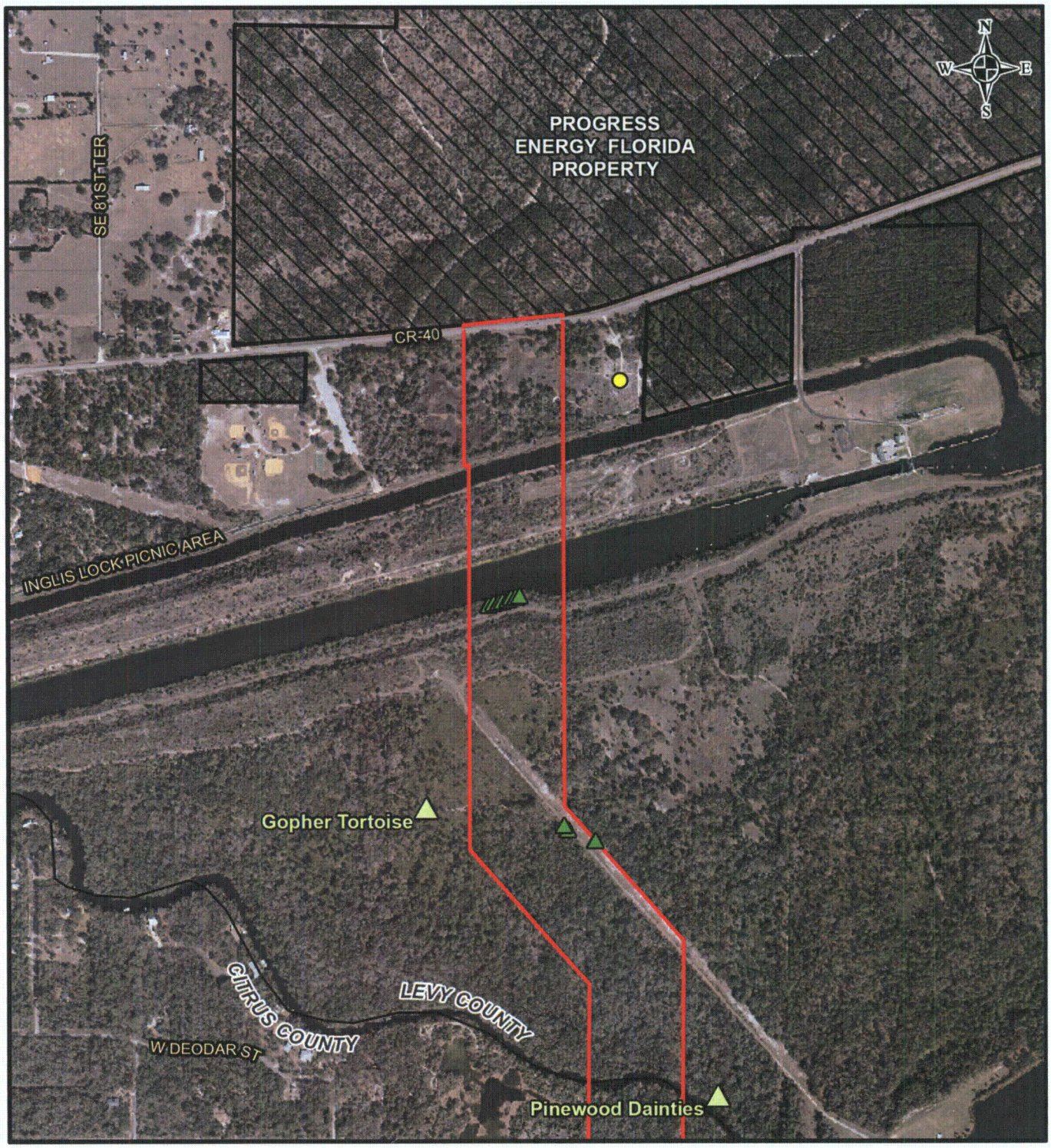


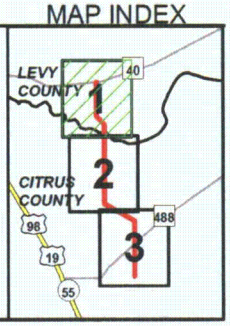
LEGEND

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

GOLDER OBSERVED SPECIES

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

MAP INDEX



1,000 500 0 1,000 Feet

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

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

PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

COMMON ROUTE
LISTED SPECIES MAP

Progress Energy

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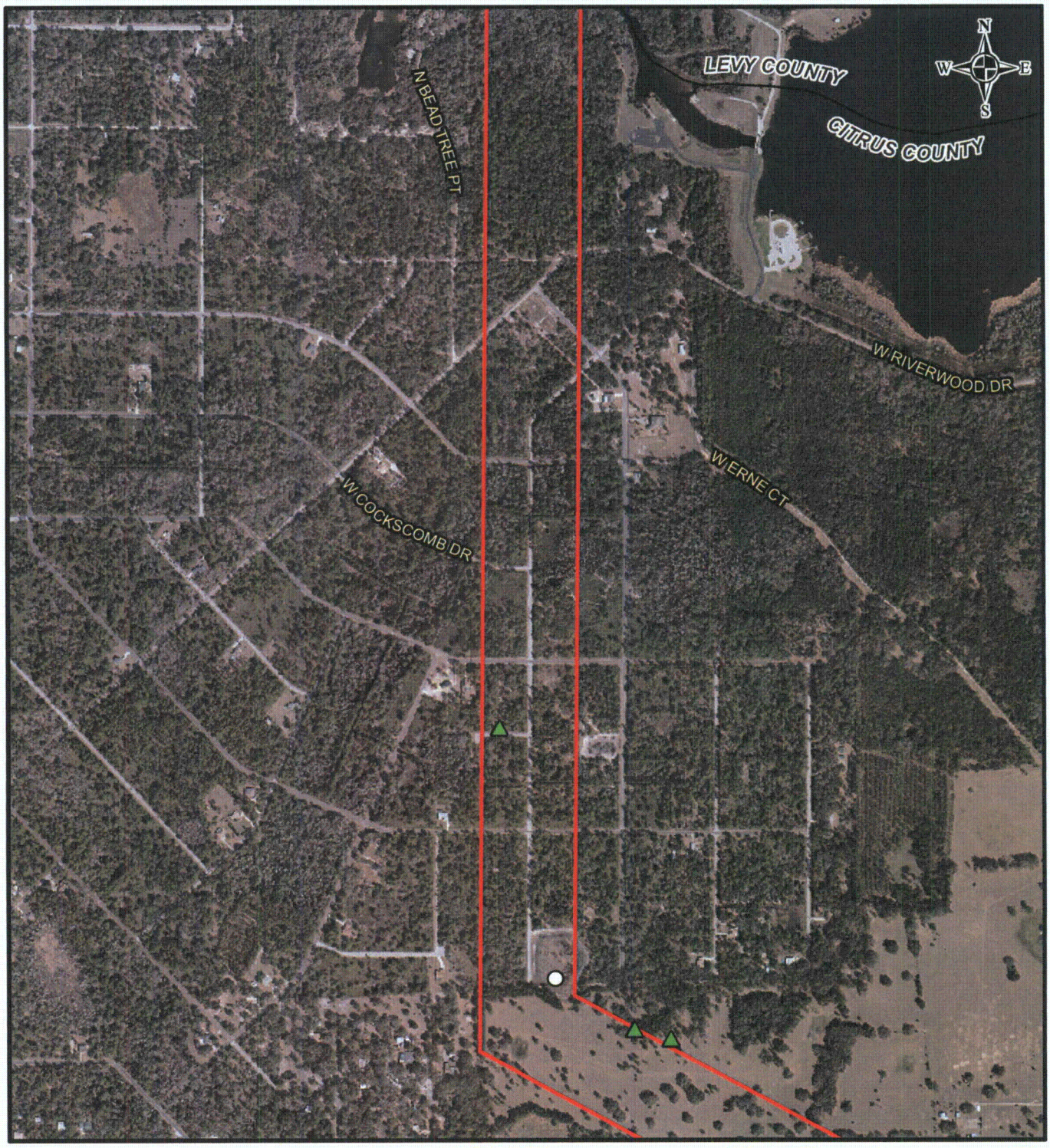


LEGEND

Common Right-of-Way

Florida Natural Areas Inventory Occurrence

GOLDER OBSERVED SPECIES

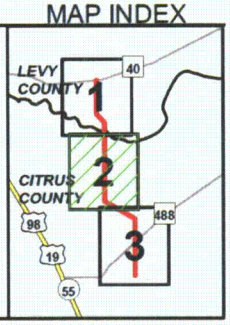
Gopher Tortoise

Bald Eagle

Britton's Bear Grass

White Ibis

MAP INDEX



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LEVY NUCLEAR PLANT

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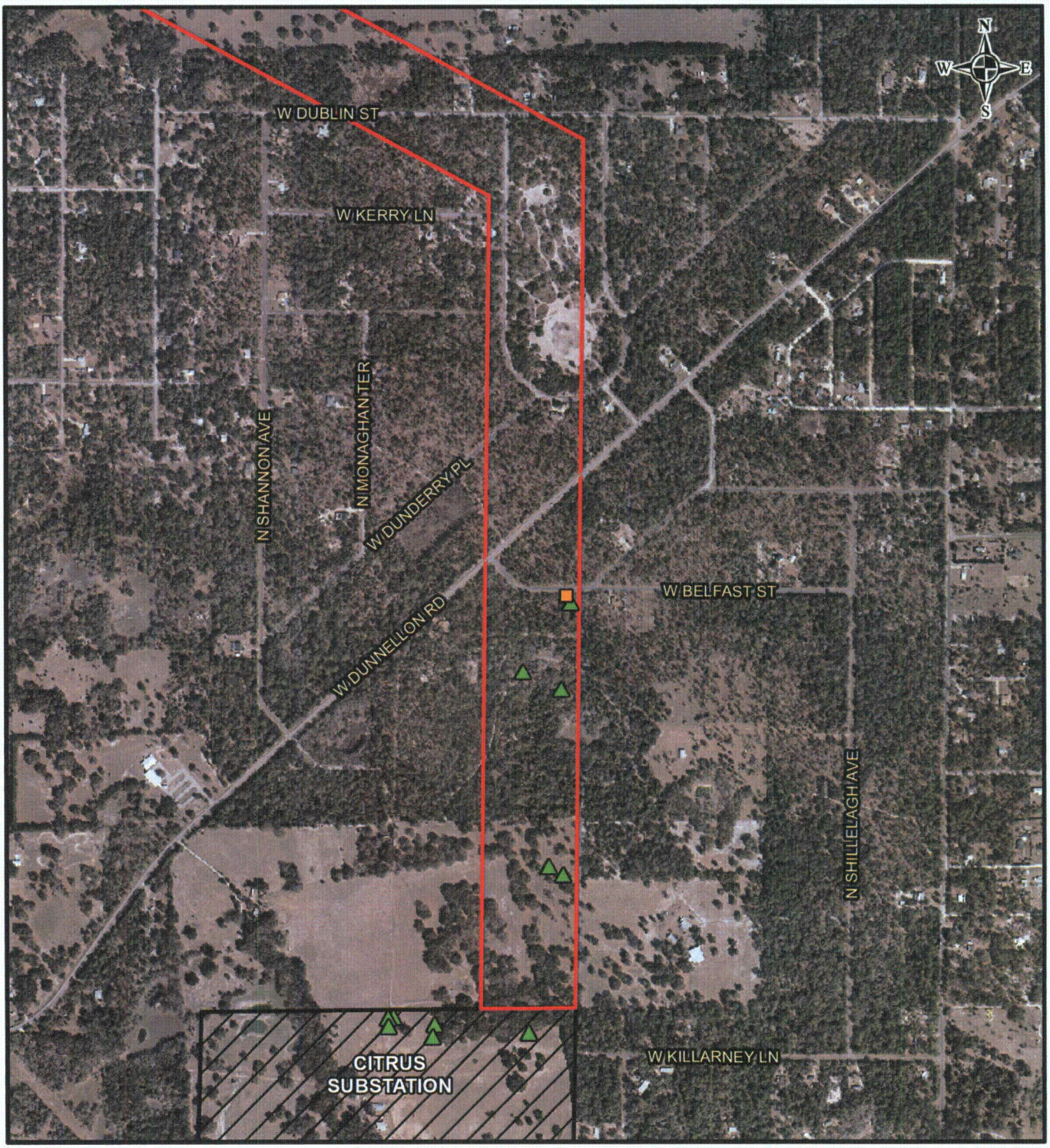

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- Common Right-of-Way
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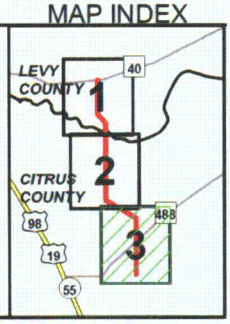

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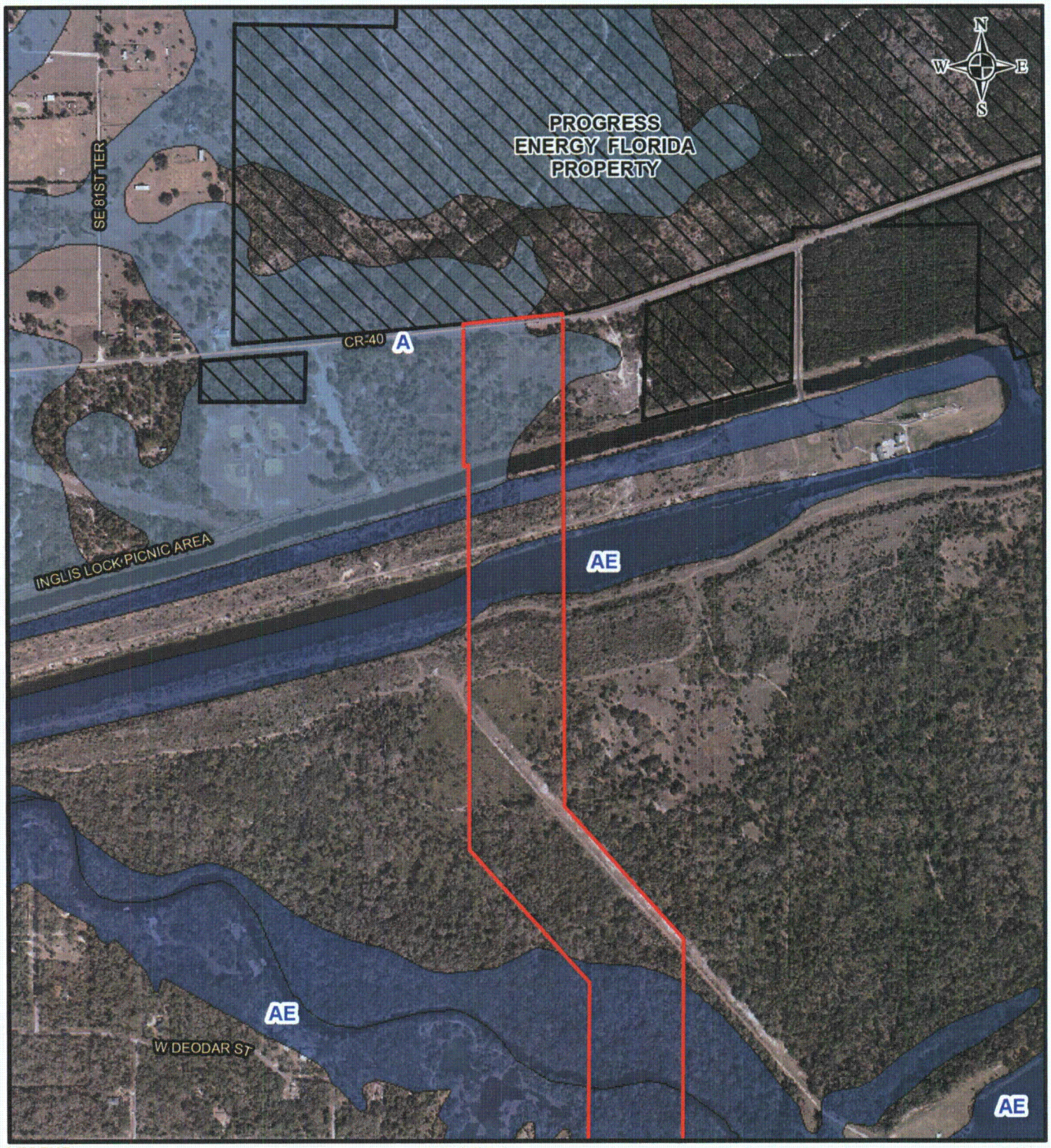


LEGEND

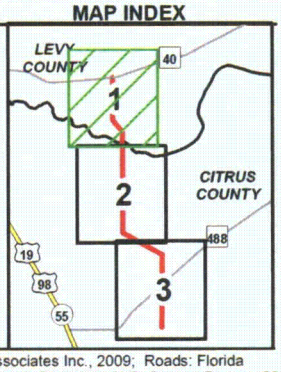
Common Right-of-Way

FEMA FLOOD ZONE

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

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

MAP INDEX



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PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

COMMON ROUTE
FEMA 100 YEAR FLOODPLAIN MAP

Progress Energy

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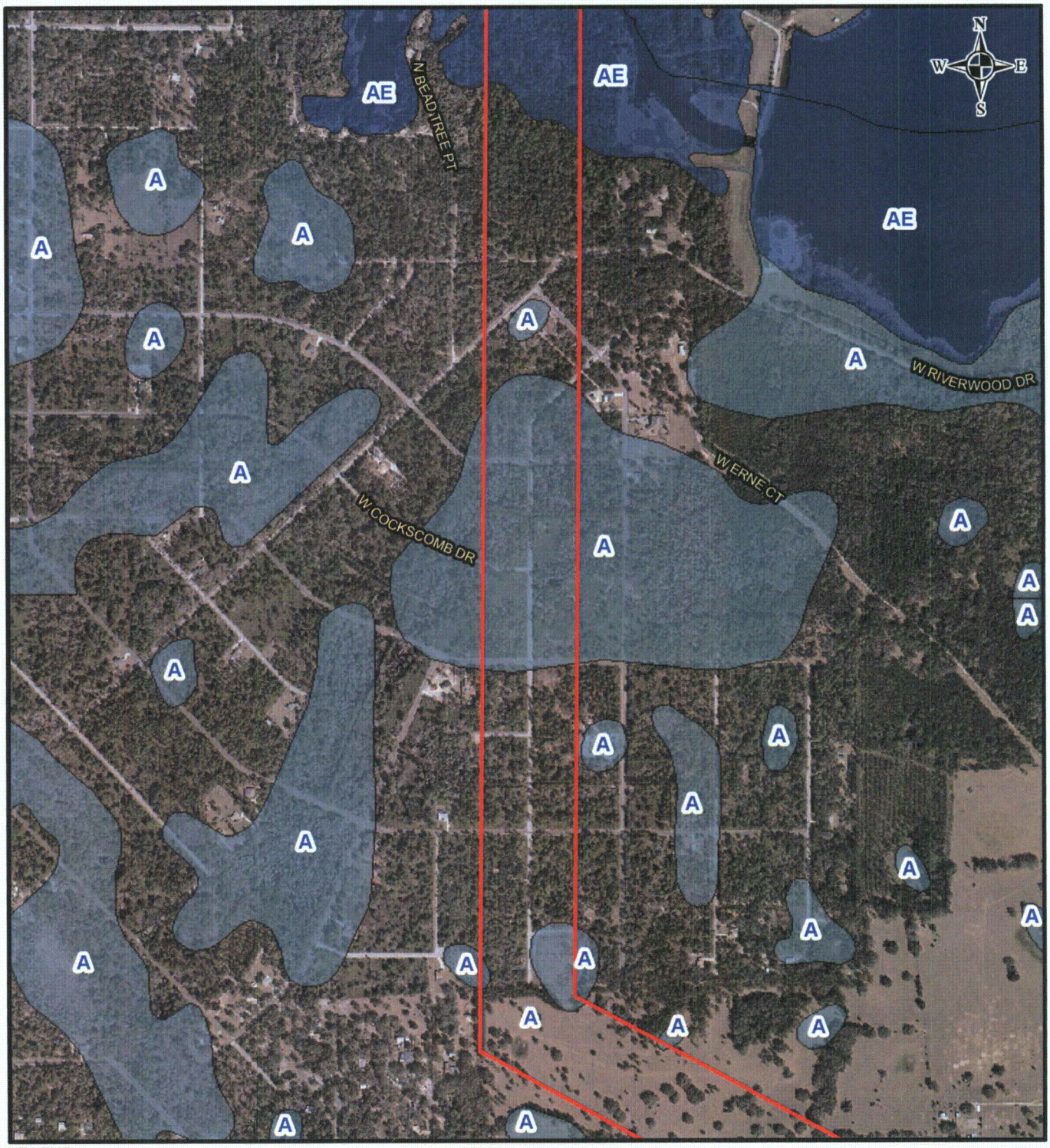

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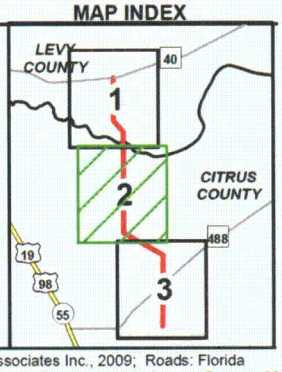

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PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

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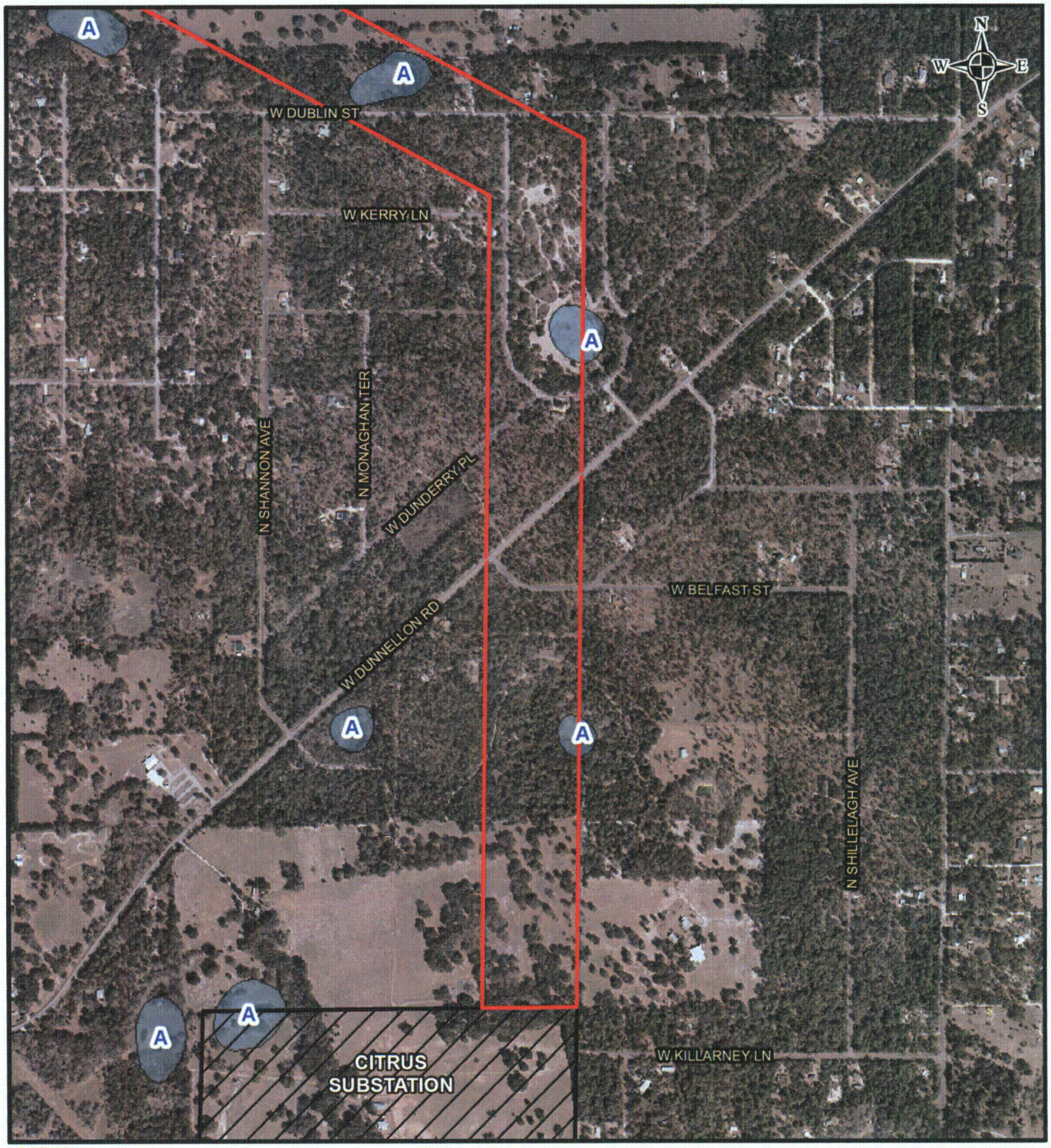

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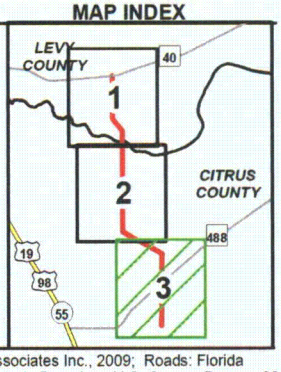

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PROGRESS ENERGY FLORIDA
LEVY NUCLEAR PLANT

COMMON ROUTE
FEMA 100 YEAR FLOODPLAIN MAP

Progress Energy

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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 *Phyla nodiflora, Eupatorium capillifolium*, and *Urochloa plantaginea*.
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 *Eupatorium capillifolium* and *Panicum hemitomon*.
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 *Eupatorium capillifolium* and *Panicum hemitomon*. 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 *Pontederia cordata, Cephalanthus occidentalis*, and *Juncus effusus*.

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 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 *Pontederia cordata* and *Nymphaea odorata.*
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 *Eupatorium capillifolium*, *Hypericum* spp., and *Urochloa plantaginea.*
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 *Baccharis* spp., *Bidens laevis*, and *Sagittaria lancifolia.*
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. *Taxodium ascendens* is the dominant species.

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 I/I2/I3	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 *Taxodium ascendens* and *Pinus elliottii*.
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 *Panicum repens* and *Pontederia cordata*.
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 *Quercus laurifolia, Pinus elliotti* and *Serenoa repens*.
	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 *Quercus laurifolia* and *Sabal palmetto*.
	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.

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

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	
Rynchops niger 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					
Podomys floridanus Florida mouse	Xeric upland communities with sandy soils, including scrub, sandhill, and ruderal sites; potential commensal in gopher tortoise burrows	Medium	N	SSC	No
Sciurus niger shermani Sherman's fox squirrel	Sandhills, pine flatwoods, pastures and other open, ruderal habitats with scattered pines and oaks	Medium	N	SSC	No
Sorex longirostris eionis Homosassa shrew	Moist areas, forested wetlands, riparian forests, fields, brushy areas; near Homosassa Springs area	Low	N	SSC	No
Trichechus manatus West Indian manatee	Rivers, bays, canals, estuaries, Gulf of Mexico	Low	E	E	No
Ursus americanus floridanus Florida black bear	Large areas of forested uplands, forested wetlands	Medium	N	T	No
REPTILES					
Alligator mississippiensis American alligator	Most permanent bodies of fresh water, including marshes, swamps, lakes, and rivers	Low	T (SA)	SSC	No
Drymarchon couperi 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
Gopherus polyphemus Gopher tortoise	Dry upland habitats, including sandhills, scrub, xeric oak hammock, and dry pine flatwoods; also pastures, old fields	High	N	T	Yes
Macrochelys temminckii 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

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

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			USFWS	FWC	
Pituophis melanoleucus mugitus 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
Pseudemys concinna suwanniensis Suwannee cooter	Rivers, large streams	Low	N	SSC	No
Stilosoma extenuatum Short-tailed snake	Sandhill, xeric hammock, sand pine scrub	Low	N	T	No
FISH					
Acipenser oxyrinchus desotoi 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
Micropterus notius 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					
Adiantum tenerum Brittle maidenhair fern	Limestone outcrops, grottoes, sinkholes	Low	N	E	No
Agrimonia incisa Incised groove-bur	Sandhills and scrub	Low	N	E	No
Arnoglossum diversifolium 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
Asplenium pumilum Dwarf spleenwort	Pinelands	Medium	N	E	No
Asplenium verecundum Modest spleenwort	Rockland hammocks, limestone outcrops, grottoes, sinkholes	Low	N	E	No
Blechnum occidentale Sinkhole fern	Moist woodlands, hammocks, rocky creek banks, woodlands with open shade	Low	N	E	No

TABLE B

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Proposed Levy - Citrus Common Route

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Levy and Citrus Counties, Florida

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			USFWS	FWC	
Carex chapmanii 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
Centrosema arenicola Sand butterfly pea	Sandhill, scrubby flatwoods, dry upland woods	Medium	N	E	No
Cheilanthes microphylla Southern lip fern	Crevices of limestone outcrops and terrestrial on shell mounds in partial to full sun	Low	N	E	No
Drosera intermedia 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
Euphorbia commutata Wood spurge	Open woods, sandy soils, stream borders and other riparian areas, rocky slopes	Medium	N	E	No
Forestiera godfreyi Godfrey's swampprivet	Upland hardwood forests with limestone at or near the surface, often on slopes above lakes and rivers	Medium	N	E	No
Glandularia tampensis Tampa vervain	Live oak–cabbage palm hammocks and pine-palmetto flatwoods	Low	N	E	No
Hasteola robertiorum Florida hasteola	Saturated, peaty soils of river and creek floodplain swamps; hydric hammocks with cabbage palm, cypress, or hardwood canopy	Medium	N	E	No
Leitneria floridana 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
Matelea floridana Florida spiny-pod	Pinelands, temperate forests	Medium	N	E	No
Monotropsis reynoldsiae Pygmy pipes	Upland mixed hardwood forest, mesic and xeric hammock, sand pine and oak scrub	High	N	E	No
Nolina brittoniana Britton's beargrass	Scrub, sandhill, scrubby flatwoods, and xeric hammock	High	E	E	Yes

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

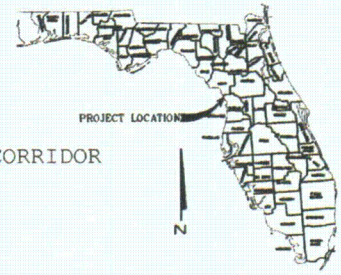
OF

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

HATCH LEGEND

DELINEATED WETLAND AREAS WITHIN CORRIDOR LIMITS

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:

THIS IS NOT A BOUNDARY SURVEY

LAST DATE IN FIELD: 12/04/2009

02/22/2010 (elev.)

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

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

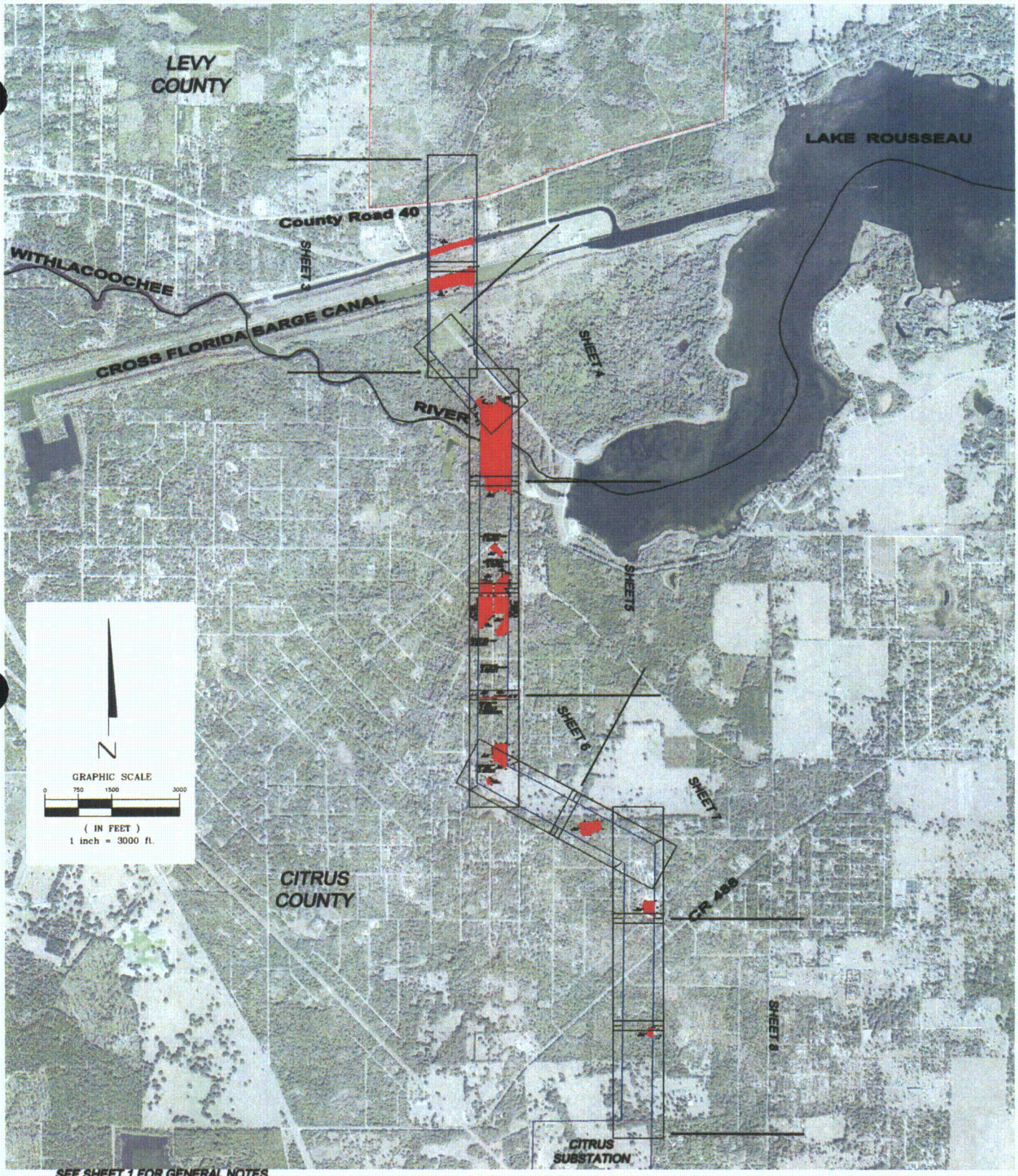
REVISION

DRAWN BY: P.E.W. CHKD. BY: R.M.J.
DATE: 12/15/09 DATE: 12/15/09
JOB No. 6374090435 SCALE: n/a SHT. 1 OF 9
DRAWING NAME: CR40 to CTRUS 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

Golder Associates
Gainesville, Florida

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



SEE SHEET 1 FOR GENERAL NOTES

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Levy and Citrus County, Florida

DATE	BY	DESCRIPTION

REVISION

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. 2 OF 9
DRAWING NAME: CR40 to CITRUS Substation.dwg

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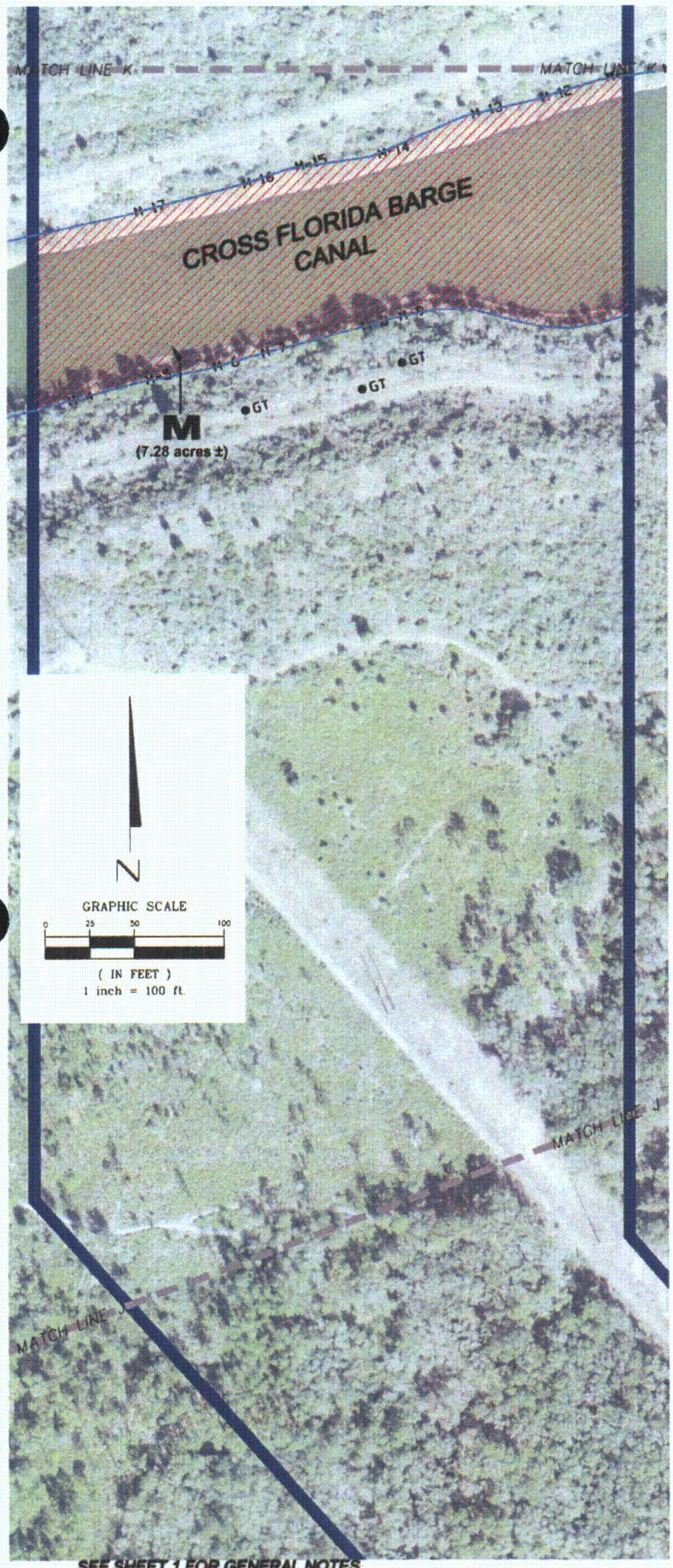

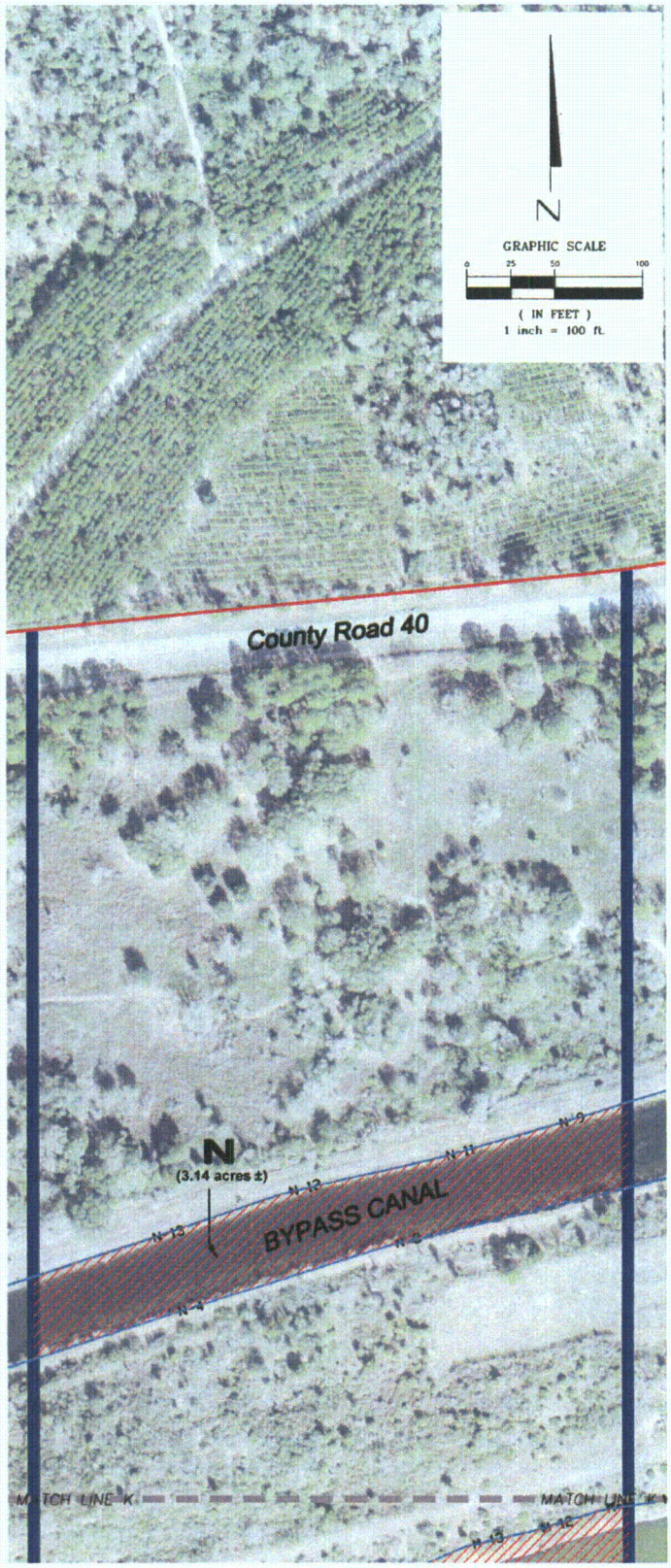

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DATE	BY	DESCRIPTION
01/19/10	PEW	RIGHT-OF-WAY & WETLANDS

REVISION

DRAWN BY: P.E.W. DATE: 12/15/09
CHKD. BY: R.M.J. DATE: 12/15/09
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SCALE: 1"=300'
SHT. 3 OF 9
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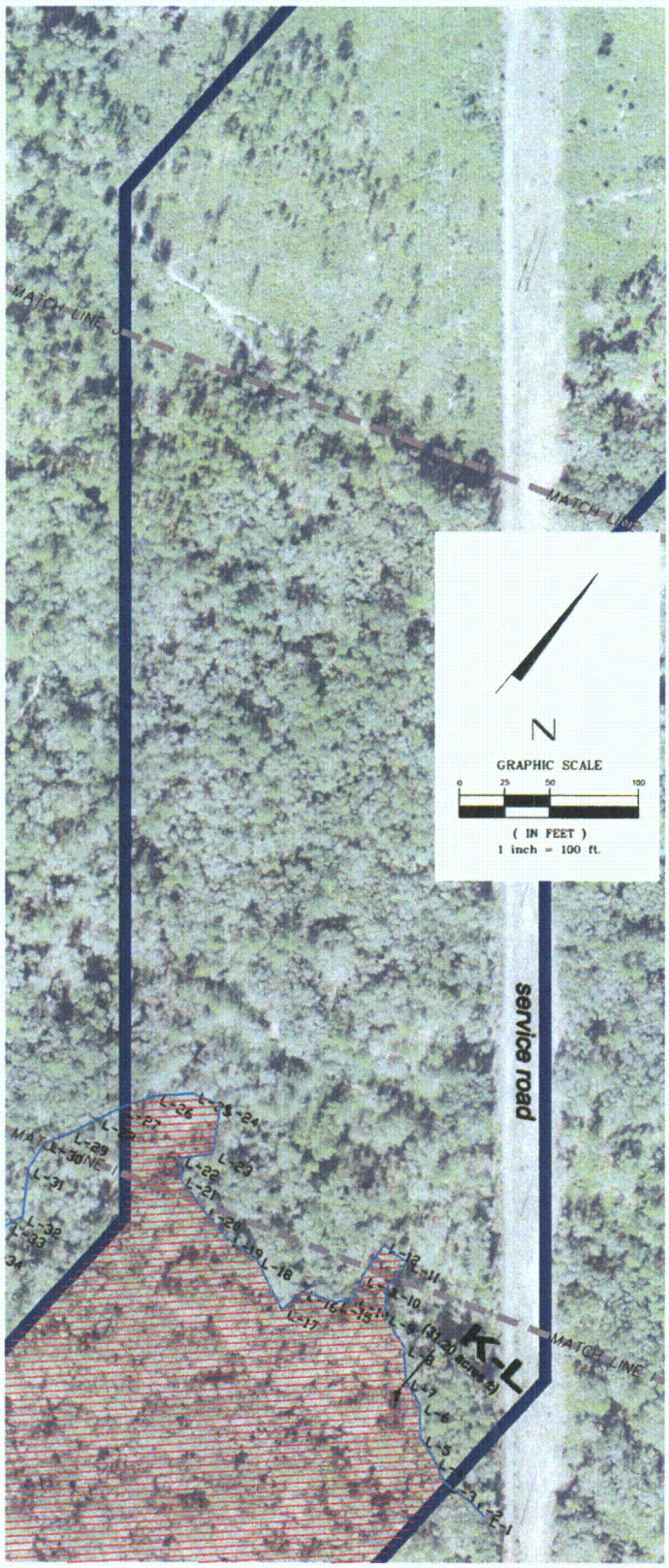

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DATE	BY	DESCRIPTION
02/05/10	PEW	combined K and L

REVISION

DRAWN BY: P.E.W. DATE: 12/15/09
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SCALE: 1"=300'
SHT. 4 OF 9
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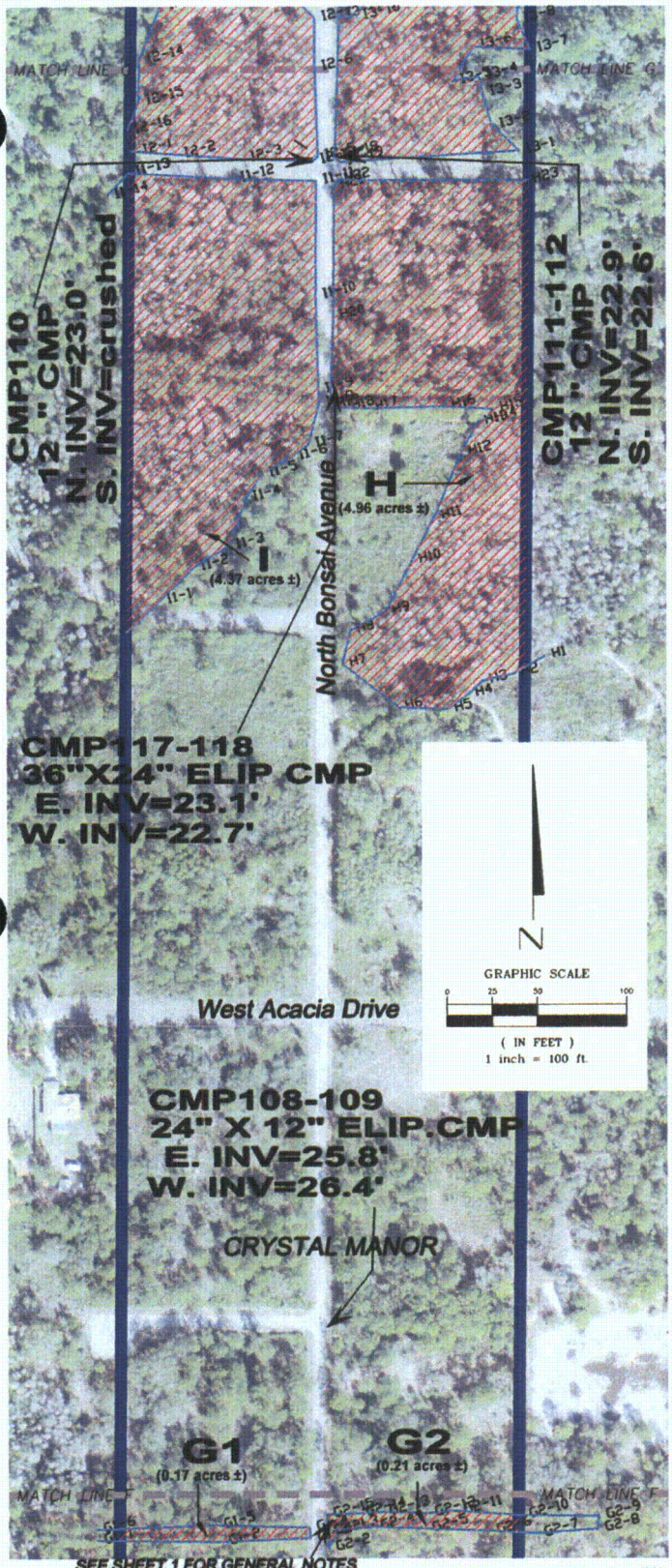

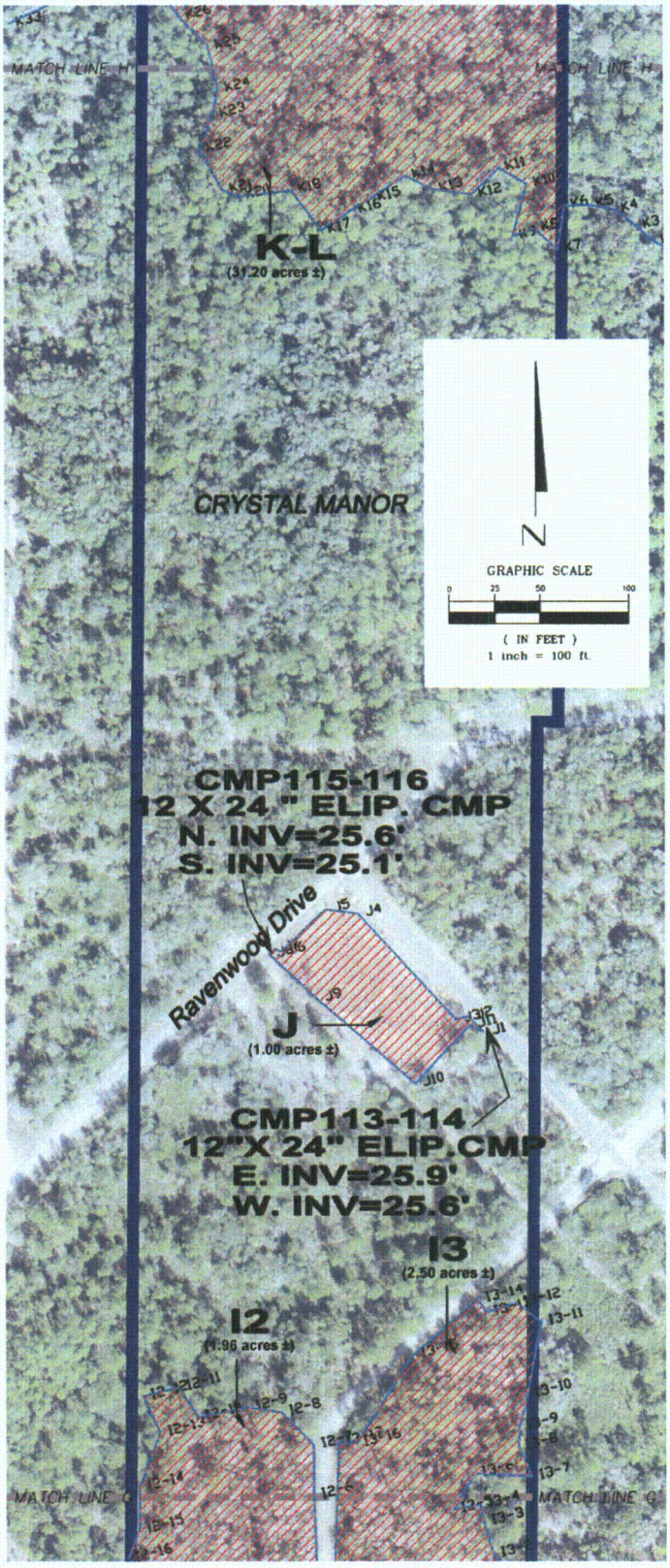

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DATE	BY	DESCRIPTION
02/22/10	PEW	added culvert information
02/15/10	PEW	SHEETS 5 and 6
02/05/10	PEW	combined K and L

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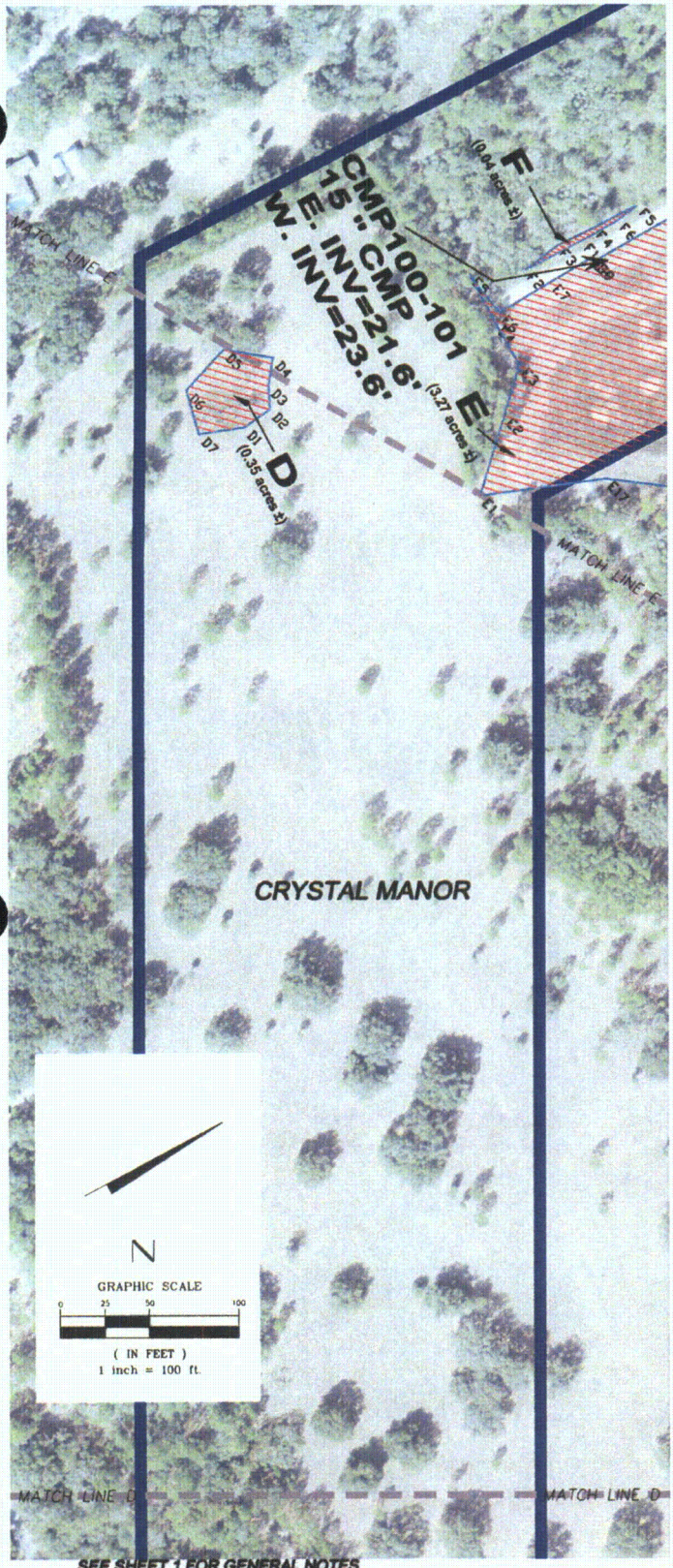

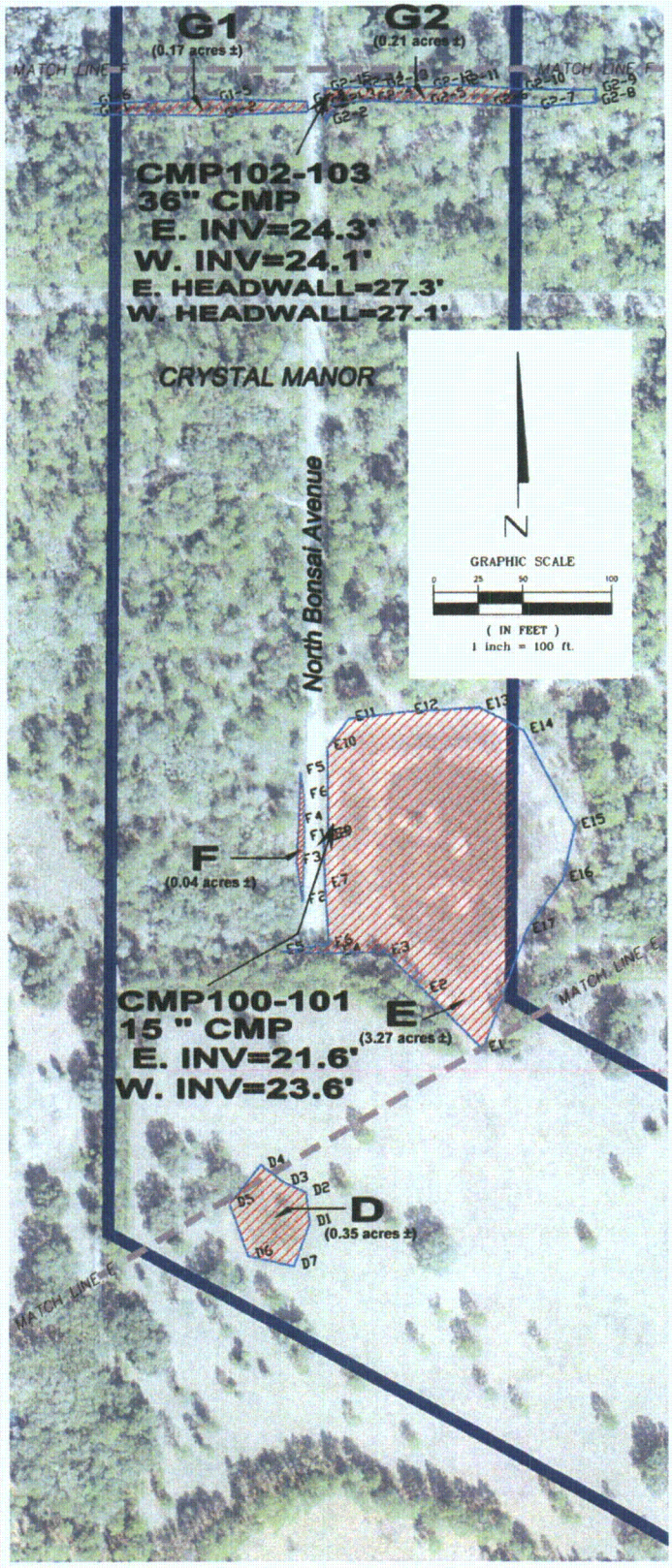

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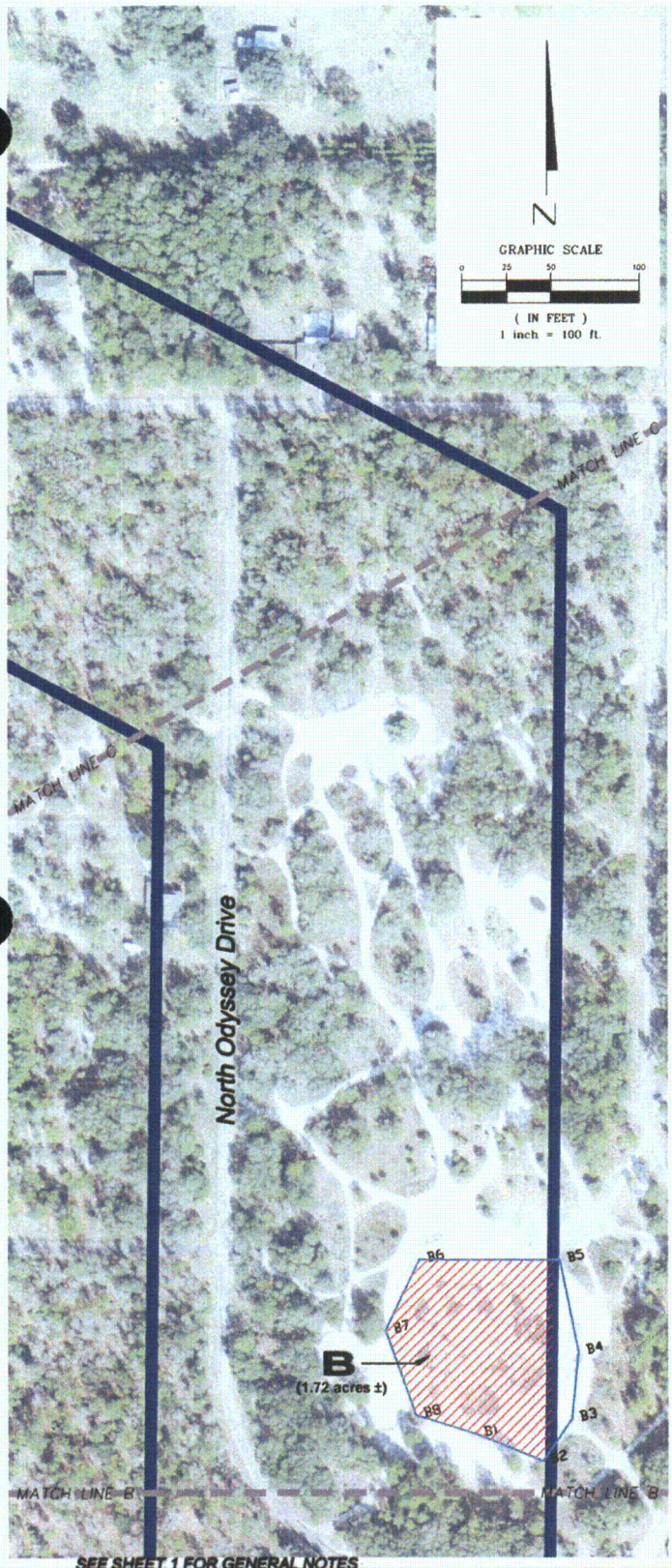

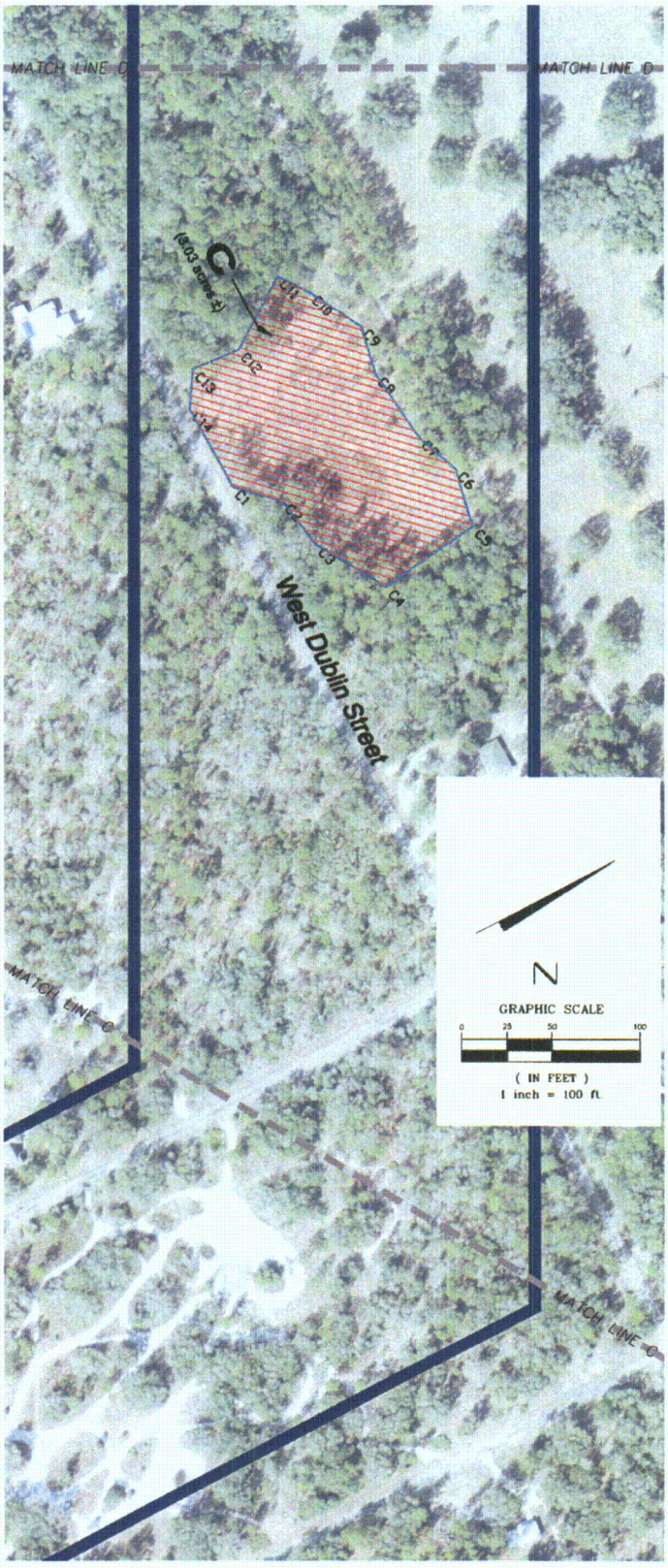

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SHT. 7 OF 9	
DRAWING NAME: CR40 to CITRUS Substation.dwg	

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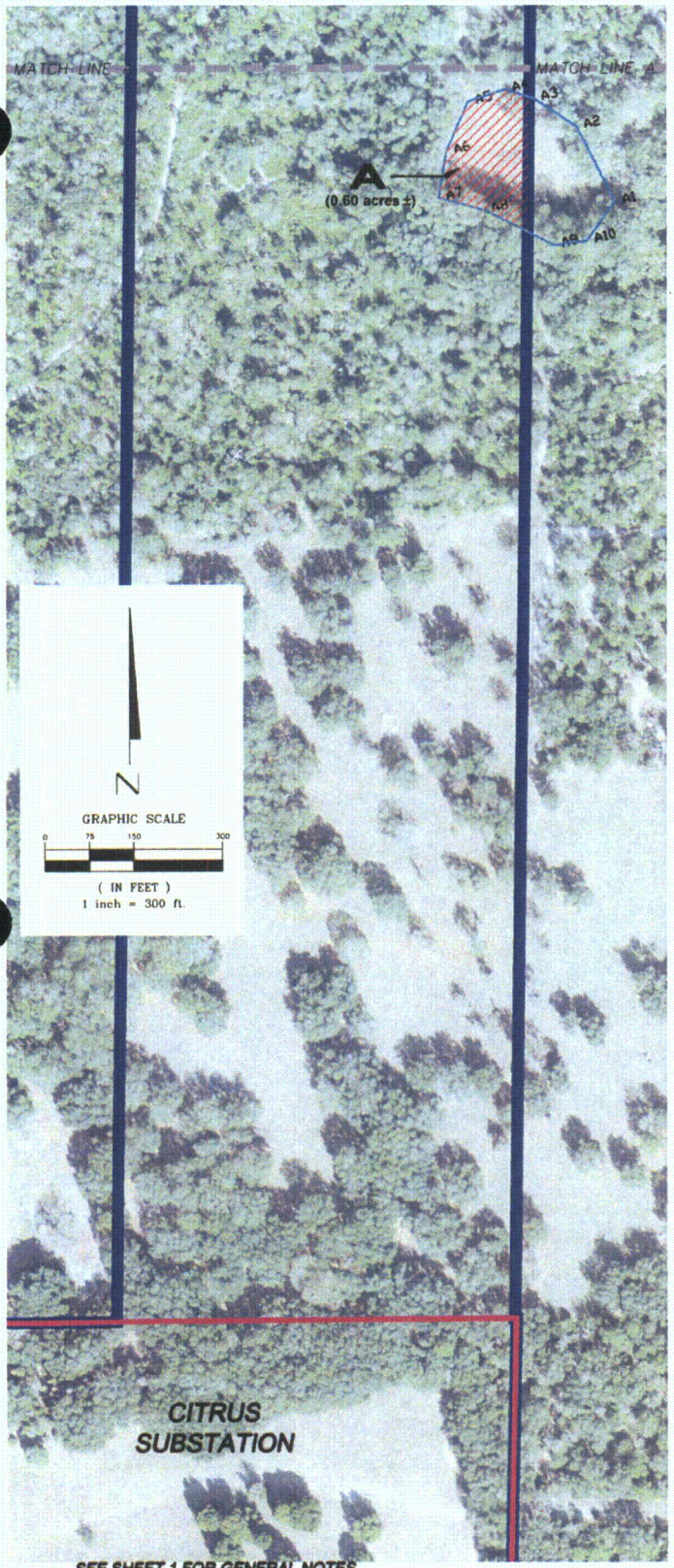

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GAINESVILLE, FLORIDA 32607

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
1697486	457459	I1-9
1697645	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	455689	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
A	26136	0.60
B	74923	1.72
C	131987	3.03
D	15246	0.35
E	142441	3.27
F	1742	0.04
G1	7405	0.17
G2	9148	0.21
H	216058	4.96
I	190357	4.37
I2	85378	1.96
I3	108900	2.50
J	43560	1.00
K-L	1359278	31.20
M	317273	7.28
N	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	HDWL104
1695551	457442	27.0	HDWL105
1695566	457471	27.1	HDWL106
1695592	457470	27.4	HDWL107
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

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	added culvert information
02/05/10	PEW	WETLAND AREA "K-L"
01/19/10	PEW	WETLAND AREA "M & N"

REVISION

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. 9 OF 9
DRAWING NAME: CR40 to CTRUS 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
Gainesville, Florida

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

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 ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes	No _____	
Wetland Hydrology Present?	Yes	No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)
____ Sparsely Vegetated Concave Surface (B8)
____ Drainage Patterns (B10)
____ Moss Trim Lines (B16)
____ Dry-Season Water Table (C2)
____ Crayfish Burrows (C8)
____ Saturation Visible on Aerial Imagery (C9)
____ Geomorphic Position (D2)
____ Shallow Aquitard (D3)
✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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
1. Quercus laurifolia	15	yes	FACW
2. Sabal palmetto	5	yes	FAC
3. Diospyros virginiana	5	yes	FAC
4.			
5.			
6.			
7.			
	25	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Cephalanthus occidentalis	15	yes	OBL
2. Myrica cerifera	5	no	FAC
3. Salix caroliniana	15	yes	OBL
4.			
5.			
6.			
7.			
	35	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Phyla nodiflora	50	yes	FACW
2. Eupatorium capillifolium	20	yes	FACU
3. Brachiaria plantaginea	30	yes	FAC
4. Rhyncospora microcarpa	2	no	FACW
5. Dichromena colorata	2	no	FACW
6. Aletris lutea.	2	no	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	106	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	7	(A)
Total Number of Dominant Species Across All Strata:	8	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	87.50	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)
____ Sparsely Vegetated Concave Surface (B8)
____ Drainage Patterns (B10)
____ Moss Trim Lines (B16)
____ Dry-Season Water Table (C2)
____ Crayfish Burrows (C8)
____ Saturation Visible on Aerial Imagery (C9)
____ Geomorphic Position (D2)
____ Shallow Aquitard (D3)
✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes____	No ✓	Depth (inches): ____
Water Table Present?	Yes____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** ____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: B

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Rubus cuneifolius	5	yes	FACU
2. Myrica cerifera	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Panicum hemitomon	10	yes	OBL
2. Eupatorium capillifolium	10	yes	FACU
3. Andropogon glomeratus	5	yes	FACW
4. Ludwigia suffruticosa	5	yes	OBL
5. Diodia virginiana	5	yes	FACW
6. Polypremum procumbens	5	yes	FACU
7. Chamaecrista fascicultata	5	yes	NL
8. Juncus megacephalus	5	yes	OBL
9. Cyperus haspan	5	yes	OBL
10. Xyris elliottii	5	yes	OBL
11. Fuirena scirpoidea	5	yes	OBL
12. Euthamia minor	5	yes	FAC
	70	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	10	(A)
Total Number of Dominant Species Across All Strata:	13	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	76.92	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

____ Prevalence Index is ≤3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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
1. Pinus elliottii	5	yes	FACW
2. Quercus laurifolia	5	yes	FACW
3. Prunus serotina	2	no	FACU
4.			
5.			
6.			
7.			
	12	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Rubus cuneifolius	10	yes	FACU
2. Ilex cassine	5	yes	FACW
3. Myrica cerifera	5	yes	FAC
4.			
5.			
6.			
7.			
	20	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Panicum hemitomon	40	yes	OBL
2. Eupatorium capillifolium	40	yes	FACU
3. Andropogon glomeratus	5	no	FACW
4. Rhexia spp.	5	no	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	5	(A)
Total Number of Dominant Species Across All Strata:	7	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	71.43	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

_____ Prevalence Index is ≤3.0[1]

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____.

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No _____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: D

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix caroliniana	15	yes	OBL
2. Nyssa sylvatica var. biflora	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Cephalanthus occidentalis	25	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Juncus effusus	20	yes	FACW
2. Pontederia cordata	30	yes	OBL
3. Polygonum punctatum	15	yes	FACW
4. Nuphar luteum	10	no	OBL
5. Bacopa caroliniana	5	no	OBL
6. Rhexia spp.	5	no	FACW
7. Polypremum procumbens	5	no	FACU
8. Andropogon glomeratus	5	no	FACW
9. Ludwigia suffruticosa	5	no	OBL
10. Panicum hemitomon	5	no	OBL
11. Centella asiatica	5	no	FACW
12. Hydrocotyle umbellata	5	no	OBL
	115	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	6	(A)
Total Number of Dominant Species Across All Strata:	6	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.00	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

_____ Prevalence Index is ≤3.0[1]

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)
____ Sparsely Vegetated Concave Surface (B8)
____ Drainage Patterns (B10)
____ Moss Trim Lines (B16)
____ Dry-Season Water Table (C2)
____ Crayfish Burrows (C8)
____ Saturation Visible on Aerial Imagery (C9)
____ Geomorphic Position (D2)
____ Shallow Aquitard (D3)
✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: E

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix caroliniana	5	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Cephalanthus occidentalis	5	yes	OBL
2. Myrica cerifera	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Pontederia cordata	30	yes	OBL
2. Panicum hemitomon	10	no	OBL
3. Xyris elliottii	5	no	OBL
4. Eupatorium capillifolium	5	no	FACU
5. Erigeron spp.	5	no	FAC
6. Centella asiatica	5	no	FACW
7. Bacopa caroliniana	5	no	OBL
8. Nymphaea odorata	30	yes	OBL
9. Fuirena spp.	5	no	OBL
10. Nymphoides spp.	5	no	OBL
11. Panicum repens	5	no	FACW
12. Rhexia spp.	5	no	FACW
	115	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	5	(A)
Total Number of Dominant Species Across All Strata:	5	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.00	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)
____ Sparsely Vegetated Concave Surface (B8)
____ Drainage Patterns (B10)
____ Moss Trim Lines (B16)
____ Dry-Season Water Table (C2)
____ Crayfish Burrows (C8)
____ Saturation Visible on Aerial Imagery (C9)
____ Geomorphic Position (D2)
____ Shallow Aquitard (D3)
✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: F

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix caroliniana	5	yes	OBL
2. Sabal palmetto	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Rubus cuneifolius	5	yes	FACU
2. Myrica cerifera	5	yes	FAC
3. Ilex cassine	5	yes	FACW
4. Baccharis halimifolia	5	yes	FAC
5.			
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	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	8	(A)
Total Number of Dominant Species Across All Strata:	10	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	80.00	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

____ Prevalence Index is ≤3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

County/soil: Citrus- Adamsville

SOIL

Sampling Point: F

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: G1/G2

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus elliottii	20	yes	FACW
2. Persea palustris	5	yes	NL
3.			
4.			
5.			
6.			
7.			
	25	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix caroliniana	5	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Baccharis halimifolia	10	yes	FAC
2. Cephalanthus occidentalis	5	yes	OBL
3. Ilex cassine	5	yes	FACW
4. Myrica cerifera	5	yes	FAC
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Sagittaria lancifolia	10	yes	OBL
2. Andropogon glomeratus	5	yes	FACW
3. Eupatorium capillifolium	5	yes	FACU
4. Boehmeria cylindrica	5	yes	FACW
5. Cyperus odoratus	5	yes	FACW
6. Typha spp.	5	yes	OBL
7. Hypericum spp.	5	yes	FACW
8. Nymphaea odorata	5	yes	OBL
9. Borrichia spp.	5	yes	FACW
10. Bidens laevis	10	yes	OBL
11. Panicum hemitomon	5	yes	OBL
12. Woodwardia virginica	5	yes	OBL
	70	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	16	(A)
Total Number of Dominant Species Across All Strata:	19	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	84.21	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

_____ Prevalence Index is ≤3.0[1]

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____.

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)
____ Sparsely Vegetated Concave Surface (B8)
____ Drainage Patterns (B10)
____ Moss Trim Lines (B16)
____ Dry-Season Water Table (C2)
____ Crayfish Burrows (C8)
____ Saturation Visible on Aerial Imagery (C9)
____ Geomorphic Position (D2)
____ Shallow Aquitard (D3)
✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: H

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Taxodium ascendens	50	yes	OBL
2. Persea palustris	5	no	NL
3. Magnolia virginiana	5	no	FACW
4. Pinus elliottii	10	yes	FACW
5. Quercus laurifolia	5	no	FACW
6. Sabal palmetto	5	no	FAC
7. Acer rubrum	5	no	FAC
	85	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix caroliniana	5	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Rubus cuneifolius	5	yes	FACU
2. Lyonia lucida	10	yes	FACW
3. Myrica cerifera	5	yes	FAC
4. Cephalanthus occidentalis	5	yes	OBL
5. Ilex glabra	5	yes	FACW
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	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	16	(A)
Total Number of Dominant Species Across All Strata:	18	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	88.89	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

_____ Prevalence Index is ≤3.0[1]

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____.

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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/I2/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: 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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)
____ High Water Table (A2)	____ Aquatic Fauna (B13)	____ Sparsely Vegetated Concave Surface (B8)
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	____ Drainage Patterns (B10)
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Moss Trim Lines (B16)
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Dry-Season Water Table (C2)
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Crayfish Burrows (C8)
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation Visible on Aerial Imagery (C9)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	____ Geomorphic Position (D2)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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/I2/I3

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Taxodium ascendens	30	yes	OBL
2. Pinus elliottii	10	yes	FACW
3. Ilex cassine	5	no	FACW
4. Quercus laurifolia	5	no	FACW
5. Sabal palmetto	5	no	FAC
6. Acer rubrum	5	no	FAC
7. Cornus foemina	5	no	FACW
	65	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix caroliniana	5	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Lyonia lucida	15	yes	FACW
2. Myrica cerifera	5	yes	FAC
3. Serenoa repens	5	yes	FACU
4. Ilex glabra	5	yes	FACW
5. Cephalanthus occidentalis	5	yes	OBL
6. Baccharis halimifolia	5	yes	FAC
7. Lyonia mariana	5	yes	FAC
	45	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Woodwardia virginica	5	yes	OBL
2. Panicum hemitomon	5	yes	OBL
3. Ludwigia peruviana	5	yes	OBL
4. Bidens laevis	5	yes	OBL
5. Solidago spp.	5	yes	FACU
6. Andropogon glomeratus	5	yes	FACW
7. Conoclium coelstinum	5	yes	FAC
8. Osmunda regalis	5	yes	OBL
9. Habenaria spp.	5	yes	FACW
10. Erianthus spp.	5	yes	FAC
11. Polygonum punctatum	5	yes	FACW
12. Pontederia cordata	5	yes	OBL
	60	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Ampelopsis arborea	5	yes	FAC
2. Vitus rotundifolia	5	yes	FAC
3.			
4.			
5.			
	10	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 22 (A)

Total Number of Dominant Species Across All Strata: 24 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 91.67 (A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

County/soil: Citrus- EauGallie

SOIL Sampling Point: I/I2/I3

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

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: constructed stormwater retention pond

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: J

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Pinus elliottii	5	yes	FACW
2. Salix caroliniana	5	yes	OBL
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Cephalanthus occidentalis	5	yes	OBL
2. Myrica cerifera	5	yes	FAC
3.			
4.			
5.			
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.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	7	(A)
Total Number of Dominant Species Across All Strata:	7	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.00	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

_____ Prevalence Index is ≤3.0[1]

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No _____.

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Floodplain of the Withlacoochee River

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	
____ High Water Table (A2)	____Aquatic Fauna (B13)	
✓ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

____Surface Soil Cracks (B6)
____Sparsely Vegetated Concave Surface (B8)
____Drainage Patterns (B10)
____Moss Trim Lines (B16)
____Dry-Season Water Table (C2)
____Crayfish Burrows (C8)
____Saturation Visible on Aerial Imagery (C9)
____Geomorphic Position (D2)
____Shallow Aquitard (D3)
✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0-72
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: K-L

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Quercus laurifolia	40	yes	FACW
2. Liquidambar styraciflua	10	no	FAC
3. Magnolia virginiana	5	no	FACW
4. Gordonia lasianthus	5	no	FACW
5. Persea palustris	5	no	NL
6. Acer rubrum	5	no	FAC
7. Pinus elliottii	20	yes	FACW
	90	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Serenoa repens	40	yes	FACU
2. Lyonia lucida	15	yes	FACW
3. Ilex glabra	5	no	FACW
4. Cephalanthus occidentalis	5	no	OBL
5. Vaccinium corymbosum	5	no	FACW
6.			
7.			
	70	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Woodwardia virginica	5	yes	OBL
2. Osmunda cinnamomea	5	yes	FACW
3. Saururus cernuus	5	yes	OBL
4. Boehmeria cylindrica	5	yes	FACW
5. Osmunda regalis	5	yes	OBL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	25	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	5	yes	FAC
2. Toxicodendron radicans	5	yes	FAC
3. Smilax spp.	5	yes	FAC
4.			
5.			
	15	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	11	(A)
Total Number of Dominant Species Across All Strata:	12	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	91.67	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____.

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)
____ Sparsely Vegetated Concave Surface (B8)
____ Drainage Patterns (B10)
____ Moss Trim Lines (B16)
____ Dry-Season Water Table (C2)
____ Crayfish Burrows (C8)
____ Saturation Visible on Aerial Imagery (C9)
____ Geomorphic Position (D2)
____ Shallow Aquitard (D3)
✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ____	No ✓	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** ____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: M

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Serenoa repens	5	yes	FACU
2. Ulmus americana	5	yes	FACW
3. Juniperus silicicola	5	yes	FAC
4. Celtis laevigata	5	yes	FACW
5. Acer rubrum	5	yes	FAC
6. Diospyros virginiana	5	yes	FAC
7.			
	30	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Schinus terebinthifolius	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Baccharis halimifolia	5	yes	FAC
2. Myrica cerifera	5	yes	FAC
3. Iva fructescens	5	yes	FACW
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Acrostichum aureum	5	yes	OBL
2. Alternanthera philoxeroides	5	yes	OBL
3. Aster carolinianus	5	yes	OBL
4. Woodwardia virginica	5	yes	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Smilax spp.	5	yes	FAC
2. Vitus rotundifolia	5	yes	FAC
3. Ampelopsis arborea	5	yes	FAC
4. Toxicodendron radicans	5	yes	FAC
5.			
	20	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	17	(A)
Total Number of Dominant Species Across All Strata:	18	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	94.44	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

_____ Prevalence Index is ≤3.0[1]

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____.

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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 ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

____ Surface Soil Cracks (B6)
____ Sparsely Vegetated Concave Surface (B8)
____ Drainage Patterns (B10)
____ Moss Trim Lines (B16)
____ Dry-Season Water Table (C2)
____ Crayfish Burrows (C8)
____ Saturation Visible on Aerial Imagery (C9)
____ Geomorphic Position (D2)
____ Shallow Aquitard (D3)
✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes** ✓ **No** _____

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

Remarks: Hydrologic indicators satisfy Corps wetland hydrology requirements.

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

VEGETATION - Use scientific names of plants

Sampling Point: N

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Sabal palmetto	5	yes	FAC
2. Taxodium distichum	5	yes	OBL
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Baccharis halimifolia	5	yes	FAC
2. Myrica cerifera	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Colocasia esculenta	5	yes	FACW
2. Panicum repens	5	yes	FACW
3. Hydrocotyle umbellata	5	yes	OBL
4. Pistia stratiotes	5	yes	OBL
5. Andropogon glomeratus	5	yes	FACW
6. Bidens pilosa	5	yes	FACW
7. Aster carolinianus	5	yes	OBL
8.			
9.			
10.			
11.			
12.			
	35	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	11	(A)
Total Number of Dominant Species Across All Strata:	11	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100.00	(A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:
OBL species	_____	x1= _____
FACW species	_____	x2= _____
FAC species	_____	x3= _____
FACU species	_____	x4= _____
UPL species	_____	x5= _____
Column Totals:	_____ (A)	_____ (B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

____ Prevalence Index is ≤3.0[1]

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

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.

Hydrophytic Vegetation Present? Yes ✓ No_____

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

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

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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)

[3]Indicators 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.

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

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

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 waters[2] (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**

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[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 waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: 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 TNW[5]:
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain:

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
☐ OHWM[6] (check all indicators that apply):

☐ clear, natural line impressed on the bank	☐ the presence of litter and debris
☐ changes in the character of soil	☐ destruction of terrestrial vegetation
☐ shelving	☐ the presence of wrack line
☐ vegetation matted down, bent, or absent	☐ sediment sorting
☐ leaf litter disturbed or washed away	☐ scour
☐ sediment deposition	☐ multiple observed or predicted flow events
☐ water staining	☐ abrupt change in plant community
☐ other (list):	

☐ Discontinuous OHWM.[7] Explain: .

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

☒ 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:

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[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-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
☒ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **Wetlands G1/G2, H, and I/I2/I3, 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 jurisidictional. 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]

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[8] See 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.***

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

- ☐ 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 Geodectic Vertical Datum of 1929)
- ☒ Photographs: ☒ Aerial (Name & Date): AerialExpress 2008.
  or ☐ Other (Name & Date): .
- ☐ Previous determination(s). File no. and date of response letter: .
- ☐ Applicable/supporting case law: .
- ☐ Applicable/supporting scientific literature: .
- ☒ Other information (please specify): Florida Atlas & Gazetteer, 2006; Southwest Florida Water Management District land use/land cover data, 2004.

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

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

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 waters[2] (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.

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

☒ 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 waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. **Characteristics of non-TNWs that flow directly or indirectly into TNW**

   (i) General Area Conditions:
   Watershed size: **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.

[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 TNW[5]:
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain: .
☐ Manipulated (man-altered). Explain:

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
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank
☐ changes in the character of soil
☐ shelving
☐ vegetation matted down, bent, or absent
☐ leaf litter disturbed or washed away
☐ sediment deposition
☐ water staining
☐ other (list):
☐ the presence of litter and debris
☐ destruction of terrestrial vegetation
☐ the presence of wrack line
☐ sediment sorting
☐ scour
☐ multiple observed or predicted flow events
☐ abrupt change in plant community
☐ 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:
☐ oil or scum line along shore objects
☐ fine shell or debris deposits (foreshore)
☐ physical markings/characteristics
☐ tidal gauges
☐ other (list):
☐ Mean High Water Mark indicated by:
☐ survey to available datum;
☐ physical markings;
☐ vegetation lines/changes in vegetation types.

(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)

Project: Progress Energy Florida, Inc. Levy Nuclear Plant – Transmission Lines
Assessment Area: Levy-Citrus Common Route Transmission Line Wetlands K-L - N

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-RPWs[8] that flow directly or indirectly into TNWs.**
☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).
☐ Other non-wetland waters: acres.
Identify type(s) of waters: .

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

Provide acreage estimates for jurisdictional wetlands in the review area:

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:

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.

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[8]See 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.*

☐ 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 Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): AerialExpress 2008.
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .

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

☒ 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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 510 - Wetlands M and N

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510 - Streams and Waterways	Cross Florida Barge Canal and Bypass Canal	Existing Condition	10.42 acres (Wetland M = 7.28, Wetland N = 3.14)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Withlacoochee River, South (03100208)		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 approximatley 80-85% open water. Narrow littoral zones vegetated with a mixture of nuisance/exotic species, including Brazilian pepper (*Schinus terebinthifolius*), alligator weed (*Alternanthera philoxeroides*), wild taro (*Colocasia esculenta*), torpoedo grass (*Panicum repens*), water lettuce (*Pistia stratioides*), as well as native species wax myrtle (*Myrica cerifera*), groundsel tree (*Baccharis halimifolia*), marsh elder (*Iva frutescens*), leather fern (*Blechnum serrulatum*), Virginia chain fern (*Woodwardia virginica*), tickseed sunflower (*Bidens alba*), bushy broomsedge (*Andropogon glomeratus*), marsh pennywort (*Hydrocotyle umbellata*), and climbing aster (*Aster carolinianus*). The banks of the canals support sparse canopy coverage with cabbage palm (*Sabal palmetto*), American elm (*Ulmus americanus*), red cedar (*Juniperus virginiana*), sugarberry (*Celtis laevigata*), red maple (*Acer rubrum*), and persimmon (*Diospyros virginiana*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Lake Rousseau, Gulf of Mexico, Inglis lock/spillway, roadways	Not unique

Functions	Mitigation for previous permit/other historic use
Widlife habitat, water conveyance	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, fish, various amphibians and herpetofauna	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:	Assessment date(s):
M. Arrants, K. Bullock	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 510 - Wetlands M and N
Impact or Mitigation	Assessment conducted by:	Assessment date:
Existing Condition	K. Bullock, M. Arrants	11/12/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with: 0	Location and landscape support variable is reduced due to 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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 5	with: 0	The water environment score is reduced due to the artificial, 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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 6	with: 0	The community structure variable is reduced due to presence of exotic/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

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

Delta = [with-current]
-0.53

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

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

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 510 - Wetland K-L

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
510 - Streams and Waterways	Withlacoochee River	Existing Condition	K-L-510 = 1.83 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Withlacoochee River, South (03100208)		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	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Residential areas, roadways	Natural river system is relatively rare in the regional landscape

Functions	Mitigation for previous permit/other historic use
Widlife habitat, water conveyance, flood attenuation, aquifer recharge	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, white tailed deer, armadillo, sunfish and forage fishes, various amphibians and herpetofauna	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:	Assessment date(s):
M. Arrants, K. Bullock	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 510 - Wetland K-L
Impact or Mitigation	Assessment conducted by:	Assessment date:
Existing Condition	M. Arrants, K. Bullock	11/12/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 9	with: 0	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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with: 0	The water environment score is slightly reduced due to 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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 9	with: 0	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.

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 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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 511 - Wetland F

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
511		Existing Condition	0.04 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Crystal River to St. Petersburg (03100207)		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 (*Eupatorium capillifolium*), St. Johns wort (*Hypericum* sp.), and the exotic species Alexander grass (*Urochloa* sp.), as well as maidencane (*Panicum hemitomon*), musky mint (*Hyptis alata*), bushy bluestem (*Andropogon glomeratus*), wax myrtle (*Myrica cerifera*), coastal plain willow (*Salix caroliniana*), dahoon holly (*Ilex cassine*), groundsel tree (*Bachharis halimifolia*), and cabbage palm (*Sabal palmetto*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Roadways, houses, pasture	Not unique

Functions	Mitigation for previous permit/other historic use
Water conveyance, roadside drainage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Raccoon, armadillo	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:	Assessment date(s):
M. Arrants,K. Bullock	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 511 - Wetland F
Impact or Mitigation	Assessment conducted by:	Assessment date:
Existing Condition	K. Bullock, M. Arrants	11/10/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 4	with: 0	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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 4	with: 0	The water environment score is reduced due to artifical 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 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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 4	with: 0	The community structure variable is reduced due to 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 adajcent 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

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

Delta = [with-current]
-0.40

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

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

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 511 - Wetland G1/G2

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
511		Existing Condition	0.38 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Crystal River to St. Petersburg (03100207)		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 (*Pinus elliottii*) along the top of bank with occasional swamp bay (*Persea palustris*), shrub layer consisting of groundsel tree (*Baccharis halimifolia*), buttonbush (*Cephalanthus occidentalis*), coastal plain willow (*Salix caroliniana*), and wax myrtle (*Myrica cerifera*), and herbaceous groundcover including arrowhead (*Sagittaria lancifolia*), dogfennel (*Eupatorium capillifolium*), tickseed sunflower (*Bidens laevis*), maidencane (*Panicum hemitomon*), St. John's wort (*Hypericum* sp.), false nettle (*Boehmeria cylindrica*), and Virginia chain fern (*Woodwardia virginica*). Nuisance species cattail (*Typha latifolia*) present, although not a dominant species. Area is significantly disturbed due to recreational 4-wheel vehicles.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Adjacent roadways, houses	Not unique

Functions	Mitigation for previous permit/other historic use
Drainage, water conveyance, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, white tailed deer, armadillo, various amphibians and herpetofauna	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:	Assessment date(s):
K. Bullock, M. Arrants	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 511 - Wetland G1/G2
Impact or Mitigation	Assessment conducted by:	Assessment date:
Existing Condition	K. Bullock, M. Arrants	11/10/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0	Location and landscape support variable is slightly reduced due to 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 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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 4	with: 0	The water environment score is reduced due to artifical hydroperiod resulting from excavation of drainage ditch and signficant 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 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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 6	with: 0	The community structure variable is 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

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

Delta = [with-current]
-0.57

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

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

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 524 - Wetland B

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
524	Dry pond	Impact	1.72 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Crystal River to St. Petersburg (03100207)		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 (*Panicum hemitomon*), dogfennel (*Eupatorium capillifolium*), bushy broomsedge (*Andropogon glomeratus*), blackberry (*Rubus* sp.), wax myrtle (*Myrica cerifera*), sedges (*Cyperus* sp.), rustweed (*Polypremum procumbens*), shrubby primrose willow (*Ludwigia suffruticosa*), slender flattop goldenrod (*Euthamia minor*), and yellow-eyed grass (*Xyris* sp.).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Roadways, houses	Not unique

Functions	Mitigation for previous permit/other historic use
Recreation	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Raccoon, armadillo	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:	Assessment date(s):
K. Bullock, M. Arrants	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 524 - Wetland B
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Fill	K. Bullock, M. Arrants	11/10/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with: 0	Location and landscape support variable is reduced due to 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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 3	with: 0	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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 4	with: 0	The community structure variable is reduced due to 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

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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 630 and 621 - Wetlands H and I/I2/I3

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630 - Mixed Hardwood/Conifer Wetland and 621 - Cypress		Impact	13.79 acres (Wetland H = 4.96, Wetland I/I2/I3 = 8.83)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Crystal River to St. Petersburg (03100207)		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 (*Taxodium ascendens*), slash pine (*Pinus elliottii*), laurel oak (*Quercus laurifolia*), red maple (*Acer rubrum*), sweetbay (*Magnolia virginiana*), cabbage palm (*Sabal palmetto*), dahoon holly (*Ilex cassine*), persimmon (*Diospyros virginiana*), swamp dogwood (*Cornus foemina*), live oak (*Quercus virginiana*), and swamp bay (*Persea palustris*). Shrub species include fetterbush (*Lyonia lucida*), wax myrtle (*Myrica cerifera*), gallberry (*Ilex glabra*), saw palmetto (*Serenoa repens*), buttonbush (*Cephalanthus occidentalis*), groundsel tree (*Baccharis halimifolia*), and coastal plain willow (*Salix caroliniana*). Groundcover species include a variety of ferns, Virginia chain fern (*Woodwardia virginica*), cinnamon fern (*Osmunda cinnamomea*), royal fern (*Osmunda regalis*), and netted chain fern (*Woodwardia aereolata*), as well as blackberry (*Rubus* sp.), St.Johns wort (*Hypericum* sp.), primrose willow (*Ludwigia peruviana*), arrowhead (Sagittaria lancifolia), maidencane (Panicum hemitomon), mistflower (*Conoclinium coelestinum*), smartweed (*Polygonum* sp.), goldenrod (*Solidago* sp.), and bushy broomsedge (*Andropogon glomeratus*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Roadways, houses	Not unique

Functions	Mitigation for previous permit/other historic use
Widlife habitat, water storage, aquifer recharge	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, fish, white-tailed deer, armadillo, various amphibians and herpetofauna	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:	Assessment date(s):
K. Bullock, M. Arrants	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 630 and 621 - Wetlands H and I/I2/I3
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Fill	K. Bullock, M. Arrants	11/11/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0	Location and landscape support variable is 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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with: 0	The water environment score is slightly reduced due to 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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 9	with: 0	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

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

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

For impact assessment areas
FL = delta x acres = -0.80 x 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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 630 and 621 - Wetlands H and I/I2/I3
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Clearing	K. Bullock, M. Arrants	11/11/2009

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

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	7	4	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.
.500(6)(b)Water Environment (n/a for uplands)	8	4	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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	9	4	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.

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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 630 - Wetland K-L

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
630 - Mixed Hardwood/Conifer Wetland	Forested wetlands adjacent to Withlacoochee River, Wetland K to south, Wetland L to north (Inglis Island)	Impact	29.37 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Withlacoochee River, South (03100208)		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 existng cleared transmission line ROW

Assessment area description

High quality forested wetlands vegetated with a mixture of native wetland canopy species including laurel oak (*Quercus laurifolia*), slash pine (*Pinus elliottii*), cabbage palm (*Sabal palmetto*), sweetgum (Liquidambar styraciflua), loblolly bay (*Gordonia lasianthus*), red maple (*Acer rubrum*), sweetbay (*Magnolia virginiana*), bald cypress (*Taxodium distichum*), sugarberry (*Celtis laevigata*), American elm (*Ulmus americana*), ironwood (*Carpinus caroliniana*), water oak (*Quercus nigra*), red cedar (*Juniperus virginianus*), swamp dogwood (*Cornus foemina*), live oak (*Quercus virginiana*), and swamp bay (*Persea palustris*). The shrub layer is dominated by saw palmetto (*Serenoa repens*), fetterbush (*Lyonia lucida*), and small cabbage palm, as well as occasional gallberry (*Ilex glabra*), beautyberry (*Callicarpa americana*), and buttonbush (*Cephalanthus occidentalis*). Groundcover species include a variety of ferns, Virginia chain fern (*Woodwardia virginica*), cinnamon fern (*Osmunda cinnamomea*), and royal fern (*Osmunda regalis*), as well as lizard's tail (*Saururus cernuus*), false nettle (*Boehmeria cylindrica*), fleabane (*Pluchea* sp.), partridge berry (*Mitchella repens*), greenbrier (*Smilax* sp.), climbing hempvine (*Mikania scandens*), muscadine (*Vitis rotundifolia*), and poison ivy (*Toxicodendron radicans*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Withlacoochee River, Lake Rousseau, Inglis lock/spillway, Cross Florida Greenway	Not unique

Functions	Mitigation for previous permit/other historic use
Widlife habitat, water storage, aquifer recharge	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, white-tailed deer, armadillo, various amphibians and herpetofauna	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:	Assessment date(s):
M. Arrants, K. Bullock	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 630 - Wetland K-L
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Fill	K. Bullock, M. Arrants	11/11-12/2009

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

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	9	0	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.
.500(6)(b)Water Environment (n/a for uplands)	8	0	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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	9	0	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

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

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

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	9	6	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.
.500(6)(b)Water Environment (n/a for uplands)	8	4	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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	9	4	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.

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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 641 - Wetland J

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marsh		Existing Condition	1.0 acre

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Crystal River to St. Petersburg (03100207)		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 (*Panicum repens*), with an assortment of native wetland species present as well, including maidencane (*Panicum hemitomon*), pickerelweed (*Pontederia cordata*), marsh mermaidweed (*Proserpinaca palustris*), water hyssop (*Bacopa monnieri*), marsh pennywort (*Hydrocotyle umbellata*), coinwort (*Centella asiatica*), smartweed (*Polygonum* sp.), coastal plain willow (*Salix caroliniana*), and buttonbush (*Cephalanthus occidentalis*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Residential roadways	Not unique

Functions	Mitigation for previous permit/other historic use
Widlife habitat, water storage, aquifer recharge	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, various amphibians and herpetofauna	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:	Assessment date(s):
M. Arrants, K. Bullock	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 641 - Wetland J
Impact or Mitigation	Assessment conducted by:	Assessment date:
Existing Condition	K. Bullock, M. Arrants	11/11/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 5	with: 0	Location and landscape support variable is reduced due to 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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with: 0	The water environment score is reduced due to 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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 6	with: 0	The community structure variable is reduced due to 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

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

Delta = [with-current]
-0.57

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

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

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 641 - Wetland C

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marsh		Impact	3.03 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Crystal River to St. Petersburg (03100207)		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 (*Eupatorium capillifolium*), maidencane (*Panicum hemitomon*), and blackberry (*Rubus* sp.). Subdominant species include slash pine (*Pinus elliottii*), laurel oak (*Quercus laurifolia*), bushy broomsedge (*Andropogon glomeratus*), dahoon holly (*Ilex cassine*), wax myrtle (*Myrica cerifera*), black cherry (*Prunus serotina*), and meadowbeauty (*Rhexia* sp.).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Roadway, improved pasture, low-density residential	Not unique

Functions	Mitigation for previous permit/other historic use
Widlife habitat, water storage, aquifer recharge	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, various amphibians and herpetofauna	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:	Assessment date(s):
K. Bullock, M. Arrants	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 641 - Wetland C
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Fill	K. Bullock, M. Arrants	11/10/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0	Location and landscape support variable is slightly reduced due to 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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with: 0	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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 0	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

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

Delta = [with-current]
-0.67

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

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

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 641 - Wetlands D and E

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
641 - Freshwater Marsh		Impact	3.62 acres (Wetland D = 0.35, Wetland E = 3.27)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Crystal River to St. Petersburg (03100207)		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 (*Pontederia cordata*), fragrant water lily (*Nymphaea odorata*), soft rush (*Juncus effusus*), smartweed (*Polygonum* sp.), maidencane (*Panicum hemitomon*), and spatterdock (*Nuphar luteum*), with cutgrass (*Leersia* sp.), Mexican primrose willow (*Ludwigia octovalvis*), spikerush (*Eleocharis* sp.), shrubby primrose willow (*Ludwigia suffruticosa*), water hyssop (*Bacopa monnieri*), meadowbeauty (*Rhexia* sp.), yellow-eyed grass (*Xyris* sp.), and torpedo grass (*Panicum repens*) subdominant. Dominant shrub species include buttonbush (*Cephalanthus occidentalis*), coastal plain willow (*Salix caroliniana*), and wax myrtle (*Myrica cerifera*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Improved pasture, low-density residential roadway	Not unique

Functions	Mitigation for previous permit/other historic use
Widlife habitat, water storage, aquifer recharge	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, various amphibians and herpetofauna	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:	Assessment date(s):
M. Arrants, K. Bullock	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 641 - Wetlands D and E
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Fill	K. Bullock, M. Arrants	11/10/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0	Location and landscape support variable is slightly reduced due to 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 constructiont; 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	with
0.80	0

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

For impact assessment areas
FL = delta x acres = -0.80 x 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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 643, 630 - Wetland A

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
643 - Wet Prairie with 630 - Mixed Hardwood/Conifer Wetland Fringe		Impact	0.60 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Crystal River to St. Petersburg (03100207)		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 (*Phyla nodiflora*), dogfennel (*Eupatorium capillifolium*), alexander grass (*Urochloa* sp.), and whitetop sedge (*Rhynchospora colorata*). Sparse coverage of tree/shrub species, including coastal plain willow (*Salix caroliniana*), buttonbush (*Cephalanthus occidentalis*), and wax myrtle (*Myrica cerifera*), with surrounding fringe of laurel oak (*Quercus laurifolia*), cabbage palm (*Sabal palmetto*), and persimmon (*Diospyros virginiana*) classified as a mixed hardwood/conifer wetland.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Upland forest, low-density residential, roadways	Not unique

Functions	Mitigation for previous permit/other historic use
Widlife habitat, water storage, aquifer recharge	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, raccoon, various amphibians and herpetofauna	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:	Assessment date(s):
K. Bullock, M. Arrants	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	Application Number	Assessment Area Name or Number
Progress Energy Florida, Inc./Levy Nuclear Plant - Transmission Lines/Common Route Transmission Line		FLUCFCS 643, 630 - Wetland A
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact - Clearing	K. Bullock, M. Arrants	11/10/2009

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

.500(6)(a) Location and Landscape Support	w/o pres or current: 8	with: 5	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.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 4	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.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 4	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.

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