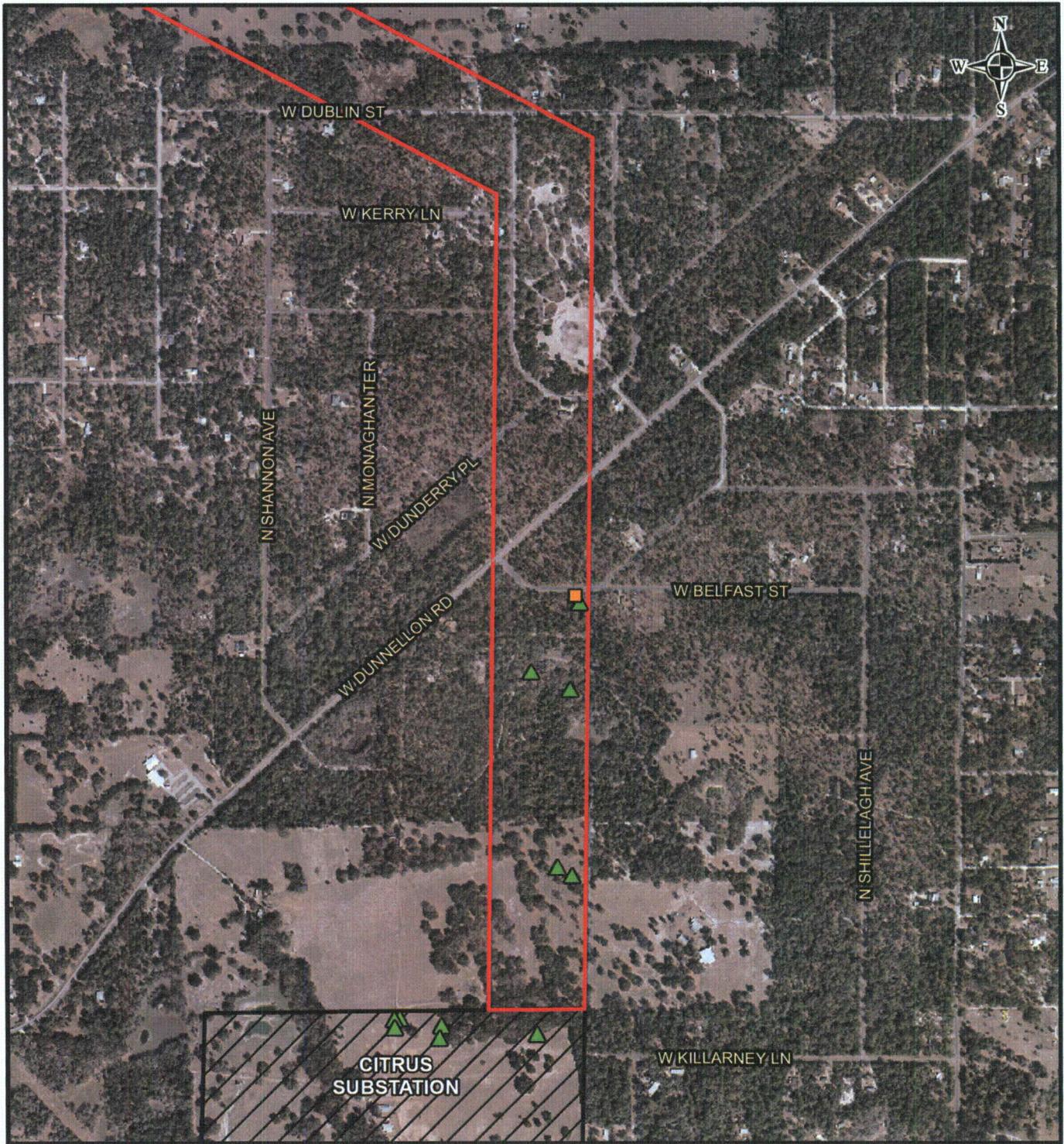
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PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

**COMMON ROUTE
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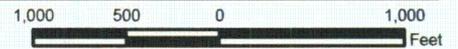
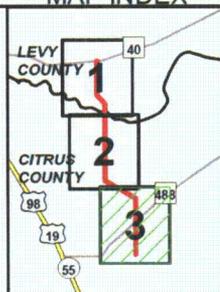
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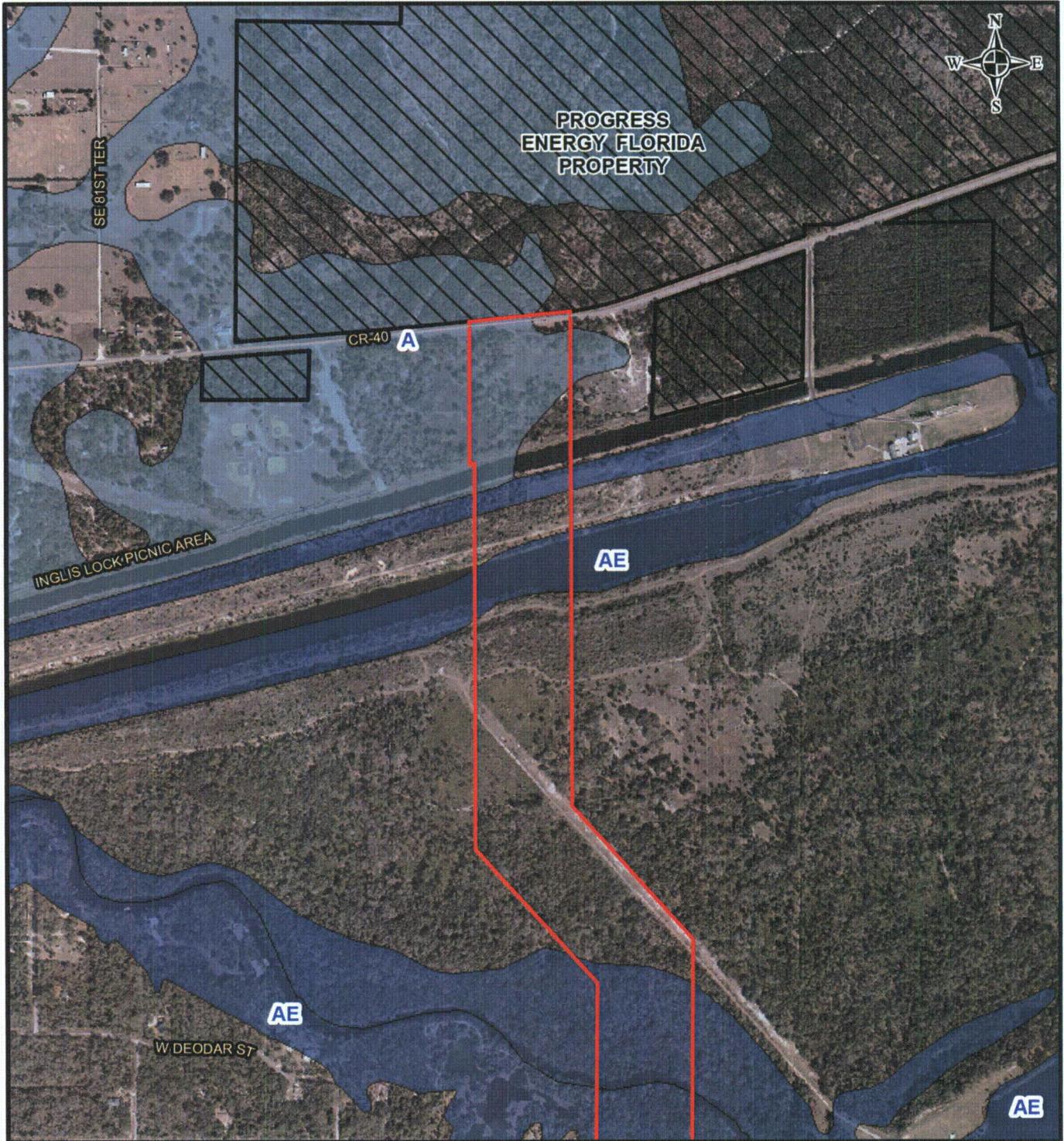
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PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

**COMMON ROUTE
LISTED SPECIES MAP**



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Common Right-of-Way

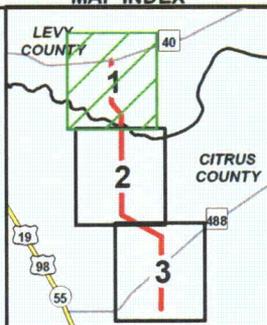
FEMA FLOOD ZONE

- A 100-yr Floodplain (No Base Flood Elevations have been determined)
- AE 100-yr Floodplain (Base Flood Elevations have been determined)

REFERENCE

Substations and Right-of-Way: Progress Energy Florida & Golder Associates Inc., 2009; Roads: Florida Department of Transportation, 2010; Flood Zones: FEMA, 2006; County Boundary: U.S. Census Bureau, 2000; Aerials: Progress Energy, 2009

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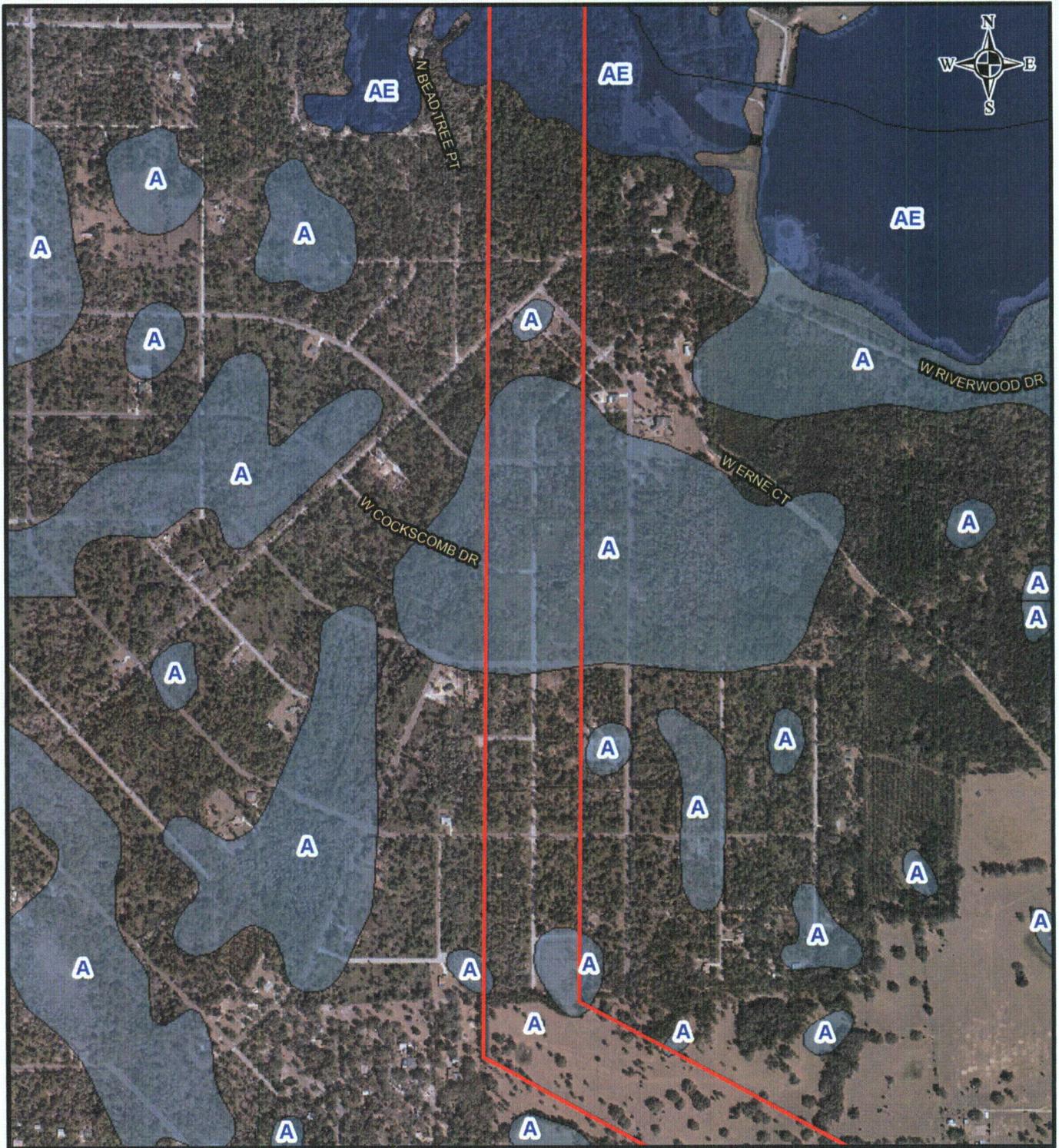
PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

**COMMON ROUTE
FEMA 100 YEAR FLOODPLAIN MAP**



MXD File No	063-89547F007	SCALE AS SHOWN	REV 0
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LEGEND

Common Right-of-Way

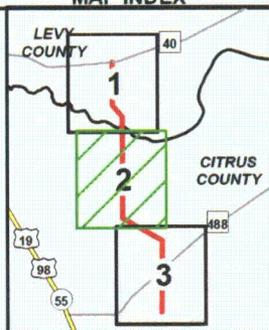
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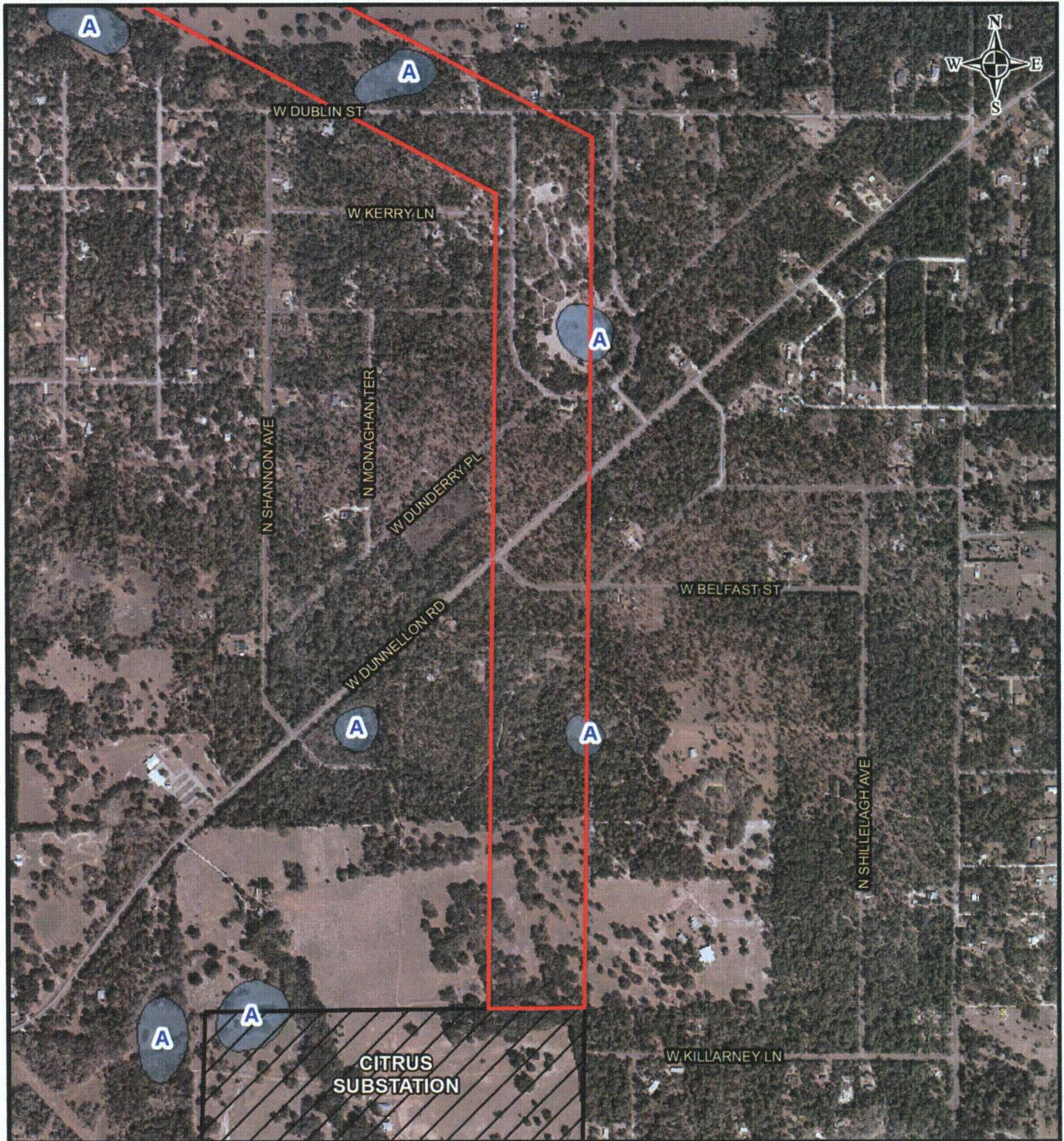


PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

**COMMON ROUTE
FEMA 100 YEAR FLOODPLAIN MAP**



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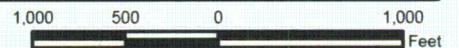
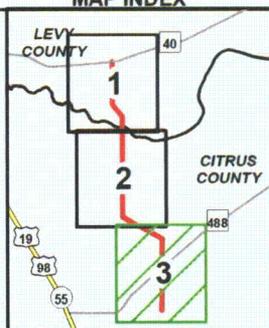
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LEVY NUCLEAR PLANT

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TABLE A

Wetland Descriptions

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

Proposed Levy - Citrus Common Route
Levy and Citrus Counties, Florida

Wetland ID	FLUCFCS Code	Acreage	UMAM Score	Soil Type	Corps Jurisdictional	OFW	Wetland Description
Wetland A	643, 630	0.60	0.73	Adamsville fine sand	No	No	This is an isolated wet prairie with a willow head in the center. The wetland has a mixed forested fringe; surrounding the wetland is an upland hardwood-conifer forest. Dominant species include <i>Phyla nodiflora</i> , <i>Eupatorium capillifolium</i> , and <i>Urochloa plantaginea</i> .
Wetland B	524	1.72	0.40	Tavares fine sand, 0-5 percent slopes	No	No	This wetland is a dry pond basin surrounded by mixed upland hardwoods and conifers. The area is heavily impacted by the recreational use of off-road vehicles. As a result, it has approximately 80 percent cover by bare sand. Dominant species include <i>Eupatorium capillifolium</i> and <i>Panicum hemitomom</i> .
Wetland C	641	3.03	0.67	Tavares fine sand with a minor amount of Pompano fine sand	No	No	This is a freshwater marsh generally bordered by mixed hardwoods and conifers. Dominant species include <i>Eupatorium capillifolium</i> and <i>Panicum hemitomom</i> . Due to drought conditions, upland vegetation is encroaching within the wetland.
Wetland D	641	0.35	0.80	Basinger fine sand	No	No	This wetland is an isolated freshwater marsh surrounded by pasture, and has some impacts from cattle trampling and grazing. Dominant species include <i>Pontederia cordata</i> , <i>Cephalanthus occidentalis</i> , and <i>Juncus effusus</i> .

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Wetland E	641	3.27	0.80	Water	No	No	This wetland is a freshwater marsh adjacent to N. Bonsai Avenue. The wetland is disturbed by a fire break, barbed wire fencing and recreational use of off-road vehicles. This wetland connects to Wetland F through a culvert on the west side of N. Bonsai Avenue. Dominant species include <i>Pontederia cordata</i> and <i>Nymphaea odorata</i> .
Wetland F	511	0.04	0.40	Adamsville fine sand	No	No	This wetland is a ditch on the opposite side of N. Bonsai Avenue from Wetland E. The two wetlands are connected by a culvert under the road. Dominant species include <i>Eupatorium capillifolium</i> , <i>Hypericum</i> spp., and <i>Urochloa plantaginea</i> .
Wetland G1/G2	511	0.38	0.57	Ona fine sand	Yes	No	This wetland is a ditch running east-west through a low-density residential area, connecting to a cypress dome to the west. The eastern portion is impacted by recreational off-road vehicles. Dominant species include <i>Baccharis</i> spp., <i>Bidens laevis</i> , and <i>Sagittaria lancifolia</i> .
Wetland H	621	4.96	0.80	EauGallie fine sand	Yes	No	This wetland is a cypress forest that is ditched on the northern edge, and connects to the Withlacoochee River. It is bordered on the north and west sides by roads. <i>Taxodium ascendens</i> is the dominant species.

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Levy and Citrus Counties, Florida

Wetland ID	FLUCFCS Code	Acreage	UMAM Score	Soil Type	Corps Jurisdictional	OFW	Wetland Description
Wetland I/12/13	630	8.83	0.80	EauGallie fine sand	Yes	No	This is a mixed hardwood/conifer wetland forest divided by two roads and impacted by ditches, and connects to the Withlacoochee River. The wetland is dominated by <i>Taxodium ascendens</i> and <i>Pinus elliotii</i> .
Wetland J	641	1.0	0.57	Tavares fine sand with a smaller portion of Ona fine sand	No	No	This wetland is a freshwater marsh in an excavated area. It is surrounded by roads and disturbed along its perimeter by trucks and recreational vehicles. Dominant species include <i>Panicum repens</i> and <i>Pontederia cordata</i> .
Wetland K-L	630	16.7	0.87	Broward fine sand and EauGallie fine sand	Yes	No	This is a mixed hardwood/conifer wetland forest buffer along the southern bank of the Withlacoochee River. Dominant species include <i>Quercus laurifolia</i> , <i>Pinus elliotii</i> and <i>Serenoa repens</i> .
	630	12.67	0.87	Pompano fine sand and Cassia-Pomello complex	Yes	No	This is a mixed hardwood/conifer forested wetland along the northern bank of the Withlacoochee River. Hydrology is impacted due to the bypass canal and lack of natural flood regime. Dominant species include <i>Quercus laurifolia</i> and <i>Sabal palmetto</i> .
	510	1.83	0.87	Water	Yes	No	Withlacoochee River segment with altered hydrology due to bypass canal and spillway.
Wetland M	510	7.28	0.53	Water	Yes	No	This is the Cross Florida Barge Canal, containing approximately 85 percent open water with minimal wetland vegetation along the banks.

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Wetland N	510	3.14	0.53	Water	Yes	No	This is the bypass canal, containing approximately 80 percent open water with minimal wetland vegetation along the banks.

TABLE B

Florida Power Corporation d/b/a Progress Energy Florida, Inc.
Proposed Levy - Citrus Common Route

Protected Plants and Animals Potentially Occurring on the Transmission Line Right-of-Way
Levy and Citrus Counties, Florida

Species	Habitat of Occurrence	Likelihood of Occurrence on ROW	Status		Observed
			USFWS	FWC	
AMPHIBIANS					
<i>Rana capito</i> Gopher frog	Sandhill and scrub with isolated wetlands or large ponds; commensal with gopher tortoises	Medium	N	SSC	No
BIRDS					
<i>Aphelocoma coerulescens</i> Florida scrub-jay	Low-growing oak scrub habitat	Low	T	T	No
<i>Aramus guarauna</i> Limpkin	Freshwater marshes, swamps, springs, spring runs, pond, river, and lake margins	Medium	N	SSC	No
<i>Athene cunicularia floridana</i> Florida burrowing owl	Dry prairie, sandhill, pastures	Low	N	SSC	No
<i>Egretta caerulea</i> Little blue heron	Freshwater lakes, marshes, swamps, and streams, cypress	High	N	SSC	No
<i>Egretta thula</i> Snowy egret	Wetlands, streams, lakes, and swamps, manmade impoundments, ditches	High	N	SSC	No
<i>Egretta tricolor</i> Tricolored heron	Wetlands, ditches, pond and lake edges, coastal areas	High	N	SSC	No
<i>Eudocimus albus</i> White ibis	Freshwater and brackish marshes, salt flats, forested wetlands, wet prairies, swales, man-made ditches	High	N	SSC	Yes
<i>Falco sparverius paulus</i> Southeastern American kestrel	Open pine habitats, woodland edges, prairies, pastures	Medium	N	T	No
<i>Grus canadensis pratensis</i> Florida sandhill crane	Prairies, freshwater marshes, and pastures	High	N	T	No
<i>Haliaeetus leucocephalus</i> Bald eagle	Coastal areas, bays, rivers, lakes, or other bodies of water	High	N	N	Yes
<i>Mycteria americana</i> Wood stork	Cypress strands and domes, mixed hardwood swamps, freshwater marshes	High	E	E	No
<i>Picoides borealis</i> Red-cockaded woodpecker	Old growth longleaf and slash pine forests; present within the Withlacoochee State Forest	Low	E	SSC	No
<i>Platalea ajaja</i> Roseate spoonbill	Tidal flats, coastal and freshwater marshes	Medium	N	SSC	No

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Species	Habitat of Occurrence	Likelihood of Occurrence on ROW	Status		Observed
			USFWS	FWC	
<i>Rynchops niger</i> Black skimmer	Coastal waters, including beaches, bays, estuaries, sandbars, tidal creeks (foraging), and also inland waters of large lakes, phosphate pits, and flooded agricultural fields	Low	N	SSC	No
MAMMALS					
<i>Podomys floridanus</i> Florida mouse	Xeric upland communities with sandy soils, including scrub, sandhill, and ruderal sites; potential commensal in gopher tortoise burrows	Medium	N	SSC	No
<i>Sciurus niger shermani</i> Sherman's fox squirrel	Sandhills, pine flatwoods, pastures and other open, ruderal habitats with scattered pines and oaks	Medium	N	SSC	No
<i>Sorex longirostris eionis</i> Homosassa shrew	Moist areas, forested wetlands, riparian forests, fields, brushy areas; near Homosassa Springs area	Low	N	SSC	No
<i>Trichechus manatus</i> West Indian manatee	Rivers, bays, canals, estuaries, Gulf of Mexico	Low	E	E	No
<i>Ursus americanus floridanus</i> Florida black bear	Large areas of forested uplands, forested wetlands	Medium	N	T	No
REPTILES					
<i>Alligator mississippiensis</i> American alligator	Most permanent bodies of fresh water, including marshes, swamps, lakes, and rivers	Low	T (SA)	SSC	No
<i>Drymarchon couperi</i> Eastern indigo snake	Broad range of habitats, from scrub and sandhill to wet prairies and mangrove swamps; often commensal with gopher tortoises	Medium	T	T	No
<i>Gopherus polyphemus</i> Gopher tortoise	Dry upland habitats, including sandhills, scrub, xeric oak hammock, and dry pine flatwoods; also pastures, old fields	High	N	T	Yes
<i>Macrochelys temminckii</i> Alligator snapping turtle	Rivers that flow into the upper Gulf of Mexico; also utilize backwater swamps, overflow lakes, impoundments and main channels	Low	N	SSC	No

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			USFWS	FWC	
<i>Pituophis melanoleucus mugitus</i> Florida pine snake	Sandhill, old fields and pastures, sand pine scrub, scrubby flatwoods; often commensal with gopher tortoises and pocket gophers	Medium	N	SSC	No
<i>Pseudemys concinna suwanniensis</i> Suwannee cooter	Rivers, large streams	Low	N	SSC	No
<i>Stilosoma extenuatum</i> Short-tailed snake	Sandhill, xeric hammock, sand pine scrub	Low	N	T	No
FISH					
<i>Acipenser oxyrinchus desotoi</i> Gulf sturgeon	Forages in Gulf of Mexico and associated estuaries; spawns in most major coastal rivers in areas with limestone outcrops	Low	T	SSC	No
<i>Micropterus notius</i> Suwannee bass	Fast-moving shoal areas with a limestone bottom often covered by sand; generally prefers neutral or basic waters, such as those provided by springs emanating from the limestone aquifer	Low	N	SSC	No
PLANTS					
<i>Adiantum tenerum</i> Brittle maidenhair fern	Limestone outcrops, grottoes, sinkholes	Low	N	E	No
<i>Agrimonia incisa</i> Incised groove-bur	Sandhills and scrub	Low	N	E	No
<i>Arnoglossum diversifolium</i> Variable-leaved Indian-plantain	Floodplain forests over limestone, banks of woodland streams, seasonally wet places in richly wooded hammocks, and calcareous swamps	Low	N	T	No
<i>Asplenium pumilum</i> Dwarf spleenwort	Pinelands	Medium	N	E	No
<i>Asplenium verecundum</i> Modest spleenwort	Rockland hammocks, limestone outcrops, grottoes, sinkholes	Low	N	E	No
<i>Blechnum occidentale</i> Sinkhole fern	Moist woodlands, hammocks, rocky creek banks, woodlands with open shade	Low	N	E	No

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<i>Carex chapmanii</i> Chapman's sedge	Well-drained hammock woodlands, sandy hammocks; in beech-magnolia-maple with some oak-pine; floodplains of black-water streams with intermittent floods of brief duration	Low	N	E	No
<i>Centrosema arenicola</i> Sand butterfly pea	Sandhill, scrubby flatwoods, dry upland woods	Medium	N	E	No
<i>Cheilanthes microphylla</i> Southern lip fern	Crevice of limestone outcrops and terrestrial on shell mounds in partial to full sun	Low	N	E	No
<i>Drosera intermedia</i> Spoon-leaved sundew	Constantly moist to wet bogs, fens, and marshes; prefers nutrient free soils such as sphagnum peat moss or sandy ground and open, sunny habitats	Low	N	T	No
<i>Euphorbia commutata</i> Wood spurge	Open woods, sandy soils, stream borders and other riparian areas, rocky slopes	Medium	N	E	No
<i>Forestiera godfreyi</i> Godfrey's swampprivet	Upland hardwood forests with limestone at or near the surface, often on slopes above lakes and rivers	Medium	N	E	No
<i>Glandularia tampensis</i> Tampa vervain	Live oak-cabbage palm hammocks and pine-palmetto flatwoods	Low	N	E	No
<i>Hasteola robertiorum</i> Florida hasteola	Saturated, peaty soils of river and creek floodplain swamps; hydric hammocks with cabbage palm, cypress, or hardwood canopy	Medium	N	E	No
<i>Leitneria floridana</i> Corkwood	Edges of marshy openings and along small drainages in coastal hydric hammocks; fresh or tidal marshes; frequently associated with saw grass and toothleaf	Low	N	T	No
<i>Matelea floridana</i> Florida spiny-pod	Pinelands, temperate forests	Medium	N	E	No
<i>Monotropis reynoldsiae</i> Pygmy pipes	Upland mixed hardwood forest, mesic and xeric hammock, sand pine and oak scrub	High	N	E	No
<i>Nolina brittoniana</i> Britton's beargrass	Scrub, sandhill, scrubby flatwoods, and xeric hammock	High	E	E	Yes

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<i>Pecluma ptilodon</i> Swamp plume polypody	Rockland hammocks, strand swamps, wet woods	Medium	N	E	No
<i>Phyllanthus leibmannianus</i> ssp. <i>platylepis</i> Pinewoods dainties	Hydric hammocks, floodplain and bottomland forests, often on hummocks at bases of trees	Low	N	E	No
<i>Pteroglossaspis ecristata</i> Giant orchid	Sandhill, scrub, pine flatwoods, pine rocklands	High	N	T	No
<i>Rudbeckia triloba</i> var. <i>pinnatiloba</i> Pinnate-lobed coneflower	Bright sunlight, sandy soils	Medium	N	E	No
<i>Spigelia loganioides</i> Pinkroot	Floodplain forests, upland and hydric hardwood hammocks over limestone	Medium	N	E	No
<i>Spiranthes polyantha</i> Green ladies'-tresses	Rock outcrops in mesic hammock, rockland hammock, maritime hammock	High	N	E	No
<i>Stylisma abdita</i> Scrub stylisma	Pinelands, sandhills, scrub	High	N	E	No
<i>Thelypteris reptans</i> Creeping maiden fern	Limestone grottoes and sinkholes	Low	N	E	No
<i>Triphora craigheadii</i> Craighead's nodding-caps	Mesic hardwood hammocks	Medium	N	E	No

Notes:

N = Not Listed

T = Threatened

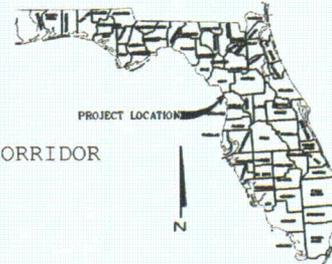
E = Endangered

SSC = Species of Special Concern

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

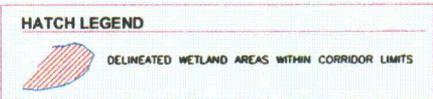
SPECIFIC PURPOSE SURVEY OF WETLAND JURISDICTIONAL DELINEATION
AND THREATENED AND ENDANGERED SPECIES
OF
PROGRESS ENERGY FLORIDA
COMMON ROUTE FROM CR 40 SOUTH TO CITRUS SUBSTATION

LOCATED IN
SECTIONS 6, 7, 18, 19, 20 and 29
TOWNSHIP 17 SOUTH, RANGE 17 EAST
LEVY and CITRUS COUNTY, FLORIDA



LEGEND:

- = WETLANDS JURISDICTIONAL DELINEATION LINE WITHIN CORRIDOR
- PEF = PROGRESS ENERGY FLORIDA
- WLA1, WLB2, WLC3, etc. = WETLAND FLAG DELINEATOR
- DGPS = DIFFERENTIAL GLOBAL POSITIONING SYSTEM
- N. = NORTHING (coordinate)
- E. = EASTING (coordinate)
- PL = PROPERTY LINE
- GIS = GEOGRAPHIC INFORMATION SYSTEM
- = 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 TRANSMISSION LINE CORRIDOR LIMITS, IN CONFORMANCE WITH U.S. ARMY CORPS OF ENGINEERS REQUIREMENTS.
- 3) LANDS SHOWN HEREON WERE NOT ABSTRACTED FOR OWNERSHIP, RIGHTS-OF-WAY, EASEMENTS OR OTHER MATTERS OF TITLE BY THIS FIRM, NOR WERE ANY SUCH DOCUMENTS PROVIDED BY CLIENT.
- 4) THE DELINEATION OF THE TRANSMISSION LINE SHOWN HEREON IS BASED ON GIS SHAPE FILES PROVIDED BY GOLDER ASSOCIATES. THIS SPECIFIC PURPOSE SURVEY IS NOT A BOUNDARY SURVEY OF THE TRANSMISSION LINE CORRIDOR.
- 5) THIS SURVEY WAS PERFORMED USING A COMBINATION OF GLOBAL POSITIONING SYSTEM AND CONVENTIONAL SURVEY METHODOLOGY. HORIZONTAL ACCURACY IS AT THE SUBMETER LEVEL.
- 6) COORDINATE LOCATIONS OF WETLAND DELINEATION AND THREATENED AND ENDANGERED SPECIES SHOWN HEREON ARE RELATIVE TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE (902), NORTH AMERICAN DATUM OF 1983/2007 ADJUSTMENT. Elevations shown hereon are relative to the North American Vertical Datum of 1988 (NAVD88) based on the following National Geodetic Survey benchmark:
 - RED LEVEL - elev. = 12.75 feet - triangulation station disk set in top of concrete monument, stamped: "RED LEVEL 1933"
 - RED LEVEL RM 1 - elev. = 12.57 feet - reference mark disk set in top of concrete monument, stamped: "RED LEVEL NO 1 1933"
- GO TO "www.ngs.noaa.gov" FOR MORE DETAILED INFORMATION REGARDING THESE BENCHMARKS. FIELD WORK COMPLETED FEB 19 TO FEB. 22, 2010.
- 7) WETLAND JURISDICTIONAL DELINEATIONS AND THREATENED AND ENDANGERED SPECIES DESCRIPTIONS WERE DETERMINED AND FLAGGED BY GOLDER ASSOCIATES, GAINESVILLE, FLORIDA.
- 8) THE WETLAND FLAG AND THREATENED AND ENDANGERED SPECIES LOCATIONS SHOWN HEREON CORRESPOND TO THE NUMBERING / LETTERING 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. SOURCE OF DATA: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT.
- 12) TOTAL WETLANDS AREA IS 65.80 ACRES±, SEE SHEETS 9 OF 9 FOR TABULATION.

SHEET INDEX:

SHEET	DESCRIPTION
1	COVER SHEET
2	LOCATION MAP WITH PHOTO
3-8	WETLAND AREA LOCATIONS
9	STATE PLANE COORDINATES AND WETLAND AREA TABULATIONS

THIS IS NOT A BOUNDARY SURVEY

LAST DATE IN FIELD: 02/22/2010 (elev.)
12/04/2009

PROJECT TITLE:
SPECIFIC PURPOSE SURVEY OF WETLAND JURISDICTIONAL DELINEATION
AND THREATENED AND ENDANGERED SPECIES
OF
**PROGRESS ENERGY FLORIDA COMMON ROUTE
from CR40 South to Citrus Substation
Levy and Citrus County, Florida**

DATE	BY	DESCRIPTION
02/22/10	PEW	Revised Note 6
02/22/10	PEW	SHEETS 5, 6 and 9
02/15/10	PEW	SHEETS 5 and 6
01/19/10	PEW	SHEETS 8 and 9

DRAWN BY: P.E.W.	CHKD. BY: R.M.J.
DATE: 12/15/09	DATE: 12/15/09
JOB No. 6374090435	SCALE 1" = 100'
	SHT. 1 OF 9

PREPARED BY:

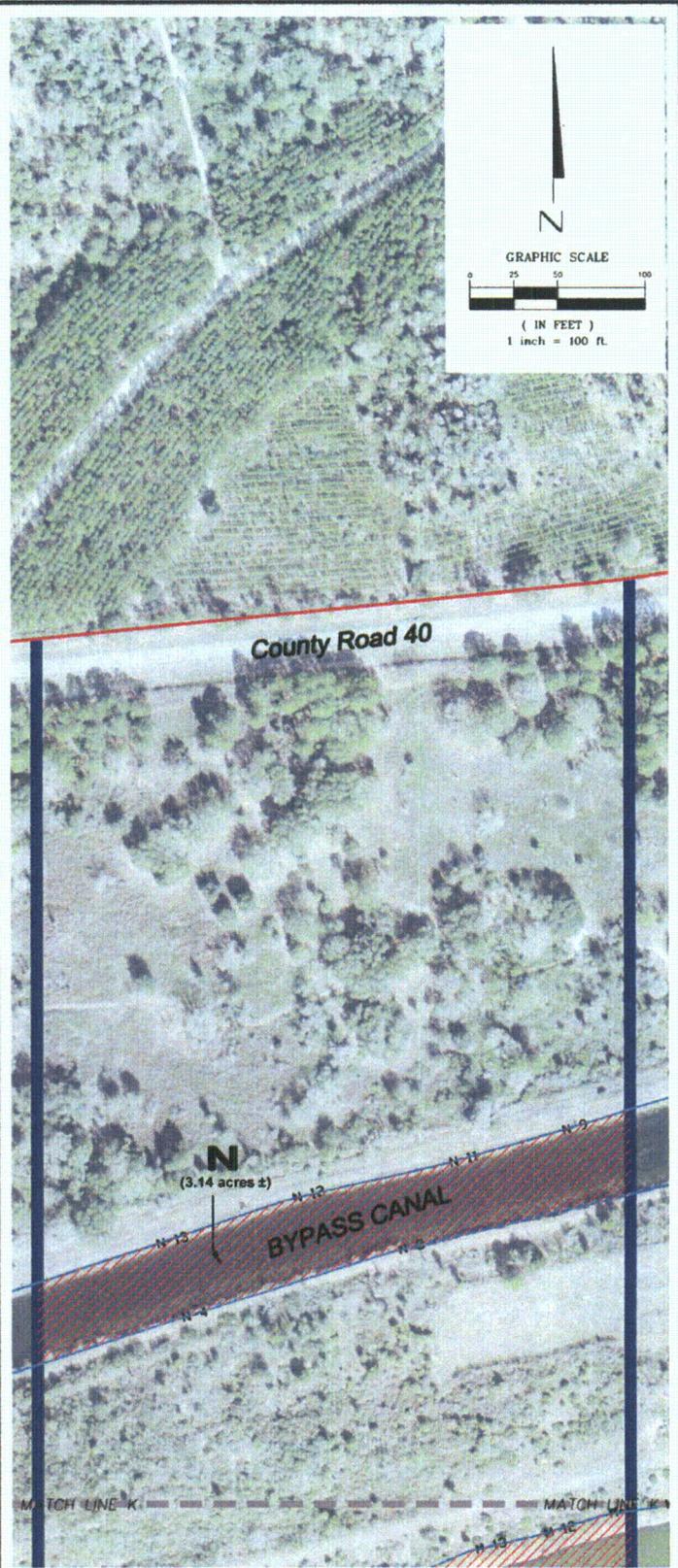
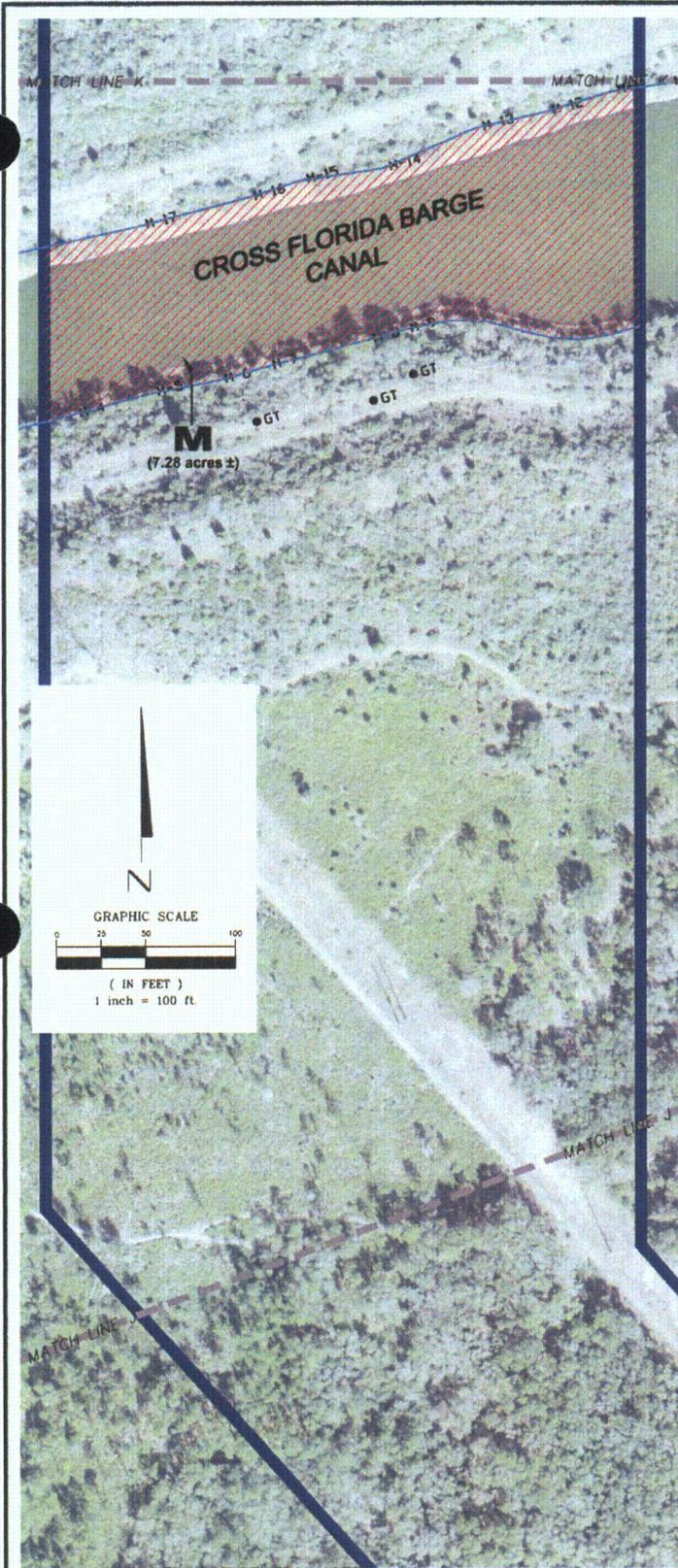
MACTEC
MACTEC Engineering & Consulting, Inc.
4150 North John Young Parkway Orlando, Florida 32804-2620
Phone: 407.522.7570 Fax: 407.522.7578
CERTIFICATE OF AUTHORIZATION: LB 6969

Golder Associates
Gainesville, Florida

PREPARED FOR:

GOLDER ASSOCIATES
6026 NW 1st Place
GAINESVILLE, FLORIDA 32607

ROBERT M. JONES
FLORIDA PROFESSIONAL SURVEYOR AND MAPPER
LICENSE No. LS 4201



SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
 SPECIFIC PURPOSE SURVEY OF WETLAND JURISDICTIONAL DELINEATION
 AND THREATENED AND ENDANGERED SPECIES

PROGRESS ENERGY FLORIDA COMMON ROUTE
 from CR40 South to Citrus Substation
 Levy and Citrus County, Florida

PREPARED BY:

MACTEC

MACTEC Engineering & Consulting, Inc.
 4150 North John Young Parkway Orlando, Florida 32804-2620
 Phone: 407.522.7570 Fax: 407.522.7578
 CERTIFICATE OF AUTHORIZATION: LB 6989



GOLDER ASSOCIATES
 6026 NW 1st Place
 GAINESVILLE, FLORIDA 32607

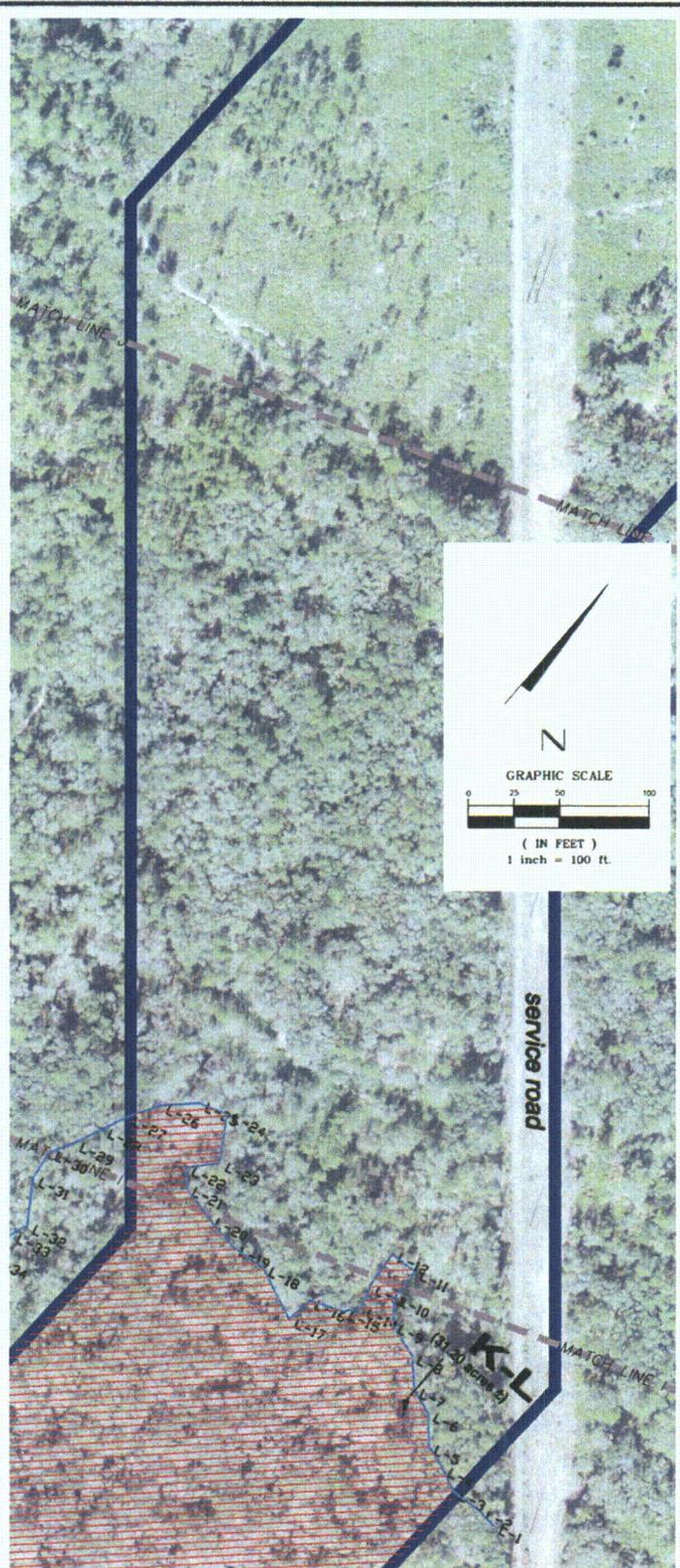
01/19/10	PEW	RIGHT-OF-WAY & WETLANDS
DATE	BY	DESCRIPTION

REVISION
 PREPARED FOR:

DRAWN BY: <u>P.E.W.</u>	CHKD. BY: <u>R.M.J.</u>
DATE: <u>12/15/09</u>	DATE: <u>12/15/09</u>

JOB No. <u>63740090435</u>	SCALE: <u>1"=300'</u>	SHT. <u>3</u> OF <u>9</u>
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DRAWING NAME: CR40 to CTRUS Substation.dwg



SEE SHEET 1 FOR GENERAL NOTES

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

PROGRESS ENERGY FLORIDA COMMON ROUTE
 from CR40 South to Citrus Substation
 Levy and Citrus County, Florida

02/05/10	PEW	combined K and L
DATE	BY	DESCRIPTION

DRAWN BY: **P.E.W.**
 DATE: **12/15/09**

CHKD. BY: **R.M.J.**
 DATE: **12/15/09**

JOB No.
63740090435

SCALE:
1"=300'

SHT. **4**
 OF **9**

REVISION
 PREPARED FOR:

DRAWING NAME: CR40 to CITRUS Substation.dwg

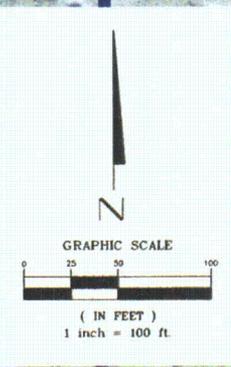
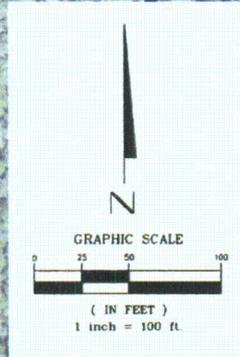
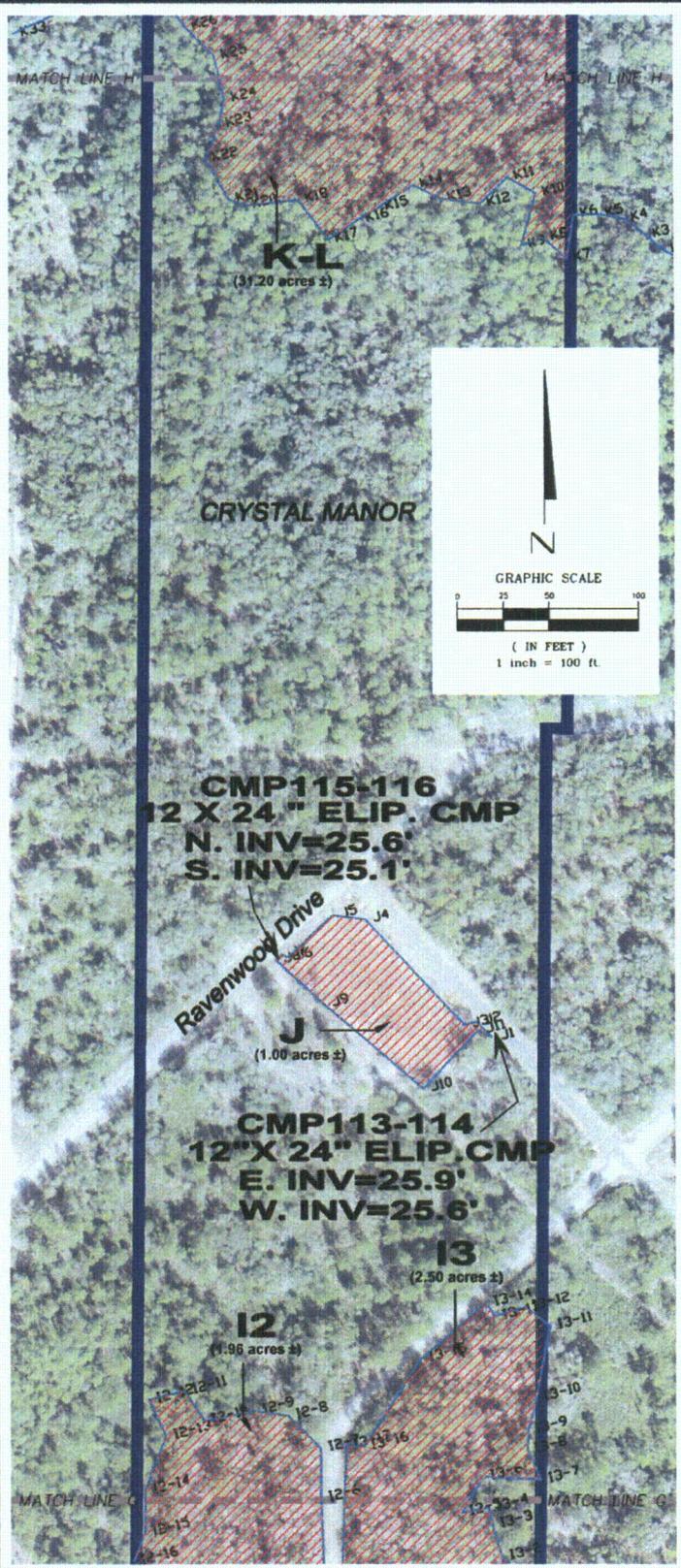
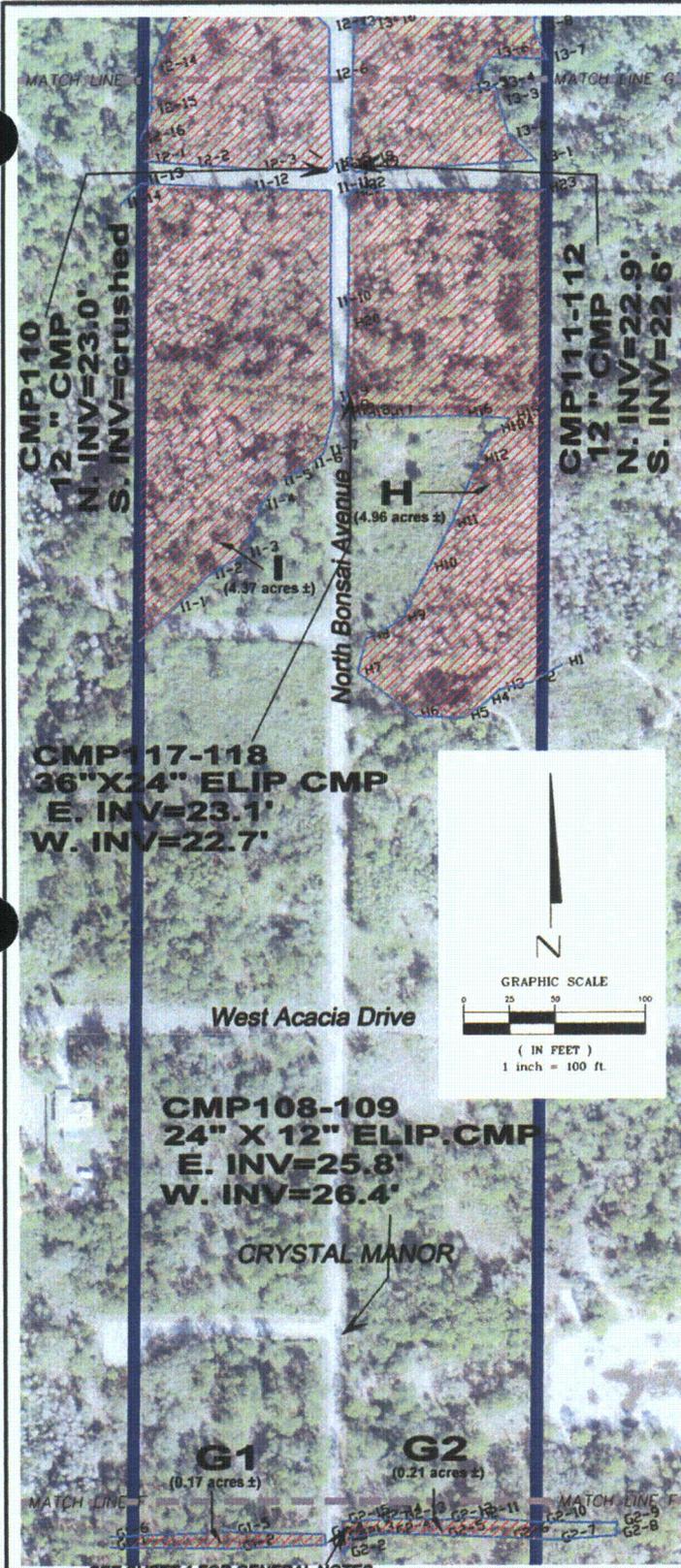
PREPARED BY:



MACTEC
 MACTEC Engineering & Consulting, Inc.
 4150 North John Young Parkway Orlando, Florida 32804-2620
 Phone: 407.522.7570 Fax: 407.522.7578
 CERTIFICATE OF AUTHORIZATION: LB 6969



GOLDER ASSOCIATES
 6026 NW 1st Place
 GAINESVILLE, FLORIDA 32607



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PROGRESS ENERGY FLORIDA COMMON ROUTE
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 Levy and Citrus County, Florida

02/22/10	PEW	added culvert information
02/15/10	PEW	SHEETS 5 and 6
02/05/10	PEW	combined K and L
DATE	BY	DESCRIPTION

DRAWN BY: P.E.W.	CHKD. BY: R.M.J.	
DATE: 12/15/09	DATE: 12/15/09	
JOB No. 63740090435	SCALE: 1"=300'	SHT. 5 OF 9

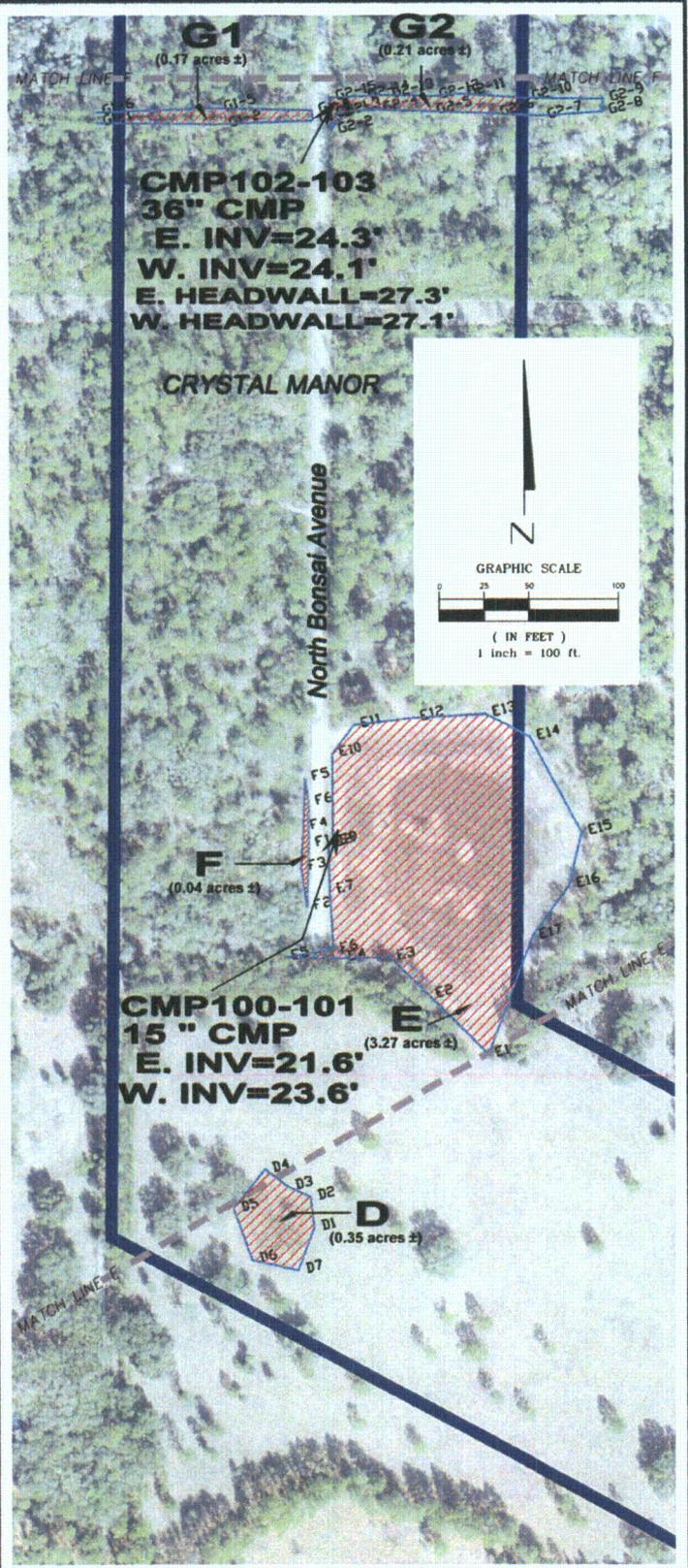
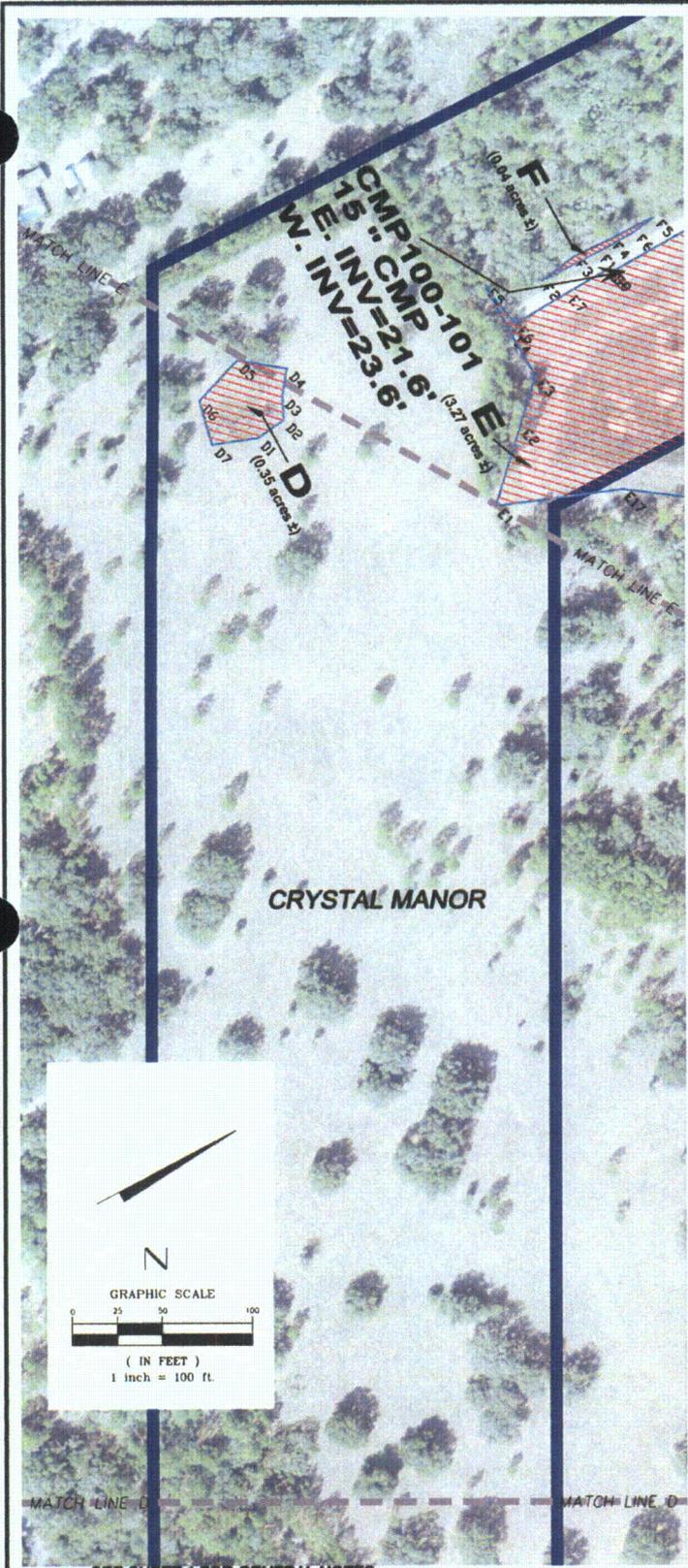
PREPARED BY:

MACTEC
 MACTEC Engineering & Consulting, Inc.
 4150 North John Young Parkway Orlando, Florida 32804-2620
 Phone: 407.522.7570 Fax: 407.522.7576
 CERTIFICATE OF AUTHORIZATION: LB 6969

PREPARED FOR:

Golder Associates
 Gainesville, Florida

PREPARED FOR:
GOLDER ASSOCIATES
 6026 NW 1st Place
 GAINESVILLE, FLORIDA 32607



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02/22/10	PEW	added culvert information
02/15/10	PEW	SHEETS 5 and 6
DATE	BY	DESCRIPTION

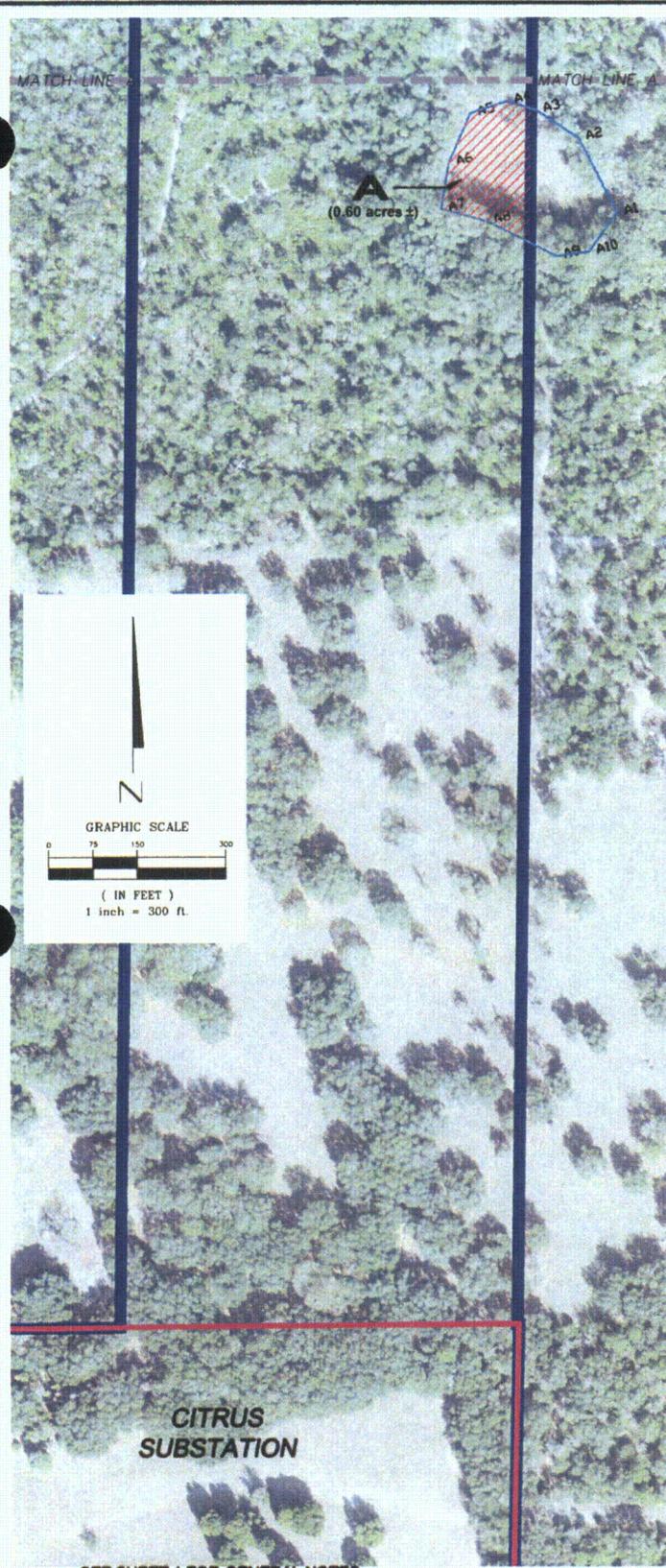
DRAWN BY: P.E.W.		CHKD. BY: R.M.J.	
DATE: 12/15/09		DATE: 12/15/09	
JOB No.	SCALE:	SHT. 6	
63740090435	1"=300'	OF 9	
DRAWING NAME: CR40 to CITRUS Substation.dwg			

PREPARED BY:
MACTEC
 MACTEC Engineering & Consulting, Inc.
 4150 North John Young Parkway Orlando, Florida 32804-2620
 Phone: 407.522.7570 Fax: 407.522.7576
 CERTIFICATE OF AUTHORIZATION: LB 6969

PREPARED FOR:

GOLDER ASSOCIATES
 Gainesville, Florida

GOLDER ASSOCIATES
 6026 NW 1st Place
 GAINESVILLE, FLORIDA 32607



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DRAWN BY: P.E.W. CHKD. BY: R.M.J.
 DATE: 12/15/09 DATE: 12/15/09

JOB No. 63740090435 SCALE: 1"=300' SHT. 8
 OF 9

PREPARED BY:

PREPARED FOR:

MACTEC
 MACTEC Engineering & Consulting, Inc.
 4150 North John Young Parkway Orlando, Florida 32804-2620
 Phone: 407.522.7570 Fax: 407.522.7578
 CERTIFICATE OF AUTHORIZATION: LB 6969

Golder Associates
 Gainesville, Florida

GOLDER ASSOCIATES
 6026 NW 1st Place
 GAINESVILLE, FLORIDA 32607

WETLAND FLAG LOCATIONS

Northing	Easting	Desc
1687996	461178	A1
1688122	461113	A2
1688169	461042	A3
1688184	460993	A4
1688163	460932	A5
1688079	460895	A6
1688002	460882	A7
1687981	460958	A8
1687923	461076	A9
1687930	461131	A10
1690719	460939	B1
1690673	461051	B2
1690744	461100	B3
1690857	461112	B4
1691013	461080	B5
1691013	460845	B6
1690893	460788	B7
1690750	460839	B8
1692484	459631	C1
1692548	459692	C2
1692561	459784	C3
1692631	459902	C4
1692806	459881	C5
1692828	459784	C6
1692800	459708	C7
1692787	459579	C8
1692804	459496	C9
1692756	459405	C10
1692721	459355	C11
1692604	459432	C12
1692521	459424	C13
1692484	459480	C14
1693686	457439	D1
1693738	457433	D2
1693756	457396	D3
1693785	457358	D4
1693718	457306	D5
1693631	457337	D6
1693614	457413	D7
1693978	457728	E1
1694077	457629	E2
1694141	457566	E3
1694139	457486	E4
1694141	457391	E5
1694154	457472	E6
1694255	457467	E7
1694334	457464	E8
1694337	457472	E9
1694486	457471	E10
1694535	457507	E11
1694546	457605	E12
1694553	457726	E13
1694514	457801	E14
1694353	457886	E15
1694264	457866	E16
1694177	457804	E17
1694333	457432	F1
1694226	457429	F2
1694293	457419	F3
1694361	457423	F4
1694444	457426	F5
1694403	457432	F6
1695550	457083	G1-1
1695547	457293	G1-2
1695554	457443	G1-3
1695571	457441	G1-4
1695575	457285	G1-5
1695568	457082	G1-6
1695564	457470	G2-1
1695536	457474	G2-2
1695567	457486	G2-3
1695572	457549	G2-4
1695569	457637	G2-5
1695565	457743	G2-6
1695561	457823	G2-7
1695568	457924	G2-8
1695590	457926	G2-9
1695591	457797	G2-10
1695599	457689	G2-11
1695595	457641	G2-12
1695597	457564	G2-13
1695595	457524	G2-14
1695592	457470	G2-15
1697037	457839	H1
1697007	457787	H2
1696995	457735	H3

WETLAND FLAG LOCATIONS

Northing	Easting	Desc
1696973	457711	H4
1696948	457676	H5
1696951	457594	H6
1697023	457500	H7
1697080	457512	H8
1697112	457572	H9
1697197	457617	H10
1697271	457655	H11
1697379	457700	H12
1697431	457727	H13
1697436	457743	H14
1697454	457752	H15
1697458	457673	H16
1697455	457544	H17
1697457	457503	H18
1697460	457479	H19
1697610	457485	H20
1697830	457486	H21
1697840	457493	H22
1697839	457808	H23
1697130	457192	I1-1
1697185	457249	I1-2
1697221	457308	I1-3
1697303	457337	I1-4
1697343	457364	I1-5
1697372	457415	I1-6
1697393	457442	I1-7
1697463	457460	I1-8
1697466	457459	I1-9
1697485	457455	I1-10
1697838	457456	I1-11
1697842	457317	I1-12
1697852	457141	I1-13
1697814	457106	I1-14
1697888	457154	I2-1
1697883	457223	I2-2
1697875	457335	I2-3
1697872	457451	I2-4
1697879	457459	I2-5
1698029	457454	I2-6
1698112	457454	I2-7
1698167	457400	I2-8
1698176	457344	I2-9
1698159	457259	I2-10
1698209	457227	I2-11
1698194	457167	I2-12
1698133	457195	I2-13
1698041	457160	I2-14
1697971	457159	I2-15
1697923	457139	I2-16
1697889	457797	I3-1
1697931	457752	I3-2
1697985	457736	I3-3
1698013	457730	I3-4
1698005	457687	I3-5
1698064	457720	I3-6
1698059	457815	I3-7
1698109	457793	I3-8
1698143	457794	I3-9
1698197	457809	I3-10
1698318	457832	I3-11
1698350	457790	I3-12
1698334	457741	I3-13
1698357	457727	I3-14
1698263	457621	I3-15
1698114	457524	I3-16
1698116	457495	I3-17
1697878	457488	I3-18
1697870	457495	I3-19
1698806	457738	J1
1698832	457712	J2
1698827	457692	J3
1699004	457529	J4
1699012	457475	J5
1698940	457401	J6
1698945	457392	J7
1698936	457381	J8
1698862	457461	J9
1698719	457624	J10
1698818	457714	J11
1700116	458066	K1
1700136	458027	K2
1700161	457996	K3
1700188	457959	K4
1700196	457917	K5
1700195	457875	K6
1700121	457863	K7
1700156	457824	K8
1700144	457788	K9

WETLAND FLAG LOCATIONS

Northing	Easting	Desc
1700232	457812	K10
1700259	457765	K11
1700214	457720	K12
1700223	457657	K13
1700246	457611	K14
1700207	457553	K15
1700188	457521	K16
1700154	457470	K17
1700221	457421	K18
1700211	457332	K20
1700222	457305	K21
1700289	457265	K22
1700348	457288	K23
1700390	457297	K24
1700462	457280	K25
1700513	457231	K26
1700585	457181	K27
1700648	457189	K28
1700647	457151	K29
1700535	457120	K30
1700552	457052	K31
1700536	457015	K32
1700501	456942	K33
1702080	457968	L-1
1702083	457935	L-2
1702079	457881	L-3
1702095	457842	L-4
1702107	457800	L-5
1702147	457763	L-6
1702162	457718	L-7
1702201	457678	L-8
1702218	457620	L-9
1702255	457590	L-10
1702311	457587	L-11
1702309	457538	L-12
1702242	457547	L-13
1702204	457563	L-14
1702180	457543	L-15
1702156	457490	L-16
1702110	457485	L-17
1702147	457394	L-18
1702139	457334	L-19
1702149	457272	L-20
1702163	457209	L-21
1702187	457186	L-22
1702230	457223	L-23
1702299	457177	L-24
1702282	457130	L-25
1702237	457085	L-26
1702185	457057	L-27
1702142	457039	L-28
1702093	457020	L-29
1702055	456999	L-30
1702003	457008	L-31
1701938	457053	L-32
1701908	457044	L-33
1701856	457041	L-34
1701777	457066	L-35
1701744	457059	L-36
1701678	457093	L-37
1704565	456689	M-1
1704591	455793	M-2
1704639	455934	M-3
1704678	456081	M-4
1704714	456211	M-5
1704736	456324	M-6
1704759	456404	M-7
1704803	456573	M-8
1704821	456634	M-9
1705236	457082	M-10
1705221	456985	M-11
1705188	456874	M-12
1705160	456756	M-13
1705093	456600	M-14
1705073	456462	M-15
1705044	456373	M-16
1704997	456193	M-17
1704934	455898	M-19
1704841	455619	M-21
1705874	457473	N-1
1705816	457259	N-2
1705664	456627	N-3
1705548	456267	N-4
1705409	455834	N-5
1706036	457578	N-6
1705969	457338	N-7
1705930	457117	N-8
1705867	456905	N-9
		N-10

WETLAND FLAG LOCATIONS

Northing	Easting	Desc
1705812	456713	N-11
1705752	456454	N-12
1705674	456225	N-13
1705546	455826	N-14

GOPHER TORTOISE HOLE LOCATIONS

Northing	Easting	Desc
1704746	456652	GT
1704701	456585	GT
1704665	456389	GT

WETLAND SQU FT ACREAGE

Letter	SQU FT	ACREAGE
A	26136	0.60
B	74923	1.72
C	131987	3.03
D	15246	0.35
E	142441	3.27
F	1742	0.04
G	7405	0.17
H	9148	0.21
I	216058	4.96
J	190357	4.37
K	85378	1.96
L	108900	2.50
M	43560	1.00
N	1359278	31.20
	317273	7.28
	136815	3.14
TOTAL	2866647	65.80

CRYSTAL MANOR ROAD CULVERTS

Northing Easting Elev. Desc

1694334	457446	26.19	BM1
1694334	457431	23.6	CMP100
1694334	457467	21.6	CMP101
1695580	457475	24.3	CMP102
1695566	457438	24.1	CMP103
1695581	457441	27.1	HDW1104
1695551	457442	27.0	HDW1105
1695566	457471	27.1	HDW1106
1695592	457470	27.4	HDW1107
1695896	457478	25.8	CMP108
1695896	457440	26.4	CMP109
1697874	457454	23.0	CMP110
1697875	457493	22.9	CMP111
1697840	457493	22.6	CMP112
1698957	457373	27.20	BM7
1698825	457716	25.6	CMP113
1698857	457744	25.9	CMP114
1698941	457387	25.1	CMP115
1698971	457361	25.6	CMP116
1697476	457457	22.7	CMP117
1697476	457483	23.1	CMP118

SEE SHEET 1 FOR GENERAL NOTES

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

PROGRESS ENERGY FLORIDA COMMON ROUTE
from CR40 South to Citrus Substation
Levy and Citrus County, Florida

02/22/10	PEW	added culvert information
02/05/10	PEW	WETLAND AREA "K-L"
01/19/10	PEW	WETLAND AREA "M & N"
DATE	BY	DESCRIPTION
		63740090435

DRAWN

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/10/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: A

Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 29 17S 17E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 28.97608317 Long: -82.61054132 Datum: WGS84

Soil Map Unit Name: Adamsville fine sand NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes _____ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>	_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Saturation Visible on Aerial Imagery (C9)
_____ Algal Mat or Crust (B4)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Shallow Aquitard (D3)
_____ Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)
_____ Other (Explain in Remarks)	

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u>		
(includes capillary fringe)		

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

VEGETATION - Use scientific names of plants

Sampling Point: A

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <i>Quercus laurifolia</i>	15	yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>7</u> (A)
2. <i>Sabal palmetto</i>	5	yes	FAC	Total Number of Dominant Species Across All Strata:	<u>8</u> (B)
3. <i>Diospyros virginiana</i>	5	yes	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>87.50</u> (A/B)
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
25 = Total Cover					
Sapling Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalance Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x1= _____
3. _____	_____	_____	_____	FACW species _____	x2= _____
4. _____	_____	_____	_____	FAC species _____	x3= _____
5. _____	_____	_____	_____	FACU species _____	x4= _____
6. _____	_____	_____	_____	UPL species _____	x5= _____
7. _____	_____	_____	_____	Column Totals: _____	(A) _____ (B)
0 = Total Cover			Prevalance Index = B/A = _____		
Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <i>Cephalanthus occidentalis</i>	15	yes	OBL	<input checked="" type="checkbox"/> Dominance Test is 50%	
2. <i>Myrica cerifera</i>	5	no	FAC	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
3. <i>Salix caroliniana</i>	15	yes	OBL	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. _____	_____	_____	_____	Definitions of Vegetation Strata:	
6. _____	_____	_____	_____	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).	
7. _____	_____	_____	_____	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
35 = Total Cover			Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.		
0 = Total Cover			Herb- All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.		
0 = Total Cover			Woody vine- All woody vines, regardless of height.		
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/>	No _____
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover					
Remarks: (If observed, list morphological adaptations below).					
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Adamsville

SOIL

Sampling Point: A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10 YR 4/2		10 YR 3/1				few fine roots	dark grayish brown fine sand
7-20	10 YR 6/4		10 YR 6/6; 10 YR 7/2				few medium distinct mottles and streaks	light yellowish brown fine sand
20-39	10 YR 7/4		10 YR 6/6				common medium distinct mottles	very pale brown fine sand
39-80	10 YR 7/3							very pale brown fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histol (A1)
- Histic Epidon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 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 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)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Mart (F10) (LRR U)
- Depleted Orchric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P,T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Orchric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

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)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/10/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: B
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 20 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 28.98378217 Long: -82.6106338 Datum: WGS84
 Soil Map Unit Name: Tavares fine sand, 0-5 percent slopes NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	_____ Marl Deposits (B15) (LRR U)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Saturation Visible 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 Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.		

VEGETATION - Use scientific names of plants

Sampling Point: B

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>10</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>13</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>76.92</u> (A/B)
4. _____	_____	_____	_____	Prevalance Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: Multiply by:	
6. _____	_____	_____	_____	OBL species	x1= _____
7. _____	_____	_____	_____	FACW species	x2= _____
0 = Total Cover				FAC species	x3= _____
Sapling Stratum (Plot size: _____)				FACU species	x4= _____
1. _____	_____	_____	_____	UPL species	x5= _____
2. _____	_____	_____	_____	Column Totals:	_____ (A) _____ (B)
3. _____	_____	_____	_____	Prevalance Index = B/A = _____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
5. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is 50%	
6. _____	_____	_____	_____	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
7. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
0 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Shrub Stratum (Plot size: _____)					
1. <i>Rubus cuneifolius</i>	5	yes	FACU	Definitions of Vegetation Strata:	
2. <i>Myrica cerifera</i>	5	yes	FAC		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
10 = Total Cover				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 less than 3 in. (7.6 cm) DBH. Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 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 (1 m) in height. Woody vine- All woody vines, regardless of height.	
Herb Stratum (Plot size: _____)					
1. <i>Panicum hemitomon</i>	10	yes	OBL		
2. <i>Eupatorium capillifolium</i>	10	yes	FACU		
3. <i>Andropogon glomeratus</i>	5	yes	FACW		
4. <i>Ludwigia suffruticosa</i>	5	yes	OBL		
5. <i>Diodia virginiana</i>	5	yes	FACW		
6. <i>Polypremum procumbens</i>	5	yes	FACU		
7. <i>Chamaecrista fasciculata</i>	5	yes	NL		
8. <i>Juncus megecephalus</i>	5	yes	OBL		
9. <i>Cyperus haspan</i>	5	yes	OBL		
10. <i>Xyris elliotii</i>	5	yes	OBL		
11. <i>Fuirena scirpoidea</i>	5	yes	OBL		
12. <i>Euthamia minor</i>	5	yes	FAC		
70 = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover					
Remarks: (If observed, list morphological adaptations below).					
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Taveres

SOIL

Sampling Point: B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10 YR 4/2							dark grayish brown fine sand
3-41	10 YR 7/4							very pale brown fine sand
41-63	10 YR 7/4							very pale brown fine sand
63-80	10 YR 8/1		10 YR 7/4				few medium distinct mottles	white fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histol (A1)
- Histic Epidon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 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 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)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Orchric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P,T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Orchric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (a9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/10/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: C

Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 20 17S 17E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%):

Subregion (LRR or MLRA): LRR U Lat: 28.9886886 Long: -82.61484826 Datum: WGS84

Soil Map Unit Name: Tavares fine sand with a minor amount of Pompano fine sand NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are circumstances normal? Yes No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u></u>	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u></u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-12</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

VEGETATION - Use scientific names of plants

Sampling Point: C

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. Pinus elliottii	5	yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>5</u> (A)
2. Quercus laurifolia	5	yes	FACW	Total Number of Dominant Species Across All Strata:	<u>7</u> (B)
3. Prunus serotina	2	no	FACU	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>71.43</u> (A/B)
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
12 = Total Cover				Prevalance Index worksheet:	
Sapling Stratum (Plot size: _____)				<u>Total % Cover of:</u> <u>Multiply by:</u>	
1. _____	_____	_____	_____	OBL species	_____ x1= _____
2. _____	_____	_____	_____	FACW species	_____ x2= _____
3. _____	_____	_____	_____	FAC species	_____ x3= _____
4. _____	_____	_____	_____	FACU species	_____ x4= _____
5. _____	_____	_____	_____	UPL species	_____ x5= _____
6. _____	_____	_____	_____	Column Totals:	_____ (A) _____ (B)
7. _____	_____	_____	_____	Prevalance Index = B/A = _____	
0 = Total Cover				Hydrophytic Vegetation Indicators:	
Shrub Stratum (Plot size: _____)				<input checked="" type="checkbox"/> Dominance Test is 50%	
1. Rubus cuneifolius	10	yes	FACU	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
2. Ilex cassine	5	yes	FACW	Problematic Hydrophytic Vegetation ¹ (Explain)	
3. Myrica cerifera	5	yes	FAC		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
20 = Total Cover				Definitions of Vegetation Strata:	
Herb Stratum (Plot size: _____)				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).	
1. Panicum hemitomon	40	yes	OBL	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
2. Eupatorium capillifolium	40	yes	FACU	Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
3. Andropogon glomeratus	5	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 (1 m) in height.	
4. Rhexia spp.	5	no	FACW	Woody vine- All woody vines, regardless of height.	
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
12. _____	_____	_____	_____		
90 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: (If observed, list morphological adaptations below).					
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Taveres

SOIL

Sampling Point: C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10 YR 4/2							dark grayish brown fine sand
3-41	10 YR 7/4							very pale brown fine sand
41-63	10 YR 7/4							very pale brown fine sand
63-80	10 YR 8/1		10 YR 7/4				few medium distinct mottles	white fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <input type="checkbox"/> Histol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) |
| <input type="checkbox"/> Histic Epidon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Orchric (F11) (MLRA 151) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A) | <input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S) | <input type="checkbox"/> Delta Orchric (F17) (MLRA 151) |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B) |
| <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A) |
| <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D) |
| <input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U) | |

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (a9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/10/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: D
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 19 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 28.99146031 Long: -82.62187834 Datum: WGS84
 Soil Map Unit Name: Basinger fine sand NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		_____ Surface Soil Cracks (B6)	
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Sparsely Vegetated Concave Surface (B8)	
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	_____ Marl Deposits (B15) (LRR U)	_____ Moss Trim Lines (B16)	
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Dry-Season Water Table (C2)	
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Crayfish Burrows (C8)	
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Saturation Visible 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 Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)	
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.			

VEGETATION - Use scientific names of plants

Sampling Point: D

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1.	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u> 6 </u> (A)
2.	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u> 6 </u> (B)
3.	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u> 100.00 </u> (A/B)
4.	_____	_____	_____		
5.	_____	_____	_____		
6.	_____	_____	_____		
7.	_____	_____	_____		
0 = Total Cover					
Sapling Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalance Index worksheet:	
1. <i>Salix caroliniana</i>	15	yes	OBL	Total % Cover of: OBL species	x1= _____
2. <i>Nyssa sylvatica</i> var. <i>biflora</i>	5	yes	FAC	FACW species	x2= _____
3.	_____	_____	_____	FAC species	x3= _____
4.	_____	_____	_____	FACU species	x4= _____
5.	_____	_____	_____	UPL species	x5= _____
6.	_____	_____	_____	Column Totals:	_____ (A) _____ (B)
7.	_____	_____	_____	Prevalance Index = B/A = _____	
20 = Total Cover					
Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <i>Cephalanthus occidentalis</i>	25	yes	OBL	<input checked="" type="checkbox"/> Dominance Test is 50%	
2.	_____	_____	_____	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
3.	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4.	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5.	_____	_____	_____		
6.	_____	_____	_____		
7.	_____	_____	_____		
25 = Total Cover					
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Definitions of Vegetation Strata:	
1. <i>Juncus effusus</i>	20	yes	FACW	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. <i>Pontederia cordata</i>	30	yes	OBL	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
3. <i>Polygonum punctatum</i>	15	yes	FACW	Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
4. <i>Nuphar luteum</i>	10	no	OBL	Herb- All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
5. <i>Bacopa caroliniana</i>	5	no	OBL	Woody vine- All woody vines, regardless of height.	
6. <i>Rhexia</i> spp.	5	no	FACW		
7. <i>Polypremum procumbens</i>	5	no	FACU		
8. <i>Andropogon glomeratus</i>	5	no	FACW		
9. <i>Ludwigia suffruticosa</i>	5	no	OBL		
10. <i>Panicum hemitomon</i>	5	no	OBL		
11. <i>Centella asiatica</i>	5	no	FACW		
12. <i>Hydrocotyle umbellata</i>	5	no	OBL		
115 = Total Cover					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1.	_____	_____	_____		
2.	_____	_____	_____		
3.	_____	_____	_____		
4.	_____	_____	_____		
5.	_____	_____	_____		
0 = Total Cover					
Remarks: (If observed, list morphological adaptations below).				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Basinger

SOIL

Sampling Point: D

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10 YR 4/2		10 YR 3/1				few fine roots	dark grayish brown fine sand
7-20	10 YR 6/4		10 YR 6/6; 10 YR 7/2				few medium distinct mottles and streaks	light yellowish brown fine sand
20-39	10 YR 7/4		10 YR 6/6				common medium distinct mottles	very pale brown fine sand
39-80	10 YR 7/3							very pale brown fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)
<input type="checkbox"/> Histic Epidon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Orchric (F11) (MLRA 151)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Orchric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	

Restrictive Layer (If observed):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/10/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: E
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 18 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 28.99316576 Long: -82.62092015 Datum: WGS84
 Soil Map Unit Name: Water NWI classification: Palustrine emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		_____ Surface Soil Cracks (B6)	
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Sparsely Vegetated Concave Surface (B8)	
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	_____ Marl Deposits (B15) (LRR U)	_____ Moss Trim Lines (B16)	
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Dry-Season Water Table (C2)	
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Crayfish Burrows (C8)	
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Saturation Visible 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 Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)	
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present?	Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u>		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.			

VEGETATION - Use scientific names of plants

Sampling Point: E

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u> 5 </u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u> 5 </u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u> 100.00 </u> (A/B)
4. _____	_____	_____	_____	Prevalance Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: Multiply by:	
6. _____	_____	_____	_____	OBL species	x1= _____
7. _____	_____	_____	_____	FACW species	x2= _____
0 = Total Cover				FACU species	x3= _____
Sapling Stratum (Plot size: _____)				UPL species	x5= _____
1. <i>Salix caroliniana</i>	5	yes	OBL	Column Totals:	(A) _____ (B) _____
2. _____	_____	_____	_____	Prevalance Index = B/A = _____	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is 50%	
5. _____	_____	_____	_____	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
6. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5 = Total Cover				Definitions of Vegetation Strata:	
Shrub Stratum (Plot size: _____)				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).	
1. <i>Cephalanthus occidentalis</i>	5	yes	OBL	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
2. <i>Myrica cerifera</i>	5	yes	FAC	Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
3. _____	_____	_____	_____	Herb- All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
4. _____	_____	_____	_____	Woody vine- All woody vines, regardless of height.	
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
10 = Total Cover					
Herb Stratum (Plot size: _____)					
1. <i>Pontederia cordata</i>	30	yes	OBL		
2. <i>Panicum hemitomon</i>	10	no	OBL		
3. <i>Xyris elliottii</i>	5	no	OBL		
4. <i>Eupatorium capillifolium</i>	5	no	FACU		
5. <i>Erigeron</i> spp.	5	no	FAC		
6. <i>Centella asiatica</i>	5	no	FACW		
7. <i>Bacopa caroliniana</i>	5	no	OBL		
8. <i>Nymphaea odorata</i>	30	yes	OBL		
9. <i>Fuirena</i> spp.	5	no	OBL		
10. <i>Nymphoides</i> spp.	5	no	OBL		
11. <i>Panicum repens</i>	5	no	FACW		
12. <i>Rhexia</i> spp.	5	no	FACW		
115 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: (If observed, list morphological adaptations below).					
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Water
SOIL

Sampling Point: E

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histic (A1)
- Histic Epidon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 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 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)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Orchric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P,T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Orchric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (a9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/10/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: F

Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 18 17S 17E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%):

Subregion (LRR or MLRA): LRR U Lat: 28.99330372 Long: -82.62168456 Datum: WGS84

Soil Map Unit Name: Adamsville fine sand NWI classification: Not listed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are circumstances normal? Yes No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)
Field Observations:	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u></u>	
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u></u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-12</u> (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.	

VEGETATION - Use scientific names of plants

Sampling Point: F

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1.				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>8</u> (A)
2.				Total Number of Dominant Species Across All Strata:	<u>10</u> (B)
3.				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>80.00</u> (A/B)
4.				Prevalance Index worksheet:	
5.				Total % Cover of: _____ Multiply by: _____	
6.				OBL species	x1= _____
7.				FACW species	x2= _____
0 = Total Cover				FAC species	x3= _____
Sapling Stratum (Plot size: _____)				FACU species	x4= _____
1. Salix caroliniana	5	yes	OBL	UPL species	x5= _____
2. Sabal palmetto	5	yes	FAC	Column Totals:	_____ (A) _____ (B)
3.				Prevalance Index = B/A = _____	
4.				Hydrophytic Vegetation Indicators:	
5.				<input checked="" type="checkbox"/> Dominance Test is 50%	
6.				<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
7.				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
10 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Shrub Stratum (Plot size: _____)				Definitions of Vegetation Strata:	
1. Rubus cuneifolius	5	yes	FACU	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. Myrica cerifera	5	yes	FAC	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
3. Ilex cassine	5	yes	FACW	Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
4. Baccharis halimifolia	5	yes	FAC	Herb- All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
5.				Woody vine- All woody vines, regardless of height.	
6.					
7.					
20 = Total Cover					
Herb Stratum (Plot size: _____)					
1. Hypericum fasciculatum	20	yes	FACW		
2. Hyptis alata	5	no	OBL		
3. Brachiaria plantaginea	20	yes	FAC		
4. Panicum hemitomon	10	no	OBL		
5. Eupatorium capillifolium	20	yes	FACU		
6. Andropogon glomeratus	5	no	FACW		
7. Lobelia spp.	5	no	OBL		
8. Dichromena spp.	5	no	FACW		
9. Setaria geniculata	5	no	FAC		
10. Solidago spp.	5	no	FACU		
11. Boehmeria cylindrica	5	no	FACW		
12. Colocasia esculenta	5	no	FACW		
110 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. Ampelopsis arborea		yes	FAC		
2.					
3.					
4.					
5.					
0 = Total Cover					
Remarks: (If observed, list morphological adaptations below).				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Adamsville

Sampling Point: F

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10 YR 4/2		10 YR 3/1				few fine roots	dark grayish brown fine sand
7-20	10 YR 6/4		10 YR 6/6; 10 YR 7/2				few medium distinct mottles and streaks	light yellowish brown fine sand
20-39	10 YR 7/4		10 YR 6/6				common medium distinct mottles	very pale brown fine sand
39-80	10 YR 7/3							very pale brown fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histol (A1)
- Histic Epidon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 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 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)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Orchric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P,T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Orchric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

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)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/10/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: G1/G2
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 18 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 28.99666481 Long: -82.6213437 Datum: WGS84
 Soil Map Unit Name: Ona fine sand NWI classification: Not listed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> _____ Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)

Field Observations:	
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u> (includes capillary fringe)	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

VEGETATION - Use scientific names of plants

Sampling Point: G1/G2

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <i>Pinus elliottii</i>	20	yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>16</u> (A)
2. <i>Persea palustris</i>	5	yes	NL	Total Number of Dominant Species Across All Strata:	<u>19</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>84.21</u> (A/B)
4. _____	_____	_____	_____	Prevalance Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: Multiply by:	
6. _____	_____	_____	_____	OBL species _____	x1= _____
7. _____	_____	_____	_____	FACW species _____	x2= _____
25 = Total Cover				FAC species _____	x3= _____
Sapling Stratum (Plot size: _____)				FACU species _____	x4= _____
1. <i>Salix caroliniana</i>	5	yes	OBL	UPL species _____	x5= _____
2. _____	_____	_____	_____	Column Totals: _____	(A) _____ (B) _____
3. _____	_____	_____	_____	Prevalance Index = B/A = _____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
5. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is 50%	
6. _____	_____	_____	_____	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
7. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Shrub Stratum (Plot size: _____)				Definitions of Vegetation Strata:	
1. <i>Baccharis halimifolia</i>	10	yes	FAC	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. <i>Cephalanthus occidentalis</i>	5	yes	OBL	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
3. <i>Ilex cassine</i>	5	yes	FACW	Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
4. <i>Myrica cerifera</i>	5	yes	FAC	Herb- All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
5. _____	_____	_____	_____	Woody vine- All woody vines, regardless of height.	
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
25 = Total Cover					
Herb Stratum (Plot size: _____)					
1. <i>Sagittaria lancifolia</i>	10	yes	OBL		
2. <i>Andropogon glomeratus</i>	5	yes	FACW		
3. <i>Eupatorium capillifolium</i>	5	yes	FACU		
4. <i>Boehmeria cylindrica</i>	5	yes	FACW		
5. <i>Cyperus odoratus</i>	5	yes	FACW		
6. <i>Typha</i> spp.	5	yes	OBL		
7. <i>Hypericum</i> spp.	5	yes	FACW		
8. <i>Nymphaea odorata</i>	5	yes	OBL		
9. <i>Borrchia</i> spp.	5	yes	FACW		
10. <i>Bidens laevis</i>	10	yes	OBL		
11. <i>Panicum hemitomon</i>	5	yes	OBL		
12. <i>Woodwardia virginica</i>	5	yes	OBL		
70 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
0 = Total Cover					
Remarks: (If observed, list morphological adaptations below).				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Ona

SOIL

Sampling Point: G1/G2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/1							very dark gray fine sand
8-20	7.5YR 3/2							dark brown fine sand
20-42	10YR 6/4		10 YR 5/2; 10 YR 4/1				common medium faint grayish brown and dark gray	light yellowish brown fine sand
42-74	10 YR 8/4						few fine faint grayish brown	very pale brown fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histol (A1)
- Histic Epidon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 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 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)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Orchric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P,T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Orchric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (a9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/11/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: H
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 18 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 29.00210364 Long: -82.62094436 Datum: WGS84
 Soil Map Unit Name: EauGallie fine sand NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required; check all that apply)		_____ Surface Soil Cracks (B6)	
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Sparsely Vegetated Concave Surface (B8)	
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	_____ Marl Deposits (B15) (LRR U)	_____ Moss Trim Lines (B16)	
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Dry-Season Water Table (C2)	
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Crayfish Burrows (C8)	
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Saturation Visible 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 Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)	
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____			
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____			
Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u> (includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.			

VEGETATION - Use scientific names of plants

Sampling Point: H

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. Taxodium ascendens	50	yes	OBL	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>16</u> (A)
2. Persea palustris	5	no	NL	Total Number of Dominant Species Across All Strata:	<u>18</u> (B)
3. Magnolia virginiana	5	no	FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>88.89</u> (A/B)
4. Pinus elliotii	10	yes	FACW	Prevalance Index worksheet:	
5. Quercus laurifolia	5	no	FACW	Total % Cover of: _____ Multiply by:	
6. Sabal palmetto	5	no	FAC	OBL species	_____ x1= _____
7. Acer rubrum	5	no	FAC	FACW species	_____ x2= _____
85 = Total Cover				FAC species	_____ x3= _____
Sapling Stratum (Plot size: _____)				FACU species	_____ x4= _____
1. Salix caroliniana	5	yes	OBL	UPL species	_____ x5= _____
2.				Column Totals:	_____ (A) _____ (B)
3.				Prevalance Index = B/A = _____	
4.				Hydrophytic Vegetation Indicators:	
5.				<input checked="" type="checkbox"/> Dominance Test is 50%	
6.				<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
7.				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Shrub Stratum (Plot size: _____)				Definitions of Vegetation Strata:	
1. Rubus cuneifolius	5	yes	FACU	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. Lyonia lucida	10	yes	FACW	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
3. Myrica cerifera	5	yes	FAC	Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
4. Cephalanthus occidentalis	5	yes	OBL	Herb- All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
5. Ilex glabra	5	yes	FACW	Woody vine- All woody vines, regardless of height.	
6. Serenoa repens	5	yes	FACU		
7.					
35 = Total Cover					
Herb Stratum (Plot size: _____)					
1. Woodwardia virginica	5	yes	OBL		
2. Osmunda regalis	5	yes	OBL		
3. Osmunda cinnamomea	5	yes	FACW		
4. Woodwardia aereolata	5	yes	OBL		
5. Hypericum fasciculatum	5	yes	FACW		
6. Nymphoides spp.	5	yes	OBL		
7. Ludwigia peruviana	5	yes	OBL		
8. Hydrocotyle umbellata	5	yes	OBL		
9. Sagittaria lancifolia	5	yes	OBL		
10.					
11.					
12.					
45 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1.					
2.					
3.					
4.					
5.					
0 = Total Cover					
Remarks: (If observed, list morphological adaptations below).				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- EauGallie
SOIL

Sampling Point: H

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	N 2/0							black sand
5-14	10 YR 6/1							gray sand
14-22	10 YR 6/1							light gray sand
22-26	N 2/0							black sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histol (A1)	<input type="checkbox"/> 1 cm Muck (a9) (LRR O)
<input type="checkbox"/> Histic Epidon (A2)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A, B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Very Shallow Dark Surface (TF12) (LRR T, U)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	
<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	
<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Marl (F10) (LRR U)	
<input type="checkbox"/> Depleted Orchric (F11) (MLRA 151)	
<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Delta Orchric (F17) (MLRA 151)	
<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
--------------------------------------------------------------------------	------------------------------------------------------------------------------------------

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/11/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: I/12/I3
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 18 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 29.00258889 Long: -82.6219598 Datum: WGS84
 Soil Map Unit Name: Eau Gallie fine sand NWI classification: Palustrine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		_____ Surface Soil Cracks (B6)
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Sparsely Vegetated Concave Surface (B8)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	_____ Marl Deposits (B15) (LRR U)	_____ Moss Trim Lines (B16)
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Dry-Season Water Table (C2)
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Crayfish Burrows (C8)
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Saturation Visible 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 Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present?	Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u>	
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.		

VEGETATION - Use scientific names of plants

Sampling Point: I/12/13

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <i>Taxodium ascendens</i>	30	yes	OBL	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>22</u> (A)
2. <i>Pinus elliotii</i>	10	yes	FACW	Total Number of Dominant Species Across All Strata:	<u>24</u> (B)
3. <i>Ilex cassine</i>	5	no	FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>91.67</u> (A/B)
4. <i>Quercus laurifolia</i>	5	no	FACW	Prevalance Index worksheet:	
5. <i>Sabal palmetto</i>	5	no	FAC	Total % Cover of: <u>65</u> = Total Cover	
6. <i>Acer rubrum</i>	5	no	FAC	Multiply by:	
7. <i>Cornus foemina</i>	5	no	FACW	OBL species	x1= _____
				FACW species	x2= _____
				FAC species	x3= _____
				FACU species	x4= _____
				UPL species	x5= _____
				Column Totals:	_____ (A) _____ (B)
				Prevalance Index = B/A = _____	
Sapling Stratum (Plot size: _____) 1. <i>Salix caroliniana</i> 5 yes OBL 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is 50% <input type="checkbox"/> Prevalance Index is $\leq 3.0^1$ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
Shrub Stratum (Plot size: _____) 1. <i>Lyonia lucida</i> 15 yes FACW 2. <i>Myrica cerifera</i> 5 yes FAC 3. <i>Serenoa repens</i> 5 yes FACU 4. <i>Ilex glabra</i> 5 yes FACW 5. <i>Cephalanthus occidentalis</i> 5 yes OBL 6. <i>Baccharis halimifolia</i> 5 yes FAC 7. <i>Lyonia mariana</i> 5 yes FAC				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Herb Stratum (Plot size: _____) 1. <i>Woodwardia virginica</i> 5 yes OBL 2. <i>Panicum hemitomon</i> 5 yes OBL 3. <i>Ludwigia peruviana</i> 5 yes OBL 4. <i>Bidens laevis</i> 5 yes OBL 5. <i>Solidago</i> spp. 5 yes FACU 6. <i>Andropogon glomeratus</i> 5 yes FACW 7. <i>Conoclium coelstinum</i> 5 yes FAC 8. <i>Osmunda regalis</i> 5 yes OBL 9. <i>Habenaria</i> spp. 5 yes FACW 10. <i>Erianthus</i> spp. 5 yes FAC 11. <i>Polygonum punctatum</i> 5 yes FACW 12. <i>Pontederia cordata</i> 5 yes OBL				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). Sapling- 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 3 to 20 ft (1 to 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 (1 m) in height. Woody vine- All woody vines, regardless of height.	
Woody Vine Stratum (Plot size: _____) 1. <i>Ampelopsis arborea</i> 5 yes FAC 2. <i>Vitus rotundifolia</i> 5 yes FAC 3. _____ 4. _____ 5. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
10 = Total Cover Remarks: (If observed, list morphological adaptations below). Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- EauGallie
SOIL

Sampling Point: I/2/13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	N 2/0							black sand
5-14	10 YR 6/1							gray sand
14-22	10 YR 6/1							light gray sand
22-26	N 2/0							black sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)
<input type="checkbox"/> Histic Epidon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P,T)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Orchric (F11) (MLRA 151)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P,T)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Orchric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):
 Type: _____
 Depth (inches): _____
 Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/11/09

Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: J

Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 18 17S 17E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%):

Subregion (LRR or MLRA): LRR U Lat: 29.00561594 Long: -82.62129327 Datum: WGS84

Soil Map Unit Name: Tavares fine sand with a smaller portion of Ona fine sand NWI classification: Palustrine emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are circumstances normal? Yes No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Remarks: constructed stormwater retention pond

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Surface Soil Cracks (B6)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)

Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u></u>	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u></u>	
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-12</u>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

VEGETATION - Use scientific names of plants

Sampling Point: J

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	7 (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	7 (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	100.00 (A/B)
4. _____	_____	_____	_____	Prevalance Index worksheet:	
5. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
6. _____	_____	_____	_____	OBL species	x1= _____
7. _____	_____	_____	_____	FACW species	x2= _____
0 = Total Cover				FAC species	x3= _____
Sapling Stratum (Plot size: _____)				FACU species	x4= _____
1. Pinus elliotii	5	yes	FACW	UPL species	x5= _____
2. Salix caroliniana	5	yes	OBL	Column Totals:	_____ (A) _____ (B)
3. _____	_____	_____	_____	Prevalance Index = B/A = _____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
5. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is 50%	
6. _____	_____	_____	_____	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
7. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
10 = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Shrub Stratum (Plot size: _____)				Definitions of Vegetation Strata:	
1. Cephalanthus occidentalis	5	yes	OBL	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. Myrica cerifera	5	yes	FAC	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
3. _____	_____	_____	_____	Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
4. _____	_____	_____	_____	Herb- All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
5. _____	_____	_____	_____	Woody vine- All woody vines, regardless of height.	
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
10 = Total Cover					
Herb Stratum (Plot size: _____)					
1. Panicum hemitomon	20	yes	OBL		
2. Eupatorium capillifolium	5	no	FACU		
3. Pontederia cordata	30	yes	OBL		
4. Panicum repens	30	yes	FACW		
5. Lachnanthes caroliniana	5	no	OBL		
6. Andropogon glomeratus	5	no	FACW		
7. Solidago spp.	5	no	FACU		
8. Hypericum tetrapetalum	5	no	FACW		
9. Centella asiatica	5	no	FACW		
10. Polypremum procumbens	5	no	FACU		
11. Juncus marginatus	5	no	FACW		
12. Erianthus spp.	5	no	FAC		
125 = Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
5. _____	_____	_____	_____		
0 = Total Cover					
Remarks: (If observed, list morphological adaptations below).					
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Taveres

SOIL

Sampling Point: J

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10 YR 4/2							dark grayish brown fine sand
3-41	10 YR 7/4							very pale brown fine sand
41-63	10 YR 7/4							very pale brown fine sand
63-80	10 YR 8/1		10 YR 7/4				few medium distinct mottles	white fine sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histol (A1)
- Histic Epidon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 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 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)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Mart (F10) (LRR U)
- Depleted Orchric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P,T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Orchric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (a9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/11/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: K-L
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 7 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 29.01181396 Long: -82.62133121 Datum: WGS84
 Soil Map Unit Name: Broward fine sand and EauGallie fine sand NWI classification: riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks: Floodplain of the Withlacoochee River		

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		_____ Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Sparsely Vegetated Concave Surface (B8)	
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	_____ Marl Deposits (B15) (LRR U)	_____ Moss Trim Lines (B16)	
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Dry-Season Water Table (C2)	
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Crayfish Burrows (C8)	
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Saturation Visible 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 Remarks)	_____ FAC Neutral Test (D5)	
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Surface Water Present?	Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-72</u>		
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.			

VEGETATION - Use scientific names of plants

Sampling Point: K-L

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <i>Quercus laurifolia</i>	40	yes	FACW	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>11</u> (A)
2. <i>Liquidambar styraciflua</i>	10	no	FAC	Total Number of Dominant Species Across All Strata:	<u>12</u> (B)
3. <i>Magnolia virginiana</i>	5	no	FACW	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>91.67</u> (A/B)
4. <i>Gordonia lasianthus</i>	5	no	FACW		
5. <i>Persea palustris</i>	5	no	NL		
6. <i>Acer rubrum</i>	5	no	FAC		
7. <i>Pinus elliotii</i>	20	yes	FACW		
90 = Total Cover					
Sapling Stratum (Plot size: _____)				Prevalance Index worksheet:	
1.				Total % Cover of:	Multiply by:
2.				OBL species	x1= _____
3.				FACW species	x2= _____
4.				FACU species	x3= _____
5.				UPL species	x4= _____
6.				Column Totals:	(A) _____ (B) _____
7.				Prevalance Index = B/A = _____	
0 = Total Cover					
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <i>Serenoa repens</i>	40	yes	FACU	<input checked="" type="checkbox"/> Dominance Test is 50%	
2. <i>Lyonia lucida</i>	15	yes	FACW	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
3. <i>Ilex glabra</i>	5	no	FACW	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4. <i>Cephalanthus occidentalis</i>	5	no	OBL	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. <i>Vaccinium corymbosum</i>	5	no	FACW		
6.				Definitions of Vegetation Strata:	
7.					
70 = Total Cover					
Herb Stratum (Plot size: _____)				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 less than 3 in. (7.6 cm) DBH. Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 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 (1 m) in height. Woody vine- All woody vines, regardless of height.	
1. <i>Woodwardia virginica</i>	5	yes	OBL		
2. <i>Osmunda cinnamomea</i>	5	yes	FACW		
3. <i>Saururus cernuus</i>	5	yes	OBL		
4. <i>Boehmeria cylindrica</i>	5	yes	FACW		
5. <i>Osmunda regalis</i>	5	yes	OBL		
6.					
7.					
8.					
9.					
10.					
11.					
12.					
25 = Total Cover					
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
1. <i>Vitus rotundifolia</i>	5	yes	FAC		
2. <i>Toxicodendron radicans</i>	5	yes	FAC		
3. <i>Smilax spp.</i>	5	yes	FAC		
4.					
5.					
15 = Total Cover					
Remarks: (If observed, list morphological adaptations below). Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Broward
SOIL

Sampling Point: K-L

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-5	10 YR 4/2						dark grayish brown fine sand
5-19	10 YR 7/1						light gray fine sand
19-21	10 YR 7/8						yellow fine sand
21-38	10 YR 5/2		10 YR 5/6			common fine and medium distinct mottles	grayish brown sandy clay loam

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)
<input type="checkbox"/> Histic Epidon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P,T,U)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P,T)	<input type="checkbox"/> Marl (F10) (LRR U)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Orchric (F11) (MLRA 151)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P,T)
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Della Orchric (F17) (MLRA 151)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
--------------------------------------------------------------------------	-----------------------------------------------------------------------

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/12/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: M
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 7 17S 17E/6 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 29.02217387 Long: -82.62524365 Datum: WGS84
 Soil Map Unit Name: Water NWI classification: Estuarine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		_____ Surface Soil Cracks (B6)	
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Sparsely Vegetated Concave Surface (B8)	
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	_____ Marl Deposits (B15) (LRR U)	_____ Moss Trim Lines (B16)	
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Dry-Season Water Table (C2)	
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Crayfish Burrows (C8)	
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Saturation Visible 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 Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)	
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u>		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.			

VEGETATION - Use scientific names of plants

Sampling Point: M

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. <i>Serenoa repens</i>	5	yes	FACU	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>17</u> (A)
2. <i>Ulmus americana</i>	5	yes	FACW	Total Number of Dominant Species Across All Strata:	<u>18</u> (B)
3. <i>Juniperus silicicola</i>	5	yes	FAC	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>94.44</u> (A/B)
4. <i>Celtis laevigata</i>	5	yes	FACW		
5. <i>Acer rubrum</i>	5	yes	FAC		
6. <i>Diospyros virginiana</i>	5	yes	FAC		
7. _____					
30 = Total Cover				Prevalance Index worksheet:	
Sapling Stratum (Plot size: _____)				<u> Total % Cover of: </u> <u> Multiply by: </u>	
1. <i>Schinus terebinthifolius</i>	5	yes	FAC	OBL species	_____ x1= _____
2. _____				FACW species	_____ x2= _____
3. _____				FAC species	_____ x3= _____
4. _____				FACU species	_____ x4= _____
5. _____				UPL species	_____ x5= _____
6. _____				Column Totals:	_____ (A) _____ (B)
7. _____					
5 = Total Cover				Prevalance Index = B/A = _____	
Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <i>Baccharis halimifolia</i>	5	yes	FAC	<input checked="" type="checkbox"/> Dominance Test is 50%	
2. <i>Myrica cerifera</i>	5	yes	FAC	<input type="checkbox"/> Prevalance Index is $\leq 3.0^1$	
3. <i>Iva frutescens</i>	5	yes	FACW	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4. _____				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. _____					
6. _____					
7. _____					
15 = Total Cover				Definitions of Vegetation Strata:	
Herb Stratum (Plot size: _____)				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).	
1. <i>Acrostichum aureum</i>	5	yes	OBL	Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.	
2. <i>Alternanthera philoxeroides</i>	5	yes	OBL	Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.	
3. <i>Aster carolinianus</i>	5	yes	OBL	Herb- All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.	
4. <i>Woodwardia virginica</i>	5	yes	OBL	Woody vine- All woody vines, regardless of height.	
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
12. _____					
20 = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. <i>Smilax</i> spp.	5	yes	FAC		
2. <i>Vitus rotundifolia</i>	5	yes	FAC		
3. <i>Ampelopsis arborea</i>	5	yes	FAC		
4. <i>Toxicodendron radicans</i>	5	yes	FAC		
5. _____					
20 = Total Cover					
Remarks: (If observed, list morphological adaptations below).					
Percent cover estimates based on meandering survey of the broader community.					

County/soil: Citrus- Water
SOIL

Sampling Point: M

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histol (A1)
- ___ Histic Epidon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ 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 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)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR P, S, T, U)

- ___ Polyvalue Below Surface (S8) (LRR S, T, U)
- ___ Thin Dark Surface (S9) (LRR S, T, U)
- ___ Loamy Mucky Mineral (F1) (LRR O)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (LRR U)
- ___ Depleted Orchric (F11) (MLRA 151)
- ___ Iron-Manganese Masses (F12) (LRR O, P,T)
- ___ Umbric Surface (F13) (LRR P, T, U)
- ___ Delta Orchric (F17) (MLRA 151)
- ___ Reduced Vertic (F18) (MLRA 150A, 150B)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ___ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

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)
- ___ Piedmont Floodplain Soils (F19) (LRR P, S, T)
- ___ Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12) (LRR T, U)
- ___ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks: Hydric soil indicators are present in soil profile.

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Levy Nuclear Plant - Transmission Lines, Common Route City/County: Citrus Sampling Date: 11/12/09
 Applicant/Owner: Progress Energy Florida, Inc. State: FL Sampling Point: N
 Investigator(s): Karl Bullock, Mike Arrants Section, Township, Range: 6 17S 17E
 Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____
 Subregion (LRR or MLRA): LRR U Lat: 29.02427554 Long: 82.62524882 Datum: WGS84
 Soil Map Unit Name: Water NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are circumstances normal? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		_____ Surface Soil Cracks (B6)	
_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Sparsely Vegetated Concave Surface (B8)	
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)	_____ Marl Deposits (B15) (LRR U)	_____ Moss Trim Lines (B16)	
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Dry-Season Water Table (C2)	
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_____ Crayfish Burrows (C8)	
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Saturation Visible 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 Remarks)	<input checked="" type="checkbox"/> FAC Neutral Test (D5)	
Field Observations:		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____		
Saturation Present?	Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0-12</u>		
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.			

County/soil: Citrus- Water

SOIL

Sampling Point: N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histol (A1)
- Histic Epidon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 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 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)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR P, S, T, U)

- Polyvalue Below Surface (S8) (LRR S, T, U)
- Thin Dark Surface (S9) (LRR S, T, U)
- Loamy Mucky Mineral (F1) (LRR O)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Orchric (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P,T)
- Umbric Surface (F13) (LRR P, T, U)
- Delta Orchric (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (a9) (LRR O)
- 2 cm Muck (A10) (LRR S)
- Reduced Vertic (F18) (outside MLRA 150A, B)
- Piedmont Floodplain Soils (F19) (LRR P, S, T)
- Anomalous Bright Loamy Soils (F20) (MLRA 153B)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF12) (LRR T, U)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks: Hydric soil indicators are present in soil profile.

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Citrus** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **28.988688° N**, Long. **-82.6148483° W**.
Universal Transverse Mercator:

Name of nearest waterbody: **Withlacoochee River and tributaries**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Withlacoochee River**

Name of watershed or Hydrologic Unit Code (HUC): **Crystal River to St. Pete/ 3100207**

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: **December 23, 2009**.

Field Determination. Date(s): **November 10, 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. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are 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.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs (**Wetlands G1/G2, H, I/I2/I3: 14.17 acres**)

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or **14.17 acres**.

Wetlands: **Wetland BS totaling 2.72 acres of Waters of the U.S.**

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: **Wetlands A, B, C, D, E, F and J are not jurisdictional because they are hydrologically isolated from TNWs**

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

and RPWs that flow directly or indirectly into TNWs. These wetlands are isolated and are not expected to have any significant effects on the physical, chemical or biological integrity of the Withlacoochee River TNW.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-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 waterbody⁴ 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: acres

Drainage area: acres

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through tributaries before entering TNW.

Project waters are river miles from TNW.

Project waters are river miles from RPW.

Project waters are aerial (straight) miles from TNW.

Project waters are aerial (straight) miles from RPW.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:

Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: feet

Average depth: feet

Average side slopes:

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry:

Tributary gradient (approximate average slope):

(c) Flow:

Tributary provides for: Pick List

Estimate average number of flow events in review area/year:

Describe flow regime:

Other information on duration and volume:

Surface flow is: Characteristics:

Subsurface flow: Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷ Ibid.

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. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:

Wetland size: Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: Explain:

Surface flow is:

Characteristics: Both confined (within ditch banks) and sheetflow (non-ditched areas).

Subsurface flow. 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 river miles from TNW.

Project waters are aerial (straight) miles from TNW.

Flow is from:

Estimate approximate location of wetland as within the floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis:

Approximately is being considered in the cumulative analysis

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:.
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 TNWs: linear feet width (ft), Or, acres.
 Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
 Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: (ft).
 Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
 Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetlands G1/G2, H, and I/12/13, totaling 14.17 acres, directly abut intermittent RPW roadside ditches and forested wetlands that flow directly or indirectly to the Withlacoochee River and Lake Rousseau TNWs.**

Provide acreage estimates for jurisdictional wetlands in the review area: **14.17 acres**

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

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

⁸See Footnote # 3.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

- which are or could be used by interstate or foreign travelers for recreational or other purposes.
- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:
- Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters:
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR). **Wetlands A, B, C, D, E, F and J totaling 10.01 acres are isolated from the nearest RPW and TNW by extensive uplands and residential development and are not expected to have any significant effects on the physical, chemical or biological integrity of the Withlacooche River TNW or the Lake Rousseau TNW. Therefore they are being classified as isolated.**
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain:.
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- 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: **Total of 10.01 acres (Wetlands A, B, C, D, E, F and J)**

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:

Project: **Progress Energy Florida, Inc. Levy Nuclear Plant – Transmission Lines**
Assessment Area: **Levy-Citrus Common Route Transmission Line Wetlands A-J**

- 100-year Floodplain Elevation is: (National Geodetic 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): Florida Atlas & Gazetteer, 2006; Southwest Florida Water Management District land use/land cover data, 2004.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: **Florida** County/parish/borough: **Citrus** City:
Center coordinates of site (lat/long in degree decimal format): Lat. **29.0135656** ° **N**, Long. **-82.6212769** ° **W**.

Universal Transverse Mercator:

Name of nearest waterbody: **Withlacoochee River**

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Withlacoochee River**

Name of watershed or Hydrologic Unit Code (HUC): **Crystal River to St. Pete/3100207**

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: **December 23, 2009**.

Field Determination. Date(s): **November 10, 2009**.

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide. **Wetland M is tidal and directly connected to the Gulf of Mexico.**

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: **TNW barge canals (Wetlands M and N) and the Withlacoochee River (Wetland K-L) are navigable waterways that are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.**

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.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

- TNWs, including territorial seas (**Wetlands K-L, M, N: 12.25 acres**)
- Wetlands adjacent to TNWs (**Wetland K-L: 29.37 acres**)
- Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs
- Non-RPWs that flow directly or indirectly into TNWs
- Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
- Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
- Impoundments of jurisdictional waters
- Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or
Wetlands: **Wetlands K-L, M and N totaling 41.62 acres of Waters of the U.S.**

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):³

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

- Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
Explain:

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW: Wetland K-L is the Withlacoochee River; Wetlands M and N are TNW barge canals directly connected to the Withlacoochee River TNW and Lake Rousseau TNW.

Summarize rationale supporting determination: See above.

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”: Wetland K-L consists of forested wetlands that directly abut the Withlacoochee River TNW.

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-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 waterbody⁴ 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: ~~acres~~ **acres**

Drainage area: ~~acres~~ **acres**

Average annual rainfall: inches

Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through tributaries before entering TNW.

Project waters are river miles from TNW.

Project waters are river miles from RPW.

Project waters are aerial (straight) miles from TNW.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Project waters are aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵:
Tributary stream order, if known:

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: feet
Average depth: feet
Average side slopes:

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry:

Tributary gradient (approximate average slope):

(c) Flow:

Tributary provides for: Pick List

Estimate average number of flow events in review area/year:

Describe flow regime:

Other information on duration and volume:

Surface flow is: Characteristics:

Subsurface flow: Explain findings:

Dye (or other) test performed:

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

⁶ A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

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. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:

Properties:
Wetland size: Wetland type. Explain:
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: Explain:

Surface flow is:
Characteristics: Both confined (within ditch banks) and sheetflow (non-ditched areas).

Subsurface flow. 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 river miles from TNW.
Project waters are aerial (straight) miles from TNW.
Flow is from:
Estimate approximate location of wetland as within the floodplain.

(ii) Chemical Characteristics:

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:.
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis:
Approximately is being considered in the cumulative analysis
For each wetland, specify the following:

Directly abuts? (Y/N) Size (in acres) Directly abuts? (Y/N) Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:.
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 - TNWs: linear feet width (ft) **Wetlands K-L, M and N totaling 12.25 acres.**
 - Wetlands adjacent to TNWs: **Wetland K-L totaling 29.37 acres.**
2. **RPWs that flow directly or indirectly into TNWs.**
 - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 - Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: (ft).
 - Other non-wetland waters: acres.
- Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters: linear feet width (ft).
 - Other non-wetland waters: acres.
- Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
- Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
- Wetlands directly abutting an RPW where tributaries typically flow “seasonally.” Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area:

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.⁹

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.

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

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- from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
- which are or could be used for industrial purposes by industries in interstate commerce.
- Interstate isolated waters. Explain:
- Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters:
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in “*SWANCC*,” the review area would have been regulated based solely on the “Migratory Bird Rule” (MBR).
- Waters do not meet the “Significant Nexus” standard, where such a finding is required for jurisdiction. Explain:.
- Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource:
- 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:

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 Geodetic 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:

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Other information (please specify): Florida Atlas & Gazetteer, 2006; Southwest Florida Water Management District land use/land cover data, 2004.

B. ADDITIONAL COMMENTS TO SUPPORT JD:

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number	Assessment Area Name or Number FLUCFCS 510 - Wetlands M and N
FLUCCs code 510 - Streams and Waterways	Further classification (optional) Cross Florida Barge Canal and Bypass Canal	Impact or Mitigation Site? Existing Condition	Assessment Area Size 10.42 acres (Wetland M = 7.28, Wetland N = 3.14)
Basin/Watershed Name/Number Withlacoochee River, South (03100208)	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Hydrologically connected to Withlacoochee River, Gulf of Mexico, Lake Rousseau. Surrounded by upland spoil piles/access roads.			
Assessment area description Excavated canals with approximately 80-85% open water. Narrow littoral zones vegetated with a mixture of nuisance/exotic species, including Brazilian pepper (<i>Schinus terebinthifolius</i>), alligator weed (<i>Alternanthera philoxeroides</i>), wild taro (<i>Colocasia esculenta</i>), torpedoo grass (<i>Panicum repens</i>), water lettuce (<i>Pistia stratioides</i>), as well as native species wax myrtle (<i>Myrica cerifera</i>), groundsel tree (<i>Baccharis halimifolia</i>), marsh elder (<i>Iva frutescens</i>), leather fern (<i>Blechnum serrulatum</i>), Virginia chain fern (<i>Woodwardia virginica</i>), tickseed sunflower (<i>Bidens alba</i>), bushy broomsedge (<i>Andropogon glomeratus</i>), marsh pennywort (<i>Hydrocotyle umbellata</i>), and climbing aster (<i>Aster carolinianus</i>). The banks of the canals support sparse canopy coverage with cabbage palm (<i>Sabal palmetto</i>), American elm (<i>Ulmus americanus</i>), red cedar (<i>Juniperus virginiana</i>), sugarberry (<i>Celtis laevigata</i>), red maple (<i>Acer rubrum</i>), and persimmon (<i>Diospyros virginiana</i>).			
Significant nearby features Lake Rousseau, Gulf of Mexico, Inglis lock/spillway, roadways		Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique	
Functions Wildlife habitat, water conveyance		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, fish, various amphibians and herpetofauna		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), and wood stork (E).	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): Eagle on radio tower nest north of Wetland N (bypass canal)			
Additional relevant factors:			
Assessment conducted by: M. Arrants, K. Bullock		Assessment date(s): 11/12/2009	

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 510 - Wetlands M and N
Impact or Mitigation Existing Condition	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/12/2009

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

.500(6)(a) Location and Landscape Support	Location and landscape support variable is reduced due to excavation of canals and deposition of resulting spoils, as well as access roads. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 5, reduced due to disturbance from adjacent spoils, disturbed lands; b) Invasive exotic species = 5, substantial coverage of wild taro, torpedo grass, water lettuce, Brazilian pepper; c) Wildlife access to and from outside = 5, decreased due to limitations imposed by surrounding cleared landscape and spoil piles; d) functions that benefit fish & wildlife downstream-distance or barriers = 5, surrounding disturbed lands and artificial nature of habitat limit benefit to wildlife; e) Impacts to wildlife listed in Part 1 by outside land uses = 5, reduced due to surrounding disturbed lands, lack of natural littoral zone; f) Hydrologically connected areas downstream of assessment area = 6 artificial connections to Withlacoochee, Lake Rousseau, and Gulf of Mexico; g) Dependency of downstream areas on assessment area = 5, moderate benefit to adjacent areas.	
	w/o pres or current 5	with 0

.500(6)(b)Water Environment (n/a for uplands)	The water environment score is reduced due to the artificial, excavated nature of the canals and surrounding disturbed lands. Individual parameter scores: a) water levels and flows = 5, artificially controlled hydrology; b) water level indicators = 6; c) soil moisture = 5, steep canal banks, limited littoral zone; d) soil erosion or deposition = 5, erosion from adjacent spoil materials and access roads evident; e) evidence of fire history = N/A; f) vegetation community zonation = 6, dominated by open water, steep banks limit rooting area; g) hydrologic stress on vegetation = 7, minimal; h) use by animal species with specific hydrological requirements = 6, some foraging habitat; i) vegetative species tolerant of and associated with water quality degradation = 6, some indication of high nutrients, exotic species; j) direct observation of water quality = 7; N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 5	with 0

.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The community structure variable is reduced due to presence of exotic/nuisance species. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, non-desirable wetland species present, steep canal banks limit available habitat; b) invasive exotics or other invasive plant species = 6, moderate coverage of torpedo grass, wild taro, Brazilian pepper, water lettuce; c) regeneration and recruitment = 5, limited littoral zone for natural succession; canal is maintained; d) age & size distribution = 6, altered due to canal maintenance; e) density and quality of coarse woody debris, snag, den, and cavity = 2, minimal; f) plant condition = 7, typical of assessment area, somewhat reduced due to maintenance; g) land management practices = 5, due to alteration of community structure by routine maintenance; h) topographic features = 2, limited due to excavated nature of canals; i) siltation or algal growth in submerged aquatic plant communities = N/A	
	w/o pres or current 6	with 0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.53	0

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

For impact assessment areas
FL = delta x acres = -0.53 x 0 = 0

Delta = [with-current]
-0.53

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number	Assessment Area Name or Number FLUCFCS 510 - Wetland K-L	
FLUCCs code 510 - Streams and Waterways	Further classification (optional) Withlacoochee River		Impact or Mitigation Site? Existing Condition	Assessment Area Size K-L-510 = 1.83 acres
Basin/Watershed Name/Number Withlacoochee River, South (03100208)	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Connects to Cross Florida Barge Canal to the northwest. Abutted by forested wetlands.				
Assessment area description Withlacoochee River, abutted by high quality forested wetlands and few adjacent residential areas along shoreline.				
Significant nearby features Residential areas, roadways		Uniqueness (considering the relative rarity in relation to the regional landscape.) Natural river system is relatively rare in the regional landscape		
Functions Wildlife habitat, water conveyance, flood attenuation, aquifer recharge		Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, white tailed deer, armadillo, sunfish and forage fishes, various amphibians and herpetofauna		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), limpkin (SSC), sandhill crane (T), and wood stork (E).		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None observed				
Additional relevant factors:				
Assessment conducted by: M. Arrants, K. Bullock		Assessment date(s): 11/12/2009		

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 510 - Wetland K-L
Impact or Mitigation Existing Condition	Assessment conducted by: M. Arrants, K. Bullock	Assessment date: 11/12/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Location and landscape support variable is near optimal, only slightly reduced due to nearby residential areas and roadways. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 9, very slightly reduced due to development in the vicinity; b) Invasive exotic species = 10, none noted; c) Wildlife access to and from outside = 9, slightly decreased due to limitations imposed by roadways and residential areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, slightly reduced due to dam/lock system altering natural river hydrology; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss to residential areas and roadways; f) Hydrologically connected areas downstream of assessment area = 8, hydrologic connections altered due to lack of natural flooding of Withlacoochee River in assessment area; g) Dependency of downstream areas on assessment area = 8, significant benefit to downstream areas.
w/o pres or current	with
9	0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is slightly reduced due to impacts from construction of Cross Florida Barge Canal, altering the hydrology of the river. Individual parameter scores: a) water levels and flows = 8, alterations in water level due to operation of barge canal lock, spillway, and bypass canal; b) water level indicators = 8, reduced from expected due to operation of barge canal lock; c) soil moisture = 7, slightly reduced from expected; d) soil erosion or deposition = 9, minimal erosion; e) evidence of fire history = N/A; f) vegetation community zonation = 7, somewhat altered - upland species encroachment; g) hydrologic stress on vegetation = 7, reduced hydroperiod; h) use by animal species with specific hydrological requirements = 9, wading bird foraging habitat; i) vegetative species tolerant of and associated with water quality degradation = 8, community consists of typical species; j) direct observation of water quality = 9, no issues noted; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = 9, consistent with expected.
w/o pres or current	with
8	0
.500(6)(c)Community structure	The vegetative community structure is near optimal, only slightly reduced due to lack of natural floodplain inundation and encroachment of upland species. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, dominated by desirable native wetland species; b) invasive exotics or other invasive plant species = 10, none noted; c) regeneration and recruitment = 8, slightly reduced by diminished hydroperiod; d) age & size distribution = 8, typical of system; e) density and quality of coarse woody debris, snag, den, and cavity = 9, typical of assessment area; f) plant condition = 8, slightly reduced due to altered hydroperiod; g) land management practices = 9, slightly reduced due to alteration of Withlacoochee flood regime; h) topographic features = 9, typical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = 9, typical for assessment area.
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	with
9	0

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
w/o pres	with
0.87	0

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

For impact assessment areas
FL = delta x acres = -0.87 x 0 = 0

Delta = [with-current]
-0.87

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number		Assessment Area Name or Number FLUCFCS 511 - Wetland F	
FLUCCs code 511		Further classification (optional)		Impact or Mitigation Site? Existing Condition	
				Assessment Area Size 0.04 acres	
Basin/Watershed Name/Number Crystal River to St. Petersburg (03100207)		Affected Waterbody (Class)		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Hydrologically connected to isolated freshwater marsh (Wetland E) through culvert. Surrounded by upland forest, pasture, and roadway.					
Assessment area description Small, shallow roadside ditch/swale dominated by dogfennel (<i>Eupatorium capillifolium</i>), St. Johns wort (<i>Hypericum</i> sp.), and the exotic species Alexander grass (<i>Urochloa</i> sp.), as well as maidencane (<i>Panicum hemitomon</i>), musky mint (<i>Hyptis alata</i>), bushy bluestem (<i>Andropogon glomeratus</i>), wax myrtle (<i>Myrica cerifera</i>), coastal plain willow (<i>Salix caroliniana</i>), dahoon holly (<i>Ilex cassine</i>), groundsel tree (<i>Bachcharis halimifolia</i>), and cabbage palm (<i>Sabal palmetto</i>).					
Significant nearby features Roadways, houses, pasture			Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique		
Functions Water conveyance, roadside drainage			Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Raccoon, armadillo			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Unlikely use by listed species of wading birds due to marginal hydrology/lack of foraging opportunity		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): none observed					
Additional relevant factors:					
Assessment conducted by: M. Arrants, K. Bullock			Assessment date(s): 11/10/2009		

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 511 - Wetland F
Impact or Mitigation Existing Condition	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/10/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Location and landscape support variable is reduced due to location of excavated ditch adjacent to roadway, and improved pasture. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to marginal hydroperiod, adjacent roadways; b) Invasive exotic species = 6, moderate coverage; c) Wildlife access to and from outside = 7, slightly decreased due to limitations imposed by surrounding developed areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 2, little benefit, isolated drainage ditch; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to adjacent roadway and clearing of native habitat for pasture; f) Hydrologically connected areas downstream of assessment area = 2, roadside ditch connects to isolated marsh, no downstream connection; g) Dependency of downstream areas on assessment area = 2, minimal benefit to downstream areas.	
	w/o pres or current 4	with 0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is reduced due to artificial hydroperiod resulting from excavation of shallow roadside drainage ditch. Individual parameter scores: a) water levels and flows = 3, artificial nature of excavated ditch; b) water level indicators = 4, altered hydroperiod due to excavated ditch; c) soil moisture = 5, relatively dry due to marginal hydroperiod; d) soil erosion or deposition = 4, erosion from roadway; e) evidence of fire history = N/A; f) vegetation community zonation = 5, significant upland species encroachment; g) hydrologic stress on vegetation = 6, upland and transitional species prevalent; h) use by animal species with specific hydrological requirements = 2, marginal hydrology, little wildlife use; i) vegetative species tolerant of and associated with water quality degradation = 7, none noted; j) direct observation of water quality = N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 4	with 0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The community structure variable is reduced due to moderate coverage of exotic species, artificial nature of excavated roadside ditch/swale, marginal hydrology, and upland species encroachment. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, maintenance typically removes shrub/canopy stratum, non-desirable species prevalent; b) invasive exotics or other invasive plant species = 6, moderate coverage of exotic/nuisance species; c) regeneration and recruitment = 4, artificial system, recruitment impacted by diminished hydroperiod and adjacent roadway; d) age & size distribution = 4, typical of artificial drainage ditch; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 6, reduced due to marginal hydroperiod and maintenance; g) land management practices = 5, due to alteration of community structure by routine maintenance; h) topographic features = 4, artificial excavated system; i) siltation or algal growth in submerged aquatic plant communities = N/A	
	w/o pres or current 4	with 0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres 0.40	with 0

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

For impact assessment areas
FL = delta x acres = -0.40 x 0 = 0

Delta = [with-current]
-0.40

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number	Assessment Area Name or Number FLUCFCS 511 - Wetland G1/G2
FLUCCs code 511	Further classification (optional)	Impact or Mitigation Site? Existing Condition	Assessment Area Size 0.38 acres
Basin/Watershed Name/Number Crystal River to St. Petersburg (03100207)	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Hydrologically connected to cypress dome to the west. Surrounded by upland forest and roadways.			
Assessment area description Drainage ditch vegetated with primarily native wetland species including a canopy of slash pine (<i>Pinus elliotii</i>) along the top of bank with occasional swamp bay (<i>Persea palustris</i>), shrub layer consisting of groundsel tree (<i>Baccharis halimifolia</i>), buttonbush (<i>Cephalanthus occidentalis</i>), coastal plain willow (<i>Salix caroliniana</i>), and wax myrtle (<i>Myrica cerifera</i>), and herbaceous groundcover including arrowhead (<i>Sagittaria lancifolia</i>), dogfennel (<i>Eupatorium capillifolium</i>), tickseed sunflower (<i>Bidens laevis</i>), maidencane (<i>Panicum hemitomom</i>), St. John's wort (<i>Hypericum</i> sp.), false nettle (<i>Boehmeria cylindrica</i>), and Virginia chain fern (<i>Woodwardia virginica</i>). Nuisance species cattail (<i>Typha latifolia</i>) present, although not a dominant species. Area is significantly disturbed due to recreational 4-wheel vehicles.			
Significant nearby features Adjacent roadways, houses		Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique	
Functions Drainage, water conveyance, wildlife habitat		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, white tailed deer, armadillo, various amphibians and herpetofauna		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), and wood stork (E).	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): Gopher tortoise burrow within adjacent upland area			
Additional relevant factors:			
Assessment conducted by: K. Bullock, M. Arrants		Assessment date(s): 11/10/2009	

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 511 - Wetland G1/G2
Impact or Mitigation Existing Condition	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/10/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Location and landscape support variable is slightly reduced due to location of ditch within residential roadway system, use of area by recreational vehicles. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, slightly reduced due to adjacent roadways, damage from 4-wheel recreational vehicles; b) Invasive exotic species = 7, cattail present, minimal coverage; c) Wildlife access to and from outside = 7, slightly decreased due to surrounding roadways; d) functions that benefit fish & wildlife downstream-distance or barriers = 5, moderate benefit; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, minimal impact due to residential roadway network, houses; f) Hydrologically connected areas downstream of assessment area = 7, connects to adjacent cypress dome; g) Dependency of downstream areas on assessment area = 6, moderate benefit to downstream areas.
w/o pres or current	with
7	0

.500(6)(b) Water Environment (n/a for uplands)	The water environment score is reduced due to artificial hydroperiod resulting from excavation of drainage ditch and significant disturbance due to recreational vehicles. Individual parameter scores: a) water levels and flows = 4, artificial nature of excavated ditches; b) water level indicators = 5, altered hydroperiod due to excavated ditches; c) soil moisture = 7, consistent with expected; d) soil erosion or deposition = 3, significant erosion; e) evidence of fire history = N/A; f) vegetation community zonation = 5, impacted by recreational vehicles; g) hydrologic stress on vegetation = 7, upland and transitional species prevalent; h) use by animal species with specific hydrological requirements = 5, due to disturbance and altered hydrology; i) vegetative species tolerant of and associated with water quality degradation = 7 minimal coverage of cattails; j) direct observation of water quality = 6, moderate nutrient enrichment likely due to presence of nuisance/exotic vegetation; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
w/o pres or current	with
4	0

.500(6)(c) Community structure	The community structure variable is somewhat reduced due to impacts of recreational vehicles and presence of nuisance species cattail. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6, dominated by native species, some nuisance species present, severely disturbed by recreational vehicles; b) invasive exotics or other invasive plant species = 7, moderate coverage of cattail; c) regeneration and recruitment = 3, artificial system, recruitment impacted by recreational vehicle use; d) age & size distribution = 6, typical of artificial drainage ditch, impacted due to recreational vehicles; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 3, reduced due to recreational vehicle disturbance; g) land management practices = 6, adjacent residential roadway network, houses, use by 4-wheel recreational vehicles; h) topographic features = 6, typical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = N/A
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	with
6	0

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
w/o pres	with
0.57	0

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

For impact assessment areas
FL = delta x acres = -0.57 x 0 = 0

Delta = [with-current]
-0.57

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number	Assessment Area Name or Number FLUCFCS 524 - Wetland B	
FLUCCs code 524	Further classification (optional) Dry pond		Impact or Mitigation Site? Impact	Assessment Area Size 1.72 acres
Basin/Watershed Name/Number Crystal River to St. Petersburg (03100207)	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Isolated dry pond, severely impacted by recreational vehicles, trash				
Assessment area description Dry pond within residential area, severely disturbed by 4-wheel recreational vehicles, automobiles, trash, and debris. Minimal vegetation, dominated by bare sand, comprising approximately 80% cover. Sparse vegetative community includes maidencane (<i>Panicum hemitomon</i>), dogfennel (<i>Eupatorium capillifolium</i>), bushy broomsedge (<i>Andropogon glomeratus</i>), blackberry (<i>Rubus</i> sp.), wax myrtle (<i>Myrica cerifera</i>), sedges (<i>Cyperus</i> sp.), rustweed (<i>Polypremum procumbens</i>), shrubby primrose willow (<i>Ludwigia suffruticosa</i>), slender flattop goldenrod (<i>Euthamia minor</i>), and yellow-eyed grass (<i>Xyris</i> sp.).				
Significant nearby features Roadways, houses		Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique		
Functions Recreation		Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Raccoon, armadillo		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Unlikely use by wading birds due to marginal hydroperiod and sparse vegetation		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None observed				
Additional relevant factors:				
Assessment conducted by: K. Bullock, M. Arrants		Assessment date(s): 11/10/2009		

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 524 - Wetland B
Impact or Mitigation Impact - Fill	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/10/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Location and landscape support variable is reduced due to location of dry pond surrounded by residential roadways and houses. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 5, reduced due to marginal hydroperiod, adjacent roadways; b) Invasive exotic species = 9, none noted; c) Wildlife access to and from outside = 5, decreased due to limitations imposed by surrounding developed areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 1, no benefit, isolated dry pond; e) Impacts to wildlife listed in Part 1 by outside land uses = 5, reduced due to adjacent roadway and clearing of native habitat for residential areas; f) Hydrologically connected areas downstream of assessment area = 1, no downstream connection; g) Dependency of downstream areas on assessment area = 1, no benefit to downstream areas.	
	w/o pres or current 5	with 0

.500(6)(b)Water Environment (n/a for uplands)	The water environment score is reduced due to marginal hydroperiod and disturbance from recreational vehicles. Individual parameter scores: a) water levels and flows = 3, less than expected; b) water level indicators = 3, severely reduced hydroperiod; c) soil moisture = 3, dry due to marginal hydroperiod; d) soil erosion or deposition = 3, significant erosion from roadway; e) evidence of fire history = N/A; f) vegetation community zonation = 3, significant reduction in extent of vegetation, upland species encroachment; g) hydrologic stress on vegetation = 3, minimal coverage, upland and transitional species prevalent; h) use by animal species with specific hydrological requirements = 2, marginal hydrology, little wildlife use; i) vegetative species tolerant of and associated with water quality degradation = 7, none noted; j) direct observation of water quality = N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 3	with 0

.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The community structure variable is reduced due to significant coverage of bare sand, marginal hydrology, and significant disturbance by recreational vehicles and trash. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 3, minimal coverage; b) invasive exotics or other invasive plant species = 9, none noted; c) regeneration and recruitment = 3, recruitment impacted by diminished hydroperiod and disturbance; d) age & size distribution = 3, minimal vegetative community; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 4, reduced due to marginal hydroperiod and recreational vehicle disturbance; g) land management practices = 5, due to alteration of community structure by recreational vehicle disturbance; h) topographic features = 4, minimal variation in topography; i) siltation or algal growth in submerged aquatic plant communities = N/A	
	w/o pres or current 4	with 0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.40	0

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

For impact assessment areas
FL = delta x acres = -0.40 x 0.29 = 0.12

Delta = [with-current]
-0.40

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number	Assessment Area Name or Number FLUCFCS 630 and 621 - Wetlands H and I/I2/I3
FLUCCs code 630 - Mixed Hardwood/Conifer Wetland and 621 - Cypress	Further classification (optional)	Impact or Mitigation Site? Impact	Assessment Area Size 13.79 acres (Wetland H = 4.96, Wetland I/I2/I3 = 8.83)
Basin/Watershed Name/Number Crystal River to St. Petersburg (03100207)	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Hydrologically connected to other wetlands/surface waters through roadside ditches. Surrounded by upland and wetland forest, roadways, and houses			
Assessment area description Ditched forested wetlands vegetated with a mixture of native wetland canopy species including pond cypress (<i>Taxodium ascendens</i>), slash pine (<i>Pinus elliottii</i>), laurel oak (<i>Quercus laurifolia</i>), red maple (<i>Acer rubrum</i>), sweetbay (<i>Magnolia virginiana</i>), cabbage palm (<i>Sabal palmetto</i>), dahoon holly (<i>Ilex cassine</i>), persimmon (<i>Diospyros virginiana</i>), swamp dogwood (<i>Cornus foemina</i>), live oak (<i>Quercus virginiana</i>), and swamp bay (<i>Persea palustris</i>). Shrub species include fetterbush (<i>Lyonia lucida</i>), wax myrtle (<i>Myrica cerifera</i>), gallberry (<i>Ilex glabra</i>), saw palmetto (<i>Serenoa repens</i>), buttonbush (<i>Cephalanthus occidentalis</i>), groundsel tree (<i>Baccharis halimifolia</i>), and coastal plain willow (<i>Salix caroliniana</i>). Groundcover species include a variety of ferns, Virginia chain fern (<i>Woodwardia virginica</i>), cinnamon fern (<i>Osmunda cinnamomea</i>), royal fern (<i>Osmunda regalis</i>), and netted chain fern (<i>Woodwardia aereolata</i>), as well as blackberry (<i>Rubus</i> sp.), St. Johns wort (<i>Hypericum</i> sp.), primrose willow (<i>Ludwigia peruviana</i>), arrowhead (<i>Sagittaria lancifolia</i>), maidencane (<i>Panicum hemitomon</i>), mistflower (<i>Conoclinium coelestinum</i>), smartweed (<i>Polygonum</i> sp.), goldenrod (<i>Solidago</i> sp.), and bushy broomsedge (<i>Andropogon glomeratus</i>).			
Significant nearby features Roadways, houses		Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique	
Functions Wildlife habitat, water storage, aquifer recharge		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, fish, white-tailed deer, armadillo, various amphibians and herpetofauna		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), and wood stork (E).	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): mockingbird, white-tailed deer, armadillo, raccoon, gray squirrel, marsh rabbit			
Additional relevant factors:			
Assessment conducted by: K. Bullock, M. Arrants		Assessment date(s): 11/11/2009	

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 630 and 621 - Wetlands H and I/12/13
Impact or Mitigation Impact - Fill	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/11/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Location and landscape support variable is reduced somewhat due to location of wetland within residential area surrounded by roadways. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 8, slightly reduced due to surrounding development; b) Invasive exotic species = 8, minimal coverage by primrose willow; c) Wildlife access to and from outside = 7, decreased due to limitations imposed by surrounding residential areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, moderate barriers due to surrounding development; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss; f) Hydrologically connected areas downstream of assessment area = 8, hydrologic connections; g) Dependency of downstream areas on assessment area = 7, moderate benefit to downstream areas.	
	w/o pres or current 7	with 0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is slightly reduced due to impacts from ditching and surrounding residential development. Individual parameter scores: a) water levels and flows = 8, slight alterations in water level due to ditching; b) water level indicators = 8, consistent with expected; c) soil moisture = 8, consistent with expected; d) soil erosion or deposition = 8, minor erosion from ditching, roadways; e) evidence of fire history = 7, reduced due to residential surroundings; f) vegetation community zonation = 8, slightly altered - upland species encroachment associated with ditching; g) hydrologic stress on vegetation = 8, minor edge effect, reduced hydroperiod; h) use by animal species with specific hydrological requirements = 8, wading bird foraging habitat; i) vegetative species tolerant of and associated with water quality degradation = 8, community consists of typical species; j) direct observation of water quality = 8, none noted; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 8	with 0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The vegetative community structure is dominated by a diverse suite of native wetland species, slightly reduced in quality due to ditching. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, dominated by desirable native wetland species; b) invasive exotics or other invasive plant species = 8, minimal coverage of primrose willow; c) regeneration and recruitment = 9; d) age & size distribution = 8, typical of system; e) density and quality of coarse woody debris, snag, den, and cavity = 9, typical for assessment area; f) plant condition = 8, slightly reduced due to altered hydroperiod; g) land management practices = 8, due to alteration of community structure by clearing of adjacent habitat for residential development; h) topographic features = 9, typical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = N/A	
	w/o pres or current 9	with 0

Score = sum of above scores/30 (if uplands, divide by 20)	
current	with
or w/o pres	
0.80	0

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

For impact assessment areas
FL = delta x acres = -0.80 x 0.47 = 0.38 (Wetland H); -0.80 x 0.22 = 0.18 (Wetland I); total of 0.69 acres and total FL of 0.56

Delta = [with-current]
-0.80

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 630 and 621 - Wetlands H and I/I2/I3
Impact or Mitigation Impact - Clearing	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/11/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Loss of canopy species associated with clearing the transmission line ROW would reduce the location and landscape support variable for wetland forests through loss of contiguous forested parcels and conversion to a freshwater marsh/wetland scrub community. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to clearing impacts; b) Invasive exotic species = 6, potential encroachment of exotics associated with disturbance; c) Wildlife access to and from outside = 4, reduced due to clearing impacts; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, limited benefit; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to habitat loss; f) Hydrologically connected areas downstream of assessment area = 4, reduced due to clearing impacts; g) Dependency of downstream areas on assessment area = 4, reduced benefit to downstream areas.	
	w/o pres or current 7	with 4
.500(6)(b)Water Environment (n/a for uplands)	Clearing the canopy will impact the water environment variable, converting the forested system to a freshwater marsh/wetland scrub habitat; silt fencing will reduce temporary turbidity impacts to adjacent wetlands. Canopy clearing will impact the water environment score due to erosion, sedimentation, and soil compaction. Individual parameter scores: a) water levels and flows = 4, altered due to clearing impacts related to use of heavy machinery, erosion/sedimentation, and soil compaction; b) water level indicators = 4, altered from clearing impacts; c) soil moisture = 4, altered from soil compaction; d) soil erosion or deposition = 4, temporary erosion from clearing impacts; e) evidence of fire history = N/A; f) vegetation community zonation = 4, altered due to removal of canopy stratum; g) hydrologic stress on vegetation = 6, some stress from soil compaction; h) use by animal species with specific hydrological requirements = 6, decreased use due to clearing; i) vegetative species tolerant of and associated with water quality degradation = 6, may have potential encroachment of nuisance/exotic species; j) direct observation of water quality = N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 8	with 4
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	Clearing the canopy will convert the system to a freshwater marsh/wetland scrub community with significant loss of functional value compared to the existing forested system. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, canopy stratum removed; b) invasive exotics or other invasive plant species = 6, potential encroachment of exotics associated with disturbance; c) regeneration and recruitment = 6, the herbaceous and shrub stratum species will eventually regenerate and recruit; d) age & size distribution = 4, impacted from clearing; e) density and quality of coarse woody debris, snag, den, and cavity = 4, reduced due to clearing impacts; f) plant condition = 4, reduced due to clearing impacts; g) land management practices = 4, due to alteration of community structure by clearing; h) topographic features = 4, atypical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = N/A.	
	w/o pres or current 9	with 4

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
or w/o pres	with
0.80	0.40

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

For impact assessment areas
FL = delta x acres = -0.40 x 4.49 = 1.79 (Wetland H); -0.40 x 8.6 = 3.44 (Wetland I/I2/I3); total of 13.09 acres and total FL of 5.23

Delta = [with-current]
-0.40

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number		Assessment Area Name or Number FLUCFCS 630 - Wetland K-L	
FLUCCs code 630 - Mixed Hardwood/Conifer Wetland		Further classification (optional) Forested wetlands adjacent to Withlacoochee River, Wetland K to south, Wetland L to north (Inglis Island)		Impact or Mitigation Site? Impact	
Assessment Area Size 29.37 acres					
Basin/Watershed Name/Number Withlacoochee River, South (03100208)		Affected Waterbody (Class)		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Hydrologically connected to Withlacoochee River, although natural hydroperiod affected by lock/dam. Surrounded by upland and wetland forest and existing cleared transmission line ROW					
Assessment area description High quality forested wetlands vegetated with a mixture of native wetland canopy species including laurel oak (<i>Quercus laurifolia</i>), slash pine (<i>Pinus elliotii</i>), cabbage palm (<i>Sabal palmetto</i>), sweetgum (<i>Liquidambar styraciflua</i>), loblolly bay (<i>Gordonia lasianthus</i>), red maple (<i>Acer rubrum</i>), sweetbay (<i>Magnolia virginiana</i>), bald cypress (<i>Taxodium distichum</i>), sugarberry (<i>Celtis laevigata</i>), American elm (<i>Ulmus americana</i>), ironwood (<i>Carpinus caroliniana</i>), water oak (<i>Quercus nigra</i>), red cedar (<i>Juniperus virginianus</i>), swamp dogwood (<i>Cornus foemina</i>), live oak (<i>Quercus virginiana</i>), and swamp bay (<i>Persea palustris</i>). The shrub layer is dominated by saw palmetto (<i>Serenoa repens</i>), fetterbush (<i>Lyonia lucida</i>), and small cabbage palm, as well as occasional gallberry (<i>Ilex glabra</i>), beautyberry (<i>Callicarpa americana</i>), and buttonbush (<i>Cephalanthus occidentalis</i>). Groundcover species include a variety of ferns, Virginia chain fern (<i>Woodwardia virginica</i>), cinnamon fern (<i>Osmunda cinnamomea</i>), and royal fern (<i>Osmunda regalis</i>), as well as lizard's tail (<i>Saururus cernuus</i>), false nettle (<i>Boehmeria cylindrica</i>), fleabane (<i>Pluchea</i> sp.), partridge berry (<i>Mitchella repens</i>), greenbrier (<i>Smilax</i> sp.), climbing hempvine (<i>Mikania scandens</i>), muscadine (<i>Vitis rotundifolia</i>), and poison ivy (<i>Toxicodendron radicans</i>).					
Significant nearby features Withlacoochee River, Lake Rousseau, Inglis lock/spillway, Cross Florida Greenway		Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique			
Functions Wildlife habitat, water storage, aquifer recharge		Mitigation for previous permit/other historic use N/A			
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, white-tailed deer, armadillo, various amphibians and herpetofauna		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), limpkin (SSC), and wood stork (E).			
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): white-tailed deer, gray squirrel, turkey, armadillo					
Additional relevant factors:					
Assessment conducted by: M. Arrants, K. Bullock		Assessment date(s): 11/11-12/2009			

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 630 - Wetland K-L
Impact or Mitigation Impact - Fill	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/11-12/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Location and landscape support variable is near optimal, only slightly reduced due to nearby residential areas and roadways. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 9, very slightly reduced due to development in the vicinity; b) Invasive exotic species = 10, none noted; c) Wildlife access to and from outside = 9, slightly decreased due to limitations imposed by roadways and residential areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 8, slightly reduced due to dam/lock system altering natural river hydrology; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to surrounding habitat loss to residential areas and roadways; f) Hydrologically connected areas downstream of assessment area = 8, hydrologic connections altered due to lack of natural flooding of Withlacoochee River in assessment area; g) Dependency of downstream areas on assessment area = 8, significant benefit to downstream areas.	
	w/o pres or current 9	with 0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is slightly reduced due to impacts from construction of Cross Florida Barge Canal, altering the hydrology of the Withlacoochee River within the assessment area. Individual parameter scores: a) water levels and flows = 8, alterations in water level due to operation of barge canal lock, spillway, and bypass canal; b) water level indicators = 7, reduced from expected due to lack of floodplain inundation from Withlacoochee River; c) soil moisture = 7, slightly reduced from expected; d) soil erosion or deposition = 9, minimal erosion; e) evidence of fire history = 7; f) vegetation community zonation = 7, somewhat altered - upland species encroachment; g) hydrologic stress on vegetation = 7, reduced hydroperiod; h) use by animal species with specific hydrological requirements = 8, potential wading bird foraging habitat; i) vegetative species tolerant of and associated with water quality degradation = 8, community consists of typical species; j) direct observation of water quality = 8, none noted; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 8	with 0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The vegetative community structure is near optimal, only slightly reduced due to lack of natural floodplain inundation and encroachment of upland species. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, dominated by desirable native wetland species; b) invasive exotics or other invasive plant species = 10, none noted; c) regeneration and recruitment = 8, slightly reduced by diminished hydroperiod; d) age & size distribution = 8, typical of system; e) density and quality of coarse woody debris, snag, den, and cavity = 9, typical of assessment area; f) plant condition = 8, slightly reduced due to altered hydroperiod; g) land management practices = 9, slightly reduced due to alteration of Withlacoochee flood regime; h) topographic features = 9, typical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = N/A	
	w/o pres or current 9	with 0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.87	0

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

For impact assessment areas
FL = delta x acres = -0.87 x 3.72 = 3.24

Delta = [with-current]
-0.87

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 630 - Wetland K-L
Impact or Mitigation Impact - Clearing	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/11-12/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Loss of canopy species associated with clearing the transmission line ROW would reduce the location and landscape support variable for wetland forests through loss of contiguous forested parcels and conversion to a freshwater marsh/wetland scrub community. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to clearing impacts; b) Invasive exotic species = 6, potential encroachment of exotics associated with disturbance; c) Wildlife access to and from outside = 4, reduced due to clearing impacts; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, limited benefit; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to habitat loss; f) Hydrologically connected areas downstream of assessment area = 4, reduced due to clearing impacts; g) Dependency of downstream areas on assessment area = 4, reduced benefit to downstream areas.	
	w/o pres or current 9	with 6
.500(6)(b)Water Environment (n/a for uplands)	Clearing the canopy will impact the water environment variable, converting the forested system to a freshwater marsh/wetland scrub habitat; silt fencing will reduce temporary turbidity impacts to adjacent wetlands. Canopy clearing will impact the water environment score due to erosion, sedimentation, and soil compaction. Individual parameter scores: a) water levels and flows = 4, altered due to clearing impacts related to use of heavy machinery, erosion/sedimentation, and soil compaction; b) water level indicators = 4, altered from clearing impacts; c) soil moisture = 4, altered from soil compaction; d) soil erosion or deposition = 4, temporary erosion from clearing impacts; e) evidence of fire history = N/A; f) vegetation community zonation = 4, altered due to removal of canopy stratum; g) hydrologic stress on vegetation = 6, some stress from soil compaction; h) use by animal species with specific hydrological requirements = 6, decreased use due to clearing; i) vegetative species tolerant of and associated with water quality degradation = 6, may have potential encroachment of nuisance/exotic species; j) direct observation of water quality = N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 8	with 4
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	Clearing the canopy will convert the system to a freshwater marsh/wetland scrub community with significant loss of functional value compared to the existing forested system. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, canopy stratum removed; b) invasive exotics or other invasive plant species = 6, potential encroachment of exotics associated with disturbance; c) regeneration and recruitment = 6, the herbaceous and shrub stratum species will eventually regenerate and recruit; d) age & size distribution = 4, impacted from clearing; e) density and quality of coarse woody debris, snag, den, and cavity = 4, reduced due to clearing impacts; f) plant condition = 4, reduced due to clearing impacts; g) land management practices = 4, due to alteration of community structure by clearing; h) topographic features = 4, atypical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = N/A.	
	w/o pres or current 9	with 4

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.87	0.47

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

For impact assessment areas
FL = delta x acres = -0.40 x 24.16 = 9.66

Delta = [with-current]
-0.40

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number	Assessment Area Name or Number FLUCFCS 641 - Wetland J
FLUCCs code 641 - Freshwater Marsh	Further classification (optional)	Impact or Mitigation Site? Existing Condition	Assessment Area Size 1.0 acre
Basin/Watershed Name/Number Crystal River to St. Petersburg (03100207)	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Isolated marsh/constructed stormwater retention pond, surrounded by upland pine/oak forest, roadways, and nearby residential areas.			
Assessment area description Small freshwater marsh surrounded by residential roadways, disturbed along perimeter from trucks, 4-wheel recreational vehicles. Constructed stormwater retention pond. Dominated by nuisance/exotic species torpedo grass (<i>Panicum repens</i>), with an assortment of native wetland species present as well, including maidencane (<i>Panicum hemitomon</i>), pickerelweed (<i>Pontederia cordata</i>), marsh mermaidweed (<i>Proserpinaca palustris</i>), water hyssop (<i>Bacopa monnieri</i>), marsh pennywort (<i>Hydrocotyle umbellata</i>), coinwort (<i>Centella asiatica</i>), smartweed (<i>Polygonum</i> sp.), coastal plain willow (<i>Salix caroliniana</i>), and buttonbush (<i>Cephalanthus occidentalis</i>).			
Significant nearby features Residential roadways		Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique	
Functions Wildlife habitat, water storage, aquifer recharge		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, various amphibians and herpetofauna		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), and wood stork (E).	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None observed			
Additional relevant factors:			
Assessment conducted by: M. Arrants, K. Bullock		Assessment date(s): 11/11/2009	

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 641 - Wetland J
Impact or Mitigation Existing Condition	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/11/2009

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Location and landscape support variable is reduced due to surrounding roadways and nearby houses. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 5, reduced due to surrounding development; b) Invasive exotic species = 7, significant coverage of torpedo grass; c) Wildlife access to and from outside = 7, slightly decreased due to limitations imposed by surrounding roadways and residential areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 5, limited connection to other habitats; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to surrounding residential development; f) Hydrologically connected areas downstream of assessment area = 2, no hydrologic connections; g) Dependency of downstream areas on assessment area = 2, no benefit to downstream areas.
w/o pres or current	with
5	0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is reduced due to isolated nature of man-made excavation, impacts from adjacent roadways, and disturbance due to trucks and recreational vehicles. Individual parameter scores: a) water levels and flows = 6, altered due to excavation within uplands; b) water level indicators = 6, reduced compared to expected for assessment area type; c) soil moisture = 6, reduced hydroperiod; d) soil erosion or deposition = 4, erosion from recreational vehicles and trucks; e) evidence of fire history = N/A; f) vegetation community zonation = 6, moderate upland species encroachment; g) hydrologic stress on vegetation = 6; h) use by animal species with specific hydrological requirements = 5, poor wildlife habitat; i) vegetative species tolerant of and associated with water quality degradation = 6, some species indicative of high nutrients, eg. torpedo grass; j) direct observation of water quality = N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
w/o pres or current	with
6	0
.500(6)(c)Community structure	The community structure variable is reduced due to prevalence of nuisance/exotic species. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 6,due to coverage by nuisance/exotic species; b) invasive exotics or other invasive plant species = 5, significant coverage of torpedo grass; c) regeneration and recruitment = 6, impacted by recreational vehicles; d) age & size distribution = 6, typical of system, reduced due to recreational vehicle disturbance; e) density and quality of coarse woody debris, snag, den, and cavity = 3, none noted; f) plant condition = 6, extent and health of native species impacted somewhat by exotic nuisance species, vehicular disturbance; g) land management practices = 6, adjacent roadways, disturbance due to recreational vehicles and trucks; h) topographic features = 4, reduced compared to typical assessment area, man-made excavation; i) siltation or algal growth in submerged aquatic plant communities = N/A
1. Vegetation and/or 2. Benthic Community	
w/o pres or current	with
6	0

Score = sum of above scores/30 (if uplands, divide by 20)	
current	
or w/o pres	
with	
0.57	0

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

For impact assessment areas
FL = delta x acres = -0.57 x 0 = 0

Delta = [with-current]
-0.57

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number		Assessment Area Name or Number FLUCFCS 641 - Wetland C	
FLUCCs code 641 - Freshwater Marsh		Further classification (optional)		Impact or Mitigation Site? Impact	Assessment Area Size 3.03 acres
Basin/Watershed Name/Number Crystal River to St. Petersburg (03100207)		Affected Waterbody (Class)		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Isolated dry marsh, no connection to other wetlands/surface waters. Adjacent to improved pasture, roadway, and low-density residential areas.					
Assessment area description Isolated freshwater marsh, reduced hydroperiod, dominated by dogfennel (<i>Eupatorium capillifolium</i>), maidencane (<i>Panicum hemitomon</i>), and blackberry (<i>Rubus</i> sp.). Subdominant species include slash pine (<i>Pinus elliotii</i>), laurel oak (<i>Quercus laurifolia</i>), bushy broomsedge (<i>Andropogon glomeratus</i>), dahoon holly (<i>Ilex cassine</i>), wax myrtle (<i>Myrica cerifera</i>), black cherry (<i>Prunus serotina</i>), and meadowbeauty (<i>Rhexia</i> sp.).					
Significant nearby features Roadway, improved pasture, low-density residential			Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique		
Functions Wildlife habitat, water storage, aquifer recharge			Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, various amphibians and herpetofauna			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), and wood stork (E).		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): None observed					
Additional relevant factors:					
Assessment conducted by: K. Bullock, M. Arrants			Assessment date(s): 11/10/2009		

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 641 - Wetland C
Impact or Mitigation Impact - Fill	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/10/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Location and landscape support variable is slightly reduced due to location of wetland adjacent to roadway and improved pasture. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, slightly reduced due to low-density residential development, roadways, and pasture; b) Invasive exotic species = 9, none noted; c) Wildlife access to and from outside = 7, slightly decreased due to limitations imposed by clearing, roadways, development; d) functions that benefit fish & wildlife downstream-distance or barriers = 7; e) Impacts to wildlife listed in Part 1 by outside land uses = 7, slightly reduced due to roadways, residential areas; f) Hydrologically connected areas downstream of assessment area = 2, isolated system; g) Dependency of downstream areas on assessment area = 4, minimal benefit to downstream areas.	
	w/o pres or current 7	with 0
.500(6)(b)Water Environment (n/a for uplands)	The water environment score is reflective of reduced hydroperiod, allowing significant encroachment of upland and transitional vegetation. Individual parameter scores: a) water levels and flows = 6, less than expected for assessment area; b) water level indicators = 6, less than expected; c) soil moisture = 6, drier than expected for assessment area; d) soil erosion or deposition = 8, minimal erosion; e) evidence of fire history = N/A; f) vegetation community zonation = 5, significant upland species encroachment; g) hydrologic stress on vegetation = 6, marginal hydrology, upland species encroachment; h) use by animal species with specific hydrological requirements = 6, low quality wading bird foraging habitat; i) vegetative species tolerant of and associated with water quality degradation = 7, no water present, although community consists of typical native species; j) direct observation of water quality = N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 6	with 0
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	This isolated freshwater marsh supports a community of native vegetation dominated by maidencane, dogfennel, and blackberry. The marginal hydroperiod allows for significant coverage of facultative and upland species. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 7, dominated by desirable native wetland species, upland species present; b) invasive exotics or other invasive plant species = 9, none noted; c) regeneration and recruitment = 7, somewhat impacted by reduced hydroperiod; d) age & size distribution = 8, typical of system; e) density and quality of coarse woody debris, snag, den, and cavity = 7; f) plant condition = 8; g) land management practices = 7, due to alteration of community structure by clearing of adjacent native uplands for pasture, roadways; h) topographic features = 7; typical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = N/A	
	w/o pres or current 7	with 0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.67	0

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

For impact assessment areas
FL = delta x acres = -0.67 x 0.56 = 0.38

Delta = [with-current]
-0.67

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number	Assessment Area Name or Number FLUCFCS 641 - Wetlands D and E
FLUCCs code 641 - Freshwater Marsh	Further classification (optional)	Impact or Mitigation Site? Impact	Assessment Area Size 3.62 acres (Wetland D = 0.35, Wetland E = 3.27)
Basin/Watershed Name/Number Crystal River to St. Petersburg (03100207)	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Isolated marshes, no connection to other wetlands/surface waters. Surrounded by improved pasture, upland forest, low-density residential roadway.			
Assessment area description High quality freshwater marshes supporting a diverse assemblage of native wetland vegetation. Some erosion/disturbance due to cattle (Wetland D) and perimeter firebreak (Wetland E). Dominant groundcover species include pickerelweed (<i>Pontederia cordata</i>), fragrant water lily (<i>Nymphaea odorata</i>), soft rush (<i>Juncus effusus</i>), smartweed (<i>Polygonum</i> sp.), maidencane (<i>Panicum hemitomon</i>), and spatterdock (<i>Nuphar luteum</i>), with cutgrass (<i>Leersia</i> sp.), Mexican primrose willow (<i>Ludwigia octovalvis</i>), spikerush (<i>Eleocharis</i> sp.), shrubby primrose willow (<i>Ludwigia suffruticosa</i>), water hyssop (<i>Bacopa monnieri</i>), meadowbeauty (<i>Rhexia</i> sp.), yellow-eyed grass (<i>Xyris</i> sp.), and torpedo grass (<i>Panicum repens</i>) subdominant. Dominant shrub species include buttonbush (<i>Cephalanthus occidentalis</i>), coastal plain willow (<i>Salix caroliniana</i>), and wax myrtle (<i>Myrica cerifera</i>).			
Significant nearby features Improved pasture, low-density residential roadway		Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique	
Functions Wildlife habitat, water storage, aquifer recharge		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, various amphibians and herpetofauna		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), and wood stork (E).	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): white ibis, little blue heron, black vulture, killdeer			
Additional relevant factors:			
Assessment conducted by: M. Arrants, K. Bullock		Assessment date(s): 11/10/2009	

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 641 - Wetlands D and E
Impact or Mitigation Impact - Fill	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/10/2009

Scoring Guidance The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current 7 with 0	Location and landscape support variable is slightly reduced due to location of wetlands within improved pasture and adjacent roadway. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 7, slightly reduced due to conversion of native uplands to improved pasture, roadway construction; b) Invasive exotic species = 8, minimal coverage of torpedo grass; c) Wildlife access to and from outside = 8, slightly decreased due to limitations imposed by clearing and roadways; d) functions that benefit fish & wildlife downstream-distance or barriers = 7, isolated systems, pasture and roadways act as minor barriers; e) Impacts to wildlife listed in Part 1 by outside land uses = 8, slightly reduced due to clearing; f) Hydrologically connected areas downstream of assessment area = 2, isolated systems; g) Dependency of downstream areas on assessment area = 4, isolated systems.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current 8 with 0	The water environment score is reflective of relatively undisturbed hydrology, slightly reduced due to surrounding land conversion to improved pasture and roadway. Individual parameter scores: a) water levels and flows = 8, slight alterations in water level due to clearing of surrounding areas; b) water level indicators = 8, consistent with expected; c) soil moisture = 8, consistent with expected; d) soil erosion or deposition = 7, some erosion due to cattle, firebreak; e) evidence of fire history = N/A; f) vegetation community zonation = 8; g) hydrologic stress on vegetation = 8, not apparent; h) use by animal species with specific hydrological requirements = 9, high quality wading bird foraging habitat; i) vegetative species tolerant of and associated with water quality degradation = 8, community consists of typical species; j) direct observation of water quality = 7, no adverse water quality indicators noted, location within pasture likely to increase nutrients; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current 9 with 0	These freshwater marshes support a diverse community of native wetland vegetation. The community structure variable is very slightly reduced due to presence of exotic species torpedo grass and impact of cattle and adjacent roadway. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 9, dominated by desirable native wetland species; b) invasive exotics or other invasive plant species = 8, minor coverage; c) regeneration and recruitment = 9, typical for assessment area; d) age & size distribution = 8, typical of system; e) density and quality of coarse woody debris, snag, den, and cavity = 8; f) plant condition = 9; g) land management practices = 7, due to alteration of community structure by clearing of adjacent native uplands; h) topographic features = 8, typical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = N/A

Score = sum of above scores/30 (if uplands, divide by 20) current or w/o pres 0.80 with 0

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

For impact assessment areas FL = delta x acres = -0.80 x 0.27 = 0.22 (Wetland D); -0.80 x 0.12 = 0.10 (Wetland E); total of 0.39 acres and total FL of 0.32

Delta = [with-current] -0.80

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

For mitigation assessment areas RFG = delta/(t-factor x risk) =

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

Site/Project Name Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		Application Number	Assessment Area Name or Number FLUCFCS 643, 630 - Wetland A
FLUCCs code 643 - Wet Prairie with 630 - Mixed Hardwood/Conifer Wetland Fringe	Further classification (optional)	Impact or Mitigation Site? Impact	Assessment Area Size 0.60 acres
Basin/Watershed Name/Number Crystal River to St. Petersburg (03100207)	Affected Waterbody (Class)	Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) None	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Isolated wet prairie with small fringe of wetland forest, surrounded by upland pine/oak forest			
Assessment area description Wet prairie dominated by a mixture of native and exotic herbaceous wetland species including capeweed (<i>Phyla nodiflora</i>), dogfennel (<i>Eupatorium capillifolium</i>), alexander grass (<i>Urochloa</i> sp.), and whitetop sedge (<i>Rhynchospora colorata</i>). Sparse coverage of tree/shrub species, including coastal plain willow (<i>Salix caroliniana</i>), buttonbush (<i>Cephalanthus occidentalis</i>), and wax myrtle (<i>Myrica cerifera</i>), with surrounding fringe of laurel oak (<i>Quercus laurifolia</i>), cabbage palm (<i>Sabal palmetto</i>), and persimmon (<i>Diospyros virginiana</i>) classified as a mixed hardwood/conifer wetland.			
Significant nearby features Upland forest, low-density residential, roadways		Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique	
Functions Wildlife habitat, water storage, aquifer recharge		Mitigation for previous permit/other historic use N/A	
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Wading birds, raccoon, various amphibians and herpetofauna		Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), tricolored heron (SSC), sandhill crane (T), and wood stork (E).	
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): garter snake			
Additional relevant factors:			
Assessment conducted by: K. Bullock, M. Arrants		Assessment date(s): 11/10/2009	

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 - Transmission Lines/Common Route Transmission Line	Application Number	Assessment Area Name or Number FLUCFCS 643, 630 - Wetland A
Impact or Mitigation Impact - Clearing	Assessment conducted by: K. Bullock, M. Arrants	Assessment date: 11/10/2009

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Loss of canopy species associated with clearing the transmission line ROW would reduce the location and landscape support variable for the wetland forest fringe through conversion to a freshwater marsh/wetland scrub community. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to clearing impacts; b) Invasive exotic species = 6, potential encroachment of exotics associated with disturbance; c) Wildlife access to and from outside = 4, reduced due to clearing impacts; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, limited benefit; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to habitat loss; f) Hydrologically connected areas downstream of assessment area = N/A; g) Dependency of downstream areas on assessment area = N/A.	
	w/o pres or current 8	with 5
.500(6)(b)Water Environment (n/a for uplands)	Clearing the canopy will impact the water environment variable, converting the forested wetland fringe to a freshwater marsh/wetland scrub habitat; silt fencing will reduce temporary turbidity impacts to adjacent areas. Canopy clearing will impact the water environment score due to erosion, sedimentation, and soil compaction. Individual parameter scores: a) water levels and flows = 4, altered due to clearing impacts related to use of heavy machinery, erosion/sedimentation, and soil compaction; b) water level indicators = 4, altered from clearing impacts; c) soil moisture = 4, altered from soil compaction; d) soil erosion or deposition = 4, temporary erosion from clearing impacts; e) evidence of fire history = N/A; f) vegetation community zonation = 4, altered due to removal of canopy stratum; g) hydrologic stress on vegetation = 6, some stress from soil compaction; h) use by animal species with specific hydrological requirements = 6, decreased use due to clearing; i) vegetative species tolerant of and associated with water quality degradation = 6, may have potential encroachment of nuisance/exotic species; j) direct observation of water quality = N/A; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.	
	w/o pres or current 7	with 4
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	Clearing the canopy will convert the forested wetland fringe to a freshwater marsh/wetland scrub community with significant loss of functional value compared to the existing forested system. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, canopy stratum removed; b) invasive exotics or other invasive plant species = 6, potential encroachment of exotics associated with disturbance; c) regeneration and recruitment = 6, the herbaceous and shrub stratum species will eventually regenerate and recruit; d) age & size distribution = 4, impacted from clearing; e) density and quality of coarse woody debris, snag, den, and cavity = 4, reduced due to clearing impacts; f) plant condition = 4, reduced due to clearing impacts; g) land management practices = 4, due to alteration of community structure by clearing; h) topographic features = 4, atypical for assessment area; i) siltation or algal growth in submerged aquatic plant communities = N/A.	
	w/o pres or current 7	with 4

Score = sum of above scores/30 (if uplands, divide by 20)	
current	with
or w/o pres	
0.73	0.43

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

For impact assessment areas
FL = delta x acres = -0.40 x 0.19 = 0.08

Delta = [with-current]
-0.40

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

For mitigation assessment areas
RFG = delta/(t-factor x risk) =